

# Improving compliance with occupational safety and health regulations: an overarching review

European Risk Observatory

Literature review



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## Preamble — A short introduction to the literature review

This is the second volume of the project report produced in fulfilment of European Agency for Safety and Health at Work (EU-OSHA) service contract EU-OSHA/2019/OP/D/SE/0092, namely a contract to provide an overarching review on improving the extent and quality of compliance with occupational safety and health (OSH) regulations. As the final report (the first volume) describes in detail, the aim of the project was to provide a detailed and in-depth review of the current knowledge on the five areas in which external institutional support for securing compliance and better practice can be grouped. As well as providing an up-to-date review of the current knowledge in these fields, the objective was to inform EU-OSHA's deliberations on commissioning and developing a range of further empirical research as part of its new research programme for 2020-2024. This research could help to fill knowledge gaps and find ways to better secure compliance and improve OSH practice in the EU Member States in the future.

In the final report, to which this literature review is a companion volume, the authors went to some lengths to explain the background, key concepts and methods employed to review the literature and to seek the views of key informants. Together, these aspects of the work undertaken have led to the five chapters of the literature review presented here. The final report also introduced the robust analytical framework used as a context within which to consider both the findings of this literature review and the opinions of key informants, to enable a critical, consistent and comparative analysis of current knowledge to emerge. This analytical framework is set out in the first chapter of this literature review.

This volume of the project report presents the detailed literature review that informed the analysis and recommendations of the final report (see the final report for further details of the search and analytical methods employed in the review). In this short introduction to the literature review, we outline its structure and summarise the connections we have observed between the different areas of knowledge covered. These cross-cutting connections were among the key findings identified in the final report and their implications are discussed at some length there.

The analytical framework for the literature review includes an examination of the broader determinants of the conditions that supported securing compliance and better OSH practice in different EU Member States. These determinants include the different business, political, regulatory and industrial relations contexts, and the ongoing changes of these contexts. Indeed, it was the sense of the importance of these elements, in combination with cross-cutting connections between them, that most powerfully influenced the recommendations for further research (see Part 3 of the final report). Readers of the literature review are therefore urged to bear these overarching conclusions in mind.

For the sake of clarity, the substantial detail presented in this literature review has driven us to structure it in a sequence of chapters, each one ostensibly addressing a different area of support for compliance and better practice. However, this should not be allowed to obscure the connections between these areas, nor should it be understood to imply that the five areas in which we have organised the literature review are the sole influences on securing compliance. As we have tried to emphasise in the final report, an understanding of the synergies between the cross-cutting elements is the most important factor in appreciating the strengths of each of the five areas, as well as the constraints on their effects. It is often the actions created by boundary-spanning agents and processes that are the most effective in bringing these elements together to secure the best practices that they are intended to support.

Such boundary-spanning agents include actors in OSH such as trade unions, consumer groups, lawyers, regulatory inspectors, OSH professionals, enlightened corporate leaders, insurance bodies, standards associations and certification bodies, and so on. They sometimes also include business support services such as financial institutions, accountants, lawyers and OSH consultants, along with public interest groups such as minorities organisations, religious groups, non-governmental organisations (such as those focusing on poverty/social welfare, public health and the environment) and other factions of civil society whose interests reflect those of workers or their employers. The regulatory processes — whether public or private — with which these agents are engaged are also considered; these determine the nature, transferability and sustainability of the support for OSH and provide the means for the boundary-spanning actions of such actors across the five areas into which we have organised the substance of the literature review. These five areas are:



1. social norms, social reporting and corporate social responsibility;
2. economic incentives and the business case for improving OSH arrangements;
3. the role of relations in supply chains in leveraging such improvements;
4. external prevention services for OSH in EU Member States;
5. novel approaches by OSH regulators.

In the following literature review, there is one chapter devoted to each of these five areas. However, before presenting these, and following the rationale outlined above, we begin with a chapter that explains and develops our analytical approach, which draws on the regulatory studies literature. As the operation of each of the five areas of external institutional support is likely to be affected by the national situation and by the changes that take place within it, it is important to take account of these aspects too. Therefore, the second chapter of this review examines the changing contexts in which institutional support for improving OSH in the EU Member States is situated and includes a discussion of the nature of the OSH outcomes expected through such support. Once again, it is not the purpose of this brief introduction to detail the rationale behind these two chapters; for such detail, see the introduction to the final report.

In short, therefore, each chapter of the following literature review can be read as a self-contained account of the current knowledge and of the gaps in this knowledge in the area it covers. In this respect, the chapters are intended to provide detailed support for the more discursive narrative of the final report, which makes numerous references to the content of this review. Following the same rationale, we have not attempted to provide a concluding chapter, in which the narrative and the overarching findings are discussed, in the present volume, as this is already provided in the final report. Instead, we have limited the conclusions of this volume to a brief reprise of the key pointers for future policies that emerge from each chapter. Following this, there is a list of all of the references cited in this literature review.

Finally, a comment is in order about our inclusion of sources addressing the consequences of COVID-19 for the support for securing compliance and better OSH practice. As we have discussed at length in the final report, the work undertaken in this research project was commissioned before the pandemic of 2020. Thus, this literature review is primarily a review of literature that predates the pandemic. Moreover, the rationale and the conceptual framework that we adopted to conduct our analysis of the literature were also developed prior to the pandemic. However, as we acknowledge in the final report, the events of 2020 have been on such a scale and of such relevance to health and well-being at work that they are impossible to ignore when writing about OSH at the present time. As it is also very likely that these experiences will have significant implications for the future of securing compliance and better OSH practices and outcomes, it would be a seriously deficient review of knowledge that failed to consider them. We have, therefore, attempted to address this in both the final report and the literature review. However, as the pandemic continues at the time of writing, the sources of analysis of these implications in the literature are, by definition, both very recent and significantly incomplete. We have therefore referred to them where relevant in the following chapters, as best we can. Nevertheless, it is important that we acknowledge the uncertainty and incompleteness of much of this analysis, and the need for considerable further monitoring of both the literature and the implications for future external institutional support for securing compliance with OSH standards in EU Member States in a post-pandemic future. It is also important that the implications of the pandemic are considered fully in recommendations concerning future policy and empirical research.

## Chapter 1: Analytical framework — regulatory concepts and theory

This report situates the overarching review of the literature on support for securing compliance and better occupational safety and health (OSH) practice within the framework of regulatory studies, which are the subject of this chapter. The concepts and principles of analysis in the regulatory literature provide a framework to understand the institutions and processes involved in securing compliance and better OSH practice, and can be used to guide a critical and comparative evaluation of the evidence. In particular, this literature helps to explain what is meant by ‘compliance’ and the relationship between compliance and better OSH practice, and helps make sense of the multiple factors that influence and shape them. It helps illuminate the complexities of regulatory implementation to achieve policy goals, the processes and mechanisms involved, the actual and potential role of different institutions and actors (for example influential firms in supply chains, prevention services, and employer and worker organisations), and the contributions of these factors to securing compliance and better OSH practice.

This chapter first provides a functional definition of ‘regulation’ and explains that it includes not only the activities of the state and its agencies in making and administering regulatory standards and securing compliance with them, but also the actions of non-state actors in influencing OSH practice. Regulation also includes methods and techniques beyond regulatory standards. The chapter then reviews the main literature on the various meanings of ‘compliance’, the different types of regulatory standards and the different types of factors that shape compliance behaviours and OSH practice, including broader contextual issues. These broader contextual issues relate to the wider political, economic and social environments, and the wide array of work organisations, within each EU Member State. The chapter introduces the holistic compliance model developed by Parker and Nielsen (2011, p. 5), which explains and defines the multiple factors shaping compliance.

The chapter then discusses the historical enforcement debate — whether it is more effective to provide advice and persuade or to punish and deter (the ‘punish/persuade’ debate). It concludes by reviewing the English language literature on monitoring, compliance promotion and enforcement from the 1980s onwards. This literature has sought to find the optimal mix between advice/persuasion and deterrence, and to respond to new kinds of regulatory standards, the multiple factors that influence compliance, the widening range of regulatory actors, and the wide variety of work and business arrangements, as well as rapidly changing technologies, and new and emerging risks.

### 1.1 What we understand by regulation

From a functional perspective, a recently published book (Camacho and Glicksman 2019, pp. 26-28) suggests that ‘regulation’ involves a wide range of functions, including the following:

- **funding** of programmes or projects, for example OSH research and education activities, and grant programmes;
- **scientific research**, data generation and ambient monitoring: systematic investigation to establish facts and reach new conclusions relevant to OSH, and produce materials and sources;
- information compilation and distribution: the collection and dissemination of information to be available to, and for use by, both private and public actors;
- **information analysis**: governmental examination and/or assessment of information or research, which may be generated, compiled and/or disseminated by the same agency or another body, for example cost-benefit and regulatory impact analyses;
- **planning**: early-stage governmental activities intended to consider, develop a framework for and/or guide decisions for later government action — programme evaluation and reform can be a subset of planning or may be separate government functions;
- **standard setting**: developing, promulgating and revising benchmarks that are generally applicable to groups of private or public actors;
- implementation and permitting of initiatives to support interpretation and the application of standards, for example awareness raising, information and training, licensing and formal authorisations;

- **compliance monitoring** through statutory powers and processes, including different types of inspections, investigations, inquiries, audits and tracking of reported incidents and complaints;
- **enforcement** through statutory powers and processes, including dispute resolution and administrative and judicial processes, and the measures and tools for each.

For the purposes of this review, there are **four key aspects** — or **functions** — at the heart of regulation: standard setting, compliance promotion, monitoring and enforcement.

**Standard setting** entails identifying problems, values and goals to be achieved by those in the regulatory system. This involves broad issues of policy formation, which may require extensive negotiation with various stakeholders to develop acceptable goals, as well as considering norms and/or regulatory standards in the appropriate context. The latter may be cast as broad principles, processes to be implemented, outcomes or targets to be achieved, detailed or prescriptive rules or benchmarks, or documentation to be maintained (see section 1.3.2). These norms need not have legal force (Black 2003, p. 67).

**Compliance promotion** refers to any activity that encourages voluntary compliance with regulatory standards, and includes providing advice, education and/or technical assistance to firms or individuals, building capability through training programmes and consultancy services, publicising particularly successful approaches to compliance, providing economic and other incentives, and harnessing public support for, for example, healthy and safe work environments.

**Monitoring** (also referred to as inspection, detection or feedback) involves gathering information about how the standards are received by the regulated community, how persons upon whom standards have been imposed have responded to the standards and whether or not they have complied with them. Information gathering can be proactive or reactive. Particular standards can require firms to provide a regulator with information. A central problem of such information gathering is that usually a regulated organisation has far more knowledge of its own activities than the regulator does (information asymmetry), even if the regulator has extensive monitoring powers (Hood et al. 2001, pp. 24-25).

**Enforcement** seeks to align the behaviour of the regulated community with the established standards. It involves persons or organisations complying with standards or a regulator encouraging, persuading, inducing or compelling them to comply. Some measures are taken to promote compliance, for example by requiring particular preventive action or contributing to incentives to comply (see 'Compliance promotion' above). Others 'enforce' compliance, for example by negotiating the measures to be implemented or threatening to impose or actually imposing sanctions to induce or compel compliance (Black 2003, p. 68).

This report focuses on the regulation functions of compliance promotion, monitoring/inspection and enforcement. However, each of these functions is clearly shaped by the provisions of the regulatory standards.

Frameworks for regulation have developed significantly since the 1980s. Older conceptions of regulation often tended to assume the '**command and control**' model, in which the state has a monopoly over the functions of regulation. In this conception, the state sets the regulatory standards and a public agency monitors firms or individuals to detect non-compliance with those standards. That agency then enforces compliance with the rules, usually through the courts, by taking formal action (for example prosecution) where non-compliance is detected. However, regulatory scholars now accept that there are significant limits to the use of command and control, for at least two reasons (Burriss et al. 2008; Scott 2004). First, regulation of this type is sometimes inflexible, inefficient, stifling of initiative and liable to lead to 'regulatory resistance' if formal sanctions are not targeted to the worst offenders (see below).<sup>1</sup> Second, economic and social life is too complex to be regulated effectively by state-based standards, monitoring (inspection) and enforcement alone.

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<sup>1</sup> Some of these criticisms can be at least partially countered by pointing to the discretion that most regulators exercise in order to be responsive to the circumstances they seek to regulate.

In recognition of these issues and the wider range of regulatory tools necessary for effective state regulation, a broader definition of regulation accepts that the state uses mechanisms other than command and control through regulatory standards. These ‘indirect’ regulatory mechanisms include economic instruments (taxes, subsidies, tradeable rights and other economic incentives), rules apportioning liability for harms, procurement policies, ‘best practice’ programmes and requirements to disclose information to the regulator, workers, consumers or the public generally. They also include forms of self-regulation or voluntarism, at an industry or individual firm level, as well as ‘nudges’ to influence behaviour, although, of course, usually regulatory standards are required to establish these mechanisms. The literature suggests that that these various mechanisms are best used in selective, synergistic combinations, rather than individually (see, for example, Gunningham and Grabosky 1998, pp. 387-453). As we discuss below, other strands of the literature are highly critical of the effectiveness of these ‘light touch’ approaches to state regulation, particularly in the context of OSH regulation.

An even broader conception of regulation recognises that, empirically, the state is not the only regulator and that a very wide range of parties — sometimes referred to as ‘non-state actors’ — perform one or more of the four functions of regulation outlined above (see Black 2001). Thus, regulation, in many arenas, has become ‘decentred’, ‘soft-centred’ or ‘polycentric’ (Black 2001) and operates through sometimes complex regulatory networks (see Scott 2004). Whereas once it was believed that the world was divided into two spheres — the public sphere of state regulators and the private sphere of the regulated — that is no longer the case. Non-state actors, including firms, employer and worker organisations, OSH prevention services and national and international non-governmental organisations, increasingly exercise regulatory functions, and state regulators can themselves be the object of regulation (Burris et al. 2008; Morgan and Yeung 2007, p. 53; Scott 2004). Empirical studies, however, suggest that the influence of non-state actors is not always effective (Bluff 2015, p. 171). One possible reason is that, because their role as a regulator is not underpinned by a legal mandate, they might face issues related to their ‘legitimacy’ — what gives them ‘the right to govern’ (Black 2008). Consequently, ‘regulatory failure’ is just as real a prospect for regulatory approaches that give roles to non-state actors as it is for state-based regulation.

Despite these reservations, many writers define regulation very broadly, for example as ‘organised efforts to manage the course of events in a social system’ (for example Burris et al. 2008; Scott 2017).<sup>2</sup> Others define regulation more narrowly, as ‘a process involving the sustained and focused attempt to alter the behaviour of others according to defined standards or purposes with the intention of producing a broadly identified outcome or outcomes’ (Black 2002, p. 26). Two categories of literature on regulation are particularly relevant to this review — the literature on ‘compliance’ and the literature on monitoring (inspection), compliance promotion and enforcement.

## 1.2 Concepts and principles for understanding compliance and its relationship with best OSH practice

### 1.2.1 Different interpretations of compliance

The regulatory literature uses the term ‘compliance’ with several levels of meaning. In one interpretation, compliance refers to behaviour that adheres to a regulatory standard (Parker and Nielsen 2017, p. 218). This meaning reflects an objectivist approach to compliance, which is concerned with how, why and in what circumstances firms and individuals comply (or not) with regulatory standards (Parker and Nielsen 2011, pp. 3-6). A second perspective is the view that compliance is a process through which the meaning of regulatory standards is transformed as they are interpreted, implemented and negotiated by the firms and individuals to whom they are addressed, and those they interact with (Edelman and Talesh 2011; Parker and Nielsen 2011, p. 26, 2017, p. 218). This is an interpretivist approach in which compliance can refer to meanings and interpretations, social habits, practices, interactions and communications between different actors in the implementation process (Parker and Nielsen 2011,

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<sup>2</sup> These authors largely equate regulation with governance, although governance arguably also includes the functions of providing and (re)distributing.

pp. 3, 6-8). In this approach, compliance is seen as being socially constructed, thereby creating differences in understanding of what it means to comply.

A further distinction can be made between ‘types’ of compliance. ‘Substantive compliance’ involves achieving the collective goals of the regulatory scheme (Morgan and Yeung 2007, p. 152). In contrast, ‘rule compliance’ involves implementing the content of particular requirements and is typically something less than achieving regulatory goals (Morgan and Yeung 2007, p. 152). For example, an employer may adhere to a regulation requiring the assessment of risks to safety and health at work (complying with the rule) without achieving the overarching regulatory goal of ensuring the safety and health of workers in every aspect. Another variant is ‘creative compliance’, where a firm or individual achieves technical compliance with particular requirements but undermines the purpose of those requirements (McBarnet and Whelan 1991) — they comply with the letter but not the spirit of the law. Understanding different perspectives of compliance can help illuminate the complexities of regulatory implementation to achieve policy goals, and clarify the actual and potential role of different institutions and actors, processes and mechanisms involved in supporting compliance, and the effectiveness of their contributions. A crucial point for this report is that, in discussing current knowledge on improving the extent and quality of compliance with OSH regulatory standards, and in making recommendations for research, our concern is with improving substantive compliance.

### **1.2.2 How OSH regulatory standards sustain compliance and enable best OSH practice**

The OSH regulatory standards in Europe apply to all sectors of work activity (public and private) and to all risks arising from ergonomic, psychosocial, chemical, physical and biological hazards at work. They cover risks relating to repetitive work, manual handling of loads, awkward or prolonged positions and movements, excessive workloads, conflicting demands, a lack of role clarity, harassment, violence, harmful and dangerous chemicals and substances, noise and vibration, ionising and non-ionising radiation, microorganisms that cause infection, allergy and toxicity, among many others. These potential causes of work-related injury, disease and death are regulated through standards that are, for the most part, constitutive (Levi-Faur 2017, p. 295) in character, as they aim to create the architecture for managing OSH and preventing or minimising OSH risks, while also providing opportunities to pursue best practice (for more information on recent directions in OSH regulatory standards, see Walters et al. 2011a, chapters 1 and 2). These standards seek to establish systems, routines and practices to sustain compliance as part of everyday activities (Hutter 2001, pp. 16, 77). The standards may also be empowering (Levi-Faur 2017, p. 295), as they may establish new rights, such as worker rights to participation and representation in OSH matters. Some elements of OSH regulatory standards are constraining (Levi-Faur 2017, p. 295) in the sense that they mandate specific behaviours or actions and restrict or prohibit others, and these provisions leave little room for OSH best practice. These distinct goals are possible through the mix of different types of provisions in OSH regulatory standards, with particular instruments incorporating combinations of the different types. The different types of provisions are incorporated in various ways in the OSH regulatory instruments adopted within countries and in European standards<sup>3</sup> recognised in national regulatory frameworks for OSH.

The first type are principle-based requirements that set a broad goal or general duty, but do not specify the means of achieving that outcome (Baldwin and Cave 1999, pp. 181-182; Johnstone et al. 2012, pp. 179-180). Typical examples of these are the overarching duties of employers and others in OSH statutes, such as a duty requiring the employer to ensure safe and healthy working conditions. Duty holders must determine if the measures they implement meet the broad standard set in the general duty or goal. The autonomy, flexibility and adaptability of principle-based requirements enable duty holders to pursue best practice, although such principles are vague and ambiguous, give considerable discretion to those interpreting them and generally need to be underpinned by regulations, codes of practice and other types of evidentiary standards or guidance materials (Freiberg 2010, p. 94).

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<sup>3</sup> These are the European standards adopted by one of the three recognised European standardisation organisations — the European Committee for Standardisation (CEN), the European Committee for Electrotechnical Standardisation (CENELEC) or the European Telecommunications Standards Institute (ETSI).



The second type of standards are process or process-based standards, which set out ways to manage OSH matters (Johnstone et al. 2012, p. 182). Examples of such standards are requirements to identify hazards, to assess and control risks (the risk management process) or to consult workers and their representatives. Process standards give a degree of flexibility to both the OSH outcomes they will achieve and the measures they will implement to achieve those outcomes. While such standards can accommodate best practice in outcomes and preventive measures, they may constrain the processes employed, particularly if the standards prescribe the actual steps that must be implemented, imposing the same way of doing things on all workplaces (Johnstone et al. 2012, p. 182).

The third type are performance or performance-based standards that define the outcome required, but leave it to firms to determine the measures used to achieve that outcome (Coglianese et al. 2002, p. 3; Johnstone et al. 2012, pp. 180-181). As firms can choose the method of achieving the performance standard, such standards accommodate changes in work and technology, innovation and best practice solutions (Freiberg 2010, p. 90; Johnstone et al. 2012, p. 180; May 2010). A distinction can be made between 'performance target' provisions for which there is a measurable outcome, as with exposure standards for chemical substances or noise, and 'performance outcome' provisions, which describe the required outcome (Bluff and Gunningham 2004, pp. 22-23).

The fourth type are specification or prescriptive standards, which set out the specific measures to be adopted or refrained from in particular situations, and may set specific requirements for the design and construction of preventive measures (Baldwin and Cave 1999, pp. 118-119; Johnstone et al. 2012, pp. 179-180). Such standards preclude alternative OSH measures, do not require attention to be given to matters outside their scope and may stifle innovation, the evolution of best practice and continuous improvement (Baldwin and Cave 1999, p. 119; Johnstone et al. 2012, p. 180). However, they clarify what needs to be done to comply, which may be an advantage for those that lack capacity and resources to determine how to comply for themselves. They may also be important where the use of a particular material or activity needs to be curtailed owing to known significant risks, such as with substances of very high concern.

The final type of standards are documentation requirements, which require the recording of the measures taken to comply with particular standards (Johnstone et al. 2012, p. 182). Examples of such standards are requirements to record certain types of incidents (such as injuries, deaths and high-potential incidents), to keep a log of hours worked by road freight transport drivers or to record quantities and details of hazardous chemicals at a workplace. Documentation does not in itself prevent harm and, as such, does not constitute OSH best practice, but it can help to demonstrate the action taken as part of addressing OSH matters. Unless integrated with genuine preventive measures to protect people from harm, OSH documentation may be a 'paper tiger' that diverts efforts and resources into bureaucratisation (Frick and Wren 2000, pp. 21, 35).

It is sometimes claimed that OSH best practice represents something more than compliance with OSH regulatory standards. This distinction is problematic, as it reflects a narrow interpretation of the content and scope of regulatory standards. As this discussion shows, OSH regulatory standards set out compliance as the implementation of measures that ensure safety and health at work, and self-regulatory action to manage OSH and achieve particular standards of performance. Compliance means achieving particular goals, outcomes or targets and having sound processes in place to manage OSH matters (including risk management), all of which are compatible with pursuing best OSH practice. However, such standards pose challenges for firms and individuals, inspectors, the courts and others involved in interpreting the standards and what it means to comply with them. These challenges arise from the flexibility in the outcomes to be achieved and/or the measures to be implemented that is inherent in some of the standards, making compliance harder for those with limited capacity and/or resources. The interpretivist approach to compliance (discussed in section 1.2.1) may be a better fit for understanding how meanings and interpretations of, and responses to, regulatory standards are constructed through interactions and communications between different actors in the implementation process (Parker and Nielsen 2011, pp. 3, 6-8).

Distinguishing OSH practice that is better than that required by OSH regulatory standards is relevant only when particular requirements prescribe specific measures. In these cases, it is possible to comply with the requirements without achieving best practice. When requirements are specific, there is merit in

ensuring that regulators do not insist on rule compliance when there are trivial technical breaches, as this may undermine commitment to substantive compliance (Bluff and Gunningham 2004). We note that this is more of an issue in EU countries that have retained a greater proportion of older style prescriptive requirements in their OSH laws than in other EU countries.

### **1.2.3 Foundations of compliance**

A further layer in the complexity of compliance is in understanding the different types of factors that shape the compliance behaviour of firms or individuals. These have been cast variously as ‘stages’, ‘processes’, ‘drivers’ and ‘prerequisites’ of compliance, among other categories (see generally Blanc 2018, chapter 3; Johnstone and Jones 2006, pp. 485-486). There is broad agreement that a combination of such factors contribute to compliance, although there are competing perspectives on the relative importance of the different types of factors and the relationships among them (for an overview, see Blanc 2018, chapter 3; Parker and Nielsen 2011, chapter 1; Wright et al. 2005). We have adopted the term ‘foundations’, as it embraces factors across the various categories, and we have drawn on the interdisciplinary literature to capture the essence of each of the three foundations.

The first foundation is a commitment to comply, which concerns firms’ or individuals’ motives that drive or provide rationalisations for compliance behaviour (Johnstone and Jones 2006, pp. 485–486; Reber and Reber 2001, p. 448). Broadly, there are four types of motives (Ashby and Diacon 1996, pp. 229-243; Kagan et al. 2011, pp. 37–58; Nielsen and Parker 2012, pp. 428-462). Economic motives relate to maximising profit and minimising loss, such as when there is a business case for compliance. Social motives involve the desire to earn approval and respect from others, for example being seen as a responsible business leader. Normative motives entail conforming with internalised values or beliefs about right and wrong, such as having a sense of moral obligation to keep people safe. Finally, legal motives concern the perceived authority of the law and threat of penalties, for example regarding regulatory standards, enforcement by regulators or other litigation. A factor influencing legal motives is the legitimacy of the law and those who enforce it, which is shaped by firms’ or individuals’ perception of procedural justice (Braithwaite 2009; Braithwaite et al. 2007), namely if they believe that the regulator uses a fair process that combines consistency, impartiality and ethical behaviour and gives firms and individuals the chance to present their side of the story (Tyler 2003, 2006). If legitimacy is low, firms and individuals may resist, dismiss or defy the regulatory authority (Braithwaite et al. 2007). Particular firms or individuals tend to have combinations of motives, resulting in them potentially having competing or even conflicting rationales for complying (or not) with regulatory standards (Kagan et al. 2011; Nielsen and Parker 2012).

The second foundation is learning how to comply, which entails nurturing OSH knowledge and skills and includes the appointment of personnel at high levels of the organisation who are responsible for ensuring compliance and for developing policies, procedures and arrangements for OSH management (Hutter 2001, pp. 301-302; Johnstone and Jones 2006, pp. 485-486; Nytrö et al. 1998, p. 299). This includes well-designed OSH information and training, although learning about OSH also occurs incidentally, through participation in day-to-day activities, interactions and dialogue with others. For a review of the key literature on OSH information and training, see Bluff (2019, pp. 47-48), and for a review on workplace learning, see Billett (2001, 2006) and Lave and Wenger (1990). Furthermore, individual factors come into play, including the motivation to learn and apply new knowledge and feelings of self-efficacy and self-belief about one’s ability to learn, cognitive ability and language proficiency (Billett 2001, 2006; Kyndt and Baert 2013). Therefore, in understanding compliance, a social constructivist perspective is helpful for highlighting the contribution to learning of individuals’ participation in practice, interactions and dialogue, coupled with their capacities, agency and experience (Billett 2001, 2006; Gherardi and Nicolini 2002).

The third foundation is ongoing institutionalisation of compliance, or ‘self-regulation’, through the implementation of processes for managing OSH that embrace and are consistent with regulatory standards, as well as ensuring sufficient resources for this purpose and monitoring the effectiveness of these arrangements (Hutter 2001, pp. 301-302; Johnstone and Jones 2006, p. 486). Some elements of OSH regulatory standards provide foundations for institutionalising OSH management. This is evident, for example, in Member States’ laws giving effect to the Framework Directive on OSH (Directive 89/391/EEC). Of particular note are the requirements for employers to provide the necessary

organisation and means to ensure the OSH of workers in all aspects of work; develop a prevention policy; integrate preventive measures into all activities of the organisation; appoint competent persons to carry out OSH activities; evaluate risks and implement measures to prevent or minimise risks, applying the principles of prevention; consult with workers and their representatives; cooperate and coordinate OSH actions with other employers at the same workplace; provide information and training; provide health surveillance; arrange first aid, fire-fighting and the evacuation of workers; and maintain documentation, including an assessment of the OSH risks (European Commission 1989, especially Articles 5-14). However, employers have the discretion to determine how they organise OSH management, and various voluntary standards provide structured specifications for how to manage OSH, which may be recognised by OSH regulators (Frick 2011; Hasle and Zwetsloot 2011; Zwetsloot et al. 2011). A recent development is the international standard for OSH management systems (ISO 2018). A realist review has described specific paths to the successful implementation of such certified OSH management systems (COSHMS) (Madsen et al. 2020). In particular, there are existing structures that support the integration of COSHMS, continuous learning and the motivation for certification. It is also important for the translation process to drive the potential use of COHSMS and for any attention created by the certification process to open possibilities for giving priority to key OSH issues. The recent International Organisation for Standardisation (ISO) OSH standard No 45001 may contribute further to these developments.

Establishing the three foundations for compliance is not straightforward. As this review indicates, ensuring a commitment to comply is complicated by the potential for competing and sometimes conflicting motives, as well as the legitimacy of regulatory standards and regulators. Learning about OSH not only is the product of deliberate OSH training and information provision, but also occurs through everyday activities and is shaped by learners' capacities, agency and experience. In addition, while OSH regulatory standards provide a basis for institutionalising compliance, firms must determine for themselves how to organise OSH management in practice. Each of these foundations are, and hence compliance is, further influenced by the wider context.

#### ***1.2.4 How the wider context shapes and poses challenges for compliance***

Social and legal theorists provide frameworks that help us to understand why behaviour is so difficult to change using regulatory standards that impose external demands, and why 'traditional' ways of doing things may persist despite the introduction of reforms requiring new approaches. The social theory of 'endogenous' law suggests that over time the meaning of laws is determined not by the courts, but by the meanings given to them by the organisations that are trying to comply with them (Edelman and Talesh 2011). The legal theory of 'autopoiesis' posits that standards emanating from the legal system will not be interpreted using legal concepts and ways of thinking, but rather will be distorted by interpretations within the normative structure and ways of thinking of business and economics (Rogowski 2013). Other theorists provide typologies that describe responses to new regulatory standards. These include conformity, innovation, rebellion and 'ritualism', the latter of which is a very common response to OSH process standards (Merton 1968, as discussed in Braithwaite 1993). With ritualism, firms or individuals appear formally to accept regulatory standards but without focusing on achieving the underlying substantive regulatory goals.

Of course, the wider political, economic and cultural context, as discussed in Chapter 2 of this literature review, contributes to variation in OSH regulatory policies, standards and interventions to improve the extent and quality of compliance and advance best OSH practice (EU-OSHA 2013a, 2016). This includes initiatives examined in this report, such as OSH prevention services and economic incentive schemes. The wider context also influences how firms respond to and operationalise these regulatory initiatives, including by shaping firm cultures (and subcultures), motives for compliance and better OSH practice, and OSH knowledge and skills, labour relations and the degree of participative OSH management, among other factors that have an impact on OSH performance within firms (EU-OSHA 2013a, 2016).

While differences in context are partly country based, many firms conduct their business across countries within and/or outside Europe as they source or supply goods, services or workers from or to other countries (Braithwaite and Drahos 2000; Drahos 2017, p. 249). Such firms are economically integrated in wider markets and/or complex business structures for production and service provision.



Key examples are supply chains, franchising systems, centrally managed contractor networks and centralised purchasing arrangements (Weil 2010, p. 25). Such business relationships influence the organisation, control and conditions of work, including OSH practice, within and across national boundaries (Walters and James 2009, EU-OSHA 2020a). The firms with commercial power in these arrangements can constrain the resources and capacity to comply of those with less power (often micro and small enterprises (MSEs)), as we discuss in Chapter 5 of this literature review (Minwoong and Weil 2015, p. 979; Weil 2014). An important question examined in that chapter is whether or not integrated business structures, and the relations that drive them, can be shifted from constraining to supporting sound OSH practice (EU-OSHA 2012a). Furthermore, it looks at what this will mean for how compliance is interpreted and implemented by participants in those business configurations (Edelman and Talesh 2011; McBarnet and Whelan 1991; Parker and Nielsen 2011, pp. 6-8). Will they ritualistically comply with the content of OSH regulatory standards, creatively undermine their intent or enable and support substantive compliance with the goals of these standards and even best OSH practice?

In addition, a challenge for compliance is the greater vulnerability of some workers. Vulnerability is linked to low access to OSH training, hazard management and other protection mechanisms; lower knowledge on, capacity for and support for raising OSH concerns and having them addressed; and ambiguity about the responsibility for OSH matters, those employing workers to the detriment of other workers (Smith et al. 2015; see also Azaroff et al. 2002). Furthermore, greater vulnerability is associated with precarious work arrangements such as casual, part-time, self-employed, temporary agency and digital platform work, as well as certain personal attributes including younger and older ages, ethnicity and related language and cultural factors (see, for example, Boyle et al. 2015; Sargeant and Tucker 2009; Underhill and Quinlan 2011).

Further challenges for compliance are posed by trends in technology, especially in the information communication technology (ICT) and artificial intelligence (AI) fields. These technologies have fundamentally changed the nature of work, enabling new ways to engage and allocate tasks to workers and adding to the repertoire of psychosocial and musculoskeletal hazards (EU-OSHA 2018a, 2019a; Mattila-Wiro et al. 2020, pp. 27-30). They have also enabled access to, and channelling of, a significantly wider range of information through the internet — some authoritative and much of dubious quality.

Against this backdrop, a critical concern is the role and resourcing of OSH prevention services (external and internal), which we discuss in Chapter 6 of this literature review. Another concern is what role can and should be played by a wider range of state and non-state actors in motivating and enabling compliance and better OSH practice, as we examine in Chapters 3, 5 and 7 of this literature review (for a recent review of this literature, see Hardy and Ariyawansa 2019, pp. 59-61). Potential actors are OSH professional organisations and networks, vocational and higher education providers, unions and other labour rights organisations, employer and industry associations, private OSH auditing and certification bodies, insurance organisations, consumer organisations, financial and legal advisers, and community, faith and other civil society organisations. The OSH role of such actors requires evaluation but, in principle, these actors can function as conduits or at least amplifiers of OSH knowledge and practice and might be enlisted by OSH regulators as part of coordinated efforts to support compliance.

This discussion of the wider context is not exhaustive. It serves to illustrate some of the multifarious actors and mechanisms shaping OSH practice, and some of the challenges for achieving compliance and better OSH practice.

### **1.2.5 A holistic framework for understanding factors influencing compliance**

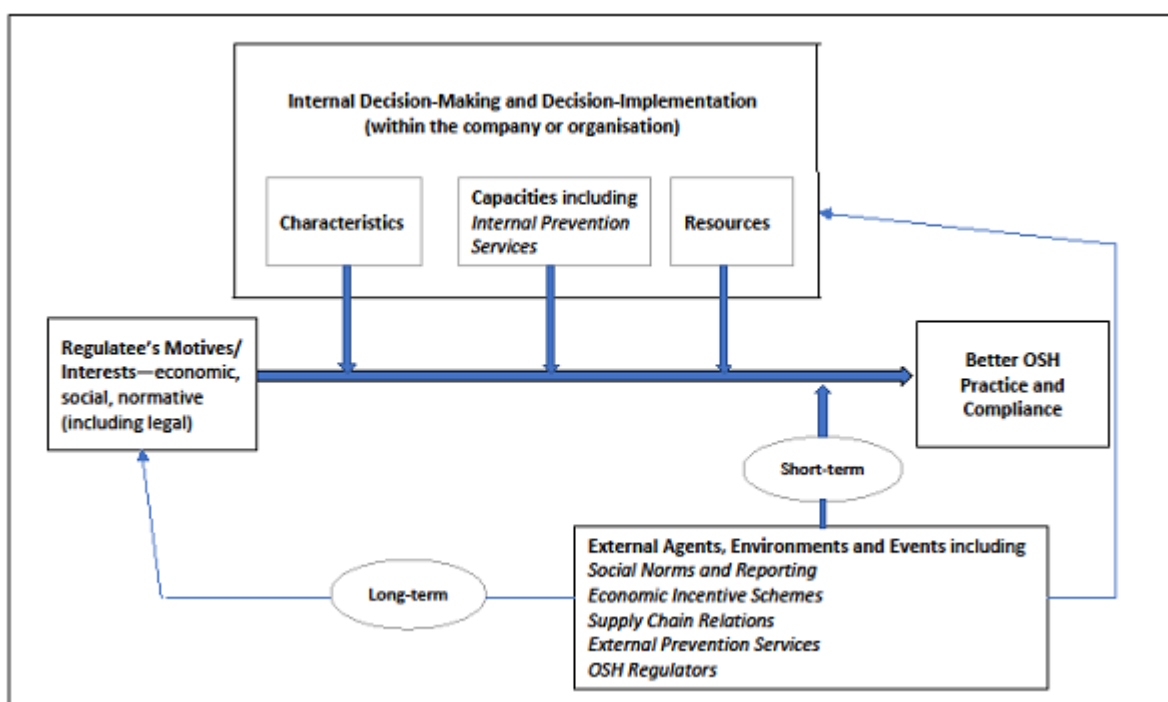
The preceding discussion indicates some of the complexities of compliance with regulatory standards. Regulatory theorists have developed overarching frameworks to better understand and represent the multiple factors shaping compliance (Baldwin and Black 2008; Black and Baldwin 2010; Blanc 2018, chapter 3; Hodges 2015; Nielsen and Parker 2012; Parker and Nielsen 2017). Of these, Parker and Nielsen's holistic compliance model is the most useful for the present purposes, because its central focus is on what influences compliance. The holistic compliance model is based on a synthesis of empirical research explaining compliance and non-compliance (Nielsen and Parker 2012; Parker and

Nielsen 2017). As set out in Figure 1, the model identifies sets of factors that influence compliance behaviour and the inter-relationships among them.

In their conceptualisation, Parker and Nielsen identify two sets of such factors. The first set is 'internal' to the firm or individual. This set relates to interests or motives that, as discussed above, may be economic, social or normative (the latter including a legal dimension). Internal factors also include decision-making characteristics and decision-implementation capacities and resources. For compliance with OSH regulatory standards by a firm, these could include its size, the nature of its operations and associated hazards, resources and processes for complying, and the internal prevention service (if it has one). For individual managers and workers, relevant factors include OSH knowledge and skills, language, literacy and education level, and whether or not their jobs are precarious.

The second set of factors is 'external' and concerns external agents, environments and events. These are wide ranging and could include OSH regulatory standards and the activities of OSH and labour regulators (and their inspectorates), external prevention services, economic incentive schemes and the supply chains or other integrated business configurations in which firms participate. They could also include OSH professional organisations and networks, unions and other worker organisations, roving worker safety and health representatives, employer or industry associations, voluntary OSH standard setting bodies, and OSH auditing and certification bodies. Wider political, economic, cultural and technological contexts are also relevant factors, as they shape OSH regulatory policies, standards and interventions, business operations, practices and norms, the make-up of the workforce, labour relations, arrangements for employing or engaging workers and so on.

Figure 1: Application of Parker and Nielsen's holistic compliance model in this review



Source: Adapted by the project team from the holistic compliance model figure in Parker and Nielsen (2011, p. 5, 2017, p. 220).

Figure 1 also shows how the five institutional areas of support for better OSH practice and OSH compliance that are the focus of this review — social norms and reporting, economic incentive schemes, the role of supply chains, prevention services and the activities of OSH regulators — can work separately, together and with other factors to stimulate better OSH practice and to promote OSH compliance. As the figure shows, the five mechanisms influence the firm's motives to achieve better OSH practice and OSH compliance. The mechanisms also influence the characteristics, capacities and

resources in firms that are the foundations for their OSH decision-making and implementation, and shape OSH practice and compliance. For example, a government can run an intensive publicity campaign to change social norms about OSH, so that firms develop their own beliefs about the importance of healthy and safe work or come under greater social pressure to improve OSH by building their OSH capacity and allocating more resources to OSH. Prevention services within or external to firms provide expert advice to build firms' OSH capacities and resources. A state system to compensate and rehabilitate ill and injured workers can influence a firm's economic motives by providing subsidies for workplace improvements and by altering insurance premiums. An OSH regulator pursuing a deterrence strategy can also promote economic motives by creating the perception that the cost of non-compliance has increased and, similarly, can address decision-implementation resources through carefully targeted subsidies. Through interventions with influential actors in supply chains, OSH regulators can seek to stimulate economic, social and normative motives and capacities for better OSH practice and compliance among smaller firms participating in those chains, and to ensure better OSH conditions for workers in the lower tiers of those chains.

There are, of course, a range of other agents and factors that can shape better OSH practice and compliance through their influence on motives, characteristics, capabilities and resources in firms. For example, external agents include consumer groups, trade unions and the media, which might monitor the OSH conditions of lower tier workers in supply chains and bring pressure on influential supply chain parties to institutionalise better OSH practice and compliance. Other factors may be internal and/or external to firms and include OSH policies, standards and interventions; business operations, practices and norms; the make-up of the workforce; labour relations; and arrangements for employing or engaging workers.

The broad framework of the holistic compliance model remains the same for different firms or individuals. That is, interests or motives, decision-making characteristics and decision-implementation capacities and resources are the sets of factors that shape compliance behaviour. These factors are influenced by external agents, environments and events, which may also influence compliance behaviour directly. While the broad framework remains the same, the specific elements of each set of factors that contribute to compliance (or non-compliance) differ between firms and individuals. In addition, the specific elements, and how they play out, may change over time and in different contexts. The value of the model for this project is that it represents sets of factors that influence compliance and the relationships among these factors. As a supplement to the holistic compliance model, Parker and Nielsen (2017) have identified 14 questions that regulators, researchers and practitioners can ask of (or about) particular target groups to help understand the factors that influence their compliance behaviour, as set out in Table 1. Such information can be used prospectively to help design effective monitoring, promotion and enforcement of compliance, and in evaluating the impact of these interventions (Parker and Nielsen 2017, pp. 229-230) — see Chapter 7 of this literature review.

The holistic compliance model and the 14 questions do not provide prescriptions for how to monitor, promote and/or enforce compliance. However, regulatory scholars have advanced a series of theories that assist in understanding the dynamics of regulatory processes and how regulators might more effectively elicit compliance, as discussed next.

**Table 1: The 14 compliance questions**

A. Spontaneous compliance factors
Dimensions 1-3: Economic (material), social and normative motives
1. Social and economic costs and benefits
Does the target group believe that it costs too much time, money and effort to comply? Does the target group believe that there are tangible advantages to be gained from breaking the rules? Does the target group see any advantage to them in complying with the rules?

## 2. Degree of acceptance of this regulation

Does the target group agree with the policy objectives and the principles that underpin the rules surrounding their licensed activity? Do they agree with how the policy and principles have been put into practice — for example, do they think particular obligations are unacceptable?

## 3. Respect for the law in general

Does the target group generally believe in abiding by the law? Do they believe that complying with the law is a good thing to do regardless of whether or not they agree with a specific obligation?

## 4. Existence of non-official influence over target group's compliance

Do industry groups and other regulatees, customers, investors, trading partners, local communities, industry groups, non-governmental organisations or other stakeholders facilitate compliance?

Dimensions 5-7: Characteristics and capacities of target population

## 5. Business model

Is compliance relevant to the target group's business model or is it an 'afterthought', or even irrelevant?

## 6. Knowledge of the rules

Is the target group aware of their obligations? Do they know the rules that govern the particular activity? Are the rules comprehensible or are they too complex to understand?

## 7. Capacity to comply

Does the target group have the capacity to comply with the rules or do they lack the money, time, education or expertise to become aware of their obligations, decide to comply and implement compliance? Do they have good enough management systems to implement compliance?

## B. Enforced compliance factors

## 8. Respect for the regulator

Does the target group respect the regulator and how it goes about its tasks? Do they have a relationship with the regulator? Do they respect the judgement of those responsible for law enforcement?

## 9. Risk that any violations of the rules will be reported to the authorities

Is there a high risk of violations being reported to the authorities, either by members of the target group's community or by the public? Is the target group deterred from non-compliance because they fear they will be complained about or reported if they do not comply?

## 10. Risk of inspection

Is there a low risk of particular businesses being inspected by the regulator, either by a physical inspection or by a records inspection? Do members of the target group perceive themselves as likely to be subject to inspection?

## 11. Risk of detection

Is there a high risk of any violations of the rules being detected if there is an inspection or some other monitoring (such as an audit)? What is the impact of factors such as an inspection only selectively examining records, particular violations being difficult for inspectors to detect or the ease of falsification of records? How does the target group perceive the risk of detection?

#### 12. Selectivity of inspection and detection by the regulator

Is the regulator selective in identifying and prioritising targets for inspection? Do some members of the target group perceive themselves as falling outside the priority targets for inspection? Are they aware of how the regulator 'screens' for breaches when inspecting or investigating?

#### 13. Risk of sanction

Is there a major risk of a violation, once detected, being sanctioned? Does the regulator have a practice or policy of dismissing charges or not enforcing charges? Does the target group believe that the risk of being sanctioned is low even if they are caught and the breach can be proved?

#### 14. Severity of sanction

Does the target group believe that the sanction they will face for a particular violation is severe, that it will be imposed quickly and that it will have other tangible disadvantages for the person concerned? For example, does the person suffer a loss of reputation from being sanctioned that has a negative impact on their business activities?

## 1.3 Approaches and theories for monitoring (inspecting), promoting and enforcing compliance

### 1.3.1 Early regulatory approaches and theories

The early OSH legislation in most countries in Europe included specification standards (see the definition earlier in this chapter). After surveying the literature on monitoring (including inspection/investigation) and enforcement, Walters et al. (2011a, pp. 53-54) concluded that, although there were differences in detail and context, early approaches throughout Europe, Canada and Australasia had a number of striking similarities, which included:

- the existence of a small inspection body with little prospect of actually inspecting much more than a minority of the workplaces for which it was responsible;
- a philosophy of 'enlightenment' in which there was widespread focus on promoting more or less voluntary compliance as the strategy to prevent injury and ill health, rather than enforcing the letter of the law — in all workplaces, not just those inspected;
- achieving prevention through the deployment of a mixture of advice and information, the somewhat distant threat of enforcement and the more remote possibility of punishment, and (especially in Scandinavia) promoting a local dialogue between employers and workers.

Regulatory theorists have analysed the monitoring and enforcement typologies drawn upon by pre-1980s inspectorates in a range of regulatory regimes, including OSH (Hutter 2001, pp. 15-16; Johnstone 2004). Perhaps the most basic in the repertoire of frameworks is the **cooperative approach**, which is sometimes confusingly called the 'compliance' approach. This approach holds that regulators can nurture compliance through advice and persuasion. The cooperative approach was institutionalised in the mid-19th century in Britain (see Carson 1979, 1980, 1985). It has recently gained further momentum through social psychological developments in social influence and compliance (Cialdini 2013; Cialdini and Goldstein 2004). Some regulatory scholars have drawn a distinction between persuasive and insistent variants of the cooperative approach (Hutter 1997, pp. 15-16). With the latter variant, inspectors expect a prompt response to their requests, which may be signalled by the issuing of an administrative notice, rather than spending more time advising and trying to persuade firms or individuals to comply.



Empirical studies of compliance with regulatory standards suggest that the efficacy of the cooperative approach is conditional upon firms and individuals already knowing how to comply or the regulator facilitating learning about how to comply, for example through specific guidance (Fairman and Yapp 2005; May and Wood 2003).

In contrast with the cooperative approach, **deterrence theory** argues that regulated firms and individuals will comply with a regulatory requirement when the benefits of compliance, including avoiding fines or other sanctions, exceed the costs of compliance (Akers and Sellers 2009; Becker 1968). The theory holds that if non-compliance is detected with sufficient frequency, and punished with sufficient certainty, severity and swiftness, then offenders and other potential violators will perceive that the costs of non-compliance exceed the perceived benefits and will make greater efforts to comply. Deterrence theory assumes that regulatees actively seek out information about enforcement activity, that their knowledge of penalties increases the perceived risk of non-compliance and that their perception of increased risks for non-compliance will result in changes to increase compliance.

There is strong evidence that OSH inspection and enforcement, using measures such as on-the-spot fines and prosecution, have a deterrent effect, as recognised in a series of systematic reviews over the past 15 years (see Anderson et al. 2019; MacEachen et al. 2016; Mischke et al. 2013; Tompa et al. 2016; see also Safe Work Australia 2013; Tompa et al. 2007a). These reviews report 'moderately strong' to 'strong' evidence that specific deterrence from inspections with penalties reduces work-related injuries (Andersen et al. 2019, p. 107; Tompa et al. 2016, pp. 925, 929; see also Fooks et al. 2007, pp. 50-51, 182-190). They report 'moderate to limited' evidence that inspection without penalties has no effect in lowering injury rates (Tompa et al. 2016, p. 925, p. 929; Wright et al. p. 2004; see also Andersen et al. 2019, p. 110). They also report 'limited' evidence that general deterrence reduces fatalities and lost workdays (Tompa et al. 2016, pp. 925, 929). There is further evidence that inspections decrease injuries in the long term but not in the short term, that there is uncertainty about the magnitude of the effects and that focused inspections have larger effects than general inspections (Mischke et al. 2013). There is 'moderate' evidence that the first inspection has the largest effect on compliance rates and that subsequent inspections have a declining impact (Andersen et al. 2019, p. 109; Tompa et al. 2016, p. 925). There is also 'strong or limited' evidence that consultative services offered by regulators have no effect on injury rates and there is limited evidence that awareness activities reduce injuries (Tompa et al. 2016, pp. 928, 929). Overall, the literature suggests that direct experience of enforcement can capture the attention of management and trigger some action that advances compliance in ways that may be far-reaching (Fooks et al. 2007, p. 51).

With regard to general deterrence, there is some evidence that firms and individuals may be provoked to take action owing to knowledge of enforcement against others, provided that the messages about enforcement get through (Jamieson et al. 2010; Thornton et al. 2005). This is more likely if the messages are actively sought, interpreted and channelled by specialists, such as compliance officers (Jamieson et al. 2010; Thornton et al. 2005). For example, hearing that others have been prosecuted reminds those with legal obligations to review their operations and check their own compliance processes, and can reassure them that their efforts to comply are worthwhile because non-compliers are being penalised (Gunningham et al. 2005, p. 296). A recent study by Johnson (2020) found that the US Occupational Safety and Health Administration's policy of issuing press releases about firms that had violated OSH regulations led others to improve their OSH compliance substantially, resulting in fewer work injuries. However, hearing about legal actions against others can also just focus efforts on 'damage control' rather than better compliance (Gunningham et al. 2005).

The underlying assumption of deterrence theory, namely that firms and individuals are economically rational, is problematic in the light of the consensus that decision-making is characterised more by bounded rationality than by informed calculation of the costs and benefits of their actions (Cyert and March 1963; Gigerenzer and Selten 2001; Simon 1955). That is, decision-making is less than rational because of firms' or individuals' limited capacity to process information in decision-making (including the multiple demands of different laws and penalties imposed) and their psychological biases and conflicting preferences or motives (legal, normative, social or economic, as outlined above). Enforcement can have an impact on different motives, for example by contributing to social motives that are grounded in fear of the reputational damage of a publicised prosecution.

Before we conclude this section, we must make three points about deterrence. The first is that if deterrence is not carefully targeted, it could result in a ‘culture of regulatory resistance’ and undermine the regulator’s legitimacy in the eyes of those subject to regulation (Bardach and Kagan 1982). The second is that we are not aware of any OSH regulators that have ever used a fully fledged deterrence strategy to enforce OSH regulatory standards — in other words, there is no evidence that a strong OSH prosecution strategy has been found wanting (Tombs 2017). This is principally because the maximum penalties have not been large enough for effective general deterrence and because OSH regulators have always had broad enforcement discretion and have never sought to utilise criminal sanctions for all, or even many, OSH contraventions (Tombs 2017). Third, deterrence is best not attempted on its own, but rather as a key component in a suite of measures that are flexible enough to address the multiple drivers of compliance.

Deterrence theory and the cooperative approach, with their focuses on specific methods in the form of sanctions, in the case of the former, and advice and persuasion, for the latter, are relevant to the regulator’s choice of which measures to use to elicit compliance. How firms and individuals respond to compliance promotion, monitoring/inspection and enforcement will differ according to the nature of the regulatory intervention, but this is only part of the story. On the one hand, the type and frequency of engagement between regulators and regulatees are likely to have an impact on compliance motives and capacities (including knowledge, skills and resources). On the other hand, as predicted by the holistic compliance model, regulatees’ pre-existing motives, capacities and characteristics, as well as the industry context and external environment in which they operate, will affect the efficacy of regulatory interventions (Nielsen and Parker 2012; Parker and Nielsen 2011).

### **1.3.2 Later regulatory theories and approaches**

Since the mid-1980s, further regulatory theories aiming to improve monitoring/inspection, compliance promotion and enforcement have emerged in the English language literature on regulation. These have been developed in the context of the broader range of principle-, process- and performance-based standards, a greater understanding of the multiple factors that influence compliance and recognition of a wider range of regulatory actors and, in labour regulation, to address the wide variety of work arrangements that (re)emerged from the 1980s (see section 1.3 and Chapter 2 of this literature review). Regulatory theorists and regulators have been influenced by two key imperatives. One is demands to improve the efficiency and effectiveness of monitoring/inspection, compliance promotion and enforcement, but at the same time to reduce administrative burdens on firms (Blanc 2012a; OECD 2014a, p. 13). The other is to move away from a ‘one size fits all’ approach to compliance promotion, monitoring and enforcement and to exercise the regulator’s broad discretion in choosing enforcement responses (see Blanc 2012b; Pires 2011; Tucker et al. 2016). In accordance with this, the later theories emphasise the need for regulators to:

- be responsive to all kinds of technologies, all kinds of harm and different types of firms and business arrangements;
- tailor monitoring and enforcement measures to the particular motives, capacities and structural arrangements of firms, their ability to ‘self-regulate’ and the social and economic circumstances (including the industry context) within which they operate;
- enrol the help of, or otherwise collaborate or enter into partnerships with, a wider range of state and non-state actors to optimise monitoring, compliance promotion and enforcement;
- reduce the proportion of reactive inspections/investigations in response to complaints or reports of injury, ill health or death and increase the proportion of proactive (planned and preventive) inspections by allocating resources in accordance with established priorities;
- target regulatory resources to the most serious regulatory problems that regulators face (for example levels of poor compliance, high clusters of risks and the most marginalised victims of non-compliance);
- address the underlying determinants of non-compliance;
- ensure that compliance promotion, monitoring and enforcement measures result in sustainable compliance and, potentially, in the case of OSH, sustained better practice.

Of particular importance has been the development of theories of **responsive regulation**, which emerged in the late 1980s.<sup>4</sup> This was in the context of a major debate in regulatory circles between those who advocated deregulation and those arguing for stronger or more effective regulation, as well as a related, but more specific, enforcement debate between those favouring the cooperative approach and those calling for strong use of deterrence (Hawkins 1983, 1990, 1991, 2002; Pearce and Tombs 1990, 1991). Many regulatory theorists at the time pointed to the general limitations of both a pure deterrence and a pure cooperative strategy and argued, on the basis of considerable evidence from Europe and the United States, that a judicious mix of advice/persuasion and deterrence was the optimal strategy (for reviews of the evidence, see Kagan 1994; Wright et al. 2004, p. vi). The best-known advocates of this approach were Ayres and Braithwaite in their 1992 book, *Responsive Regulation*. ‘The basic idea of responsive regulation is that regulators should be responsive to the conduct of those that they seek to regulate in deciding whether a more or less interventionist response is needed’ (Braithwaite 2008, p. 88). If firms do not self-regulate to meet the required standards, the regulator will sequentially apply a hierarchy of increasingly tougher sanctions, which has come to be known as the ‘enforcement pyramid’ (Ayres and Braithwaite 1992, pp. 35-39). The enforcement element of responsive regulation — responsive enforcement — is based on the use of this hierarchy of sanctions and is justified by economic game theory (see Ayres and Braithwaite 1992, pp. 36-38; Scholz 1984a, b). It recognises that a firm is not simply a unitary body rationally seeking to maximise profit, but can have ‘multiple selves’ and many, sometimes conflicting, motives for complying or not complying with regulatory standards (the economic, social, normative and legal motives described above) (Ayres and Braithwaite 1992, pp. 30-35).

In the original theory of responsive enforcement, the inspectorate’s response is determined primarily by the level of cooperation of the firm and its ability to self-regulate. The regulator starts with the least interventionist sanctions (advice and persuasion) and only when these fail does the regulator reluctantly escalate to modest sanctions (for example administrative notices requiring breaches to be remedied) and then more punitive approaches (criminal prosecution), with incapacitation being the final option. Ayres and Braithwaite (1992) argue that the trick of successful regulation is to establish a synergy between punishment and persuasion. Strategic punishment underwrites persuasion as something that ought to be attended to, and persuasion legitimises punishment as reasonable, fair and something that might elicit remorse or repentance. At the heart of the theory of responsive enforcement is a paradox. The greater the ‘big gun’ at the apex of the hierarchy of sanctions and the regulator’s ‘image of invincibility’, and the greater its capacity to escalate through a range of measures to the top of the hierarchy, the more regulatees will participate in cooperative activity at the lower regions of the hierarchy (Ayres and Braithwaite 1992, pp. 40-47). Therefore, the shape and metaphor of the pyramid is central to responsive enforcement. Later iterations of responsive enforcement have been influenced by the developing literature on compliance and, in particular, the multiple factors and contexts that influence compliance, as reviewed earlier in this chapter (Braithwaite 2011, 2016). They have also been influenced by Braithwaite’s interest in restorative justice and include a pyramid of measures to support compliance in addition to the pyramid of sanctions (Braithwaite 2011).

Regulatory scholars have identified a number of challenges to operationalising responsive enforcement, many of which have been confirmed empirically (Baldwin and Black 2008). Regulators’ limited resources are likely to preclude the repeat interactions with firms that the theory appears to assume are necessary for the effective and dynamic operation of the pyramid (Gunningham and Johnstone 1999, pp. 123-129). Responsive enforcement requires nuanced messaging between regulators and firms, but communications may be unclear, subject to interference or misinterpreted (Lehmann Nielsen 2006, 2007; Lehmann Nielsen and Parker 2008; Mascini and Van Wijk 2009; Special Issue on Responsive Regulation 2013). The approach may undermine constitutional values of procedural fairness, proportionality to the seriousness of the non-compliance and consistency of treatment of firms (Yeung 2004). Other challenges are the communication of the regulator’s response within large firms, the difficulty of firms dealing with multiple regulators and the emphasis on dialogue and lower level measures that may be prone to regulatory capture (Yeung 2004, pp. 170-174). That said, Ayres and Braithwaite (1992; Braithwaite 2008, p. 87) did embrace a republican form of tripartism to keep state

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<sup>4</sup> Although arguably the debate began with Nonet and Selznick’s (1978) discussion of responsive law.



regulatory agencies accountable. They proposed that public interest groups become fully fledged third players in the regulatory process, as a counterbalance to industry pressures, and that public interest groups be empowered to punish directly the firm for not complying or the regulator for not enforcing (or for corruption or capture).

In practice, many OSH regulators that claim to use responsive enforcement do not, in fact, tailor their response according to the level of cooperation of the firm and its ability to self-regulate. Instead, they seek a single proportionate response. Furthermore, in practice, there is usually a 'split pyramid', because regulators go straight to the top for a serious incident and otherwise escalate only to administrative sanctions (Gunningham and Johnstone 1999, pp. 121-122). Critics also point out that penalties are often too small to be an effective 'benign big gun'.

Finally, critics of responsive regulation argue that the theory does not deal well with third-party regulators and optimal mixes of measures, and that promoting, monitoring and enforcing compliance is not just a two-actor game in which a single regulator responds to the degree of cooperation forthcoming from the firm. Braithwaite and other thinkers have, however, adjusted responsive regulation to include expanded roles for non-state actors. Some, for example, have been influenced by **regulatory pluralism**, which acknowledges that state regulation exists alongside other normative orderings (Black 2001, 2008; Grabosky 2012). For instance, non-state regulation includes the influence of commercial activity on and through markets, as is the case with influential actors in supply chains requiring their suppliers to comply with OSH standards to reduce the potential for brand damage arising from dangerous working conditions (see Chapter 5 of this literature review).

Itself influenced by regulatory pluralism, the theory of **smart regulation** significantly advanced responsive regulation by developing a three-sided pyramid that includes non-state actors and a broad mix of regulatory techniques (Gunningham and Grabosky 1998; Gunningham and Sinclair 2017), an approach which was endorsed and adopted by Braithwaite in his later work (Braithwaite 2017). The strategy involves coordinated and graduated escalation of regulatory responses up each of the three faces of the pyramid (government, industry self-regulation and third parties), using different but complementary measures. As well as taking action itself, the state regulator plays a role in enlisting industry and third-party actors and acts as a catalyst for effective action by them. Smart regulation offers a strategy for state regulators to engage complementary mixes of government, business and third-party actors and measures in a coordinated way, with the aim of achieving regulatory goals more effectively, increasing industry and community ownership of regulatory issues, and freeing up government resources to be applied where they are most needed. It uses a variety of strategies and tools to call on various drivers of compliance, including deterrence, and to leverage peer pressure and social norms (Blanc and Faure 2018, p. 79). As with responsive regulation, regulators may have difficulty operationalising smart regulation, often overlooking the core principles of sequential escalation, complementary mixes of measures and coordination among the different regulatory actors, or finding it difficult to implement these elements in practice when complex mixes of measures and actors are involved (Gunningham and Sinclair 2017; Toffelson et al. 2008). There are also concerns about fairness, proportionality and consistency (Baldwin and Black 2008, p. 12).

There is a developing body of European literature on 'shared enforcement' and 'networked enforcement'. Shared enforcement occurs when an EU agency has enforcement powers, which it shares — through formal legal structural and operating arrangements — with the corresponding regulatory agencies within the Member States (Cacciatore and Aliantonio 2019, pp. 523, 525). Networked enforcement is an informal (rather than legally structured) usually 'non-hierarchical' and non-sequential form of coordinated enforcement activities (Van Boetzelaar and Princen 2012). It also usually involves only public actors, as with shared enforcement (Cacciatore and Aliantonio 2019, p. 525). Networked enforcement can include activities such as joint inspections and data sharing, but because of the informality of the arrangements, these activities may lack adequate accountability mechanisms, which might undermine their legitimacy (Cacciatore and Aliantonio 2019, p. 525).

Another important thread in the monitoring and enforcement literature is **risk-based regulation**, which has developed in a variety of forms: for an overview, see Fooks et al. (2007, pp. 37-41). Underlying risk-based regulation is a series of criticisms of traditional approaches to monitoring/inspection and enforcement (Blanc 2012a). These criticisms include that they:

- create significant costs for the state and burdens for firms, but with disappointing public benefits;
- have insufficient risk focus;
- frequently focus on finding violations rather than improving compliance and outcomes.

Blanc (2018, pp. 123-124, drawing on Better Regulation Delivery Office 2012, pp. 3–4) categorises the different levels of risk-based regulation as follows:

- strategic risk assessment — the overall strategy of the regulator (what risks need to be regulated and how?);
- operational risk management — the level at which interventions are designed (the regulatory tools to use and the risks and situations in which to use them);
- micro-level decisions of risk-based targeting (which firms need to be inspected or licensed?);
- risk-proportionate enforcement.

In practice, regulators (in general) have tended to adopt a risk-based approach to some, but not all, of these activities.

One form of risk-based regulation that aims to construct interventions to address specific significant risks is Sparrow's regulatory craft (Sparrow 2000, 2008). Regulators are urged to use data and research to identify specific harms or risk concentrations as possible projects, and to conduct a comparative assessment to prioritise and select projects (Sparrow 2008). They would then conduct research to understand and define the problems and apply project management to systematically design and implement tailor-made interventions or solutions to address the identified harms (Sparrow 2008, p. 10). One strength of Sparrow's approach is that it is well equipped to address the multiple factors and complex contexts that influence and shape compliance; however, for criticisms of the approach, see Baldwin and Black (2008, p. 8).

More generally, the approach to risk-based regulation that is embedded in government regulation in many countries and sectors, especially in inspection, has four central elements (Baldwin et al. 2012, pp. 281-283; Black 2010; Hampton 2005, chapter 3). The regulator identifies its objectives and the risks that firms may pose to achieving those objectives, and assesses/evaluates and scores those risks. It then uses the risk assessment scores to allocate resources and, in particular, to decide which firms to inspect and to determine the type of enforcement action to take with each firm. Objectives and risks reflect statutory mandates, such as ensuring safety and health, as well as political imperatives (Black 2005; Hutter 2005).

Targeting of inspection can partly be based on the previous performance of a firm or industry in terms of injury incidence rate, level of compliance and so on, which are seen as predictors of compliance.<sup>5</sup> Targeting can also be *ex ante*, that is, before non-compliance has been established by, for example, examining the intrinsic characteristics of the type of activity (industry and processes), the location and other factors (Blanc and Faure 2018, p. 80). The methods for assessment of risks are diverse and range from highly quantitative cost-benefit analyses and technical/science-based risk assessments to mainly qualitative approaches. The literature suggests that the usual way of classifying enterprises or activities according to risk is to use a risk matrix, with one axis representing severity and the other probability (World Bank Group undated). The literature also reminds us that assessments are only as good as the assumptions and data on which they are based, and the competency of those applying these methods (Black 2010; see also Peace 2017). Recent advances in ICT and 'big data' offer regulators the possibility of collecting and managing a wide range of data to identify and manage risks (Dahl 2019; Mattila-Wiro et al. 2020, p. 64).

Blanc (2018, pp. 130-132) describes a fully -fledged form of risk-based inspection that he calls **smart inspection**, also sometimes called 'smart enforcement'. This approach uses risk data to target interventions, determine appropriate responses to promote compliance and public welfare other than inspection, and determine the appropriate enforcement response during inspections (Blanc 2018,

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<sup>5</sup> For example, until 1999, the US Occupational Safety and Health Administration's site-specific targeting plan targeted inspections at industries with high injury rates; however, the focus changed to high injury rates at the establishment level after it was discovered that there was a high degree of within-industry variation in OSH performance (see Li and Singleton 2019, pp. 721-722).

p. 132; Blanc and Faure 2018). Examples of smart inspection include the UK Health and Safety Executive (HSE)'s enforcement management model and the UK Better Regulation Delivery Office's proposal of a 'risk-intervention pyramid' (Blanc 2018). The latter 'designates information and guidance as the usual intervention for low-risk firms, particularly where non-compliance is the result of ignorance about regulatory requirements' (Blanc 2018, p. 130).

There are a range of criticisms of risk-based regulation (Blanc and Faure 2018, pp. 100-101). Some critics suggest it creates the illusion of objectivity, when in fact targeting might be quite arbitrary or based on underlying political choices (Mascini 2016, p. 529). A further issue is that the risks may change over time — or the performance of excluded firms or sectors may deteriorate — so there is a need for periodic reviews of the risk assessment. There are also the complex politics of justifying reduced (or even a lack of) attention on certain risks, industries or firms, and the possibility that resources are shifted according to political imperatives rather than an assessment of risks (Baldwin and Black 2008). Helland (1998, p. 152) suggests that risk-based targeting might induce strong lobbying by firms under threat from a targeted approach. Further criticisms of risk-based regulation are discussed in Chapter 7 of this literature review.

The literature points to mechanisms to redress some of the criticisms of risk-based targeting. The UK Hampton report (Hampton 2005, p. 33) recommended that targeting should always be combined with random inspections, so that low-risk firms and industries are included in the inspection programme, albeit less frequently inspected (Mascini 2016, p. 529). In addition, targeting decisions can be made at a more centralised level within the regulator to avoid the lobbying efforts of interest groups (Helland 1998).

On another level, both responsive regulation<sup>6</sup> and risk-based regulation have been criticised as being strategies used in 'regulatory new governance' (Vosko et al. 2016) or 'regulated self-regulation'. They are seen as attempts to find a 'third way' between neo-liberal market regulation and traditional command and control regulation that envisage a smaller role for state regulation and the threat of punishment and greater use of persuasion, negotiation, self-regulation, information sharing on industry best practice, and monitoring and enforcement by non-state actors. Vosko et al. (2016, p. 379) argue that these regulatory new governance approaches are based on assumptions that stronger enforcement methods are needed for only a few 'bad apples' and that contraventions are the result of employer ignorance and incompetence rather than intentional behaviour (for example as part of a strategy for labour cost reduction) (Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 27-28). They argue that too heavy a reliance on non-adversarial enforcement approaches (or 'soft law' mechanisms) fails to acknowledge the unequal power relations inherent in work relationships and the intimidation and victimisation that workers experience when raising OSH issues (Vosko et al. 2016, p. 374). These issues are exacerbated by declining levels of union membership and reduced union freedoms. Vosko et al. (2016, p. 375) also argue that regulatory new governance strategies may undermine the development of effective mechanisms for worker voice and may redefine and weaken accountability (Vosko et al. 2016, p. 381). Furthermore, inadequate use of deterrent strategies will inadvertently provide incentives for employer non-compliance, especially in sectors where firms experience heavy competition for their goods and/or services (Davidov 2010; Tucker 2013; Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 28-29).

In the OSH literature, the strongest critics of responsive regulation and risk-based regulation are Tombs and Whyte (2007, chapter 7, 2013a), who are sceptical about the capacity of firms to put compliance with regulatory standards ahead of profit and production imperatives. They argue that, when allied with risk-based strategies, responsive regulation facilitates a 'deregulatory momentum' in OSH enforcement. Tombs and Whyte (2013b, p. 109) contend that 'the complex and often convoluted logic of risk-based regulation provides [regulators with] a rationale for a shift towards more consensus or compliance-based strategies, which appeal to the cooperation and good will of business' and ignore the inherent conflict in work relations between OSH on the one hand and profit on the other.

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<sup>6</sup> In his most recent writings, Braithwaite has become a strong advocate of governance and light-touch regulation (see <http://johnbraithwaite.com/networked-governance/>) and the criticisms of 'regulatory new governance' are particularly pertinent to these approaches. For an approach to regulatory networks better suited to OSH regulation, see Nossar (2021).

After examining the strengths and limitations of responsive, smart and risk-based regulation, and the regulatory craft, Baldwin and Black (2008) propose an approach to regulatory design that they label ‘**really responsive regulation**’. They suggest five key factors that regulators should address in regulatory activities, involving detecting undesirable or non-compliant behaviour (monitoring, including inspection), designing tools and strategies to respond to that behaviour (response development), carrying out enforcement activities, assessing the success or failure of these activities and modifying approaches accordingly. The five factors are the behaviours, attitudes (including motivational postures) and cultures of regulatory actors; the institutional setting of the regulatory regime; the different logics of regulatory tools and strategies, and how these interact; the regime’s own performance over time; and change in each of these elements (Baldwin and Black 2008; Black and Baldwin 2010).

Two recent North American enforcement approaches — strategic enforcement and co-enforcement — build upon the themes in responsive, smart and risk-based regulation, and the regulatory craft, although they are not directly influenced by them. They also respond to regulatory challenges raised by changes in business structures and work arrangements. David Weil (2018, p. 437) explains that **strategic enforcement** seeks to use the limited resources available to state regulatory agencies to protect workers by changing employer behaviour in a sustainable way. The principles of strategic enforcement are grounded in empirical research on labour regulation by Weil and colleagues (Weil 2005, 2008, 2009, 2010, 2011; Weil and Mallo 2003, 2007; Weil and Pyles 2006; Weil et al. 2003) and were developed in response to the fissuring of business structures with the sourcing of goods or services in competitive supply chains, branded organisations or franchising, central management of large contractor networks and common or centralised purchasing (Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 260-278; Weil 2010, p. 25, 2014, 2018). Strategic enforcement aims to improve compliance at lower levels in business structures through interventions with the business entities that control work conditions and arrangements in those structures, based on rigorous analysis of related business entities and using a mix of regulatory measures. Essential underpinnings are complaint-handling procedures that help build an understanding of patterns of non-compliance for system-wide interventions, including increased protection against retaliation for workers who make complaints, and engaging advocate communities to broaden relationships with workers and communities (Weil 2010). Other key features are strong interactions and joint initiatives between the regulator and other government actors, and systematic evaluation of programme impact to determine which initiatives are successful and which are not (Weil 2010). This approach is explained in more detail in Chapter 7 of this literature review.

The second approach, **co-enforcement**, has emerged out of the literature on ‘participatory enforcement’, which involves non-state actors in enforcement processes (Delp and Riley 2015; Fisk and Patel 2017; Gordon 2015, 2017; Hetland 2015; Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 178-184; Vosko et al. 2016). As noted earlier, critics of new regulatory governance warn that while the enrolment of non-state actors (such as professional and industry associations, worker organisations and other community groups) in monitoring and enforcement functions can be beneficial, power imbalances may be exacerbated if these processes fail to address the structured inequalities at work, including dynamics of race, gender, citizenship, immigration, age and so on (Vosko et al. 2016). If power relations are not addressed, workers will be reluctant, or may even refuse, to participate in monitoring and enforcement (Vosko and the Closing of the Enforcement Gap Research Group 2020, p. 180). To avoid reproducing structured work inequalities, Fine and Gordon (2010)<sup>7</sup> suggest that robust tripartite<sup>8</sup> approaches to enforcement require four criteria to be satisfied:

1. Relationships must be formalised, with open negotiations about expectations, commitments and contributions of resources.
2. Partnerships must be sustained.

<sup>7</sup> Vosko and the Closing of the Enforcement Gap Research Group (2020, pp. 180-183) review examples of successful participation of community organisations (including worker centres and community legal clinics) and of unions in monitoring and enforcement processes.

<sup>8</sup> Defined in this instance as ‘an enforcement regime that partners workers’ organizations with government inspectors to patrol their industries and labour markets for unfair competition’ (Fine 2013, p. 816).

3. Partnerships must be vigorous in the sense that the role of the community organisation must be integrated into the enforcement process in a meaningful (rather than symbolic or marginalised) way.
4. Partnerships must be adequately resourced.

Amenguel and Fine (2017, p. 129; Fine 2018, pp. 161, 163) suggest that recently proposed approaches to improving monitoring and enforcement, including those discussed earlier in this chapter, have failed to 'systematically incorporate the potential contributions of worker organisations and, as a result, [have] overlook[ed] opportunities for co-enforcing labour standards.' The co-enforcement approach is based on their, and others', empirical research into collaborative regulatory processes, particularly in the United States and in Argentina, in which worker organisations contribute their unique resources to make 'unsubstitutable' contributions to the inspectorate's investigation and enforcement activities (Amenguel and Fine 2017; Fine 2017, 2018; Fisk and Patel 2017; Gordon 2005, 2015, 2017; Hetland 2015; Kaine and Rawling 2019; Posthuma and Bignami 2014). Just how co-enforcement is operationalised in particular countries will depend on the types of worker organisations that have emerged, the resources that they can draw upon, the willingness of OSH regulators to enter into partnerships with them and the possibility of political support for such partnerships. The co-enforcement approach is explained further in Chapter 7 of this literature review.

### **1.3.3 Some observations about regulatory theories and approaches**

The theories and approaches examined in this chapter are grounded in different theoretical origins and assumptions, and have stronger or weaker empirical underpinnings. They are also more or less relevant to designing, targeting, implementing and evaluating compliance promotion, monitoring and enforcement functions. As such, they offer distinct perspectives on the dynamics and complexity of regulatory processes and efforts to achieve regulatory goals. They raise fundamental questions about who is or could be involved in these regulatory functions and how they are done, and about the systems and capacities of those involved. For regulators, the different offerings may be confusing and, unsurprisingly, those who have attempted implementation have often experienced difficulties operationalising them or have adopted them in name rather than essential elements. In Chapter 7 of this literature review, as part of examining OSH policy and practice in EU Member States, we consider if any of these theories and approaches have been adopted by OSH regulators. We also discuss the most innovative of these approaches to see if they might offer EU Member States useful insights for promoting, monitoring and enforcing OSH compliance in EU countries.

## **1.4 Conclusion**

This chapter has examined some of the significant developments in the literature about regulation, compliance, and regulatory theories and approaches, as they relate to improving the extent and quality of compliance with OSH regulatory standards and encouraging better OSH practice. We have clarified the meaning of regulation and the functions involved, and we have observed that OSH regulatory regimes involve a range of 'regulators', including non-state actors, and mechanisms other than regulatory standards monitored and enforced by state regulators. We have clarified different interpretations of what it means to comply and we have distinguished different types of provisions in regulatory standards, which entail varying degrees of flexibility about the action to be taken by firms and individuals, and the outcomes to be achieved. Thus, what it means to comply is open to interpretation. In addition, with the most flexible types of provisions, compliance can embrace best OSH practice. We have emphasised that, in discussing current knowledge on improving the extent and quality of compliance with OSH regulatory standards and in making recommendations for research, our concern in this report is with improving substantive compliance. We define this as achieving the collective goals of the regulatory scheme, that is, to ensure the safety and health of workers.

Although there are different meanings of compliance, there is broad agreement that a commitment to comply, learning how to comply and the institutionalisation of compliance are necessary foundations for compliance. However, these foundations are pushed and pulled in different directions by the wider political, economic and cultural context of OSH regulation — the multifarious state and non-state actors and mechanisms shaping OSH practice. We have introduced the holistic compliance model as a practical way to better understand and represent the multiple factors shaping compliance and we have



explained its relevance to our review of the five areas of external influence on better OSH practice and compliance with which the literature review is concerned. Finally, we have introduced the diverse regulatory theories and approaches that offer fundamentally different perspectives on the dynamics of regulatory processes and how regulators might more effectively elicit compliance and provide diverse prescriptions about who should be involved, what they should do and with whom.

## Chapter 2: Challenges for supporting compliance and better OSH practice in the EU — changing work arrangements, Member State contexts and measures of work-related harm

Support for compliance and better OSH practice does not take place in a vacuum. As we discuss at length in this literature review, it is the product of a complex set of interactions in the mix of private and public regulatory relations within which work is embedded. The wider contexts in which support for compliance and better OSH practice exist therefore vary according to the political economies of the Member States in which they are found. These variations in context include differences in economic and labour market structure and organisation; differences in regulatory styles, approaches, policies and resources; and differences in arrangements for social welfare, health and education — which in turn all help to determine the nature and operation of different national systems for safety and health. In addition, none of these things is entirely without change — they all develop over time and reflect many further influences on national policies, institutions and practices. A further key feature of such change is that political and economic changes may influence changes in both individual and societal perceptions of what is acceptable. Since regulation, better practice, compliance and many of the other issues that influence OSH are all socially constructed attempts to control activities that create risks to workers' safety and health, their content and practice may also be subject to shifts in societal perception that result from these wider political and economic changes (see, for example, Almond 2015).

This chapter focuses on three areas of challenge relevant to compliance and better OSH practice in the EU. The first is the nature of change in work arrangements and the second is the different national contexts in which this change is experienced. Both change and its national contexts influence the third concern of the chapter, which is the evidence of harm that can be found in current measures of safety and health outcomes in the EU. Of course, the impact of the COVID-19 pandemic is relevant to all three of these areas. While the literature addressing this is, by definition, nascent and still developing, it would be remiss not to include something of this literature in a review that identifies contextual change as a major determinant of the nature and effects of support for compliance and better OSH practice. We have therefore included reference to the emergent literature on the implications of the pandemic for the range of the issues addressed in the chapter.

### 2.1 Changing work arrangements in the Member States

In 2016, EU-OSHA published a detailed review of the challenges to arrangements for safety and health in MSEs in Europe (EU-OSHA 2016). Among other things that that report drew attention to was the significance of the role, development and extent of MSEs in the economies of EU Member States. The intention of the present literature review is not to repeat the detail of this comprehensive review. However, the findings of that review are relevant to concerns about supporting compliance for two reasons: first because it is now well understood that establishment size is an important determinant of both the form and outcomes of arrangements for safety and health and their capacity for compliance, and second because, as we outline below, there is a substantial presence of MSEs in the economies of all of the EU Member States. The growth of this presence in recent decades is symptomatic of wider changes that have taken place in economic structure and policy in all EU countries, all of which present challenges for supporting compliance and better OSH practice.

At the time that the 2016 EU-OSHA study was undertaken, there were compelling reasons to ascribe a central importance to MSEs as economic agents in the EU. The same remains true some five years later. Table 2 shows that, according to European Commission data (EASME 2020), in 2018 small and medium-sized enterprises (SMEs) in the EU-28 non-financial business sector (NFBS) accounted for:

- 99.8 % of enterprises overall;
- two-thirds of total EU-28 NFBS employment (66.6 %);
- slightly less than three-fifths (56.4 %) of the value added generated by non-financial business.

The data further demonstrate that micro enterprises (those with fewer than 10 employees and turnover and balance sheets of less than €2 million per annum each) are by far the most common type of small enterprise, accounting for 93.0 % of all enterprises in the NFBS. While they account for a substantially

lower proportion of employment, at only 29.7 % of total employment in the sector, when combined with small enterprises they account for just over half of total NFBS employment. When medium-sized enterprises are also included, this figure reaches two-thirds of total employment (Table 2). The EU-OSHA 2016 study also drew attention to substantial variations in the proportions of MSEs in different sectors of the economies of different Member States, an observation that continues to be reported in more recent surveys. While MSEs are the largest proportion of SMEs in all Member States, this proportion varies, for example between 82 % of SMEs in Denmark and 97.4 % in Greece. Recent reports also show that the proportion of NFBS employment and value-added growth contributed by SMEs has increased over the last five years or so, and that MSEs were the main source of this development. Employment growth in the NFBS is predicted to slow somewhat among MSEs in 2020, but their contribution to value-added growth is anticipated to continue (EASME 2020).

**Table 2: Number of SMEs and large enterprises in the EU-28 NFBS in 2018 and their contribution to value added and employment**

	Micro enterprises (<10 employees)	Small enterprises (10-50 employees)	Medium-sized enterprises (51-250 employees)	All SMEs	Large enterprises	Total — all enterprises
<b>Enterprises</b>						
Number	23,323,938	1,472,402	235,668	25,032,008	47,299	25,079,312
%	93.0	5.9	0.9	99.8	0.2	100
<b>Value added</b>						
Value in € (million)	1,610,134	1,358,496	1,388,416	4,357,046	3,367,321	7,723,625
%	20.8	17.6	18.0	56.4	43.6	100.0
<b>Employment</b>						
Number	43,527,668	29,541,260	24,670,024	97,738,952	49,045,644	146,784,592
%	29.7	20.1	16.8	66.6	33.4	100.0

Source: EASME (2020).

Overall, MSEs continue to play a substantial role in the economies of the EU Member States. While such firms have always been important in society and in the economy — supplying important crafts and services, providing work and supporting development, sustainability and everyday life — as noted above their growth in recent decades has also been emblematic of a number of wider changes in economic structure and in the policies that have driven them.

A key feature of the changes seen in the economic position of MSEs is that their growth in significance has taken place at the same time as broader changes during the post-industrial transition from large-scale mass production and Keynesian macro-economic regulation during the 20th century to more market-orientated economic and political policies and service-based economic structures. In these situations, the precepts of the neo-liberal political economy deemed the previous 20th-century industrial model, and the regulatory principles that went with it, to be ineffective in addressing emergent challenges arising from global economic instability, increased competition and offshore outsourcing (Lundvall et al. 2009; Piore and Sabel 1984).

Outsourcing of specialist tasks has always been a feature of the way work is organised. Sometimes such practices enhance safety, such as when specialised firms are used for specific high-risk tasks



because they are better trained and equipped to do the job safely. However, from the closing decades of the 20th century and continuing to the present time, units of production and service have increasingly been regarded as being part of a network-style economic structure and organisation, and thus as having greater capacity to harvest externally based scale advantages without themselves becoming rigid organisations. Such approaches were also in keeping with major changes taking place in the structure of larger organisations and in the organisational and business models they utilised. For example, downsizing, outsourcing, shifts from tight hierarchically controlled structures to more loosely organised arrangements of business, just-in-time production, increased porosity,<sup>9</sup> more flexible labour contracting, a greater focus on supply relations and so on, altered the way in which work was organised, structured and controlled and tended to promote the role of smaller employment units in the economy along with other forms of networked work (Sayer and Walker 1992). All this was, of course, further facilitated by rapid developments in ICT, which transformed the way work was done not only in relation to its structure, organisation and control, but also by profoundly changing its wider social and political contexts and globalising the societies in which it takes place. At the same time, the workforces of EU Member States were becoming more diverse as a result of the growth of non-nationals and the rise in the labour market participation of women, older workers and those with disabilities.

Such effects are therefore far wider reaching than those that can be explained purely in economic terms. The contexts in which a so-called ‘networked society’ has emerged, on a global level, have been the subject of extensive discussion and analysis in the social sciences for the past several decades, and their far-reaching effects on practically every aspect of life are now accepted.<sup>10</sup> From the perspective of regulation and securing compliance and better OSH practice, the implications of these developments are twofold. On the one hand, a combination of economic policy, business practice and advances in ICT have created a profile of work and employment for which regulatory approaches — largely developed in response to a very different political and economic scenario — are no longer relevant and require adaptation in the light of change. On the other hand, many of the changes in question have been so profound that they have arguably altered societal perceptions of the nature of work and therefore also of the means of regulating its effects on safety and health (Almond 2015). This makes for a host of further challenges for the achievement of better practices in preventing harm to workers — which, as we detail later in the present chapter, still remain a feature of the effects of work in all of the EU Member States.

These transformations are also reflected in, and sometimes facilitated by, EU economic, regulatory and social policies. The wider neo-liberal political project of recent decades has taken a de-regulatory approach to the economy and finance generally. States have increasingly withdrawn from many of the activities in which they had previously engaged, as efforts have been made to curb public expenditure, and public ownership has given way to privatisation. Individualisation in social and economic relations is noted by sociological observers and many formerly collective forms of engagement, in work and in other aspects of life, have become increasingly atomised. While it is clearly not the purpose of the present report to engage with, or contribute to, the analysis of these macro effects of political change in societies globally, it is inescapable that they have consequences for the contexts in which the relations of compliance and the achievement of better OSH practice are played out. Among these consequences, to which we will return later, has been the rise in social, health and economic inequalities noted by many observers during the last two decades, which have profoundly negative consequences for the so-called ‘precariat’ (see Standing 2011) and create many of the ‘low road’ approaches to economic activity seen, for example, in MSEs (see EU-OSHA 2016). The result is an increase in the, now significant, section of the economically active population who remain largely invisible in the administration of regulation and the monitoring of its effects.

Changes in the structure, organisation and control of work were well under way in the last decades of the 20th century, and their current features are prominent in the economies of all EU Member States.

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<sup>9</sup> It is acknowledged in the literature on organisational change that one of the significant effects of restructuring has been to cause the relations of production within firms to be more exposed to the influences of customers, suppliers, clients and business relations acting from outside the organisation (see, for example, Marchington et al. 2005).

<sup>10</sup> See, for example, Castells’ monumental work (1996, 1998a, b), which set the scene for many other accounts in the social sciences that have followed.

Consequently, contracted and subcontracted work in both production and services are well established. Suppliers of labour, services and products are often embedded in complex supply networks in which the price and delivery demands of powerful buyers at the apex of these chains and networks determine the organisation and intensity of work in a multiplicity of organisations that compete for their business and are obliged to organise their work to address the demands of profitability in scenarios they do not control.

Multi-employer worksites are especially common, as the practice of outsourcing has extended beyond its traditional sectors, such as construction, to feature prominently in organisation and business operations across all sectors, both private and public, bringing challenges for effective organisation and coordination of work in these situations. Loss of control and an absence of effective coordination of risk management in such fragmented work scenarios has been associated with numerous major disasters, as well as an everyday toll of harm to workers' safety and health. At the same time, outsourcing has also extended the length and breadth of the relations of supply, often with global dimensions. Business organisations now commonly produce in one global location and sell in markets situated elsewhere, while controlling business and financial matters from yet another location. Reviews of international evidence relating to the safety and health effects of outsourcing reveal a remarkably consistent picture of negative effects flowing from them (Pilbeam et al. 2020; Quinlan and Bohle 2008; Quinlan et al. 2001). Sector-based studies, notably in construction and food production and processing, point in the same direction. In construction, for example, financial and time pressures imposed on subcontractors, lower levels of supervision, information and training provided to subcontractor personnel, and the problems of coordinating the activities of subcontractors have long been shown to be important factors that have an adverse impact on safety and health management (see, for example, Dawson et al. 1985; Donaghy 2009). Similarly, studies in food production and processing illustrate how supply chain relationships between supermarkets and their suppliers may lead to increased casualisation and agency working, unstable patterns of work and working time, high levels of work intensity and pressures encouraging non-compliance with legal requirements (see, for example, James and Lloyd 2008; Wright and Lund 2003).

While social reporting, consumer pressures and other voluntary initiatives may help to increase the pressure on the controllers of such operations to ensure that their market profiles are not damaged by poor OSH practices in outsourced production, the challenges for regulation and securing compliance are evident (EU-OSHA 2020a). This has been graphically illustrated by the experience of the COVID-19 pandemic in the EU Member States during 2020. It is clear from this experience, for example, that unless underlying structural and organisational causes of safety and health problems are properly understood, preventive strategies, no matter how technically sound, are unlikely to be entirely successful. The recent example of the workplace risks of COVID-19 vividly illustrates this. Clusters of infection have been repeatedly identified in workplaces across the EU Member States that share similar features, such as those in meat and poultry processing, call centres and warehousing (see, for example, Agius 2020a, b; Durand-Moreau et al. 2020; Dyal et al. 2020; Taylor 2020; Van Der See et al. 2020). Such clusters are, to an extent, predictable, given the shared limitations of work and employment conditions that are typically found in such workplaces. Nevertheless, these conditions and their OSH consequences generally remain hidden from regulatory scrutiny until a crisis such as a pandemic brings them to attention (see, for example, Lippel 2020; Watterson 2020).

The business structures of large corporations have therefore become decentralised, with considerable autonomy ceded to a multiplicity of business units and huge reductions in the directly employed workforce. Just-in-time management of lean production and other current business logics have combined with the liberalisation of employment regulation to maximise productivity and boost economic growth by increasing the flexibility of forms of employment. Here again, the COVID-19 pandemic gives cause for some reflection concerning the robustness of these arrangements in the face of change. Commentary on the massive economic harm to the global economy brought about by the impact of the virus has noted that economic and business strategies such as long supply chains and just-in-time management of production have proved nowhere nearly resilient enough to withstand the impact of the pandemic. This has prompted considerable speculation about the need for shorter supply chains, encouraging more diverse and local production along with more resilient means of managing it (see, for example, Ivanov and Dolgui 2020; McMaster et al. 2020).

These approaches to economic policy have replaced Keynesian notions of full employment and job security as prominent and desirable features of the economy with notions of flexibility (and so-called flexi-security) in which workers must assume responsibility for continuing training and reskilling to ensure they meet the requirements of employment in rapidly changing labour markets. All of this contributes to an increasingly insecure workforce, with increased part-time employment, fluctuating temporary employment and substantial self-employment (Bevan et al. 2018; Strauss-Raats 2019). The employment of workers on zero-hours contracts — that is, contracts that do not guarantee any set number of hours of work — is also a recent and growing phenomenon. In the United Kingdom, for example, a survey of businesses at the end of 2018 suggested that, in the previous two weeks, work had been undertaken under 1.8 million contracts of this type (ONS 2018).

As Pennycook et al. (2013, p. 21) noted:

*For those who require a minimum number of hours per week to ensure their family is financially secure or those who, confronting severe power imbalances in the workplace, fear that turning down hours as and when offered will result in future work being withdrawn, life on zero-hour contracts is one of almost permanent uncertainty.*

Such uncertainty can also extend beyond those who have work arrangements of this type, with one study in the United Kingdom, for example, recently estimating that around a quarter of workers (6.2 million people) experience mild to acute levels of anxiety about unexpected changes to their hours of work (Felstead et al. 2020). What is clear, however, is that the number of workers in insecure work is substantial.

Along with these developments, a reduction in the presence of traditional industries that are dominated by large organisations with long-term employment prospects has contributed to a substantial decline in the presence of organised labour. Such industries have also failed to find successful strategies to counter wider trends in the organisation and control of work and employment, which are responsible for declining union membership (Baccaro and Howell 2011). Indeed, the decline of organised labour since the end of the 1970s is difficult to overstate. By most measures, the reversal of trade union fortunes during this period has been profound. Patterns vary between European countries, with trade unions demonstrating greater resilience in some countries than in others. However, overall, a decline in membership and power is evident in most European countries and part of a wider trade union decline in advanced market economies over the same period. Organisation for Economic Co-operation and Development (OECD) figures suggest that overall union density fell from 33 % in 1983 to an average of 17 % in 2013 in OECD countries (OECD 2013). In the United Kingdom, for example, the declining coverage of unionisation and collective bargaining arrangements has been marked. According to the Department for Business, Energy and Industrial Strategy (2019), by 2018, just 23 % of those in employment were trade union members (compared with over 50 % at the end of the 1970s). If the private sector alone is considered, then this figure drops even lower, to 13 %: a figure that contrasts with that of 52 % for the public sector. Moreover, membership is proportionately highest among those in permanent, full-time and middle income and professional jobs. Thus, not only is overall union density low, but it is particularly low among those in less secure and less favourable employment situations. A similar picture of decline is apparent in the United Kingdom regarding the coverage of collective bargaining. In 1980, wages councils and collective agreements in combination covered 82 % of the workforce (Ewing et al. 2018). In contrast, in 2018, just 26 % of employees had their pay affected by a collective agreement, with this being the case for just 14.7 % of those working in the private sector and 14.2 % of those in workplaces with fewer than 50 employees (see Katsaroumpas 2018). Even allowing for the very different structural arrangements for collective bargaining that exist in the various EU Member States, a similar broad trend of decline is evident (OECD 2013).

More recently, rapid global advances in ICT have added further dimensions to workplace change. New technologies not only usually create new risk scenarios that require adequate assessment (such as with automation, robotisation, new bio-, chemical and nano-technologies and so on), but also contribute to the trends already established in the disorganisation of work referred to in previous paragraphs. Communication technologies have provided companies with many new opportunities to reorganise their functions — such as with the development of call centres, which themselves create significant and substantial challenges for the safety, health and well-being of their workers, including, it seems, in

relation to COVID-19 (Taylor 2020; Woodcock 2016). Further rapid advances in digitalisation have enabled the almost universal use of digital technology and have helped to drive the development of the so-called 24/7 global economy, in which it is no longer necessary to be in the same location to communicate and exchange information (EU-OSHA 2019b). Thus, more flexible work is further encouraged and is increasingly becoming the norm. This also, among other things, makes it more difficult to achieve compliance with regulatory standards on where, when and for how long work is undertaken. At the same time, the resulting changes in business hierarchies contribute to challenges, mentioned previously, for determining who is responsible for OSH in disaggregated businesses and how to monitor and regulate such responsibilities for increasing numbers of work situations.

Advances in digitalisation, and communications technologies more generally, have also supported developments such as online platforms, which create further new business models by responsively and rapidly matching demand for labour with its supply (Grimshaw 2020). Online platforms have promoted a variety of working arrangements and places of work that include many forms of non-standard employment and different kinds of unconventional worksites, all of which are managed not by face-to-face contact, but remotely via web-based applications. The rise of the so-called gig economy, and more precisely arrangements whereby labour services are demanded and supplied through digital platforms, is also associated with growth in self-employment. While the scale of such employment remains unclear, it is apparent that it is largely low paid (Blanchflower 2015; Brinkley 2016). These findings align with other research from the United Kingdom indicating that many of the recently self-employed have few hours and low earnings — according to Blanchflower (2019), for example, approximately 40 % of the recently self-employed earned less than £5,000 in 2011-12.

There is now a substantial body of evidence indicating that workers in such non-standard, poor-quality forms of work tend to have poorer physical and mental health (Berg et al. 2018), making effective strategies to support compliance and better OSH practice in these contexts an urgent requirement.

More challenges arise from the perceived business advantages of such platforms. Their rapid responsiveness and flexibility to supply buyers'/users' demands may serve to undermine decent work for the workers involved. Their reported features, such as work requests issued at short notice, penalisation for not being available, the fragmentation of jobs into tasks with narrower job content and being subject to continuous evaluation and performance rating, also do little to meet standards associated with 'decent work'. As online labour markets become global and accessible to more workers, pressures resulting from increasing competition lead to irregular working hours, blurred boundaries between work and private lives, unclear employment status, insecure income, poor or non-existent training opportunities or social entitlements such as sick pay and holiday pay, poor worker representation, a lack of clarity in terms of who is responsible for OSH and so on. All of these contribute to poorer work experiences and increased OSH risks for workers (EU-OSHA 2019a).

The growth of an online platform economy therefore also creates further challenges for labour protection and OSH management, with key questions concerning who is responsible for OSH and the employment relationship. Underlying the challenges for effectively addressing these questions in most Member States is the way in which such developments succeed in bypassing laws governing the employment relationship (that is, the law governing the direct relationship between the employer and employee). Many, if not most, of the work relationships created by online platforms are not direct employer-employee relationships because of the combination of features including the triangularity of the parties involved and the temporariness, informality, autonomy and mobility of the work (EU-OSHA 2019b).

Two further and related factors are important in European contexts. The first concerns the implications for compliance strategies and better OSH practice that arise from work-related mobility in the EU, while the second (related) factor concerns the implications for OSH of the spectrum of undocumented/undeclared work that occurs in Member States.

While labour migration has always been a feature of the European economy, EU enlargement in 2004 and 2007 resulted in substantial flows of labour from the new Member States in central and eastern Europe to the EU-15 Member States. The United Kingdom and Ireland, which were the only countries among the EU-15 not to introduce temporary controls, attracted disproportionately large inflows in the initial phase. More recently, Germany and other northern Member States have become the main destinations. For over a decade, such flows have persisted and seem to be driven by a combination of



better working conditions and higher salaries in the older Member States of Europe. However, economic growth among the new Member States has also led to narrowing of wage differentials and recent data suggest that net outflows from some countries (for example the Baltic countries and Poland) are slowing.

Many obvious OSH issues arise from these patterns, in which workers who are experienced in the work practices in one country must adapt to those of another, as is evidenced by long-standing literature (Moyce and Schenker 2018; Sargeant and Tucker 2009). Language barriers also impose challenges for OSH communication (Viveros-Guzmán and Gertler 2015). Less obviously, but just as important, it is well established that migrant workers often occupy relatively poor-quality jobs compared with their indigenous counterparts and it is therefore not surprising to find a concentration of migrant workers among those in 'bad jobs' and in firms employing low-road business strategies (EU-OSHA 2018b), in which they experience poor work conditions and prospects, including those of safety, health and well-being (EU-OSHA 2007). Recent Canadian research comprehensively documents further challenges to safety and health posed by employment-related mobility, pointing out that much of this remains hidden from both regulatory surveillance and efforts to improve compliance, as well as from effective monitoring of its OSH consequences (Neis and Lippel 2019).

Overlapping with the challenges of employment-related mobility are those of undocumented/undeclared work and social dumping. It needs to be stressed, however, that this is far from solely a problem of labour migration. Although migrant workers often find themselves trapped in such scenarios, undocumented/undeclared work, social dumping and the so-called 'black economy' were well-established features of many EU Member States long before the large-scale economic migration stimulated by EU enlargement began. What these challenges share is the set of substantial issues they pose for securing compliance with labour standards — including those of safety and health. Indeed, as the director of the labour inspectorate for a Spanish autonomous region declared when interviewed in an earlier study (Walters 2016):

*This is the problem of undeclared work ... you cannot enforce anything if the company is not registered and is not declared ... You cannot check, you have no powers, no real powers to enforce the law in these kinds of companies, the first assumption is that the company should be declared, should be registered in social security, inland revenue ... all this sort of thing.*

Such challenges have been recognised by regulatory authorities in EU Member States for some time. The implications for enforcement presented by their international dimensions have also been acknowledged by the same authorities. In 2010, the Senior Labour Inspectors' Committee began a series of projects exploring improved communications and joint actions, finding a host of challenges to effective cross-border compliance in relation to mobility and undeclared work (Cremer 2020). In 2017, in his state of the union address, the then president of the European Commission Jean Claude Juncker (European Commission 2017a) declared that: 'It is absurd to have a banking authority to police banking standards, but no common labour authority for ensuring fairness ... We will create such an authority.'

Regulation (EU) 2019/1149, establishing the European Labour Authority, became operational in 2020. Its functions include ensuring fair labour mobility. It is intended, therefore, to help national authorities to fight work mobility abuses while at the same time making it easier for EU citizens to move to and work in Member States other than their own. The need for such an authority can be seen to be even greater in the light of the COVID-19 pandemic, in which the extent of labour mobility in the EU has been linked directly to the spread of the pandemic, and where draconian measures of national, regional and even local forms of social isolation have often been controversially introduced in contrasting ways in different counties and regions to combat this spread. These measures have not only had a huge economic impact and resulted in serious individual financial loss, but also caused public disquiet and confusion over their rationale and necessity. The presence of an active and well-resourced European Labour Authority could have aided clarity and communication in this process. However, at this point, it is far from clear if or how the European Labour Authority will function in relation to OSH matters.

## 2.2 Member State contexts

As we will discuss further in the following chapter, public regulation of economic activity occurs in all of the EU Member States, as it does elsewhere in the world. From its beginnings as a significant presence in the 19th century, it has developed to play a pervasive role in intervening in economic relationships,

including those affecting safety, health and well-being in most work contexts. As discussed in the previous chapter, increasing complexity in relation to what and who is regulated, along with changing political and economic policies in advanced market economies, which create and respond to more globalised economic scenarios, have together stimulated substantial changes in the form and function of regulation of OSH, including blurring the public and private means through which it takes place. Developments, such as those outlined in the previous section, have therefore occurred largely over the same period as substantial changes to the regulatory approach to OSH in EU Member States. This change has partly been the result of responsiveness to the structural and organisational developments previously described, but it is also the result of wider changes, including the effects of shifts in political and economic policies in the countries concerned. In this context, there are two significant with implications for OSH compliance.

The first is the growth of the EU itself, from the limited economic union of a much smaller number of western European countries in the 1970s, to the enlarged social, economic and political union of 27 Member States, which comprises most of the countries in continental Europe at the present time. The second major development that occurred over the same period was the shift away from prescriptive forms of regulation of OSH to more process-, performance- and principle-based forms. Thus, the basis of OSH regulation in some EU countries since the late 1970s has been an obligation on employers to effectively manage their arrangements for OSH, rather than to comply with standards prescribing various separate substantive requirements concerning workplaces and work processes (although some of these still exist).

As Chapter 1 of this literature review outlined, advanced industrial societies of the EU and elsewhere have introduced new sets of regulatory provisions, in which employers are required to institute structures and procedures to manage the risks to the safety and health of their workers and such societies have repealed the more prescriptive instruments. These developments have had a constitutive and structuring function for duty holders, requiring them to focus on the organisational means with which they are equipped to assess and manage risks.

EU directives reflect this change. As is noted in Chapter 1, the Framework Directive is the central organising instrument for OSH regulation in the EU. In part, this is because of its generality, but more significantly it is because its prevention principles and requirements on risk assessment, its provision of information to, and consultation with, workers, and its requirements on competence in OSH management are all hazard and technology neutral, process-oriented and addressed primarily to employers as duty holders. This reflects an important paradigm shift in regulatory strategies in which a primary objective has become the means of influencing employers'/management's will and capacity to operationalise OSH management and improve OSH performance outcomes, rather than to obey prescriptive rules. Its non-specificity in relation to what kind of risks it covers also makes it a suitable frame for further requirements. In addition, it orchestrates a suite of other directives that adopt essentially the same approach to responsibilities for evaluating and managing the range of OSH risks they address. Not surprisingly, this change has implications for approaches to securing compliance. We will return to these in the following chapters and especially in Chapter 7 of this literature review. However, in the present chapter, the central concern is with the effects of national social, political and economic contexts on arrangements to operationalise compliance and better practice in relation to these regulatory standards. Despite EU harmonisation, the 27 Member States retain very different national features in their social, economic and political profiles, which influence differences in ways of achieving compliance and better OSH practice.

A previous study commissioned by EU-OSHA (2013b) made a preliminary investigation of the national determinants that might help explain observed differences in results obtained during the first European Survey of Enterprises on New and Emerging Risks (ESENER), also undertaken by EU-OSHA. That survey showed varied performances in relation to scores on OSH management arrangements and to those dealing with psychosocial risks and arrangements for worker representation and consultation on OSH (EU-OSHA 2012b). These studies revealed that a group of countries achieved consistently higher scores on the presence of such arrangements, while other countries' performances varied considerably.

Using conventional comparative analysis tools of the social, political and economic profiles of advanced market economies in Europe and elsewhere,<sup>11</sup> while at the same time taking special account of differences in OSH systems, the study sought to explain these variations in the ESENER scores as functions of differences in the wider national contexts in which OSH management took place. While acknowledging that no typology could be perfect, it therefore constructed one into which EU Member States could be grouped, reflecting their similarities and differences on a range of social and economic indicators such as regulatory character and style, labour relations, social protection systems and other national regulatory, economic and social characteristics thought to be likely to have some influence on the operation of support for securing compliance with OSH standards within establishments. Other studies comparing OSH systems in Europe and elsewhere have used similar typologies (see, for example, EU-OSHA 2016; Nichols and Walters 2013; Walters 1996, 2002; Walters and Wadsworth 2014, 2019; Walters et al. 2011a, b). They all acknowledge that these groupings have limitations. Nevertheless, they offer a useful means to more systematically approach the possible consequences of diversity among wider determinants of support for compliance with OSH standards.

In relation to supporting compliance and better OSH practice, these previous studies have suggested that important indicators of context include:

- features of national governance, including history, forms of democracy and the extent of the planned/market economy;
- cultural factors influencing the public perception of risk, including the shifts in political ethos;
- structural and organisational features of national economies and labour markets;
- features of the wider legal systems in which OSH is regulated and compliance is sought in different countries;
- the history, style, character and development of national regulatory regimes for OSH management;
- the context of labour relations on OSH at workplace, sector and national levels, including the history, extent and operational features of corporatist/tripartite structures and practices;
- the structure and functions of the regulatory authorities, the style and structure of labour inspection, and so on;
- features of wider social protection systems, the role of social/employment insurance, civil litigation and so on;
- the availability, role and competence of OSH services;
- systems for information provision;
- national and local arrangements for labour force training and skills qualification.

Taking account of these factors and adapting Walters and Wadsworth (2014) to include only EU Member States results in a typology such as that in Table 3.

We conclude that the effects of determinants found in the national environments of the nature and extent of support for securing compliance in the five areas on which this overarching review is focused are likely to vary between the country groupings illustrated in the typology in Table 3. We argue that such support is likely to be influenced by:

- EU and supranational influences;
- national governance, regulation and OSH systems, including variation in the structure and functions of regulatory inspectorates;
- labour relations, trade unions and employers' organisations and processes;
- economic restructuring;
- differences in other related systems, for example social welfare, health and the legal system.

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<sup>11</sup> There is a long-standing and burgeoning body of literature presenting comparative analyses of the political economies of EU Member States, including discourse around 'varieties of capitalism' (see, for example, Rhodes 2005; Thelen 2015), comparative analyses of welfare capitalism (see, for example, Ebbinghaus and Manow 2001; Esping-Anderson 1996) and comparative social democracy (Crouch and Streeck 1997).

**Table 3: A typology of national OSH contexts in the EU**

Member State grouping	Constituent Member States
Central Europe	Belgium, Germany, Luxembourg, the Netherlands and Austria
Scandinavia/Nordic/northern Europe	Denmark, Finland and Sweden
British Isles	Ireland
Southern/Latin Europe	Greece, Spain, France, Italy and Portugal
Former planned economies in eastern Europe	Bulgaria, Czechia, Croatia, Hungary, Poland, Romania, Slovenia and Slovakia
Smaller southern European states	Cyprus and Malta
Former planned economies in Baltic states	Estonia, Latvia and Lithuania

Source: Adapted from Walters and Wadsworth (2014).

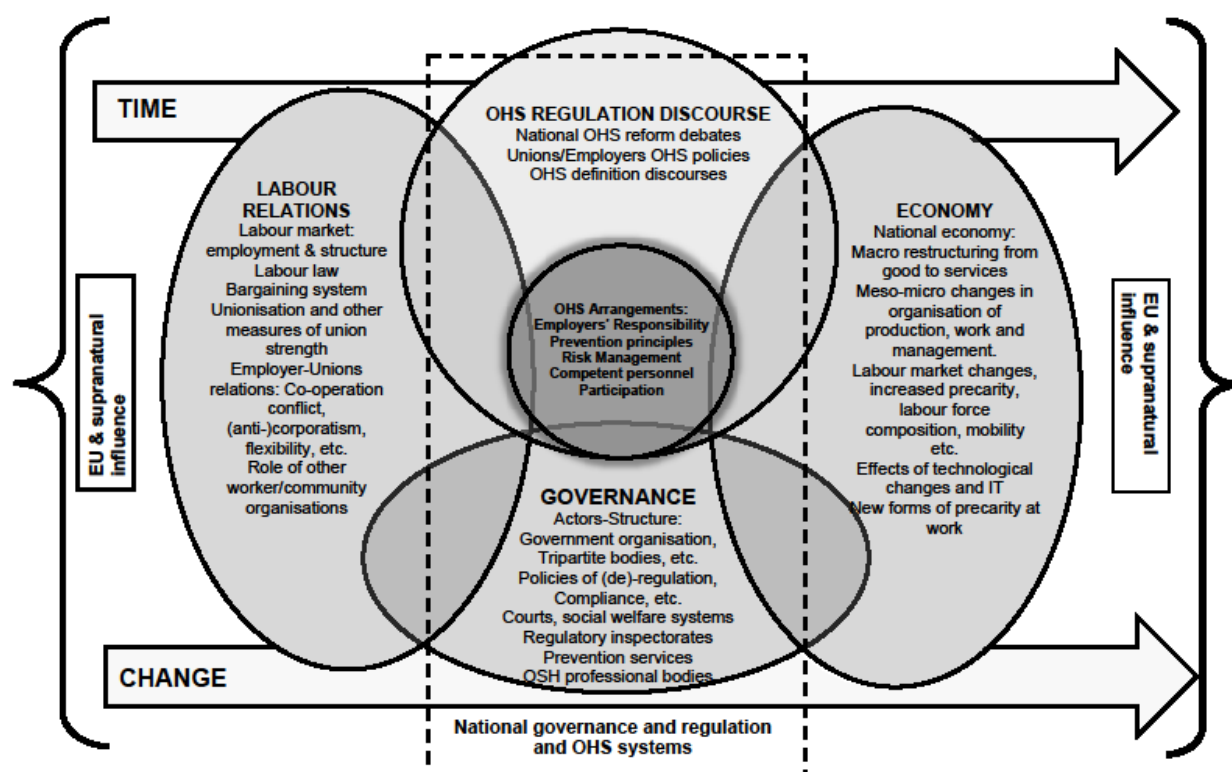
A sixth powerful determinant of the way in which establishments respond to the supranational influences identified above, of course, is provided by the interplay between the determinants in these groupings. Such 'spheres of influence'<sup>12</sup> have an impact not only on support for securing compliance but also on each other and it is often the consequences of this combination that determines the extent to which compliance and better OSH practice is secured.

To make these contextual influences clearer, in their 2014 account, Walters and Wadsworth represented their effects diagrammatically. We have adapted this graphic to the aims of the current overarching review (Figure 2). The innermost circle shown in the figure represents the sphere of influence in which organisational arrangements for OSH are made. It is surrounded by a second sphere, representing the proximal elements of influence found in the national safety and health systems, including the actors and processes in the five areas of support for compliance on which this review is focused. OSH interest groups, regulatory inspectorates, professional bodies and individual professionals in the OSH field operate in this sphere in various ways as elements of the political, scientific, medical and legal system involved in securing compliance and better practice at the enterprise level. In addition, in this sphere are also operating the business interests involved in the relations of supply, consumers and other elements in civil society with a direct influence on support for compliance. In the same circle are processes of sector and national discourse on safety and health arrangements, including the policies of the actors and the debates on the reform of OSH regulation that have taken place within EU Member States in recent decades. It further embraces the processes through which problems and solutions are defined both within the scientific/medical and legal system and in business terms and how such definition is brought to bear on the formal actors in national decision-making on OSH.

<sup>12</sup> See Walters and Wadsworth (2014) for a fuller discussion of this point.



Figure 2: The national and European dimensions of OSH context and change



Source: Adapted from Walters and Wadsworth (2014).

This second sphere is surrounded and overlapped by three further spheres all representing the wider contexts in which regulatory policy on OSH is set and which, we argue, have an important influence on its operation. These include one sphere of influence representing governance in general. Here, elements such as the organisation and structure of governance, its policies on acceptable levels of deviance and compliance and on regulation/deregulation, impinge on the regulation of safety and health management, and therefore on the practice of supporting compliance. At an instrumental level, differences between the structure and functions of regulatory inspectorates involved in different national systems are of course fundamental, but their operation is also influenced by these wider policy orientations of governance (see, for example, Blanc and Escobar Pereira 2020; Walters 2016). Here, in addition, politically driven shifts of emphasis have a major impact on the direction of OSH governance and culture and hence ultimately on the form and function of support for securing compliance at the enterprise level.

Another sphere of influence is found in the relations between capital and labour, which includes the influence of relations between organised labour and employers, unionisation, national industrial relations systems and the degree of corporatism evident in national systems. It also includes the structure and operation of the labour market and changes therein, including the labour market power of individuals as well as collectives, the effects of emergent atypical work and the effects of employment law. Here again, these structures and the processes that they contain are not static and, as the previous section illustrated, have changed rapidly but at varying pace in different Member States.

The third sphere reflects the significance of the national economic system as a supporting or limiting factor determining OSH regulation. Here again we have the theme of change — in the state of national

economies, in the shifts in the profile of production (for example from goods to services or from workplace to home or other remote working in the countries we have studied) and in the organisational downsizing, outsourcing, fragmenting and restructuring generally that has been a major feature of economic development during the past 30 years. Much public regulatory policy during this time has consisted of attempts to address these challenges and to adapt existing process-based provisions and strategies with which the state seeks compliance. Here too we see the effects of shifts in political ethos and the influence of changes in culture on public perceptions of risk and its acceptability as work is decollectivised and increasingly atomised, as well as the effects of the decline of the role of social institutions in society that parallels this rise of individualism.

The chapters that follow review the support for securing compliance found in the role of prevention services, social reporting, the business case and its economic incentives, as well as in the role of supply chain relations and innovations in the strategies of regulatory agencies. In all cases, we note that the operation of these supportive initiatives is subject to the influence of the wider sets of determinants represented in Figure 2 and to variation in their nature and extent according to the national contexts in which they occur. Here we provide just two examples that we explore in greater detail in the relevant chapters.

First, there are significant differences seen in the role of prevention services depending on if there are regulatory requirements concerning their use in the countries in which they operate (as there are in many of the Member States in the central European and Latin groups, for example). Such differences also depend on if they and the requirements governing them are part of wider structures and processes inherent in social and employment insurance systems (such as in Germany, Spain and Austria and, to a lesser extent, in France and other Latin countries) and if they are dominated by the culture of the medical profession (such as in Germany and France) or by integrated technical provision, such as was promoted in the Scandinavian model, and particularly in Denmark (Westerholm and Walters 2007a). The argument of this literature review, and of the final report of this overarching review, is that these differences cannot be properly understood, or their influence adequately accounted for, without considering the features of national context in which they are embedded and which have supported their development.

A second example illustrating this point is provided by the effects of differences in economic and regulatory policies and practice between liberal market economies, such as in the British Isles, and the coordinated market economies of central Europe and Scandinavia. Such effects of national context may help explain the differences observed, for example, in innovation in regulatory inspection and in ways of using supply chain relations to support compliance, as they are determined by the nature of the wider economies in which these initiatives are embedded and which make them, and their effectiveness, more or less possible.

In these and many other examples in the five areas under review, therefore, we find context to be a significant determinant of practice and, in the chapters that follow, we take some account of the effects of context, which helps to inform the analytical section of the final report.

## 2.3 Evidence of harm

Any discussion addressing support for securing compliance and better OSH practice is not complete without some reference to the outcomes that make improving the effectiveness of this support both necessary and urgent. As the previous chapter of this literature review noted, the burden of work-related harm in the EU remains unacceptably high. Current sources suggest that, annually, over 3 million non-fatal accidents requiring at least four days of absence from work and 3,272 fatal accidents are reported in EU Member States (Eurostat 2020). Figures from 2013 (EU-OSHA, 2019c) show that 7.9 % of the workforce suffered from occupational health problems, of which 36 % resulted in absence from work for at least four days. Estimates of the burden of work-related mortality in the EU are also sobering, with 102,500 deaths from occupational cancer alone each year in the EU-28, more than 20 times the number caused by occupational accidents (EU-OSHA 2017a). Occupational cancer is also the largest single cause of the more than 200,000 deaths estimated from work-related diseases (Hämäläinen et al. 2018).

Not surprisingly, the combined estimated costs of this harm are also considerable, with recent EU-OSHA reports suggesting costs of €476 billion<sup>13</sup> or 3.3 % of EU gross domestic product (EU-OSHA 2019c).

The measurement of these outcomes is not entirely straightforward. There are several problems. First, reporting the occurrence of work-related harm has a number of acknowledged limitations in terms of reliability, comparability and accuracy. This means that routinely recorded data are widely regarded as portraying only a limited measure of the true extent of work-related morbidity and mortality in most countries. While the analysis of such data can, to some extent, compensate for such inadequacies and project estimates such as those in the previous paragraph (which are thought to be more accurate reflections of the true extent of such harm), ultimately they too are limited to the data that are reported and recorded as well as by the different estimation techniques employed in their calculation.

Two further challenges arise from this. The first is that in the changing world of work and employment in the EU, the health consequences of many of the growing forms of atypical work and work arrangements, outlined previously, remain hidden from conventional systems of reporting and recording safety and health outcomes. The second challenge arises from what is recognised and reported as ‘work related’.

Generally speaking, injuries received as the result of incidents in conventional larger workplaces with stable and directly employed workforces stand some chance of being reported either by employers or through social insurance systems that provide benefits for lost earnings. However, injuries occurring in smaller workplaces among agency and casual workers, those without employment contracts or others whose employment status does not entitle them to benefits may remain unreported. Forms of ill health that are recognised as work related may be reported in much the same ways. Therefore, injuries experienced by workers who are not employed directly in larger organisations with reporting systems in place or registered for the purposes of social insurance may be missed. Thus, the ‘atypical’ forms of work and employment outlined in the first part of this chapter, which present serious challenges for securing compliance, also present the same challenges for measuring the extent of work-related harm to workers in this form of work.

However, what is meant by ‘work related’ is more complicated. Conventional ideas of what constitutes occupational injury or ill health are mainly based on traditional definitions of such events that developed as the result of the requirements of administrative or legal systems in industrialised countries. While the continued incidence of such traditional causes of work-related death, illness and injury still require measurement, what is measured is less clear when questions of health are considered. It has long been recognised, for example, that the definitions of occupational ill health used for administrative purposes — such as in the calculation of compensation or welfare benefits — are a very narrow and incomplete part of a much broader spectrum of work-related conditions that make people ill, cause them to be absent from work and, in some cases, lead to their premature death. Estimations of the burden of work-related ill health employ a variety of means to take account of this, as many of such forms of ill health may be associated with experience of ‘atypical’ work, such as those outlined in the second part of the present chapter. More precise measures of the extent of the health consequences of such work are hard to come by in conventional reporting, largely because of the ‘hard to reach’ nature of this work and workers, which militate against the accurate reporting of its health effects (Carder et al. 2015).

There is, however, a further dimension to this problem that is also missed by conventional measures. Exploring this requires recourse to other ways of documenting health in populations. For example, current discourse on social inequality makes it clear that workers who report being insecure in their employment also have higher levels of self-reported ill health compared with workers in secure jobs (Benach et al. 2002).

Moreover, it is well known that levels of job control and autonomy vary with employment status, and work-related health dynamics make an important contribution to the ‘social gradient of health’ (Marmot 2015; Wilkinson and Marmot 2003). There is already ample evidence to believe that patterns in the incidence of cases of COVID-19 also reflect the combination of social inequality and poor work conditions, with strong links seen between social deprivation, vulnerable groups and non-standard work,

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<sup>13</sup> Removing the United Kingdom changes this estimated cost to €450 billion.

and increased incidence of the disease (Barrera-Algarín et al. 2020; FLEX 2020; McClure et al. 2020). There is also debate over the work-relatedness of COVID-19 incidence — a critique of practices in some countries already makes it clear that current administrative arrangements and advice on such reporting risks downplaying the work-relatedness of the disease incidence (see, for example, Agius 2020b; Elgar et al. 2020).

In most advanced market economies, it is well documented that wage inequality has also grown in recent decades (Machin 2016). It is those located in the lower end of the wage distribution who have been most adversely affected by these increasing disparities (Blanchflower 2019). Income-related health effects, as a result, can be expected to have worsened, particularly among the lower paid. What emerges from such evidence is that it is the most vulnerable, such as economic migrants, workers who are non-unionised, the low paid, those who are employed on a casual or temporary basis and the underemployed, who are exposed to the greatest risks and harm. Work is therefore a source of inequity that makes an important contribution to wider health inequalities in European society, such as those that are demonstrated by dramatic differences in life expectancies between those located in different socioeconomic groupings (Marmot 2016). Once again, the black, Asian and minority ethnic (BAME) bias shown in the incidence of COVID-19 is also partially attributable to such inequity in work exposures in European societies (Patel et al. 2020).

Therefore, support for compliance needs to recognise that the current burden of work-related harm in advanced market economies is not solely the result of exposures to physical, chemical and biological hazards that were associated with work in the past (although these are by no means entirely absent). It also includes the consequences of psychosocial demands placed upon workers in modern societies; the way in which employment practices and processes blur the boundaries between work and domestic life and create substantial uncertainties concerning the continued availability of work at a time when the collective power, identity and organisation of workers has been declining; and the protections previously supported by welfare capitalism. The consequence of such changes — as widely understood in the literature on social inequalities in health — have not had an equal impact on all. By virtue of their capacities and/or market position, some workers have adapted to the changes in the way their work is organised without detriment to their health (Bevan et al. 2018). Others have been far less fortunate and their vulnerability to work-related harm has increased by virtue of their less favourable market positions and their lower capacities to apply discretion in their work or to exert control over it in a way that enables them to counter potential risks to their health (see, for example, Wilkinson and Pickett 2009). However, together, the de-structured and re-structured work and organisational arrangements, along with the interpenetration of work, social and personal lives, and widening material and social inequalities in advanced market economies, contribute to making the identification of work-related risks and measuring the extent of the harm arising from them more difficult to document and evaluate. This in turn has serious implications for evaluating the effectiveness of strategies to support compliance and better OSH practice.

The COVID-19 pandemic provides a further illustration of this (Sinclair et al. 2020). There is therefore a serious need for better measurement of these patterns, clearer identification of their consequences, especially for vulnerable groups, and more precise identification of the scenarios in which problems for compliance and better practice exist.

## 2.4 Conclusions and consequences for further work

This chapter has examined something of the contextual background to the overarching review of the five areas of support for securing improved compliance and achieving better OSH practice. It has explored the significance of context in two particularly important respects. One is the consequence of change in the nature, organisation, structure and control of work in the EU Member States. The other concerns the national environments of Member States in which support for compliance and better OSH practice operates. Its key argument has been that, as both aspects affect the nature and operation of support for securing compliance and better OSH practice, their effects need to be properly accounted for in a review of this support. Doing so reveals something of the determinants of the differences seen in the operation of measures to support securing compliance in different EU Member States.

In combination, these aspects therefore influence the extent of harm caused by the ways in which production and services are delivered in these Member States at the present time. As the third part of the current chapter has shown, not only does the extent of injury, ill health and untimely death resulting from work in the EU remain considerable, despite the current levels of support for improving compliance and better practice, but also its measurement (and therefore also the objective measurement of the success of such support) is fraught with difficulties created by the complexities of current economic development and national differences of context.

The third part of the chapter further points out that while traditional methods of reporting, and their correction with statistical means of estimation, present a challenging picture of the continuing extent of mortality and morbidity attributable to work-related causes in EU Member States, this is only part of the picture. A more complete image is captured by the inclusion of measures derived from the consequences of social inequality for the health of European populations. It is widely acknowledged that among the consequences of the widening poverty gap in advanced market economies in recent decades is a gradient of health outcomes in which poorer parts of the population experience considerably worse health outcomes than those who are more affluent. Many such outcomes are work related. A cluster of further measures indicate that those at the low end of the wealth spectrum are more likely to disproportionately experience insecure and low paid work, with little autonomy and low job satisfaction, alongside unemployment or underemployment, disability and disadvantage. Many economic migrants are also trapped in this position, along with workers in small firms that pursue low-road survival strategies and others occupying undocumented work in the new economy, often on zero-hour contracts or with no form of employment contract at all. While there is widespread agreement concerning the existence of such features of life in the EU in the 21st century, measurement of the true extent of its presence or its effects on health and well-being remain elusive and incomplete. The advent of the COVID-19 pandemic has demonstrated an urgent need to address these gaps in public policy and providing effective support for securing compliance with OSH standards must be a part of this.

There are, therefore, many challenges for further research that emerge from this brief account of the relationship between the changing world of work, its national determinants and its health consequences that are relevant to our interest in support for securing compliance and better OSH practice.

Current discourse suggests, for example, that while the changes documented in this chapter are significant, they often are more nuanced than can be captured by general statistical profiles of work in the EU. It has been pointed out that many of the changes on which the first part of this chapter focused take place at the margins of labour markets and are hard to measure (see, for example, the discussions in Bevan et al. 2018; Vosko and the Closing of the Enforcement Gap Research Group 2020). Nevertheless, unless underlying structural and organisational causes of safety and health problems are properly understood, preventive strategies, no matter how technically sound, are likely to be only partially successful. There is, therefore, a serious need for better measurement of these patterns, clearer identification of their consequences, especially for vulnerable groups, and more precise identification of the scenarios in which problems for compliance and better practice exist. There is also a further need to understand the limitations that such scenarios present for institutional support for compliance, whether it is by public or private means. This understanding would then inform the policies necessary to address compliance at the sector, Member State and EU levels, as well as in the interstices between them.

Further related areas for new research are suggested by the analysis of the role of national determinants in the second part of this chapter. Traditional approaches to both OSH research and practice have tended to be quite narrowly focused and rarely acknowledge wider social, economic and political determinants that influence OSH practice. Even when they are recognised as such, they are seldom seriously studied. However, without proper cognisance of these determinants, there is a risk that research findings that identify and explore good OSH practice in one sector or national context will fail to fully explore questions of transferability. Indeed, much of the research on what makes for good OSH practice is highly situation specific and therefore is of relatively limited value for informing wider and transferable policies. The outline in the present chapter shows that, while there is a burgeoning body of comparative literature on the operation of the political economies of all EU Member States, material that examines the consequences of these differences for supporting regulatory compliance specifically in relation to OSH is limited. Some accounts offer a situated analysis of national determinants of observed empirical differences in OSH practice and outcomes (see, for example, EU-OSHA 2013a), but even



these acknowledge that their analysis of determinants is largely based on that of accounts in related literature rather than empirical evidence. There is therefore a substantial gap to be filled in future empirical research concerning the determinants of effectiveness in securing compliance with OSH standards in the different EU Member States.

As is clear from the brief outline of the measurement of OSH consequences presented in the penultimate section of this chapter, the current picture is incomplete. This is especially true in relation to the extent of poor OSH outcomes experienced by the section of the working population in the EU that labours in the so-called 'hard-to-reach' scenarios that are arguably created or exacerbated by current structural trends in the economies and labour markets of the EU (as well as in other advanced market economies). As we have already concluded, the specific work-related evidence here is limited and requires further study, but it is also clear that the challenges for securing compliance presented by the general disorganisation of work are considerable. This points to the need for a special focus on the effectiveness of strategies to improve compliance and better practice in addressing the challenges of 'fragmented work'. While arguments concerning the need for 'smarter' approaches to compliance may apply to many of the situations covered by the five areas, particular attention needs to be paid to work situations that lie beyond the reach of conventional intervention.

Finally, it is obvious that the three areas explored in the present chapter do not exist in isolation from one another. It is therefore likely that solutions for improving compliance and OSH practice will be more effective if they account for the interrelations between these areas. Doing so would, for example, help to build on the recommendations emerging from EU-OSHA's major report on OSH in MSEs, which called for greater coordination and 'orchestration' of strategies to improve OSH practice in MSEs (EU-OSHA 2018b). Such integration requires a proper understanding of the effects of structural change on the economic, political and social contexts of work and of its implications for the prevention of work-related harm to safety, health and well-being. These are 'big picture' concepts that need to be borne in mind when identifying future research needs. We will return to these concepts in our findings in the following chapters on each of the five areas of support for compliance and better practice, as well as in the analytical discussion in the final part of this report.



## Chapter 3: Societal norms, social reporting, corporate social responsibility and support for securing compliance

Unlike most of the other areas of support for securing compliance and better OSH practice that are discussed in this literature review, the effects of societal norms in EU Member States, while ubiquitous, are frequently difficult to disentangle and pinpoint institutionally. They are often also contradictory. They are, nevertheless, clearly of influence in promoting arrangements to manage the prevention of work-related harm and are therefore relevant to an overarching review of support for securing compliance and better OSH practice. Moreover, societal norms may themselves be subject to influence and change. As we discuss in more detail in the following sections, such change does not necessarily lead to improved compliance or better OSH practice — indeed it can also have the opposite effect. However, this is by no means always so and there are lessons to be learned from the positive effects of change. Thus, for example, in the past 50 years, there have been many examples of public awareness raising on specific risks, such as work-related exposures to carcinogens including asbestos, vinyl chloride and radiation, exposures to organic solvents and other hazardous chemicals at work, and exposures to harmful dusts such as silica, among many others. In such cases, over the course of time, awareness raising has often acted to change public perception of the risk of unregulated exposures to such materials at work. This has occurred not only in relation to materials, but also with hazardous work and industrial processes too. It has even included, to some extent, exposures to the psychosocial risks created by work organisation and intensification. All have led to the development of new norms on the social unacceptability of failure to properly control the exposure of workers to such materials, processes and work practices.

There is a considerable body of literature on social norms and their meaning, extent and role, although only a very small part of it addresses OSH issues. In the present chapter, we will review the key elements of this literature. We note that although much of the literature concerns matters directly affecting larger organisations and their OSH arrangements, in some cases it may also be relevant to smaller organisations, both directly and indirectly. As we also discuss in Chapters 4 and 5 of this literature review, this latter point is especially applicable to the role of vertical pressures within supply chains, for example, and the influence of market pressures on the will and capacity of the parties at the heads of these chains to influence standards at all levels of the chain for the benefit of smaller parties at the extreme ends of the chain.

The review in the present chapter also assesses the role of social reporting initiatives. It explores the extent to which they incorporate OSH as an indicator of social performance. It also takes account of criticism in the literature concerning the effectiveness of many of these reporting practices in leading to improved compliance or better OSH practice. The chapter explores these issues in relation to enterprises of all sizes. It notes differences in the institutionalisation of reporting practices, including in the more generic effects of social reporting and isomorphic influences (the pressure to resemble others in the same population) in the case of smaller enterprises. The review also contrasts this with increasingly developed formalised social reporting processes and procedures for corporate social responsibility (CSR) disclosures among larger enterprises.

EU-OSHA's previously published research on OSH in MSEs (EU-OSHA 2016, 2018b) addressed the influence of societal norms and peer group expectations in its analysis of 'what works' in arrangements for OSH in MSEs. While the 2018 report indicated that these are indeed important determinants underpinning isomorphic better OSH practice in these firms, it also found that arriving at a more precise understanding of the role of these factors in the provision of such support was a complex task. This is not least due to the complexity in the literature around what constitutes social or societal norms and how their influence works in practice. In addition, as the EU-OSHA (2018b) study showed, a further complication arises because such norms are socially constructed, and variations in the ways they may be conceived in different Member States present challenges for comparability. This is largely a reflection of differences between Member States, such as those outlined in Chapter 2. A full study of these issues and the historical, sociological, economic and political influences determining them is beyond the scope of the present review. An earlier EU-OSHA report (2013b), for example, examined the literature on the effects of cultural diversity on OSH. Nevertheless, this chapter takes account of the effects of such diversity on some of the key elements of support for OSH compliance across the range of enterprise

sizes and across Member States, and assesses the implications for the transfer of positive actions in support of securing compliance and better OSH practice across sectors, sizes and national borders.

Taking a more specific focus, the chapter also reviews some of the literature on social reporting in the context of CSR. Here again, there is a substantial body of literature, although only a small part of it directly addresses the connection between CSR and OSH issues. A somewhat wider search in the CSR literature, however, reveals additional aspects that are applicable to the support of compliance and better OSH practice, even though the connection is not addressed directly. This literature is therefore also relevant to the interests of the overarching review and efforts are made to include reference to it in this chapter.

Navigating the present chapter's journey through this wide-ranging literature requires something of a route map. The chapter therefore begins by defining its focus on societal/social norms, before reviewing relevant elements of the wider social science literature and the literature more specifically addressing OSH. Following some reflections on social norms, it switches its attention to examining relevant aspects of social reporting and CSR, and the connections between them that explain their significance as determinants of support for improved compliance and better OSH practice. It identifies synergies between its findings and those explored in later chapters. The chapter provides a synthesis of current knowledge, making a number of connections between its various elements and the contexts in which they occur in the EU. Finally, it draws some conclusions and identifies gaps in existing knowledge that could be addressed in future empirical studies. An effort has been made throughout the chapter to ensure its relevance to securing compliance and better OSH practices in MSEs and allied forms of work, although, as will be evident, the focus of the discourse in much of the literature concerns larger organisations.

### 3.1 Social or societal? The use of terminology in this chapter

While social norms are commonly agreed to represent the unwritten rules shared by members of the same group or society, and are thus socially enforced in some way, beyond this there is substantial conceptual ambiguity around their meaning (Hechter and Opp 2001). This is, to a large extent, the result of the use of social norms in a variety of ways across very different disciplines, which has led to the development of a variety of literature that has taken very different directions on what norms are and how they affect people's actions. However, implicit in much of the literature concerning the 'social enforcement' of such norms is the idea that, at its core, the achievement of such enforcement is understood to be brought about through mechanisms of social inclusion or exclusion practised in one way or another by the social groups involved. This has obvious relevance to securing compliance with norms in relation to OSH and especially with the notions of 'spontaneous compliance', which are discussed, for example, by Parker and Nielsen (2011, 2017).

As Legros and Ciglaghi (2020) noted in a recent review, there is a large body of literature concerning the analysis and uses of social norms that spans a wide range of disciplines, applications and theoretical approaches — often with conflicting findings, theoretical positions and conclusions. For example, social norms feature significantly, but often with different meanings, in both theoretical writing and empirical studies on social and organisational psychology, law, economics, health sciences, communications studies and business studies, all of which have some relevance to OSH. In addition, social norms are frequently referred to in a further extensive body of knowledge in the social sciences that embraces philosophy, political economy, sociology, anthropology, ethnography, the history of science and medicine and so on, where they often inform efforts to understand the constructs that affect how people feel, think and act in social contexts. Elements of this latter body of literature may also be relevant in understanding determinants of support for improving OSH practices.

In the literature more specifically concerned with OSH, social norms are most frequently used in studies of safe behaviour or of risk perception and attitudes of individuals and among groups within organisations, as well as in relation to notions of organisational safety culture and climate (see, for example, Fugas et al. 2011, 2013; Pek et al. 2017; Silva and Fugas 2015; Testa et al. 2018). That is, they are largely understood, in the social or organisational psychology sense, as factors affecting the behaviour of workers (and occasionally managers) and are therefore regarded as useful constructs in understanding behavioural safety. From the perspective of economic sociology, it appears that such

approaches often include particularly narrow interpretations of the broader meaning of social norms, as well as untested assumptions concerning the wider economic, political and sociological determinants of their construction. We have found such approaches to be somewhat limited in their relevance to the interests of the present review on external institutional support for compliance. However, we acknowledge the importance of the substantial development of ideas about organisational safety culture or OSH culture in mainstream OSH literature, in which constructions derived largely from an organisational psychology perspective have used social norms to explain and promote compliance with safe practices and procedures within establishments. We further highlight the extensive literature in safety science in which measures of the safety culture and safety climate have been derived and sometimes used as proxy measures of OSH outcomes, which are thought by the proponents of this approach to be useful as early indicators of problems. Of particular relevance here are the notions of safety leadership that have been widely promoted at corporate levels and increasingly also by external agencies. An extension of these approaches, which connects with external institutional support, is found in the concept of 'vision zero', especially in the way it is promoted by the International Social Security Association (ISSA) along with support from the International Labour Organisation (ILO). While this approach has been criticised for the absence of tangible procedures (Sherratt 2014; Zwetsloot et al. 2013), some recent studies have given a more positive assessment of the tangible measures of its influence and outcomes (see, for example, Zwetsloot et al. 2020).

The authors of a previous EU-OSHA (2018b) study on MSEs chose to use the term 'societal norms' interchangeably with 'social norms'. This was done to not only include factors affecting workers' and owner-managers' behaviour, but also convey a sense of the wider determinants in society and in the social and economic contexts in which MSEs are embedded. This included a reflection on the rights that workers perceive to be theirs in relation to work and health, and the study further embraced the sense of the changing nature of such norms and how their institutionalisation is achieved, as we show in Box 1.<sup>14</sup> Their argument was that social/societal norms can be both external and internal determinants of the extent of the support among enterprises for compliance with OSH standards. However, they are not fixed; instead, they are themselves responsive to political, economic and regulatory influences within the societies in which they are expressed. Likewise, a further report focused on aligning OSH values with business core values (Ratilainen et al. 2016).

This is the approach taken in the present chapter and in the review generally. The notion of a social norm is used in the widest sense of its meaning in relation to rules and perceptions of rights shared by social groups that might influence attitudes and practices leading to support for securing compliance and better OSH arrangements and outcomes in relation to all forms of work and in all enterprise sizes. This includes consideration of the role of social norms in determining how receptive or responsive owners, managers and workers may be to improving compliance with OSH standards. It also includes the consideration of social norms in the policies and strategies of the agencies charged with securing compliance, the representative organisations of workers and employers or persons in control of undertakings, and other interest groups locally, at both the sector level and nationally. The review also assumes that such norms are not static, but are themselves subject to change as the result of interventions by economic, social, political, regulatory or other interest groups.

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<sup>14</sup> See Everard et al. (2016) for a discussion of this issue in relation to the institutionalisation of pro-environmental norms, but also Almond (2015) for a discussion on the political manipulation of public opinion and 'common sense' in relation to OSH.

**Box 1: Examples of social norms in OSH**

Social norms are unwritten rules and collective representations of acceptable conduct, as well as individual perceptions of particular group conduct. They are usually defined by the values, customs and traditions of particular cultures (Elster 2009). Thus, from a sociological perspective, they can be seen as informal views that govern the behaviour of members of a society, while within smaller society units (such as those constituting a workplace or part of a workplace or a particular group of workers or employers) social norms may also endorse other norms that are either separate from or additional to wider cultural or societal expectations. This means that they can be difficult to define precisely, and they do not necessarily remain consistent over time. Nor are they necessarily always transferable from one group or situation to another.

In relation to OSH, therefore, at their broadest level, social norms might include what is deemed in wider society to be ethically or morally acceptable in relation to the prevention of harm to workers arising from the work they undertake for the profit of their employer or those who control their activities. One way in which this would be expected to happen through social norms would be through the adherence of duty holders to regulatory standards for which they are responsible (using the term 'regulatory' in both its broader and narrower sense). Through social norms, failure would also be expected to incur penalties. Social norms might also find workers responsible for behaving safely and not creating risks for themselves or others while undertaking work and would also support sanctions being applied in cases in which such standards were wilfully ignored. Such norms are therefore sometimes useful in leveraging support for particular compliance behaviours in relation to OSH issues from both employers and workers.

However, generally, beyond this very simplistic view, things become more complicated. What constitutes acceptability in terms of OSH compliance may itself be contested. Thus, different societies, or groups with different interests within the same societies (such as employers and trade unions), may have conflicting views on what comprises the norm in question. For example, employers and managers may regard their behaviour-based approaches to safety as an expression of their compliance with safety requirements, and find support for this in mutual views among their peers that they are meeting social norms in these matters. However, trade unions may find such an approach to fall well short of what they and their peers regard as acceptable in meeting either the safety requirements concerned or the social norms governing ethical management. This can become further complicated or confused when wider public discourse on what constitutes acceptability also intervenes. For example, owner-managers of small businesses may wish to demonstrate their legitimacy as responsible citizens by being seen to be 'doing the right thing', such as using materials or processes in their activities that have been certified to meet required standards. However, when the imposition of rules that have led to these standards are themselves called into question by powerful media campaigns and they are suggested to be excessive or unnecessary, social norms may change, leading to the disappearance of a legitimising benefit.

In short, therefore, from a pragmatic perspective, social norms can sometimes be useful to support securing compliance or leveraging better OSH practice, but neither the extent nor the direction of their influence can be taken for granted.

**3.2 Social norms, work and OSH**

Societal norms contribute to a social consensus that citizens have rights to safe and healthy jobs and to the idea that knowingly exploiting workers' safety and health in the pursuit of profit is morally and ethically unacceptable. These norms help to inform notions of 'fair and decent work' and combine to shape public perceptions of what is regarded as socially acceptable in terms of company, management and worker behaviour. More than this, these norms also influence the attitudes and behaviour of the ownership/executive management of enterprises and the factors that many feel obliged to consider in their businesses and in the operation of the work for which they are responsible. This is in addition to the regulatory obligations that such owners/controllers of business may have, although there is a

complex relationship of influence between being conscious of regulatory standards and compliant with social norms. In such ways, societal norms may directly influence the nature and acceptability of strategies to promote or enforce compliance or they may serve as supportive contexts that help secure forms of spontaneous compliance (Parker and Nielsen 2017). They can also serve to amplify perceptions and awareness of risk among those who face hazards at work or who are responsible for the control of such risks, and more widely in public discourse in society more generally. Especially relevant here is the increased significance of social media in influencing opinion. There is considerable potential for social media to influence social norms that promote support for securing compliance and better OSH practice. However, the extent to which this is a factor in current practice seems unclear from existing studies.

It would be overly simplistic to regard social norms as simply informing societal notions of the rights of workers to a safe and healthy work environment. It is also the case that societal norms may lead to the acceptance of inequalities in the distribution of work-related risk, to increased notions of a 'regulatory burden' and to increased perceptions of restrictions to freedom perceived to be brought about by 'gold-plating' or overzealous applications of regulatory standards. This may in turn affect what is likely to be accepted or resisted in strategies and actions to support compliance with OSH standards. A further point here is that a consequence of the social construction of reality (Berger and Luckmann 1967) is that the content of social norms is often contested because of the different experiences that create them. Thus, for example, based on their very different experiences of risk and the group social norms they have evolved as a result, different social groups may have quite different notions of decision-making concerning the assessment and management of risk in workplace settings. As Dorothy Nelkin (1985, p. 19) put it in relation to views of OSH that affected policy decisions in the United States:

*Conflict prevails over: the significance of risks, the adequacy of evidence, the methodologies for evaluating and measuring risk, the severity of health effects, the appropriate standards to regulate industrial practice and even the communication of risk information.*

In short, the nature and prevalence of norms relating to OSH and the social, economic and political processes underlying them are important. An understanding of this is necessary to make best use of their role in determining compliance behaviour. For example, findings from EU-OSHA's review of the experience of OSH in MSEs highlighted the significant influence of norms on the attitudes of owner-managers and workers towards OSH. As already suggested, they were also among the factors underpinning the isomorphism that was observed in that study in relation to OSH arrangements favoured by such enterprises and in certain sectors where these norms were prevalent. Norms also helped to determine an approach to addressing OSH in these enterprises, even when they were quite remote from regulatory scrutiny. This is a finding that is not uncommon in research on compliance behaviours of small firms in relation to other aspects of their business practice (see, for example, Masocha and Fatoki 2018).

Of course, it is not only among MSEs that such norms might influence OSH arrangements. Spontaneous compliance and achieving better OSH practices among larger enterprises are also influenced by notions of social acceptability and by different forms of isomorphism. A substantial body of literature has developed in relation to the latter, since DiMaggio and Powell (1983) identified coercive, normative and mimetic forms of isomorphism as constraining processes that led organisations to adopt broadly similar institutional practices (see, for example, Bogo et al. 2017; Li and Ding 2013). While very little of this literature refers specifically to isomorphic examples of OSH arrangements, isomorphic effects in relation to other arrangements made by enterprises, along with a few studies that point to the role of isomorphism in OSH, suggest its potential influence on compliance here too (see, for example, Alingh et al. 2018). However, as Pilbeam et al. (2016) suggested, such isomorphic practices may not necessarily always lead to the adoption of OSH arrangements that are most appropriate to the needs of the organisation. Here again, the role of isomorphism may be enhanced by the medium through which it is communicated, and the potential role for social media may be considerable. This, however, remains an area that is largely unexplored in relation to possible influences on OSH practice, and it does not detract from the earlier important reflection that the content of social norms in relation to OSH may also reflect conflicting contested territories.



Moreover, since social or societal norms are socially constructed products of the societies in which they are created, it follows that, like these societies, they too are subject to change. The literature analysing such changes is therefore also relevant to understanding the possible roles of social norms in determining support for securing compliance. There is little opportunity to go into this literature in detail in this review, but several points are relevant. First, among the changes that sociologists have generally associated with work in late modernity is the process of ‘individualisation’, which is argued to have affected many aspects of life in advanced market economies (Bauman 2007; Beck and Beck-Gernsheim 2002; Giddens 1991). Others have pointed to the challenges this creates for participatory approaches to policy and practice in the field of environmental change, for example (see Middlemiss 2014 for a review). Similar challenges are evident in relation to making OSH policies, conducting OSH practices and the changes in social norms underpinning these activities. Thus, as we discuss further in subsequent chapters, much of the architecture of modern OSH regulation stemmed from the final quarter of the 20th century and was based on views concerning social and organisational relations developed from experiences of the so-called ‘golden era’ of post-war consensus politics and Keynesian economic policies. However, these views have been applied in an era in which very different political and social norms prevail. This is obviously not without consequence, as others have noted (see, for example, Almond and Grey 2017). For example, Almond and Esbester (2019) discuss how, in the United Kingdom, these changes have affected the ‘legitimacy’ of social norms concerning OSH and OSH rule making during the present era. Such work also draws attention to the consequences of individualisation for the development of social norms that underpin the increased acceptance of ‘responsibilisation’ of individual workers and the growth of behavioural approaches to arrangements for OSH in corporate OSH policies (see Gray 2006; Gray and Silbey 2011).

Nevertheless, as we discuss in Chapter 5, ethical standards, OSH and labour standards feature among the determinants of current business behaviour. Notions of compliance in this respect are closely linked to the ethical responsibilities of large organisations and have been so since the early days of industrialisation. However, in recent decades, the visibility of responses on the part of large organisations to orchestrated social and consumer pressure has grown incrementally. This is partly because societal norms have demanded greater transparency in the dealings of multinational companies that sell, in the markets of advanced market economies, products that they are responsible for producing in poor countries. At the same time, these companies have recognised the business necessity of responding to such pressures. Such norms have led to wider social reporting initiatives, including those now required by law in some countries. Thus, requirements for social reporting including, but not restricted to, those created by the CSR agendas of large organisations (which are in turn influenced by global initiatives such as the Global Reporting Initiative (GRI) and others) are further influences that help determine compliance behaviour in relation to OSH. In parallel with these developments over the last 20 years or so, since CSR became a political priority, reporting initiatives have included varying emphases on OSH. At the same time, the use of data analysis tools, reporting and communication has developed significantly alongside them, as we discuss in the following section.

The literature on social norms, reporting and CSR indicates, albeit with different degrees of precision, the kinds of conduct that may be considered socially acceptable in the operation of enterprises and among those responsible for them. Some studies suggest that this influences forms of spontaneous compliance with OSH standards, at least among those firms in which the ethical values of their owners and managers lead them to seek such compliance. Perceptions of possible business advantages of so doing may act as further positive influences on corporate behaviour in these and other situations. The EU-OSHA (2016, 2018b) studies on MSEs, for example, point out that social norms can be among the instruments that help leverage better OSH arrangements in MSEs (see Box 2). In larger organisations, the nature of relations between owners/management and workers may be more complex and distant, but a significant proportion of individuals in management and corporate leadership share these social values concerning good citizenship and a need to demonstrate their ‘social licence’ to operate. The literature reviewed for the present review endorses this conclusion and indicates that its applicability extends not only to SMEs, but also to larger enterprises.

With this in mind, the remainder of the present chapter discusses evidence in the literature concerning the role of specific strategies on social reporting and CSR in support of securing compliance and better OSH practice.

**Box 2: Social norms and OSH in MSEs**

Most owner-managers of MSEs regard themselves as responsible citizens. They care about the safety, health and well-being of their workers, with whom they often associate quite closely, including working alongside them in the everyday operation of their business. Such owner-managers also have a strong social need to be seen to be acting ethically and as responsible members of the social communities of which they are part. Despite this, the fact that work-related injuries and ill health remain responsible for the deaths of more people than armed conflicts suggests that, despite the impact of social norms on spontaneous compliance, social norms alone have been insufficient to adequately reduce rates of work-related illness, injury and death. Therefore, the EU-OSHA studies on MSEs developed an argument, in line with that of other studies on the prevention of work-related mortality and morbidity in companies of all sizes, suggesting that social norms may be useful aids in support of preventive strategies and may act as social amplifiers of the need for prevention, underpinning the influence on enterprises in concerted actions with other interventions. These recent EU-OSHA studies showed that social norms may be among the influences that help determine the willingness of enterprise ownership and management to seek and respond to support for improving its OSH arrangements, and for workers in these enterprises to embrace change in the way they undertake their tasks. The studies concluded, therefore, that enterprises having an understanding of their role and that of the economic and political factors that help to shape them and their influence in society was important in informing strategies to secure compliance and better OSH practices among these enterprises (EU-OSHA 2018b).

**3.3 Social reporting and OSH**

Social reporting — that is, the reporting by companies of information concerning the social dimensions of their activities — has become increasingly expected of corporations in recent decades, both by societal norms such as those relating to environmental concerns and accountability and, more recently, by regulatory requirements in EU Member States and in countries elsewhere in the world. There is a bewildering array of initiatives on social reporting that have been taken by Member States, by the EU itself, by other countries and by global organisations. Many are linked to developments concerning sustainability, environmental protection, energy conservation and so on, while others concern financial accountability, equality of opportunity, fair treatment of employees and other desirable conditions associated with paid work. All of these initiatives aim to increase the transparency of corporate behaviour and its effects on people and their environment. They are part of efforts to change such behaviour in ways that are more responsive to the expectations of social norms concerning the well-being of workers, as well as wider society and the protection and sustainability of the environment. They are also the response to social norms that determine expectations concerning not only the transparency of corporate behaviours, but also accountability for its consequences. In relation to questions of safety and health, there may be requirements that have a direct impact on OSH management arrangements, such as those relating to certification, those using ISO standards on OSH management such as ISO 45001 and the auditing arrangements used by buyers in some supply chains. They are also found in reporting standards, commonly used to demonstrate CSR (or, conversely, to highlight its absence), such as those recommended by institutions such as the GRI.<sup>15</sup>

Other social reporting requirements with a more indirect impact on OSH may, nevertheless, be relevant to the discussion on support for securing compliance, particularly if they concern disclosures of company practices with tangential implications for OSH arrangements and outcomes. For example, disclosures concerning arrangements for worker participation and consultation and those relating to fair treatment,

<sup>15</sup> For example, GRI standard 403 on OSH (2018) sets out reporting requirements on OSH. It can be used by an organisation of any size, type, sector or geographic location that wants to report on its impacts. It lists seven categories of disclosure indicative of the company's management approach to OSH: arrangements for systematic OSH management; hazard identification, risk assessment and incident investigation; occupational health services; worker participation arrangements; training; health promotion; and prevention and mitigation of OSH impacts directly linked by business relationships. It also includes guidance on disclosures concerning workers covered by the OSH management system and on reporting injuries and ill health.

equality and so on all have implications for general approaches to compliance, which, in practice, may also indirectly affect compliance with OSH.

Overall, while OSH is seldom the central focus of accounts in the burgeoning literature addressing the different elements of social reporting, several of the themes with which it engages are relevant to support for securing compliance and better OSH practice. For example, a prominent theme in this literature concerns the business advantages of the voluntary pursuit of greater transparency in corporate affairs and the promotion of socially desirable actions, which proponents suggest will help improve corporate image and hence market position (Aguinis and Glavas 2012; Campbell 2007; Carrol and Shabana 2010; Doane 2005; Little 2003; McWilliams et al. 2006). Although often not mentioned in this literature, OSH reporting concerning corporate leadership and accountability, adoption of certified and/or accredited OSH management systems, OSH performance indicators and so on would serve similar purposes and fit with such arguments. In contrast, another theme prominent in the literature concerns the requirements and demands of customers, clients, workers and the organisations representing them, as well as other interests in civil society, for such corporate transparency (Arya and Zhang 2009; Bhimani and Sivabalan 2016). These interventions often call into question the reliability and effectiveness of voluntary approaches (Anner 2012; Vogel 2005, 2010). Accounts of the successful impact of such coordinated demands (James et al. 2019) and calls for further regulatory interventions (Bartley and Kincaid 2016) are prominent among these contributions. In all of these themes, OSH also appears. Either it is explicitly stated, such as with poor OSH experiences at the ends of supply chains in some sectors, such as clothing and footwear, or it is implicitly targeted by the orchestrated efforts of interest groups to improve working conditions more generally at the ends of supply chains.

In parallel with the demand for more robust social reporting, there has been growth in the role of standards, certification and auditing, all of which provide instruments and methods with which to generate and organise corporate information on the management of work activities. Here again, those relating to OSH management practices provide a number of social reporting indicators. In all of these developments, there are tensions between voluntary compliance or, using Parker and Nielsen's (2017) terminology, what we might call 'spontaneous compliance' and that which has become increasingly required by public regulation. Not surprisingly, in the policy discourse surrounding these developments, the business lobby has generally advocated voluntary approaches, suggesting that market forces will help determine compliance, while representatives of workers, environmental groups, consumers and others affected by corporate actions have sought some form or other of stronger and more formal regulatory intervention (Locke 2013). This is something of an oversimplification and within this dichotomy there have been far more nuanced positions assumed by interest groups of all persuasions in the development of the current regulatory mix surrounding social reporting (see, for example, Jenkins 2004; Matten and Moon 2008).

Most of the literature on developments in social reporting concerns larger organisations. This is true whether it addresses reporting requirements themselves, concerns the instruments and methods used to generate the information used in them or relates to the role of certification in this. However, there are examples of tailoring requirements to account for the capacities of MSEs, such as standards like the GRI, which strive to encourage reporting on responsible supply chain management and may have an indirect positive influence on suppliers that are MSEs. Some management standards, such as SCC (Safety Certificate for Contractors), have 'light' versions aimed specifically at smaller enterprises (EU-OSHA 2017b). However, most such initiatives are theoretical or relate to the larger of the small firms (see, for example, the review of Maldonado-Erazo et al. 2020; see also EU-OSHA 2004; Granerud 2011). As EU-OSHA's research on MSEs makes abundantly clear, owner-managers of MSEs seldom possess either the will or the capacity to engage in the generation of information they perceive to be additional to their core work and business activities. Nevertheless, there are some cases that indicate that such social reporting has an impact even among smaller firms (EU-OSHA 2018b).

Aside from the role of social norms in influencing the isomorphic behaviour of owner-managers already discussed, such impacts are seen, for example, on occasions when some MSEs deem it necessary to take account of social reporting methods to obtain or retain business and achieve customer or client satisfaction. In such instances, research has shown that MSEs that promote the quality of their goods or services and trade in high-end markets seek to adopt certification and use social reporting as evidence of their appeal and competitive edge and include their capacity to comply with OSH standards

among this evidence (EU-OSHA 2018b). Pressures on small suppliers to conform to certified OSH standards can also be used in contracting and subcontracting chains to support compliance and better practices, as is increasingly common in sectors such as construction (James et al. 2015). This is explored in greater detail in Chapter 5.

There is quite an extensive body of literature on the techniques used by social interest groups in the EU to bring pressure on large organisations that sell products and services in European markets to be more transparent concerning the conditions under which their goods are produced — again, this is considered in more depth in Chapter 5. As already noted, certification of one sort or another is often used by larger organisations in these situations to demonstrate their compliance in relation to OSH arrangements (see also EU-OSHA 2020a; James et al. 2019). Since MSEs generally do not adopt OSH management systems, nor do they use sophisticated reporting systems or concern themselves with their certification, their engagement with such strategies is likely to be limited. This is especially so among those pursuing low-road survival strategies (EU-OSHA 2016). Therefore, on its own, certification is probably less useful as a support for securing compliance and better OSH practice — although here too it may be of some value in the orchestration of the application of more coercive pressures on such enterprises.

### 3.4 Certification of OSH arrangements

The type of certification that is relevant to support for securing compliance with OSH standards includes that embraced by certified OSH management standards, which are applied generically across different sizes and sectors, such as those standards developed by international standards organisations, such as ISO, the ILO, ISSA and others (Granerud and Rocha 2011). In many cases, these standards are incorporated into national systems, which themselves are either generic or adapted to different sectors (see EU-OSHA 2017a for examples). This type of certification also includes many initiatives that originated at sector levels such as the VCA (*Veiligheid Checklist Aannemers*),<sup>16</sup> which was originally developed in relation to the Dutch chemicals industry but is now widely used in other high-risk sectors, such as construction, in several of the EU Member States. EU-OSHA identified many of these systems in its early account of CSR and OSH (EU-OSHA 2004). Since that time, there has been further development of OSH standards (notably, for example, the recent ISO 45001) but, essentially, their role in providing support for securing compliance remains focused on larger enterprises (although see EU-OSHA 2017b for some exceptions in relation to their use by, or for, MSEs).

While social reporting, voluntary or mandatory disclosures of company information on the relevant practices and certification may all have a role in providing some support for securing compliance with OSH standards and thus achieving better practice, some caution is nevertheless warranted before assuming this to be inevitably the case. Two caveats are especially important. First, it may be necessary to distinguish between situations in which requirements focus on the quality of the delivery of documentation about practices and those that focus on the quality of the practices themselves. The former is associated with ‘paper compliance’ and the negative aspects of the so-called audit culture, and is seen in other areas as well as OSH (see, for example, Power 2004).

Related to this is a second caveat: that certified systems that supposedly deliver OSH standards may in fact promote particular forms of such systems that themselves have inherent weaknesses. This, along with paper compliance, has been noted in research in a number of sectors globally for quite some time. For example, researchers have drawn attention to differences between the ‘systematic management’ of OSH and ‘OSH management systems’, where the latter, while arguably a ‘system’, is not necessarily ‘systematic’ (see, for example, Frick et al. 2000).

In a related argument, Frick (2014) indicates, in an extensive review of the Swedish experience, that the requirements of systematic work environment management in Sweden are structured on three levels: procedures (what should be done), empowering actors (how to do it) and management control (doing the right thing). He suggests that, in practice, the implementation of OSH arrangements occurs best at the first of these levels, while failure to ensure that there are capable actors (the second level) is widespread and effective management control (the third level) is rare. He argues that while more systematic procedures have improved the prevention of technical risks, poor management control has

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<sup>16</sup> This loosely translates to the safety, health and environment checklist for contractors.



made it hard to tackle the widespread organisational risks that result in a high incidence of stress and musculoskeletal disorders.

Where this is the case, therefore, the certification of OSH systems will not necessarily result in the adoption of practices that meet the requirements of all parties involved, nor indeed will it demonstrate the ‘enlightenment’ that Frick argues underpins better OSH management practices (Frick 2014). The widespread adoption of behaviour-based OSH management systems by large corporations globally also, arguably, further illustrates his thesis. They may meet corporate requirements for safety management and satisfy those necessary for its certification, but they generally do not have the support of the organisations representing the workers upon whom they are imposed. As the literature makes abundantly clear, trade unions are usually quite firmly opposed to the use of such systems. They argue, for example, that these systems are punitive in their approach to the achievement of workers’ safe behaviour, lead to distrust and the erosion of employment security, and fail to take proper account of the prevention of work-related ill health (see, for example, Fredrick et al. 2018; Hopkins 2005). As the research literature makes plain, such criticism is not entirely unfounded (Frick 2011; Walters et al. 2020).

Similar questions can also be asked of other aspects of certification, in particular of its appropriateness to the situations to which it may be applied — such as in the case of small firms, where paper compliance may mask poor practice in reality or where inappropriate formalisation may serve to discourage good informal practices (EU-OSHA 2018b). It is also questionable to what extent such certification processes succeed in including complex OSH issues that emerge from work organisation and intensification, such as ergonomic and psychosocial issues (see, for example, BSI Group 2011; CSA Group and BNQ 2013). There is a substantial body of analysis in which the challenges to these certification standards are discussed (see, for example, Gilbert et al. 2015; Hohnen and Hasle 2011; Hohnen et al. 2014; Jespersen and Hasle 2016; Leka et al. 2011). In short, while the various mechanisms of social reporting and certification clearly provide relevant support for securing compliance, they are neither a panacea in this respect nor on their own necessarily sufficient to ensure such compliance. Once again, the obvious conclusion that emerges from their review is that they constitute an important element of concerted practice, and it is the concertation of such practice that seems most likely to ensure success. This is nowhere more obvious than in the institutionalised forms of social reporting that are associated with CSR, to which we turn next.

### 3.5 Corporate social responsibility and OSH

CSR promotes the notion that corporations should pursue socially responsible business practices. While such aspirations find strong support among prevalent social norms in advanced economies, such as those of the EU, some advocates of neo-liberalism have sought a different approach to understanding the responsibilities of business. This is perhaps most famously captured by Friedman’s (1970) dismissive comment that ‘there is one and only one social responsibility of business — to use its resources and engage in activities designed to increase its profits’. This orientation helps explain some of the dichotomies that have appeared frequently in the discourse accompanying the development of the EU position on social reporting and CSR. Notions related to them underscore the European business lobby’s long-term resistance to agreeing on set requirements for social reporting and the delivery of CSR. Despite this resistance, however, in the past several decades there has been a substantial increase in the extent of institutional activity around social reporting that has led to the development of procedures for information disclosure as part of company CSR arrangements.

The general trajectory of these developments has moved in the direction of the inclusion of CSR in regulatory frameworks governing corporate activity, while the position within the business lobby has itself become increasingly less uniform, with a substantial part of it stressing possible business advantages associated with greater engagement with CSR (Banerjee 2008; Campbell 2007; Carrol and Shabana 2010). OSH has not featured especially prominently in any of these developments, but, as the limited research literature indicates, it is nevertheless present, and there are some indications this presence is gradually increasing (Górny 2014; Jain et al. 2008; Kawashita et al. 2005; Montero et al. 2009). This makes CSR a potential support for securing compliance and better OSH practice and so a relevant subject in this section.



Following European Commission interest in CSR in the early 2000s,<sup>17</sup> EU-OSHA published a research report on CSR and safety and health at work (EU-OSH 2004). As indicated in Box 3, it provided an overview of global/European and national initiatives to promote CSR. Overall, however, the 2004 EU-OSHA report, like much of the literature on CSR and OSH during this period, was focused on the support of future actions to achieve such integration.

Although the authors of the 2004 review stressed the advantages associated with this, they conceded that at the time of writing there were many questions still to be addressed concerning how integration could be achieved and how OSH could become more ‘mainstreamed’ in CSR in the future (EU-OSHA 2004). Since then, as we pointed out in the previous section, the use of data, analysis tools, reporting and communication, along with certification practices, have all developed significantly.

### Box 3: Previous EU-OSHA review of social reporting and CSR

EU-OSHA’s (2004) review included chapters summarising the relevant certification systems mentioned in the previous section, and several case studies exploring how enterprises in the EU had integrated OSH issues within CSR in company policies and practices. In keeping with a widely held view at this time, it suggested: ‘There can be no doubt that safe and sound working conditions and good worker health belong to the social responsibilities of companies and can be regarded as an integral part of CSR.’

However, while the report cited several examples of the potential development of linkages between OSH and CSR, it admitted that ‘in general, OSH initiatives do not contribute widely to aspects of CSR’. It suggested this may be because OSH initiatives ‘do not address environmental and economic dimensions of CSR, nor do they impact on business processes or stakeholder relationships’. It concluded that, as a result, ‘most OSH initiatives are of limited relevance for the development of CSR; however, CSR can be beneficial for OSH’ (EU-OSHA 2004). It went on to highlight indications in some publications of the possibilities of stronger connections between CSR and OSH and of the potential benefits this might bring. It cited Segal et al. (2003) as considering OSH to be an important aspect of CSR, as workforce safety may be one element used to measure companies’ overall progress in CSR and is relevant to labour standards, equal opportunity and access to employment, as well as product safety — all of which are required by CSR reporting. It also referred to the ethical dimensions of including OSH as an aspect of company ethics and the development of moral competence in dialogue with employees (Fisscher 2003). It also cited Sanders and Roefs (2001), who stress the business benefits that good integration of OSH and CSR may bring. The report noted discussion among financial advisers and investors concerning how CSR might be integrated successfully into the health and safety framework within companies (Mansley 2002).

At the same time there has been a growth in awareness of the negative effects of global outsourcing on working conditions and arrangements for sustainability and environmental protection at the ends of global supply chains. This has served to increase both the profile and potential of requirements for company environmental, social and governance disclosures and the possibilities for a greater profile for OSH within these supply chains. As the wider literature on CSR makes plain, in the past 15 years or so, a consequence of growing economic globalisation has been the considerable development of normative and regulatory pressures on firms in Europe to extend and strengthen their approaches to CSR and embrace further reporting requirements (Yildiz and Ozerim 2014). This is especially so in relation to the activities of companies at the apexes of global supply chains, which has added further to the

<sup>17</sup> In 2001, the European Commission launched a European debate on CSR with the publication of a green paper on ‘Promoting a European framework for corporate social responsibility’. This was followed a year later by a second communication presenting an EU strategy to promote CSR, and an ‘EU multi-stakeholder forum on CSR’ was initiated by the Commission to promote understanding of CSR and to foster dialogue between the business community, trade unions, civil society and other stakeholders (EU-OSHA 2004). EU policy interest has continued in subsequent years.

development of regulatory and other strategies on social reporting and CSR in large companies in Europe. As we discuss in greater detail in Chapter 5, one element of this is seen in the development of national level regulatory provisions in countries such as Germany, France and the Netherlands that require due diligence in global supply chains.

Overall, these developments have prompted a huge expansion in the literature on CSR and have helped influence progress at the level of the EU in the years since the publication of the EU-OSHA report. For example, following the European Commission's green paper of 2001, the Commission introduced both voluntary and mandatory actions to promote CSR. In 2011, the communication on 'A renewed EU strategy 2011-2014 for CSR' revised its strategy for CSR and combined horizontal approaches to promote CSR with more specific approaches for individual sectors and policy areas (European Commission 2011). A report to the Commission in 2014 indicated that virtually all EU Member States had a national action plan in place, or in development, to address CSR, although there were considerable differences in the level of formality of such plans (Williamson et al. 2014). Currently, Directive 2014/95/EU, the non-financial reporting directive, requires large companies to disclose certain information on the way they operate and manage social and environmental challenges. It applies to large public-interest companies with more than 500 employees and covers approximately 6,000 large companies and groups across the EU, including listed companies, banks, insurance companies and other companies designated by national authorities as public-interest entities. They are required to publish reports on the policies they implement in relation to environmental protection, social responsibility and the treatment of employees, respect for human rights, anti-corruption and bribery, and diversity on company boards (in terms of age, ethnicity, gender and educational and professional background). Of these, social responsibility and the treatment of employees is usually regarded as the area in which reporting on safety and health may be indicated.

For very large companies, therefore, the mix of regulatory, public-interest and voluntary initiatives with which they are surrounded in EU Member States stimulates their reporting on a range of matters, including those addressing their social and employment arrangements, for which reporting standards indicate that the inclusion of OSH data would be appropriate. This, in theory, involves the contribution of information that may be relevant to improving support for securing compliance and better OSH practice among these companies. Most reviews of OSH management systems used by these companies suggest that their inclusion of reporting requirements concerning work-related risks, and arrangements for assessing and managing them and their outcomes, enables companies to report on such matters in detail (Zwetsloot 2003). However, there is limited direct evidence of the extent to which this occurs or its effectiveness in contributing to better OSH practice.

While guidance from regulators has promoted the inclusion of OSH in CSR arrangements for some time, in some cases, agencies — such as the HSE (2005) — have commissioned research on how this might be done. The recommendations of such work usually encourage regulators to develop strategies to raise the awareness of businesses about the economic benefits of OSH and its inclusion in CSR reporting, suggesting that such awareness is not ubiquitous across all sectors and forms of business. These recommendations further suggest various additional strategies — such as raising awareness of CSR campaigners about the benefits for them of a focus on OSH in CSR. Thus, the recommendations tend to be orientated towards encouraging voluntary or spontaneous compliance (in Parker and Nielsen's (2017) meaning of the term) and do not address regulatory intervention.

As already indicated, voluntary reporting has also resulted in multiple reporting guidelines and frameworks of which perhaps the best known and most widely applied is that of the GRI, which has several categories of disclosure that include OSH indicators. However, as such frameworks are undertaken on a voluntary basis, companies can choose whether or not to apply them and, if they do, to what degree, which has led to some researchers suggesting that there is a need for greater consistency on what is reported in relation to OSH (see, for example, Koskela 2014).

In some Member States, a series of possible linkages between the following matters suggest that, in combination, these might lead to greater use of OSH indicators in CSR reporting: the legal responsibilities of company directors for safety matters; the corporate responsibility of companies for public reporting, including in relation to CSR; the information requirements that are part of most OSH management systems; and the performance indicators used by larger organisations and investors to

gauge/benchmark company OSH performance (such as the UK Corporate Health and Safety Performance Index — CHaSPI). The conclusions of the earlier British research on the role of CSR in promoting better OSH practice suggest that OSH policy-makers should not regard CSR ‘as a separate vehicle for promoting OHS’. Instead, the research (HSE 2006) suggests that:

*To be effective, CSR must become a core aspect of the ... overall strategy for raising public awareness of OHS issues, persuading employers of the business case for OHS and providing guidance to them on how to measure performance and manage OHS.*

There is some limited evidence that, in the 15 years since these conclusions were published, wider concerns within the EU about corporate responsibilities for sustainability, environmental impact and fair work have stimulated some progress with such a strategy. As noted above, this is especially the case in relation to larger companies with supply chain responsibilities for fair labour standards, as well as in relation to those with responsibilities for the environmental impact of their business. However, research generally suggests that progress has been uneven. While noting that CSR represents ‘a valuable trend that provides a new set of arguments for improving OHS’ (HSE 2005), the research points out that a raised profile for OSH in CSR also ‘requires raising its public profile too and achieving increasing engagement with employees’ and at the same time demonstrates CSR’s material benefits and its influence on business performance. However, as recent research indicates, in some Member States, not all of these prerequisites are strongly evident at the present time (see, for example, Almond 2015; Walters and Wadsworth 2019).

The potential for CSR reporting to play a significant role in supporting measures to secure compliance and better OSH practice has, since the exhortations of the 2004 EU-OSHA report, therefore been adequately demonstrated. As an element of mixed approaches, it clearly has a role, especially in relation to larger corporations. However, evidence of the achievement of CSR reporting in practice remains somewhat uneven. While some corporations give OSH greater prominence in their CSR reporting (see, for example, Andreou et al. 2012) and recognise it as a material issue of reputational risk related to business performance, and possibly an important element in the business’s interaction with its employees and their representative organisations, such recognition has been hard won and is by no means ubiquitous (see James et al. 2019).

As previously noted, there are many frameworks on which companies may base reporting. In recent decades, there have been attempts to rationalise them, but as Box 4 outlines, there remains a considerable variety of recommended standards, instruments and systems in use.

The extent to which they are helpful in relation to the inclusion of OSH, however, is unclear. In her detailed review of previous research on the extent of OSH reporting in relation to CSR, Koskela (2014) noted a very mixed picture and suggested that, overall, the analysis of the OSH content of CSR reports had been quite limited in this research. The review distinguished three main groups of studies: (i) those that claimed to include OSH in their examination of CSR reporting but provided no results for it, (ii) those in which the level of OSH reporting was included, but in which few clear patterns were discernible, because the different contexts in which the studies were undertaken made comparisons unreliable and (iii) those in which the research offered a more detailed description of the OSH content of CSR reporting, including information on indicators used — such as those of the GRI. Koskela (2014) therefore concluded that, within the extensive literature on CSR reporting:

- only a limited amount of research focused on OSH reporting;
- the literature that did focus on OSH reporting mostly addressed the level of such reporting, with far less concerned with the content;
- overall, very low levels of OSH reporting were found, but there were nevertheless some examples of reporting that had taken place in which OSH was among the top CSR issues reported.

She also found that analyses in the research differed so greatly that conclusions concerning common reporting themes were difficult to discern reliably. Other, more recent, studies broadly support these conclusions (see, for example, Zadros 2019) and there is scope for further analysis of this literature.

**Box 4: Frameworks for CSR reporting**

There are a bewildering variety of standards and instruments (Ripa and Herrero 2012) that are relevant to CSR practice. Some are generic global standards, a few of the more prominent examples of which feature frequently in the discourse on CSR, and include the 10 principles concerning labour and human rights found in the United Nations (UN) Global Compact, based on the Universal Declaration of Human Rights. The UN Guiding Principles on Business and Human Rights develop these further and the ILO Declaration on Fundamental Principles and Rights at Work also provides standards that companies can adopt voluntarily. Others include more specific auditing instruments such as SA8000, a labour auditing instrument developed by the global non-governmental organisation Social Accountability International. This standard provides nine labour standards, including on OSH, that can be used by companies and by external auditors for auditing purposes. The GRI also includes OSH among its key indicators for corporate reporting disclosures that are widely used in the CSR reports of larger organisations, while ISO 26000 provides guidance that covers the consideration of social, civil, cultural and political rights relevant to CSR. The UN Guiding Principles on Business and Human Rights, the OECD Guidelines for Multinational Enterprises, the ILO Declaration of Principles Concerning Multinational Enterprises and Social Policy, the fairtrade mark of Fairtrade International, the Dow Jones Sustainability Indices and the FTSE4Good Index all represent further global approaches to creating worldwide responsible principles, fairtrade labels and sustainable investing indices. Self-improvement instruments such as the Ethos Institute Indicators and the Danish Human Rights Compliance Assessment Checklist also indicate relevant standards.

However, current knowledge demonstrates that OSH disclosures feature to some extent in CSR reports and that this extent has increased among companies producing this information in recent decades. There are several inferences implicit in this. First, it would seem that the regulatory mix that has been noted in reviews of the wider CSR literature to promote such reporting — that is, the mixture of perceived business incentives, pressures from consumers, their organisations, trade unions and other pressure groups, along with more formal regulatory policies and instruments — may have been influential in stimulating the inclusion of OSH content. Second, this has also been aided by the inclusion of OSH among the standards and guidance available concerning the content of disclosures. It is possibly also assisted by the reporting requirements in OSH management systems adopted by the kinds of firms likely to make CSR reports. All of this points to a contribution of support for securing compliance with OSH standards among these firms and the influence of changing social norms in helping to bring it about.

It needs to be borne in mind, however, that the main focus of these initiatives has been on larger organisations with significant public profiles and the possibility of reputational damage for non-compliance. This begs some questions concerning the relevance of these approaches to MSEs.

As indicated in Box 5, there is long-standing literature on CSR and small firms (see, for example, Baumann-Pauly et al. 2013; McWilliams and Siegel 2001; Perrini 2006; Spence 2007; Vo 2011). However, literature directly addressing OSH in CSR reporting in these firms is quite limited. As already pointed out in this chapter, if it is accepted that a different approach to social responsibility informs such actions in small firms, then the relevant literature encompasses a considerably larger domain, which includes research on responses to social norms and peer expectations that identifies drivers of positive actions on OSH in MSEs. Indeed, on the basis of these wider findings, it could be argued that, as businesses, many MSEs are in fact quite responsive to what their owner-managers perceive to be social expectations for their corporate behaviour — including that concerning OSH (see, for example, the development of this discussion in EU-OSHA 2018b). Granerud (2011), for example, concludes that socially responsible practices in small enterprises are mainly directed at the work environment for the benefit of employees. She indicates that these practices are largely informal and non-reported. Such initiatives are motivated by ethical reasoning and by the belief that creating attractive workplaces will enable enterprises to retain employees. However, in most cases, they are not applied strategically, and enhancing the external reputation of the firm beyond the local community is not a motive.

**Box 5: CSR and small firms**

While it is nowhere near as extensive as the literature addressing larger firms, a recent review of the literature on small firms identified over 270 publications relevant to CSR and corporate social performance by SMEs. The large majority of this literature has been published since 2000 (Maldonado-Erazo et al. 2020). What is striking about this literature is the extent to which the issues it identifies as challenges to the conventional wisdom on CSR are similar to many of the challenges to conventional wisdom identified in the literature on OSH and small firms. That is, small firms, and especially the smallest of them, are not simply small versions of large firms. They are quite different structurally, operationally and organisationally (Baumann-Pauly et al. 2013) and therefore it is unrealistic to expect them to follow organisational and management patterns that might be anticipated by those found in larger organisations. Their behaviour is not driven by all of the same factors as those shown to influence the behaviour of larger firms (Jenkins 2004).

In the case of CSR, the consensus of published research on small businesses suggests that, while the owner-managers of many such firms may take what they perceive to be their social responsibilities seriously, these tend to be regarded as more local than cosmopolitan and are often also strongly orientated towards their employees. They are also likely to result in informal rather than formal actions and are seldom directly or explicitly linked to a business case. Like much else in MSEs, they are rarely the consequence of documented procedures. Research further indicates that the motivational bases for the participation of MSEs in CSR are likely to be different from those of larger organisations (Udayasankar 2008). Baumann-Pauly et al. (2013) conclude that, while small firms may possess some organisational characteristics that favour the internal implementation of CSR-related practices in their core business functions, these characteristics may act to constrain external communication and reporting on CSR. Lepoutre and Heene (2006) argue that the small business context may impose barriers in relation to CSR, but the impact of this context is nuanced and it is in many ways similar to the experience of addressing OSH in MSEs. The authors also note that there are opportunities for small businesses to overcome such barriers.

**3.6 Conclusions**

This chapter has examined the role of social norms and social reporting in influencing support for securing compliance and better OSH practice. It began with some discussion of the meaning of social norms and their possible role in influencing compliance behaviour in both large and small firms. It examined developments in the literature over the past 20 years or so, with a burgeoning of both theoretical and empirical research into the role played by social reporting in the achievement of improvements in OSH. The chapter noted developments in relation to both large and smaller enterprises. There have been substantial increases in the amount of literature addressing formal types of social reporting, such as that related to expectations of CSR among businesses. More individual and informal influences of social norms and social reporting have been identified in relation to the situation of many smaller firms and their workers, both within enterprises and within the wider social communities that workers and managers inhabit.

The chapter also shows how social reporting, especially by larger organisations, has been both stimulated and supported by the parallel development of a host of standards, certifications and reporting tools, which help to make reporting corporate activities and their consequences more achievable. These developments have helped to create a business management climate and a set of social norms in which there is an enhanced expectation of such reporting (and arguably of the corporate management on which it reports). Here too, some progress has occurred in relation to OSH, with the growth of certification and OSH standards in relation to OSH management systems in particular, but also more generally in relation to the standards of corporate behaviour that social norms determine to be acceptable. Nevertheless, many weaknesses remain in terms of their coverage and depth, as well as in relation to the effective monitoring of the achievements of these approaches.

The chapter demonstrates that relevant literature can be found in a wide range of social science disciplines and is by no means limited to that dealing directly or exclusively with OSH. It acknowledges



the challenges this represents for the synthesis of a comprehensive and coherent account, while at the same time demonstrating the importance of an overarching approach in understanding the possibilities of the role played by the influence of social norms in determining support for compliance and better OSH practice.

From a more pragmatic perspective, the finding that emerges most powerfully from this account is that social norms and the role they play in the social amplification of prevention strategies may operate most effectively as part of concerted actions influencing support for compliance and better OSH practices. That is, while the review effectively demonstrates the generic importance of the influence of social norms and social reporting, it also shows that they do not act in isolation. The literature suggests that they are most effective in influencing compliance behaviours when they form a part of constellations of influence. To cast this in the terms used by Parker and Nielsen's (2011, 2017; Nielsen and Parker, 2012) holistic model of compliance, such constellations influence 'spontaneous compliance', because they exert pressures in relation to business interests and the ethical values of corporate directing minds. For interest groups seeking change, they therefore also provide a means of leverage. They also have some potential to be strategically utilised in interventions adopted by regulators to achieve improved 'enforced compliance' (see, for example, Hohnen et al. 2014 in the case of Denmark).

In recent practice, social norms and reporting activities can be seen to be most effectively deployed by concerted actions of interest groups representing workers, consumers, environmentalists and the like, such as is seen in efforts to influence working conditions (including OSH) at the ends of the global supply chains of large corporations. While such constellations of interest groups may primarily affect the business interests of such large corporations (thus fitting with the Parker and Nielsen (2017) typology of 'spontaneous compliance'), they often do so within regulatory frameworks or by seeking the transfer of regulatory standards and/or frameworks to the situation that is the focus of their attention. This is often achieved with the assistance of regulators. The effects of such constellations cannot therefore be effectively understood in the absence of this regulatory context. The critical literature argues that such 'regulatory mixes' are the most effective forms of such influence. We will have cause to return to these observations in Chapters 5 and 7 of this report, where supply chain interventions and strategic enforcement are discussed in greater detail.

Such approaches are not limited to global campaigns to achieve better OSH practice at the ends of the supply chains of large corporate actors. The successful use of similar mixes can be seen in the orchestration of influence to improve OSH practice in MSEs. Here, while effects may be sought at more local or at sector levels, the evidence suggests that it is more likely to be effective when coordinated mixes of enforced compliance and factors inducing and supporting spontaneous compliance that take account of social norms are involved. This was amply illustrated in the recent EU-OSHA research (2016, 2017b, 2018b) on supporting OSH in MSEs. The present chapter confirms these findings and demonstrates how they are supported by the wider literature on social norms and social reporting.

The chapter also demonstrates a need for further research. Despite the burgeoning literature of the last two decades, many questions remain unanswered. For example, while it is clear that some firms are responsive to the pressures that can be created by the concerted application of social norms and demands for social reporting, others are less so. Some of the possible reasons for this are evident from previous research findings, but there remains a relative dearth of evidence concerning the sustainability and transferability of the effects of social norms and social reporting. Equally, while there has been considerable focus on the positive role of these influences in the literature reviewed in the present chapter, not all such norms or reporting requirements necessarily have such positive effects and, as the chapter also shows, there are some influences that act in the opposite direction. It would therefore seem to be important to gain a more complete understanding of the determinants of the direction of these effects and their contextual influences, to inform and support compliance promotion strategies.

The study of social norms and social reporting therefore helps to identify situations in which these factors have some influence on OSH. There is a need to distinguish these situations from those in which the conditions that support these effects are absent, and to identify those situations where it is not practicable to achieve a positive influence with these approaches. Thus, for example, it is far from clear if the many MSEs that previous research has identified to be among those pursuing low-road survival strategies in their business and employment relations are among those that may be susceptible to the

positive influence of social norms on their OSH compliance behaviour, or if it is possible to achieve any impact on social reporting among such firms. In addition, as we suggested in Chapter 2, beyond these firms there is a further group of 'non-standard' work activities. Until now they have been on the periphery of conventional work practices, but the evidence suggests that their presence is growing and the rapidly changing world of IT is promoting their role. It is not clear if or how social norms and social reporting could contribute to the support for compliance in these situations.

While such work situations may be beyond the reach of many conventional prevention strategies, it may be that the emerging role of social media could be used to good effect in amplifying the influence of social norms on achieving better OSH arrangements for workers in these situations. Social media applications are widely regarded as having the potential to address situations that are beyond the reach of conventional strategies. There is some evidence that they are employed by social interest groups when applying pressure on large organisations in relation to environmental standards. However, a review of the literature failed to reveal convincing evaluations of examples of the role of social media in securing compliance with OSH standards in the hard-to-reach scenarios described above. This may be a fruitful area for further empirical study.

Research on the relationship between OSH and CSR points to several uncertainties that might also benefit from further empirical study. The potential role of CSR reports in providing support for securing compliance is often stated. There are also examples of cases in which such information, along with quantitative analysis of the extent of its presence, is provided in the company reports of large successful businesses. However, there is little systematic research that links these findings to clear evidence of causative effects on improved compliance or better OSH practice. At best, current evidence would seem to suggest that the successful operation of systematic OSH management requires reporting on a range of OSH indicators. This makes it relatively straightforward for companies to include material derived from these reports in their CSR disclosures. If it is assumed that good OSH practices are synonymous with the operation of OSH management systems, then it follows that companies reporting such indicators could be assumed to be complying with good OSH practice in managing OSH. However, such connections are fairly tenuous, and caution is warranted in accepting such connections uncritically and in the absence of empirical data to support them.

In short, therefore, there are a number of areas in which further evaluation of the role of social norms, social reporting and its institutional forms as part of CSR could be undertaken. Perhaps the most important of these emerges from the connections between their role and that of other areas of support for securing compliance and better OSH practice, including those covered in the next four chapters. Indeed, the present chapter provides something of a foundation for the accounts that follow.

Finally, it would be surprising indeed if the experience of the COVID-19 pandemic had no effect on social norms relating to work and health. It is no exaggeration to observe that the global impact of the virus has been among the most significant disasters in recent history and, virtually everywhere in the world, this experience has touched both social relations and the way people go about their work. It is far too early to know the full extent of the consequences of this for change in the construction of social norms around work and health. However, it is already very clear that efforts to combat and control the spread of the pandemic have had profound consequences on how and where paid work is done (Kromhout 2020).

These effects are unlikely to entirely disappear when the worst of the pandemic has passed. It is already clear that the impact of the virus on the ways in which the global economy operates has been profound and there has been much speculation concerning the possible lasting effects of such change on the ways in which work will be organised, structured and controlled in the future, as well as on the nature of the markets it serves. How such changes will influence social norms that help determine OSH practices remains to be seen. To date, there has been only limited recognition of the OSH implications of the virus in public discourse, and OSH specialists have also commented on the low profile given to occupational exposures in public health prevention strategies. However, there are signs of change and there is a growing body of literature on the relationship between the pandemic and the way in which work is conducted. These developments are almost certain to have implications for the role of social norms as an influence on OSH compliance in the future.

## Chapter 4: Economic incentives in support of securing compliance

Recent policy literature on OSH in many EU Member States, as well as at the level of the EU itself, has frequently encouraged a greater focus on demonstrating the benefits to businesses of sound OSH practice. The literature on compliance, outlined in Chapter 1 of this literature review, also devotes attention to ways in which an enterprise's perceptions of the business benefits of OSH might be developed to help secure compliance and better OSH practice. In this chapter, we review the evidence for this and discuss the role of economic incentives and the business case in providing such support.

Providing economic incentives to improve compliance can take many forms. Support for 'spontaneous compliance', as identified by Parker and Nielsen (2017) and discussed previously in Chapter 1, includes a range of market-based motivators encouraging businesses to improve their efforts to comply with required standards because of the economic benefits they stand to gain by doing so. Some are financial inducements directly linked to actions leading to improved OSH arrangements, such as performance-related insurance premiums, grants or other financial rewards for improved OSH management. Most of the OSH literature concerned with economic incentives addresses these types of 'external' incentives. However, there is a further kind of loss, or cost, to a business that arises from the consequences of OSH failures that result in regulatory sanctions. Thus, as we discussed in Chapter 1, as well as the direct costs of financial penalties resulting from enforcement actions, there are also associated losses to the business that may result from consequent reputational damage. Another strand of the literature concerns itself with identifying the scale of financial loss to an enterprise caused by poor OSH outcomes. This literature makes links between such losses and the savings to the enterprise that would arise from better OSH management — thus, linking the contribution of improved OSH management to better financial management of the enterprise. Further economic incentives and business benefits that may serve to support compliance are more indirect. For example, these could include the promotion of awareness of wider business benefits associated with the adoption of OSH arrangements, such as when a firm has contracts with clients who require evidence of its OSH arrangement or when the nature of the enterprise's business requires it to appeal to a customer base in 'high end' markets in which its OSH arrangements may be linked to its capacity to demonstrate quality.

The chapter provides a critical account of the key findings drawn from a range of literature addressing the role of both external economic incentives and the promotion of greater business efficiencies in supporting compliance with OSH standards. It explores the extent to which cost features in the analysis of the effectiveness of OSH interventions and the different ways in which the economic case for OSH has been regarded over time. Although the main focus of the chapter concerns the more recent development of the role of economic incentives and the business case, it also points to some important lessons from history and sets the examination of economic incentives and the business case in their wider contexts.

Key themes developed in the following sections therefore include the recent history of the role of economic incentives and their user uptake in the EU and elsewhere, an assessment of the robustness of methodologies that have been applied in the literature that evaluate the effectiveness of these incentives, an examination of their key contextual determinants in EU Member States and a discussion of questions that emerge from the critical literature concerning the business case for OSH. Following this, the chapter identifies several cross-cutting critical perspectives linking the themes of the present chapter with those explored in other chapters of this literature review. A number of areas in which further research questions can be posed also emerge. Finally, as for all of the other areas covered in this literature review, the COVID-19 pandemic has implications for the use of economic incentives in the future. Although there is much uncertainty about effective ways forward for economically incentivising better OSH practices in the face of pandemics such as COVID-19, it seems likely that any future strategies will need to consider ways in which their adoption could be incentivised economically. We end the chapter with some further reflections concerning the implications of this.

However, before undertaking any of these tasks, we begin with some theoretical reflections concerning the origins and development of modern views of economic incentivisation, which we see as an important prerequisite for appreciating their current significance in EU Member States.

## 4.1 Some theoretical considerations

When explaining what drives enterprises to seek to improve their OSH practices, the theoretical literature usually focuses on two sets of concepts (EU-OSHA 2010, 2014; Wright et al. 2005).

On the one hand, it argues that, as the safety, health and welfare of workers engaged in productive work in society is a common good and is beneficial for society generally, it is just and fair that the state should impose regulatory obligations on those who control this work to ensure that workers' well-being is properly supported. It is generally accepted that the regulatory protection of workers' safety, health and well-being arose from concerns about unsafe and unhealthy conditions that were the daily experience of large numbers of workers, and especially women and children, who laboured in industrial enterprises during the early periods of industrialisation in many EU Member States. Initial reform focused on establishing workers' rights to safe and healthy work and their employers' statutory duties to provide it. As we discuss at greater length in both chapters in this context, the traditional sanction for non-compliance — financial penalties — can be regarded as a form of economic incentive intended to deter non-compliance by signalling its cost to potential violators (Akers and Sellers 2009; Becker 1968). However, for many reasons, such regulatory measures in practice offered only limited protection to workers and little encouragement to employers to take significant steps to go beyond these measures (Dorman 1996; Torén and Sterner 2003). This is not least because, as evidence shows, fines have limited value when the likelihood of being caught and punished is low and the financial value of the punishment is insufficient for potential violators to perceive that the costs of non-compliance exceed the benefits of compliance (see also the discussion of deterrence theory and the systematic review of deterrence through OSH penalties in Chapter 1 and also in section 7.1). There is also related pressure arising from laws concerning liability for personal injury incurred in the course of employment. Variations in national legal systems and in workers' compensation schemes, with the latter ranging from taking 'no fault' approaches to being based on common law and negligence, suggest differences in the extent to which these systems can be said to act uniformly as forms of deterrence — or indeed, more positively, to act to provide economic incentives encouraging good practices (Walters 2007b).

On the other hand, a further set of arguments point to the role of social insurance models in which no-fault workers' compensation systems provide benefits for those harmed by their work. These benefits are paid from funds financed by compulsory premiums that are paid by employers. Such systems allow risks to be valued econometrically and premiums set accordingly, thus, in theory at least, rewarding effective risk management and penalising its absence. As we will discuss, however, such experience-rated approaches are often not quite so straightforward, nor are they always as effective as economic incentives in achieving improved OSH practice. Such approaches are also, to some extent, informed by theorising by economists such as Viscusi (1983; see also Coase 1960; Fishback 1987), who assert that, in a market-based economy, the market will determine the nature of employers' and workers' obligations to one another. These economists assert that using experience rating for workers' compensation will establish a balance between productivity, profitability and the risks to the safety and health of workers, and will identify ways that the risks can be addressed efficiently.

The ongoing experience of injury, disease and death arising from work indicates that neither of these concepts, on its own, acts to prevent such harm entirely successfully. In practice, a combination of both state regulation and forms of statutory social insurance are applied for controlling OSH. The economic thinking behind the latter practice combined with the current managerialist orientations of the former (see below) serves to promote interest in economic incentives and the business case for OSH. Different positions are held on the comparative merits of these orientations and on the ideal balance of their application.

These positions, in turn, reflect the influence of shifts in the wider political landscape of governments in the balance between social and economic aspects of public policies. In the section that follows, we review some of the literature that explores and evaluates economic incentives in support of OSH compliance and better practice, as well as the literature that argues a 'business case' for such improvement. We will discuss what this literature demonstrates to be useful in relation to the role of economic incentives in supporting compliance and better OSH practice. It will be apparent from our review, however, that much of this literature does not address the political and economic contexts in which these incentives operate or in which the business case is made. These contexts are important,

as, more often than not, they help explain the provenance of the incentives and business cases in question. The political orientation of governance in most of the advanced market economies of the world, including those of the EU Member States, has, for a number of decades, displayed a profoundly market-orientated character that follows, to a greater or lesser extent, the precepts of neo-liberalism. It is, therefore, to be expected that, in these circumstances, there will be a policy interest in market-based support for improved OSH practice and a parallel reluctance to countenance regulatory intervention by the state. As the following section makes clear, this is indeed what we have found in the succession of European and national policies over recent decades.

Another development in the recent history of efforts to secure compliance, which has helped to promote an interest in the business case for better OSH practice, is found in the changes that have taken place in the approach to OSH regulation in most advanced market economies. As is well known, and indeed as we discussed in Chapter 1, in the regulatory reforms of the latter part of the 20th century, there was a shift away from prescriptive, specification standard, command and control regulation of OSH towards more principle-based and process-based approaches, in which notions of ‘goal setting’ and ‘regulated self-regulation’, or ‘enforced self-regulation’, were adopted. The goals and processes set by these standards were intended to stimulate the efforts of duty holders to manage OSH better and to encourage the possibility of achieving excellence with OSH arrangements that might go beyond, for example, prescriptive regulatory standards. The legislation was often referred to as ‘goal setting’ to indicate this aim (see section 1.3; see also Johnstone et al. 2012, pp. 179-180; Walters et al. 2011a, chapters 1 and 2). This approach was regarded by regulators as being entirely compatible with the business interests of firms to improve managerial efficiencies, implicit in which were (and still are) a host of further assumptions concerning what constitutes effective organisational management of OSH (see also section 3.4).

As the 20th century progressed, and in parallel with the growing focus on management generally, in most industrialised economies, concepts of safety management assumed increasing importance. Without oversimplifying a complex story, it is important to observe that ways of appealing to employers’ self-interest in the efficiency and success of their business by focusing on the financial costs of losses arising from accidents, and showing how they could be prevented, were always one element of the discourse around this development. This has been especially the case in high-hazard industries such as process industries, which developed rapidly from the end of the Second World War, as well as in the petrochemicals, nuclear and mining sectors. Indeed, the idea of ‘loss prevention’ was a prominent feature of the technical safety literature in these sectors from the mid-20th century onwards, if not from even earlier (see Lees 1996 for a comprehensive review). In the development of a more general approach to safety in large enterprises, US safety literature, beginning with Heinrich (1941), also focused extensively on the idea of financial loss as a consequence of safety failure, particularly in the development of the principles of safety management embraced in the concept of total loss control (Fletcher and Douglas 1971; see also Bird and Germain 1966). Although aimed primarily at the emergent profession of safety engineers in large industrial enterprises, the crucial connection made in this literature in its efforts to explain ‘what works’ in approaches to process safety lay in its advocacy of the integration of these approaches within the core management of the organisation.

However, the critical change that embedded these ways of thinking about safety management, and extended them more holistically, in national OSH policies and strategies was the overhaul and replacement of prescriptive features of OSH regulation with principle-, performance- and process-based approaches in the latter part of the 20th century. Notions of management were central to these ideas. There were already signs of these developments in Nordic countries at least 10 years before the Committee of Inquiry into Safety and Health at Work, chaired by Lord Robens, in the United Kingdom, produced its report in 1972 (Robens 1972). However, it was the Robens report that heralded a new era of regulatory strategy on OSH globally, in which concepts such as regulated self-regulation, through regulatory principles (goals) and regulatory processes, and shared interests between employers and their employees were signalled. In the EU a decade later, these ideas were combined with those on competent and participative workplace risk assessment to form the pillars of regulatory policy on OSH found in the Framework Directive, an approach that has continued to the present day. Throughout, the link between the development of principle-, performance- and process-based regulation in OSH, and the promotion of the business case for effective OSH arrangements, ensured widespread support for



incentives designed to bring together more effective OSH management with financial benefits to the business.

In short, modern regulatory approaches to OSH in EU Member States and elsewhere place strong emphasis on OSH management and, in so doing, emphasise its position not as a separate add-on activity, but as something central to the proper management of the business overall. As good management of a business includes good financial management, it is implicit that managing OSH effectively contributes to such good financial management. While systems that make possible external support for strategies of economic incentivisation to reward good practice in OSH arrangements (or, conversely, to punish bad practice) remain important, such incentivisation and the strategies used to promote it take place within an overall ethos in which good safety and health practices are regarded as ‘good for business’. In combination, therefore, current regulatory and management thinking promotes the implementation and operation of a model of good OSH practice that, in theory at least, could be stimulated by economic incentives, whatever their origins, causing it to be operationalised in ways that usefully integrate with other elements of enterprise management. This, in turn, would help to determine the more central functioning of OSH management among the core management activities of the organisation and would lead to greater appreciation of the value of OSH management to the business of the organisation.

These ideas now have widespread currency among OSH regulators, professionals and policy-makers, and serve to inform the thinking behind the repeated inclusion of exhortations concerning the economic efficiencies and business benefits of OSH arrangements that appear in policies of stakeholders at both EU and Member State levels. They are widely accepted within the discipline of OSH, but how widely they are actually understood and shared in the wider economy remains a moot point.

For many organisations, especially those MSEs operating low-road business survival strategies on the periphery of the economy, and for many precarious forms of recent economic activity such as the ephemeral ‘pop-up’ enterprises in the gig economy discussed in Chapter 2, it is questionable if the assumptions that support these policies are always as valid as they are in relation to larger and more traditionally organised enterprises. Even for these latter firms, however, there is both reasoning and evidence to indicate that financial motivations and the business case may not always be entirely what drives their efforts to secure better OSH arrangements and practices (see, for example, Cutler and James 1996). Here again, therefore, it is important to understand the underlying factors that determine this and take account of the role played by social norms, regulation and other influences. We will return to these observations later in the chapter, but first we will review the evidence of the development, extent and nature of economic incentives and the business case for OSH in the EU.

## 4.2 Development of the role of economic incentives in promoting improved OSH arrangements

Chapter 2 indicated that while comparative views of national profiles relevant to OSH are, by their nature, oversimplifications, they are nevertheless useful. This is also true of typologies of worker compensation systems. There are always individual exceptions and nuances in the patterns outlined in the following paragraphs. However, in offering some explanation of variation in approaches to incentivising improved OSH arrangements by economic means, their essential message remains valid. As noted briefly in the previous section, the social insurance schemes that provide no-fault compensation for workers for harm arising from their work play a prominent role in providing economic incentives for better OSH practices in some EU Member States more than in others.

The role of social insurance schemes in this respect is probably most notably illustrated by the model of statutory accident insurance first introduced in Germany in 1884 by the government of Otto Von Bismarck, the then Chancellor of the German Empire, in part as a strategy intended to offset the possibility of social unrest in the rapidly industrialising German economy. The modern form of the German approach still includes a number of statutory accident insurance bodies that each have a monopoly covering a different broad range of private or public sector economic activity. They are tasked not only with compensating injured workers, but also with preventing occupational injury and illness and with the provision of assistance for rehabilitation and return to work. Similar schemes, many of which also include prevention among the aims of statutory accident insurance bodies, have spread to a number

of European countries and to industrialising countries elsewhere. They play an important role in the national administration of OSH, alongside that of state regulation and its surveillance by regulatory inspectorates.

Reflecting their German origins, countries with such forms of statutory social insurance systems are sometimes referred to in the literature as ‘Bismarckian’ (where workers’ compensation arrangements are financed by contributions) to distinguish them from those countries in which state welfare and taxation systems assume some, if not all, such financial support, in so-called ‘Beveridge style’ systems (see, for example, EU-OSHA 2010; see also Figueras et al. 2004; Hämäläinen 2006; Soede et al. 2004; Walters 2007b). In its 2010 review of economic incentives in OSH in the EU, EU-OSHA categorised the majority of workers’ compensation systems in the EU as being primarily contributions based (that is, Bismarckian), but pointed out that there is no ‘pure’ system of either type. The review, nevertheless, regarded the United Kingdom and the Scandinavian countries as closer to the Beveridge model and countries of continental northern Europe, such as Belgium, Germany, France, the Netherlands and Austria, as closer to the Bismarckian model. It suggests that systems in Ireland, Greece, Spain, Italy and Portugal have, in recent decades, been moving from insurance-based to predominantly tax-based financed systems owing to reforms in healthcare and the decentralisation of administration in the direction of regions and local communities; this has led some authors to consider them as ‘mixed’ systems (see, for example, Hämäläinen 2006; see also Walters 2007b). Baltic and eastern European countries have also introduced adapted versions of the Bismarckian model following the demise of Soviet influence in the 1990s (Figueras et al. 2004; Hämäläinen 2006).

The EU-OSHA 2010 review notes two further important distinctions between insurance systems. The first is whether the systems are public (operated by or on behalf of the state) or private, and the second is whether they are competitive or monopolistic in character. Most EU Member States with such insurance systems have public (operated by the state) monopolistic systems. A small number have privately operated systems in competitive markets (such as in the Netherlands and, for accidents, in Belgium). Only Spain has a state-run system that is also competitive. These distinctions are important influences on the extent to which systems are able to exert their economic influence on compliance behaviours.

Because their financial structure and operation is underpinned by statutory requirements on employers to be insured, and thereby to pay insurance premiums, monopolistic statutory insurance organisations in Bismarckian systems are particularly well placed to contribute to the financial incentivisation of preventive actions in enterprises. Their administrative processes, especially when they are based on claims experience, can be relatively easily applied to strategic approaches to economic incentivisation and, in some countries, such schemes have long provided both funding and an administrative mechanism to support the economic incentivisation of OSH improvements (Clinch et al. 1999). They can also invest funds in other forms of intervention to help incentivise prevention. Indeed, as we point out in Chapter 6, in some EU Member States, such as Germany, these schemes play a substantial further role in the provision of prevention services, training and other related forms of support for better OSH practice.

In those countries that have OSH systems in which statutory social insurance does not play a significant role, and no-fault forms of compensation are funded mainly through taxation, other ways of financially incentivising OSH arrangements are required. Economic incentives to promote prevention under these systems sometimes include variations in taxation (although, according to EU-OSHA (2010), such schemes are not especially frequent in EU Member States) or special grants or subsidies. In its 2010 report, EU-OSHA noted a number of the latter schemes. They included state subsidies for training OSH consultants, information dissemination schemes promoting systematic OSH management, support for initiatives aimed at retaining older workers, loans with lower interest rates and subsidies to help the purchase of more ergonomically designed equipment (Elsler et al. 2010; EU-OSHA 2010).

We have argued that, especially in neo-liberal economies, the advocacy of more voluntary compliance on the part of businesses, through their realisation that it is in their best business interests to manage OSH effectively, is a logical consequence of the principle-, performance- and process-based regulation that has characterised the statutory approach to OSH in most such economies for the last half century. It is not surprising, therefore, that in keeping with the character of wider market-orientated policies, those

addressing OSH at both national and European levels have included cost considerations and business efficiencies as drivers of OSH improvements, and have promoted economic incentivisation schemes among efforts to make the cost-effectiveness of better OSH arrangements more obvious. While there are examples of interventions using financial incentives to encourage better practices that predate the modern era of OSH management,<sup>18</sup> there is no doubt that these approaches have become more prominent in the EU since the orientation of regulatory requirements and economic policies have combined to encourage a focus on the business case for OSH.<sup>19</sup>

These policy demands at the EU level have also had some influence on OSH research and information output, and especially on that of EU agencies such as the European Foundation for the Improvement of Living and Working Conditions (Eurofound) and EU-OSHA. Both have been prominent in developing economic modelling of OSH in their research and information dissemination, as have national institutes with OSH information and research responsibilities, such as the Finnish Institute of Occupational Health (FIOH) and the Dutch Ministry of Social Affairs and Employment. It is also notable that much of this research and dissemination took place between the late 1990s and around 2010, when there appears to have been a burgeoning of interest in exploring economic incentives and the business case for preventive actions in OSH, which possibly matched a heightened policy interest in more market-based strategies for OSH during this period. For this reason, in this chapter, we have included a number of key contributions from this earlier period.

Following the establishment of the European Forum in 1993 for Member States to exchange views and experiences, the thinking on OSH and economic incentives was reflected in a 1995 report from a working group of the forum published by Eurofound, which proposed an incentivisation model for employers using statutory industrial injury insurance (Bailey et al. 1995). The recommended incentives were aimed at mobilising a number of social parties within and outside the individual enterprise and the suggested insurance-based tools were premium graduation with a bonus system, and direct investment aimed at supporting enterprises to achieve more costly changes in their OSH arrangements. Linked to the bonus system, a marketing label was also proposed.

A subsequent report from Eurofound that reviewed existing practices identified experience-rated insurance premiums based on historic claims rates as the most widely used and readily understood method of creating incentives for better OSH practice, because they were relatively cheap and easy to administer. There were, nevertheless, a number of conditions that influenced their effective use (Clinch et al. 1999). These included the need for such initiatives to take account of possible misleading effects of random events on claims, as well as those arising from measures of the costs of claims rather than the incidents leading to them, the effects of time lag between investment and results, and differences between outcomes when incentives are administered individually or collectively. The report further suggested that it was important that incentives demonstrated tangible links between improved safety and health practice and the resulting reward, and accounted for the different effects of statistical measures of performance between SMEs and larger organisations.

Several studies within EU Member States published in the early 2000s continued to explore these issues, finding some evidence for the success of various schemes (Krüger et al. 2000; Miller et al. 2002; Munich Re Group 2000, 2002, 2005; Nicholson et al. 2006). Wider reviews of late 20th century literature by researchers from both the EU and elsewhere further argued for the importance of the effects of economic incentivisation through insurance schemes alongside other forms of securing compliance from duty holders, such as inspection, enforcement and penalties (see, for example, Miller et al. 2002; Mossink and De Greef 2002; Mustard 2005; Tait and Walker 2000; Tompa et al. 2007a; Torén and Sterner 2003; Wright et al. 2005).

The European Commission's Community Strategy on Health and Safety at Work for the period 2007-2012 explicitly acknowledged the role of economic incentives in delivering (OSH) policies through

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<sup>18</sup> See, for example, Chelius (1976) on the history of US approaches.

<sup>19</sup> It is also the case that the implementation and operation of process-based regulation in political economies in which neo-liberal orthodoxies prevail is likely to support a similar outcome, as a result of the antipathy evident in these systems towards more traditional enforcement strategies of state regulatory agencies and the often reduced resources available for such agencies to deliver such enforcement (Tombs 2017).

rewarding organisations that develop and maintain safe and healthy working environments (European Commission 2007). Not surprisingly, EU-OSHA's research and information activities during this period, which already had included projects on economic incentives (see, for example, EU-OSHA 1998, 2005), reflected European Commission policy interests. It continued the trajectory initiated by Eurofound, with the formation of an expert group, several seminars and workshops and a number of further publications (see, for example, EU-OSHA 2009, 2014). Notably, in 2010, EU-OSHA published the comprehensive review to which we have already referred, which included a review of the literature until that time, an overview of policies and an account of case studies from different Member States illustrating the operation of different forms of economic incentives, both insurance and subsidy based (EU-OSHA 2010).

Policy initiatives at national levels often reflected similar concerns during this period. The orientation of the research and information outputs of national OSH institutes followed the approach, with prominent examples including Finland, the Netherlands and the United Kingdom.<sup>20</sup>

Subsequent policies, such as the EU Strategic Framework on Health and Safety at Work 2014-2020, have continued to argue that the promotion of safer and healthier conditions in workplaces contributes to economic competitiveness, helps in securing compliance, emphasises the need to improve information and analysis on costs and benefits in the area of OSH, and promotes other measures of 'soft enforcement' and non-traditional ways of monitoring compliance. These approaches are reflected in EU-OSHA's slight reorientation of its recent research and information activities in this field, with a change from making the case for economic incentivisation and demonstrating its effects to a greater focus on the analysis of its cost and benefits (see, for example, EU-OSHA 2017a, 2019c; Grimani et al. 2018). There has also been more of a focus on classes of enterprises regarded as posing particular challenges for economic incentivisation, such as small firms (see, for example, EU-OSHA 2014).

As already noted in this chapter, while an understanding of the business case for OSH does not necessarily involve economically incentivising OSH actions through the use of external schemes or interventions, the two are strongly related in practice. Concern with the costs and benefits of OSH interventions is not new and, at a glance, it can be seen to have been a prominent strand in the extensive literature addressing such interventions. This deals with their effectiveness, not only from the perspective of improvements in safety, health or the work environment, but also in terms of economic loss prevention or gains in productivity.<sup>21</sup> Equally, there is a substantial body of OSH literature on the costs of work-related injuries and ill health, which makes plain the gains to be achieved by both business and society from addressing these costs.<sup>22</sup> From the perspective of the OSH specialist familiar with this literature, therefore, the existence of a strong business case for OSH is often no more than an anticipated and logical outcome of the emphasis on OSH management that, as we have argued, is a recurrent theme of principle-, performance- and process-based regulation. From this perspective, therefore, economic incentivisation, whether it originates as an external mechanism or through an

<sup>20</sup> There is little point in documenting this in great detail in this chapter; nevertheless, it is an important element of context. In Finland at this time, for example, notions of ways of improving 'workability' had replaced those concerning the integration of public and occupational health services. In the Netherlands, 'soft law' and 'business benefits' dominated policy discourse in a system that was striving for market-based solutions to what were seen as unacceptable costs to the state of both prevention services and sickness absence, while, in the United Kingdom, much publicity surrounded the launching of a new occupational health strategy entitled 'Good health is good business'. In all cases, the research output of national institutes, such as FIOH in Finland, the Netherlands Organisation for applied scientific research (TNO) and the British HSE, reflected these market orientations alongside those of re-regulation and more 'business friendly' approaches to compliance.

<sup>21</sup> This literature is too extensive to cite anywhere near comprehensively here; it is the subject of several previous reviews already referenced (for example EU-OSHA 2010, 2014; Tompa et al. 2007a, b; Dorman and ILO 2000). However, issues of cost and effectiveness are especially noticeable in reports of ergonomic interventions, disability prevention programmes, workplace health promotion activities, occupational health programmes and OSH interventions in small firms (see, for example, Abrahamsson 2000; Antonelli et al. 2006; Brophy et al. 2001; Chokar et al. 2005; Kemmlert 1996; Kreis and Bödeker 2004; Lewis et al. 2002; Loisel et al. 2002; Miller et al. 2000; van Dongen et al. 2011; Wahl 1998; Yassi et al. 1995). This is in addition to those more directly concerned with costs of injury and the business case for OSH (such as Biddle 2009; Oxenburgh and Marlow 2005; Seeley and Marklin 2003; Tompa et al. 2007a, 2009; Uegaki et al. 2010; van Dongen et al. 2013; Verbeek 2009; Verbeek et al. 2009; Watts 1995).

<sup>22</sup> Again, the literature here is too extensive to cite in full, but some examples include Aaltonen and Söderqvist (1988), Andreoni (1986), Leigh et al. (1997), Leopold and Leonard (1987), Mossink et al. (1998), Myers et al. (2008), Owen (1996), Rikhardsson and Impgaard (2004) and Uegaki et al. (2007).



awareness of the need to better appreciate intangibles in a company balance sheet, is in current contexts really no more than common-sense accountancy of the application of prevention principles.

In summary, there is now an extensive body of literature on economic incentives and the cost and benefits of interventions to support better OSH practice, along with a prominent policy interest in this field that has been increasingly evident in recent years. However, it is difficult to argue that either development presents a significant demonstration of any new insights into the role of the economic case or the market in support of securing compliance and better OSH practices. As discussed in the previous section, there is already a widely held understanding among specialists and researchers in OSH that the tenets of principle-, performance- and process-based regulation require more systematic OSH management, which is in turn but one element of the management of quality. Ensuring systematic management of quality is commonly regarded as an element of successful business leadership and the basis of certified management standards (see Frick et al. 2000 for a comprehensive collection of essays in support of this; see also Zwetsloot et al. 2011). For OSH specialists, systematic management of quality includes management of OSH and therefore implies that OSH management is included in financial management too. However, while it may be difficult to argue against this rationale, in practice for many organisations it seems these connections may remain largely theoretical, rather than forming the basis of consciously adopted strategies. As we explore further in the following section, in parallel with the development of evidence on the role of economic incentives and the business case, there is also a strand of the literature that questions the primacy of these elements as drivers of OSH practice.

### 4.3 Paradoxes and unanswered questions

In a prescient reflection published more than 20 years ago, Peter Dorman asked: ‘If safety pays, why don’t employers invest in it?’ (Dorman 2000). In his discussion of this question, he outlined some paradoxes involved with economic incentives and the business case for better OSH practice. The present account suggests that the same paradoxes are just as problematic some 20 years later.

Dorman suggests that the search for economic incentives has formed part of OSH policy from its very beginning, even though renewed interest in these incentives may be the consequence of more recent neo-liberal political and economic ideologies. He argues, however, that while workers’ compensation is an important safety net for injured workers and also plays a role in rehabilitative and other services, and while OSH accounting systems may serve to win resources for safety and health, economic incentives remain fairly peripheral in OSH policy and practice, despite exhortations to the contrary. He argues that the principal reason for this ‘is that, by and large they have not worked ... [or] played a significant role in making workplaces in general substantially safer and healthier’ (Dorman 2000, pp. 353-354).

This of course does not mean that economic incentives have no value or that they should be dismissed. Indeed, Dorman argues that ‘if economic incentives can do part of the job, we should take note of this’. He goes on to suggest that while there may be situations in which economic incentives could be effective as part of multifaceted prevention strategies, such as in large well-established enterprises with significant public-facing profiles, there are several good reasons why they are unlikely to be ubiquitously so. Other researchers and writers have pointed to similar caveats. For example, while experience-rated insurance systems provide routine means of economically incentivising insured enterprises to perform better in the field of OSH, there are a number of claims management effects that, in practice, may serve to limit or deflect this (Mansfield et al. 2012; Thomason and Pozzebbon 2002). It is also the case that not all workers or work situations benefit from claims management effects to the same extent (see, for example, MacEachen et al. 2012 in relation to temporary work agencies). While subsidies and grants to encourage better practice may work initially in the situations to which they are applied, like many such interventions their effects both are difficult to sustain or transfer and cease when the subsidy or grant ends (Clayton 2012). Other studies suggest that properly accounting for the costs of work-related harm is not straightforward, especially in the case of health effects (Armstrong and Bunn 2012). The result is that, generally, costs are underestimated or their accurate calculation is not attempted because undertaking such tasks lies beyond the will or capacity of the directing minds of most enterprises. The most likely outcome, therefore, is that such costs are not properly recognised. Besides, as Chapter 3 argued, there is a substantial body of literature further suggesting that when the ownership and management of an enterprise make decisions on investing in better OSH practices, they rarely do so on the basis of a detailed cost-benefit analysis; instead, they take action that is more intuitive and more



influenced by social norms, peer group pressures, isomorphic behaviour, the fear of regulatory inspection and so on rather than action that is based on economic rationales.<sup>23</sup> An effort to provide a more systematic understanding of such ‘intuition’ is reflected in a small strand of the literature addressing the management of health and well-being at work. Typified by Nordic contributions to this literature is the discussion of the possibility of management control and accounting of intangible determinants of worker and business efficiency, with the inclusion of values on employee health and well-being among such determinants.<sup>24</sup>

Beyond these challenges, however, there are a further set of problems for economic incentives and the business case being considered as effective support for compliance and better OSH practices; these are presented by the structural and organisational changes outlined in Chapter 2. Although there are schemes in some EU Member States that have tried to provide economic incentives for smaller firms, enterprise size is a widely acknowledged challenge for prevention strategies based on such incentives (see EU-OHA 2014). The well-known inverse relationship between the presence of management arrangements and enterprise size generally means that smaller firms are likely to lack the capacity to respond positively to the economic incentivisation of better OSH management, unless such incentivisation comprises straightforward initiatives that owners and managers in small firms perceive to offer them direct and tangible benefits (see EU-OSHA 2017b for an extensive review of the challenges confronting support for management in MSEs). Routine programmes based on experience-rated insurance premiums, for example, can seldom be applied effectively to small firms because it is impossible to reflect experience meaningfully in these situations. There is, however, some suggestion in the more recent descriptive analyses of insurance-based schemes in the meat and the hotel, restaurant and catering sectors in Germany and more widely in Italy, for example, that the German institutions for statutory accident insurance and prevention (the *Berufsgenossenschaften* (BGs)) and the Italian National Institute for Insurance against Accidents at Work (INAIL) may have gone some way to meeting these challenges (see, for example, EU-OSHA 2010, 2014, 2017b for acknowledgements and a further discussion of this challenge).

However, the increased significance of MSEs in the economies of the EU is only one aspect of change that is likely to militate against the usefulness of economic incentives more widely. As outlined in Chapter 2, downsizing and outsourcing, the increased use of contracting and subcontracting, more temporary, part-time and casual workers, and the greater use of employment agency labour are all present-day results of business and human resource strategies that reflect ways of thinking that are increasingly dominant in current economies. They are also, themselves, all strategies intended to reduce business costs. As is well documented, these trends often lead to exporting hazardous work to firms with less capacity to implement adequate OSH arrangements or to those in the informal economy, to workers with fictitious contracts of ‘self-employment’ or to jurisdictions overseas. In all cases, economic incentives to improve OSH management practices will have little traction (see, for example, Lippel et al. 2011; Underhill and Quinlan 2011). Indeed, as Dorman (2000, p. 361) himself notes, in certain cases there may even be a contributory reason for outsourcing, and he writes that:

*It is a great irony that the push to make economic incentives the primary instrument of OHS policy is occurring at the same moment that the growth of secondary employment and the informal sector is most rapid.*

While 20 years later, we might find it difficult to argue that economic incentives are the ‘primary instrument of OSH policy’, they certainly are a significant element and it is important to acknowledge

<sup>23</sup> See, for example, Cutler and James (1996) and Quinlan (2004); see also Martinsson et al. (2016) and the references supporting similar points made in Chapter 3. This is also an observation to be found among a range of qualitative studies of OSH practices in which economic incentives and the business case are not the primary focus and instead managers and employers are asked about their reasons for taking or planning to take a particular preventive action on OSH. These studies seldom cite a cost-benefit analysis as the reason for the action. See also the discussion of plural motives for compliance in section 1.4.

<sup>24</sup> Prominent in this discourse has been the work of Guy Ahonen (see, for example, Ahonen 2006; Reiman et al. 2017) and Ulf Johanson (see, for example, Johanson et al. 2001, 2007). Connections are made between workability, health promotion, employee well-being, sickness absence and more traditional issues of safety and health, with approaches to management and accounting that emerge from critical management studies. Such approaches may offer ways forward for the promotion of more positive prevention cultures in some workplaces, but further empirical research seems to be required before these ideas are fully ‘mainstreamed’ in OSH policies and practices.

that, while they may be effective in some circumstances, they are less effective in others. Moreover, the review in this chapter suggests that, in their present form, economic incentives may not be best suited to addressing many of the challenges in support for securing compliance and better OSH practice that have emerged as a result of current trends in the structure and organisation of the economy to which Dorman is referring. Questions, therefore, remain to be asked concerning how such incentives could be more effective in support for securing compliance and better OSH practice.

#### 4.4 Conclusions and questions for further research

Overall, the literature reviewed in this chapter argues that the virtues of economic incentivisation and the business case for OSH offer positive reasons for businesses to do more than merely meet statutory requirements on OSH. With similar rationales, policies at EU and Member State levels have also promoted economic incentives and the business case for good OSH practice, and a body of research has sought to explore the evidence to support such policies. There is support for these policies in a range of studies that have considered the effects of a variety of economic incentives on improving OSH within enterprises. Broadly speaking, research on the costs of injuries and ill health also generally indicates these costs to be considerable and points to substantial economic savings that can result from better OSH measures within workplaces. There is a large body of literature describing specific OSH interventions that claim to do this. There is also a substantial body of literature that argues there is a connection between employee well-being and strong business performance. At the same time, analyses also show that investment in OSH is not necessarily beneficial to achieving better business outcomes, nor are these outcomes necessarily the principal reason why such investment is undertaken. These analyses indicate that, while economic incentivisation may play a role in improving OSH, determining how and when this may occur is not always straightforward.

Therefore, while there is a case for further research on ways to make elements of these incentives more effective, as has already been identified in older studies and continues to be among the recommendations of more recent studies, there is perhaps a more pressing need to consider how economic incentives could be more effectively combined with other elements of support for securing compliance. Such elements are addressed in the other chapters of this literature review and also inform the narrative of Parts 2 and 3 of the final report.

As we have discussed, economic incentives may be external — in the sense that they take the form of direct financial inducements provided by a third party to encourage the ownership and management of an enterprise to adopt a desired approach to OSH. The present review indicates that most of the literature, as well as policies promoting economic incentives, deals with this approach. It seems unlikely that further research to discover possible additional economic incentives or their effects will reveal very much that is not already known or could not be predicted from the findings of existing literature. Nonetheless, areas in which further research would be useful include the need for more detailed and specific investigations of experience rating to determine its useful effects more precisely (Tompa et al. 2007a), more standardised and comparable studies using cost-benefit analysis in relation to economic measures and work-related injuries and ill health and more comparable investigations of other forms of economic incentivisation (Elsler et al. 2010; EU-OSHA 2010, 2014; Grimani et al. 2018), and a greater focus on the effects of differences in national and sector contexts in which the investigation of economic incentives occur (Elsler and Eeckelaert 2010). All such future research is intended to create a better understanding of ‘what works and for whom’ in relation to economic incentives and the business cases they help to support.

However, as the introduction to this chapter pointed out, economic incentives may also arise as the result of the ownership and/or management of enterprises ‘internalising’ the business benefits of taking particular actions in relation to their OSH arrangements to reduce losses or enhance their market position. At first sight there may appear to be a difference between the external inducements discussed above and internal forms of incentivisation. One arises from a direct external effort by a third party to encourage particular actions, while the other comes from awareness within an enterprise of the business benefits of actions to improve their OSH arrangements. However, in practice nowadays, external and internal forms of incentivisation are not so easily distinguished. For example, internal recognition of the business advantages of making changes to improve OSH arrangements may be a response to external influences, albeit sometimes of a more diffuse or removed nature — such as those that relate to a firm’s

reputation and its relationship with clients and customers. Awareness of such influences may also be prompted by strategic actions of third parties. Thus, for example, the recognition of reputational risks may arise indirectly and as the result of the actions of external interest groups such as consumers, labour organisations or the media, leading to a powerful business organisation acknowledging that damage to its reputation could arise from poor OSH arrangements or OSH failures in the supply chains it controls. Such awareness of the need to maintain its market position and the profitability of its business may therefore require it to intervene to prevent or remedy OSH defects (to which others may have drawn attention) among supplier organisations in the chain it controls. Further examples can be found in some of the literature addressing certification and OSH standards, which demonstrates, for example, how buyers may influence their suppliers to meet adequate OSH standards more systematically through the use of certification schemes, which in turn may be influential in achieving the desired standards in OSH arrangements among suppliers more generally. Meeting such certified standards can become a condition for business — a kind of ‘licence to operate’ — and thereby can be an important form of economically driven incentive for buyers and suppliers to give greater prominence to OSH considerations (see also Chapters 3 and 5).

The review suggests ‘business case’ approaches to support for compliance are often based on several common assumptions concerning the power of economic incentives and disincentives to change the behaviour of enterprise management in relation to OSH, as well as on assumptions concerning enterprises’ will and capacity to make rational calculations about the role of OSH in the financial affairs of their business. While this may occur in situations such as those found among larger organisations with sophisticated approaches to managing their accounting in relation to OSH, there is also a strand of the literature that suggests that societal and company expectations in relation to potential costs of failure to support OSH are also influential. An area of future research would therefore be to explore possible connections between these expectations and economic incentives, which might serve to enhance OSH support. The key problem that remains to be explored is the role that these kinds of incentives could play in reaching enterprises that are not normally proactive on matters of voluntary compliance. Such enterprises are increasingly present in the changing economies of EU Member States, for example those among MSEs that EU-OSHA (2018b) research refers to as the ‘reactors and avoiders’ and smaller firms that frequently adopt low-road strategies for securing the survival of their business. As noted above, there are a few examples that have emerged recently in countries such as Germany and Italy that suggest that there has been some success with insurance-based incentives in reaching even these groups in certain cases, but further and more robust evaluation of their success is required, as is research on how transferable such success is and what might make it so.

A future research programme on support for securing compliance and better OSH practice would provide some opportunities to explore the role of economic incentives in combination with other fields of intervention. This would help to achieve more sustainable cross-cutting strategies to support regulatory compliance and better OSH practice. Such research would also need to take account of context because, as the present review suggests, such incentives are often context specific and are unlikely to be effective when applied where supportive contexts are underdeveloped or absent.

As already indicated, economic incentives are relevant to supply chain leverage initiatives and to research that incorporates an exploration of the role of social reporting. This research includes that in relation to economic incentives and CSR and OSH, but also might form part of an integrated study of possible links between economic incentives, social norms, social reporting and isomorphism in influencing compliance behaviours among hard-to-reach MSEs and other forms of work at the periphery of conventionally regulated economies of Member States. The same research might also explore the role of regulatory agencies and other strategic players in orchestrated regulatory interventions, by analysing possible synergies between their strategies and economic incentivisation when targeting hard-to-reach groups.

Finally, as indicated at the start of this chapter, some consideration also needs to be given to the lessons of the pandemic for future approaches to supporting compliance and better OSH practice from an economic and business case perspective. At first sight, a review of the past literature indicates little direct experience of such approaches in the past. However, questions of balance between the economic profitability of business and the effects of work on health are fundamental to democracy in market economies and have always been so. In the case of COVID-19, attempts to manage this relationship in

the face of the pandemic have, in many countries, been disastrous. This failure has led to the spread of this serious and fatal illness on a scale that is unprecedented in recent times and has simultaneously precipitated an impending economic crisis. Almost by definition, efforts to control the spread of the disease by one form or another of social distancing, isolation or similar methods have involved massive disruption to the functioning of economic life, often with dire financial consequences for businesses and individuals. At the same time, governments have been obliged to put in place contingency schemes to provide some level of financial support for both business and workers affected by the immediate crisis, while also offering a degree of financial security to assist future roles in economic recovery.

There is widespread agreement that the effectiveness of such strategies in the face of COVID-19 has been limited, both in relation to preventing infection and in supporting the continuation of the economic viability of business and the earnings of workers. However, there are many lessons that could be learned from the evaluation of this experience, especially concerning the preparedness and resilience of economies in the face of such crises. There are thus further lessons to be learned concerning the business case for being better prepared to manage the risks of pandemics in advanced market economies of the future. Indications of this are to be found in the evidence-based knowledge that is already beginning to take shape in the literature concerning supporting compliance and better OSH practice in the face of biological agents and infectious diseases in the future. At present, however, based on current and past experiences, it is not possible to be more than highly speculative about ways in which economic incentives and the business case might help to prevent or mitigate the effects of such pandemics.

Nevertheless, some things seem plain. One lesson of the pandemic that is already very clear is that, far from being a feature of a previous industrial age, the need for effective OSH strategies is very much a current requirement and there is burgeoning evidence that it is a need that both governance and business have failed to meet adequately in the present crisis. The relationship between the ability to provide a safe workplace that is without risks to health and the capacity to undertake business successfully in a civilised society has been clearly demonstrated during the pandemic (albeit negatively), as has the need for the state to ensure that economic capacity exists to support this. There are many ways in which the incentivisation strategies documented in the present chapter could be the basis of future support for compliance and better OSH practice in the face of future risks, such as those of pandemics. Insurance-based schemes, tax breaks or subsidies that reward good practice could be adapted to ensure that prevention is paramount in the reorganisation of work structures and the delivery of work practices in the future. Equally, planned financial support could be developed to ensure that workers who might be obliged to adopt different work practices to lower the risks of infection are not made to suffer financial hardship through doing so.

## Chapter 5: Supporting compliance and better OSH practice through leverage in supply chain relations

A feature of the changes in the structure, organisation and control of work and employment that were outlined in Chapter 2 has been growth in the significance and incidence of supply relationships, driven by trends towards outsourcing to external providers of both ‘peripheral’ and ‘core’ activities, by both private and public sector organisations. These trends have served to increase the importance of vertical supply relationships between buyers and sellers, among determinants of OSH conditions within and across national boundaries, and in both the production of goods and the provision of services. This growth in the significance and use of supply chains has significantly increased the extent to which labour conditions, including OSH, are shaped by financial and other business dynamics operating within interorganisational relations. These developments have radically altered the economic contexts in which compliance with regulatory and other standards on OSH takes place, which in turn has created more challenges for conventional means of securing compliance.

As we noted in Chapters 1 and 2 of this literature review, while there are differences in the national contexts in which firms operate, firms also increasingly conduct their business globally and throughout the EU, sourcing and supplying goods and services between countries (Braithwaite and Drahos 2000). As we outlined in Chapter 2, for the most part, these changes in the incidence and reach of supply chains have been identified as producing poor OSH outcomes. However, the literature on supply chains and OSH also demonstrates that, in certain cases, supply chains can be used to leverage compliance with OSH standards and better practice. This therefore begs two important questions: (i) what determines if integrated business structures and the relations that drive them can be shifted from constraining to supporting sound OSH practice (EU-OSHA 2012a) and (ii) what does this mean for how compliance is interpreted and implemented by participants in such business configurations? The central aim of the present chapter is to address these questions. Focusing on ways in which leverage to support compliance with OSH standards and better practice has been operationalised in supply chain relations, this chapter reviews the evidence in recent accounts in the international literature on what determines and supports this.

The COVID-19 pandemic has shown how vulnerable some of these business structures are to the kinds of risks represented by the pandemic. It seems likely that future approaches to address such risks may require significant changes to the configurations of supply chain relations, which are the focus of this chapter’s analysis. It is too soon to be more than speculative about such consequences, but in the conclusions to this chapter (section 5.6) we offer some reflections on the implications of these possibilities for future research.

### 5.1 Supply chains — their prominence, influence and diversity

The sections that follow first briefly outline evidence of the OSH consequences of trends in work and business organisation that have led to an increased prominence of the role of supply chains in determining OSH outcomes. Second, the chapter reviews the literature, exploring the nature of supply relations to better understand why these relations might have a negative impact on conditions of safety and health. Having established these operational effects, it then considers what might determine and support successful intervention in such relations to secure better compliance with OSH standards and thereby better OSH practice and outcomes. To do so, this chapter reviews research exploring the relative importance of contextual determinants of positive action on safety and health in supply chains that are found in the regulatory, business, social and labour relations environments in which they operate. It also reports on the possible barriers to such support and to the transfer of improved practice and outcomes. To better understand these effects, the chapter structures its exploration of the evidence of influence on the leveraging of OSH compliance by applying an adapted version of Parker and Nielsen’s holistic compliance model to understanding the dynamics of supply chains and the factors determining them (Parker and Nielsen 2017).

As discussed in Chapter 1, Parker and Nielsen’s 14-question framework organises such influences into two broad kinds. The first kind includes those factors embracing the interests and motives (economic, social and normative) of the parties who are the subjects of compliance, along with their characteristics,



capacities and resources, and the ‘non-official’ influences of ‘non-state’ actors (including parties further up the supply chain), all of which suggest something of their will and capacity to comply regardless of government/state regulatory intervention (what Parker and Nielsen call ‘spontaneous compliance’). The second set of factors comprise the various activities of actors external to the targets of compliance, aimed at achieving their compliance (what the authors term ‘enforced compliance’) — principally state regulation, including the inspection and enforcement activities of state regulators that influence compliance behaviour directly or through their effects on spontaneous compliance factors. State regulators can choose where they focus their regulatory activities — they can seek to enforce compliance by focusing directly on those at the extreme low end of the supply chain or they can focus on the parties who most influence the chain.

Factors relevant to supply chain relations that influence spontaneous compliance might therefore include:

- the effects of societal norms, peer group pressure and social reporting initiatives;
- considerations within the business model, including the idea of a business case for OSH and how incentives within supply relations might be used to shape compliance with desired standards;
- knowledge of the rules, including the role of guidance for suppliers, the role of material and so on, and the role of non-state actors acting as boundary-spanning agents and possibly offering training, auditing or other forms of support.

In previous chapters, we have already reviewed current knowledge on the effects of some of these factors in influencing support for compliance. We will refer to these where relevant but, in the present chapter, we discuss their role in the more specific contexts of supply chain influence.

The second of Parker and Nielsen’s compliance influences — enforced compliance dimensions — might include novel approaches to supply chain intervention by state regulators and forms of responsive enforcement, strategic enforcement, co-enforcement and so on, as applied to supply chains that include the actions of state and non-state actors and processes that have influence over supply chain relations to improve OSH (see Chapters 1 and 7 of this literature review). Generally, parties at the apex of supply chains are the ultimate target group of enforcement strategies such as strategic enforcement (see Chapter 7 of this literature review), but as their influence extends vertically down the chain, coming to bear on actors at its successive tiers, enforced compliance might focus on these actors too and, in addition, might include a coordination or orchestration of influences on these vertical relations. Alternatively, enforced compliance might target the role of external horizontal influences such as that of organised labour in monitoring compliance, as is seen in the textile, clothing and footwear sector in Australia (Nossar et al. 2004) and also at both global and domestic levels in the garment industry (James et al. 2019).

Supply chains and their implications for the conditions of labour — namely safety and health — experienced within them, especially at their distal ends, have attracted interest from scholars of globalisation, labour relations, logistics, labour economics, migration, business and human resource management, as well as from regulatory scholars, sociologists and many others. This is in addition to the relatively recent interest in their implications among researchers concerned more directly with OSH. A feature of the literature reviewed in this chapter, therefore, is the considerable diversity of the disciplines in which it is situated. Such diversity presents both opportunities and challenges for an overarching review. The concluding sections of this chapter aim to present an analysis of the support for securing compliance and better OSH practice in supply chains, considered in the context of the overarching theoretical constructs that have been used throughout this report, but at the same time taking account of relevant findings across a range of disciplines.

## 5.2 Supply chains and OSH

As we outlined in Chapter 2, there is a substantial and longstanding body of evidence showing that the types of work changes commonly resulting from supply chain pressures are linked to a variety of adverse safety, health and health-related outcomes. These include not only an increased incidence of serious injuries and fatalities seen in small firms at the ends of supply chains, but also increased cardiovascular

disease, burnout and depression (Benach et al. 2002; Ferrie et al. 2002; Quinlan and Bohle 2008; Quinlan et al. 2001). These work changes are also associated with conditions of greater job insecurity, poorer pay and less control over work and working time, all of which are associated with poor health outcomes in both developing and developed economies (see, for example, Aronsson et al. 2002; Bohle et al. 2004; Lahari-Dutt 2017; Marmot et al. 2020; Walters et al. 2020). It is widely recognised that the workers most exposed to such inequalities in the distribution of risks are frequently those situated in the lower tiers of supply chains, which are far removed from the legal responsibilities of large and powerful economic actors at the apexes of the chains that determine the business relations within them (EU-OSHA 2016). This suggests that such data that are available may be no more than indicative of a problem of greater dimensions, as the remoteness of these work situations from legal scrutiny also makes them inaccessible for other forms of monitoring too.

Typically, for example, such inequalities are found in the MSEs, the self-employed and the various forms of atypical work that are often situated at the ends of long and complex chains of business relations, where owner-managers and their workers have little lateral decision-making power and few resources with which to address preventive OSH. It is no wonder, therefore, that these workers experience disproportionate risks of serious and fatal injuries and ill health against the backcloth of the price and delivery demands of economically more powerful buyers (EU-OSHA 2016, 2018b). Nor is it surprising that the same studies show how, in such situations, and often aided by their location beyond the reach of regulatory agencies and indeed often being invisible to them, MSEs pursue low-road business survival strategies that increase risks for their workers (EU-OSHA 2016). This is even more so in relation to the various related forms of atypical work and work organisation that occur alongside them.

Such conclusions are further supported by strong sector-based evidence, in which numerous studies have identified, for example, the widespread use of subcontracting and its often poor management as important contributors to the occurrence of incidents leading to injury in the construction industry. In particular, financial and time pressures impinging on subcontractors; the lower levels of supervision, information and training provided to subcontractor personnel; and the problems of coordinating the activities of subcontractors have all been highlighted as important factors that have adverse impacts on safety and health, as well as labour conditions more generally (Johnstone et al. 2001; Weil 2014). Similarly, studies undertaken in the food production and processing sector demonstrate how the dynamics of supply chains can create working environments that increase risks to worker safety and health (Wright and Lund 2003). In particular, they reveal how the demands of large, powerful buyers lead to increased casualisation and agency working, unstable patterns of work and working time, and work intensification (James and Lloyd 2008). Such findings are further replicated in studies focused on the textile and garment industries, in transport and, indeed, in nearly all sectors in which they have been undertaken.

Turning to the global impact of supply chains on OSH, while detailed evidence is patchy — largely because of problems with the collection and reliability of data in many countries — extrapolation from aggregate statistics indicates that OSH is also a significant issue in global supply chains. It is widely accepted that there remains a huge global burden of preventable, serious work-related injuries, fatalities, ill health and premature death that is disproportionately higher in developing countries than in more advanced economies. Estimates vary, but suggest that around 5-7 % of all global fatalities are attributable to work-related illnesses and occupational injuries, that is, more than 2 million deaths attributable to work-related factors (EU-OSHA 2019c; ILO 2006a; Takala 2015; Takala et al. 2012). The ILO has also estimated that more than 20 % of global production is associated with global supply chains, indicating that a substantial proportion of the global burden of work-related disease and injury is probably the result of poor OSH outcomes in these chains (ILO 2015). Such aggregate reasoning is further borne out by the many examples of poor labour conditions and safety and health outcomes that have been reported to occur in workplaces in developing countries at the ends of supply chains dominated by big names in western consumer markets. These include the major factory fires that occurred between 2010 and 2019 in Bangladesh and Pakistan at Rana Plaza, Tazreen Fashions and Ali Enterprises, which together led to more than 1,500 deaths and many more injuries (Reinecke et al. 2019). However, they are by no means limited to such high-profile incidents and are generally accepted to be among the everyday consequences of a disproportionate distribution of global OSH risks.

Evidence of improved outcomes achieved through the influence of supply chain relations is far more limited. Nevertheless, as already noted, in some cases, interventions have helped to reduce inequalities in risk exposure and the negative OSH effects associated with outsourcing and related business practices. The key issue, in these examples, lies in answering the following questions. What are the conditions that have promoted these positive outcomes? How unique or replicable are they? How sustainable are they? To address these questions, it is first necessary to explore something of the nature of the relations in supply chains to identify where and how there may be opportunities for interventions leading to sustainable improved OSH practices.

### 5.3 Determining outcomes in supply chains

There have always been supply chains, but their current prominence in business relations has emerged as a consequence of wider changes in the structure and organisation work, which in turn have been part of the developments taking place in the global economy in the past several decades. The increased prominence of supply chains has led to a plethora of new or enhanced forms and interdependencies in work structures, which have been created as firms struggle for business advantages in complex, changing and increasingly globalised markets. As already noted, the increased prominence of supply chains is but one aspect of change in the operation of business in recent decades, and its consequences for OSH cannot be properly understood without taking account of this. As Weil (2010, 2014) has pointed out, organisations are economically integrated in wider markets and/or within complex business structures for production and service provision, among which are supply chains and networks, franchising systems, centrally managed contractor networks and centralised purchasing arrangements. Such business relationships therefore influence the organisation, control and conditions of work, including OSH practice, within and across national boundaries (EU-OSHA 2020b). Power is not distributed evenly in these scenarios, and firms in controlling positions can act to influence the behaviour of those (often smaller firms) that are in business-dependent positions. Such relations are widely used to improve the business advantage of the most powerful economic operators in these situations. In so doing, they may act to constrain the resources of those with less power, affecting the capacity of these firms to comply with a host of labour standards, including those on OSH (see, for example, Minwoong and Weil 2015; Weil 2014).

There are, therefore, good reasons to argue that, in general, supply chains may exert negative influences on labour conditions and OSH standards at work. This is especially so when it is borne in mind that the growing reliance placed on outside suppliers reflects current business fashion and neo-liberal economic orthodoxies that support a belief that this reliance inevitably yields business benefits. As a result, questions of cost, as well as quality considerations, form major elements in the decisions that determine the nature and use of supply chains and, all too often, negative rather than positive labour-related dynamics flow from outsourcing decisions.

It follows from this that the supply chains involved in these situations are not homogeneous. Portraying their features without acknowledging their diversity therefore risks oversimplification. Nevertheless, supply chains have a number of general features that are relevant for understanding ways in which interventions to support securing compliance might operate more or less effectively.

For example, it has long been recognised that supply relationships differ considerably in terms of their closeness, with a common distinction being drawn between highly collaborative mutuality-based relations at one extreme and distant market-based exchanges at the other. These differences reflect, in part, variations in the complexity of the products that buyers are seeking to purchase. Evidence further suggests (Cousins and Lawson 2007) that, when complexity is high and codification is low, buyers are more likely to seek close collaborative relationships. When the opposite is the case, more distant market exchanges tend to be the order of the day. This evidence further indicates that closer relationships are sought when the products being purchased are of critical strategic importance. In contrast, a focus on cost savings for less strategically important products and services creates looser relations between buyers and suppliers. Gereffi et al. (2005) note three variables that play a role in how supply chains are governed and change:

1. the complexity of transactions;
2. the ability to codify transactions;

### 3. the capabilities in the supply base.

Based on this classification, they suggest five types of global supply chain governance — hierarchy, captive, relational, modular and market — which range from high to low levels of explicit coordination and power asymmetry. The same would hold true in relation to domestic supply chains. In general terms, those supply chains in which there are closer relationships maintained between buyers/controllers and suppliers of goods/services/labour are more likely to be the ones in which interventions to improve OSH have some chance of being effective.

Further evidence suggests that the balance of economic power between buyers and suppliers, and hence also the balance of dependency between them, may vary considerably, with important implications for the nature and dynamics of supply relations (Walters and James 2011). For example, smaller and less powerful suppliers are more likely to face cost and delivery demands with adverse OSH consequences, while at the same time their market position and resources often render them less able to resist them (EU-OSHA 2016). There is also evidence that surrounding cultural and institutional contexts act to influence the type of supply relationships found in practice. In particular, researchers have pointed to how national contexts vary in the extent to which they act to facilitate collaborative, as opposed to more adversarial, relations between buyers and suppliers (see, for example, Sako 1992 on the differences between Japan and the United Kingdom). Therefore, some may act to affect OSH more positively than others (Walters and James 2011). Other research has noted how the CSR orientations of multinationals tend to vary as a result of differences in the business environments of their home countries. It has also highlighted the way in which relationships between western multinationals and suppliers in developing countries are influenced by the presence, or more commonly the absence, of constraining local regulatory regimes and cultures that are supportive of OSH (Brown 2019; ILO 2017a).

Initiatives that use supply chain relations to support compliance are therefore usually informed by three central and inter-related considerations: a recognition that powerful buyers can directly and indirectly drive down labour standards in supplier organisations; an acknowledgement that poorer countries frequently do not have regulatory systems, or sufficiently powerful labour organisations, in place to counter these negative effects; and a view that, despite this, it is possible to use the supply chain power of multinationals for improvement, rather than harm. EU Member States are arguably better placed than developing countries in terms of the resourcing of their regulatory systems and the influence of institutions of organised labour. It is therefore possible for them to create stronger support for a compliance culture, but they too have supply chains with powerful buyers/controllers at their apex, operating both nationally and transnationally, and differences between them in their regulatory, economic, political and cultural contexts. The effects of such differences between the advanced market economies of the EU may be more nuanced; nevertheless, as we discussed in Chapter 2, such differences are real and they are likely to have some influence on the effects of supply chains in different national contexts. Therefore, broadly the same considerations that the literature suggests apply globally may be used to help understand what works to improve OSH outcomes in relation to intervention in domestic and European supply chains.

## 5.4 Spontaneous compliance models and supply chains

These considerations are not so far removed from those posed by questions addressing spontaneous compliance in the Parker-Nielsen model of holistic compliance. Looking at Table 1 (Chapter 1), the seven questions concerning spontaneous compliance embrace many of the findings borne out by the supply chain literature. For example, while the business model adopted by the controlling firms at the apex of supply chains may be one informed by the financial benefits to be gained from outsourcing and controlling the supply of products, services or labour from a network of producers, the potential negative consequences for the market prospects of these businesses as a result of a publicly perceived failure to prevent poor OSH outcomes among their suppliers may cause them to attempt to put in place controls within their supply chains to ensure this does not occur. Non-official influence from consumer groups, trade unions, investors, non-governmental organisations, trading partners and so on may be applied to persuade such firms of the business benefits of taking such actions. When this is done in supply chains in which collaborative relations are possible, such a combination of social and economic pressures may cause lead firms to introduce various forms of support for and surveillance of their suppliers to ensure better safety and health practices. While detailed evidence of its success still needs to be sought, this

approach has informed the strategies of consumer groups, trade unions and non-governmental organisations concerned with improving labour conditions among global suppliers. In so doing, these bodies have reasoned that the consequences of exposure to poor OSH outcomes for the sales of products in European markets may cause lead firms to introduce strict standards of OSH management among their suppliers as part of their procurement procedures.

In another case, Box 6 shows how the threat of reputational damage to major oil companies resulting from public and consumer concerns about accidental oil spills by tankers that carry their products helps to influence them to introduce strict safety requirements on independent oil-tanker contractors. It also encourages regular monitoring and surveillance of the compliance procedures of such companies in carrying their products.

Looking at the problem from the perspective of the supplier, several more of Parker and Nielsen's spontaneous compliance questions are relevant. For example, many of the firms participating in the supply of goods, services and labour to more powerful organisations controlling supply chains are often themselves quite small firms. This is especially so at the distal ends of supply chains. As noted in the studies of European MSEs previously published by EU-OSHA (2016, 2018b), although among many of these firms there is a desire to comply with what are regarded as socially and legally accepted norms, there is a relatively poor understanding of these norms and limited capacity to comply. The simplified typology of such firms that is presented by this research suggests that there are three broad types based on their compliance behaviour — 'avoiders', 'reactors' and 'learners' — which differ substantially in terms of risk approach, OSH knowledge and their relations with other OSH actors and regulators. While they differ in the extent to which they might be proactive in seeking to improve their OSH arrangements, both 'learners' and 'reactors' (into which categories the majority of MSEs fall) displayed mixes of 'economic, social and normative motives' towards compliance, such as those identified in Parker and Nielsen's questions, but they also had 'poor knowledge' and lacked the 'capacity to comply', to use Parker and Nielsen's terminology again. When this is combined with the business-based motives of the heads of supply chains to improve the performance of their suppliers, it suggests the possibility that it might prove cost-effective for powerful actors at the tops of supply chains to use their resources to provide guidance to their suppliers concerning their safety and health requirements. That is, not only would lead firms require such things of their suppliers as part of their procurement strategies, but they would actively support the achievement of their requirements by providing various forms of assistance to their suppliers during the delivery of the contracted goods or services. Again, it is apparent here that this would be most likely to be effective in supply chains that were cooperative rather than transactional, as its effective delivery would be dependent on a close and ongoing relationship. As can be seen from Boxes 7 and 8, there are several examples discussed in the literature in which such practices have operated.

**Box 6: Safety controls on independent tanker companies — the power of business needs and the role of inspection**

With their capacity to choose which ships to employ, charterers have the opportunity to be influential in the way that ships are operated. The oil sector has arguably advanced furthest along this road because of the small number of large players in the sector. While the major oil companies (generally referred to as 'oil majors') claim to account for some 20-30 % of the market in the maritime transport of petrochemicals, the other 70-80 % is served by independent tanker operators. The main source of business for these companies, however, is the transport of petrochemicals for the oil majors. These oil majors are therefore in an extremely powerful market position at the head of the maritime oil transport supply chain. To compete for contracts, tanker companies must ensure their ships are maintained and operated at a level dictated by the oil majors, including with respect to arrangements for the management of safety and health on board. Vessels and the companies that operate them are vetted and are required to meet a matrix of procedural and staffing requirements that influence, among other things, the management of OSH. Inspections are performed according to standard report formats developed by the Oil Companies International Marine Forum (OCIMF) and provide each member oil company's vetting department with the information necessary to apply its criteria for the selection and/or continued use of tankers and their operating companies.



When a fleet operation fails to meet the required standards, and even if this is because of the lower performance of only one owner's ships, it may result in the entire fleet being denied business. Oil majors' investment in the management of the vetting process is considerable. As well as producing technical and operational guidelines for the sector, the OCIMF has developed a common ship inspection report (SIRE) programme, with nearly 600 inspectors accredited under this programme, and a tanker management and self-assessment programme, which provides instructions and methods to encourage ship operators to assess their safety management systems against key performance indicators and develop continuous improvement. The advantages to oil companies of the implementation of such tools are obvious, as is the business necessity on the part of such tanker companies to ensure they comply with the requirements of the scheme.

Research, involving detailed interviews with seafarers and tanker operators, confirmed this and demonstrated that while seafarers and their shore-side managers were aware of the influences of regulatory requirements of both flag and port states, they regarded the OCIMF scheme as the major determinant of the approach to safety management adopted on the tankers (Walters et al. 2012). Moreover, the feature of the scheme that they perceived as most influencing their compliance was the practice of monitoring through regular inspections by the SIRE programme (Walters et al. 2016)

Source: Adapted from Walters and Bailey (2013)

#### Box 7: Procurement initiatives effective in domestic supply chains in construction — building the London Olympic Park

The construction of the Olympic Park for the 2012 Olympic Games held in the United Kingdom was undertaken under the leadership of the Olympic Development Authority. It was a huge project but the safest Olympic build on record: the first Olympic site in the history of the Olympic Games to have been completed without a fatality. Moreover, the on-site accident frequency rate was 0.17 per 100,000 hours, well below the construction industry average of 0.55 and below the national, all-industry average of 0.21 (Waterman 2013).

Its success in terms of safety and health has been attributed to a number of factors, including the high profile of its activity and the political pressure on the safety record of the UK construction industry (Walters et al. 2012). Central to its success was the strategy adopted by the regulator. Rather than solely deploying its inspectorate in reactive inspections, the regulator sought high-level engagement with the Olympic Delivery Authority (ODA) and its principal contractors and developed an approach in which relations between different levels of contractors on the site was central. At the level of the ODA (the construction 'client'), safety and health across construction contractor firms was deemed to be the 'number one priority'. Consequently, high standards were required and maintained through a combination of strong leadership from the ODA and high levels of contractor involvement through the supply chain, along with worker engagement in the management of potential risks.

The UK construction sector has high levels of self-employment and fragmentation, with extensive subcontracting to many small firms at successive tiers of the supply chain. Small firms were claimed to constitute a principal focus of OSH initiatives in the construction of the Olympic Park. By capturing the safety and health lessons — as well as supply chain best practice — in building the park, a principal aim was to raise OSH standards in the vast numbers of small firms that operate in the construction sector.

Following consultation with the HSE, the ODA produced a statement informing those delivering the project of the client's aspirations. It outlined procedures for the procurement of designs, the appointment of contractors and the building of the new venues and infrastructure work in relation to safety, health and the environment. It indicated the requirements that it thought were appropriate and set out key performance indicators adopted by the board and forming part of the works instructions for every ODA construction contract.

The health, safety and environment (HS&E) standard outlined contractor responsibilities under the construction design and management (CDM) regulations and informed the contractors that a CDM integrator, appointed by the ODA/delivery partner, responsible for quality and safety assurance across the project, was to work with the CDM coordinators to produce a consistent approach across the separate projects. Using a formal scorecard system and an accident/investigation reporting arrangement, tier 1 contractors, designers and CDM coordinators were required to self-monitor and submit monthly reports to delivery partners on their efforts to achieve high HS&E standards, including among their contractors and subcontractors, as well as to record any accidents, incidents and significant near misses.

Research assessing the success of the approach generally found it worked remarkably well. Potential contractors and subcontractors deemed unable to meet the OSH standard criteria were screened out of the park to begin with. Those who were contracted were subject to extensive monitoring of their performance by the firms contracting them, to ensure their performance met the standards and matched the claims made for it in the procurement process, while the whole process was orchestrated by the ODA and its delivery partner in consultation with the regulatory agency. Data collected by researchers indicated clearly that within each of the subcontracting supply chains, safety had been managed effectively (James et al. 2015), thereby echoing other evidence from the construction industry internationally showing that such strategies can yield positive results (Deakin and Koukiadaki 2009). The institutional pressures leading to its success were a product of evolving regulatory and related political influences arising from longstanding criticisms of the construction industry's safety performance and the strategies of the regulator in the more effective deployment of its resources, which were focused on ensuring compliance at the apex of the supply chains. In effect, this process of response had led to a common understanding among these principal contractors, the delivery partner, the ODA and the regulator regarding what constituted 'good practice' in the management of construction projects, including in respect of how subcontractors should be managed. This 'good practice', the findings suggest, had acted to structure market, regulatory and organisational expectations regarding the competencies that contractors' and subcontractors' companies were expected to demonstrate and how, more generally, they were managed (James et al. 2015).

Voluntary actions to regulate working conditions, including OSH, in supply chains further include the VCA<sup>25</sup> in the Netherlands and similar schemes in construction and in the chemicals industry in Germany and elsewhere in Europe (Walters and James 2011). They also encompass the actions of the oil majors to influence the safety standards of independent tanker companies carrying their products as illustrated by Box 6, as well as other initiatives involving multiple stakeholders that are focused on regulating working conditions in global supply chains. It is important to note, however, that the existence of these apparently private regulatory schemes, which fit Parker and Nielsen's model of spontaneous compliance, is at the same time related to regulatory and other pressures. While they may not engage directly with the compliance promotion and enforcement strategies of public regulation, their development is often part of the same discourse. In the early 1990s, for example, major global clothing and sportswear companies, such as Nike and Gap, came under pressure from the emerging anti-sweatshop movement to improve labour standards in their supply chains. Since then, major disasters such as that at Rana Plaza (Bangladesh) have drawn attention to continuing poor labour conditions and have also generated pressures on buyers to take action. Trade unions, consumer groups and others involved in this movement have been able to situate their demands within the context of a discourse established by global standards — such as those developed by organisations such as the ILO, regulatory standards on OSH management already in place in advanced market economies and standards applying globally to particular industries such as those developed by the International Maritime Organisation (IMO) for merchant shipping.

<sup>25</sup> VCA is a Dutch acronym for *Veiligheid Checklist Aannemers*, which in English translates to the safety, health and environment checklist for contractors.

Moreover, national laws may not be explicit in requiring such action, but they are related to it to varying degrees, and their development may be influenced by it. For example, discourse around conditions of labour in global supply chains prompted the introduction of the French law on due diligence in supply chains in 2017, which is discussed later in this chapter. More recently, a similar law has been introduced in Germany. Other initiatives comprise multistakeholder initiatives, including sector-based international framework agreements concluded between global union federations and groups of multinationals (Croucher and Cotton 2011), and codes of practice negotiated between individual corporations and the trade unions involved.

In short, while there are examples of practices of spontaneous compliance, existing evidence, unfortunately, paints a variable but disappointing picture overall regarding its effectiveness, both generally (Locke 2013) and more narrowly in respect of safety and health. As EU-OSHA (2020a) has recently argued, four somewhat inter-related factors that help to explain these poor outcomes merit particular mention. One concerns the voluntary nature of the initiatives and doubts about the commercial willingness of buyers/controllers in supply chains to comply with and enforce their requirements and, more generally, to devote the resources needed to achieve positive vertical influences throughout their supply chains, without additional pressure from regulators to do so. A second factor relates to the superficiality and inadequacy of many of the voluntary systems of audit that are intended to monitor the implementation of these initiatives (Brown 2017; Locke 2013). A third factor centres on the limitations of the systems that could provide the lateral pressure required from domestic regulation to support compliance in many EU Member States (Distelhorst et al. 2015). The fourth explanation focuses attention on the failure of initiatives to constrain price competition from exerting a downwards pressure on labour costs (and conditions) among suppliers (James et al. 2019) — price dynamics that have been noted more generally to limit the capacity of CSR programmes to address poor labour conditions (see, for example, Brown 2017, 2019).

#### Box 8: Trade union involvement in determining supply chain OSH and labour standards

The growing presence of determinants of OSH practice and outcomes from outside the traditional employment relationship creates major challenges for trade unions in their approach to representing the interests of workers. Traditionally, collective bargaining was structured around this relationship and there was no such institutional connection between workplace trade unions and the buyers of the goods and services produced by workers. Nevertheless, when price and delivery requirements influence the conditions of safety and health under which goods are produced or services are delivered, the employer, as the traditional interlocuter of organised labour, is often unable to address these conditions effectively. In addition, when outsourcing of work formerly undertaken by directly employed labour occurs, previously strong workplace unions often find themselves with reduced presence and power, as non-unionised contractor workforces replace those formerly directly employed.

There are many strategies deployed by trade unions to address these challenges. Some examples of successful approaches can be found in the literature.

- Construction trade unions have successfully negotiated terms and conditions for the use of contractors during the building of London Heathrow Airport's Terminal Five (Deakin and Koukiadaki 2009).

- Regulatory requirements have been put in place, with rights for unions to appoint OSH representatives in multi-employer worksites in Italy. The workers' OSH representative at productive site level (*rappresentante dei lavoratori per la sicurezza del sito produttivo* — RLSSP) covers worksites such as ports, intermodal transportation centres, steel plants and construction sites with at least 30,000 'worker/days',<sup>26</sup> where production contexts create complex problems related mainly to the fragmented OSH management arrangements created by multiple employers operating on the same site.<sup>27</sup> RLSSPs are chosen from among the existing union safety representatives on the site. They take on a leadership and coordinating role for OSH representation on the site and have access to the senior management responsible for OSH at the site level. In addition, they have similar rights to other OSH representatives in relation to receiving information, training appropriate to their tasks and undertaking representative actions. Procedures for their appointment are established by the social partners' collective agreements (Walters et al. 2018).
- Some global trade union confederations such as IndustriALL have an influence on the requirements for safety and labour standards in global supply chains in the clothing and textiles industry (James et al. 2019).
- There are rights to union involvement in monitoring operation safety and health conditions in supply chains involving homeworking in the footwear and garment industry in Australia (Nossar et al. 2015).

It is likely that there are many more such initiatives in operation at more local and sector levels in different EU Member States that are undocumented in the literature. Indeed, in June 2020, in a press release concerning return to work after the disruption caused by COVID-19, the International Trade Union Confederation (ITUC 2020) general secretary said:

*... it was critical to harness the skills and knowledge of trade unions, citing agreements reached by UK unions with major companies that allow union health and safety representatives to provide advice and guidance through their supply chains.*

- The development of such approaches, however, is uneven and, while some examples are demonstrably effective, in many other situations such strategic responses have been more limited or have failed to occur altogether.

Source: Adapted from Walters et al. (2018).

## 5.5 Enforced compliance with OSH standards in supply chains

At first sight, the limited application of meaningful enforcement measures as discussed in Chapter 1 (and addressed by Parker and Nielsen's 'enforced compliance' questions in Table 1) to the situation described in this chapter is striking. Business actors who have outsourced their production or services, and instead manipulate the price paid for the delivery of these things from others, have largely removed themselves from the reach of conventional public regulation of labour and therefore from strong, deterrence-based enforcement measures. Abstracting themselves from any form of employment relationship has helped remove them from obligations traditionally found among the legal duties of employers. This 'legal distancing' means that they do not, for example, have to concern themselves with a relationship with the regulator covering the application of labour standards to the work involved in producing their goods or services, because, as noted in Chapter 1, traditional enforcement measures

<sup>26</sup> A calculation that is designed to take account of the total number of working days required to complete a construction project, and which is normally applied to complex sites with an average of 500 workers.

<sup>27</sup> For an analysis of the role of OSH representatives in complex sites, see Angelini (2017).

focus on the direct employer-employee relationship, and the outsourcing actors do not themselves directly employ the workers who deliver the goods or services. Nor do they need to worry about inspection, the possibility of the detection of violations in relation to such standards or the severity of consequent sanctions. Instead, the responsibility for these things is held by their suppliers. However, these suppliers themselves may in fact have little control over the business conditions that determine how the labour standards for which they are responsible are to be complied with.

However, Parker and Nielsen's questions are relevant because they aim to facilitate regulatory design (and reform) and serve to highlight the regulatory gap between traditional approaches to enforced compliance with OSH standards and the conditions in which they could apply to supply chain relations. They suggest a need for some structural alteration in the regulatory framework and in the strategies of regulators before these could be effectively combined with those of spontaneous compliance outlined in the previous section. This would provide a stronger and more useful framework to improve OSH experiences that are determined by supply chain relations.

Although the changes in the structure, organisation and control of work we have previously described may result in this regulatory gap, the situation is not entirely new. It has been a well-established feature in some sectors of production and service and among certain work structures for a considerable time. It is often in these situations that longstanding examples of efforts to apply forms of enforced compliance to supply chain regulation can be found. In the construction industry, for example, the duty of care owed to contractors and subcontractors by principal contractors, as well as by those who commission, design and contract building work undertaken on the temporary and the multi-employer worksites commonly found in the sector, has been long acknowledged. It has been addressed in regulatory frameworks supporting safety and health in the sector in some European countries since the 1970s. Such provisions were adopted and extended by EU directives in the 1980s and 1990s. The success with which they were delivered, however, remained in question and it was not until they were combined with more recent shifts in the strategies of regulators that clearer indications of their potential have become apparent (see Box 7).

Similar longstanding challenges are well established in the garment industry and in private road transport. The problems of securing compliance in relation to sweatshops, child labour and homeworking in the garment industry in back streets and other hard-to-reach situations have been known to regulators in high-income countries since Dickensian times — and not just in relation to outsourcing to poor countries (Nossar 1999). There are also longstanding challenges in the practice of self-employment in the trucking industry, the OSH consequences of which are well documented in the social science and regulatory literatures of countries such as the United States and Australia (see, for example, Belzer 2000; see also Nossar 2006). Regulatory frameworks to address such scenarios have been slower to develop than those to address the comparatively more straightforward situations of multi-employer worksites, subcontracting and bogus self-employment of the construction sector, but, as Box 9 indicates, they exist nowadays and in Australia, at least, there is some evidence of their effectiveness and what makes them so.

#### **Box 9: Australian approaches to regulating working conditions in supply chains**

Regulatory developments in Australia have, since the mid-1980s, sought to impose robust obligations on parties at the head of supply chains and on contractors within the chain (including to identify where work is being conducted) and sought to make sure that these obligations are enforced. The key provisions are the 'chain of responsibility' (CoR) approach, which emerged in the heavy vehicle freight industry in the late 1980s; the supply chain regulation model developed by Igor Nossar and other union officials, particularly in the textile, clothing and footwear and the transport industries, from the late 1990s;<sup>28</sup> and the general work health and safety (WHS) legislation introduced in most Australian jurisdictions from 2012.

<sup>28</sup> In addition to the approaches discussed in this chapter, see also the creation of the Australian federal Road Safety Remuneration Tribunal and the Federal Safety Commissioner's audited accreditation scheme covering federal government procurement of construction work over a certain value through supply chains.



### **Chain of responsibility**

The CoR model acknowledges that truck drivers' on-road behaviour will be influenced by the behaviour and demands of off-road parties. The Australian Heavy Vehicle National Law (HVNL), introduced in 2013, set out a 'chain of responsibility' for all parties involved in road transport work (including persons scheduling transport work and firms packing, loading and receiving goods), even if they had no direct role as a driver or transport operator. The aim of the CoR provisions is to make each party in the chain with the capacity to exercise control or influence over any transport task equally responsible for compliance with the road transport laws and, in particular, the fatigue management, speed limit, and mass, dimension and/or loading requirements. Parties subject to duties included employers, company directors, exporters/importers, primary producers, prime contractors, drivers or operators of a vehicle, consignors and consignees, schedulers (and their supervisors) of drivers, goods and passengers, and loaders and unloaders and their supervisors. In 2016, these provisions were recast as 'general duties', to make them more consistent with the general WHS laws (part 2, chapter 1A, of the HVNL). There is now a primary duty of care on 'each party in the chain of responsibility for a heavy vehicle' to 'ensure, so far as is reasonably practicable, the safety of the party's transport activities relating to the vehicle'. The HVNL fleshes out this duty by requiring each party, as far as is reasonably practicable, to eliminate (or minimise) public risks and to ensure that the party's conduct does not directly or indirectly cause or encourage a driver to contravene the HVNL or to exceed the speed limit, or another party in the chain of responsibility to contravene the law. The provisions also prohibit a person from asking, directing or requiring (directly or indirectly) the driver or a party in the CoR to do or not do something the person knows, or ought reasonably to know, would have the effect of causing the driver to exceed a speed limit or to drive a 'fatigue-regulated' heavy vehicle while impaired by fatigue, or to drive while in breach of the driver's work and rest hours option or in breach of another law to avoid driving while impaired by fatigue or while in breach of the driver's work and rest hours option.

### **Australian supply chain regulation model**

From June 1999, a new supply chain regulation (SCR) model emerged in New South Wales, originally designed to regulate textile, clothing and footwear supply chains (Nossar 1999, 2000), but suitable to regulate working conditions in supply chains in other industries and other jurisdictions.<sup>29</sup> The model recognises that business controllers exercise significant control over the production processes carried out below them in the supply chain and seeks to harness this power to require business controllers to ensure compliance with labour obligations (including OSH duties) owed to all workers in the supply chain. It aims to ensure that supply chains are transparent, that all business controllers and suppliers in the chain are accountable for their labour law obligations to all workers in the chain and that all workers' labour law rights and entitlements are enforceable.

First, the model proposes that the principal firms at the top of the supply chain be bound by legal obligations (imported into supply chain contracts by legislation or award provisions) giving regulatory agencies (the labour inspectorates and the relevant unions covering workers in the industry) full access, at regular intervals, to details of contracting arrangements across the entire supply chain. It requires these business controllers to proactively provide regular lists of suppliers, and it also enables the regulators to require disclosure of details of all supply contracts. It also requires business controllers to discipline suppliers by terminating their supply contracts and by refusing to enter into any further contracts if suppliers fail to remedy persistent breaches of any labour laws protecting workers, including OSH or workers' compensation legislation. These standardised provisions are designed to ensure transparency and traceability through all tiers of the supply chain and to pressure principal firms themselves (under the active oversight of regulators) to regulate working conditions wherever workers carry out work, even at overseas locations outside the regulating state altogether.

<sup>29</sup> Some of the elements of the model had already been implemented in a deed between the Textile, Clothing and Footwear Union of Australia and Target (the Target Deed).

Second, in addition to these ‘top down’ obligations imposed on the retailers and other parties at the top of the chain, the SCR model includes two ‘bottom up’ components. The first requires all workers working in supply chains to be deemed to be ‘employees’ in all labour legislation, so that all workers can benefit from labour law rights and entitlements. The second component proposes a new statutory recovery mechanism entitling supply chain workers to serve a claim for unpaid labour law entitlements upon any entity in the supply chain, not just the party immediately above the worker in the chain.<sup>30</sup>

As the brief outline of recent, current and likely future changes in the structure, organisation and control of work presented in Chapter 2 made clear, many situations analogous to the longstanding situations in these sectors are emerging (or re-emerging — see Quinlan 2014) in work more generally at the present time. Alongside this there is the increasingly widespread recognition that both traditional forms of regulation of labour conditions and the efforts to secure compliance with this regulation have limited traction in these scenarios and new approaches are needed. OSH relations in supply chains are among such approaches, and there is a fair degree of consensus among regulatory scholars that some fresh innovation in regulation and regulatory practices is required to address their challenge to traditional regulatory models. Some jurisdictions have also gone some way to address these implications, as seen, for example, in information disclosure provisions in efforts to regulate human trafficking child labour in modern slavery regulations in several countries, as well as in due diligence measures on human rights in supply chains, such as in Germany, France and the Netherlands, and in UN requirements on how enterprises address their ‘adverse human rights impacts’, including those on human and labour rights in their supply chains. Some examples are outlined in Box 10, which indicates how these include OSH standards but range far beyond them and the usual regulators involved with their enforcement. However, most of these provisions impose relatively anodyne disclosure obligations on organisations at the top of the supply chain, and the sanctions for non-compliance are non-existent or weak. To be fair, the Dutch, French and German duty of due diligence legislation imposes stronger duties, but, so far, only the Dutch provisions are supported by criminal sanctions for non-compliance.

As already indicated, there are signs that this is taking place in relation to some sectors and countries, but there is generally little evidence of the development of wider regulatory consideration of these challenges, at least as far as statutory measures addressing OSH are concerned. One national exception, however, is Australia, where the recently harmonised OSH legislation provides a model for more generic supply chain regulation that is not limited by sector. These recently harmonised ‘WHS Acts’ do not explicitly seek to regulate OSH in supply chains, but nevertheless incorporate both a chain of responsibility and the Australian supply chain regulatory principles detailed in Box 9.

#### Box 10: Home state supply chain regulation

In the past decade, national governments have developed measures to address issues arising from the use of supply chains — most notably modern slavery and child labour. LeBaron and Rühmkorf (2017) have developed a continuum of regulatory models to analyse these initiatives and to examine their strengths and weaknesses.

<sup>30</sup> To date, five state jurisdictions have implemented aspects of the SCR model: New South Wales in 2001, Victoria in 2003, both Queensland and South Australia in 2005, and the Commonwealth in March 2012. The model was also implemented in the cash-in-transit industry in New South Wales (‘Transport Industry — Cash-In-Transit — State Award 2002’) and in a cocktail of provisions designed to regulate working conditions, and especially WHS, in the heavy vehicle freight industry in New South Wales: ‘Occupational Health and Safety Amendment (Long Distance Truck Driver Fatigue) Regulation 2005’ (repealed 1 January 2012) and ‘Re Transport Industry — Mutual Responsibility for Road Safety (State) Award and Contract Determination’ (2006), NSWIRComm 328 (which established the ‘Transport Industry — Mutual Responsibility for Road Safety (State) Award’ (2006) and the ‘Transport Industry — Mutual Responsibility for Road Safety (State) Contract Determination’ (2006)).

On one end of the continuum are transparency measures, beginning with disclosure duties, requiring specified corporations to release information about their efforts to address, for example, human trafficking and modern slavery in their domestic or international supply chains.<sup>31</sup> The disclosures should be conspicuous on the corporation's website and in some instances should include verification audits, certification, internal accountability and training (the California Transparency in Supply Chains Act of 2010 (CTSCA)). The statutory provisions do not include remedial action for slavery or trafficking issues, although in some jurisdictions non-disclosure may be actionable through, for example, injunctive relief by the Attorney General in the case of the CTSCA or through civil proceedings brought by the Secretary of State in the case of the British Modern Slavery Act 2015 (MSA). Other transparency models require 'comply or explain' disclosure, requiring the publication of a statement about the organisation's approach to compliance in CSR matters; if the organisation does not pursue CSR policies, it must provide clear and reasoned explanations for not doing so.<sup>32</sup> No remedial action is specified for CSR offences or for non-compliance with disclosure duties.

On the other end of the continuum are requirements for human rights due diligence disclosures, which is a much stronger approach to regulation based on a financial review process (financial due diligence). The 'United Nations Guiding Principles on Business and Human Rights' defines human rights due diligence as a process to 'identify, prevent, mitigate and account for how [enterprises] address their adverse human rights impacts' (principle 17), including human and labour rights in their supply chains (principle 12). An example of due diligence disclosure laws is the US Dodd-Frank Wall Street Reform and Consumer Protection Act (2010),<sup>33</sup> introduced to require due diligence disclosure in relation to minerals originating in the Democratic Republic of the Congo and surrounding countries. It requires corporate entities to file an annual disclosure, make a public report and obtain an independent private sector audit. Corporate entities must exercise due diligence in finding the source and chain of custody of minerals. They are liable for false or misleading reports where related to the purchase or sale of a security.

A much more robust due diligence approach is to be found in legislation focusing on monitoring and enforcing supply chain due diligence. Here, the best example is the French law on the duty of oversight of parent companies and commissioning enterprises (the French Duty of Oversight Act),<sup>34</sup> enacted in 2017 in response to the Rana Plaza fire in Bangladesh. Similar provisions have subsequently been enacted in the Netherlands (Labour Due Diligence Law) and are under consideration in Germany (Human Rights Due Diligence Act). The French provisions have been designed to strengthen the responsibilities of large (over 5,000 staff employed in the head office and overseas subsidiaries) France-based parent companies for their subcontractors, with the aim being to protect all workers in the supply chain. These companies have an obligation to establish and implement a due diligence plan, including supply chain risk mapping, monitoring and mitigation, and risk verification (in consultation with unions). They must submit a publicly available annual implementation report. Companies are liable for large civil penalties if they do not comply with the due diligence obligations or the disclosure report obligations, and civil proceedings can be initiated by any interested person. Notably, weaknesses of this approach are that companies are not held liable for the actual failings of contractors, the penalties are civil rather than criminal and only very large companies are subject to the obligations.

The Australian WHS Acts include a range of provisions that impose a chain of responsibility on, and make accountable, all parties in the supply chain; bring all workers in the supply chain within their

<sup>31</sup> For example, the California Transparency in Supply Chains Act of 2010; the British Modern Slavery Act 2015, section 54; and the Modern Slavery Act 2018 (Australia).

<sup>32</sup> For example, EU Directive 2014/95/EU as regards the disclosure of non-financial and diversity information by certain large undertakings and groups, and the implementation of this directive in the Danish Financial Statements Act (amended 2015) and the French Ordinance on the Publication of Non-Financial Information (2017).

<sup>33</sup> See also EU Regulation 2017/821 on supply chain due diligence obligations for European Union importers of tin, tantalum and tungsten, their ores, and gold originating from conflict-affected and high-risk areas.

<sup>34</sup> French title: Loi n° 2017-399 du 27 mars 2017 relative au devoir de vigilance des sociétés mères et des entreprises donneuses d'ordre.

protective provisions; potentially enable tracking of who is carrying out the work; and provide inspectorates, unions and safety and health representatives with significant inspection and enforcement powers (Johnstone 2017, 2019). These acts are sufficiently innovative and illustrative of the principles developed in the discussion in this chapter generally to warrant the further description undertaken in the following paragraphs.

The pivotal statutory duty in the WHS Acts, the ‘primary duty of care’ (section 19), is not imposed on an employer, but expressly on the person conducting a business or undertaking (PCBU), whether an employer, a principal contractor at the top of a supply chain, other parties lower in the chain or in some other capacity, and whether on their own or with others (WHS Acts, section 5). This duty to ensure safety and health so far as is reasonably practicable is owed to workers, who are persons who carry out work ‘in any capacity’ for a PCBU and include not just employees, but also contractors, subcontractors, employees of contractors, labour hire employees and outworkers. The duty is owed to workers who are ‘engaged’, ‘caused to be engaged’, ‘influenced’ or ‘directed’ by the PCBU ‘while they are at work in the business or undertaking’ — there does not have to be a direct contractual relationship between the PCBU and the worker. The only limiter is that the PCBU must ensure the safety and health of workers ‘while the workers are at work in the business or undertaking’ (see Johnstone 2019).

If, for some reason, the person carrying out the work in a supply chain, or other work arrangement, does not fall within this duty, the WHS Acts, section 19(2), indicate that they are owed it in a corresponding ‘duty to others’, which requires the PCBU to ensure that persons who are not workers are not ‘put at risk’ from work carried out as part of the conduct of the business or undertaking.

The WHS Acts, sections 14-16, make it clear that duties — including the primary duty — cannot be delegated. A lead business cannot shift liability, responsibility or risk onto smaller businesses or workers: a worker at the end of a chain of contractual arrangements will be owed the primary duty by each PCBU in the chain who can be shown to have engaged, caused the engagement of, influenced or directed the worker.

The second key provision in the WHS Acts is the duty owed by each ‘officer’ of each PCBU to ‘exercise due diligence to ensure that’ the PCBU ‘complies with’ a duty or obligation that the PCBU owes under the WHS Acts (section 27). This is a positive and proactive duty in that an officer of a PCBU can breach their duty whether or not the PCBU has complied with their obligations. The due diligence duty is far reaching and requires each company secretary, director and senior manager of the lead business and each PCBU in the business arrangement to have extensive knowledge of the supply chain arrangements and the OSH risks faced by all workers within those arrangements, and must ensure that the PCBU’s systematic approach to OSH management is well designed and properly resourced (see WHS Acts section 27(5); see also Johnstone and Tooma 2012).

The third key provision in the WHS Acts (section 46) establishes a ‘horizontal’ duty on each person with a duty, so far as is reasonably practicable, to ‘consult, co-operate and co-ordinate activities with all other persons who have a duty in relation to the same matter’. This requires all PCBUs in supply chains to find out who else is carrying out work and to work together with other PCBUs in a cooperative and coordinated way to eliminate or minimise risks so far as is reasonably practicable.

The fourth key provision establishes a ‘vertical’ duty on a PCBU to, so far as is reasonably practicable, consult with workers (or their safety and health representative) who carry out work for the business or undertaking and who are, or are likely to be, directly affected by a WHS matter. Section 47 of the WHS Acts requires each PCBU to consult all the workers below them in the supply chain to the extent that consultation can be suitably accomplished in the circumstances, and section 46 requires them to consult, cooperate and coordinate with other PCBUs in doing so.

The fifth set of key provisions enables all workers (including outworkers) to be part of a work group electing a safety and health representative and to refuse dangerous work. An elected safety and health representative has extensive powers to monitor PCBU compliance with the provisions set out above, and these powers include the power to issue a provisional improvement notice if the representative has the reasonable belief that a PCBU is not complying with those provisions and to direct that work to cease if it causes a serious, imminent and immediate risk to workers (see part 5 of the WHS Acts).

The sixth key provision in the WHS Acts includes union entry provisions enabling WHS permit holders to investigate suspected contraventions of the acts (see part 7 of the WHS Acts).

The Australian approach is therefore very much in keeping with the conclusions of Vosko and the Closing of the Enforcement Gap Research Group's (2020) recent comprehensive analysis of employment standards and the protection of people in precarious jobs, in which they write:

*Traditionally the direct employer was the entity liable for complying with employment standards. In the light of the growth of fissuring, whereby a range of entities can carry out employer-like functions, it is inadequate to impose liabilities on direct employers narrowly conceived. A large body of literature suggests that the expansion of liabilities across the supply chain leads to better outcomes for complainants (Rawling 2006; Weil 2010; Hyde 2012; Hardy and Howe 2015).*

Our own analysis of the literature relevant to supporting compliance with OSH standards in supply chains arrives at broadly the same conclusions. The evidence indicates that voluntary forms of supply chain leverage are possible when powerful parties in supply relations perceive them to be important to their own interests and when their resources and the nature of relations and dependencies in the chain allow the downwards application of influence to determine the compliance of others with the desired actions. However, there is little evidence of such spontaneous compliance in the absence of further horizontal determinants. That is, supply chains do not exist in a contextual vacuum. They occupy space in increasingly complex matrices of regulatory, business, commercial, social and labour relations environments. Elements of these environments may act as powerful stimulants of and support for actions and outcomes on OSH within supply chains. Thus, the role of consumers, trade unions, OSH professional bodies and OSH regulators, as well as regulation and public opinion more widely may be important in instigating and determining the actions of parties within supply chains. Indeed, a feature common to most successful supply chain initiatives to improve compliance with good OSH practice, reviewed in the present chapter, is the multiplicity of coordinated actors and the actions they undertake. Therefore, it seems that, in practice, spontaneous and enforced elements of the compliance factors identified in the Parker-Nielsen model are likely to work best when they operate in concert to determine the existence, extent and effectiveness of supply chain leverage to promote better safety and health arrangements. It is this coordinated action, operating vertically and laterally, that appears to be crucial to the successful operation and sustainability of supply chain initiatives. Such conclusions are also in line with the findings of analysis of other forms of regulation of OSH — such as in relation to MSEs (EU-OSHA 2018b). This is so not only in relation to OSH, but also concerning employment and labour standards generally (Vosko and the Closing of the Enforcement Gap Research Group 2020; Weil 2014), as well as in relation to allied fields such as those of environmental regulation (Short and Toffel 2010). Moreover, what all these analyses suggest is that such concerted actions are more likely to be effective when framed by appropriate regulatory standards that are relevant to the current structure, organisation and control of work — such as presented in the example of the Australian model (see Box 9).

## 5.6 Conclusions and questions for further research

The overarching review in this chapter has served to demonstrate the importance of supply chain relations for OSH. It has demonstrated that their current significance is strongly linked not only to changes that have taken place in the structure, organisation and control of work and business, both within the EU and further afield, but also to the resultant increased porosity of the boundaries of work relations to third party influence. It has thus questioned the continued appropriateness of the focus of labour law on the employment relationship as the sole basis of regulating to ensure the protection of workers and has noted progressive efforts within the EU and elsewhere to address this with changes to the focus of regulatory duties and in new approaches to achieving compliance.

Despite the evidence of these changes allowing some leverage in the relations of supply to influence support for compliance and better OSH practice in some countries, sectors and business contexts, the literature reviewed in this chapter indicates that overall progress in these respects is limited. For the most part, the effects of supply chain relations on OSH remain quite negative. That is, the quite extensive literature on OSH outcomes associated with supply chain relations strongly indicates that the influence of these structures leads to poor OSH outcomes. This is especially so among lower tier suppliers whose businesses are financially vulnerable and who have neither the will nor the capacity to invest adequately



in their arrangements for the safety and health of their workers. The literature reviewed in this chapter suggests that owners and managers in such firms also feel themselves obliged to cut corners on OSH to meet the price and delivery requirements imposed upon them by more powerful buyers of their products or services.

Examples in the literature suggest that measures to remedy this situation are most likely to be effective when broad regulatory standards and compliance promotion and enforcement strategies combine to stimulate and support both vertical and horizontal pressures on firms in supply chains, thus ensuring OSH considerations are prominent in the demands placed on suppliers, and that suppliers are themselves sufficiently resourced and motivated to deliver them. These examples suggest that coordinated actions of a multiplicity of actors and processes are likely to be most effective.

Arising from this, another major finding evident in the literature is that only rarely does it seem that market and business considerations alone are sufficient to motivate supply chain actors to foreground safeguarding of workers in their dealings with one another. Therefore, to provide the necessary incentives and capacities to do so, research suggests the need for:

- legally binding vertical obligations on buyers at the head of supply chains;
- legal obligations on suppliers in the chain to inform the buyer of the locations of workers carrying out the work, and the conditions under which they are working;
- the creation of arrangements for monitoring compliance with these obligations that involve competent auditors/inspectors who are financially and organisationally independent of buyers;
- imposing requirements on buyers regarding such matters as the prices to be paid to suppliers and the length and security of supply contracts, with these requirements acting to ameliorate competitive market dynamics that undermine the maintenance of decent labour standards within supply chains;
- independent involvement of the representatives of affected workers in the drafting and horizontal oversight of initiatives.

These are, however, quite challenging requirements and the review in this chapter shows that there are only a limited number of cases in which some or all of them have been adopted and are effective. This begs a number of questions for further research.

In addition, and related to this, two further significant findings emerge from the review in this chapter. One concerns the interaction between the different types of support for securing compliance discussed in this report. Once again, findings demonstrate that only very rarely do different types of support act in isolation; on the contrary, for the most part, they do so in concert, and a key to their success is found in the effectiveness of their coordination. Thus, for example, in effecting leverage for better OSH in supply chains, social reporting, economic and business incentives, and the representation of worker and consumer interests can be seen to be operating in conjunction with innovative approaches to regulatory inspection in a regulatory mix that is overseen by a framework of broad legal duties (such as is presented in the Australian case — see Box 90). This approach ensures that responsibilities for the protection of workers in supply chains rest with the actors who have the power to control and benefit from them. Here again, what stimulates and sustains the concerted actions of the various different types of support for compliance remains a key question for further research and analysis.

The second significant element to emerge from this mix concerns leadership and coordination. Again, the evidence would suggest that neither public regulation nor the market can serve to ensure the compliance of the business actors involved in these scenarios. The most successful schemes, illustrated by the examples in the boxes in this chapter, have been orchestrated by key actors often external to the supply chain in question. Thus, the success of sector-based initiatives, such as those in construction and clothing, as well as in the food industry, is often linked to the innovative compliance promotion and enforcement strategies used by regulators (see Chapter 7 of this literature review) and to innovation in the collective bargaining approaches of trade unions. It is further linked to collaboration taking place between private and public regulatory actors situated in different parts of the world to achieve more coordinated influence. Such concerted actions, for example, have an impact on the business strategies of global corporations to ensure the adoption of fair labour standards by suppliers in poor countries that produce the goods sold by the global corporations in rich countries. In all such initiatives, inspired

leadership and coordinated actions play a significant role in their success. However, who provides this leadership and in what circumstances they succeed in coordinating the engagement of a multiplicity of other actors and processes again remains a subject for further, more detailed, investigation.

There are, therefore, questions that still need to be addressed. It is often unclear what the key factors are in these mixes that promote their success, what factors provide capacities for coordinated actions and what might determine their transferability and sustainability. While it is relatively straightforward to understand what lies behind the short-term success of a specific initiative, it is considerably more difficult to identify what is needed to sustain it and what principles might support its application in supply chains or similar situations elsewhere.

Related to these questions are further questions concerning the effects of national context. A feature of the literature reviewed in the present chapter is the span of its domestic and global focus. That is, there are research studies that usefully address ‘what works’ in relation to leveraging OSH in domestic supply chains, and a largely separate body of literature addressing leveraging labour standards in global supply chains. As already indicated, both bodies of literature deal with the vertical and horizontal determinants of the effectiveness of intervention in supply chains to improve conditions along them and at their ends. Studies implicitly acknowledge the role of sector and national contexts in promoting or limiting the effectiveness of these determinants, but seldom compare ‘what works’ in one scenario with that in another. However, it is very clear that there are huge differences between countries in relation to practising and resourcing OSH regulation and support, as well as in the wider social economic, regulatory and political contexts in which this takes place. Such differences inevitably help determine what is possible in interventions in supply chains to support compliance and better OSH practice, as well as in the transfer and sustainability of better practice. While between rich and poor countries globally and between some sectors many of these differences are obvious, the differences are less obvious among the EU Member States. Nevertheless, differences exist here too and, as we argued in Chapter 2, again they are likely to have some influence on practices and outcomes in relation to OSH. This is no less so in relation to the role of supply chain relations in determining outcomes than in other aspects of OSH. However, within the EU, there has been very little comparative study of such influences. We will have reason to return to these questions in the final chapter of this report, where these aspects are integrated with similar concerns emerging from the other areas of support for securing compliance and better OSH practice that have been the focus of this review.

The evidence reviewed in this chapter points to the critical role of regulatory agencies as leaders and coordinators of boundary-spanning activities leveraging a greater focus on OSH consequences of supply chain relations. While we have highlighted approaches to significantly expanding the scope of regulatory frameworks to address the consequences of supply chains in the present chapter — for instance in the Australian example outlined (see Box 9) — one weakness of the Australian system is that the various WHS regulatory inspectorates operating at state levels have not developed an enforcement approach to fully utilise the strengths of the provisions in the WHS Acts. In the following chapter, which examines innovative practices among regulatory agencies charged with securing compliance, the nature of these interventions in supply chains and the strategies adopted by regulatory agencies to deliver them effectively will be explored further in a discussion of what might constitute appropriate and effective approaches to their enforcement.

Finally, as we noted at the start of this chapter, the impact of the COVID-19 pandemic globally has indicated something of the vulnerability of business models using long and complex global supply chains and based on lean manufacturing principles. Recent literature has reported that the effects of the pandemic have been felt at the ends of global supply chains, with massive numbers of workers in sectors such as the garment industry being left without work as a result of cancelled orders as a result of the pandemic (Gereffi 2020; O’Leary 2020). For many such workers, there is no adequate compensation for loss of income and they and their families face the prospect of serious hardship as a result (Majumdar et al. 2020).

Evidence on workplace exposures to and the transmission of COVID-19 also suggests that both are significantly higher in work and workplaces situated at the ends of supply chains and among disadvantaged and vulnerable workers who are disproportionately employed in these situations (Durand-Moreau et al. 2020; Osoimehin and Popov 2020; Watterson 2020). These are not coincidences. Their

occurrence is one of the consequences of the combination of reduced social and health protection and market-based economic policies that have been adopted in national economies all over the world in recent decades. However, in some cases, nevertheless, revelations concerning poor working conditions brought about by the reporting of clusters of COVID-19 have led to a rapid regulatory response such as in the meat industry in Germany.

Nevertheless, the experience has led to calls for the development of stronger, smarter and more diverse supply chains to ensure greater resilience in support of a lasting economic recovery. There has been speculation that single sourcing models of supply, driven by cost control, may give way to more diverse and locally focused supply chains in the future (Financial Times 2020; O’Leary 2020; Shih 2020). Such developments may offer further opportunities to use supply chain relations to improve support for OSH arrangements (Gereffi 2020). However, opinions are divided on the most effective future strategies to improve resilience (Miroudot 2020). Furthermore, there has been little mention of OSH issues in this literature (see, for example, Verma and Gustafsson 2020). As Haghani et al. (2020) point out, the rapidly proliferating safety science literature concerning COVID-19 has also paid scant attention to the implications of supply chain reconfiguration for support for securing compliance and better OSH practices and outcomes either in relation to the current COVID-19 crisis or for the future. There is, therefore, a rich potential for future research on what works for whom and in what circumstances in achieving leverage for better OSH compliance in supply chain relations.

## Chapter 6: Prevention services

The Framework Directive identifies a central role for preventive services in the support for better OSH practice in EU Member States. Article 7 of the directive requires employers to designate one or more workers to carry out activities related to the protection and prevention of occupational risks for the undertaking and/or establishment (Article 7.1). If such protective and preventive measures cannot be organised for lack of competent personnel in the undertaking/establishment, Article 7.2 states that the employer must enlist competent external services or persons. In all cases:

- the workers designated must have the necessary capabilities and the necessary means;
- the external services or persons consulted must have the necessary aptitudes and the necessary personal and professional means;
- the workers designated and the external services or persons consulted must be sufficient in number to deal with the organisation of protective and preventive measures, considering the size of the enterprise, the hazards to which the workers are exposed and the distribution of these hazards throughout the entire enterprise.

When it was first adopted, a key aim of the Framework Directive was to achieve a harmonised approach in managing the risks associated with work and in preventing harm to workers in the EU Member States, where a variety of systems prevailed. Nowhere was this variety more apparent than in relation to requirements for supporting duty holders in managing such risks competently. Before the adoption of the directive, studies had indicated that there were a host of different approaches to providing such support among the Member States, each largely determined by the wider social, professional economic and historical contexts in which they had developed and, in many cases, these approaches were deeply embedded within the national systems in which they had evolved (Vogel 1994; Walters 1997; Westerholm 1999). The extent to which the Framework Directive has been able to exert a harmonising effect on these quite complex and diverse systems is itself problematic and, more than 20 years later, there is evidence that much of this underlying diversity remains. Furthermore, structural and organisational changes in work and its role in the economies of EU Member States, along with the inclusion of further countries and models of preventive services into the EU, have added still further to an already complicated picture. Addressing a superficially simple question such as ‘what is the role of prevention services in supporting compliance and better OSH practice in EU Member States?’ is, as a result, not quite so straightforward as it might at first appear.

### 6.1 Aims

The aims of the present chapter are threefold.

First, this chapter seeks to define what is meant by ‘prevention services’, as there are a host of institutions providing prevention services in the EU and elsewhere that operate in different ways. It briefly reviews published evidence concerning relevant elements of the development, functions and effectiveness of these services in different EU Member States. It draws attention to key accounts and identifies gaps in this knowledge. Its focus is on the main types of arrangements in place for providing external OSH prevention services, how they are situated in wider national OSH systems and the specific economic and regulatory contexts that the literature suggests may affect the nature, distribution and use of such services.

The second aim of the chapter follows on from the first. As the differences between the roles of prevention services in different Member States are largely a function of differences between the Member States’ histories of social welfare systems and political economies, it becomes necessary to take account of the influence of context, and explore what the literature has to say about why particular approaches to prevention services have developed in some Member States but not in others. This is clearly important in assessing the support for securing compliance that such services might provide.

Third, while the chapter examines previous research concerning the nature and effectiveness of available services in supporting prevention in OSH, in doing so it also explores structural determinants of the uptake of these services and reflects on their relevance to the prevention needs of workers who are affected by the changes taking place in the present economies of the EU. It explores the

consequences of change by considering the extent to which prevention services have the capacity to support the needs of all workers and by identifying changes that have taken place in the ways in which they are used in practice and in the extent to which they can be said to continue to function primarily as preventive services.

Drawing these strands of our inquiry together is the final aim of this chapter. In so doing, it considers the current and probable future relationship between the services designed to support OSH prevention within enterprises and the elements of support for securing compliance and better OSH practice in EU Member States that are the subject of other chapters in this report. The key question here concerns the nature of possible roles and relations in the orchestration of this support in national OSH systems. This is argued to be critical to the development of future support, such as in relation to workers and their employers in MSEs (see EU-OSHA 2018b).

The chapter acknowledges that much of the research on the forms and functions of prevention services is now quite old and generally does not take account of the impact on these services of changes in the structure, organisation and control of work and employment that are so important in the economies of the EU at the present time. It therefore argues that the current contexts in which these support services operate have significant implications for their role and for the extent to which, as evidence suggests, they are useful in relation to the safety and health of, for example, workers in MSEs, those in insecure or precarious employment, or those whose work forms part of the ‘gig economy’ or whose employment conditions are determined by low-road business survival strategies. It concludes by considering possible synergies between these forms of support for compliance and better OSH practice and social reporting, economic incentives, interventions in supply chains, economic incentives and innovative inspection, compliance promotion and enforcement strategies, which are the subjects of other chapters. Gaps in the knowledge base are identified, allowing some exploration of the possible role of further empirical research in contributing to filling them.

Finally, as elsewhere in this literature review and in the final report, it is necessary to have some regard for the implications of the COVID-19 pandemic. The point has already been made in this review that, by definition, our search has focused on literature that addresses past experience. In the case of prevention services, as we have just acknowledged, the age of much of this material begs questions concerning its continuing relevance to the present time. This is obviously even more the case in relation to the implications of COVID-19 for the role of prevention services in supporting compliance and better practice in the future. While accounts of the response of such services to the pandemic are beginning to emerge in current literature, they are relatively few and usually are quite narrowly focused on particular circumstances. We will include reference to some of these sources later in this chapter but, as elsewhere, our reflections on the implications of the pandemic for future research, policy and practice are, perforce, somewhat speculative.

## 6.2 Form and function of prevention services — historical perspectives

In this chapter, as with the report generally, the term ‘prevention services’ is used to describe the qualified professional support provided to those responsible for businesses and undertakings who have duties to assess and control the risks to the safety and health of their workers in line with the various statutory requirements of EU Member States. That is, this definition encompasses a range of institutional provision embracing the form and functions of private and public occupational health and hygiene services, services addressing ergonomic or safety engineering, services integrating these disciplines, group services, private consultancy services that support workplace risk assessment and OSH management, and individual consultants offering similar services. Because the report is concerned with an overarching review of several specific forms of institutional support for securing compliance that operate from outside enterprises, the chapter primarily deals with external prevention services, rather than with those that large organisations set up for themselves within their internal structure. However, as is evident in what follows, sometimes this difference is rather arbitrary and it is not always possible to entirely separate their effects.

In the literature reviewed in this chapter, prevention services are generally taken to be services in which specialist professions predominate. That is, the literature is heavily biased towards an understanding of



prevention services in which occupational medicine, hygiene and related specialisms are in evidence. To a lesser extent it also refers to services in which safety engineering, ergonomics, health promotion and occupational psychology are also present. Part of the reason for this is that the relevant literature is to be found in academic and professional journals addressing the interests of these professions. In most cases, the roles of these disciplines in prevention are discussed as specialisms rather than as elements of the generalist professional skills of OSH practitioners. However, in practice, it would seem that such generalist approaches are much in evidence and growing in importance in providing competent advice on OSH management to duty holders. Occasionally in the literature, prevention services are also conflated with support for rehabilitation and return to work, while, in some countries, they have been further associated with support for absence management. Thus, while the core focus of the literature remains professional practice in support of preventive OSH, in recent times these other elements can be seen to be also establishing a presence. We will have cause to return to the implications of this for future support for compliance related to these services later in the chapter.

Reviews of the form, extent, role and effects of occupational health services have featured in the occupational health literature over quite a long period and establish several key points. For example, they demonstrate that the historical development of prevention services in many advanced market economies, both within and beyond Europe, is associated with industrialisation and particularly with large enterprises in heavy industry, mineral extraction and manufacturing, as well as with nationalised undertakings and the public sector (see, for example, Elling 1986; Melling 2005; Vogel 1994, 1998; Weindling 1985). They suggest that determinants of this development have varied according to the structure of the economies of different countries, their political orientations, the perceptions of risks associated with different occupational exposures, and the capacity of organised labour, employers and trade bodies to influence policies on all these matters (Abrams 2001; Hämäläinen and Lehtinen 2001; Rantanen et al. 2017). Such reviews also show, to some extent, how support for occupational health has fared in public policies during the development of welfare capitalism and subsequently (Walters 1996), and how these wider policy and political orientations help to explain some of the differences seen in the character of national provisions between Member States (Walters 1997).

In this respect, it is important to be clear that not only did these services play a part in the institutional history of OSH, but they also contributed to the history of knowledge production concerning its scientific, technical and engineering aspects and in the development of the professions associated with them (Quinlan 1997). Occupational medicine, nursing, safety, hygiene, toxicology, ergonomics and so on have all made scientific, professional and practical contributions to preventing injuries, ill health and fatalities arising from work in part through these institutions, both within and outside enterprises. As well as identifying the nature of the risks in the industries in which they developed, the same risks helped define the character of these prevention services, whose shape was also then further determined by the relative power of their constituent professions. Thus, for example, the form taken by prevention services in countries such as France was particularly influenced by the development and domination of occupational medicine, while, in other countries such as Germany, a strong bifurcation between medical and engineering aspects was evident and, in others still, a more technical approach sought expression through occupational hygiene, ergonomics and sometimes safety engineering and occupational psychology. In Nordic countries especially, an emergent ‘ideal model’ of prevention services was advocated in which multidisciplinary services would support a more holistic scientific understanding of the work environment. Although a medical approach might be dominant, this approach is supplemented with professional support to develop more technical prevention such as exposure control, adjusting the workplaces to the worker to prevent musculoskeletal disorders or even support to improve the psychosocial safety and health at the workplace.

Latterly, however, possibly under the influence of changes in the structure, organisation and control of work, as well as the increased pressures of marketisation, there seems to have been a degree of convergence evident in what is expected of these services in advanced market economies more generally. A feature of these services that has emerged at this time is found in the spread of more generalist OSH practitioners whose functions embrace advising on the delivery of appropriate corporate responsibilities for OSH management (Hale 2019; Hale and Ytrehus 2004; Hasle et al. 2014; Walters 2007a).

Interchanges between prevention services and sites of knowledge creation on OSH, such as universities, state research institutions, health services and so on, were further determinants of their development. The balance of theoretical and practical applications that evolved in this relationship also served to inform the growth of current views of work, health, safety and well-being. In turn, this has helped to inform and drive strategies to achieve both spontaneous and enforced compliance and better practices in OSH across all enterprises, sectors and EU Member States (Abrams 2001; Baker et al. 2020; Borys 2014). At the same time, a more generalist OSH professional field has developed, with a strong focus on communication and dissemination of knowledge, experiences and research. Most Member States have governmental or tripartite bodies that produce and distribute research-based knowledge in the form of recommendations, guidelines, tools, websites, education, training and so on to a broad target audience of companies, consultants and OSH professionals on all levels. EU-OSHA likewise disseminates research-based knowledge to a broad EU audience. OSH professionals at the company level, as well as in external services, thus have access to this growing body of specialist knowledge, practical solutions, legal requirements, best practice cases and so on. In this respect, they are well placed to act as boundary-spanning agents between these bodies of knowledge and the employers, managers and workers they are intended to influence (Pryor et al. 2019).

The contribution of prevention services to compliance has therefore both direct and indirect elements and the significance of their role cannot be properly appraised without taking some cognisance of this. It is too simplistic to evaluate their current role in support of securing compliance as simply that of the everyday business of direct intervention in enterprises with assessments and guidance to improve OSH arrangements. While this is obviously important, and the bread and butter work of prevention services, beyond this, the indirect contribution of prevention services to securing compliance through the knowledge they generate may take many other forms and contribute to the discourse and policies of a range of other actors involved in the strategic development of compliance strategies. This is obviously an important consideration when societies are faced with public health crises such as the COVID-19 pandemic. As commentary in the recent literature has made very clear, a substantial body of knowledge concerning prevention practice that has evolved in relation to occupational exposures is relevant, especially in relation to the role of the workplace as a potential source of disease transmission. Unfortunately, in some countries, the success with which this knowledge has made a timely transition into preventive actions orchestrated by the public health authorities charged with this task has been less than ideal (see, for example, O'Neil 2020; Watterson 2020).

Returning to the direct interventions of prevention services, a review of the literature indicates that, while the development of the character of prevention services has been strongly influenced by national and sector contexts, as well as by the power wielded by dominant professional groups, by the time the Framework Directive was adopted, the ideal of a service integrating the separate specialisms of OSH to address the multiplicity of workplace risks and to prevent harm was well established. Exemplified by the integrated approach seen in the 'preferred model' that was adopted in some European Member States such as the Nordic countries and the Netherlands, as well as in the internal arrangements made by many large companies to provide support for OSH, this approach has remained prominent in the literature addressing theoretical considerations for supporting prevention. However, as documented in the following sections, its use in practice remains limited.

### 6.3 Models of prevention service provision in the EU

Evaluations of the functions of prevention services in the literature are not especially systematic or comprehensive. More detailed empirical research has tended to focus on services in countries in which the integrated model is well developed (see, for example, Savinainen and Oksa 2011 on Finland). A review of research in Europe in this field in 1999 found relatively few studies, and most were more descriptive than evaluative, with poor quality methods (Hulshof et al. 1999). A US review around the same time reported similar findings and argued that research was needed to identify, develop and validate prevention service-specific measures for evaluation, and to test the utility of this information in improving OSH (Pransky et al. 2001). Since that time there have been further studies, but little substantial change in their overall quality or conclusions.

A profile of the services used in a multinational company indicated that inter-enterprise, multidisciplinary prevention services spent most of their time on the surveillance of workers' health in relation to work

and on preventive activities in the working environment, with little time spent on curative services for individual workers, while services made up of individual physicians and nurses generally spent much of their time on treatment (Bratveit et al. 2001). A greater focus on quality assurance and quality certification or accreditation is evident in the literature of the last two decades. For example, research examining the provision of a system of certification defining the quality of prevention services in the Netherlands found there were significant problems associated with the over-bureaucratisation of its requirements (Marcelissen and Weel 2002). Quality assurance has also featured in a number of papers describing developments in Poland since the 1990s, although they are more descriptive than analytical (see, for example, Indulski et al. 1998). More recently, in Norway, Lie and Bjørnstad (2015) evaluated the Norwegian accreditation system for prevention services, finding that the system was accepted by prevention services and suggesting that respondents reported that it had improved the quality of their OSH and of OSH in Norway generally.

Concerns with the cost-effectiveness of services have also been prominent in more recent evaluations, which may be a function of the increased marketisation of services, a trend that we will return to later in this chapter (see, for example, Kankaanpää et al. 2008, 2009; Uegaki et al. 2010).

Overall, these examples indicate a strand of literature in which evaluations, while possibly useful in informing modifications to local provisions, are not especially informative concerning either the comparability of prevention service activities between Member States or their contribution to supporting compliance or better OSH practice. Indeed, taking account of the length of time such services have existed and the extent to which they feature in EU policy discourse, both in relation to regulatory policies on OSH that led to the development of the Framework Directive and more widely in relation to the wider reforms of models of healthcare provision, it is perhaps surprising how little comparative empirical research on their functions and effects has been published.

At the same time, in recent years, another strand of the critical analysis of the role of these services points out that infrastructures, and institutional and human resources for the implementation of prevention service strategies, remain insufficient in the majority of countries. Content coverage and the comprehensiveness of services, including their capacity to address multiple risk factors, remain largely incomplete due to a lack of infrastructure and a shortage of multi-professional human resources (Rantanen et al. 2017). The same authors indicate that overall the coverage of the working population estimated by such studies is low, with only a quarter of the total employed population included in their study estimated to be covered by any form of prevention service. This is typical of other estimates too. For example, a review undertaken by the European Trade Union Institute (ETUI) in 2014 estimated that the coverage of workers in different EU Member States varied between 20 % and 100 %. The same report further qualifies this estimate by indicating that a significant proportion of the cover was in fact by services without appropriate professional competencies (ETUI 2014). Moreover, there is agreement among such studies that workers in MSEs and those in contingent forms of work are least well served.

However, at the same time, as key informants in the present study suggested, an impression of significant growth among some forms of OSH prevention services and practitioners is widely held in some countries. This is sometimes combined with a perception of them as demanding increasingly restrictive rule following from both businesses and workers, and leads in some cases to their inclusion in the representation of OSH as a ‘burden on business’ (see, for example, the analysis of Almond and Esbester’s 2019 study of the United Kingdom in this respect).

These apparently conflicting views strongly indicate a need for more robust empirical research with both quantitative and qualitative elements to gain a more informed and up-to-date understanding of the extent and role of prevention services in EU Member States.

## 6.4 Typologies of national provision of OSH preventive services in the EU

Recent reviews have proposed typologies to explain the forms and activities of external OSH prevention services. For example, the Scandinavian literature (see, for example, Hasle et al. 2017a; Molander et al. 2018) suggests several models, such as those illustrated in Box 11. These models highlight the differences between state-, insurance- and market-based approaches, and they distinguish a fourth

approach, in which agreements between trade unions and employers and their organisations may be an important feature. While such typologies may be helpful in organising the discussion of the political orientations behind types of preventive services in some Member States, they are of limited use in capturing the full extent of variation in the forms and orientation of prevention services operating in EU Member States or the influences that determine them. They add little to the findings reviewed in the previous section concerning the understanding of the operation of these services. They are, however, somewhat more helpful in indicating structural influences on the development of these services and their possible roles in supporting compliance.

#### Box 11: Models of preventive service provision in the EU

##### **Law based**

Regulatory provisions require enterprises to affiliate with an external service. In this way, the state may define, among other things, the structure and competencies of the service, including the ongoing development of these aspects through training; who is to have access to the service and how and to what extent it is resourced; and the extent of the coverage of the service. This model was dominant in Nordic countries until the turn of the millennium. It was also the basis of a number of approaches in former controlled economies of eastern Europe prior to the demise of these regimes. Its strength is that it allows the state to give priority to the problems demonstrated, through evidence, to be costly for society. The compulsory nature of the employers' affiliation to a service provider helps to ensure that employers make some use of the resources the service provider offers.

##### **Insurance based**

The service is paid for through mandatory insurance and compensations schemes funded by employers. This is supposed to create an incentive for companies to use external services to achieve a standard of OSH that can reduce insurance costs. The German BG model (statutory accident insurances) is a good example of this approach. The strength of this model is that economic incentives based on experience-rated premiums can be integrated into the insurance scheme and, therefore, use of the prevention service may be tailored in this way.

##### **Social partner agreement based**

Services are based on an agreement between employers and unions. Their extent, professional priorities, coverage and funding are decided through negotiations, and they cover companies that are referred to or included in the agreements. Their strength is high legitimacy, but their coverage is often limited. This model is found in some sectors in Denmark.

##### **Market based**

Services are accessible for companies that choose to seek and pay for support. They may be further supported by a national authorisation system, as companies may find it difficult to assess the quality of services without this. Their strength is their customer-orientated focus and their potential relevance and motivations for addressing company needs. At the same time, this can also be a weakness, insofar as it may limit the role of the prevention service to addressing obvious issues at the expense of less obvious or more costly ones. Their coverage tends to be limited to companies that can afford them and that have some focus on their public image.

Source: Adapted from Hasle et al. (2017) and Molander et al. (2018).

Much of the previous comparative research on preventive services has analysed them in relation to these models, which emphasise the structural framework of the services. Such work often recommends broader coverage, enhanced resources, improved interdisciplinarity among the professional staff or economic models that can facilitate MSEs' access to such services. However, it rarely offers any explanation of why such frequently occurring recommendations do not appear to have been taken up. Indeed, modelling and categorisation of preventive services might go some way in forming an understanding of the relation between the historical background of the dominant models and the political

and social context of the Member States, but it provides little evidence of how these services perform or are able to confront the existing challenges within OSH in a rapidly changing labour market, with new risks profiles in both old and new sectors, and a growing number of SMEs and those who are self-employed and changing company structures. Nor is it helpful in leading to proposals for ways to improve sustainability or possibilities for the transfer of prevention capacities.

Thus, for example, it is easy to see that, in Scandinavian historical contexts, dialogue between labour market organisations may well have had a significant influence on the type of OSH services available, given the strength of the labour movement in these countries and the prevalence of corporatist forms of social dialogue in these countries. However, such a dialogue — if it took place at all — would have much less influence in other Member States in which the presence, relations and balance of power of labour market actors took different forms, or where corporatism was far less prevalent in public affairs. Even in Scandinavian countries such as Sweden it is acknowledged that times have changed. As Frick et al. (2005) point out, prevention services in Sweden were deregulated in 1992 and, as a result, these services give much less preventive advice than formerly. Similarly, this also occurred in Denmark in 2002 (Kabel et al. 2007), and a result in both countries has been significant reduction in provision overall, with the market-based services that currently exist giving much less preventive advice than formerly. In contrast, Norway and Finland have chosen to restructure their services in terms of structure, coverage and typology (Molander et al. 2018).

Similarly, models based on social employment-related insurance are quite nationally specific, as their prerequisite is a strong presence of employment-based insurance schemes and structures in the national OSH system, which is not the case in many EU Member States. The strong funding of these schemes has helped substantial development of the role of prevention services in Germany and in countries such as Austria where German-style social and employment-based insurance arrangements are also present. The German case is therefore especially interesting. It will be apparent from the analysis of current practices elsewhere that a major determinant of both the practices of prevention services and their economic survival almost everywhere in the EU in recent years has been the availability and sources of their financial support. Withdrawal of the state, the reduced circumstances of trade unions and the reluctance of employers' organisations to fund schemes on a large scale — along with the orientation of national political and economic policies — has driven the increased marketisation of prevention services and this in turn has had a powerful influence on the activities they perform. While these pressures have no doubt also been experienced in Germany too, its situation is nevertheless somewhat different from elsewhere in the extent that prevention services are embedded within the functions of institutions created by the social and employment insurance system, as is shown in Box 12. As a result, it seems prevention services in Germany have been more resilient to the effects of marketisation and may have been able to accommodate them in a more balanced way than has been the case elsewhere.

In countries in which forms of social and employment-based insurance also play a significant role in national OSH systems but are not as central to these systems as is the case in Germany, other influences on their development may also be more obvious, such as is seen with the influence of the medical profession in the history of prevention services in France. Here, the great majority of employers discharge their OSH obligations by joining an intercompany occupational health service. These services are responsible for the health surveillance of 94 % of the non-agricultural private sector working population. A limited number of private companies, usually very large groups, have their own health service, known as 'in-house services'. Altogether, the French situation makes for quite a complex story concerning the discourse of reform, taking place over a long period and involving legislative change as well as changes to professional practice in recognition of the need for more integrated provision (Paillereau 2007). Among the stimuli for such changes were the requirements of the Framework Directive, which were at odds with the medically dominated French historical model. Under pressure from the EU, changes towards great multidisciplinary began in 2000, rebranding occupational health services as 'health and safety at work' services. According to Gregoire (2014), the idea was to deliver better primary risk prevention by providing support to occupational doctors from other professionals, including occupational health nurses, occupational health assistants and specialists in other fields (ergonomists, toxicologists, psychologists and so on), who are known by the acronym IPRP (*intervenants en prévention des risques professionnels* — occupational risk prevention operators).



However, such multidisciplinary has been beset by numerous difficulties in practice. Further laws were passed in 2011, but the situation remains uncertain and, as elsewhere, practice is under increasing commercial pressures by marketisation (Gregoire 2014).

#### Box 12: The role of social insurance in the German approach to prevention services

The German social insurance system was established in 1884 at the request of Chancellor Bismarck, largely to address the threat to the state of social unrest. The sectoral approach and company-specific aspects led to the German social accident insurance institutions for trade and industry delivering a wealth of different prevention services. By the same token, institute-specific aspects are also considered by the German social Accident insurance institutions for the public sector. The social accident insurance institutions form one arm of the so-called dual system for the support of OSH in Germany, and operate in parallel with the OSH functions of the state-resourced system of labour administration, which is also largely devolved to the regional level — the *Bundesländer*.

Since the structural reforms of the statutory occupational injury insurance system in 2011, private sector enterprises within trade and industry now usually belong to one of nine sector associations (the BGs - *Berufsgenossenschaften*). The accident insurances for the public sector (*Unfallkassen*) are organised regionally by the *Bundesländer*, of which there are 16. There is also a special scheme for agriculture and forestry.

The Occupational Safety and Health Act (*Arbeitsschutzgesetz* — ArbSchG) governs the basic occupational safety obligations of the employer, the obligations and rights of employees and the monitoring of occupational safety according to this law for all fields of activity. It is further specified by a range of OSH ordinances. Technical regulations and medical occupational regulations can also supplement and specify the requirements of the ordinances.

According to section 15 of the German Social Code (*Sozialgesetzbuch*), Book VII, in cooperation with the German Statutory Accident Insurance Association (*Deutsche Gesetzliche Unfallversicherung e.V.* — DGUV), statutory accident insurers have the autonomous right to adopt accident prevention regulations on measures for the prevention of accidents at work, occupational diseases and occupational health risks, and/or for effective first aid, insofar as they are appropriate and necessary, and governmental occupational safety regulations do not provide any regulations in the field.

Each social accident insurance institution has a 'self-government', which gives both employers and trade unions a role in the leadership of the insurance bodies, with supervisory board chairs alternating between them. They thus have an influence on — and the responsibility for — how OSH issues are handled, including prevention efforts, rehabilitation and compensation related to working environment conditions and outcomes.

The employer bears responsibility for the working environment and for compliance with the requirements of the ArbSchG, but in relation to the exercise of the duty of action arising from the statutory social insurance institutions, a number of regulations based on the principle of 'self-management' allow them to make requirements on the work environment at the individual workplace and require actions be taken by employers to meet them. The legislation requires, among other things, the individual companies to have access to occupational physicians (*Betriebsärzte*) and safety specialists (*Fachkräfte für Arbeitssicherheit*). It also defines training and competency for these roles and how they are organised and delivered to companies by the BGs or UKs. In many cases, this obligation is met through compulsory accident insurance. All enterprises are required to enter into an agreement with a BG or UK. The amount payable by employers, as their premiums for statutory occupational injury insurance, is determined by the self-government within the relevant area of industry.

The supervisory board also sets the framework for cooperation between the BG and the companies. A BG has a variety of roles in relation to enterprises, including those akin to prevention services, through, for example:

- BG clinics where doctors employed by BG hospital associations see patients from member companies, assessing if ailments or injuries are work related and referring them for further support from relevant health systems through the company health insurance. Clinics also conduct research and thus contribute to the understanding of the relationship between work and health, and so also to reducing BGs' costs.
- Professional support and expertise (preventive service) and inspection: BGs' professional staff may perform consultation services in relation to OSH issues in member companies alongside the inspections carried out by state Labour Inspectorates of the *Bundesländer* (the dual system). Audits from BGs often focus on identifying deficiencies in the companies' own ability to handle the working environment and OSH challenges, and are often combined with support and advice. Audits are described as having an overall focus on preventive actions.
- Advice and consulting services (*Abeitsmedizinische und sicherheitstechnische Betreuung*): for a fee, larger companies can draw on BGs' professional staff for advice and development tasks. For more complicated tasks, BGs will often refer to other experts.

Special approaches have been developed for SMEs and for micro enterprises. Here, the BG takes over the company's obligation to provide occupational medicine and safety engineering and may provide free consultations to the company. There are two different models, developed for micro enterprises and SMEs, respectively. A sector-specific 'industry model' covers companies with zero to nine employees — they are offered free advice from the BGs' service centres, so-called *Kompetenzzentren*. An 'employer model' covers companies with 1-49 employees and is usually associated with no fee for external services.

Survey data indicate that only 15 % of all companies with 1 to 49 employees make use of the employer model, with considerable variation in uptake between sectors. For example, it is used by only 2-5 % of establishments within public administration, compared with 27-31 % of companies in the investment goods, manufacturing, construction, waste and energy industries. In the retail and the hospitality industry, some 10 % make use of this model. Nevertheless, a secondary analysis of the companies' survey of the Joint German OSH Strategy 2015 suggests that, in some respects, the use of the employer model is greater than the use of external OSH provision. For example, risk assessments are conducted by 77 % of employer model companies, whereas only 65 % of MSEs with external OSH expert provision conduct risk assessments (this compares with an average of just 52 % among all German companies; see Sommer and Schröder 2015).

Although the appointment of both an OSH expert and an occupational physician (or making use of the employer model) is mandatory, a considerable proportion of companies, especially of MSEs, lack any OSH provision: 45 % of these companies (with between one and nine workers) have no contract with an OSH expert and 59 % lack the provision of an occupational physician. The overwhelming majority are likely to be MSEs that either do not know the law or feel unable to afford an OSH specialist and an occupational physician. They often do not know that the employer model could be free of charge for them if they are members of the appropriate statutory accident insurance body (Schmitt and Hammer 2015; Sommer and Schröder 2015).

In many countries, it seems that a mix of service provision prevails, such as in Spain, where insurance-based support for prevention services is evident through the provisions of the employment insurance bodies — the *Mutuas* — but there are also state provisions through public health structures including regional safety and health institutes, and private market-based actors.

A further way of comparing the structure of provision is to consider it from the perspective of legislative requirements. The traditional regulatory approach — which in countries where it is present often originated with the post-war rebuilding of social welfare and health systems, with further revision during the 1970s — usually focuses on ratios of medically qualified practitioners and safety engineers to numbers of workers and on arrangements determining their competencies. In Germany, Spain, France and Italy, among others, there are quite detailed legislative requirements concerning the qualifications and training of the staff of prevention services, ratios of qualified practitioners to workers and so on. In

addition, while not developed as extensively as in Germany, there are examples of the role of insurance-based structures, such as the French regional health insurance companies (*Caisses régionales d'assurance maladie* — CRAMs) and the *Mutuas* (as well as INAIL in Italy), supporting prevention initiatives and activities aimed at MSEs (see Box 11).

Another historical variation in the form and function of prevention services is seen in the role of the public health authorities in Italy, where as well as a fairly strong development of medically orientated internal services and less developed market-orientated external services, there has been a strong presence of public preventive services in the form of local health units. Historically, the latter provided a substantial network of support for preventive OSH actions across a range of sectors and regions and their professional personnel were especially prominent in the development of Italian approaches to OSH since the reforms of the 1970s onwards. They had legally mandated multidisciplinary preventive functions in relation to OSH, as well as enforcement powers. They were especially active in northern Italy following the National Health Reform Law in 1978 (Law No 833), which reformed Italy's health services with the constitution of hundreds of the local health units (known in Italian as *Unità Sanitaria Locale*) in which existing occupational health services were incorporated (Bodini 2005). Further reforms of 2008 aimed to achieve greater alignment with the Framework Directive and placed responsibility upon employers to organise internal or external services to undertake risk assessment and inform subsequent development of control measures. It is not clear what the consequences of this have been for the former roles of the local health units, but political shifts towards reduced public sector funding, along with marketisation, have undoubtedly contributed to a significant decline in their presence.

Further variations existed in the planned economies of eastern European countries, where the legacy of state provision of health services at the time of accession to the EU usually defined occupational health as a component of public health. Therefore, prevention services were part of the healthcare system and included internal services and various forms of external services, including group services, while, at secondary levels, occupational health departments were sometimes present in regional health units. In many of these Member States, the longer term effects of such legacy are unclear. However, it seems that here again the effects of marketisation have been strongly felt. Problems in relation to the availability of qualified personnel are also evident (Cikrt et al. 2007).

While the last few paragraphs and boxes are intended to give some sense of the variety of types of prevention services among EU Member States, and the national influences upon them, it is not possible to explore the considerable detail of this variation in the space available here. The relevant points that emerge from the typology, however, concern the influence of the form, function and extent of these services on the support they are able to provide for securing compliance and better OSH practice within enterprises. To this end, it seems clear that, aside from the acknowledged variation in their presence in different EU Member States, the extent to which they possess suitable competencies and adequate resourcing to support their users to fulfil their statutory obligations is determined by a mixture of adequate resourcing and regulatory requirements. Both can be seen to have varied enormously over time and between Member States and there are indications that more recent developments have done little to enhance the preventive capacities of these services.

## 6.5 Prevention in current practice — market demands, structures and professional capacities

We are seeing that current trends are having a direct impact on prevention services, as there has been a marked shift in the ways in which these services are resourced. There has been an increased market orientation towards service provision in recent decades. In many EU Member States, this is a consequence of, among other things, a substantial reduction or removal of state-based resourcing, which has been driven by market-orientated economic policies and the shrinking of the state. This has led to changes in the way prevention services are resourced, their structural frameworks, staffing and the services they deliver.

In addition, the free-market orientations of dominant economic and political orthodoxies in the last several decades, which have driven this market orientation, have also led to the huge changes more widely experienced in the structure, organisation and control of work that we discussed in Chapter 2. There has been a significant shift away from the Keynesian political and economic strategies that

informed the post-war consensus (in which the development and orientation of modern prevention services occurred). As we have already noted, these changes have had profound consequences for the nature of safety and health and the ways in which support for securing compliance and better OSH practice is best achieved. This is no less so for prevention services than for any of the other elements involved (Hale 2019; Miller et al. 2002).

There are further changes that also affect prevention services. At the same time as these changes have been taking place, there have been related developments in the wider understanding of the nature and suitability of OSH arrangements and how they might be best addressed. In tandem with the increased regulatory emphasis on managing OSH risks and the redistribution of power between capital and labour, from the last quarter of the 20th century onwards, growing corporate confidence has enabled business values to have far-reaching influence on ‘the way we do things round here’. One of the effects of this has been a substantial reorientation in the ethos of professional OSH practice. As we have seen, changes have therefore also occurred in the nature of the professions supporting OSH in recent decades, in the balance between the presence and power of different specialisms and in their orientations, which may also have consequences for the role of prevention services. Marketisation, therefore, contributes to changing the focus of the support provided by prevention services. The following sections set out to explore all of these issues, beginning with the effects of changes in funding arrangements.

### **6.5.1 Marketisation of prevention services**

While the marketisation of prevention services is common in the EU, its effects are not always identical. To understand these effects, it is often necessary to take account of the differences in the national histories and in present day contexts of the Member States. In many EU Member States, resourcing and ensuring the sustainability of OSH prevention services has always presented a challenge for policy-makers. There was variation in how prevention services were included in the reform of health services in the post-war rebuilding of western Europe. While, in many countries, they were regarded as central to health services, politicians and administrators in other countries saw prevention services as something quite separate, associated with labour rather than health policies. In the United Kingdom, for example, Ernest Bevin’s biographer recounts how, when Bevin was Minister of Labour and a powerful presence in the wartime coalition government, he insisted that his ministry take responsibility for the occupational health of workers because, as a former union leader, he had no faith that the bureaucrats at the Ministry of Health would understand workers’ situation or needs (Bullock 2002). Therefore, occupational health services were removed from the policy considerations that eventually led to the post-war creation of the National Health Service (NHS). There was no ‘national occupational health service’ as a result, with only a skeletal provision of OSH prevention services at the state level and part-time medical contract workers at the level of the workplace — so-called ‘factory doctors’ who largely undertook statutory medical examinations; all remaining prevention services were private. Although, as an industrialised economy, both public and private support for OSH prevention in the United Kingdom was considerable, the development of OSH prevention services was concentrated largely in large nationalised and private industrial enterprises, state medical and research institutions, and universities, where it had developed with minimal regulatory requirement. Economic restructuring and the shift to a service-based economy, coupled with market-orientated political and economic policies, led to the substantial and swift decline of OSH prevention. The state provision of OSH prevention services was rapidly eroded from the 1970s onwards and, with few exceptions, the way was opened for increased marketisation of the largely reduced and private provision that remained (Walters 1996).<sup>35</sup>

In contrast, as outlined in the previous section, in Germany, although private internal services existed, the extensive development and resourcing of the institutions of social insurance allowed for a significant growth of preventive services at regional and sectoral levels in connection with the activities of the BGs. This seems to have proved sustainable and its resilience has allowed a greater balance in the marketisation of prevention services in recent times (DGUV 2016). There is also some evidence from German and Austrian sources that these services are able to adapt to support the needs of traditionally hard-to-reach scenarios such as those of small firms and respond effectively to utilising the influence of

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<sup>35</sup> However, see Macdonald and Sanati (2010) for an interesting Scottish variation on this.

economic incentives (see, for example, DGUV 2017; Fischer and Ulmer 2017; Kirsch 2015; Paridon et al. 2007).

In Scandinavian situations, much of the care provided by external prevention services — which were once supported as part of a public health service or funded through a ‘tax on production’ paid by employers with the agreement of the trade unions — has, as elsewhere, become the commercial product of market-based systems in more recent times. A similar trajectory is observed in the Netherlands (Plomp 2008; Weel and Plomp 2007). Marketisation of the activities of prevention services also means that they are driven by the perceived needs of the organisations that pay for them. Thus, the older literature on prevention services in all of these countries identifies a common trend: a movement towards contributing to prevention through the provision of more integrated services (Kabel et al. 2007). However, more recent accounts suggest that, while these approaches are established and still functioning in some countries, their spread and continued existence may have been overtaken by responses to other needs that have developed as public resourcing has reduced (Swuste et al. 2019). As already noted, the market basis of many services has led them to be increasingly involved in helping to address concerns of employers and their insurance cover as regards managing absence and returning workers to work as soon as possible to reduce the costs of absence, or promoting healthy behaviours among workers (ETUI 2014; Plomp 2008). This view of such services was also shared by Dutch key informants who were consulted in the present study.

In addition, marketisation creates further problems in relation to the pricing of services and there is some evidence suggesting a trend, especially in relation to arrangements with smaller firms, of an increased use of minimum contracts between prevention services and their clients so that these firms can meet what they regard as their statutory obligations. Emphasis on price therefore also creates competition between services based on price, which has the potential to reduce the overall quality of what is provided and at the same time reduce the independence of the service.

Critics have regarded such changes as synonymous with a decline in the quality and extent of prevention advice offered by these services (ETUI 2014).

Not only do all of these effects have an impact on the performance of prevention activities among services generally, they create particular challenges for the capacity of such services to relate to the needs of hard-to-reach groups, as we outline in the following section.

### ***6.5.2 Consequences of the reorganisation and restructuring of work for prevention services***

Modern prevention services are faced with a very different work-related risk profile from that in which they were conceived, and this has largely driven their historical development. While the original risk profile is still seen in what remains of industrial production in EU Member States, new, substantial, challenges for services that support undertakings in managing risk and preventing harm to their workers have arisen. These include the growth of a service-based economy, the application of new technologies, privatisation, outsourcing and the structural, organisational and productivity changes accompanying these developments, along with changes in the gender and age profiles of the workforce and its mobility, which have characterised work and the labour market for the last several decades.

Trends in the nature of work-related risk that have emerged with the growth of service-based economies have led to changes in the composition of prevention services. The literature on prevention services some 20 years ago frequently pointed to a trend in the integration of competencies within prevention services to better address prevention needs resulting from these changes. One of the major concerns already evident at that time was the need for the capacity to address the consequences of exposure to a host of psychosocial and work organisational risks, which were expected in anticipation of a greater integration of psychological and ergonomic skills among the competencies of prevention services (Walters 1997). This occurred in some countries, as has been documented, but other changes were also stimulated. Greater concerns for health promotion at work, for example, led to its inclusion in the repertoire of support offered by some prevention services, and the role of prevention services as driving forces to support the strategic implementation of health promotion in the workplace has received some attention in the literature (see, for example, Auvinen et al. 2012; Palmgren et al. 2008).



A further, related, development to which we have already referred is the increased role of these services in determining the fitness for work of employees and in managing absence. In countries such as the United Kingdom, government strategies to ensure a healthy workforce in recent decades have tended to blur the distinction between health in relation to work and ill health arising from work (Black 2008; Palmer et al. 2006). Notions of 'workability' in the working age population produce similar effects. While there are obvious positive elements of involving prevention services in these wider meanings in relation to health and work, such as with the design of suitable return-to-work arrangements, there was also a negative side which raised concerns. These have sometimes led to prevention services being viewed as having too close an association with support for employers' balance sheets on matters of human resources and social security, and that this takes away from their role in preventing work-related ill health (Plomp 2008).

There are, nevertheless, also examples of successful responses by prevention services to the challenges of organisational and structural change. In the case of small firms, for example, in theory they may access external prevention services to support their compliance with the OSH practices required of them. The barrier to doing so is usually their will and capacity to address these needs, which in turn is often both awareness and cost related (EU-OSHA 2018b). Knowledge among prevention services, and within the OSH system more generally, has stimulated a variety of efforts to overcome these barriers, some examples of which are included in Box 13.

When prevention services are part of a wider provision supported by the state or through insurance-based systems, low-cost versions of their services may be made available to smaller firms (Hasle and Limborg 2006). Here, the challenge is often posed not so much by prohibitive costs, but by the provision of incentives to encourage the owner-managers of such firms to make use of the services offered. In countries where social insurance or welfare capitalism supports the availability of such services, special efforts have been made to help small firms either through insurance-related incentives, such as in Germany and France, or through the provision of dedicated services, such as in Austria (Jager 2007). In other cases, where external services are more market oriented, there are perhaps greater challenges for resourcing such support, although here too, as Box 13 shows, there are some examples of the provision of incentives (EU-OSHA 2018b).

Another way of encouraging the use of prevention services by smaller enterprises is to situate services in the vicinity of concentrations of smaller enterprises, where their cost to individual users is minimised by their collective approach. Historically, there have been numerous examples of such group practices in relation to both geographical location and sector (Walters 1998) and, although the financial support of such services is problematic, their use continues to the present time (Rantanen and Fedotov 2016).

For example, the literature includes further examples of studies that assess the possibilities of addressing networks of SMEs (Limborg et al. 2014). There has also been an examination of the inclusion of access to preventive services within agreements between the social partners, such as in the Dutch Arbo catalogues and in sector agreements in Denmark and Sweden (Plomp 2008). However, the financial support of such services remains challenging and is often very limited.

Further problems are faced in the relations between smaller firms and prevention services, particularly in market-orientated systems. One of these problems is the tendency for small firm owner-managers to require simple and affordable support solutions. In economies with a very low level of regulation of such matters, such as in the United Kingdom, perceived requirements concerning OSH have caused many owner-managers of small firms to use the services of unqualified 'consultants' for risk assessment and OSH policy matters, bringing about an unintended proliferation of such businesses and calls for their control. This has led to the introduction of a register of qualified consultants, but it remains unclear how successful its contribution has been to ensuring appropriate support for the OSH needs of small firms.

In addition, the specialised professional nature of personnel in external prevention services often tends to orientate them more to the needs of larger organisations, where the problems encountered may be regarded as more complex and more likely to benefit from the use of their competencies, than to the needs of smaller firms. Researchers have consequently sometimes advocated a need for training of prevention services personnel to make them more aware of the potential situations encountered in MSEs, as well to help these practitioners to understand that these enterprises are not simply smaller

versions of larger enterprises (EU-OSHA 2016, 2018b; Hasle and Limborg 2011). Again, it is not clear to what extent such strategies have contributed to greater support for smaller firms in practice.

**Box 13: Some examples of outreach activities of prevention services in relation to MSEs**

Despite the challenges, there are a host of prevention service initiatives that aim to reach out to MSEs with the aim of providing support for securing compliance and achieving better OSH practice. The recent review of such activities in EU Member States identified some 40 prominent cases of interventions that met the review’s criteria for good practice (EU-OSHA 2018b). They included a number involving prevention services, examples of which are listed in Table 4, along with one further example of a group occupational health service from Scotland. Points to note include the frequent inclusion of sector organisations, employer associations and trade unions, as well as insurance bodies, in supporting these initiatives in which prevention services are established or personnel from existing services are used in interventions targeting MSEs.

**Table 4: Prevention service interventions for good OSH practice**

Outreach initiative	Organisations	Actions
BAMBUS — Denmark	This project (a mobile resource) was supported by an agreement between employers and trade unions	This is a preventive service provided by eight consultants who work in teams of two and drive a bus that visits construction sites in four different regions of Denmark. They have trade competencies in the construction sector and a substantial knowledge of OSH. Their service is based on concrete problem solving, finding relevant information and helping establish a preventive practice
OSH advisers for construction — Sweden	The Swedish Construction Federation (BI) offers the services of designated regional OSH advisers free of charge to their member companies	Six OSH advisers are available for all member companies, but are especially directed towards, useful for and used by MSEs. Their purpose is to provide readily available OSH services including information on regulation and advice on achieving compliance. They also arrange meetings, seminars and training courses and establish networks
VCA certification system — Austria, Belgium, France, Germany, the Netherlands and Switzerland	This system was launched in 1989 by the National Safety Contractor Working Group (Landelijke Werkgroep Contractor Veiligheid) in the Netherlands. It was adopted by numerous non-profit organisations in a number of EU Member States. In Belgium, for example, full members of the Organisation of Contractor	This system aims to ensure and evaluate the safety management and performance of contracting companies in an objective way. Target groups are subcontracting companies that carry out work in a high-risk environment on the premises of their client companies

Outreach initiative	Organisations	Actions
	<p>Safety Management include employers and unions, external prevention services, and the association of prevention advisers</p>	
<p>Self-regulation programme — the Netherlands</p>	<p>The self-regulation programme (<i>Programma Zelfregulering Gezond en Veilig Werken</i>) was launched in 2014 in the Netherlands by the Dutch Ministry of Employment with the aim of developing a structure supporting sector-driven improvement of OSH, including compliance with regulations</p>	<p>The programme is now managed by a project team from an external consulting company that focuses on branches (sectors) and strongly involves sector organisations, companies and workers from the branches</p>
<p>Olympic Park occupational health — United Kingdom</p>	<p>The ODA prioritised safety and health in a variety of ways. At its peak 13,000 people were employed on the building of the Olympic Park and Village and over 40,000 people had worked there by the time it was completed. The ODA and the HSE pioneered many innovative approaches to compliance with OSH management standards on this multi-contractor site where hundreds of small firms worked alongside one another</p>	<p>This project went over and above the provisions for safety management, with an ODA-appointed occupational service provider operating on site. Park Health and Village Health ran a comprehensive prevention programme, which included health checks, health surveillance and health promotion. This support was available to all workers, and all suppliers were required to ensure the active participation of their workforces.</p> <p>A team of doctors and nurses provided on-site clinical medicine cover, along with a team of occupational hygienists who focused on preventive health management strategies</p>
<p>The INQA network activities in the construction industry — Germany</p>	<p>The Initiative for a New Quality of Work (INQA) is a joint initiative of the German Federal Ministry for Labour and Social Affairs, the federal states, trade unions, economic organisations, civil society organisations, social insurance institutions and businesses that was established in 2002</p>	<p><i>‘Offensive Gutes Bauen’</i> is one example of its network projects in which stakeholders have worked together for over a decade, establishing a stable network that has allowed them to continuously develop and improve instruments to support OSH practice in small firms</p>
<p>Occupational health and the NHS — Scotland</p>	<p>The NHS in Scotland has recognised the impact of work-related ill health and supported the development of free advisory services for smaller industrial enterprises</p>	<p>One of the NHS services, the Lanarkshire Occupational Safety and Health Service (Salus), based in central Scotland, has been at the forefront of innovations in the provision of services to SMEs in the United Kingdom. In 1996, an initiative was developed between the occupational health and workplace health promotion departments of the NHS to provide a free advisory service</p>

Outreach initiative	Organisations	Actions
		<p>to SMEs in part of central Scotland. This service included a free workplace visit, which combined a confidential safety and health risk assessment, a workplace health promotion needs assessment and a report and proposed action plan with follow-up advice.</p> <p>A further development arose from the piloting of a free OSH telephone advice line in central Scotland. This service was extended nationally throughout Scotland in 2003 with the launch of the Safe and Healthy Working service, which provides a free telephone advisory service and access to a network safety of and health and occupational health advisers across Scotland, aimed at SMEs.</p> <p>This provision is organised in three regional hubs to cover the country. These hubs are based in NHS occupational health organisations. In the first three years of this service, it received 7,765 telephone enquiries, undertook 1,536 workplace visits and assessments, and responded to 510 email enquiries from enterprises</p>
<p>Weldright — a website (SvetsaRätt) aimed at small firms involved with welding processes — Sweden</p>	<p>This website was developed by the Swedish Environmental Research Institute, together with social partners, the sector organisation for welding and firms involved in welding. It was initially funded by the AFA Insurance programme</p>	<p>The primary target group is welders and their employers. Safety representatives in welding companies and regional safety representatives are also included in the primary target group. From the development stage, the aim was to adapt the website as much as possible to the needs of MSEs</p>
<p>A programme for improving OSH in small construction companies — France</p>	<p>This programme was developed by the Confederation of Crafts and Small Building Companies (CAPEB), a trade body of the construction sector, the Institute for Research and Innovation in Health and Safety at Work (IRIS-ST) and an insurance body — OPPBTP</p>	<p>IRIS-ST develops and distributes easy-to-use tools and information. The insurance advisor (OPPBTP) and professional organisations inform owner-managers about this programme</p>
<p>A counselling and consultancy service organised by the labour</p>	<p>This service was organised by the labour inspectorate</p>	<p>This is a national programme consisting of two parts: (i) a telephone and drop-in counselling service and (ii) face-to-face workplace consultancy.</p>

Outreach initiative	Organisations	Actions
inspectorate Estonia	—	Although the scope of the aim is greater than just OSH — the programme also provides support for MSEs on other requirements in relation to employment and working conditions — a significant aim is to support OSH management in MSEs
OSH support for construction workplaces northern Italy	— CPT is a network of joint territorial committees in construction established by the industry body ANCE (Association of Builders) and trade unions	CPT's main activity consists of free technical advisory visits on construction sites, with two purposes: (i) to identify — with the presence of the site representative — the critical situations in the field of health and safety and (ii) to provide advice on technical, organisational and procedural solutions to eliminate or reduce identified risk situations. To carry out this activity, CPT uses 10 professionally qualified technical teams

Source: EU-OSHA (2017b) and Macdonald and Docherty (2007).

The challenges of the 'new economy' indicate a role not only for external prevention services but also for support from the internal services of larger organisations. This is especially so in relation to helping to disseminate and operationalise the OSH requirements of organisations at the heads of supply chains within the successive levels of their supply chains. As it is well recognised that there is a tendency for OSH problems within outsourcing situations to become increasingly magnified as they pass downwards through the supply chain, there is often a need for stronger support at the levels furthest removed from the buyers of goods or services. As we discussed in greater detail in Chapter 5, there is therefore a potential role for the prevention services of powerful business organisations higher up the supply chain to support the needs of suppliers in less well resourced and vulnerable situations. A key issue for supporting compliance here of course concerns leveraging motivation among such well-placed and powerful organisations to provide the resources for such support.

### **6.5.3 Change in the nature of OSH professions, their orientations and practice**

Nowadays, when an organisation operating as a preventive service claims to integrate a range of competencies relevant to support for securing compliance with OSH standards, this does not necessarily mean that it employs a host of specialists, each separately representing one or more of these professional competencies (Olsen 2012). While this may have been the ideal situation envisaged by advocates of integrated services some decades ago, and one that is still presented by some large well-resourced services, in reality such provision is probably the minority among the range of organisations and individuals providing prevention services in the EU overall. Many are in fact a lot less well resourced than these organisations and may have few, if any, appropriately qualified specialist staff, but nevertheless they claim to offer such services. Even when qualified competencies are held, their range varies considerably. This is partly the result of the considerable variation between EU Member States in the legal basis of what is required, but it is also because there are many different trajectories evident in the professional development of OSH practitioners in different Member States (Hale and Ytrehus 2004).

One obvious current trajectory in this respect has been the increased professional status and power of the generalist OSH practitioner in some countries (Pryor and Sawyer 2010). A little discussed



consequence of the changes accompanying the shift away from industrial production to service-based economies are the resulting changes in the market for OSH competencies required by enterprises, small and large, public or private. In recent decades, these have tended to shift away from a specialist understanding of the science, medicine and engineering behind the control of hazardous exposures in industrial production to the more generic understanding that is needed to meet regulatory obligations to guide the management of OSH to deal with the psychosocial risks and health promotion issues associated with work in services (Borys et al. 2006). Thus, companies involved in service-based activities nowadays tend to employ OSH practitioners and professionals with generalist competencies focused on knowledge of regulatory standards, human behaviour and OSH management, learning and change, human factors and organisation and so on, rather than with competencies in the science, medicine or engineering fields associated with industrial production. Partly as a result of shifts in the skill sets required for employability, therefore, the production of safety engineers, occupational physicians and hygienists, and the like has also fallen, and facilities for their education and training have substantially reduced in many EU Member States; there has therefore been an acknowledgement of a shortage of appropriately qualified physicians and the like (ETUI 2014).

While the Framework Directive has occasioned only limited changes to regulatory requirements on these matters in some Member States, in others, such as in France, such changes were strongly contested (Paillereau 2007), especially by previously dominant professional interests, revealing tensions between professions. In parallel over the same period, the increasingly large body of generalist OSH professionals in different EU Member States and elsewhere has sought to increase the recognition and influence of their profession. For example, in 2001, several of the leading national general OSH practitioner bodies created the International Network of Safety and Health Professional Organisations (INSHPO) with the aim of becoming the global voice for the OSH profession and acting as a forum for international collaboration among relevant professional organisations (Pryor 2019). In the same year and related to it, a European network (ENSHPO) was established with the same aims. These bodies seek to support national professional bodies in the development of a generalist OSH profession by gaining recognition at national, European and global levels and providing evidence on what OSH specialists actually do.

Thus, there is an emergent body of knowledge that identifies a core set of generalist competencies, such as those referred to above, as central to the professional identity of the OSH generalist. At the same time, these developments have drawn attention to the substantial differences in the way national regulations and national and international standards formulate requirements for appointing such OSH specialists, their tasks and the training they require. They reveal significant differences between EU Member States in relation to how OSH specialist requirements and roles are defined by law, through powers delegated to professional associations to set such standards or by neither of these means (Hale 2019). These differences lead to difficulties, to which we have already referred, in achieving harmonisation and agreement over core competencies that are ideally shared among modern prevention services. This makes for a complex scenario when examining the role of external prevention services in providing support for securing compliance, and it is fairly obvious that there is no EU-wide 'one size fits all' model for such support.

## 6.6 Conclusions and recommendations for further research

The primary aim of this chapter — as in the report overall — has been to review evidence in the literature concerning the role of institutions of support for securing compliance and better OSH practice in the EU Member States. In this case, the institutions of support on which the chapter has focused are OSH prevention services. For many OSH practitioners and policy-makers, OSH prevention services are central to supporting the achievement of better practice — as is made plain by their prominent position among the requirements of the Framework Directive. However, as this chapter demonstrates, despite this conception in both OSH policy and practice, the reality for the majority of workers in the EU is that they will have only very limited experience of direct contact with such a service. Even in countries that are relatively well served by prevention services, such as Sweden, it has been shown, for example, that workers in smaller firms are nowadays far more likely to encounter a trade union regional safety and health representative than be visited at their workplace by prevention service personnel (Frick 2013).

While prevention services may exist either internally within or externally to the enterprise, they have a broadly similar function in supporting undertakings with competent specialist expertise, thus helping to ensure they manage OSH in accordance with appropriate standards. Since the adoption of the Framework Directive and its transposition into the laws of EU Member States, the requirement on duty holders to manage OSH with competent support is mandatory. However, the review demonstrates that services providing such competencies have developed in different ways consequent to national and sector contexts, professional orientations and power, and relations with other institutional sources of knowledge on OSH. Partly because of this, there are no systematic data that are comparable between EU Member States on the extent of the coverage of prevention services or their effectiveness at the present time. However, such data that do exist suggest both the coverage and the effectiveness of these services are quite limited and that these services are strongly biased towards the needs of large enterprises that can resource their activities.

Moreover, the review shows that the presence and practice of these services is subject to a host of challenges resulting from changing national contexts, including changes in the structure and organisation of work and labour markets, as well as political changes that determine what constitutes the support they provide and how it is resourced. There is little in the current structural and organisational contexts of these services to encourage notions of their centrality in the economies of EU Member States. While it is possible to find traces of wider political and economic trends that may have influenced their previous development in this way, the relevance of these trends to the present-day situation of prevention services may be limited. The role of external prevention services in relation to supporting compliance and achieving better practice in MSEs, and in relation to the increasing presence of the non-standard forms of work and employment discussed in Chapter 2, is complicated by such factors and is often limited as a result.

There are nevertheless examples of strategies that prevention services have adopted to take account of these challenges. Some of them, and the contexts that determine them, have been discussed in previous sections. However, while such examples are instructive of what can be achieved by prevention services, in themselves they allow little sense to be gained of the overall contribution of these services to securing compliance and raising the standards of OSH practice in the EU Member States. Some of the reasons for this difficulty lie in the complexities of what constitute prevention services and their consequent lack of comparability, while other difficulties may be a function of the ways in which past efforts have reported their interventions, with scant regard for their contextual determinants, their potential for transfer or their sustainability. This approach largely leaves the potential wider value of such interventions for supporting compliance and better OSH practice open to speculation and further research.

None of this is new or especially surprising given the changing contexts of recent decades to which we have referred. Some 15 years following the adoption of the Framework Directive, Brigitte Froneberg (2005) wrote:

*The tripartite European Council Framework Directive 89/391/EEC ... should have paved the way for equal occupational health services for all workers alike, independent of company size. Despite the tripartite legislative basis, the general transposition into the national legislation of all European Member States, and the considerable efforts of all stakeholders of organised civil society, the goal has obviously been achieved, or nearly so, in only a minority of Member States. It may then be sensible to ask both why this is the case and where we should go from here.*

Another 15 years have passed since that time, but it is difficult to argue that significant progress has been made in increasing the access of workers to prevention services. Indeed, circumstantial evidence reviewed in this chapter suggests a likelihood that such access may in fact have diminished in the intervening years, not least as a consequence of the growing marketisation of such services. Thus, Froneberg's suggested questions carry just as much salience now as when she posed them 15 years ago, and there are a number of questions that might be asked concerning how and in which direction the role of these services might be usefully developed in the future.

The review of the literature indicates that prevention services largely originated as elements of health systems organised by the state or social insurance to support production, or they were set up and supported within large organisations by corporate interests to enable these organisations to deliver their

responsibilities for the health of their workers, especially in high-risk industries. Recent decades have, however, witnessed, in parallel, changes in the economic profiles of post-industrial Europe and in the political and economic policies of governance. The result has been the withdrawal of state resourcing for prevention services, along with a decline in the presence of large industrial concerns whose activities necessitated substantial investment in their provision. Nowadays, external prevention services are increasingly required to take responsibility for the economic survival of prevention services in a competitive market for their business. Understanding the current relationship between prevention services, securing compliance and achieving better OSH practice requires some acknowledgement of this.

As previous sections of this chapter document in detail, several consequences arise. First, a market mechanism is needed for the business of prevention. In Germany and other countries with strong social insurance systems, there is evidence to suggest that these systems have provided prevention services with sufficient security to adapt to the changes required as a result of marketisation while maintaining the quality and diversity of their provision. There are indications that they have, as a result, been able to both contribute to the economic incentivisation of prevention (see also the following chapter) and play a role in innovative approaches to supporting compliance in MSEs and other hard-to-reach organisations in the 'new economy'. The critical literature elsewhere suggests that the highly developed integrated services of some other countries, such as the Netherlands and Sweden, may have been less successful in maintaining a strong prevention focus and in contributing support for MSEs and the like. Commentary in other countries raises concerns about unqualified consultants offering inadequate services, especially to owner-managers in MSEs; the costs of prevention services dictating minimal uptake; an absence of attention to prevention, again especially among the services available to MSEs; and a limited interest among practitioners in many prevention services in engaging with the needs of MSEs and related work structures. In all of these situations, clearly if, for whatever reason, a service intended to support the competency of employers to deliver their statutory duties to manage OSH risks effectively is unable to do so, it cannot be said to be offering support for securing compliance and better OSH practice.

Despite this rather pessimistic conclusion, it remains the case that there are some OSH prevention services in all EU Member States that have succeeded in finding the means to secure their sustainability and to deliver advice and guidance on good practices to support securing compliance and better practice in different sectors. There is a strong need for better and more comparative research on how they have managed to achieve this and for such research to focus in particular on what lessons these successful cases can offer to policy-makers who are interested in support for sustainability and the transfer of effectiveness in the delivery of preventive services.

There is a further need to explore the synergies between such services and other forms of support for securing compliance. In this chapter, we have mentioned two fairly obvious synergies. One concerns the role of internal prevention services operated by powerful buyers at the apexes of supply chains in supporting the OSH needs of suppliers situated at various levels in the same supply chains. Another is the role of prevention services in the economic incentivisation of better OSH practices, such as is seen in some of the activities undertaken by the BGs in Germany. Further examples of the relations of prevention services with other forms of support for securing compliance can be found in the ways in which the interventions of prevention services have been part of more orchestrated support for compliance in relation to MSEs. All of these (and other examples) could be usefully explored further to better understand how such synergies have been brought about, how transferable and sustainable they are, and what the role might have been of social norms, economic pressures and/or innovative compliance strategies in achieving their effects. That is, support for securing compliance and better practice that can be provided by preventive services is best understood in relation to the other areas of external institutional support on which this research is focused.

A related area touched upon in this chapter that would also benefit from further research concerns the evolving role of OSH competencies in support for compliance and better practice. As we have seen, consequent to changes in the structure and organisation of work and labour markets are changes in the nature of risk and the strategies used to manage this risk and to protect workers from harm. It would be surprising, under such circumstances, if there were not also concomitant changes needed in the nature of knowledge and professional expertise to support managing such protection. We have commented in this chapter on the growth in the presence and significance of the 'generalist' OSH practitioner within

professional support for OSH in recent decades. However, there has been very little serious study of the consequences of this for the balance of professionalism generally in OSH, for the nature of the support it may bring to improving compliance and better practice, or indeed for the results of such support. Further research is therefore recommended here too.

A further reflection follows from this, namely what role support from prevention services will play in the future. It is fairly clear that traditional models of prevention services, which developed in relation to an industrialised past, can provide valuable contributions to supporting preventive practices. However, for a host of organisational, structural, economic and political reasons, they are ill suited to directly addressing the large-scale OSH prevention needs in present-day economies in most EU Member States. However, as we have pointed out in the present chapter, the indirect historical contribution of these services to supporting compliance and better practice through generating knowledge on prevention has been substantially greater than that exemplified solely by their direct interventions. It may be, therefore, that in increasingly de-structured and market-orientated economies, in which work is organised and controlled in a host of ways that limit the effectiveness of direct forms of intervention, the future effectiveness of these services lies in them developing in other directions.

There is some similarity here with the situation of regulatory inspection. A recognition of the fact that the effectiveness of inspection in dealing effectively with compliance in increasingly hard-to-reach forms of work in current economies, along with an acknowledgement that the resources to do so are limited, has led to thinking among regulators that there may be more effective ways of securing compliance. That is, other compliance strategies may be useful additions to the traditional approaches of face-to-face contact with an inspector. As we explore in some detail in Chapter 7, there are a host of innovative ways of doing this that are in the process of being adopted by regulatory agencies in some EU Member States. The same kind of approach may be relevant to the future of prevention services too. Ways for these services to deliver support for compliance and better practice in the disaggregated, fractured, fissured and remote forms of work organisation characteristic of the current economic structure need to be found, along with means of ensuring their relevance and use by persons responsible for these undertakings. There are therefore research questions to be addressed in relation to the delivery of new ways forward for the contribution of prevention services to securing compliance that are both sustainable and transferable.

Finally, we return to the role played by prevention services in the current COVID-19 pandemic. We have already drawn attention to their contribution to the repositories of knowledge concerning best practices relevant to preventing workplace and other exposures. In addition, there is a growing body of literature that demonstrates how, and in what ways, prevention services have lent support to front-line health service workers and to workers in other high-risk scenarios; how these services have responded in different countries; and what challenges these services have confronted in their efforts to contribute effectively to containing the spread of transmission at work (see, for example, Buselli et al. 2020; Ranka et al. 2020; Semple and Cherrie 2020; Sim 2020; Spinazzè et al. 2020; Subash et al. 2020). We have also noted that, in general, prior knowledge of prevention at the workplace has not always been used to its full advantage in public health prevention strategies in relation to the virus. There are lessons from this experience that need to be learned if such under-utilisation is to be avoided in the future. We would therefore suggest that these lessons, too, should be a focus for future research.

## Chapter 7: Encouraging novel approaches by OSH regulators

This chapter reviews approaches that have been taken by OSH regulators to promote, monitor (inspect/investigate) and enforce compliance. As in previous chapters, the term OSH regulators should be understood as including agencies with a broad role in labour regulation. In addition, our focus is substantive compliance, which involves achieving the collective goals of the regulatory scheme, that is, ensuring the safety and health of workers in every aspect through systematic, proactive, preventive action (see Chapter 1 in this literature review and Part 1 of the final report).

The backdrop to the review in this chapter is the significant under-resourcing, worldwide, of most contemporary labour regulators (ILO 2006b, p. 116; see also Amengual and Fine 2017; Vosko et al. 2016, p. 374; Weil 2008). However, at certain times, the resources of OSH regulators in some EU countries have been increased, for example the Irish Health and Safety Authority from 2002 to 2007 and the Polish labour inspectorate from 2002 to 2009 (Walters 2016, p. 16). The consequence of under-resourcing of OSH regulators is that they are limited in their reach, principally because they do not have the resources to inspect a wide range of firms. In little more than a minority of cases, there is no practical possibility of face-to-face contact between inspectors and employers or between inspectors and workers.

While constrained resources and the need for a more ‘responsive’ approach to enforcement to transcend the ‘punish-persuade’ debate led to the development of risk-based regulation and responsive enforcement — which was critically examined in Chapter 1 of this literature review — other developments have prompted assiduous OSH regulators to find new ways to engage with firms and to develop novel approaches to inspection and enforcement. As set out in Chapter 2, new challenges have been posed by the changes in work arrangements over the past 30 years. In particular, it is more difficult for regulators to locate and reach firms and workplaces when work is conducted in national and international supply chains and other contractual networks, when MSEs are involved, when workers are indirectly engaged in non-standard arrangements, when work is conducted away from employer premises (including teleworking) and in the context of the decline in unionisation and organisation of labour. A further challenge, also discussed in Chapter 2, is the difficulty in finding evidence of harm and risk that is of sufficient scope and quality for targeting regulator resources and effort, especially in the context of changing work arrangements, technologies and risks.

Policy-makers have made two kinds of proposals in response to these challenges in monitoring, promoting and enforcing compliance (Amengual and Fine 2017; Levine et al. 2013; Rocincini 2010). The first set of proposals concerns increasing the number inspectors, so that more firms can be inspected and deterrence can be enhanced (see Chapter 1 of this literature review), and professionalising inspectorates in the sense of enhancing the integrity and capabilities of inspectors. The second set of proposals relates to changing how inspectorates and individual inspectors work to increase the efficacy of compliance promotion, monitoring and enforcement, with a particular focus on how they exercise discretion in their strategies and tactics (including problem shaping and problem solving). This chapter mainly considers this second set of proposals, although there is reference to international and EU policies seeking to professionalise inspectorates and increase the number of inspectors. Of course, novel strategies and tactics can be introduced effectively and efficiently only if the inspectorate has been professionalised and is reasonably well resourced, and has been trained in the novel approaches and the changing nature of work (Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 287-288). Novel approaches must also be critically evaluated against the criticisms of ‘regulatory new governance’ (see Chapter 1 of this literature review) to make sure that they do not reinforce inequalities in work relations, undermine worker voice and exacerbate the crisis in monitoring, promoting and enforcing compliance.

This chapter begins by outlining the relevant policies, strategies, principles and other instruments developed at the international level and at the EU level that provide the context for OSH regulatory functions (section 7.1). It then reviews policy and practice at the level of EU Member States, covering routine as well as some novel approaches (sections 7.2 and 7.3). In discussing these initiatives at international, EU and Member State levels, we also consider whether any of them apply regulatory



theories or models such as risk-based, responsive, smart or really responsive regulation, and smart or strategic enforcement (as discussed in Chapter 1 of this literature review). We then examine some novel approaches in non-EU countries that aim to address issues arising from new ways of structuring, organising and controlling work (section 7.4). These are approaches that the EU might explore in future research or in EU or Senior Labour Inspectors' Committee (SLIC) policy discussions.

## 7.1 Discourse at international and EU levels

The policy and practice of OSH regulators in EU Member States are framed and guided by a series of international and EU level instruments that take the form of policies, strategies, principles, codes, standards, handbooks and toolkits. As summarised in Table 5, particular instruments variously seek to promote the competence, professionalism and good governance of OSH/labour regulators, and increase staffing levels and resources. They seek to ensure effective and efficient methods for promoting, monitoring and enforcing compliance, and that there are harmonised approaches to these, and they may offer model policies, standards or manuals for regulator operations and training. They encourage the use of penalties that are proportionate and have a sufficiently deterrent and dissuasive effect, and promote a role for market forces and private sector and civil society actions, including the involvement of social partners and other stakeholders, especially in compliance promotion. Moreover, across the range of OSH regulatory activities, they seek to ensure sound performance measurement and evaluation.

As indicated in Table 5, some of the international and EU level instruments are influenced by risk-based regulation and, to a lesser extent, responsive regulation and strategic enforcement (see Chapter 1 of this literature review). Of particular note is the 'ILO Approach to Strategic Compliance Planning for Labour Inspectorates' (ILO 2017b), which outlines six steps for implementing this strategic approach (ILO 2017b, pp. 4-11). These call for the inspectorate to explore its mandate, resources, and enforcement and compliance data; priority compliance issues and targets; influences on compliance; all stakeholders, not just employers, workers and their organisations; and all available activities, tasks, actions, campaigns and tactics (interventions). These are then operationalised in the strategic compliance plan. In its strategic approach, the ILO acknowledges the complex nature of compliance and draws upon some elements of Weil's (2010) model of strategic enforcement (see later in this chapter), together with strategies to enrol suitable non-state actors to conduct inspection and enforcement activities. However, the approach is light on detail and is not a full implementation of strategic enforcement.

The various international and EU level instruments provide building blocks for how to be an OSH regulator. Each Member State and regulator addresses them in different ways as they determine and implement arrangements, based on the regulator's particular historical development and national political, social and economic contexts and imperatives (see also section 2.2 of this literature review).

**Table 5: International and EU level instruments**

Source	What the instruments seek to achieve in OSH regulators/inspectorates
International Association of Labour Inspection (IALI)	Professionalism, including integrity, commitment, responsiveness and good governance (IALI 2008) Sound performance measurement (Tosine and Wedege 2009) Capability for regulating OSH and working conditions (IALI 2014)
ILO	Competence and professionalism supported by model enforcement policy, training and operations manual, strategies and practice (ILO 2006c; Treichel 2005; see also Albract 2005) 'Strategic compliance planning' — for monitoring and enforcing in the context of limited regulator resources, and changes in business models, work arrangements and risks (ILO 2017b)

Source	What the instruments seek to achieve in OSH regulators/inspectionates
OECD	<p>Governance of regulators — for professionalism including a decision-making approach that is objective, impartial, consistent and without conflict of interest, bias or improper influence (OECD 2014b)</p> <p>Effective and efficient inspection and enforcement, including a long-term vision; professionalism, transparent governance, and clear and fair processes; a role for market forces and for private sector and civil society actions in compliance promotion and enforcement; ‘risk-based and proportionate’ enforcement and responsive regulation, and inspectorate competence in simple versions of these (OECD 2014a)</p>
European Commission, Council and Parliament	<p>Effective compliance promotion, monitoring and enforcement, which involves resources and the capacity for inspections, methods for monitoring, advice and information to facilitate compliance (particularly for MSEs), proportionate and dissuasive sanctions, and cooperation between Member States and social partners to update legal requirements (European Commission 2014a, b, 2017b; European Council 2015; European Parliament 2015)</p>
EU Committee on Employment and Social Affairs (EUCESA)	<p>Increase in staffing levels and resources, and meeting the ILO target of one inspector for every 10,000 workers (EUCESA 2013, pp. 8, 12)</p> <p>Effective penalties that are dissuasive and proportionate to the damage caused by contravention, and above the profit gained from contravention (EUCESA 2013, pp. 8, 12)</p>
SLIC	<p>Uniform/equivalent implementation and enforcement of OSH legislation by Member States, and adoption of comparable criteria in OSH regulators’ policies and practices, including organisation and ethics (SLIC 2017, p. 3)</p> <p>Competent and professional inspectorate (SLIC 2017, pp. 10-15) including planning and monitoring of performance against the annual plan, work plans and priorities; an independence of inspectors and giving them powers, protection and assistance to carry out their duties; guidance for inspectors about the approach and actions they must take in workplace visits; and good internal communications between inspectors, policy-makers and legislators, and effective external communication for disseminating OSH messages and inspection and enforcement outcomes</p> <p>Common standards for OSH inspector training covering the risks mentioned in the Framework Directive and daughter directives, an evaluation of risk assessments, preparations for inspection, the investigation of incidents and diseases, inspector duties and rights, communication skills, the management of conflict and pressure, and the influence of the changing economy and patterns of work on OSH issues and priorities (SLIC undated, p. 4; SLIC 2017, pp. 14-15)</p> <p>Simplified approaches to risk management, accessible guidance and advice for MSEs, and partnerships between OSH regulators, social partners and other stakeholders to enable better management of risks, compliance and the prevention of ill health among workers (SLIC 2017, pp. 14-15)</p> <p>Inspections that are compliance focused, supportive and targeted to specific risks, and professional development for inspectors to properly perform risk-based inspections, particularly for new and emerging risks (SLIC 2017, p. 5)</p> <p>Penalties that have ‘a sufficiently deterrent and dissuasive effect’, by making the level of the fine proportionate to the damage from contravention and</p>

Source	What the instruments seek to achieve in OSH regulators/inspection
	ensuring that the fine is greater than the profit gained from contravention (SLIC 2017, p. 14)
	A uniform approach to evaluation (by SLIC) of Member States' inspection systems (SLIC 2017, p. 8)

## 7.2 Policy and practice of OSH regulators at the Member State level

The following activities are essential for underpinning the implementation of compliance promotion, monitoring and enforcement: determining the priorities for resource allocation, determining the programmes and interventions for securing compliance, and determining how to conduct inspection and enforcement (Baldwin and Black 2008; Bluff 2018). In this section, we review the literature relating to each of these activities, as implemented by the OSH regulators in EU Member States. In discussing these issues, we note that the key elements of the context of OSH regulatory activities are the structure, functions and relationships among the regulatory agencies for OSH and for industrial relations, and the wider social protection systems (including social or employment insurance), as discussed in Chapter 2 of this literature review. It is not our intention to discuss details of particular agencies and their responsibilities here. Rather, we will touch on these matters only to the extent that they provide the context for the core activities discussed in this section.

### 7.2.1 Priorities and resource allocation

The scope of the responsibilities of the regulatory agencies with an OSH role in each EU Member State influences the scope of their priorities. In particular, in some countries, the relevant agencies have a broad mandate to address working conditions, OSH and the work environment, as well as other industrial relations and employment matters such as illegal work. Examples of such agencies are those in Estonia, France and the Netherlands (Koskela et al. 2020; Kwantes and Hooftman 2020; Mediavilla 2020; Rothstein et al. 2020). In these countries, the regulators' priorities are broad and potentially embrace inter-related OSH and labour relations concerns. For example, the Dutch labour inspectorate's priorities are notorious offenders, illegal employment, labour exploitation, pretence constructions, companies with poor OSH performance and those that work with hazardous substances (MSA&E 2020). In contrast, some other countries have OSH-focused regulators and priorities. Examples of such countries are Denmark, Ireland and Sweden (Jones et al. 2020; Limborg et al. 2018; Nilsson 2018; see also Mattila-Wiro et al. 2020, p. 62). In addition, there are countries in which the relevant agencies principally focus on OSH matters but embrace some broader employment matters. The situation in Germany is different again, as the bipartite, insurance-based BGs set priorities for the specific industry sectors for which they administer OSH prevention and social insurance, while the federal states' geographically based labour inspectorates have priorities based on OSH and general working conditions (Kaluza 2020; Rothstein et al. 2020).

In addition to the scope of their responsibilities, the regulators typically work to periodic strategies and plans. These include goals and priorities for the purpose of focusing their resources and effort (see, for example, Arbejdstilsynet 2020a; FPSEL&SD 2016; Government of Hungary 2016; Government of Sweden 2015; HSA 2019; MSA&E 2016; Sauni 2019).

Within the broader parameters set by the regulators' responsibilities, strategies and plans, there are different rationales for how they allocate inspectorate resources. Some countries apply a principle of screening all firms (or all firms of a certain size) within a specified time period and/or conducting investigations reactively in response to complaints and incidents in workplaces (Government of Hungary 2016; Graveling 2018a). However, more than half of EU countries have adopted a form of risk-based targeting (Walters 2016), which focuses some resources proactively, in addition to reactive investigations and any general screening they may also do. They target their resources on the basis of a form of risk analysis and evaluation (risk assessment) to determine industry sectors, tasks, firms or types of hazards that give rise to the highest likelihood and severity of injuries, diseases and illnesses. This risk-based approach is used for determining where to focus inspection resources, rather than for choosing between inspection and the many different types of interventions as proposed in smart

inspection (Blanc 2018, pp. 130-132; Blanc and Faure 2018; see also Chapter 1 of this literature review). Some examples of countries that practise risk-based targeting are the following:

- Ireland, where the Health and Safety Authority constructs a risk profile for each industry sector and inspectors select premises from within high-risk sectors based on their local knowledge, and/or where high-risk firms are determined from their history of incidents, complaints and findings from inspections (Graveling 2018b; ICF and European Centre for Social Welfare Policy and Research 2018).
- Denmark, where Arbejdstilsynet has progressively refined its risk-based targeting. From 2011, this regulator selected some firms for inspection based on the greatest work environment problems identified in national surveys by the National Centre for the Working Environment, and other firms based on the findings of inspections conducted, including improvement notices issued (Arbejdstilsynet 2011; Limborg 2018). The inspection findings were the basis for classifying firms' willingness and ability to comply, with 'those who neither will nor can' considered to be the highest risk for non-compliance and therefore to require further inspection (Limborg 2018; Limborg et al. 2018). From 2020, there are plans to develop a new model for more a precise selection of firms, which will require development of a new IT system (Arbejdstilsynet 2020a; Lißner 2020).<sup>36</sup> Companies with Occupational Health and Safety Assessment Series (OHSAS) 18001<sup>37</sup> certification are exempt from regular inspections (Limborg et al. 2018).

With inspectorate staffing levels and resources unable to match the number of firms and workers (Graveling 2018a, p. 12), particularly when a high proportion of firms are MSEs, some form of risk-based targeting may seem an attractive proposition for OSH regulators. However, there are a range of criticisms of risk-based regulation (Blanc and Faure 2018, pp. 100-101), some of which were examined in Chapter 1 of this literature review. In some countries, such as Germany and France, there may be a negative reaction to risk-based approaches because they are seen to conflict with legal or governance norms such as equal treatment (Rothstein et al. 2020). Another concern is that risk-based targeting will mean that regulators do not devote resources to inspecting certain firms and managing certain risks, that regulators may not have a sound basis for determining what to leave out, that overlooked firms may be in the majority and that overlooked risks may have serious consequences waiting to happen (Black 2010, pp. 186, 203-209; Black and Baldwin 2012a, b; James and Walters 2019). Thus, even when there is some form of risk-based targeting, this practice should always be combined with random inspections (Hampton 2005, p. 33; Mascini 2016, p. 529).

Moreover, risk-based inspection has proved difficult to implement. Particular concerns raised by Helsloot et al. (2020) are weaknesses in the scope and quality of the data and information available to inspectorates, and whether or not inspectorates are aware of the limitations of the data and information they rely upon. For OSH, some countries are considerably better served with systematic collection of data and information about working conditions and exposures, injury/disease outcomes and preventive action in workplaces (Arbejdstilsynet 2020a, 2011; Government of Sweden 2020; Koskela and Sauni 2020; Sauni 2019). More generally, there are concerns about a lack of quality data and information in a number of EU countries, with calls for investments in financial, technological and human resources to improve the evidence base to underpin inspection and enforcement (see, for example, Government of Hungary 2016; Graveling 2018a; MoE 2016, p. 21). Furthermore, enhancing data and information is not needed only 'to get risk-based targeting right', as further concerns are that this approach may overlook new and emerging risks and that general screening may be more readily adapted to take account of these risks (ICF and European Centre for Social Welfare Policy and Research 2018, p. 23). A sound

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<sup>36</sup> The index model used from 2011 contained a number of business- and industry-oriented parameters for which firms were given points and those with the highest number of points were selected for inspection. Working environment problems with the highest priority for the regulator were assigned higher values in the index than other problems. The new model (from 2020) will include more parameters that utilise more data and information from inspectors.

<sup>37</sup> Note that OHSAS 18001 was replaced by ISO 45001 in 2018.

evidence base is also an essential underpinning for determining programmes and interventions for securing compliance, as discussed in section 7.3.4.

## 7.2.2 Programmes and interventions for securing compliance

Within each EU country, the structure and functions of and the relationships among the regulatory agencies with an OSH role shape their programmes and interventions for securing compliance. In particular, the core functions for securing compliance — promotion, monitoring and enforcement — may be conducted by the same agency or by separate agencies. The combinations are many and varied but we illustrate this diversity with three broad types. In providing these examples, we note that they relate to the regulation of OSH in workplaces generally and that there may be additional, specific, arrangements for mining, maritime, offshore, transport and other sectors in particular countries. We also note that the OSH regulators in Member States often act together to implement campaigns developed by SLIC.

In the first group of countries, a single OSH regulator is responsible for compliance promotion, monitoring and enforcement activities in workplaces generally. Examples of such countries are Denmark, Ireland, the Netherlands, Finland and Sweden (Arbejdstilsynet 2020a; Government of Sweden 2015; Jones et al. 2020; Koskela and Sauni 2020; Kwantes and Hooftman 2020). In the second group of countries, compliance promotion, monitoring and enforcement functions are split between different OSH agencies, but these agencies are under the same government ministry. For example, in Greece, the labour inspectorate is responsible for inspection and enforcement of compliance with OSH laws, and the Directorate for Health and Safety at Work's responsibilities include OSH awareness raising, education and training, campaigns and the provision of advice, among other matters (Dontas 2020). Similarly, in Belgium, the Directorate-General for Humanisation at Work arranges promotion and information about well-being at work, develops programmes on the distribution and use of good practices and creates networks for exchanging information, while the Directorate-General for the Control of Well-being at Work conducts inspection and enforcement of compliance, and provides some advice (de Broeck 2020). In another example, Estonian Health Board's responsibilities include the preparation and implementation of occupational health programmes, and there is a separate labour inspectorate that undertakes OSH inspection, enforcement and some awareness raising (Koskela et al. 2020).

In the third group of countries, the structural arrangements are more complex, with Germany and France being key examples. The responsibilities of France's General Directorate for Labour (Direction Générale du Travail — DGT) include OSH promotion and awareness raising, and the labour inspectorate (DIRECCTE) that sits under this ministry inspects, enforces and provides advice in relation to the statutory regulations in the Labour Code, which include OSH and other labour obligations (Mediavilla 2020; Rothstein et al. 2020). In addition, the mutual associations operating the French social insurance system (the *Caisse*s) administer a parallel quasi-regulatory regime of setting, inspecting and enforcing compliance with sector-specific rules, as well as providing advice on compliance and subsidising workplace improvements (Mediavilla 2020; Rothstein et al. 2020). Germany also has a dual system for OSH regulation. In the German system, the dominant role is played by sectoral and regional mutual associations, the BGs and UKs, which inspect, enforce and provide advice and training about the OSH rules they set (Rothstein et al. 2020). Their responsibilities lie in broadly enabling statutory regulation. A residual inspection, enforcement and advisory role is carried out by the generalist labour inspectorates in each state (the *Länder*) (Rothstein et al. 2020).

These country groups and examples are not exhaustive. What they serve to illustrate is that the structure and functions of and the relationships among the regulatory authorities with an OSH role have implications for the design and implementation of compliance promotion, monitoring and enforcement. Effective coordination is crucial in national systems where separate agencies make different contributions to securing compliance (see generally Cefaliello 2020, p. 188).

A further layer in the OSH infrastructure for securing compliance is the involvement of social partner organisations, representing employers and workers. Some form of social partner engagement is common practice among OSH regulators in EU countries. In particular, the regulators may seek to enlist social partner organisations in communicating OSH information to workplace parties, in addition to the role of regional and/or sectoral tripartite forums in finding OSH solutions, developing practical tools,



producing and disseminating information materials, or conducting campaigns and training (de Broeck 2020; HSA 2019; Koskela and Sauni 2020; Limborg 2018; Mediavilla 2020). In Germany, the bipartite sectoral and regional mutual associations are the primary agencies promoting, inspecting and enforcing compliance, as outlined above (Rothstein et al. 2020).

Two novel approaches to social partner involvement in securing compliance are the OSH catalogues in the Netherlands and the strategy of orchestration in Denmark. These are examined below. Other than these novel approaches, some regulators have programmes dedicated to tackling specific risks through a series of activities, over a period of time, and involving the inspectorate and social partner organisations. For example, in the Netherlands, the inspectorate conducts programmes for high-risk industries and significant risks, combining targeted inspections, information and criminal investigations, and engaging social partners in their efforts to tackle these risks (Inspectorate SZW 2019).

### 7.2.3 How inspection and enforcement are conducted

The OSH regulators in EU Member States have broadly consistent inspection powers, reflecting Member States' ratification of the ILO Labour Convention (No 81, ILO 1947; see also European Commission 2014b). However, the sanctions that may be imposed for non-compliance differ, although most inspectorates have administrative powers to require OSH improvements and stop work in cases of extreme danger, and powers to initiate or refer matters for legal proceedings (Graveling 2018a; Walters 2016; see also Cefaliello 2020, pp. 177-178). Although SLIC's aim is to promote uniform (or at least equivalent) inspection and enforcement by Member States (SLIC 2017), published descriptions indicate variation in practices across Member States. The following are some of the ways in which practice differs:

- **Proportion of reactive and proactive inspections** — the inspectorates conduct a mix of reactive investigations of (serious) incidents (including dangerous occurrences and illnesses) and complaints, and proactive (preventive) inspections, which may have a specific sector or risk focus, for example chemicals, manual tasks or psychosocial risks (Farina et al. 2016; Graveling 2018a, b; Inspectorate SZW 2017; Jones et al. 2020; Koskela et al. 2020; Sauni et al. 2020). This mix differs along a continuum ranging from countries that conduct all or mostly reactive investigations to those with a high proportion of proactive inspections; the latter may be risk targeted, or routine or random screening. Differences in the mix of reactive/proactive inspection relate in part to each OSH regulator's criteria for investigating reported incidents, but are also influenced by public and political pressures, that is, providing assurance that serious incidents are investigated.
- **Prior notification of inspection** — for proactive inspections, the date of the visit may be announced or unannounced or the inspectorate may notify the firm in advance that a visit will take place but not give the exact date for the visit (Dontas 2020; Limborg 2018; Nielsen 2017; SLIC 2014).
- **Who decides what action is taken** — in each type of investigation or inspection, inspectors decide what action to take in response to non-compliance and, depending on inspectors' powers in the jurisdiction, they may take the particular action themselves or obtain authorisation from the designated authority (Nielsen 2017; SLIC 2014; Walters 2016).
- **Types of actions taken** — inspectors may engage in dialogue or provide advice about preventive work and the resolution of specific issues; provide information, materials and tools, or facilitate access to them; write directions to eliminate or remedy non-compliance; and/or issue notices/orders requiring that work stops immediately when there is a serious threat or requiring improvements by a specified deadline. They may issue notices to consult an authorised OSH consultant for complex/serious/hard to solve OSH problems or multiple offences; issue administrative fines/penalties; implement an 'agreement process' between the inspectorate and the firm to improve OSH (for problems relevant to more workplaces or more complex OSH problems in the firm); and/or further investigate and refer matters for prosecution under OSH or general criminal laws (Agnesi et al. 2016; Arbejdstilsynet 2020b, 2011; Dontas 2020; Fooks et

al. 2007; Koskela et al. 2020; Lißner 2020; Mediavilla 2020; MSA&E 2016; Rothstein et al. 2020; SLIC 2014; see also Cefaliello 2020, pp. 182-183).

- **Balance of mechanisms employed by inspectors** — in some countries, inspectors favour compliance promotion and the resolution of problems through dialogue, while in other countries inspectors' response is 'proportionate' or 'graded' based on the nature and severity of the non-compliance and/or the OSH performance of the firm and its efforts to reduce risks (Graveling 2018a; HSA 2019; Limborg 2018; SLIC 2014; see also Cefaliello 2020, pp. 179-181). For example, improvement notices may be reserved for offences that are not minor or insignificant according to the inspectorate's guidelines (Arbejdstilsynet 2011; SLIC 2014). There is also considerable variation in the number of infringements resulting in legal action, with a range from 300 to 200,000 for country workforces of several million (Graveling 2018a). Differences in the balance of mechanisms employed may arise from differences in OSH regulators' policy and practice, but they may also be driven by legal requirements for inspectors to issue notices for prescribed breaches.
- **Inspectors' style** — as a result of differences in the range of support and sanctions utilised, the character of inspectors' day-to-day interactions with firms may differ between individual inspectors and between inspectorates overall. Some are more helpful and supportive and account for situational characteristics of firms (facilitative style), some are stronger on taking the opinions of others into account (accommodation style) and some are stronger on setting clear expectations and using sanctions (formalism and coercion, or legal style). For research on inspector styles, see de Boer et al. (2018), May and Winter (2011) and Nielsen (2017) and, for changes in style in major hazards inspection specifically, see Lindhout et al. (2020). Differences in style may have an impact on the perceived legitimacy of, and respect for, the inspectorate (for information on legitimacy and procedural fairness, see Chapter 1 of this literature review).
- **Follow-up inspection** — if inspectors issue a notice or fine, there are differences between countries in the time frame for checking compliance following the sanction, and whether this is by a workplace visit or an inspector's request for clarification by phone or letter about the status of the required improvements (Agnesi et al. 2016; Limborg 2018; SLIC 2014).
- **Public recognition of firms' OSH performance** — the OSH regulator may recognise good OSH management. For example, in Denmark, the regulator's website identifies the outcomes of inspections by posting 'smileys' — red for a consultancy or prohibition notice, yellow for an improvement notice with a time limit or an immediate improvement notice, green for no issues and green with a crown for firms that hold a recognised OSH certificate (Graveling 2018a; Lißner 2020). Such postings may contribute to firms' motives to improve their OSH practice through reputational concerns (Graveling 2018a).
- **Types of court-imposed sanctions** — the referral of matters for prosecution is rare and, in these exceptional circumstances, the options for penalties are principally fines and imprisonment. However, in some Member States, the courts have the power to impose non-pecuniary sanctions. For example, a court may order that the offence is publicised by displaying the court judgement at the gates of the workplace or publishing it in a newspaper (France and the Netherlands),<sup>38</sup> on the regulator's website (Portugal) or in the state gazette (Spain).<sup>39</sup> Alternatively, a court may order that the operation of the firm is suspended or terminated (Cyprus), that the offender is disqualified for a period from exercising some functions in the workplace (Greece, France, the Netherlands and Portugal), that the offender serves a term of community service (the Netherlands), that the firm is prohibited for a period of time from bidding

<sup>38</sup> The various non-pecuniary orders for the Netherland are provided under the Economic Offences Act.

<sup>39</sup> This information was gathered from the ILO's LEGOSH database.

for public tenders (Portugal) or that unlawfully obtained gains are confiscated (the Netherlands).<sup>40</sup> There is further discussion of court-ordered non-pecuniary sanctions below.

Clearly, there are many variables in how inspections are conducted and the mechanisms employed to promote and enforce compliance. As well as differences between inspectorates, there is also the potential for individual inspectors to exercise discretion to adapt their response to particular circumstances, as recognised by the ILO Labour Convention (No 81, ILO 1947, Article 17.2). However, there is very little evidence about the relative effectiveness of different approaches or, indeed, if particular variations make any difference at the level of compliance or prevention outcomes. As we saw in Chapter 1 of this literature review, a series of systematic reviews reinforce the conclusion that inspection and enforcement can improve OSH performance (Anderson et al. 2019; MacEachen et al. 2016; Mischke et al. 2013; Tompa et al. 2016). They provide some evidence for specific deterrence and a reduction in injuries from inspections with penalties and suggest that inspection without penalties has no effect in lowering injury rates. In addition, the evidence for general deterrence is limited. Inspections appear to decrease injuries in the long term, but not the short term. Focused inspections have larger effects than general inspections, and the first inspection has the largest effect on compliance rates, with subsequent inspections having a declining impact.

#### **7.2.4 Insights from empirical studies**

The systematic reviews included studies conducted in North America and Australia, as well as in some European countries. Focusing on the empirical studies conducted in the EU, some of which were included in the systematic reviews and others were not, some of the findings are:

- significantly higher compliance in inspected firms than in uninspected firms — in Norwegian firms inspected in relation to chemical hazards and in relation to technical safety, compliance was 38.1 % higher for chemical hazards and 26.7 % higher for technical safety than in uninspected firms (Dahl and Sjøberg 2013);
- a reduction in deaths and injuries in inspected firms compared with uninspected firms in manufacturing in northern Italy, with a greater effect of comprehensive inspections (rather than inspections of specific hazards or operations) in firms with 10-30 employees than in larger firms, and no significant effect regarding programmed inspections (Agnesi et al. 2016; Farina et al. 2016);
- a greater adoption of noise plans of action, exposure measurements and measures to reduce noise in inspected firms than in uninspected firms in noise-related inspection in Swedish firms (Björkdahl et al. 2008);
- associations between inspectors taking a facilitative style and an improvement in the working environment, and between a coercive style and the resolution of non-compliance within a short time frame, game playing and low cooperation among inspected firms among Danish and Swedish construction firms (Nielsen 2017; note that this study did not establish the direction of the associations between inspector style and regulatee responses, that is, what caused what);
- different perceptions among inspectors, OSH managers and workers' OSH representatives of what enhances the effectiveness of inspection in Finland — for inspectors, issues included the harmonisation of inspection practices, developing inspectors' professional skills (including through guidance and instructions), inspection that effectively monitors the implementation of OSH management, and not using the number of inspections as a performance indicator (Niskanen 2013, 2015; Niskanen et al. 2014).

In addition to these studies, some research has focused on efforts to secure compliance and improve OSH outcomes in smaller firms. It is well recognised that there are particular challenges in securing compliance in MSEs because, compared with larger firms, smaller firms have fewer human, economic and technological resources, fewer management and training skills, and lack knowledge of the risks in their workplaces and the resources to use OSH consultants (see, for example, EU-OSHA 2016;

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<sup>40</sup> This information was gathered from the ILO's LEGOSH database.

Lenhardt and Beck 2016; Masi and Cagno 2015; Micheli et al. 2018).<sup>41</sup> Masi et al. (2019) have proposed and evaluated a model for the systematic design of OSH interventions in smaller firms generally (that is, not necessarily regulatory interventions). They used techniques of realistic analysis to establish the underlying mechanisms and contextual factors that can enable or prevent the behavioural changes needed in workplaces for the effective implementation of OSH interventions. The seven steps of the model are (i) defining the OSH challenges of the target group (problem setting), (ii) selecting and defining the methods and solutions that can improve the working environment (intervention design), (iii) defining the behavioural change(s) needed for effective implementation (implementation design), (iv) developing theories about the mechanism(s) to motivate the target group to initiate the behavioural change(s) (mechanism selection), (v) analysing the influence of the context for each of the selected mechanisms (context analysis), (vi) assessing the adequacy of each contextual factor in the current context of the firm (context assessment) and (vii) developing design recommendations for the intervention that build on the results of the four preceding steps (context design). The potential value of such a structured framework lies in defining innovative and more effective solutions, focusing on the elements that have an impact on effectiveness, the systematic structuring of data and producing a holistic and comprehensive overview of all of the relevant factors (Masi et al. 2019).

Although the considerable challenges in securing compliance in MSEs call for carefully designed and implemented regulatory interventions, the initiatives implemented by OSH regulators have principally involved compliance promotion measures, such as awareness-raising campaigns, advice and information provided through websites and ‘customer’ contact centres. Various regulators have offered online risk assessment tools. Many EU countries have adopted Online Interactive Risk Assessment (OiRA), with 220 sector- and country-specific OiRA tools developed in collaboration with EU-OSHA (and based on a Dutch risk assessment tool known as RI&E in 2009).<sup>42</sup> Ireland has developed BeSMART, an online risk assessment and safety management tool. Both OIRA and BeSMART have adaptations for particular industry sectors (HSA 2019; MoE 2016). One type of tool supports risk assessment for the use of chemical substances, by grouping substances in hazard categories and work activities in exposure categories (control banding). The Dutch labour inspectorate has approved a particular model, Stoffenmanager, and supported its use in guidance materials on risk assessment within the framework of the REACH<sup>43</sup> legislation. An evaluation of a two-year intervention providing collective training and individual coaching to workplace parties found that these initiatives helped participating firms to improve their chemical risk management and the use of Stoffenmanager, which had not been achieved by just offering this tool (Terwoert et al. 2016). Nonetheless, enduring problems were a lack of expertise in the firm to move beyond entering product data into Stoffenmanager to the next step of assessing the risk, chemicals data to enter into the model not always being available, difficulties with the tool when assessing exposure to mixtures of substances and a lack of guidance in the tool itself (Terwoert et al. 2016). Even online tools intended to promote sound OSH practices required continuous support and exchange of experiences, and participants did not want this through an online community but through direct, ‘live’ and face-to-face support. These findings are consistent with a systematic review of the literature on regulatory interventions, which has found some evidence that consultative services offered by regulators have no effect on injury rates, and only limited evidence that awareness activities reduce injuries (Tomba et al. 2016, pp. 928-929). With smaller firms, the challenge is particularly acute, as more successful initiatives involve costly face-to-face support rather than written or online materials and tools (Hasle and Limborg 2006).

In addition to compliance promotion measures aimed at smaller firms, OSH regulators in some EU countries have tailored their inspections to these firms. For example, they may provide more guidance on how to comply with inspections in micro enterprises. However, some research has indicated a need for inspectors to reconsider their frame of reference in their dealings with micro enterprises. A Swedish study (Hagqvist et al. 2020) found that inspectors’ frame of reference was oriented to large firms, as they perceived micro enterprises to be outside the norm. Their inspections in micro enterprises were

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<sup>41</sup> In the interventions literature, such factors are referred to as ‘contextual factors’, although in the regulation literature they would be characteristics, capacities and resources (see the discussion of the holistic compliance model in Chapter 1).

<sup>42</sup> At the end of 2020, 220 sector-specific OiRA tools had been published (and 80 were under development) in EU countries and at the EU level. Eleven of these were COVID-19 tools (see <https://osha.europa.eu/en/tools-and-resources/oira>).

<sup>43</sup> REACH is the Registration, Evaluation, and Authorization of Chemicals legislation.

more informal and they tended to lower their expectations and, while inspectors offered more advice to micro enterprises, there was a lack of comprehensive information and support tailored to the heterogeneity of micro enterprises. In addition, inspectors and micro enterprises have different standpoints. Inspectors see themselves as saviours of micro enterprises for which owner-managers should be grateful, while, for micro enterprises, inspectors represent state control and power.

A further set of studies has examined the effect of inspections focusing on psychosocial risks. An analysis by Toukas et al. (2015) of a 2012 SLIC campaign involving psychosocial information and inspection by 27 inspectorates identified two key weaknesses in psychosocial inspection and enforcement. First, there was variance in inspectorates' frames of reference. This concerned whether inspectors responded to individual issues or adopted a holistic approach to the identification of psychosocial risk factors and their management. The second weakness lay in inspector competency and, in particular, the proportion of inspectors with the knowledge and skills to inspect and enforce in relation to psychosocial risks. Toukas et al. (2015) identified the need for inspectorates to adopt and implement a single common inspection strategy for tackling psychosocial risks, which would support targeted, holistic interventions focusing on the content and context of work rather than individual solutions. In addition, such an approach would require systematic training of inspectors in techniques and tools for psychosocial risk inspection and enforcement.

Competency and methods are recurring themes in the inspection and enforcement of psychosocial risks. Evaluation and research studies have led to the following findings.

- Inspectorate projects to develop competency and methods for psychosocial inspection may fail, even though they include initiatives such as recruiting inspectors with psychosocial know how, training inspectors generally in psychosocial inspection, developing inspector guidelines on methods for inspection, and local area support from experienced inspectors (Bruhn 2006; Bruhn and Frick 2011; Hansen et al. 2015). The reasons for failure are a lack of specificity in legal provisions; inspectorates' treatment of psychosocial risks as separate from the work of other agencies that have implications for psychosocial inspection; a lack of or insufficient engagement of senior inspectorate management with the projects, and of the willingness and/or competence to challenge employers on psychosocial and organisational issues; and the fact that exercising judgement is much less clear cut in the context of inspecting psychosocial risks than with technical matters (Bruhn and Frick 2011). Conversely, effective inspection and enforcement of psychosocial risks requires senior managers of inspectorates to understand the complexity of psychosocial risks, and the significant sensitivity and challenges posed by the fact that regulating these risks intervenes in how employers organise and manage their businesses (Bruhn 2006; Bruhn and Frick 2011).
- Job and sector-specific guidance tools for the most important psychosocial risk factors and preventive factors for the job/sector, as developed and used by the Danish Working Environment Authority, are useful for preparing for inspections, to support and structure inspector dialogue with workplace parties as part of investigating and assessing risks and, after inspection, for evaluating if the firm has complied with legal obligations and for writing notices (Rasmussen et al. 2011). The tools are underpinned by inspector training, method descriptions and instructions for inspectors, templates for writing improvement notices and best practice examples of these. There is some evidence to indicate that these initiatives have helped increase inspector awareness of, and interest in, psychosocial risks and their regulation (Rasmussen et al. 2011).
- Inspectors' practices depart from the regulator's procedures to negotiate the complicated social interactions between workplace parties and inspectors, and to foster motivation and capacity to deal with psychosocial risks (Starheim and Rasmussen 2014). In particular, inspectors create time spans that enable firms to understand, accept and be prepared to address psychosocial problems, and create public and private spaces for information gathering and sharing, which make different types of information exchange possible with different types of participants. Such strategies and tactics may depart from regulator instructions that allow limited time for inspection



(for example to finish each inspection within one day) and do not address how to use information sharing as a mechanism for promoting a common understanding and motivation that enables the firm to move forward (Starheim and Rasmussen 2014).

A systematic review drawing on the above and additional publications from 2000 to 2015, from within and outside the EU, reinforces the mixed evidence about the outcomes of inspection for psychosocial risks (Weissbrodt and Giaque 2017). While a small number of publications find positive outcomes, others indicate mixed, no or poor effects of inspection, and the limited evidence points to the need for more evaluation studies.

We conclude that there is considerable scope for further research on different approaches to inspection and enforcement in EU countries, including for specific sectors and risks. The evidence is ‘patchy’ and much is not settled about the strengths and weaknesses of different approaches (for a rare example of research designed to evaluate the effect of inspections and other regulatory tools see Indregard et al. (2019)).

### **7.2.5 Summary of policy and practice**

This section has shown the variation in some of the core activities of OSH regulators in relation to priority setting and resource allocation, programmes and interventions, and the conduct of inspection and enforcement. As advocated in SLIC’s common or core principles, the relevant agencies work to strategies and plans that focus their resources and efforts. Risk-based regulation is the only regulatory model applied, to some extent, by the OSH regulators, although there are concerns about the adequacy of data and information for decision-making, and the potential to overlook new and emerging risks.

Owing to the separation in some national systems of the agencies implementing different functions of compliance promotion, monitoring and enforcement, some countries have potentially greater challenges in coordinating these contributions to securing compliance (see generally Cefaliello 2020, p. 188). This would be the case particularly if they were to contemplate a nuanced strategy of responsive regulation requiring the coordinated and sequential use of compliance promotion mechanisms and different types of sanctions (Braithwaite 2011), which would also involve additional stakeholders in the case of smart regulation (Gunningham and Sinclair 2017). The involvement of additional stakeholders, especially social partner organisations, is a common practice among the OSH authorities, as encouraged in the EU strategic framework (European Commission 2014a) and SLIC’s developmental principles (SLIC 2017). Two novel approaches to stakeholder involvement are examined in the next section. However, most examples are more routine and are not tailored interventions that enlist social partners and other stakeholders in addressing the underlying determinants of non-compliance, using a range of mechanisms and tools.

In regard to the conduct of inspections, there are differences in practice across a range of variables, and it appears that there is inconsistency in the approach rather than the consistency called for in the SLIC common principles. Moreover, with the exception of the UK HSE’s enforcement policy statement and enforcement management model (see Blanc 2018, chapter 3), across the different approaches we did not find examples of hierarchies (pyramids) of support or sanctions (administrative and criminal) that display the range of measures that regulators can employ in securing compliance (Ayres and Braithwaite 1992; Braithwaite 2011; Ivec et al. 2015). Indeed, OSH regulators and the courts in EU Member States seem to have a limited set of measures to employ, constraining their capacity to respond to differences in regulatee capacity and motives.

In view of the multifaceted differences in how compliance promotion, monitoring and enforcement are conducted, there is considerable scope for research into the effectiveness of different approaches. The existing studies of these issues in EU countries reinforce the findings of systematic reviews, namely that inspection and enforcement can have a positive impact on OSH compliance and outcomes, but shed little light on the effect of fundamental differences in compliance promotion, monitoring and enforcement practice. Such insights are needed for interventions in firms generally, for neglected firms (for example micro enterprises) and for specific risks. In addition, we draw attention again to the very different national features of EU Member States’ social, economic and political profiles, which influence their approaches to promoting, monitoring and enforcing compliance (see, for example, EU-OSHA 2013a, 2016; Walters and Wadsworth 2014; see also the discussion in Chapter 2 of this literature review). Such differences

in national systems are key variables for consideration in understanding and explaining differences in compliance promotion, monitoring and enforcement, and the efficacy of these interventions.

Finally, we note that there is potentially more that could be compared, reflecting SLIC's common principles. However, the SLIC evaluation reports are regarded as confidential and were not available to the research team (except for one country) and therefore their findings could not be included in our analysis of compliance promotion, monitoring and enforcement across EU Member States.

### 7.3 Novel approaches at EU Member State level

This section shifts focus from the varied but essentially routine policy and practice at Member State level to novel approaches in compliance promotion, monitoring and enforcement. We note that novel approaches are always evolving and one driver for this is digitalisation. In addition to internet-based communication media, information resources and interactive tools (as discussed above), OSH regulators are starting to consider new methods for promoting and monitoring compliance through digital interfaces. Examples of such innovations are digital platforms enabling workers and others to anonymously report OSH concerns to the regulator, the use of virtual reality in developing OSH competence and the application of drone and video-based real-time technologies in inspections (Mattila-Wiro et al. 2020, p. 64; SafeWork NSW 2020). Regulators may also be contemplating machine learning, big data and geographical information systems (GIS) as ways to improve the targeting of inspections and the evaluation of their outcomes (Mattila-Wiro et al. 2020, p. 64). All of these possibilities extend the frontiers of regulator capabilities, as they require specialised digital, analytical and investigative skills and resources (Mattila-Wiro et al. 2020, p. 65). In regard to the work of OSH regulators, digital developments are at an early stage but, in some respects, have been brought forward during the COVID-19 pandemic, as discussed in section 7.3.1.

#### 7.3.1 OSH regulator responses to COVID-19

The OSH regulators' responses to COVID-19 sit within the wider public health framework at international, EU and Member State levels (ILO 2020; OSH Wiki 2020; WHO 2020), namely the framework of restrictions and required practices, depending on the stage of the pandemic in a particular country. These include limitations on travel between and within countries, and what work can be conducted and how, including working at home and teleworking where these are feasible options. They also include social/physical distancing, good hand and respiratory hygiene, the provision and use of personal protective equipment (PPE), frequent cleaning and disinfection of regularly touched surfaces, testing and self-isolation if a person has COVID-19 symptoms, and contact records to facilitate tracing contacts when cases of COVID-19 are confirmed (see generally ILO 2020; WHO 2020).

While taking their lead from the public health response to COVID-19, the OSH regulators have contributed to the range of advice and information available about managing the risk of COVID-19 in workplaces, and other pandemic-related risks including risks arising from fatigue, psychosocial pressures and working at home (for examples, see DGUV 2020; FIOH 2020). These information and advisory initiatives have utilised pre-existing methods, including website and internet-based media, and are not novel as such.

It is in regard to inspection that OSH regulators have developed novel approaches in relation to COVID-19 risk management. Owing to the highly contagious nature of the SARS-CoV-2 virus and the potential severity of the illness that can arise from exposure to it, OSH regulators have minimised inspector visits to workplaces (personal communication with OSH regulator informants; see, for example, HSE 2020a, b). This has been done to protect their staff and to reduce the risk of an inspector spreading the virus by making visits to multiple workplaces. As well as making telephone calls to workplaces to inquire into OSH practices, regulators have used video-conferencing to conduct 'virtual inspections', in which they discuss and view OSH conditions in workplaces through the digital interface (News Desk 2020; personal communication with OSH regulator informants). A virtual inspection may include the inspector conducting a 'virtual walk-through' of the workplace, asking questions and reviewing electronic documentation, digital photos or videos uploaded from the workplace. Furthermore, the workplace participants may include managers and workers or worker representatives.

The OSH regulators have also played a role in investigating clusters of COVID-19. For example, they have supported public health assessments of clusters by investigating the implementation and efficacy of control measures against virus transmission in workplaces that may have contributed to particular clusters, and have taken enforcement action when needed (HSE 2020a, b).

'Virtual' approaches to inspection are at an early stage, although their development and implementation has increased through the pandemic. To date, there are no regulations or instructions on the conduct of virtual inspections or on if and how sanctions can be used in these inspections (personal communication with OSH regulator informants). Nor has the impact or efficacy of virtual inspections been the subject of evaluation. This is a significant gap, which warrants research.

The other novel approaches examined in this section have been the subject of some research or evaluation and relate to facilitating compliance, a multifaceted strategy for securing improvements in OSH compliance and practice with particular target groups, and improving data to inform preventive interventions.

### **7.3.2 OSH catalogues (*arbocatalogi*)**

In the Netherlands, working conditions catalogues (OSH catalogues) are a novel approach to supporting compliance with the Working Conditions Act, Decree and Regulation (Jacobs 2020; MSA&E 2016). Employer representatives and unions develop the catalogues for specific sectors or branches of the economy (Arboportal 2020; MSA&E 2016). The OSH catalogues contain methods, techniques, practices and standards, and the policy rule on catalogues indicates which statutory obligations are met when firms comply with a catalogue applicable to their sector (MSA&E 2016; Rothstein et al. 2020). They are a reference guide for employers and works councils at the company level, and can facilitate cooperation and self-regulation (Popma and van Lammeren 2017).

The Dutch labour inspectorate (Inspectorate SZW) assesses the suitability of the OSH catalogues and makes them available through the government's OSH portal (Arboportal 2020; MSA&E 2016). Among other matters, the inspectorate considers if the measures in a catalogue are adequate to meet the broader goals of the legal obligations or if they are in breach of any legal provisions for the sector (Popma and van Lammeren 2017). The inspectorate also uses catalogues in determining if firms are complying with their legal obligations (Popma and van Lammeren 2017; Rothstein et al. 2020).

The efficacy and reach of OSH catalogues as an instrument for guiding compliance is uncertain. The social partners for a sector are not obliged to prepare a catalogue (MSA&E 2016) and, although there are almost 150 catalogues (Arboportal 2020), these cover the work of only around half of the Dutch working population, and many employers and works councils are not aware of the catalogues (Popma and van Lammeren 2017). In regard to their content, an evaluation found that two-thirds of OSH catalogues contain very general solutions, and they have been criticised for emphasising 'safe behaviour' rather than the elimination or control of hazards (Popma and van Lammeren 2017; van Vliet and Venema 2011). For 2016/17, the inspectorate reported that its assessment was positive for 20 catalogues, partially positive/negative for 10 catalogues and negative for 20 catalogues, and it declared two catalogues to be invalid (MSA&E 2017).

There is some doubt about whether OSH catalogues have reached their full potential or not, as well as about their suitability as an information source. In particular, there are questions about whether or not they properly reflect legal obligations and are appropriate for the growing proportion of firms that are MSEs and their workers (on MSE challenges, see Chapter 2 of this literature review).

### **7.3.3 Orchestration**

In Denmark, the Working Environment Authority has pursued a strategy of 'orchestration'. This involves stronger collaboration between the authority, social partners (employer organisations and unions) and other stakeholders (for example healthcare and OSH professional organisations), and utilising a variety of policy instruments — regulation, economic incentives and information (Hasle et al. 2014, 2017a). For stronger impact, the authorities and other stakeholders actively and explicitly develop shared policy goals and programmes, and coordinate their implementation, with the aim of creating synergies that lead to better overall OSH outcomes than would be expected from individual actors and/or instruments (Hasle et al. 2017a). Such initiatives have been applied to groups and sectors in which it is hard to

change OSH performance, for example in MSEs and in construction. Case study analyses of orchestration have identified important elements for success (Hasle et al. 2014, 2017a; see also Kvorning et al. 2015):

- regulation as a prerequisite for the social partners to fully participate in an orchestrated strategy;
- the careful design of activities to embody shared objectives, interact in a time sequence and build an understanding and acceptance of policy goals in the target group, and balancing regulation, voluntary action, economic incentives, information and cultural-behavioural change;
- the development of a shared understanding of goals and instruments among the participating stakeholders;
- attention to isomorphism (coercive, normative and mimetic), as the desire to secure legitimacy is a basic driving force for all businesses;
- the consideration of policy goals and programmes from the standpoint of businesses and workers (those targeted) and not only those orchestrating them.

Orchestration is akin to the strategies of smart regulation and really responsive regulation (see Chapter 1 of this literature review). In these approaches, state regulators engage complementary mixes of government, business and third-party actors and instruments in a coordinated and sequential way (Baldwin and Black 2008; Gunningham and Sinclair 2017). Examples of instruments are non-mandatory contracts or agreements between government and industry partners, industry or group self-regulatory standards and auditing, education and training, performance reporting, registers or inventories of hazards, incentives or subsidies for control measures and solutions, and financial liability for poor performance. A key issue for regulators is managing interactions between regulatory measures and ensuring consistency in the logics of different instruments. The Danish experience with orchestration points to a further challenge. Differences in actors' interests and understanding of 'what works' can restrict the level of orchestration and types of instruments they agree to employ, with pressure to include initiatives that are superfluous and/or insufficient to achieve policy goals (Hasle et al. 2017b). In addition, the actors and instruments deliberately enlisted in orchestrated or smart approaches are not the only ones influencing business responses (see Chapters 1 and 2 of this literature review).

### **7.3.4 Data to inform preventive interventions**

Effective prevention of work-related deaths, injuries and diseases (adverse outcomes) requires reliable and accurate data to enable the identification of types of outcomes, hazardous exposures, industries, occupations, tasks and workforce groups that warrant higher priority for regulatory interventions. At the EU level, Eurostat compiles the European Statistics on Accidents at Work (ESAW) and the European Occupational Diseases Statistics (EODS).

For accidents, the principal data source is mandatory reporting, as required by laws implementing the Framework Directive (Aaltonen et al. 2020). The ESAW methodology is aimed at the collection of a common set of information for each accident. This includes the economic activity of the employer and size of the enterprise; the occupation, age, sex and employment status of the affected person; the type of injury, body part injured, time of the accident and days lost; and the circumstances and events giving rise to the accident (European Commission 2001). Despite this common set of information, differences between Member States in the availability of data and in their methods and procedures for collecting and compiling data mean that there are still problems for comparing patterns and trends across countries.

For occupational diseases (including any work-related ill health, illness or disease), the EODS methodology calls for national systems to collect data on the economic activity of the employer and the age, sex and occupation of the victim at the time of hazardous exposure, as well as the diagnosis, severity of the disease, exposure and year of first recognition (Aaltonen et al. 2020; European Commission 2000). Differences in the national systems for collecting data again mean there are problems comparing patterns and trends across countries. Carder et al. (2015) highlighted some of the differences based on 33 occupational disease surveillance systems in 14 EU countries. Among the differences in systems were whether they were fully or partially based on compensation (11 systems) or not (22 systems); whether the suspected occupational disease was reported by the attending

physician or specialist, the affected person and/or the employer; whether the diseases were those on a prescribed list or not; and whether mental health conditions were included or not. Other differences include whether the hazardous exposure is described or not and, if so, who by; whether or not workers in specific sectors and the self-employed are covered; whether the system covers the whole country or specific regions/localities; and any other fields of information recorded. There are also differences in the level of reporting/under-reporting by medical practitioners, workers and employers (see also Iavicoli et al. 2019, supplementary table 1, for an overview of national and cross-national data sources for occupational carcinogens and cancer).

In addition to these collections for occupational accidents and diseases, some EU Member States have implemented initiatives to enhance the data available for preventive interventions. These initiatives seek different types of data, from different parties. For example, in Denmark, the National Research Centre for the Working Environment (NRCWE) has, since 1990, conducted the five-yearly Danish Work Environment Cohort Study (DWECS) (Arbejdstilsynet 2020a, 2011). This cohort study is a sample survey that uses questionnaires and phone interviews to gain detailed information about the working environment and health. The survey has collected data from some 16,300 participants. In addition, since 1999, the NRCWE has conducted biannual surveys to monitor the status of OSH at the company level (Limborg et al. 2018). Questionnaires are sent to worker representatives and management, from a stratified selection of companies, and return some 10,000-15,000 answers about preventive activities in workplaces that reflect the Danish government's strategic goals and priorities. For example, the 2016 survey provided information about the proportion of firms that have assessed, addressed and prevented problems relating to psychosocial risks (45 %), accidents and safety (54 %), and risks related to heavy loads and repetitive work (58 %).

Other countries have initiatives specifically targeting occupational diseases. For example, in Italy, physicians in certain regions are legally required to report work-related diseases to INAIL and to the local health authority (*azienda sanitaria locale* — ASL) of the national health service (Campo et al. 2015). The ASLs may also receive reports from general practitioners and hospital specialists, 'and conduct workplace inspections. The *malattie professionali* (in English 'occupational diseases') system collects data from ASLs in around 14 regions, and analyses the causal relationships between diseases and work activities to determine the sectors and jobs in which there is a high risk of those diseases occurring (Campo et al. 2015).

In the Netherlands and Belgium, there is an online tool, SIGNAAL, for occupational health physicians to report new combinations of health problems and exposures in specific work settings, and for occupational health experts to assess these conditions (Lenderink et al. 2015). The tool facilitates the structured gathering of information and identification of new work-related diseases and occurrences of known diseases in new circumstances. The new combinations can then be further investigated and interventions can be conducted earlier than could be achieved from retrospective data.

In Germany, the DGUV established an OSH risk observatory (RO OSH), which uses an online survey of almost 400 labour inspectors (Hauke et al. 2020). The survey is informed by continuous monitoring of OSH developments from the literature, information from other OSH and research institutions, the media, the OSH community, and within the government and social partners. The first survey (from 2012 to 2014), was administered to three clusters of inspectors with experience in particular combinations of industry sectors. It identified work intensity, demographic aspects, digitalisation, musculoskeletal strain and noise as key issues across the sectors. Future rounds of the survey are likely to use sector variants of the online survey and to involve prevention experts from the DGUV and insurance institutions, in addition to inspectors (Hauke et al. 2020).

This is not an exhaustive account of data and information compiled for OSH preventive purposes. It simply illustrates some of what exists. In the context of changing business structures, precarious and mobile work, and vulnerable workforces, it is all the more important for OSH regulators to comprehensively understand new kinds of threats to safety and health, and those most affected. There is a case to be made for creative solutions for a coordinated and comprehensive approach to surveillance and monitoring of work-related injury and disease outcomes and hazardous exposures, and to the detection of workers at risk (for an example of such a project in the United States, see NASEM 2018).



### **7.3.5 Summary of novel approaches in EU countries**

This section has illustrated some novel approaches to monitoring, promoting and securing compliance, and to enhancing data for preventive interventions. These approaches suggest some interesting possibilities for digitalisation, for collaboration and coordination between OSH regulators, social partners and other stakeholders, and for mixing different types of policy instruments. They also highlight the marked differences between countries in the data available for preventive interventions, and the potential to draw data from a wider range of sources. However, we began this chapter by referring to the crisis in compliance promotion, monitoring and enforcement, namely the limited reach of under-resourced OSH regulators, which has been exacerbated by the changes in the world of work, as discussed in Chapter 2 of this literature review. It is immeasurably more difficult for OSH regulators to locate and reach firms and workers in the context of the proliferation of supply chains and contractual networks, and MSEs; the indirect engagement of workers in non-standard arrangements, and the decline of organised labour; and the difficulties in securing evidence of the harm and risk exacerbated by these challenges. There is a need for a fundamental shift in how OSH regulators and individual inspectors work, to increase the efficacy of compliance promotion, monitoring and enforcement. We now turn to some innovative approaches designed for regulating work in the context of such regulatory challenges, which have been developed in labour regulation generally.

## **7.4 Novel regulatory approaches to tackle world-of-work challenges**

### **7.4.1 Preliminary considerations**

Before beginning this discussion of regulatory approaches to tackle world-of-work challenges, we introduce a caveat. We acknowledge that current OSH legal obligations focus on employers as the principal duty holders, as well as their immediate employees. As such, these obligations are not best suited to addressing OSH when business is conducted in supply chains and other forms of networks. This issue is discussed in Chapter 5 of this literature review, where we canvassed the need for wider regulatory framing by imposing OSH duties on those conducting businesses and those who work for them, and we provided examples of such regulation. A recent Nordic review echoed these concerns and recommended an evaluation of OSH regulations and labour law, including the need to cover new forms of engaging workers, platform work and forced self-employment (Mattila-Wirolahti et al. 2020, pp. 67-68). Others have considered the need for monitoring and enforcement across Member State borders, contemplating a greater role for litigation in the Court of Justice of the European Union or by an independent authority with executive power at the EU level that could act in the place of individual Member State inspectorates, such as the European Labour Authority with an OSH role (Cefaliello 2020, chapter 5, pp. 208-223). However, such EU-wide initiatives require considerable political will, as well as resources, to investigate and enforce issues across borders, and their prospects appear to be limited. There are therefore, in the current framework of OSH laws and regulators, some fundamental issues relating to who can monitor and enforce, what should be monitored and enforced and with whom this should be conducted, which would need to be addressed in considering novel regulatory approaches.

### **7.4.2 Strategic enforcement**

The first of the novel approaches developed in response to the regulatory challenges posed by contemporary business and work arrangements is the Weil (2010) model of strategic enforcement, which was briefly introduced in Chapter 1 of this literature review. This approach aims to tailor regulatory interventions to different types of business structures, to address the underlying determinants of non-compliance and to secure sustainable arrangements to protect vulnerable workers. As originally conceived, the essence of strategic enforcement is embodied in its core strategies, criteria and principles for designing and evaluating regulatory interventions, which are summarised in Box 14.

Beyond the United States, where strategic enforcement was developed, other countries have embraced at least some of its principles and have developed approaches that seek to examine the underlying causes of regulatory contraventions in industries, regions or supply chains. For example, the Australian Fair Work Ombudsman has recently adopted the approach of formal, in-depth public inquiries in response to concerns about systemic employer non-compliance with labour laws across an industry, region or supply chain. In an inquiry, the Fair Work Ombudsman undertakes site visits, interviews and

audits to examine, in detail, the drivers of non-compliance, and, consistent with the principles of strategic enforcement, there is a specific focus on firms with the most power and influence in business structures. When the inquiry concludes, the regulator publishes a report with findings, recommendations and actions taken, including enforcement measures (Vosko and the Closing of the Enforcement Gap Research Group 2020, p. 232).

Some researchers have pointed to the need for a long-term regulatory policy response to the structural shift in economic power away from workers towards digital platforms — including applying the principles of strategic enforcement to focus on the regulatory responsibilities of the ‘nodal’ and powerful digital platform companies that bring together workers and consumers/clients in the digital economy (Rahman 2017, p. 658). Weil (2019, p. 159) argues that the nature of vertically disintegrated or fissured work arrangements, including those facilitated by digital platforms, requires a ‘realigning’ of ‘responsibility and protections’ at work because: ‘At the moment, the disparity between the degree of control exercised by lead [most influential] business organisations and their responsibility under law is large’. The recent reforms in Australia (discussed in Chapter 5 of this literature review), particularly those imposing duties on PCBUs towards workers engaged, caused to be engaged, influenced or directed by the PCBU, provide one example of how regulatory standards might be reconfigured (see Johnstone 2017, 2019; Nossar 2021). However, even these would need to be recalibrated to ensure that they adequately address ‘gig’ work arrangements facilitated by digital platforms.

#### Box 14: Strategic enforcement — criteria, strategies and principles

In the model of strategic enforcement advanced by Weil (2010, 2014), regulators would transform their reactive approach to handling complaints to a more proactive and strategic process (complaints as a resource to inform priorities and interventions). They would prioritise industries with high levels of violations and vulnerable workers and where there is the prospect of widespread and sustainable change. They would focus on systemic effects by addressing drivers, incentives and root causes of non-compliance. They would concentrate their regulatory activities on the most powerful/influential firms in business structures by targeting inspection, investigation and enforcement in companies that affect markets and incentives. They would enhance deterrence (and the symbolic and expressive value of sanctions), seeking ‘ripple’ and ‘local’ effects at organisational, industry and geographical levels. Furthermore, they would aim to achieve sustainable and ongoing proactive compliance and to prevent recidivism by institutionalising positive compliance behaviours across the target industry and through private monitoring by exemplary firms and others.

Subsequently, and reflecting on his experience leading the US Department of Labor’s Wages and Hours Division, Weil (2018) proposed eight principles for implementing strategic enforcement. A regulator taking a more strategic approach would:

1. move from a reactive to a proactive approach to handling complaints;
2. set industry priorities based on a high prevalence and the severity of non-compliance (informed by household survey data) and where workers were less likely to exercise their rights (a form of risk-based regulation);
3. use all enforcement tools available to the regulator;
4. increase efforts for outreach with employers or others conducting businesses to ensure they have a full understanding of the legal requirements and the regulator’s aims and approach, and recognising that there will be differences in approach and ability to ensure compliance that are driven by industry structure, ownership structure, geography, competitive dynamics and company history;
5. increase efforts for outreach with workers (through workers’ centres, community organisations, immigrants’ rights and other advocate groups) to ensure workers are aware of and exercise their legal rights and are protected from victimisation;
6. improve strategic communications (which should be sector specific) about what the regulator is doing, and why and how it is doing it — which also enhances deterrence effects;

7. enter into regulatory agreements with employers and others, in the wake of investigations, to enhance private monitoring and other measures to ensure sustained compliance;
8. have robust processes to evaluate the way in which standards are operating, to evaluate whether or not monitoring and enforcement strategies are reaching all workers at risk and at least reducing exposure to risks, and to monitor the regulator's performance and ensure continuing improvement.

### 7.4.3 Co-enforcement

The second of the novel approaches developed in response to contemporary business and work arrangements is 'co-enforcement', an approach that builds on the research that shows that the presence of a wider range of representatives of workers' interests can strengthen monitoring and enforcement (BWI 2017; Lierman 2010; Morantz 2011, 2013; Weil 1991,1992). Such representatives could include unions, international union federations (BWI 2017), migrant and other worker centres, and other worker organisations. Amengual and Fine (2017, p. 131) argue that workers can be more than 'passive victims' of labour law contraventions, as worker organisations can do more than provide 'arm's length political support for enforcement'. They can also be more than public interest groups checking that regulators have not been 'captured', as envisaged by Ayres and Braithwaite's (1992, chapter 3) tripartite model (as discussed in Chapter 1 of this literature review). According to Amenguel and Fine (2017), worker organisations can play political and operational regulatory roles that are 'non-substitutable'.

In co-enforcement, the position and power of worker organisations would not just augment the state's resources; for example, they would provide in-kind support to inspectors through assisting them with transport, interpreting or translating. In addition, the state regulator would not just delegate regulatory functions to worker organisations (see Black 2003 for information on enrolling non-state actors into regulatory processes). Instead, state policy-makers and regulators would recognise that worker organisations possess some resources that 'can only be partially substituted by the state and only at very high cost' and would 'take advantage of such capabilities' (Amengual and Fine 2017, pp. 131-132). In particular, worker organisations can draw on workers' unique knowledge and understanding of their working environment ('worker voice'), and can complement, contribute to and strengthen state efforts to monitor and secure compliance. For example, workers are present at their worksites every day and their first-hand workplace experiences are vital to identifying areas of non-compliance. They have:

*[T]acit knowledge of the work process, formal and informal teams and communication networks, and firsthand experience with changing work conditions and changing employer practices over time ... Many worker organisations can tap into social networks that afford them vast amounts of information which would otherwise be difficult for state officials to gather alone ... Worker organisations can also provide safe space, and interpretation and facilitation for meeting with workers intimidated by officials ... Building trust is key to gaining information about workplace violations and it is more likely to transpire through worker organisations, especially when deeply rooted in sociocultural or political communities ... In addition, worker organisations play a political role in representing the interests of their constituents, and, thus, are able to advocate for enforcement within administrative structures in ways that bureaucrats, who must appear neutral to multiple principals, cannot.*

Amengual and Fine (2017, pp. 131-132)

In related research, Delp and Riley (2015) provide case studies of an approach to worker engagement used in southern California to address employer violations of OSH requirements for non-unionised, low-wage workers in hotel housekeeping, car-washing, warehousing, waste recycling and airline services. The approach involved collaboration between worker centres, universities and unions, which facilitated dialogue with the state's OSH regulator. This in turn led to closer working relationships between worker advocates and the regulator, and better targeted enforcement by the regulator. The involvement of worker advocates was considered critical to ensuring that the OSH regulatory process was responsive to vulnerable workers who would not otherwise make complaints, or would only make them anonymously, owing to fear of reprisals.

Fine (2017) also suggests that ‘high road’ (exemplary) firms can establish best practice labour conditions in their industries, work with other high-road firms to establish high-road corridors in their sectors and work together to patrol their labour markets for labour contraventions leading to unfair competition (see Chapter 6 of this literature review). For example, Kaine and Rawling (2019) point out that, in supply chains, exemplary firms can also make a non-substitutable contribution with their commercial, or market, power to control the supply chain. They suggest that the co-enforcement approach can be extended to include co-enforcement between governments, worker organisations and exemplary firms, or even just between worker organisations and exemplary firms.

The state, of course, makes a very significant non-substitutable contribution to regulation, through its unique legal power to set standards, gather information about the level of compliance, coerce compliance and, if need be, punish non-compliance. It is not envisaged that worker organisations would share coercive power with state regulators. However, not mentioned in Fine’s (2017) work is the state’s authority to empower worker representatives and worker organisations to exercise functions, powers and rights in addressing OSH issues. As vulnerable workers may not have sufficient trust in government to complain or provide information about labour breaches, the range and role of worker organisations and representatives enlisted requires careful consideration.

Amenguel and Fine’s (2017) model of co-enforcement sets out key ‘conditions’ and ‘mechanisms’ that are necessary to make co-enforcement work. These are outlined in Box 15.

**Box 15: The conditions and mechanisms underpinning co-enforcement**

Amenguel and Fine (2017, pp. 363-367) outline two ‘conditions’ and five ‘mechanisms’ for co-enforcement (see also Fine 2018). The two conditions are:

1. supportive government, that is, political and administrative support;
2. organisations with a strategic capacity and a threshold of resources, that is, the capacity to develop a vision, organise to realise the vision, analyse power relations, develop a strategy and coordinate with government on a daily basis.

The first mechanism is that policy-makers and the parties involved recognise and leverage the unique, non-substitutable capabilities of the state regulator, the worker organisations and the high-road firms. This requires transparency and coordination between governments, workers, worker organisations and, where relevant, the firms.

The second mechanism is to engage in strategic enforcement through sectoral targeting, as, to understand how firms function and the root causes of non-compliance, efforts must be focused on a specific sector.

The third mechanism is that the parties develop and ensure routine flows of information between them. The regulator needs detailed information from the worker organisation, and the worker organisation needs to understand how the regulator gathers information and makes inspection and enforcement decisions and to be kept up-to-date with developments in each case in which there is co-enforcement.

The fourth mechanism is that regulators, worker organisations and exemplary firms build strong relationships and deliberative processes, so that there is trust and good communication, each is accountable and adaptable, and each understands the power differentials in their relationships, the pressures and demands that each face, and the compromises that each has to make in their work.

The fifth and final mechanism is that the parties need to organise political support for the collaboration.

How do strategic enforcement and co-enforcement relate to each other? Weil (2018, p. 445) acknowledges Fine's work and does envisage a role for worker organisations in his strategies to 'enhance general deterrence' and to 'transform complaints' (Weil 2010, p. 86) and in the principle of 'worker outreach'. Whether or not he explicitly adopts the principles of co-enforcement is not clear (Vosko and the Closing of the Enforcement Gap Research Group 2020, pp. 270-272), but what is clear is that co-enforcement has significant potential to strengthen strategic enforcement. Fine (2018, p. 143) argues that 'for strategic enforcement to fulfil its promise, there must be a means for workers, worker organisations and high road firms to take part'. Strengthening enforcement requires the integration of 'vertical' mechanisms such as strategic enforcement together with 'lateral' mechanisms such as co-enforcement (Fine and Lyon 2017, pp. 431, 436).

#### **7.4.4 Vosko et al. enforcement model**

The third of the novel approaches developed in response to contemporary business and work arrangements addresses the need for vertical and lateral mechanisms. Vosko and the Closing of the Enforcement Gap Research Group (2020), in their recent book on closing the labour standards enforcement gap, developed a monitoring and enforcement approach that combines strategic and participatory interventions. In this approach, they propose six principles for enforcing labour standards generally, and particularly for precarious workers, that draw on strategic enforcement and co-enforcement. This approach is summarised in Box 16.

##### **Box 16: The Vosko et al. enforcement model**

Vosko and the Closing of the Enforcement Gap Research Group (2020, pp. 281-292) advance two principles that seek to improve the complaints process (see also Vosko et al. 2016, pp. 391-393).

First, they argue that the efficacy of the individual complaints regime would be improved by 'augmenting worker voice in the complaints process' to counter the power imbalances in work relationships (see the discussion of this in Chapter 1 of this literature review). Proposed measures here include having worker organisations and legal clinics assisting workers in navigating the complaints process, making complaints forms available in multiple languages and hiring inspectors from more diverse backgrounds to match those of workers.

Second, they propose that the complaints administration be retooled to strengthen the weakest aspects of the regime, by increasing resources to handle complaints and changing performance measures from being entered on quantity to being centred on quality. They argue that retooling involves more than increasing resources and performance measures — and propose a further four key principles.

The third principle is to remove barriers to recovering wages by setting up wage protection funds, introducing wage bonds and other measures to make non-payment costly for employers, and so on.

More relevant for this report, the other three principles involve measures to improve inspection and enforcement and draw on key ideas outlined in the discussion of strategic enforcement and co-enforcement above. The fourth principle involves improving inspections by moving 'towards robust proactivity'. For example, this could be achieved through the Australian inquiry model to better understand patterns of non-compliance in specific industries or the ranking method of the US Department of Labor's Wages and Hours Division to prioritise firms and industries on the basis of the prevalence of violations and the likelihood that workers can exercise their basic rights to address violations. This approach also involves training the inspectorate in the principles of strategic enforcement and in the prevalence and dynamics of different work arrangements, as discussed above.

The fifth principle is to redress the 'deterrence gap', which, as discussed in Chapter 1, has resulted from the prevalence of 'advise and persuade' strategies at the expense of deterrence. The deterrence gap can be redressed through the inspectorate adopting a clear commitment to deterrence as one of the pillars of the enforcement strategy, a carefully thought out and well-executed plan to change the inspectorate's organisational culture and the adoption of 'high-level and low-level' deterrence



strategies, involving a mix of prosecutions with high fines and the use of administrative sanctions (penalty notices and so on) that impose fines large enough to have a deterrent effect (see Chapter 1 of this literature review). It also requires better targeting of deterrence measures, for example by targeting the most powerful/influential firms in supply chains, franchising systems and so on.

The sixth principle is to develop participatory approaches to inspection and enforcement, drawing upon the principles outlined in Chapter 1 and in the discussion above of co-enforcement.

#### 7.4.5 A broader range of court-ordered sanctions

The discussion of strategic enforcement and co-enforcement, and Vosko and the Closing of the Enforcement Gap Research Group's (2020) application of these, has highlighted deterrence as one of the pillars of the enforcement strategy, achieved through a mix of prosecution and administrative sanctions. Earlier in this chapter, we noted that Member States' prosecution processes largely have resulted in the courts imposing financial penalties (fines) and imprisonment, and only a few Member States have empowered the courts to impose non-pecuniary criminal sanctions. The literature outlines the limitations of fines as penalties, noting, in particular, that fines enable offences to be 'commodified', can be passed on to consumers or workers and do not directly require the remedying of unsafe and unhealthy working conditions (for a summary of the literature, see Gunningham and Johnstone 1999, pp. 256-259; see also Australian Government 2008, pp. 112-114; Law Reform Commission, New South Wales 2003, chapter 7). Some of the weaknesses of using fines can be addressed by non-pecuniary criminal sanctions such as adverse publicity orders, corporate probation and training orders (see Australian Government 2008, pp. 112-114; Gunningham and Johnstone 1999, pp. 262-277). This approach is well developed in the harmonised Australian WHS Acts, which now empower the courts, when imposing sanctions on offenders found to have committed offences under the acts, to impose one or more of a range of non-pecuniary criminal sanctions, in addition to a fine. These sanctions include (see Part 13, Division 2, of the WHS Acts):

- **adverse publicity orders**, which require the offender to publicise the offence in the way stated in the order (usually in a local and/or national newspaper), the consequences of the offence, the penalty imposed and any other related matter;
- **restoration orders**, which order the offender to take specified steps to remedy any matter caused by the commission of the offence;
- **work health and safety project orders**, which require the offender to undertake a stated project for the general improvement of work health and safety (for example providing OSH training within an industry);
- **court-ordered undertakings**, in which the court adjourns proceedings on the condition that the offender gives the court an undertaking to do something that improves the safety and health of the workers within the organisation, the industry and/or the community;
- **injunctions** requiring the offender to cease contravening this act;
- **training orders** requiring the offender to undertake or arrange for one or more workers to undertake a specified course of training.

With the exception of the state of Queensland, where magistrates have made a number of court-ordered undertakings and training orders (Johnstone 2021), to date the Australian courts have been slow to make these orders (for the reasons for this, see Johnstone 2021; McCallum et al. 2012). However, recently, the New South Wales District Court has begun to make a range of orders, including adverse publicity orders. Arming the courts with a wide range of non-pecuniary sanctions gives them the flexibility to be responsive or proportionate in their sentencing. In particular, it enables them to address the weaknesses of the fine, to enhance deterrence (particularly through adverse publicity orders), and to achieve a range of sentencing objectives beyond general and specific deterrence, especially rehabilitation (through training orders and court-ordered probation; see Australian Government 2008, pp. 112-114; Gunningham and Johnstone 1999). In addition, we note that, in recent years, courts in some of the Canadian provinces have been vested with 'creative sentencing' powers, which has enabled them to tailor non-pecuniary sanctions to improve OSH (and environmental protection) in specified industries.

### **7.4.6 Summary of novel regulatory approaches to tackle world-of-work challenges**

This section has examined some novel approaches to monitoring, promotion and enforcement that are potentially better equipped than current approaches to extend the reach of regulatory interventions and secure compliance in the context of the challenges posed by complex business structures, the proliferation of MSEs and non-standard forms of worker engagement (as discussed in Chapter 2 of this literature review). Centre stage in these novel approaches are the most powerful actors in business structures, systemic determinants of non-compliance and the protection of vulnerable workers. These approaches focus regulators' resources on industry structures and sectors where non-compliance is prevalent and severe. They support workers who are less able to exercise their rights, and they enlist worker, community and advocacy organisations, and exemplary firms, in identifying and addressing non-compliance. Furthermore, where matters are brought to court, this section has canvassed the merits of a range of non-pecuniary sanctions to achieve deterrence and rehabilitation objectives to improve OSH protection.

## **7.5 Conclusions**

This chapter has examined compliance promotion, monitoring and enforcement by OSH regulators in EU Member States, with reference to the international and EU level instruments framing policy and practice, and actual policy and practice. It has highlighted variation in the core activities of OSH regulators in regard to priority setting and resource allocation, programmes and interventions, and inspection and enforcement. As discussed in Chapter 2 of this literature review, we would expect that differences in EU Member States' social, economic and political systems go part way to explaining the variation in policy and practice, but this variation is also the result of the limited application of any consistent regulatory approach across EU Member States and the limited empirical evidence of what works in practice. The OSH regulators are also constrained by a somewhat limited range of measures to employ in building capacity and shaping motives for compliance. In addition, despite the variation, policy and practice in compliance promotion, monitoring and enforcement is essentially routine, rather than novel, notwithstanding some interesting examples of collaboration and coordination between regulators, social partners and other stakeholders, and enhancing data to inform preventive interventions. The regulatory challenges examined in Chapter 2 of this literature review point to the need for a fundamental shift in how OSH regulators and individual inspectors work, to increase the efficacy of compliance promotion, monitoring and enforcement. There is merit in exploring the key elements of strategic enforcement and co-enforcement for this purpose. This would involve tailoring interventions to particular business structures and systemic determinants of non-compliance, enlisting a range of worker and advocacy organisations and exemplary firms, and employing a comprehensive set of support tools and sanctions for securing compliance and better OSH practice. There is also merit in a concerted effort to enhance data and information to inform such interventions.

## Chapter 8: Lessons from the literature

This chapter summarises the key points arising from the overarching review of the literature presented in this volume, which we think may be helpful to OSH policy-makers and practitioners. We have already discussed our findings from the review in some detail in the final report that accompanies this literature review and it is not our intention to repeat that discussion here. However, it is appropriate to remind readers that the aims of the study overall were twofold. One aim was to inform the development of EU-OSHA's new research programme on support for securing compliance with OSH standards. The second aim was for the analysis arising from the extensive and overarching review of the existing knowledge on approaches to support for securing compliance and better OSH practice to be helpful in informing policy and practice at European and Member State levels. It is with the latter aim that this chapter is primarily concerned.

In constructing what follows, key findings concerning the concepts underpinning the support for securing compliance and better OSH practice have been identified for each of the five areas of the review. It is important to be clear that these have emerged as the result of an analysis informed by socioeconomic theories and considered in the context of concepts found in regulatory studies. The relevance of this perspective to the subject matter of the overarching review was discussed at some length in both Chapter 1 of the present volume and in the introduction to the final report. We acknowledge that the perspective we have taken to our exploration of the literature may affect the nature of the literature included in the review. We also acknowledge that it is not the only approach that could have been taken to the subject matter and alternative approaches may have yielded somewhat different findings. However, we have argued throughout this review that the approach we have adopted is the one best suited to the task at hand. This has involved not only exploring knowledge concerning external support for better OSH practice in the EU Member States, but also reaching an understanding of the effects of the social, economic and regulatory contexts in which such practice is set, along with an understanding of the effects of changes that are widely acknowledged to be occurring in these contexts. We have presented a robust argument throughout the review that our socioeconomic perspectives, considered in the context of theoretical constructs emergent from regulatory studies, represent the most effective way to do this.

We have also argued throughout the project that it is important to understand the effects of these underlying contextual determinants of support for securing compliance and better practice, so that informed and appropriate policies and practices are developed to address the challenges they present. That is, the research and theoretical literature frequently makes the point that strategies to support improved OSH practices within firms operate within a constellation of influences on their activities and that the combined simultaneous effects of these determinants need to be taken into account when contemplating strategic regulatory interventions (however 'regulation' is defined). The lessons from the literature do not, therefore, point to prescriptive formulations of either policy or practice. Rather, they encourage a more profound understanding of underlying contextual support and constraints of both policies and practice and of the means with which they might be considered, in the development of more effective policies and practices aimed at improving OSH outcomes in the EU Member States. The aim of this final chapter is to encourage such reflection.

### 8.1 A framework for analysis

Current regulatory scholarship has taken a broad view of the range of actors in the regulatory process, the tools of regulation and the disciplines through which regulatory influence is examined. As Chapter 1 of this literature review argues, situating a review of the evidence of external influences on OSH practices within these frameworks is useful. The cross-cutting and systematic principles of analysis already present in this literature help in understanding the processes involved in supporting better OSH practice, including compliance with OSH regulatory standards. They enable critical and comparative evaluation of evidence of the effectiveness of the institutions and processes of support for compliance and better OSH practice and more systematic identification of cross-cutting comparative themes, as well as identification of gaps in this knowledge.

Of particular interest within this review were new approaches to promoting, monitoring and enforcing compliance that have emerged in response to change in recent decades. Two features of the generic

developments in regulatory thinking, policies and strategies were particularly relevant to the review. The first, already mentioned, is that, while regulatory thinking, policies and strategies largely reflect the state's important role in regulation, they are broader than this. They acknowledge the involvement of private actors and processes in achieving what are regarded as acceptable levels of compliance with standards of conduct deemed appropriate in society. The second aspect is that the wider critical sociological literature provides various explanations and supports different interpretations of compliance and the internal processes involved in complying (all of which were relevant to our review). Most notably, when discussing 'compliance', the literature review has in mind 'substantive compliance' with the collective goals of an OSH regulatory system. 'Better OSH practice' in this context includes better practice in implementing and operationalising OSH arrangements and improving the extent and quality of substantive compliance with OSH regulatory standards.

In particular, as its analytical framework, the review has adapted Parker and Nielsen's holistic compliance model, which explores the internal and, most importantly for the review, external factors influencing OSH best practice and substantive compliance, and the interactions among these. The model identifies sets of factors that influence a firm's compliance behaviour. The external factors among these include external agents, environments and events. A key external factor is the OSH legislation in each Member State, which gives effect to the Framework Directive. They also include the five mechanisms for supporting compliance and best practice that are the focus in this project — the activities of OSH regulators, external prevention services, economic incentive schemes, the role of supply chains and social reporting. These five mechanisms influence a firm's motivations to achieve better OSH practice and OSH compliance, its decision-making characteristics, and also its decision implementing capacities and its resources to achieve better OSH practice and OSH compliance. Of course, these are not the only external actors with the potential to influence OSH compliance and better practice. Others include employer associations, unions and worker organisations, OSH professional organisations, OSH auditing and certification bodies, and the wider political, economic and social context.

## 8.2 Contexts, change and the measurement of OSH outcomes

Chapter 2 reviewed the consequences of change in the nature, organisation, structure and control of work in EU Member States and the effects of the national environments in which support for better OSH practice and compliance operates.

### 8.2.1 OSH outcomes

Chapter 2 considered the extent of injury, ill health and untimely death resulting from work in the EU, the difficulties created by the complexities of current economic development and the national differences in context as regards the effective measurement of the extent of work-related harm. In this latter respect, the chapter pointed out that traditional methods of reporting mortality and morbidity attributable to work-related causes only measure part of the picture. A gradient of health outcomes in which more socially and economically disadvantaged parts of the population experience considerably worse health than those who are more affluent and advantaged is widely acknowledged. Many of these health outcomes are work related. The **pointer for policy and practice** here, therefore, is the need, as shown by the review, for the development of more effective and more holistic means of measuring the work-relatedness of illness and injury, so that support for preventive strategies can be more usefully focused.

### 8.2.2 Consequences of structural and organisational change

We have already indicated that, as both context and change affect the nature and operation of support for securing compliance and better OSH practice, their effects need to be explained and properly understood before we can be sure that policies and practices to address the provision of support will be effective. Chapter 2 highlights the many challenges that are well documented in the burgeoning literature on the consequences of change in the structure, organisation and control of work for the health, safety and well-being of workers. These challenges include the extensive array of new work arrangements, the growth in MSEs and non-standard work, and the effects of changes on the shape of firm cultures (and subcultures) and on motives for compliance and better OSH practice, as well as on the extent of OSH knowledge and skills. The literature indicates that context may further influence labour relations and the

degree to which participative OSH management can be implemented, among other factors that have an impact on OSH performance within firms. It shows how units of production and service are increasingly regarded as parts of market-orientated, network-style economic structures, with greater capacity to harvest externally based scale advantages without becoming rigid organisations. Such changes have been facilitated in part by the restructuring of larger organisations and in part by changes in the business models they utilise, including downsizing, outsourcing, just-in-time production, increased porosity and more flexible labour contracting, a greater focus on supply relations and so on. The literature demonstrates how all of these have been further facilitated by rapid developments in ICT. These developments have transformed situations in which work is done in relation to structure, organisation and control, and have also profoundly changed the wider social and political contexts of work and have globalised the societies in which work takes place. Workforces of EU Member States have also become more diverse as a result of the growth of the presence of non-nationals and the rise in the labour market participation of women, older workers and those with disabilities, at the same time that their collective voice has become less well represented in the discourse around work as a result of the decline of the presence of organised labour. **Policies** to support compliance and better OSH practice, therefore, need to take account of these contextual influences and ensure that their effects are properly understood in the design of interventions.

### 8.2.3 Varieties of capitalism

Chapter 2 further indicates that national differences in the contexts in which compliance with OSH standards is sought include variations in the way OSH regulation is implemented and administered and in the roles of social and employment insurance, support services, trade unions, joint sector bodies, trade and manufacturer's associations, professional bodies and so on. Other even wider contextual differences may also be significant determinants of compliance outcomes. Here the literature distinguishes between different institutional structures within developed economies, such as those of the EU, and provides explanations for why greater convergence between these economies in the context of globalisation is not apparent. Subtler cultural differences are evident in public perceptions of the nature and extent of work-related outcomes for safety and health, for the legitimacy of public or private forms of regulation and for the support for different approaches to achieving compliance. These are all relevant when comparing determinants of health and social policy, as well as those of institutional change and interaction — and are important for comparative ideas of the operation of support for compliance in different Member State contexts within the EU. Here again there are indications of the concepts that policies at the EU level may need to consider to effectively influence the securing of compliance and better OSH practices in Member States.

### 8.2.4 COVID-19 and change

Elements of change resulting from the impact of the COVID-19 pandemic also require consideration. Workplaces have been shown to be prominent and potent sites of transmission, and changes in the structure, organisation and control of work may have contributed to this and to increasing inequality in the distribution of risks of such transmission. Effective strategies to address COVID-19, and also to ensure adequate prevention measures are developed to address the possibility of other future pandemics, therefore need to be built into the approaches to support better OSH practice. At the same time, their relevance and integration with wider public health policy measures and the ideas leading to them also needs to be ensured.

The **pointer for policy and practice** here, therefore, is that these ideas derived from the literature concerning context and change apply to policies and practices developed to improve the external support indicated across all five areas of external support for compliance that are discussed in the review. In addition, there are a number of further lessons for policy and practice that emerge from a more detailed review of the literature relevant to each of these areas.

## 8.3 Social norms, reporting and corporate social responsibility

Chapter 3 explores relevant elements of the broad economic and regulatory social science literature concerning social norms and social reporting in support of securing compliance. It also takes some account of social and organisational psychology literature, especially in relation to ideas concerning



‘safety culture’, safety leadership and means of ensuring compliance behaviours, although, as we have indicated, the main focus of our review has been on social, economic and regulatory studies. The chapter finds a number of clear policy pointers in this literature, again indicating the need to take account of the role of social norms in determining behaviour and the possibilities of using them in the social amplification of the desired improvement in support of compliance and better OSH practice.

### **8.3.1 Social norms influence compliance and better OSH practice**

The review of the literature demonstrates that, as support for compliance is influenced by the perceptions of those responsible for providing this support, it is important to understand what shapes these perceptions. More specifically, an understanding of the role of social reporting in leveraging change in such perceptions and improving OSH practices is important. The **pointer for policy and practice** here, therefore, is that, in both changing perceptions and improving practice, developing policies that seek to promote the social amplification of messages to encourage or enforce compliance also requires an understanding of societal norms and the ways in which they are shaped. Previous EU-OSHA studies on MSEs found social norms to be useful aids to preventive strategies, acting as social amplifiers of the need for prevention or, for example, leading to mimetic behaviours among owner-managers of small firms. They also found that those social norms that influence perceptions about what constitutes unacceptable behaviour were just as important, including notions of ‘criminality’ and ‘stigma’ associated with OSH crime. Chapter 3 explores the support for these findings in the wider literature and discusses the application of these findings beyond MSEs. However, it further establishes that the norms in question and the means of their influence vary. Moreover, the findings of Chapter 3 point to strong cross-cutting connections with the findings of other chapters concerning compliance and the ‘enforcement gap’.

### **8.3.2 Concerted actions**

The **policy pointer** that emerges most powerfully from Chapter 3 is the finding that social norms and social reporting do not act in isolation. Constellations of influence, such as business interests, those of interest groups and the ethical values of corporate directing minds, are also involved. Nevertheless, social norms and reporting requirements may provide a suitable focus for leverage in the interventions adopted by regulatory strategists. In practice, such norms and reporting activities have been argued to be effectively deployed, for example, by concerted actions of interest groups representing workers, consumers, environmentalists and the like, such as is seen in efforts to influence working conditions (including OSH) at the ends of global supply chains. These actions are often conducted within regulatory frameworks or seek to transfer regulatory standards and/or frameworks to the situations that are the focus of their attention. This sometimes occurs with the assistance of regulators and their agencies. Their effects, therefore, cannot be understood in the absence of this regulatory context and also offer regulatory strategists the opportunity to strengthen the role of regulation and, in particular, of ‘enforced compliance’ at both global and national levels, as can be seen in the orchestration of influence to improve OSH practice in MSEs. These all provide strong indications of what needs to be properly taken into account in policy development, whether it is at EU, Member State or sector level.

### **8.3.3 COVID-19, social norms and the workplace**

The lessons of the pandemic are also relevant. Although workplaces are obviously potential sources of infection, in some countries the prominence of OSH issues in the reporting of the spread of the virus has been less than anticipated, and control strategies adopted by national governance have in some cases disappointed OSH specialists. Indeed, the limited role played by OSH in public discourse on the pandemic has been noticeable, as the literature from several countries attests. This may have implications for understanding social norms as an influence on compliance with OSH standards and, therefore, experiences of the pandemic may provide a useful focus for further analysis.

### **8.3.4 Requiring OSH in corporate social responsibility**

Turning to the more institutional forms of social reporting embraced by CSR, the literature on the relationship between OSH and CSR points to several uncertainties. While there are claims of a potential role of CSR in providing support for securing compliance, a role that is increasingly promoted, in policies at EU levels, the literature shows only limited evidence of the causative effects of CSR on improved

OSH practices. Here, too, there are some **policy pointers** in the literature reviewed in Chapter 3, which suggest that concerted actions, when the regulatory mix includes requirements for OSH reporting, may represent the best way forward for policies seeking to use CSR to support securing compliance and improved OSH practices.

## 8.4 Business benefits of OSH and economic incentives to improve compliance and OSH practice

### 8.4.1 Are good safety and health good for business?

One of the widely accepted tenets of OSH policy and practice is that there is a 'business case' for the dedication of a firm's resources to OSH, and a key theme of prevention strategies involves raising awareness of this. Many studies suggest positive financial reasons for businesses to do more than merely meet statutory requirements, and there is a large body of literature describing specific interventions that claim to achieve this. There is also a substantial body of literature that argues there is a connection between employee well-being and strong business performance. Emerging from this literature, and coupled especially with Nordic approaches to 'workability', are ideas concerning the intangible benefits associated with investing in improved OSH, that is, benefits not necessarily identified by conventional forms of financial accounting, but which represent business benefits that are nonetheless real. While the literature focusing on more innovative management accounting in this respect is quite small, and largely Nordic, it does suggest some **policy pointers** concerning more innovative ways to promote a business case for OSH.

At the same time, however, analysis shows that, in practice for many firms, investment in OSH is not necessarily seen to be beneficial for achieving better business outcomes, nor are these outcomes necessarily the principal reason why such investment is undertaken.

### 8.4.2 Using economic incentives to improve OSH practices

Chapter 4 explores the evidence of a wide range of different forms of economic incentivisation that have been used to promote actions on OSH by undertakings, as well as the role of such strategies in national policies on OSH in EU Member States. Various forms of economic incentive schemes are described in the literature. It is noted in Chapter 4 that their effectiveness and transferability are often difficult to evaluate comparatively because the premise on which each scheme is based is often very different from that of other schemes, and the wider contexts in which these schemes are applied and that support or constrain their application also differ. However, it seems clear that the more obviously successful and sustainable forms of economic incentives are often those undertaken through the support of employer-based social insurance systems, such as in Germany. Here, and to some extent in other countries with similar employment and social insurance systems, the orientation and scale of the wider system has allowed considerable innovation in schemes with origins in forms of claims management. Nowadays, in certain cases, these schemes extend even to MSEs, which are not normally responsive to such incentives, and the literature reviewed in Chapter 4 includes some claims of their success. These findings offer obvious **policy pointers**. First, they show the existence of successful interventions, but, second, and arguably more importantly, they also indicate something of the conditions necessary to support such success and the transferability of such interventions. However, it needs to be further acknowledged that, beyond a very limited number of cases, an important problem remains concerning whether these kinds of incentives could play a role in reaching firms and work arrangements that are not normally proactive on matters of spontaneous compliance and that are increasingly present in the changing economies of EU Member States. At the same time, it remains the case that the costs of work-related injury and ill health that are borne by society are far greater than those borne by employers. There is, therefore, reason for further efforts to find ways that might help to incentivise those responsible for work-related injury and ill health to make greater investment in their prevention. There remains a continuing need for policy approaches that will help to increase awareness concerning the potential business benefits of such investment.

Perhaps even more important for policy development are the connections between, on the one hand, economic incentives and the business case and, on the other hand, other support for securing compliance and achieving better OSH practice. Economic incentives may be external, in the sense that

they take the form of direct financial inducements provided by third parties to encourage the ownership/management of a firm to adopt a desired approach to OSH, such as those outlined in the previous paragraph. However, such incentives may also arise as the result of the ownership/management of firms ‘internalising’ the business benefits of taking particular actions in relation to their OSH arrangements to reduce losses or enhance market position. For example, as we summarise in section 8.5, some examples of the successful leverage of better OSH practice in the lower tiers of supply chains show that it has been achieved by proponents being able to make the business benefits of so doing clear to the corporate bodies controlling these chains. Here, a mix of measures by workers and their organisations, consumer interests, the media and state regulators, acting in concert, can persuade corporate interests of the business benefits of adequate OSH arrangements throughout their supply chains and thus provide economic incentives to cause them to act accordingly. Moreover, there are further examples in the literature that indicate how OSH regulators have been able to operate at the sector level or even at the site level (in the case of some large building projects, for example) to ensure that corporate clients and principal contractors cooperate to support OSH among their smaller contractors and subcontractors. The use of certification standards in these mixes offers further opportunities for more systematic improvements. There are therefore significant **pointers for both policy and practice** in support of such coordinated actions.

### 8.4.3 COVID-19 and economic considerations for OSH

The COVID-19 pandemic may have implications in all of these scenarios. At the very least, these examples suggest a need to take more account of the possibility of having to organise employment and work practices, as well as workplaces, to offer better protection for workers against possible future human transmission of infectious diseases. Having adequate OSH arrangements in place to help prevent human transmission of microbial infection may require the rearrangement of work and workstations, with financial implications for employers and often for workers too. If adequate resourcing is not available to incentivise employers to adopt appropriate measures, it is clear from the experience of the pandemic that some employers, particularly those who fear that their businesses will not survive, may require workers to continue to work in unsafe conditions. Institutional support, such as provided by statutory insurance organisations, as well as statutory sick pay arrangements, tax exemptions and the like, may need to be modified to help incentivise such safe arrangements.

## 8.5 Supporting compliance and better OSH practice through leverage in supply chains

Chapter 5 focuses on evidence of ways in which leverage to support compliance with OSH standards and better OSH practice has been operationalised in supply chain relations, and what determines and supports this leverage. It notes the progressive efforts within the EU and elsewhere to broaden the focus of OSH legal duties from a narrow concern for OSH within the direct employment relationship to cover a wide range of contractual arrangements. However, it also indicates that, despite some successful cases, overall progress in EU Member States has been limited. For the most part, therefore, the effects of supply chain relations on OSH remain quite disappointing. Examples in the literature suggest that measures to remedy this are most likely to be effective when regulatory and compliance promotion strategies combine to stimulate and support both vertical and horizontal pressures on firms in supply chains. This would ensure that OSH considerations are prominent in the demands placed on suppliers and that suppliers themselves are sufficiently resourced and motivated to deliver them. Rarely are either regulatory or market and business considerations alone sufficient to motivate supply chain actors to foreground the safeguarding of workers in their dealings with one another.

### 8.5.1 Regulatory mixes and coordinated actions

Two significant **policy pointers** emerge from the review in Chapter 5. One concerns interactions between the different types of support for securing compliance. Thus, as noted above, for example, in successfully effecting leverage for better OSH practice in supply chains, social reporting, economic and business incentives, and the representation of worker and consumer interests can often be seen to be operating in conjunction with innovative regulatory approaches, in a regulatory mix that is enhanced by a framework of legal duties imposed on a broader range of parties than just employers and employees. This approach ensures that responsibilities for the protection of workers in supply chains rest with the

actors who have the power to control and benefit from these supply chains. The second significant element to emerge from this mix concerns leadership and coordination. Again, the evidence would suggest that neither public regulation nor the market alone can ensure the compliance of the business actors involved in these scenarios. The most successful schemes illustrated by the examples in Chapter 5 have been driven by a range of key actors often external to the businesses and supply chains in question. In all such initiatives, inspired leadership and coordinated actions play a significant role in their success.

### 8.5.2 COVID-19 and supply chains

The experience of COVID-19 is relevant here too. As the evidence on workplace exposures suggests that the poorest working conditions are often experienced in work and workplaces situated at the ends of supply chains, it is no surprise that a similar situation has often been seen with regard to work-related exposure to COVID-19. The disruption of the economy brought about by COVID-19 has also revealed the fragility of supply chains, exposing the vulnerability of complex global chains based on lean manufacturing principles. This has led to calls for the development of stronger, smarter and more diverse supply chains to ensure lasting economic recovery. Theoretically, this may offer further opportunities to use supply chain relations to improve support for OSH arrangements, but the details of how this might happen remain to be explored.

## 8.6 Prevention services

For many OSH practitioners and policy-makers, prevention services are central to supporting the achievement of better practice, as is made plain by the prominent position of prevention services among the requirements of the Framework Directive. However, for workers, their experience of engagement with these services is often limited. Chapter 6 explores some of the reasons for this and what the literature has to say about the role of prevention services in supporting compliance and better OSH practice.

### 8.6.1 Form, function and cover

It might be anticipated that the shift that has occurred in most EU Member States from a predominantly production-based economy to one that is more based on services will have had some impact on the nature of prevention services. However, the preferred model, which receives legislative support in many Member States, still seems to be one in which professions allied to medicine and engineering continue to play a major role, alongside some acknowledgement of the need for occupational psychology and related skills. Available evidence suggests that, in practice, prevention services based on this model have a relatively limited presence in Europe overall. At the same time, considerable growth has occurred in the development of a profession of more generalist OSH practitioners, aspiring towards a set of competencies orientated to supporting OSH management needs, and focused more on knowledge of regulatory standards, human behaviour and OSH management, learning and change, human factors, organisation and so on. It is also clear from the recent literature that these practitioners are an increasing presence among the support services deployed in larger organisations in both public and private sectors, and their professional bodies are increasingly prominent in policy discourse in some countries. However, it remains unclear to what extent they also are present in external services.

The literature has little systematic data that are comparable between EU Member States on the extent of the present-day coverage of prevention services (however they are constituted) or their effectiveness. Such data that do exist suggest both their coverage and effectiveness may be limited and biased towards the needs of larger firms. From the review of the literature in Chapter 6, it is difficult to argue that significant progress has been made in efforts to increase the access of workers to prevention services since the measures of the Framework Directive were adopted. Indeed, circumstantial evidence suggests that such access may have diminished. Thus, there are a number of questions that might be asked concerning how, or in which direction, the role of these services might be developed to support compliance and better OSH practice in the future and what will drive such development, all of which are relevant and **inform future policies** on how to make best use of specialist advice and support for OSH.

### **8.6.2 Historical perspectives and origins**

From an historical perspective, the review confirms that prevention services largely originated as elements of health systems organised by the state or social insurance to support production. In addition, or alternatively, they were set up and supported within large organisations by corporate interests to do the same thing, especially in high-risk industries. They also proliferated in sectors with strong legal responsibilities to safeguard the public, such as in food production and transport. In recent decades, however, changes in the economic profiles of post-industrial Europe and in the political and economic policies of governance have resulted in Member States reducing resources allocated to prevention services and the decline of large industrial concerns whose activities necessitated substantial investment in the provision of such services. Nowadays, external prevention services are, therefore, increasingly required to take responsibility for their economic survival in a competitive market.

### **8.6.3 Support**

The literature suggests that several consequences arise from the decline in external support for prevention services. First, it seems clear that a better structured market mechanism is needed to ensure that the business of prevention is sustainable and able to serve a wide range of firms. In Germany and other countries with strong social insurance systems, there is evidence suggesting that these systems have both weathered marketisation and maintained the quality and diversity of their provision. As a result, they have contributed to the economic incentivisation of prevention and even, to an extent, played a role in innovative approaches to supporting compliance in MSEs and other hard-to-reach organisations in the ‘new economy’.

The critical literature elsewhere suggests that the integrated services of countries such as the Netherlands and Sweden may have been less successful in maintaining a strong prevention focus and in contributing support to MSEs and the like. Commentary in these and other countries raises further concerns. There is some evidence, for example, of the presence of poorly qualified or unqualified consultants offering inadequate services, especially to owner-managers in MSEs. Other studies suggest that the costs of prevention services mean that firms (again, especially smaller firms) use them only minimally, availing themselves of the cheapest options available that are sufficient to meet statutory or insurance requirements. Recent literature also suggests an absence of attention to OSH prevention, again especially among the services available to MSEs, where support for absence management and return-to-work strategies are instead prioritised.

It remains the case that, despite these challenges, some OSH prevention services have succeeded in finding the means to secure their sustainability and to deliver support for securing compliance and better practice in different sectors in all EU Member States. It would perhaps be beneficial for policy-makers at both European and national levels to better understand the factors that have enabled them to do so.

### **8.6.4 Synergies between the role of prevention services and other forms of support for securing compliance and better OSH practice**

One consequence of the COVID-19 pandemic concerns the role of expertise in prevention services and in the repositories of knowledge and professional expertise that they share. In publications cited in Chapter 6, attention has been drawn to the need for engagement with this knowledge and experience. Indeed, it seems that many of the early mistakes made by public authorities in their efforts to control exposures during the COVID-19 pandemic in some countries could have been avoided if they had been more receptive to such advice.

Two other obvious areas of synergy are evident. One is the potential role of internal prevention services operated by powerful buyers at the apexes of supply chains in supporting OSH needs at various levels in the same supply chains. Another is in the role of prevention services in the economic incentivisation of better OSH practices, such as is seen in some of the activities undertaken by the BGs in Germany. These, and other examples, could be helpful to policy-makers in understanding how such successful synergies might be sustained and transferred, and what the role might be of social norms, economic pressures and/or innovative compliance strategies in their success.



### 8.6.5 Prevention services versus OSH advisers

Further lessons from the literature that may be relevant to policy and practice are seen in the growth in the presence and significance of ‘generalist’ OSH practitioners in recent decades. Traditional models of prevention services, which developed in relation to an industrialised past, provide valuable contributions to supporting preventive practices. However, for a host of organisational, structural, economic and political reasons, they are ill suited to directly addressing the large-scale OSH prevention needs in the present-day economies of most EU Member States. As Chapter 6 points out, the future effectiveness of these services lies in their developing in other directions. It also suggests some parallels between this situation and that seen in the case of regulatory surveillance, where traditional methods of regulatory enforcement are seen to be ineffective in relation to increasingly hard-to-reach forms of work. As is explored in Chapter 7, this has stimulated thinking about more effective ways of monitoring and securing compliance. The same kind of approach may provide **policy pointers** for the future of prevention services too.

## 8.7 Encouraging novel approaches by OSH regulators

Chapter 7 observes that the policies and practice of OSH regulators in EU Member States are framed and steered by a series of international and EU level instruments that variously seek to promote the competence, professionalism and good governance of OSH/labour regulators and increased staffing levels and resources. However, despite such convergence internationally, the literature reveals significant variation in priority setting and resource allocation, programmes and interventions, and how inspection and enforcement are conducted in different Member States. The mandates of OSH regulators enable them to address a narrower or broader range of problems, with the former focusing on OSH matters and the latter extending to labour relations and employment issues, which, in some circumstances, can be closely intertwined with OSH matters. It appears that risk-based regulation is the only regulatory model applied by some OSH regulators. It is sometimes used principally to target resources for investigations and responses to complaints and, to some extent, in choosing what action to take in the course of inspections, rather than for choosing between inspection and other types of interventions (as proposed in smart inspection). There are concerns about the adequacy of data and information for risk-based decision-making and the potential for both new and emerging risks and vulnerable workers to be overlooked. As both Chapters 1 and 7 of this literature review note, some OSH regulators are exploring the use of machine learning to assist in choosing workplaces to inspect.

### 8.7.1 Mind the gap

Perhaps among the more obvious **messages for policy-makers** that emerges from the review of the literature is the need to be aware of the gap between what is theorised and discussed in the literature and the evidence of practice among regulators in the Member States. While there is a substantial body of literature reviewed in this report that discusses innovative regulatory practices, there is much less in the way of published evidence of current practices in most EU Member States. Owing to the separation in some national systems of the agencies implementing compliance promotion, monitoring and enforcement functions, some countries may have potentially greater challenges in coordinating more innovative regulatory contributions to securing compliance. This would be the case particularly if they were to contemplate a nuanced strategy of responsive regulation requiring coordinated and sequential use of compliance promotion mechanisms and a hierarchy of different types of sanctions.

The involvement of social partner organisations (employer and union representatives) is common among OSH regulators, as encouraged in the EU strategic framework and SLIC’s developmental principles. However, most examples of social partner involvement are routine. They do not involve OSH regulators, non-state actors and employers using a three-sided hierarchy of mechanisms and tools as envisaged by some models of smart regulation in the literature. Nor are they tailored interventions addressing the underlying determinants of non-compliance and drawing on the non-substitutable contributions of worker organisations or exemplary employers, as envisaged, for example, in the literature on strategic enforcement and cooperative enforcement.

### 8.7.2 Challenges of difference

Although OSH inspectors have broadly consistent powers across EU Member States, there are differences between Member States in fines and non-pecuniary sanctions for non-compliance and in the conduct of inspections across a range of variables. There are further differences in inspectors' style, which may be more facilitative, accommodative or coercive, and in whether there is follow-up inspection or some other means for checking the response to notices or fines issued. Other differences relate to the public display of the outcomes of inspection and enforcement and of firms' OSH management. A further key finding is that OSH regulators and the courts in EU Member States have a limited set of administrative and criminal sanctions to employ. This may constrain their ability to respond to differences in firm's capacities and motives, and Chapter 7 argues that there may be merit in establishing comprehensive hierarchies (pyramids) of support and sanctions that regulators can use to secure compliance.

Overall, it appears that there is inconsistency in the approaches to monitoring, promoting and enforcing compliance in EU Member States, rather than the consistency called for in SLIC's common principles. Existing studies in EU countries reinforce the findings of systematic reviews, namely that inspection and enforcement can have a positive impact on OSH compliance and outcomes, but shed little light on the effect of fundamental differences in approaches.

The **message here for policy** is that such insights are needed for OSH regulatory interventions in firms generally, for neglected firms (for example micro enterprises), for neglected workers (for example those who are vulnerable or in precarious work) and for specific risks.

In summary, despite EU level frameworks encouraging consistency in compliance promotion, monitoring and enforcement by OSH regulators, there is considerable variation in policy and practice between EU Member States, which is likely to be substantially attributable to differences in social, economic and political systems (such as those discussed in Chapter 2 of this literature review).

Beyond variation in policy and practice, further key issues identified include the limited empirical evidence of what works in practice, the limited range of measures and sanctions that OSH regulators and the courts can employ to secure compliance, and the limited application of relevant inspection and enforcement principles or models across EU Member States. There are some interesting examples of novel approaches in EU countries, but the scale of the regulatory challenges facing OSH regulators calls for a fundamental shift in how these regulators promote, monitor and enforce compliance. This shift in enforcement policy requires interventions informed by comprehensive data, tailored to address systemic determinants of non-compliance, enlisting a range of worker and advocacy organisations and exemplary firms, and employing a comprehensive set of support methods and sanctions for securing compliance and better OSH practice. Furthermore, this situation calls for careful considerations of the lessons of the COVID-19 pandemic when considering the role of OSH regulators in the future — all of which have important implications for policy.

### 8.7.3 Overarching lessons from the literature

The review demonstrates the existence of a substantial framework of institutional support for securing compliance and better OSH practice, which acts in a variety of different ways to achieve this task. It shows that this framework has been responsive to the changes in recent decades in the wider economic contexts in which it operates and to policies guided by political and economic orthodoxies of governance in Member States and among advanced market economies globally.

During the last half century, there has been a significant movement away from prescriptive regulatory standards and efforts by national regulatory agencies to achieve their enforcement, towards more principle-, performance- and process-based regulatory requirements. These changes have been matched more recently by an increasingly diverse set of compliance promotion strategies. Discourse in the literature on regulation has also grown exponentially in the last few decades. It has sought to develop a broader understanding of the scope of regulation and the role of both private and public regulatory actors and processes potentially involved in promoting and securing compliance. Securing compliance with standards of good OSH practice (however such standards are determined) has therefore taken on a much broader meaning and, in parallel with this, the institutions and processes involved in supporting

it have become more diverse. This has not occurred in a political or economic vacuum and, as this review has made abundantly clear, trends in the political economies of European Member States have also strongly influenced the nature and extent of strategies to promote compliance with OSH standards.

Institutions and processes that promote compliance include all those associated with national systems of governance for OSH, in which, ideally, national policies and plans serve to coordinate and direct a spectrum of institutions and processes that regulate the risks of potentially harmful outcomes arising from work. Some of these are embedded in public regulation, some are market focused and others arise from social norms and notions of acceptable social behaviour. Thus, OSH compliance is achieved through the application of a range of support processes that span a spectrum of voluntary and coercive influences aimed at achieving better practices in the prevention of injuries and ill health arising from work. In discussing these support strategies, we have grouped them into five areas. However, a major conclusion that emerges from the study is that nowhere is support found in isolation in any one area, with support instead provided as a combination of the many processes that are at work alongside each other, with this collaboration important in determining its outcomes. These various processes include, for example, the roles and effectiveness of workers' and employers' organisations and the institutional and procedural products of relations between them, as well as the influence of other groups and processes in the social and economic relations of business. They are especially present among the institutions of governance and consultation that are found at various levels of the EU, ranging from sector to international levels, and are important structures in the systems for promoting compliance. As products of post-war consensus politics, most of these institutions in EU Member States have been tripartite bodies for some considerable time, although nowadays they increasingly involve individuals and representatives of other bodies too.

Related to this is another major finding and **policy pointer** of the review concerning the multiplicity of actors and processes that are engaged in effective support for compliance and best practice. Much of the specialist literature on OSH interventions tends to focus on single interventions, undertaken by one main actor, whether it be a prevention service, a state OSH regulator, a representative of a trade union, an employer's organisation or a joint body, a social insurance agency or any other organisation. However, a more accurate account of the reality of such interventions is that they are seldom quite so unilateral. They depend, for their implementation and operation, and especially for their transferability and sustainability, upon the coordinated actions of a multiplicity of actors and processes. A similar conclusion emerged from EU-OSHA's extensive review of successful interventions on OSH in MSEs. This understanding is also in keeping with current thinking on compliance more widely and it needs to be acknowledged both in the design of interventions and in research to measure their effectiveness. These points also inform the recommendations for future research that are made in detail in the final report and summarised in the executive summary.

Political and economic orthodoxies have, for some time, tended to promote the role of the state as being to facilitate market-based solutions, rather than to itself directly intervene in the regulation of the market. This has applied in relation to OSH, as it has elsewhere in the regulation of economic affairs. However, a substantial theme in the literature reviewed in this volume presents an argument for greater engagement from the agencies and policies of the state in providing leadership in the achievement of the governance of prevention in OSH. It suggests that OSH is not fundamentally different in this respect from other aspects of financial and market regulation. Current literature, therefore, indicates that coordinated innovative approaches to promoting compliance, using a variety of processes and institutional actors according to circumstance, are more likely to be effective in meeting the challenges of emergent economic and work scenarios than more unilateral approaches. However, the task of achieving such coordination is not small. The limited evidence of successful initiatives to date suggests that this approach is more likely to be effective if there is strong leadership to support the regulatory mixes involved. The review concludes that agencies of the state remain better placed to undertake this leadership role than most other institutional actors involved. The **message this conveys for policy** at all levels should therefore be very clear.

## References

- Aaltonen, M. and Söderqvist, A. (1988). Costs of accidents in the furniture industry — A Nordic study. *Scandinavian Journal of Work Environment and Health*, 14(suppl. 1): 103-104
- Aaltonen, M., Kauppinen, T. and Saalo, A. (2020). Reporting and monitoring occupational accidents and diseases in Europe. OSH Wiki. Available at: [https://oshwiki.eu/wiki/Reporting\\_and\\_monitoring\\_occupational\\_accidents\\_and\\_diseases\\_in\\_Europe](https://oshwiki.eu/wiki/Reporting_and_monitoring_occupational_accidents_and_diseases_in_Europe)
- Abrahamsson, L. (2000). Production economics analysis of investment initiated to improve working environment. *Applied Ergonomics*, 31(1): 1-7
- Abrams, H. K. (2001). A short history of occupational health. *Journal of Public Health Policy*, 22(1): 34-80
- Agius, R. (2020a). Covid-19 and health at work. *Occupational Medicine*, 70: 349-351
- Agius, R. (2020b). Covid-19: Statutory means of scrutinizing workers' deaths and disease. *Occupational Medicine*, 70: 515-522
- Agnesi, R., Fedeli, U., Bena, A., Farina, E., Sarto, F., Veronese, M. and Mastrangelo, G. (2016). Statutory prevention of work injuries in Italy: An effectiveness evaluation with interrupted time series analysis in a sample of 5000 manufacturing plants from the Veneto region. *Occupational and Environmental Medicine*, 73(5): 336-341
- Aguinis, H. and Glavas, A. (2012). What we know and don't know about corporate social responsibility: A review and research agenda. *Journal of Management*, 38(4): 932-968
- Ahonen, G. (2006). Do policies develop like scientific paradigms? On occupational safety and health legislation in Finland. *European Journal of Political Research*, 14: 305-319
- Akers, R. L. and Sellers, C. S. (2009). *Criminological Theories: Introduction, Evaluation, and Application*. Oxford University Press, New York
- Albtract, G. (2005). Integrated labour inspection systems: The strategy of the ILO. In: International Labour Organisation (corporate ed.). *The Global Challenges of Labour Inspection*. Labour Education 2005/3-4, Nos 140-141. ILO, Geneva: 67-73
- Alingh, C. W., van Wijngaarden, J. D. H., Huijsman, R. and Paauwe, J. (2018). The influence of environmental conditions on safety management in hospitals: a qualitative study. *BMC Health Services Research*, 18: 313
- Almond, P. (2015). Revolution blues: The reconstruction of health and safety law as 'common-sense' regulation. *Journal of Law and Society*, 42(2): 202-229
- Almond, P. and Esbester, M. (2019). *Health and Safety in Contemporary Britain: Society, Legitimacy and Change since 1960*. Palgrave MacMillan
- Almond, P. and Grey, G. (2017). Frontline safety: Understanding the workplace as a site of regulatory engagement. *Law & Policy*, 39(1): 5-26
- Amengual, M. and Fine, J. (2017). Co-enforcing labour standards: The unique contributions of state and worker organizations in Argentina and the United States. *Regulation & Governance*, 11(2): 129-142
- Andersen, J. H., Malmros, P., Ebbelhoej, N. E., Flachs, E. M., Bengtsen, E. and Bonde, J. P. (2019). Systematic literature review on the effects of occupational safety and health (OSH) interventions at the workplace. *Scandinavian Journal of Work Environment and Health*, 45(2): 103-113
- Andreoni, D. (1986). *The Cost of Occupational Accidents and Diseases*. Occupational Safety and Health Series No. 54, International Labour Office, Geneva

- Andreou, N. J. A, Leka, S., Jain, A. and Mari-Ripa, D. (2012). What do companies tell us about their occupational health and safety practices: An analysis of 100 FT 500 company Corporate Social Responsibility reports. Paper presented at the 10th European Academy of Occupational Health Psychology Conference, Zurich, 11-13 April
- Angelini, L. (2017). La rappresentanza dei lavoratori per la sicurezza nelle società di capitali e nelle aggregazioni economiche complesse. *Diritto della Sicurezza sul Lavoro*, 2: 102-142
- Anner, M. (2012). Corporate social responsibility and freedom of association rights: The precarious quest for legitimacy and control in global supply chains. *Politics & Society*, 40(4): 609-644
- Antonelli, A., Baker, M., McMahon, A. and Wright, M. (2006). Six SME Case Studies that Demonstrate the Business Benefit of Effective Management of Occupational Health And Safety. Research Report 504, prepared by Greenstreet Berman Ltd for the Health and Safety Executive
- Arbejdstilsynet (2011). Agreement Between the Danish Government (Denmark's Liberal Party and the Conservative People's Party), the Social Democratic Party, the Danish People's Party and the Social Liberal Party. A Strategy for Working Environment Efforts up to 2020. Arbejdstilsynet, Copenhagen
- Arbejdstilsynet (2020a). Agreement on new and improved occupational safety and health initiatives and orderly labour-market conditions. Arbejdstilsynet. Available at: <https://at.dk/en/about-us/about-the-wea/strategy-2020/>
- Arbejdstilsynet (2020b). How does Arbejdstilsynet conduct inspections? Workplace Denmark. Available at: <https://workplacedenmark.dk/health-and-safety/inspection-of-foreign-companies/>
- Arboportaal (2020). Arbocatalogi. Arboportaal. Available at: <https://www.arboportaal.nl/externe-bronnen/arbocatalogi?pagina=2>
- Armstrong, H. and Bunn, K. (2012). Experience rating and occupational disease: A New Zealand case study. *Policy and Practice in Health and Safety*, 10(1): 63-76
- Aronsson, G., Gustafsson, K. and Dallner, M. (2002). Work environment and health in different types of temporary jobs. *European Journal of Work and Organizational Psychology*, 11(2): 151-175
- Arya, B. and Zhang, G. (2009). Institutional reforms and investor reactions to CSR announcements: Evidence from an emerging economy. *Journal of Management Studies*, 46(7): 1018-1112
- Ashby, S. and Diacon, S. (1996). Motives for occupational risk management in large UK companies. *Safety Science*, 22(1-3): 229-243
- Australian Government (2008). National Review into Model Occupational Health and Safety Laws. First Report to the Workplace Relations Ministers' Council (First Report). Commonwealth of Australia, Canberra.
- Auvinen, A.-M., Kohtamäki, K. and Ilvesmäki, A. (2012). Workplace health promotion and stakeholder positions: A Finnish case study. *Archives of Environmental & Occupational Health*, 67(3): 177-184
- Ayres, I. and Braithwaite, J. (1992). *Responsive Regulation: Transcending the Deregulation Debate*. Oxford University Press, Oxford
- Azaroff, L., Levenstein, C. and Wegman, D. (2002). Occupational injury and illness surveillance: Conceptual filters explain underreporting. *American Journal of Public Health*, 92: 1421-1429
- Baccaro, L. and Howell, C. (2011). A common neoliberal trajectory: The transformation of industrial relations in advanced capitalism. *Politics & Society*, 39(4): 521-563
- Bailey, S., Jørgensen, K., Koch, C., Krüger, W., Litske, H. and European Foundation for the Improvement of Living and Working Conditions (1995). *An Innovative Economic Incentive Model for Improvement of the Working Environment in Europe*. Office for Official Publications of the European Communities, Luxembourg



- Baker, B., Kesler, D. and Guidotti, T. (2020). Occupational and environmental medicine: Public health and medicine in the workplace. *American Journal of Public Health*, 110: 636-637
- Baldwin, R. and Black, J. (2008). Really responsive regulation. *Modern Law*, 71: 59-94
- Baldwin, R. and Cave, M. (1999). *Understanding Regulation: Theory, Strategy and Practice*. Oxford University Press, Oxford
- Baldwin, R., Cave, M. and Lodge, M. (2012). *Understanding Regulation: Theory, Strategy and Practice*. Oxford University Press, Oxford
- Banerjee, S. B. (2008). Corporate social responsibility: The good, the bad and the ugly. *Critical Sociology*, 34(1): 51-79
- Bardach, E. and Kagan, R. (1982). *Going by the Book: The Problem of Regulatory Unreasonableness*. Temple University Press, Philadelphia, PA
- Barrera-Algarín, E., Estepa-Maestre, F., Sarasola-Sánchez-Serrano, J. and Vallejo-Andrada, A. (2020). COVID-19, neoliberalism and health systems in 30 European countries: Relationship to deceases. *Revista Española de Salud Pública*, 94: 1-15
- Bartley, T. and Kincaid, D. (2016). The mobility of industries and the limits of corporate social responsibility: Labor codes of conduct in Indonesian factories. In: Tsutsui, K. and Lim, A. (eds). *Corporate Responsibility in a Globalizing Worlds: Global Dynamics and Local Practices*. Cambridge University Press, Cambridge, United Kingdom: 393-429
- Bauman, Z. (2007). *Consuming Life*. Polity, Cambridge, United Kingdom
- Baumann-Pauly, D., Wickert, C., Spence, L. J. and Scherer, A. G. (2013). Organizing corporate social responsibility in small and large firms: Size matters. *Journal of Business Ethics*, 115(4): 693-705
- Beck, U. and Beck-Gernsheim, E. (2002). *Individualization: Institutionalized Individualism and its Social and Political Consequences*. Sage Publications Ltd, London
- Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76(2): 169-217
- Belzer, M. H. (2000). *Sweatshops on Wheels: Winners and Losers in Trucking Deregulation*. Oxford University Press, New York
- Benach, J., Amable, M., Muntaner, C. and Benavides, F. (2002). The consequences of flexible work for health: Are we looking in the right place? *Journal of Epidemiology and Community Health*, 56: 405-406
- Berg, J., Furrer, M., Harmon, E., Rani, U. and Silberman, M. S. (2018). *Digital Labour Platforms and the Future of Work: Towards Decent Work in the Online World*. International Labour Organisation, Geneva
- Berger, P. and Luckmann, T. (1967). *The Social Construction of Reality: A Treatise in the Sociology of Knowledge*. Doubleday, Garden City, NY
- Better Regulation Delivery Office (2012). *Common Approach to Risk Assessment*. BRDO
- Bevan, S., Brinkley, I., Bajorek, Z. and Cooper, C. (2018). *21st Century Workforces and Work Practices: The Challenges and Opportunities for Future Work Practices and Labour Markets*. Bloomsbury, London
- Bhimani, S. H. and Sivabalan, P. (2016). Voluntary corporate social responsibility reporting: A study of early and late reporter motivations and outcomes. *Journal of Management Accounting Research*, 28 (2): 77-101
- Biddle, E. (2009). The business value of occupational safety and health activities. Keynote paper presented at the Economic Dimension of Occupational Safety and Health (ECOSH) conference, Helsinki, 23-24 January

- Billett, S. (2001). Knowing in practice: Re-conceptualising vocational expertise. *Learning and Instruction*, 11: 431-452
- Billett, S. (2006). Relational interdependence between social and individual agency in work and working life. *Mind, Culture and Activity*, 13(1): 53-69
- Bird, F. and Germain, G. (1966). *Damage Control, A New Horizon in Accident Prevention and Cost Improvement*. American Management Association, The Comet Press, New York
- Björkdahl, C., Wester-Herber, M. and Hansson, S. O. (2008). Effects of workplace inspections: The Swedish noise campaign. *Policy and Practice in Health and Safety*, 6(1): 55-63
- Black, C. (2008). *Working for a healthier tomorrow: Dame Carol Black's Review of the Health of Britain's Working Age Population*. TSO (The Stationery Office), London
- Black, J. (2001). Decentring regulation: The Role of regulation and self-regulation in a 'post-regulatory' world. *Current Legal Problems*, 54(1): 103-146
- Black, J. (2002). Critical reflections on regulation. *Australian Journal of Legal Philosophy*, 27: 1
- Black, J. (2003). Enrolling actors in regulatory processes: Examples from UK financial services regulation. *Public Law*, Spring: 62-90
- Black, J. (2005). The emergence of risk-based regulation and the new public management in the UK. *Public Law*, Autumn: 512-549
- Black, J. (2008). Constructing and contesting legitimacy and accountability in polycentric regulatory regimes. *Regulation & Governance*, 2: 137-164
- Black, J. (2010). Risk-based regulation: Choices, practices and lessons learnt. In: Organisation for Economic Co-operation and Development (corporate ed.). *Risk and Regulatory Policy: Improving the Governance of Risk*. OECD, Paris: 185-224
- Black, J. and Baldwin, R. (2010). Really responsive risk-based regulation. *Law and Policy*, 32(2): 181-213
- Black, J. and Baldwin, R. (2012a). When risk-based regulation aims low: Approaches and challenges. *Regulation & Governance*, 6(1): 2-22
- Black, J. and Baldwin, R. (2012b). When risk-based regulation aims low: A strategic framework. *Regulation & Governance*, 6(2): 131-148
- Blanc, F. (2012a). *Inspection Reforms: Why, How and With What Results*. OECD, Paris
- Blanc, F. (2012b). Tools for effective regulation: Is 'more' always 'better'? *European Journal of Risk Regulation*, 9: 465-482
- Blanc, F. (2018). *From Chasing Violations to Managing Risks: Origins, Challenges and Evolutions in Regulatory Inspection*. Edward Elgar, Cheltenham, United Kingdom
- Blanc, F. and Escobar Pereira, M. M. (2020). Risks, circumstances and regulation — Historical development, diversity of structures and practices in occupational safety and health inspections. *Safety Science*, 130:
- Blanc, F. and Faure, M. (2018). Smart enforcement: Theory and practice. *European Journal of Law Reform*, 20(4): 78-103
- Blanchflower, D. (2015). As good as it gets? The UK labour market in recession and recovery. *National Institute Economic Review*, 231(1): 76-80
- Blanchflower, D. (2019). *Not Working: Where Have all the Good Jobs Gone?* Princeton University Press, Princeton and Oxford
- Bluff, E. (2015). *Safe Design and Construction of Machinery*. Ashgate, Farnham, United Kingdom
- Bluff, E. (2018). Regulatory theories and frameworks. In: Fabian, M. and Breunig, R. (eds). *Hybrid Policy Innovations: Contemporary Policy Beyond Ideology*. Routledge, New York: 46-62

- Bluff, E. (2019). How SMEs respond to legal requirements to provide information, training, instruction and supervision to workers about work health and safety matters. *Safety Science*, 116: 45-57
- Bluff, E. and Gunningham, N. (2004). Principles, process, performance or what? New approaches to ohs standard setting. In: Bluff, E., Gunningham, N. and Johnstone, R. (eds). *OHS Regulation for a Changing World of Work*. Federation Press, Sydney
- Bodini, L. (2005). The occupational health and safety services of the national health system in Italy. *International Journal of Occupational and Environmental Health*, 11(1): 32-35
- Bogo, A., Schmitt, A., Henning, E. and Menegotto, M. (2017). Social behaviour of Brazilian organizations: An analysis of isomorphism mechanism. *Brazilian Journal of Operations & Production Management*, 14(1): 102-111
- Bohle, P., Quinlan, M., Kennedy, D. and Williamson, A. (2004). Working hours, work-life conflict and health in precarious and permanent employment. *Revista de Saúde Pública*, 38: 19-35
- Borys, D. (2014). The Value proposition for the Occupational Health and Safety Professional — Literature Review. Inshpo
- Borys, D., Else, D., Pryor, P. and Sawyer, N. (2006). Profile of an OHS professional in Australia in 2005. *Journal of Occupational Health and Safety — Australia and New Zealand*, 22(2): 175-192
- Boyle, T., Carey, R., Peters, S., Glass, D., Fritschi, L. and Reid, A. (2015). Demographic and occupational differences between ethnic minority workers who did and did not complete the telephone survey in English. *Annals of Occupational Hygiene*, 59(7): 862-871
- Braithwaite, J. (1993). The nursing home industry. In: Tonry, M. and Reiss, Jr. A. (eds). *Beyond the Law: Crime in Complex Organisations*. University of Chicago Press, Chicago and London
- Braithwaite, J. (2008). *Regulatory Capitalism: How it Works, Ideas for Making it Work Better*. Edward Elgar, Cheltenham, United Kingdom
- Braithwaite, J. (2011). The essence of responsive regulation. *UBC Law Review*, 44(3): 475-520
- Braithwaite, J. (2016). *Restorative Justice and Responsive Regulation: The Question of Evidence*. RegNet Working Paper No. 51, School of Regulation and Global Governance (RegNet)
- Braithwaite, J. (2017). Types of responsiveness. In: Drahos, P. (ed.). *Regulatory Theory: Foundations and Applications*. Australian National University Press, Canberra: 117-132
- Braithwaite, J. and Drahos, P. (2000). *Global Business Regulation*. Cambridge University Press, Cambridge, United Kingdom
- Braithwaite, V. (2009). *Defiance in Taxation and Governance: Resistance and Dismissing Authority in a Democracy*. Edward Elgar, Cheltenham, United Kingdom: 11-54
- Braithwaite, V., Murphy, K. and Reinhart, M. (2007). Taxation threat, motivational postures, and responsive regulation. *Law and Policy*, 29(1): 137-158
- Bratveit, M., McCormack, D. and Moen, B. E. (2001). Activity profiles of the occupational health services in a multinational company. *Occupational Medicine*, 51(3): 168-173
- Brinkley, J. (2016). *In Search of the Gig Economy*. The Work Foundation, London
- Brophy, M. O., Achimore, L. and Moore-Dawson, J. (2001). Reducing incidence of low-back injuries reduces cost. *American Industrial Hygiene Association Journal*, 2(4): 508-511
- Brown, G. (2017). Hanae Vietnam's garment factory: Latest example of how corporate social responsibility has failed to protect workers. *Journal of Occupational and Environmental Hygiene*, 14(8): 130-135
- Brown, G. (2019). New reports shine spotlight on underlying causes of terrible working conditions in global supply chains. *The Pump Handle*. Available at:

<http://www.thepumphandle.org/2019/09/04/new-reports-shine-spotlight-on-underlying-causes-of-terrible-working-conditions-in-global-supply-chains/#.XekJ4VhCfX5>

- Bruhn, A. (2006). The inspector's dilemma under regulated self-regulation. *Policy and Practice in Health and Safety*, 4(2): 3-23
- Bruhn, A. and Frick, K. (2011). Why it was so difficult to develop new methods to inspect work organization and psychosocial risks in Sweden. *Safety Science*, 49(4): 575-581
- BSI Group (2011). Guidance on the management of psychosocial risks at the workplace. PAS 1010 (Public Available Specification)
- Bullock, A. (2002). *Ernest Bevin: A Biography*. Methuen, London
- Burris, S., Kempa, M. and Shearing, C. (2008). Changes in governance: A cross disciplinary review of current scholarship. *Akron Law Review*, 41: 1-66
- Buselli, R., Baldanzi, S., Corsi, M., Chiumiento, M., Del Lupo, E., Carmassi, C., Dell'Osso, L., and Cristaudo, A. (2020). Psychological care of health workers during the COVID-19 outbreak in Italy: Preliminary report of an occupational health department (AOUP) responsible for monitoring hospital staff condition. *Sustainability*, 12, 5039
- BWI (Building and Wood Workers' International) (2017). Union joint inspections are making mega sports events safer for all workers. BWI. Available at: <https://www.bwint.org/cms/berlin-union-joint-inspections-are-making-mega-sports-events-safer-for-all-workers-760/media/image-2>
- Cacciatore, F. and Aliantonio, M. (2019). Networked enforcement in the common fisheries policy for traditional accountability paradigms. *European Journal of Risk Regulation*, 10: 522-537
- Camacho, A. E. and Glicksman, R. L. (2019). *Reorganising Government: A Functional and Dimensional Framework*. NYU Press, New York
- Campbell, J. L. (2007). Why would corporations behave in socially responsible ways? An institutional theory of corporate social responsibility. *Academy of Management Review*, 32(3): 946-967
- Campo, G., Papale, A., Baldasseroni, A., Di Leone, G., Magna, B., Martini, B. and Mattioli, S. (2015). The surveillance of occupational diseases in Italy: The MALPROF system. *Occupational Medicine*, 65: 632-637
- Carder, M., Bensefa-Colas, L., Mattioli, S., Noone, P., Stikova, E., Valenty, M. and Telle-Lamberton, M. (2015). A review of occupational disease surveillance systems in Modernet countries. *Occupational Medicine*, 65: 615-625.
- Carroll, A. B. and Shabana, K. M. (2010). The business case for corporate social responsibility: A review of concepts, research and practice. *International Journal of Management Reviews*, 12(1): 85-105
- Carson, W. G. (1979). The conventionalisation of early factory crime. *International Journal of the Sociology of Law*, 7: 37-60
- Carson, W. G. (1980). The institutionalization of ambiguity: Early British factory acts. In: Geis, G. and Stotland, E. (eds). *White Collar Crime: Theory and Research*. Sage, London
- Carson, W. G. (1985). Hostages to history: Some Aspects of the occupational health and safety debate in historical perspective. In: Creighton, W. B. and Gunningham, N. (eds). *The Industrial Relations of Occupational Health and Safety*. Croom Helm, Sydney
- Castells, M. (1996). *The Information Age: Economy, Society and Culture Volume I: The Rise of the Network Society*. Blackwell, Oxford
- Castells, M. (1998a). *The Information Age: Economy, Society and Culture Volume II: The Power of Identity*. Blackwell, Oxford
- Castells, M. (1998b). *The Information Age: Economy, Society and Culture Volume III: End of Millennium*. Blackwell, Oxford

- Cefaliello, A. (2020). Towards an improvement of the legal framework governing occupational health and safety in the European Union. PhD thesis, School of Law, University of Glasgow
- Chelius, J. R. (1976). Liability for industrial accidents: A comparison of negligence and strict liability systems. *Journal of Legal Studies*, 5(2): 293-309
- Chokar, R., Engst, C., Miller, A., Robinson, D., Tate R. B. and Yassi, A. (2005). The three-year economic benefits of a ceiling lift intervention aimed to reduce healthcare worker injuries. *Applied Ergonomics*, 36(2): 223-229
- Cialdini, R. (2013). *Influence: Science and Practice*. Pearson
- Cialdini, R. and Goldstein, N. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55: 591-621
- Cikrt, M., Tuček, M., Pelclová, D. and Urban, P. (2007). Policy and practice in occupational health services in the Czech Republic. In: Westerholm, P. and Walters, D. (eds). *Supporting Health at Work: International Perspectives on Occupational Health Services*. IOSH Services Ltd, Wigston, United Kingdom
- Clayton, A. (2012). Economic incentives in the prevention and compensation of work injury and illness. *Policy and Practice in Health and Safety*, 10(1): 27-44
- Clinch, P., Convery, F., Fitzgerald, E., Rooney, S. M. and European Foundation for the Improvement of Living and Working Conditions (1999). *Economic Instruments for Sustainable Development*. Office for Official Publications of the European Communities, Luxembourg
- Coase, R. H. (1960). The problem of social cost. *Journal of Law and Economics*, 3: 1-44
- Coglianesi, C., Nash, J. and Olmstead, T. (2002). *Performance-based Regulation: Prospects and Limitations in Health, Safety and Environmental Regulation*. Regulatory Policy Program Report No RRP-03. Harvard University, Cambridge, MA
- Cousins, P. and Lawson, B. (2007). Sourcing strategy, supplier relationships and firm performance: An empirical investigation of UK organisations. *British Journal of Management*, 18: 123-137
- Cremer, J. (2020). The European Labour Authority and rights-based labour mobility. *ERA Forum*, 21: 21-34
- Crouch, C. and Streeck, W. (eds) (1997). *The Political Economy of Modern Capitalism: Mapping Convergence and Diversity*. Sage Publishing
- Croucher, R. and Cotton, E. (2011). *Global Unions, Global Business: Global Union Federations and International Business*. Libri Publishing, Farringdon, United Kingdom
- CSA Group (Canadian Standards Association) and BNQ (Bureau de normalization du Quebec) (2013). *National Standard of Canada: Psychological Health and Safety in the Workplace — Prevention, Promotion, and Guidance to Staged Implementation*. CAN/CSA-Z1003-13/BNQ 9700-803/2013. CSA Group and BNQ
- Cutler, T. and James, P. (1996). Does safety pay? A critical account of the Health and Safety Executive document: 'The costs of accidents'. *Work, Employment and Society*, 10(4): 755-765
- Cyert, R. and March, J. (1963). *A Behavioral Theory of the Firm*. Prentice-Hall, Englewood Cliffs, NJ
- Dahl, Ø. (2019). The future role of big data and machine learning for health and safety inspection efficiency. EU-OSHA Fop Seminar, 14 February. Available at: [http://www.osha.mddsz.gov.si/resources/files/Article\\_2\\_-\\_Dahl\\_Big\\_data\\_for\\_inspection\\_efficiency\\_final.pdf](http://www.osha.mddsz.gov.si/resources/files/Article_2_-_Dahl_Big_data_for_inspection_efficiency_final.pdf)
- Dahl, Ø. and Sørberg, M. (2013). Labour inspection and its impact on enterprises' compliance with safety regulations. *Safety Science Monitor*, 2(3): 1-12
- Davidov, G. (2010). The enforcement crisis in labour law and the fallacy of voluntarist solutions. *International Journal of Comparative Labour Law and Industrial Relations*, 26(1): 61-82



- Dawson, S., Clinton, A., Bamford, M. and Willman, P. (1985). Safety in construction: Self-regulation, industrial structure and workforce involvement. *Journal of General Management*, 10(4): 21-38
- Deakin, S. and Koukiadaki, A. (2009). Governance processes, labour-management partnership and employee voice in the construction of Heathrow Terminal 5. *Industrial Law Journal*, 38(4): 365-389
- de Boer, N., Eshuis, J. and Klijn, E.-H. (2018). Does disclosure of performance information influence street-level bureaucrats' enforcement style? *Public Administration Review*, 78(5): 694-704
- de Broeck, V. (2020). OSH system at national level — Belgium. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Belgium#cite\\_note-31](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Belgium#cite_note-31)
- Delp, L. and Riley, K. (2015). Worker engagement in the health and safety regulatory arena under changing models of worker representation. *Labor Studies Journal*, 40(1): 54-83.
- Department for Business, Energy and Industrial Strategy (2019). Trade union membership: Statistical bulletin. GOV.UK. Available at: <https://www.gov.uk/government/statistics/trade-union-statistics-2018>
- DGUV (Deutsche Gesetzliche Unfallversicherung e.V.) (2016). Prevention Services of the German Social Accident Insurance Institutions. DGUV, Berlin.
- DGUV (2017). Evaluation der DGUV Vorschrift 2, Anlage 2 (Abschlussbericht). DGUV, Berlin.
- DGUV (2020). Guide to Infection Prevention in 16 languages. DGUV, Berlin.
- DiMaggio, P. J. and Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(4): 147-60
- Distelhorst, G., Locke, R., Pal, T. and Samel, H. (2015). Production goes global, compliance stays local: Private regulation in the global electronics industry. *Regulation & Governance*, 9(3): 224-242
- Doane, D. (2005). The myth of CSR: The problem with assuming that companies can do well while also doing good is that markets do not really work that way. *Stanford Social Innovation Review*, 23: 23
- Donaghy, R. (2009). One Death Too Many. Inquiry into the Underlying Causes of Construction Fatal Accidents. The Stationery Office, London
- Dontas, S. (2020). OSH system at national level — Greece. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Greece](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Greece)
- Dorman, P. (1996). *Markets and Mortality: Economics, Dangerous Work and the Value of Human Life*. Cambridge University Press, Cambridge, United Kingdom
- Dorman, P. (2000). If safety pays why don't employers invest in it? In: Frick, K., Jensen, P. L., Quinlan, M. and Wilthagen, T. (eds). *Systematic Occupational Health and Safety Management*. Elsevier: 351-366
- Dorman, P. and ILO (International Labour Organisation) (2000). The role of economic incentives for occupational safety and health. ILO, Geneva. Available at: [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---safework/documents/publication/wcms\\_110382.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---safework/documents/publication/wcms_110382.pdf)
- Drahos, P. (2017). Regulatory globalisation. In: Drahos, P. (ed.). *Regulatory Theory: Foundations and Applications*. Australian National University Press
- Durand-Moreau, Q., Adisesh, A., MacKenzie, G., Bowley, J., Straube, S., Chan, X. H., Zelyas, N. and Greenhalgh, T. (2020). What explains the high rate of transmission of SARS-CoV-2 in meat and poultry facilities? Oxford Centre for Evidence Based Medicine. Available at: <https://www.cebm.net/covid-19/what-explains-the-high-rate-of-sars-cov-2-transmission-in-meat-and-poultry-facilities-2/>

- Dyal, J. W., Grant, M. P., Broadwater, K., Bjork, A., Waltenburg, M. A., Gibbins, J. D., Hale, C., Silver, M., Fischer, M., Steinberg, J. et al. (2020). Covid-19 among workers in meat and poultry processing facilities — 19 states, April 2020. *MMWR Report* 69: 557-561
- EASME (European Commission Executive Agency for Small and Medium-Sized Enterprises) (2020). Annual Report on European SMEs 2018/2019. European Commission, Brussels. Available at: <https://ec.europa.eu/docsroom/documents/38366/attachments/2/translations/en/renditions/native>
- Ebbinghaus, B. and Manow, P. (eds) (2001). *Comparing Welfare Capitalism: Social Policy and Political Economy in Europe, Japan and the USA*. Routledge, London
- Edelman, L. and Talesh, S. (2011). To comply or not to comply — That isn't the question: How organizations construct the meaning of compliance. In: Parker, C. and Nielsen, V. L. (eds). *Explaining Compliance: Business Responses to Regulation*. Edward Elgar, Cheltenham, United Kingdom
- Elgar, F. J., Stefaniak, A. and Wohl M. J. A. (2020). The trouble with trust: Time-series analysis of social capital, income inequality, and COVID-19 deaths in 84 countries. *Social Science & Medicine*, 263: 113365
- Elling, R. C. (1986). *The Struggle for Workers' Health: A Study of Six Industrialised Countries*. Baywood, New York
- Elsler, D. and Eeckelaert, L. (2010). Factors influencing the transferability of occupational safety and health economic incentive schemes between different countries. *Scandinavian Journal of Work Environment and Health*, 36(4): 325-331
- Elsler, D., Treutlein, D., Rydlewska, I., Frusteri, L., Krüger, H., Veerman, T., Eeckelaert, L., Nele Roskams, N., Van Den Broek, K. and Taylor, T. N. (2010). A review of case studies evaluating economic incentives to promote occupational safety and health. *Scandinavian Journal of Work Environment and Health*, 36(4): 289-298
- Elster, J. (2009). Norms. In: Hedström, P. and Bearman, P. (eds). *The Oxford Handbook of Analytical Sociology*. Oxford University Press, Oxford: 195-21
- Esping-Andersen, G. (ed.) (1996). *Welfare States in Transition: National Adaptations in Global Economies*. Sage, London
- ETUI (European Trade Union Institute) (2014). *Occupational Health Services in the EU — Special Report*. HESA Magazine, 10, ETUI, Brussels
- EUCESA (EU Committee on Employment and Social Affairs) (2013). Report on effective labour inspections as a strategy to improve working conditions in Europe. Available at: <https://www.europarl.europa.eu/sides/getDoc.do?type=REPORT&reference=A7-2013-0458&language=EN>
- EU-OSHA (1998). *Economic Impact of Occupational Safety and Health in the Member States of the European Union*. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/report-economic-impact-occupational-safety-and-health-member-states-european-union/view>
- EU-OSHA (2004). *Corporate Social Responsibility and Health and Safety at Work*. Office for Official Publications of the European Communities, Luxembourg. Available at: <http://osha.europa.eu/en/publications/reports/210>
- EU-OSHA (2005). *Forum 14 Economic Incentives to Improve Occupational Safety and Health*. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/forum-14-effectiveness-economic-incentives-improve-occupational-safety-and-health/view>
- EU-OSHA (2007). *Literature Study on Migrant Workers*. EU-OSHA, Bilbao. Available at: [https://osha.europa.eu/en/publications/literature\\_reviews/migrant\\_workers](https://osha.europa.eu/en/publications/literature_reviews/migrant_workers)

- EU-OSHA (2009). Occupational Safety and Health and Economic Performance in Small and Medium-sized Enterprises: A Review. Office for Official Publications of the European Communities, Luxembourg. Available at: <https://osha.europa.eu/en/publications/report-occupational-safety-and-health-and-economic-performance-small-and-medium-sized/view>
- EU-OSHA (2010). Economic Incentives to Improve Occupational Safety and Health: A Review from the European Perspective. Publications Office of the European Union, Luxembourg
- EU-OSHA (2012a). Promoting Occupational Safety and Health Through the Supply Chain. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/promoting-occupational-safety-and-health-through-supply-chain/view>
- EU-OSHA (2012b). Worker Representation and Consultation on Health and Safety: An Analysis of the Findings of the European Survey of Enterprises on New and Emerging Risks (ESENER). Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/worker-representation-and-consultation-health-and-safety-analysis-findings-european/view>
- EU-OSHA (2013a). Analysis of the Determinants of Workplace Occupational Safety and Health Practice in a Selection of EU Member States. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/analysis-determinants-workplace-occupational-safety-and-health-practice-selection-eu/view>
- EU-OSHA (2013b). Diverse Cultures at Work: Ensuring Safety and Health Through Leadership and Participation. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/reports/diverse-cultures-at-work-ensuring-safety-and-health-through-leadership-and-participation>
- EU-OSHA (2014). The Business Case for Safety and Health at Work: Cost-benefit Analyses of Interventions in Small and Medium-sized Enterprises. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/business-case-safety-and-health-cost-benefit-analyses-interventions-small-and-medium/view>
- EU-OSHA (2016). Contexts and Arrangements for Occupational Safety and Health in Micro and Small Enterprises in the EU — SESAME project. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/contexts-and-arrangements-occupational-safety-and-health-micro-and-small-enterprises-eu/view>
- EU-OSHA (2017a). An International Comparison of the Cost of Work-related Accidents and Illnesses. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/international-comparison-cost-work-related-accidents-and-illnesses/view>
- EU-OSHA (2017b). Safety and Health in Micro and Small Enterprises in the EU: From Policy to Practice — Description of Good Examples. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/safety-and-health-micro-and-small-enterprises-eu-policy-practice-description-good/view>
- EU-OSHA (2018a). Foresight on New and Emerging Occupational Safety and Health Risks Associated With Digitalisation by 2025. Publications Office of the European Union, Luxembourg
- EU-OSHA (2018b). Safety and Health in Micro and Small Enterprises in the EU: Final Report from the 3-year SESAME Project. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/safety-and-health-micro-and-small-enterprises-eu-final-report-3-year-sesame-project/view>
- EU-OSHA (2019a). OSH and the Future of Work: Benefits and Risks of Artificial Intelligence Tools in Workplaces. Discussion Paper. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/osh-and-future-work-benefits-and-risks-artificial-intelligence-tools-workplaces/view>

- EU-OSHA (2019b). Digitalisation and Occupational Safety and Health (OSH) — An EU-OSHA Research Programme. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/digitalisation-and-occupational-safety-and-health-osh-eu-osha-research-programme/view>
- EU-OSHA (2019c). The Value of Occupational Safety and Health and the Societal Costs of Work-related Injuries and Diseases: A Literature Review. Publications Office of the European Union, Luxembourg. Available at: <https://osha.europa.eu/en/publications/value-occupational-safety-and-health-and-societal-costs-work-related-injuries-and/view>
- EU-OSHA (2020a). Supply Chains and Their Present and Future Implications for Occupational Safety and Health. Discussion Paper. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/supply-chains-and-their-present-and-future-implications-occupational-safety-and-health/view>
- EU-OSHA (2020b). Third European Survey of Enterprises on New and Emerging Risks (ESENER-3). Publications Office of the European Union, Luxembourg
- European Commission (1989). Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. Official Journal L, 183, 1-8
- European Commission (2000). European Occupational Diseases Statistics (EODS) — Phase 1 Methodology. Population and Social Conditions 3/2000/E/n°19. Eurostat, Luxembourg.
- European Commission (2001). European Statistics on Accidents at Work (ESAW), Methodology. ESTAT/E3/HSW/2001/1130. Eurostat, Luxembourg. Available at: [http://www.osh.org.il/UpLoadFiles/00\\_eustat\\_methodology\\_accident\\_reporting.pdf](http://www.osh.org.il/UpLoadFiles/00_eustat_methodology_accident_reporting.pdf)
- European Commission (2007). Improving Quality and Productivity at Work. Community Strategy 2007-2012 on Health and Safety at Work. European Commission, Brussels
- European Commission (2011). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A renewed EU strategy 2011-14 for Corporate Social Responsibility. Brussels, 25 October, COM (2011) 681 final
- European Commission (2014a). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on an EU Strategic Framework on Health and Safety at Work 2014-2020. Brussels, 6 June, COM(2014) 332 final
- European Commission (2014b). Analysis — In the Light of the European Union Acquis — of the ILO Conventions that Have Been Classified by the International Labour Organisation as Up to Date. Publications Office of the European Union, Luxembourg
- European Commission (2017a). President Jean-Claude Juncker's State of the Union address 2017. Available at: [https://ec.europa.eu/commission/presscorner/detail/en/SPEECH\\_17\\_3165](https://ec.europa.eu/commission/presscorner/detail/en/SPEECH_17_3165)
- European Commission (2017b). Communication of 10th January 2017 from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Safer and Healthier Work for All — Modernisation of the EU Occupational Safety and Health Legislation and Policy. Brussels, 10 January, COM(2017) 12 final
- European Council (2015). European Council Conclusions of 27th February 2015 on EU Strategic Framework on Health and Safety at Work 2014-2020: Adapting to New Challenges, Adopted by the Council on 9 March 2015. Brussels, 27 February. Available at: <http://register.consilium.europa.eu/doc/srv?l=EN&f=ST 6535 2015 INIT>
- European Parliament (2015). European Parliament Resolution of 25th November 2015 on the EU Strategic Framework on Health and Safety at Work 2014-2020 (2015/2107(INI)). Official

- Journal C, 366, 117-128. Available at: <https://eur-lex.europa.eu/legal-content/GA/TXT/?uri=CELEX:52015IP0411>
- Eurostat (2020). Accidents at work statistics. Available at: [https://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents\\_at\\_work\\_statistics](https://ec.europa.eu/eurostat/statistics-explained/index.php/Accidents_at_work_statistics)
- Everard, M., Reed, M. and Kenter, J. O. (2016). The ripple effect: Institutionalising pro-environmental values to shift societal norms and behaviours. *Ecosystems Services*, 21(Part B): 230-240
- Ewing, K., Hendy, J. and Jones, C. (eds) (2018). *Rolling Out the Manifesto for Labour Law: Towards a Comprehensive Revision of Workers' Rights*. Institute of Employment Rights, Liverpool
- Fairman, R. and Yapp, C. (2005). Enforced self-regulation, prescription and conceptions of compliance within small business: The impact of enforcement. *Law and Policy*, 27(Fall): 491-519
- Farina, F., Bena, A., Fedeli, U., Mastrangelo, G., Veronese, M. and Agnesi, R. (2016). Public injury prevention system in the Italian manufacturing sector: What types of inspection are more effective? *American Journal of Industrial Medicine*, 59: 315-321
- Felstead, A., Gallie, D., Green, F. and Henseke, G. (2020). Unpredictable times: The extent, characteristics and correlates of insecure hours of work in Britain. *Industrial Relations Journal*, 51: 34-57
- Ferrie, J. E., Shipley, M. J., Stansfeld, S. A. and Marmot, M. (2002). Health effects of chronic job insecurity and change in job security on self-reported health, minor psychiatric morbidity, physiological measures and health related behaviours in British civil servants: The Whitehall II study. *Journal of Epidemiology and Community Health*, 56(6): 450-454
- Figueras, J., McKee, M., Mossialos, E. and Saltman, R. (2004). *Social Health Insurance Systems in Western Europe*. European Observatory on Health Systems and Policies Series, World Health Organisation. Open University Press, Maidenhead, United Kingdom. Available at: <http://www.euro.who.int/document/E84968.pdf>
- Financial Times (2020). Companies should shift from 'just in time' to 'just in case'. The Editorial Board. Available at: <https://www.ft.com/content/606d1460-83c6-11ea-b555-37a289098206>
- Fine, J. (2013). Solving the problem from hell: Tripartism as a strategy for addressing labour standards non-compliance in the United States. *Osgoode Hall Law Journal*, 50(4): 813-843
- Fine, J. (2017). Enforcing labor standards in partnership with civil society: Can co-enforcement succeed where the state alone has failed. *Politics and Society*, 45(3): 359-388
- Fine, J. (2018). New approaches to enforcing labour standards: How co-enforcement partnerships between government and civil society are showing the way forward. *University of Chicago Legal Forum*, 2017(7): 143-176
- Fine, J. and Gordon, J. (2010). Strengthening labour standards enforcement through partnerships with complainants' organizations. *Politics and Society*, 38(4): 552-585
- Fine, J. and Lyon, G. (2017). Segmentation and the role of labor standards enforcement in immigration reform. *Journal on Immigration and Human Security*, 5(2): 431-451
- FIOH (Finnish Institute of Occupational Health) (2020). Guidelines for workplaces to prevent coronavirus infection. FIOH. Available at: <https://www.ttl.fi/en/fioh-coronavirus-instructions/>
- Fischer, I. and Ulmer, T. (2017). Der Gütesiegelprozess der BGHM. I: Evaluation in der gesetzlichen Unfallversicherung — Beispiele aus der Projektarbeit. DGUV, Berlin. S: 102-106
- Fishback, V. P. (1987). Liability rules and accident prevention in the workplace: Empirical evidence from the early twentieth century. *Journal of Legal Studies*, 16: 305-328
- Fisk, C. L. and Patel, S. N. (2017). California co-enforcement initiatives that facilitate worker organizing. Paper prepared for the Harvard Law School Symposium: Could Experiments at the State and Local Levels Expand Collective Bargaining and Workers' Collective Action



- Fisscher, O. (2003). Het organiseren van morele competentie — Bedrijfsethiek is 'in'. *Gids voor Personeelsmanagement*, 82(afl. 3): 12-18
- Fletcher J. H. and Douglas, H. M. (1971). *Total Loss Control within the Industrial Environment*. Associated Business Programmes Ltd, London
- FLEX (Focus on Labour Exploitation) (2020). No worker left behind: Protecting vulnerable workers from exploitation during and after the COVID-19 pandemic. FLEX. Available at: <https://www.labourexploitation.org/publications/no-worker-left-behind-protecting-vulnerable-workers-exploitation-during-and-after-covid> Meat plants — a new front line in the covid-19 pandemic
- Fooks, G., Bergman D. and Rigby, B. (2007). International comparison of (a) techniques used by state bodies to obtain compliance with health and safety law and accountability for administrative and criminal offences and (b) sentences for criminal offences. Research Report RR607. Health and Safety Executive
- FPSEL&SD (Federal Public Service Employment, Labour and Social Dialogue) (2016). *The Belgian National Strategy for Wellbeing at Work 2016-2020 as Proposed by the Minister of Employment: Strategic and Operational Objectives*. Federal Public Service Employment, Labour and Social Dialogue, Brussels
- Fredrick, J., Hudspith, B. and LeBlank, G. (2018). A Trade Union Perspective on 'The New View' of Health and Safety. Available at: <https://www.usw.org/get-involved/hsande/resources/publications/A-Trade-Union-Perspective-on-The-New-View-of-Health-and-Safety.pdf>
- Freiberg, A. (2010). *The Tools of Regulation*. The Federation Press, Sydney
- Frick, K. (2011). Worker influence on voluntary OHS management systems — A review of its ends and means. *Safety Science*, 49(7): 974-987
- Frick, K. (2013) Resilience within a weaker work environment system — The position and influence of Swedish safety representatives. In: Walters, D. and Nichols, T. (eds). *Workplace Health and Safety: International Perspectives on Worker Representation*. Palgrave MacMillan, Houndmills, United Kingdom
- Frick, K. (2014). The 50/50 implementation of Sweden's mandatory systematic work environment management. *Policy and Practice in Health and Safety*, 12(2): 24-46
- Frick, K. and Wren, J. (2000). Reviewing occupational health and safety management — Multiple roots, diverse perspectives and ambiguous outcomes. In: Frick, K., Jensen, P. L., Quinlan, M. and Wilthagen, T. (eds). *Systematic Occupational Health and Safety Management: Perspectives on an International Development*. Elsevier, Oxford: 17-42
- Frick, K., Jensen, P. L., Quinlan, M. and Wilthagen, T. (eds) (2000). *Systematic Occupational Health and Safety Management: Perspectives on an International Development*. Elsevier, Oxford: 17-42
- Frick, K., Eriksson, O. and Westerholm, P. (2005). Work environment policy and the actors involved. In: Gustafsson, R. and Lundberg, I. (eds). *Worklife and Health in Sweden 2004*. National Institute for Working Life, Stockholm
- Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York Times Magazine*, 13 September
- Froneberg, B. (2005). Challenges in occupational safety and health from the global market economy and from demographic change — Facts, trends, policy response and actual need for preventive occupational health services in Europe. *Scandinavian Journal of Work Environment and Health Supplements*, 2005(1): 23-27

- Fugas, C. S., Meliá J. L. and Silva, S. A. (2011). The 'is' and the 'ought': How do perceived social norms influence safety behaviours at work? *Journal of Occupational Health Psychology*, 16(1): 67-79
- Fugas, C. S., Silva, S. A. and Meliá J. L. (2013). Profiling safety behaviours: Exploration of the socio-cognitive variables that best discriminate between different behavioural patterns. *Risk Analysis*, 33(5): 838-850
- Gereffi, G. (2020). What does the COVID-19 pandemic teach us about global value chains? The case of medical supplies. *Journal of International Business Policy*, 3: 287-301
- Gereffi, G., Humphrey, J. and Sturgeon, T. (2005). The governance of global value chains. *Review of International Political Economy*, 12(1): 78-104
- Gherardi, S. and Nicolini, D. (2002). Learning the trade: A culture of safety in practice. *Organization*, 9(2): 191-223
- Giddens, A. (1991). *Modernity and Self-identity: Self and Society in the Late Modern Age*. Stanford University Press, Stanford, CA
- Gigerenzer, G. and Selten, R. (eds) (2001). *Bounded Rationality: The Adaptive Toolbox*. The MIT Press, Cambridge, MA
- Gilbert, M. et al. (2015). National Standard of Canada for Psychological Health and Safety in the Workplace. Case Study Research Project Interim Report. Mental Health Commission of Canada, Ottawa, ON
- Gordon, J. (2005). *Suburban Sweatshops: The Fight for Immigrant Rights*. Harvard University Press, Cambridge, MA
- Gordon, J. (2015). Global Labour Recruitment in a Supply Chain Context. Working Paper. International Labour Organisation, Geneva
- Gordon, J. (2017). Regulating the human supply chain. *Iowa Law Review*, 102: 445
- Górný, A. (2014). Influence of corporate social responsibility (CSR) on safety culture. *Management*, 18(1)
- Government of Hungary (2016). National Occupational Safety and Health Policy 2016-2022. Available at: <https://ngmszakmaiteruletek.kormany.hu/download/f/01/b1000/National%20Occupational%20Safety%20and%20Health%20Policy%202016-2022.pdf>
- Government of Sweden (2015). Government Communication 2015/16:80: A Work Environment Strategy for Modern Working Life 2016-2020. Government of Sweden, Stockholm
- Government of Sweden (2020). Swedish Agency for Work Environment Expertise (SAWEE). Government of Sweden, Stockholm
- Grabosky, P. (2012). Beyond responsive regulation: The expanding role of non-state actors in the regulatory process. *Regulation & Governance*, 7(1): 114-123
- Granerud, L. (2011). Social responsibility as an intermediary for health and safety in small firms. *International Journal of Workplace Health Management*, 4(2): 109-122
- Granerud, L. and Rocha, R. S. (2011). Organisational learning and continuous improvement of health and safety in certified manufacturers. *Safety Science*, 49: 1030-1039
- Graveling, R. (2018a). Transposition, Implementation and Enforcement of EU OSH Legislation. Thematic Discussion Paper. European Commission, Brussels
- Graveling, R. (2018b). Peer Review on 'The efficient transposition, implementation and enforcement of EU OSH legislation'. Peer Country Comments Paper — Ireland. European Commission, Brussels
- Gray, G. (2006). The regulation of corporate violations punishment, compliance, and the blurring of responsibility. *British Journal of Criminology*, 46(5): 875-892

- Gray, G. and Silbey, S. (2011). The other side of the compliance relationship. In: Parker, C. and Lehmann, V. (eds). *Explaining Compliance: Business Responses to Regulation*. Edgar Elden, Cheltenham, United Kingdom: 123-138
- Gregoire, D. (2014). Occupational health doctors in France — An endangered species. *Hesa Magazine*, 10: 18-24
- Grimani, A., Bergstrom, G., Casallas, M., Aboagye., Jensen, I. and Lohela-Karlsson, M. (2018). Economic evaluation of occupational safety and health interventions from the employer perspective: A systematic review. *Journal of Occupational and Environmental Medicine*, 60(2): 147-166
- Grimshaw, D. (2020). International organisations and the future of work: How new technologies and inequality shaped the narratives in 2019. *Journal of Industrial Relations*, 62(3): 477-507
- Gunningham, N. and Grabosky, P. (1998). *Smart Regulation*. Oxford University Press, Oxford
- Gunningham, N. and Johnstone, R. (1999). *Regulating Workplace Safety: Systems and Sanctions*. Oxford University Press, Oxford
- Gunningham, N. and Sinclair, D. (2017). Smart regulation. In: Drahos, P. (ed.). *Regulatory Theory: Foundations and Applications*. ANU Press, Canberra: 133-148
- Gunningham, N., Thornton, D. and Kagan, R. (2005). Motivating management: Corporate compliance in environmental protection. *Law & Policy*, 27(2): 289-316
- Haghani, M., Bliemer, M. C. J., Floris Goerlandt, F. and Li, J. (2020). The scientific literature on Coronaviruses, COVID-19 and its associated safety-related research dimensions: A scientometric analysis and scoping review. *Safety Science*, 129: 104806
- Haggvist, T. E., Vinberg, S., Toivanen, S., Hagström, M., Granqvist, S. and Landstad, B. J. (2020). Falling outside the system: Occupational safety and health inspectors' experiences of micro-enterprises in Sweden. *Safety Science*, 125: 104631
- Hale, A. (2019). From national to European frameworks for understanding the role of occupational health and safety (OHS) practitioners. *Safety Science*, 115: 435-445
- Hale, A. and Ytrehus, I. (2004). Changing requirements for the safety profession. Roles and tasks. *Journal of Occupational Health and Safety — Australia and New Zealand*, 20(1): 23-35
- Hämäläinen, P., Takala, J. and Kiat T. B. (2018). *Global Estimates of Occupational Accidents and Work-related Illnesses 2017*. Workplace Safety and Health Institute, Singapore. Available at: <http://www.icohweb.org/site/images/news/pdf/Report%20Global%20Estimates%20of%20Occupational%20Accidents%20and%20Work-related%20Illnesses%202017%20rev1.pdf>
- Hämäläinen, R. (2006). *Workplace Health Promotion in Europe — The Role of National Health Policies and Strategies*. Finnish Institute for Occupational Health, Helsinki. Available at: <http://www.ttl.fi/NR/rdonlyres/704361A6-ED27-4D2F-B822-F6401E79CE45/0/WHPinEurope.pdf>
- Hämäläinen, R. and Lehtinen, S. (2001). Survey of the quality and effectiveness of occupational health services in the European Union and Norway and Switzerland. Finnish Institute for Occupational Health, Helsinki. Available at: [http://www.ttl.fi/en/publications/Electronic\\_publications/Documents/Survey\\_of\\_the\\_Quality\\_contents.pdf](http://www.ttl.fi/en/publications/Electronic_publications/Documents/Survey_of_the_Quality_contents.pdf)
- Hampton, P. (2005). *Reducing administrative burdens: Effective inspection and enforcement*. The Hampton Review. HMSO, Norwich. Available at: [www.berr.gov.uk/files/file22988.pdf](http://www.berr.gov.uk/files/file22988.pdf)
- Hansen, T., Lidsmoes, L. C., Laursen, P., Mathiassen, L., Jensen, A.-M., Suhr Raby, C., Sorensen, L., Jurvelius, H., Rintala, J., Hardarson, S. et al. (2015). *Psychosocial Working Environment*. Workplace Inspection of the Psychosocial Working Environment in the Nordic Countries. Nordic Council of Ministers, Denmark

- Hardy, T. and Ariyawansa, S. (2019). Literature Review on the Governance of Work. International Labour Organisation, Geneva
- Hardy, T. and Howe, J. (2015). Chain reaction: A strategic approach to addressing employment non-compliance in complex supply chains. *Journal of Industrial Relations*, 57(4): 563-584
- Hasle, P. and Limborg, H. J. (2006). A review of the literature on preventive occupational health and safety activities in small enterprises. *Industrial Health*, 44(1): 6-12
- Hasle, P. and Limborg, H. J. (2011). Occupational health and safety in small enterprises: The need for a diversity of strategies. *International Journal of Workplace Health Management*, 4(2): 104-108
- Hasle, P. and Zwetsloot, G. (2011). Editorial: Occupational Health and Safety Management Systems: Issues and Challenges. *Safety Science*, 49(7): 961-963
- Hasle, P., Limborg, H. J. and Nielsen, K. T. (2014). Working environment interventions: Bridging the gap between policy instruments and practice. *Safety Science*, 68: 73-80
- Hasle, P., Limborg, H. J., Grøn, S. and Refslund, B. (2017). Orchestration in work environment policy programs. *Nordic Journal of Working Life Studies*, 7(3): 43-62
- Hasle, P., Møller, N., Søndergaard Hvid, H., Seim, R. and Vibeke, K. S. (2017). Hvidbog om arbejdsmiljørådgivning — Review. *Arbejdsmiljørådgiverne*, Copenhagen
- Hauke, A., Flaspöler, E. and Reinert, D. (2020). Proactive prevention in occupational safety and health: How to identify tomorrow's prevention priorities and preventive measures. *International Journal of Occupational Safety and Ergonomics*, 26(1): 181-193
- Hawkins, K. (1983). Bargain and Bluff: Compliance Strategy and Deterrence in the Enforcement of Regulation. *Law & Policy*, 5(1): 35-73
- Hawkins, K. (1990). Compliance Strategy, Prosecution Policy, and Aunt Sally: A Comment on Pearce and Tombs. *British Journal of Criminology*, 30(4): 444-466
- Hawkins, K. (1991). More of the Same from Pearce and Tombs. *British Journal of Criminology*, 31(4): 427-430
- Hawkins, K. (2002). *Law as Last Resort: Prosecution Decision-Making in a Regulatory Agency*. Oxford University Press, Oxford
- Hechter, M. and Opp, K.-D. (eds) (2001). *Social norms*. Russell Sage Foundation, New York
- Heinrich, H (1941). *Industrial Accident Prevention — A Scientific Approach*. McGraw-Hill Book Company, New York
- Helland, E. (1998). The Enforcement of Pollution Control Laws: Inspections, Violations and Self-Reporting. *The Review of Economic and Statistics*, 80(1): 141-153
- Helsloot, I., Scholtens, A. and Haen, J. (2020). Some observations on the troublesome implementation of risk-based inspections in the Netherlands. *Safety Science*, 122: 104507
- Hetland, G. (2015). *Organizing the Precariat: Overcoming the Obstacles Facing Union-Worker Center Collaborations*. American Sociological Association
- Hodges, C. (2015). *Corporate Behaviour: Enforcement, Support or Ethical Culture?* Oxford Legal Studies Research Paper No Paper No 19/2015
- Hohnen, P. and Hasle, P. (2011). Making work environment auditable — A 'critical case' study of certified occupational health and safety management systems in Denmark. *Safety Science*, 49: 1022-1029
- Hohnen, P., Hasle, P., Jespersen, A. H. and Madsen, C. U. (2014). Hard work in soft regulation. A discussion of the social mechanisms in OHS management standards and possible dilemmas in the regulation of psychosocial work environment. *Nordic Journal of Working Life Studies*, 4(3): 13-30

- Hood, C., Rothstein, H. and Baldwin, R. (2001). *The Government of Risk*. Oxford University Press, Oxford
- Hopkins, A. (2005). What are we to make of safe behaviour programs? *Safety Science*, 44: 583-597
- HSA (Health and Safety Authority) (2019). *Strategy Statement 2019-2021*. HSA, Dublin
- HSE (Health and Safety Executive) (2005). *Promoting Health and Safety as a Key Goal of the Corporate Social Responsibility Agenda*. HSE Research Report 339. HSE Books
- HSE (2006). *Further Development of Health and Safety Performance Management Index: For Use by Business, Investors, Employees, the Regulator and Other Stakeholders*. Research Report 490. Prepared by Greenstreet Berman Ltd for the Health and Safety Executive, HSE Books
- HSE (2020a). *Regulating occupational health and safety during coronavirus (COVID-19)*. HSE. Available at: <https://www.hse.gov.uk/coronavirus/regulating-health-and-safety/index.htm>
- HSE (2020b). *Health and safety spot checks and inspections during coronavirus (COVID-19)*. HSE. Available at: <https://www.hse.gov.uk/coronavirus/regulating-health-and-safety/spot-inspections.htm>
- Hulshof, C., Verbeek, J., van Dijk, F., van der Weide, W. and Braam, I. (1999). Evaluation research in occupational health services: General principles and a systematic review of empirical studies. *Occupational and Environmental Medicine*, 56(6): 361-377
- Hutter, B. (1997). *Compliance: Regulation and Environment*. Clarendon Press
- Hutter, B. (2001). *Regulation and Risk: Occupational Health and Safety on the Railways*. Oxford University Press, Oxford
- Hutter, B. (2005). Risk management and governance. In: Eliadis, P., Hill, M. and Howlett, M. (eds). *Designing Government: From Instruments to Governance*. McGill-Queen's University Press, Montreal
- Hyde, A. (2012). Legal responsibility for labour conditions down the production chain. In: Fudge, J., McCrystal, S. and Sankaran, K. (eds). *Challenging the Legal Boundaries of Work Regulation*. Hart Publishing, Oxford
- IALI (International Association of Labour Inspection) (2008). *The Global Code of Labour Inspection*. Government of South Australia, Adelaide
- IALI (2014). *International Common Principles for Labour Inspection*. IALI, Singapore
- Iavicoli, S., Driscoll, T. R., Hogan, M., Iavicoli, I., Rantanen, J. H., Straif, K. and Takala, J. (2019). New avenues for prevention of occupational cancer: A global policy perspective. *Occupational and Environmental Medicine*, 76: 60-362
- ICF and the European Centre for Social Welfare Policy and Research (2018). *Peer Review on the Efficient Transposition, Implementation and Enforcement of EU OSH Legislation*. European Commission, Brussels
- ILO (International Labour Organisation) (1947). C081 — *Labour Inspection Convention*. ILO, Geneva
- ILO (2006a). *Occupational Safety and Health: Synergies Between Security and Productivity*. ILO, Geneva
- ILO (2006b). *Report III (Part 1B): General Survey of Reports Concerning the International Labour Inspection Convention*. ILO, Geneva
- ILO (2006c). *Document GB 297/ESP/3: Governing Body, 297th Session*. ILO, Geneva
- ILO (2015). *World Employment and Social Outlook 2015: The Changing Nature of Jobs*. ILO, Geneva
- ILO (2017a). *Food and agriculture global value chains: Drivers and constraints for occupational safety and health improvement. Volume one: Perspectives from relevant research areas*. ILO, Geneva



- ILO (2017b). ILO Approach to Strategic Compliance Planning for Labour Inspectorates. ILO, Geneva
- ILO (2020). A Safe and Healthy Return to Work During the COVID-19 Pandemic. ILO, Geneva
- Indregard, A.-M. R., Knardahl, S., Emberland, J. S., Skare, Ø. and Johannessen, H. A. (2019). Effectiveness of the labour inspection authority's regulatory tools for work environment and employee health: Study protocol for a cluster-randomised controlled trial among Norwegian home-care workers. *BMJ Open*, 9(11): e031226
- Indulski, J. A., Dawydzik, L. T. and Michalak, J. (1998). Polish approach to the quality assurance system in occupational health services. *International Journal of Occupational Medicine and Environmental Health*, 11(3): 209-215
- Inspectorate SZW (2017). Annual Report 2017. Ministry of Social Affairs and Employment, The Hague
- Inspectorate SZW (2019). What Does the Inspectorate SZW Do? Ministry of Social Affairs and Employment, The Hague
- ISO (International Organisation for Standardisation) (2018). Occupational Health and Safety Management Systems — Requirements with Guidance for Use. ISO 45001
- ITUC (International Trade Union Confederation) (2020). Health and safety is paramount for return to work. ITUC Press Release. Available at: <https://www.ituc-csi.org/health-and-safety-is-paramount-for>
- Ivanov, D. and Dolgui, A. (2020). Viability of intertwined supply networks: Extending the supply chain resilience angles towards survivability: A position paper motivated by COVID-19 outbreak. *International Journal of Production Research*, 58(10): 2904-2915
- Ivec, M. and Braithwaite, V. with Wood, C. and Job, J. (2015). Applications of responsive regulatory theory in Australia and overseas: Update. Regulatory Institutions Network Occasional Paper 23. Australian National University. Available at: <https://drive.google.com/file/d/0BxGINTrvTRpRTHlycUdxWVdxR1E/view>
- Jacobs, A. (2020). Labour Law in the Netherlands. 3rd edition. Kluwer Law International, the Netherlands
- Jager, R. (2007). Occupational health services in Austria. In: Westerholm, P. and Walters, D. (eds). Supporting Health at Work: International Perspectives on Occupational Health Services. IOSH Services Ltd, Wigston, United Kingdom
- Jain, A., Leka, S. and Zwetsloot, G. (2008). Integrating CSR and OSH Policies and Initiatives in Europe: The Drivers, Challenges, and Roles of Companies, Civil Society and Governments. Integrating CSR and OSH policies in Europe, The Fondazione Eni Enrico Mattei Series Index. Available at: <http://www.feem.it/Feem/Pub/Publications/CSRpapers/default.htm>
- James, P. and Walters, D. (2019). Health and safety at work: Time for change. *Institute of Employment Rights Journal*, 2(1): 58-85
- James, P., Walters, D., Sampson, H. and Wadsworth, E. (2015). Regulating the employment dynamics of domestic supply chains. *Journal of Industrial Relations*, 57(4): 526-543
- James, P., Miles, L., Croucher, R. and Houssart, M. (2019). Regulating factory safety in the Bangladeshi garment industry. *Regulation & Governance*, 13(3): 431-444
- James, S. and Lloyd, C. (2008). Too much pressure? Retailer power and occupational health and safety in the food processing industry. *Work, Employment and Society*, 22(4): 713-730
- Jamieson, S., Reeve, B., Schofield, T. and McCallum, R. (2010). OHS prosecutions: Do they deter other companies from offending? *Journal of Occupational Health, Safety and Environment*, 26(3): 213-231
- Jenkins, H. (2004). A critique of conventional CSR theory: An SME perspective. *Journal of General Management*, 29: 37-57

- Jespersen, A. H. and Hasle, P. (2016). Developing a concept for external audits of psychosocial risks in certified occupational health and safety management systems. *Safety Science*, 99(Part B): 227-234
- Johanson, U., Martensson, M. and Skoog, M. (2001). Mobilizing change through the management control of intangibles. *Accounting, Organizations and Society*, 26(7 and 8): 715-733
- Johanson, U., Ahonen, G. and Roslender, R. (2007). *Work, Health and Management Control*. Thompson Fakta AB, Stockholm
- Johnson, M. (2020). Regulation by shaming: Deterrence effects of publicizing violations of workplace safety and health laws. *American Economic Review*, 110(6): 1866-1904
- Johnstone, R. (2004). Rethinking OHS enforcement. In: Bluff, E., Gunningham, N. and Johnstone, R. (eds). *OHS Regulation for a Changing World of Work*. The Federation Press, Sydney: 146-178
- Johnstone, R. (2017). Regulating health and safety in 'vertically disintegrated' work arrangements: The example of supply chains. In: Howe, J., Chapman, A. and Landau, I. (eds). *The Evolving Project of Labour Law: Foundations, Development and Future Directions*. The Federation Press, Sydney: 130-144
- Johnstone, R. (2019). Regulating work health and safety in multilateral business arrangements. *Australian Journal of Labour Law*, 32: 41-61
- Johnstone, R. (2021). Prosecutions under the Australian Work Health and Safety Acts: New sanctions, old approaches. In: Sheldon, P., Gregson, A., Lansbury, R. and Sanders, K. (eds). *The Regulation and Management of Workplace Health and Safety: Historical and Emerging Trends*. Routledge: 141-160
- Johnstone, R. and Jones, N. (2006). Constitutive regulation of the firm: OHS, dismissal, discrimination and sexual harassment. In: Arup, C., Gahan, P., Howe, J., Johnstone, R., Mitchell, R. and O'Donnell, A. (eds). *Labour Law and Labour Market Regulation: Essays on the Construction, Constitution and Regulation of Labour Markets and Workplace Relationships*. The Federation Press, Sydney: 483-502
- Johnstone, R. and Tooma, M. (2012). *Work Health and Safety Regulation in Australia: The Model Act*. The Federation Press, Sydney
- Johnstone, R., Mayhew, C. and Quinlan, M. (2001). Outsourcing risk? The regulation of health and safety where subcontractors are employed. *Comparative Labor Law and Policy Journal*, 22(3-5): 351-394
- Johnstone, R., Bluff, E. and Clayton, A. (2012). *Work Health and Safety Law and Policy*. Thomson Reuters
- Jones, C., Hassard, J., Cox, T. and Murphy, P. (2020). OSH system at national level — Ireland. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Ireland](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Ireland)
- Kabel, A., Hasle, P. and Limborg, H. (2007). Occupational health services in Denmark — The rise and fall of a multidisciplinary and preventive approach. In: Westerholm, P. and Walters, D. (eds). *Supporting Health at Work: International Perspectives on Occupational Health Services*. IOSH Services Ltd, Wigston, United Kingdom
- Kagan, R. (1994). Regulatory enforcement. In: Rosenbloom, D. and Schwartz, R. (eds). *Handbook of Regulation and Administrative Law*. Dekker, New York
- Kagan, R., Gunningham, N. and Thornton, D. (2011). Fear, duty, and regulatory compliance: Lessons from three research projects. In: Parker, C. and Nielsen, V. L. (eds). *Explaining Compliance: Business Responses to Regulation*. Edward Elgar, Cheltenham, United Kingdom
- Kaine, S. and Rawling, M. (2019). 'Co-enforcement' in supply chains: The case of the cleaning accountability framework. *Australian Journal of Labour Law*, 31(3): 305-334

- Kaluza, S. (2020). OSH system at national level — Germany. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Germany](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Germany)
- Kankaanpää, E., Suhonen, A. and Valtonen, H. (2008). Promoting prevention with economic arguments — The case of Finnish occupational health services. *BMC Public Health*, 8: 130
- Kankaanpää, E., Suhonen, A. and Valtonen, H. (2009). Does the company's economic performance affect access to occupational health services? *BMC Health Services Research*, 9: 156
- Katsaroumpas, I. (2018). UK Report on Social Dialogue in Wage Setting. ETHOS. Available at: <https://cpb-eu-w2.wpmucdn.com/blogs.bristol.ac.uk/dist/e/505/files/2019/01/Social-dialogue-in-wage-setting-w9eu98.pdf>
- Kawashita, F., Taniyama, Y., Hwi, Y. S., Fujisaki, T., Kameda, T. and Mori, K. (2005). Occupational safety and health aspects of Corporate Social Responsibility (CSR) in Japanese companies listed on the Tokyo Stock Exchange (TSE) First Section. *Journal of Occupational Health*, 47: 533-539
- Kemmlert, K. (1996). Economic impact of ergonomic intervention: Four case studies. *Journal of Occupational Rehabilitation*, 28(7): 457-467
- Kirsch, F. (2015). Die zukunfts und praxisorientierte Gestaltung der betriebsärztlichen Betreuung — Ein Modellprojekt. *ASU — Zeitschrift für Arbeitsmedizin, Sozialmedizin und Umweltmedizin*, 50: 810-817.
- Koskela, K. and Sauni, R. (2020). OSH system at national level — Finland. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Finland](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Finland)
- Koskela, K., Sauni, R. and Plangi, K. (2020). Labour Inspectorate, Estonia OSH system at national level — Estonia. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Estonia](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Estonia)
- Koskela, M. (2014). Occupational health and safety in corporate social responsibility reports. *Safety Science*, 68: 294-308
- Kreis, J. and Bödeker, W. (2004). Health-related and Economic Benefits of Workplace Health Promotion and Prevention: Summary of the Scientific Evidence. IGA Report No. 3.
- Kromhout, H. (2020). Learning from a global pandemic. *Occupational and Environmental Medicine*, 77: 587
- Krüger, W., Heß, D., Müller, P. and Stegemann, K. (2000). Wirtschaftliche Anreize für betriebliche Maßnahmen zur Unfallverhütung und zur Verringerung arbeitsbedingter Gesundheitsgefahren [Economic incentives for occupational measures for accident prevention and for the reduction of health hazards]. *Wirtschaftsverlag NW, Bremerhaven, Germany*
- Kvorning, L. V., Hasle, P. and Christensen, U. (2015). Motivational factors influencing small construction and auto repair enterprises to participate in occupational health and safety programmes. *Safety Science*, 71(Part C): 253-263
- Kwantes, J. H. and Hooftman, W. (2020). OSH system at national level — Netherlands. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Netherlands](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Netherlands)
- Kyndt, E. and Baert, H. (2013). Antecedents of employees' involvement in work-related learning: A systematic review. *Review of Educational Research*, 83: 273-313
- Lahari-Dutt, K. (2017). Coal as national development in India. In: Nielsen, K. B. and Oskarsson, P. (eds). *Industrialising Rural India: Land, Policy and Resistance*. Routledge, London: 85-106
- Lave, J. and Wenger, E. (1990). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press, Cambridge, United Kingdom
- Law Reform Commission, New South Wales (2003). *Sentencing: Corporate Offenders*, Report 102. Law Reform Commission, Sydney

- LeBaron, G. and Rühmkorf, A. (2017). Steering CSR through home state regulation: A comparison of the impact of the UK Bribery Act and Modern Slavery Act on global supply chain governance. *Global Policy*, 8(53): 15-28
- Lees, F. P. (1996). *Loss Prevention in the Process Industries*. 2nd edition, volumes 1-3. Butterworth Heinemann, Oxford
- Legros, S. and Ciglaghi, B. (2020). Mapping the social-norms literature: An overview of reviews. *Perspectives on Psychological Science*, 15(1): 62-80
- Lehmann Nielsen, V. (2006). Are regulators responsive? *Law and Policy*, 28(3): 395-416
- Lehmann Nielsen, V. (2007). Differential treatment and communicative interactions: Why the character of social interaction is important. *Law and Policy*, 29(2): 257-283
- Lehmann Nielsen, V. and Parker, C. (2008). To what extent do third parties influence business compliance? *Journal of Law and Society*, 35(3): 309-340
- Leigh, J. P., Markowitz, S. B., Fahs, M., Shin, C. and Landrigan, P. H. (1997). Occupational injury and illness in the United States: Estimates of costs, morbidity, and mortality. *Archives of Internal Medicine*, 157: 1557-1568
- Leka, S., Jain, A., Widerszal-Bazyl, M., Zolnierczyk-Zreda, D. and Zwetsloot, G. (2011). Developing a standard for psychosocial risk management: PAS 1010. *Safety Science*, 49: 1047-1057
- Lenderink, A. F., Keirsbilck, S., van der Molen, H. F. and Godderis, L. (2015). Online reporting and assessing new occupational health risks in SIGNAAL. *Occupational Medicine*, 65: 638-641
- Lenhardt, U. and Beck, D. (2016). Prevalence and quality of workplace risk assessments — Findings from a representative company survey in Germany. *Safety Science*, 86: 48-56
- Leopold, E. and Leonard, S. (1987). Costs of construction accidents to employers. *Journal of Occupational Accidents*, 8: 273-296
- Lepoutre, J. and Heene, A. (2006). Investigating the impact of firm size on small business social responsibility: A critical review. *Journal of Business Ethics*, 67: 257-273
- Levi-Faur, D. (2017). Regulatory capitalism. In: Drahos, P. (ed.). *Regulatory Theory: Foundations and Applications*. Australian National University Press, Canberra: 289-302
- Levine, D. I., Toffel, M. W. and Johnson, M. S. (2013). Randomized government safety inspections reduce worker injuries with no detectable job loss. *Science*, 336: 907-911
- Lewis, R. J., Krawiec, M., Confer, E., Agopsowicz, D. and Crandall, E. (2002). Musculoskeletal disorder worker compensation costs and injuries before and after an office ergonomic program. *International Journal of Industrial Ergonomics*, 29: 95-99
- Li, F. and Ding, D. Z. (2013). The effect of institutional isomorphic pressure on the internationalization of firms in an emerging economy: evidence from China. *Asia Pacific Business Review*, 19(4): 506-525
- Li, L. and Singleton, P. (2019). The effect of workplace inspections on worker safety. *ILR Review*, 72(3): 718-748
- Lie, A. and Bjørnstad, O. (2015). Accreditation of occupational health services in Norway. *Occupational Medicine*, 65(9): 722-724
- Lierman, B. E. (2010). To assure safe healthful working conditions: Taking lessons from labour unions to fulfil OSHA's promises. *Loyola University New Orleans Journal of Public Interest Law*, 12(1): 1-38
- Limborg, H. J. (2018). Peer Review on 'The Efficient Transposition, Implementation and Enforcement of EU OSH legislation'. Host Country Discussion Paper — Denmark. European Commission, Brussels

- Limborg, H. J., Grøn, S. and Flensburg, M. (2014). Networking among small and medium-sized enterprises — Meeting the challenge of promoting safety and health measures. *Small Enterprise Research*, 21(2): 214-222
- Limborg, H. J., Brandt, S. M. and Guldager, L. A. (2018). Labour Market Policy Thematic Review 2018: Health and Safety at Work and Labour Inspectorate: Denmark. European Commission Directorate-General for Employment, Social Affairs and Inclusion, Brussels
- Lindhout, P., van der Wer, K. and Reniers, G. (2020). Improving education and training of Dutch major hazard control inspectors: A 15 years longitudinal case study. *International Journal of Environmental Research and Public Health*, 17: 2-21
- Lippel, K. (2020) Occupational health and safety and COVID-19: Whose rights come first in a pandemic? Flood, C. M., MacDonnell, V., Philpott, J., Thériault, S. and Venkatapuram, S. (eds). *Vulnerable: The Law, Policy & Ethics of Covid-19*. University of Ottawa Press, Ottawa: 473-486
- Lippel, K., MacEachen, E., Saunders, R., Werhun, N., Kosny, A., Mansfield, L., Carrasco, C. and Pugliese, D. (2011). Legal protections governing occupational health and safety and workers' compensation of temporary employment agency workers in Canada: Reflections on regulatory effectiveness. *Policy and Practice in Health and Safety*, 9(2): 69-90
- Lišner, L. (2020). OSH system at national level — Denmark. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Denmark](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Denmark)
- Little, A. D. (2003). The Business Case for Corporate Social Responsibility. Available at: <http://faculty.wvu.edu/dunnc3/rprnts.businesscaseforcsr.pdf>
- Locke, R. (2013). *The Promise and Limits of Private Power, Promoting Labour Standards in a Global Economy*. Cambridge University Press, New York
- Loisel, P., Lemaire, J., Poitras, S., Durand, M. J., Champagne, F., Stock, S., Diallo, B. and Tremblay, C. (2002). Cost-benefit and cost-effectiveness analysis of a disability prevention model for back pain management: A six year follow up study. *Occupational and Environmental Medicine*, 59(12): 807-815
- Lundvall, B., Joseph, K. J., Chaminade, C. and Vang, J. (2009). *Handbook of Innovation Systems and Developing Countries*. Edward Elgar, Cheltenham, United Kingdom
- Macdonald, E. B. and Docherty, G. (2007). Healthy working lives: The Scottish strategy for improving health in the workplace. *Policy and Practice in Health and Safety*, 5(suppl. 1): 141-150
- Macdonald, E. B. and Sanati, K. A. (2010). Occupational health services now and in the future: The need for a paradigm shift. *Journal of Occupational and Environmental Medicine/American College of Occupational and Environmental Medicine*, 52(12): 1273-1277
- MacEachen, E., Lippel, K., Saunders, R., Kosny, A., Mansfield, L., Carrasco, C. and Diana Pugliese, D. (2012). Workers' compensation experience rating rules and the danger to worker safety in the temporary work agency sector. *Policy and Practice in Health and Safety*, 10(1): 77-96
- MacEachen, E., Kosny, A., Stahl, C., O'Hagan, F., Redgrift, L., Sanford, S., Carrasco, C., Tompa, E. and Mahood, Q. (2016). Systematic review of qualitative literature on occupational health and safety legislation and regulatory enforcement planning and implementation. *Scandinavian Journal of Work Environment and Health*, 42: 3-16
- Machin, S. (2016). Rising wage inequality, real wage stagnation and unions. *Research in labor economics*. In Cappellari, L., Polachek, S. W. and Tatsiramos, K. (eds). *Inequality: Causes and Consequences*. Volume 43. Emerald Publishing Ltd: 329-354
- Madsen, C. U, Kirkegaard, M. L., Dyreborg, J. and Hasle, P. (2020). Making occupational health and safety management systems 'work': A realist review of the OHSAS 18001 standard. *Safety Science*, 129, 104843



- Majumdar, A., Shaw, M. and Sinha, S. K. (2020). COVID-19 debunks the myth of socially sustainable supply chain: A case of the clothing industry in South Asian countries. *Sustainable Production and Consumption*, 24: 150-155
- Maldonado-Erazo, C. P., Alvarez-Garcia J., de la Cruz del Rio-Rama, M. and Correa-Quezada, R. (2020). Corporate social responsibility performance in SMEs: Scientific coverage. *Sustainability*, 12(6): 2332
- Mansfield, L., MacEachen, E., Tompa, E., Kalcevich, C., Endicott, M. and Yeung, N. (2012). A critical review of literature on experience rating in workers' compensation systems. *Policy and Practice in Health and Safety*, 10(1): 2-26
- Mansley, M. (2002). Health and Safety Indicator for Institutional Investors. A report to the Health and Safety Executive. Claros Consulting. Available at: <https://www.hse.gov.uk/research/rrpdf/rr217.pdf>
- Marcelissen, F. H. G. and Weel, A. N. H. (2002). Certification and quality assurance in Dutch occupational health services. *International Journal of Occupational Medicine and Environmental Health*, 15(2): 173-177
- Marchington, M., Grimshaw, D., Rubery, J. and Willmott, H. (2005). *Fragmenting Work, Blurring Organizational Boundaries and Disordering Hierarchies*. Oxford University Press, Oxford
- Marmot, M. (2015). *Social Status: How Your Place on the Social Gradient Directly Affects your Health*. Bloomsbury Publishing, London
- Marmot, M. (2016). *The Health Gap: The Challenge of an Unequal World*. Bloomsbury Publishing, London
- Marmot, M., Allen, J., Boyce, T., Goldblatt, P., Morrison, J. (2020). *The Marmot Review: Fair Society, Healthy Lives: Review of Health Inequalities in England post-2010*. Institute of Health Equity, London
- Martinsson, C., Lohela-Karlsson, M., Kwak, L., Bergström, G. and Hellman, T. (2016). What incentives influence employers to engage in workplace health interventions? *BMC Public Health*, 16: 854
- Mascini, P. (2016). Comparing assumptions underlying regulatory inspection strategies: Implications for oversight policy. In Slyke, S., Cullen, F. and Benson, M. (eds). *The Oxford Handbook of White-Collar Crime*. Oxford University Press, Oxford: 521-539
- Mascini, P. and van Wijk, E. (2009). Responsive regulation at the Dutch Food and Consumer Product Safety Authority: An empirical assessment of assumptions underlying the theory. *Regulation and Governance*, 3: 27-47
- Masi, D. and Cagno, E. (2015). Barriers to OHS interventions in small and medium-sized enterprises. *Safety Science*, 71: 226-241
- Masi, D., Cagno, E., Farne, S. and Hasle, P. (2019). Design of OSH interventions: A model to improve their actual implementation. *Safety Science*, 115: 51-65
- Masocha, R. and Fatoki, O. (2018). The Impact of coercive pressures on sustainability practices of small businesses in South Africa. *Sustainability*, 10(9): 3032
- Matten, D. and Moon, J. (2008). 'Implicit' and 'explicit' CSR: A conceptual framework for a comparative understanding of corporate social responsibility. *Academy of Management Review*, 33(2): 404-424
- Mattila-Wiro, P., Samant, Y., Husberg, W., Falk, M., Knudsen, A. and Saemundsson, E. (2020). *Work Today and in the Future. Perspectives on Occupational Safety and Health Challenges and Opportunities for the Nordic Labour Inspectorates*. Ministry of Social Affairs and Health, Helsinki
- May, P. J. (2010). Performance Based Regulation. Working Paper No 2. Jerusalem Papers in Regulation and Governance, Jerusalem. Available at: <http://regulation.huji.ac.il/papers/jp2.pdf>

- May, P. J. and Winter, S. (2011). Regulatory enforcement styles and compliance. In Parker, C. and Lehman, N. V. (eds). *Explaining Compliance. Business Responses to Regulation*. Edward Elgar, Cheltenham, United Kingdom: 222-244
- May, P. and Wood, R. (2003). At the regulatory frontlines: Inspectors' enforcement styles and regulatory compliance. *Journal of Public Administration Research and Theory*, 13(2): 117-139
- McBarnet, D. and Whelan, C. (1991). The elusive spirit of the law: Formalism and the struggle for legal control. *Modern Law Review*, 54: 848-873
- McCallum, R., Schofield, T. and Reeve, B. (2012). The role of the judiciary in occupational health and safety prosecutions: Institutional processes and the production of deterrence. *Journal of Industrial Relations*, 54(5): 688-706
- McClure, E. S., Vasudevan, P., Bailey, Z., Patel, S. and Robinson, W. R. (2020). Racial capitalism within public health — How occupational settings drive COVID-19 disparities. *American Journal of Epidemiology*, 189(11): 1244-1253
- McMaster, M., Nettleton, C., Tom, C., Xu, B., Cao, C. and Qiao, P. (2020). Risk management: Rethinking fashion supply chain management for multinational corporations in light of the COVID-19 outbreak. *Journal of Risk and Financial Management*, 13: 173
- McWilliams A. and Siegel, D. (2001). Corporate social responsibility: A theory of the firm perspective. *Academy of Management Review*, 26: 117-127
- McWilliams, A., Siegel, D. S. and Wright, P. M. (2006). Corporate social responsibility: Strategic implications. *Journal of Management Studies*, 43(1): 1-18
- Mediavilla, L. (2020). OSH system at national level — France. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_France](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_France)
- Melling, J. (2005). An inspector calls: Perspectives on the history of occupational diseases and accident causation in the United Kingdom. *Medical History*, 49: 102-106
- Merton, R. (1968). *Social Theory and Social Structure*. Free Press, New York
- Micheli, G., Cagno, E. and Calabrese, A. (2018). The transition from occupational safety and health (OSH) interventions to OSH outcomes: An empirical analysis of mechanisms and contextual factors within small and medium-sized enterprises. *International Journal of Environmental Research and Public Health*, 15: 1-22
- Middlemiss, L. (2014). Individualised or participatory? Exploring late-modern identity and sustainable development. *Environmental Politics*, 23(6): 929-946
- Miller, P., Rossiter, P. and Nuttall, D. (2002). Demonstrating the economic value of occupational health services. *Occupational Medicine*, 8: 477-483
- Miller, P., Whynes, D. and Reid, A. (2000). An economic evaluation of occupational health. *Occupational Medicine*, 50(3): 159-163
- Minwoong, J. and Weil, D. (2015). The impact of franchising on labor standards compliance. *Industrial & Labour Relations Review*, 68(5): 977-1006
- Miroudot, S. (2020). Reshaping the policy debate on the implications of COVID-19 for global supply chains. *Journal of International Business Policy*, 3: 430-442
- Mischke, C., Verbeek, J. H., Morata, T. C., Alvesolo-Kuusi, A., Neuvonen, K. and Pedlow, R. I. (2013). Occupational safety and health enforcement tools for preventing occupational diseases and injuries (Review). *Cochrane Database of Systematic Reviews*, 8: 1-86
- MoE (Minister of Employment) (2016). *The Belgian National Strategy for Wellbeing at Work 2016-2020*. Minister of Employment: Strategic and Operational Objectives, Brussels

- Molander, P., Eriksen, H. R., Sletmo, K. and Grasdahl, A. L. (2018). Hva bør skje med BHT? En fremtidsrettet bedriftshelse tjeneste med fokus på kjerneoppgaver. Rapport fra en uavhengig ekspertgruppe. STAMI, Oslo
- Montero, M. J., Araque, R. A. and Rey, J. M. (2009). Occupational health and safety in the framework of Corporate Social Responsibility. *Safety Science*, 47(10): 1440-1445
- Morantz, A. (2011). Does unionization strengthen regulatory enforcement — An empirical study of the Mine Safety and Health Administration. *NYU Journal of Legislation and Public Policy*, 14: 697-727
- Morantz, A. (2013). Coal mine safety: Do unions make a difference? *Industrial and Labor Relations Review*, 55: 88-116
- Morgan, B. and Yeung, K. (2007). *Introduction to Law and Regulation*. Cambridge University Press, Cambridge, United Kingdom
- Mossink, J. and De Greef, M. (2002). Inventory of socioeconomic costs of work accidents. EU-OSHA, Bilbao. Available at: <https://osha.europa.eu/en/publications/report-inventory-socioeconomic-costs-work-accidents>
- Mossink, J. C. M., Smulders, P. G. W., Lunde-Jensen, P., Wynne, R., Vassie, L., O'Brien, E. J. and Klein Hesselink, J. (1998). *Costs and Benefits of Occupational Safety and Health in the European Union*. Report to the European Commission DG-V. NIA TNO, Hoofddorp, Netherlands
- Moyce, S. C. and Schenker, M. (2018). Migrant workers and their occupational health and safety. *Annual Review of Public Health*, 39: 351-365
- MSA&E (Ministry of Social Affairs and Employment) (2016). *Dutch Vision and Strategy for Occupational Safety and Health*. Government of the Netherlands
- MSA&E (2017). *Annual Report 2017*. Inspectorate SZW, Government of the Netherlands
- MSA&E (2020). *Priorities Inspectorate SZW*. Inspectorate SZW. Available at: <https://www.inspectorateszw.nl/about-inspectorate-szw/priorities-inspectorate-szw>
- Munich Re Group (Münchener Rückversicherungs-Gesellschaft) (2000). *Workers' Compensation — Analysis of Private and Public Systems*. Munich Re Group, Munich
- Munich Re Group (2002). *Rating Systems — An International Comparison of Workers' Compensation Insurance*. Munich Re Group, Munich
- Munich Re Group Centre of Competence for Workers' Compensation (2005). *Economic Incentives — A Reflection on Workers' Compensation Systems*. Discussion paper. Munich Re Group, Munich
- Mustard, C. (2005). Cooperation between insurance and prevention. *Safety Science Monitor*, 9(1): 1-11
- Myers, M., Cole, H., Mazur, J. and Isaacs, S. (2008). Economics and safety: Understanding the cost of injuries and their prevention. *Professional Safety*, April: 37-45
- NASEM (National Academies of Sciences, Engineering and Medicine) (2018). *A Smarter National Surveillance System for Occupational Safety and Health in the 21st Century*. The National Academies Press, Washington, DC
- Neis, B. and Lippel, K. (2019). Occupational health and safety and the mobile workforce: Insights from a Canadian research program. *New Solutions*, 29(3): 297-316
- Nelkin, D. (1985). Introduction: Analyzing risk. In: Nelkin, D. (ed.). *The Language of Risk: Conflicting Perspectives on Occupational Health*. Sage, London
- News Desk (2020). Virtual food hygiene inspections could reduce backlog. *Food Safety News*, 21 July

- Nichols, T. and Walters, D. (eds) (2013). *Safety or Profit: International Studies in Governance, Change and the Work Environment*. Baywood, New York
- Nicholson, S., Pauly, M. V., Polsky, D., Sharda, C., Szrek, H. and Berger, M. L. (2006). Measuring the effects of work loss on productivity with team production. *Health Economics*, 15(2): 111-123
- Nielsen, K. J. (2017). A comparison of inspection practices within the construction industry between the Danish and Swedish Work Environment Authorities. *Construction Management and Economics*, 35(3): 154-169
- Nielsen, V. L. and Parker, C. (2012). Mixed motives: Economic, social and normative motivations in business compliance. *Law & Policy*, 34(4): 428-462
- Nilsson, B. (2018). Peer Review on 'The efficient transposition, implementation and enforcement of EU OSH legislation'. Peer Country Comments Paper - Sweden. European Commission, Brussels
- Niskanen, T. (2013). The effects of the enforcement legislation in the Finnish occupational safety and health inspectorate. *Safety Science*, 55: 135-148
- Niskanen, T. (2015). Investigation into qualitative discourses of the occupational safety and health inspectors in order to promote enforcement. *International Journal of Occupational Safety and Ergonomics*, 21(4): 426-443
- Niskanen, T., Louhelainen, K. and Hirvonen, M. (2014). An evaluation of the effects of the occupational safety and health inspectors' supervision in workplaces. *Accident Analysis and Prevention*, 68: 139-155
- Nonet, P. and Selznick, P. (1978). *Law and Society in Transition: Towards Responsive Law*. Harper and Rowe, New York
- Nossar, I. (1999). *Proposals for the Protection of Outworkers from Exploitation*. Textile Clothing and Footwear Union of Australia, Sydney
- Nossar, I. (2000). *Behind the Label: The New South Wales Government Outworker Strategy — The Importance of the Strategy and Prerequisites for its Success*. Briefing Paper. Textile Clothing and Footwear Union of Australia, Sydney
- Nossar, I. (2006). Cross-jurisdictional regulation of commercial contracts for work beyond the traditional relationship. In: Arup, C., Gahan, P., Howe, J., Johnstone, R., Mitchell, R. and O'Donnell, A. (eds). *Labour Law and Labour Market Regulation*. Federation Press, Sydney: 202-222
- Nossar, I. (2021). Protecting 'gig economy' workers through regulatory innovation: Controlling contract network within digital networks. In: Sheldon, P., Gregson, A., Lansbury, R. and Sanders, K. (eds). *The Regulation and Management of Workplace Health and Safety: Historical and Emerging Trends*. Routledge: 141-160
- Nossar, I., Johnstone, R. and Quinlan, M. (2004). Regulating supply chains to address the occupational health and safety problems associated with precarious employment: The case of home-based clothing workers in Australia. *Australian Journal of Labour Law*, 17: 137-160
- Nossar, I., Johnstone, R., Macklin, A. and Rawling, M. (2015). Protective legal regulation for home based workers in the Australian textile, clothing and footwear industry. *Journal of Industrial Relations*, 57: 585-603
- Nytrö, K., Saksvik, P. O. and Torvatn, H. (1998). Organisational prerequisites for the implementation of systematic health, environment and safety work in enterprises. *Safety Science*, 30: 297-307
- OECD (Organisation for Economic Co-operation and Development) (2013). *Trade Union Membership database*, Paris.
- OECD (2014a). *OECD Best Practice Principles for Regulatory Policy: Regulatory Enforcement and Inspections*. OECD Publishing, Paris

- OECD (2014b). The Governance of Regulators, OECD Best Practice Principles for Regulatory Policy. OECD Publishing, Paris
- O’Leary, L. (2020). The modern supply chain is snapping. *The Atlantic*, 26 March
- Olsen, K. (2012). Occupational health and safety professionals’ strategies to improve working environment and their self-assessed impact. *Work*, 41(suppl. 1): 2625-2632
- O’Neil, R. (2020). WHO knew. How the World Health Organization (WHO) became a dangerous interloper on workplace health and safety and COVID-19. *New Solutions*, 30(3): 237-248
- ONS (Office for National Statistics) (2018). Contracts that do not guarantee a minimum number of hours: April 2018. ONS. Available at: <https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/articles/contractsthatdonotguaranteeaminimumnumberofhours/april2018>
- OSH Wiki (2020). COVID-19: Back to the workplace — Adapting workplaces and protecting workers. OSH Wiki. Available at: [https://oshwiki.eu/wiki/COVID-19:\\_Back\\_to\\_the\\_workplace\\_-\\_Adapting\\_workplaces\\_and\\_protecting\\_workers](https://oshwiki.eu/wiki/COVID-19:_Back_to_the_workplace_-_Adapting_workplaces_and_protecting_workers)
- Osoimehin, S. and Popov, I. (2020). Sectoral Impact of COVID-19: Cascading Risks. Institute Working Paper 30. Opportunity and Inclusive Growth Institute, Federal Reserve Bank of Minneapolis, Minneapolis, MN
- Owen, K. (1996). Economic cost of poor performance in occupational health and safety. *Journal of Occupational Health and Safety, Australia and New Zealand*, 12(5): 609-617
- Oxenburgh, M. and Marlow, P. (2005). The Productivity Assessment Tool: Computer-based cost benefit analysis model for the economic assessment of occupational health and safety interventions in the workplace. *Journal of Safety Research*, 36: 209-214
- Pailhereau, G. (2007). Occupational health on the rails: Beware of oncoming reforms. In: Westerholm, P. and Walters, D. (eds). *Supporting Health at Work: International Perspectives on Occupational Health Services*. IOSH Services Ltd, Wigston, United Kingdom
- Palmer, K. T., Cox, R. A. F. and Brown, I. (2006). *Fitness for Work: The Medical Aspects*. 4th edition. Oxford University Press, Oxford
- Palmgren, H., Jalonen, P. and Kaleva, S. (2008). Health education and communication in occupational health services in Finland. *Arhiv Za Higijenu Rada i Toksikologiju*, 59(3): 171-181
- Paridon, H. M., Paridon, C. M. and Bindzius, F. A. (2007). The German Berufsgenossenschaften (institutions for statutory accident insurance and prevention): Organisation, mandate and activities in the area of mental health. *International Journal of Law and Psychiatry*, 30: 400-415
- Parker, C. and Nielsen, V. L. (2011). *Explaining Compliance: Business Responses to Regulation*. Edward Elgar, Cheltenham, United Kingdom
- Parker, C. and Nielsen, V. L. (2017). Compliance: 14 questions. In: Drahos, P. (ed.). *Regulatory Theory: Foundations and Applications*. Australian National University Press, Canberra: 217-232
- Patel, P., Hiam, L., Sowemimo, A., Devakumar, D. and Martin McKee, M. (2020). Ethnicity and covid-19: Public Health England’s review of disparities in covid-19 is a serious missed opportunity. Editorial. *BMJ*, 369: m2282
- Peace, C. (2017). The risk matrix: Uncertain results? *Policy and Practice in Health and Safety*, 15(2): 131-144
- Pearce, F. and Tombs, S. (1990). Ideology, hegemony and empiricism: Compliance theories of regulation. *British Journal of Criminology*, 30(4): 423-443
- Pearce, F. and Tombs, S. (1991). Policing corporate ‘skid rows’: A reply to Keith Hawkins. *British Journal of Criminology*, 31(4): 415



- Pek, S., Turner, N., Tucker, S., Kelloway, E. K. and Morrish, J. (2017). Injunctive safety norms, young worker risk-taking behaviours, and workplace injuries. *Accident Analysis & Prevention*, 106: 202-210
- Pennycook, M., Cory, G. and Alakeson, V. (2013). *A matter of time: The rise of zero-hours contracts*. Resolution Foundation, London
- Perrini, F. (2006). SMEs and CSR theory: Evidence and implications from an Italian perspective. *Journal of Business Ethics*, 67: 305-331
- Pilbeam, C., Doherty, N., Davidson, R. and Denyer, D. (2016). Effect of isomorphic forces on safety practices in service organizations: Are there dangers to homogeneity? *Policy and Practice in Health and Safety*, 14(1): 50-64
- Pilbeam, C., Denyer, D. and Doherty, N. (2020). Safety risk factors in two different types of routine outsourced work: A systematic literature review. *Policy and Practice in Health and Safety*, 18(2): 140-154
- Piore, M. J. and Sabel, C. F. (1984). *The Second Industrial Divide: Possibilities for Prosperity*. Basic Books, New York
- Pires, R. (2011). Beyond the fear of discretion: Flexibility, performance, and accountability in the management of regulatory bureaucracies. *Regulation & Governance*, 5: 43-69
- Plomp, H. N. (2008). The impact of the introduction of market incentives on occupational health services and occupational health professionals: Experiences from The Netherlands. *Health Policy (Amsterdam, Netherlands)*, 88(1): 25-37
- Popma, J. and van Lammeren, B. (2017). *Worker Participation in the Management of Occupational Safety and Health — Qualitative Evidence From ESENER-2. Country Report — The Netherlands*, European Risk Observatory. Publications Office of the European Union, Luxembourg
- Posthuma, A. and Bignami, R. (2014). Bridging the gap? Public and private regulation of labour standards in apparel value chains in Brazil. *Competition & Change*, 18(4): 345
- Power, M. (2004). *The Risk Management of Everything*. Demos, London
- Pransky, G., Benjamin, K. and Dembe, A. E. (2001). Performance and quality measurement in occupational health services: Current status and agenda for further research. *American Journal of Industrial Medicine*, 40(3): 295-306
- Pryor, P. (2019). Developing the core body of knowledge for the generalist OHS professional. *Safety Science*, 115: 19-27
- Pryor, P. and Sawyer, N. (2010). OHS professionals: Technicians or strategic advisers? *Journal of Health, Safety and Environment*, 26(1): 21-23
- Pryor, P., Hale, A. and Hudson, D. (2019). Development of a global framework for OHS professional practise. *Safety Science*, 117: 404-416
- Quinlan, M. (1997). The toll from toil does matter: Occupational health and labour history. *Labour History*, 73: 1-29
- Quinlan, M. (2004). Workers' compensation and the challenges posed by changing patterns of work: Evidence from Australia. *Policy and Practice in Health and Safety*, 2(1): 25-52
- Quinlan, M. (2014). Precarious employment, ill health, and lessons from history: The case of casual (temporary) dockworkers 1880-1945. *International Journal of Health Services*, 43(4): 721-744
- Quinlan, M. and Bohle, P. (2008). Under pressure, out of control or home alone? Reviewing research and policy debates on the OHS effects of outsourcing and home-based work. *International Journal of Health Services*, 38(3): 489-525

- Quinlan, M., Mayhew, C. and Bohle, P. (2001). The global expansion of precarious employment, work disorganisation, and consequences for occupational health: A review of recent research. *International Journal of Health Services*, 31(2): 335-414
- Rahman, K. S. (2017). The shape of things to come. The on-demand economy and the normative stakes of regulating 21st century capitalism. *European Journal of Risk Regulation*, 4: 652-663
- Ranka, S., Quigley, J. and Hussain, T. (2020). Behaviour of occupational health services during the COVID-19 pandemic. *Occupational Medicine*, 70(5): 359-363
- Rantanen, J. and Fedotov, I. A. (2016). Occupational health services — Standards, principles and approaches in occupational health services. Chapter 16. ILO, Geneva. In: *ILO Encyclopaedia of Occupational Health and Safety*. 4th edition. Available at: <http://www.ilocis.org/documents/chpt16e.htm>
- Rantanen, J., Lehtinen, S., Valenti, A. and Iavicoli, S. (2017). A global survey on occupational health services in selected International Commission on Occupational Health (ICOH) member countries. *BMC Public Health*, 17: 787
- Rasmussen, M., Hansen, T. and Nielsen, K. (2011). New tools and strategies for the inspection of the psychosocial working environment: The experience of the Danish Working Environment Authority. *Safety Science*, 49: 565-574
- Ratilainen, H., Salminen, S., Zwetsloot, G., Perttula, P., Starren, A., Steijn, W., Pahkin, K., Drupsteen, L., Puro, V., Räsänen, T. et al. (2016). The Value of Safety and Safety as a Value. SAFERA technical report number 2016-01. SAFERA. Available at: <https://projects.safera.eu/project/8>
- Rawling, M. (2006). A generic model of regulating supply chain outsourcing. In: Arup, C., Gahan, P., Howe, J., Johnstone, R., Mitchell, R. and O'Donnell, A. (eds). *Labour Law and Labour Market Regulation*. Federation Press, Sydney: 520-541
- Reber, A. and Reber, E. (2001). *Dictionary of Psychology*. 3rd edition. Penguin Books
- Reiman, A., Ahonen, G., Juvonen-Posti, P., Heusala, T., Takala, E.-P. and Joensuu, M. (2017). Economic impacts of workplace disability management in a public enterprise. *International Journal of Public Sector Performance Management*, 3: 297
- Reinecke, J., Donaghey, J., Bocken, N. and Lauriano, L. (2019). *Business Models and Labour Standards: Making the Connection*. Ethical Trading Initiative, London
- Rhodes, M. (2005). Varieties of capitalism and the political economy of European welfare states. *New Political Economy*, 10(3): 363-370
- Rikhardsson, P. M. and Impgaard, M. (2004). Corporate cost of occupational accidents: An activity-based analysis. *Accident Analysis and Prevention*, 36: 173-182
- Ripa, D. and Herrero, J. H. (2012). Corporate social responsibility: Standards and instruments. In: Jain, A., Puuplampu, B. B., Amponsah-Tawiah, K. and Andreou, N. J. A. (eds). *Occupational Safety & Health and Corporate Social Responsibility in Africa: Repositioning Corporate Responsibility Towards National Development*. Cranfield Press, Cranfield, United Kingdom: 71-87
- Robens, A. (1972). *Safety and Health at Work: Report of the Committee of Inquiry 1970-1972*. Cmd. 5034. Her Majesty's Stationery Office, London
- Rocincini, L. (2010). Enforcement and compliance with labor regulations in Argentina. *Industrial and Labor Relations Review*, 63(4): 719-773
- Rogowski, R. (2013). *Reflexive Labour Law in the World Society*. Edward Elgar, Cheltenham, United Kingdom
- Rothstein, H., Paul, R. and Demeritt, D. (2020). The boundary conditions for regulation: Welfare systems, state traditions, and the varied governance of work safety in Europe. *Governance*, 33: 21-39

- Safe Work Australia (2013). The Effectiveness of Work Health and Safety Interventions by Regulators: A Literature Review. Safe Work Australia, Canberra
- SafeWork NSW (2020). Speak up to report a work health and safety concern. SafeWork NSW. Available at: [https://www.safework.nsw.gov.au/resource-library/blogs/blogs-accordions/speak-up-to-report-unsafe-work?SQ\\_VARIATION\\_566435=0](https://www.safework.nsw.gov.au/resource-library/blogs/blogs-accordions/speak-up-to-report-unsafe-work?SQ_VARIATION_566435=0)
- Sako, M. (1992). Prices, quality and trust: Inter-firm relations in Britain and Japan. Cambridge University Press, Cambridge, United Kingdom
- Sanders, K. and Roefs, M. A. J. (2001). De invloed van maatschappelijk verantwoord ondernemen. Gids voor personeelsmanagement, 80(5): 30-33
- Sargeant, M. and Tucker, E. (2009). Layers of vulnerability in occupational health and safety for migrant workers: Case studies from Canada and the United Kingdom. CLPE Research Paper 08/2009. Comparative Research in Law and Political Economy, 5(2)
- Sauni, R. (2019). Safe and Healthy Working Conditions and Workability for Everyone. Policy for the Work Environment and Wellbeing at Work Until 2030. Ministry of Social Affairs and Health, Helsinki
- Sauni, R., Koskela, K. and Westerholm, P. (2020). OSH system at national level — Sweden. OSH Wiki. Available at: [https://oshwiki.eu/wiki/OSH\\_system\\_at\\_national\\_level\\_-\\_Sweden](https://oshwiki.eu/wiki/OSH_system_at_national_level_-_Sweden)
- Savinainen, M. and Oksa, P. (2011). Efficiency of workplace surveys conducted by Finnish occupational health services. Official Journal of the American Association of Occupational Health Nurses, 59(7): 303-310
- Sayer, R. A. and Walker, R. (1992). The New Social Economy: Reworking the Division of Labour. Blackwell, London
- Schmitt, B. and Hammer, A. (2015). Für welche betrieblichen Kontexte ist der Prozess der Gefährdungsbeurteilung anschlussfähig? WSI-Mitteilungen, 68(3): 202-211
- Scholz, J. (1984a). Deterrence, cooperation and the ecology of regulatory enforcement. Law and Society Review, 18: 179-224
- Scholz, J. (1984b). Voluntary compliance and regulatory policy. Law & Policy, 6: 385-404
- Scott, C. (2004). Regulation in the age of governance: The rise of the post-regulatory state. In: Jordana, J. and Levi-Faur, D. (eds). The Politics of Regulation. Edward Elgar, Cheltenham, United Kingdom
- Scott, C. (2017). Regulation and risk today. European Journal of Risk Regulation, 8: 24-27
- Seeley, P. A. and Marklin, R. W. (2003). Business case of implementing two ergonomic interventions at an electric power utility. Applied Ergonomics, 34(5): 429-439
- Segal, J. P., Sobczak, A. and Triomphe, C. E. (2003). CSR and Working Conditions. European Foundation for the Improvement of Living and Working Conditions, Dublin
- Semple, S. and Cherrie, J. W. (2020). Covid-19: Protecting worker health. Annals of Work Exposures and Health, 64(5): 461-464
- Sherratt, F. (2014). Exploring 'zero target' safety programmes in the UK construction industry. Construction Management and Economics, 32(7-8): 737-748
- Shih, W. (2020). Is it time to rethink globalized supply chains? MIT Sloan Management Review, 19 March. Available at: <https://sloanreview.mit.edu/article/is-it-time-to-rethink-globalized-supply-chains/>
- Short, J. L. and Toffel, M. W. (2010). Making self-regulation more than merely symbolic: The critical role of the legal environment. Administrative Science Quarterly, 55(3): 361-396
- Silva, S. A. and Fugas, C. S. (2015). The influence of peer norms. In: Clarke, S., Probst, T. M., Guldenmund, F. and Passmore, J. (eds). The Wiley Blackwell Handbook of the Psychology of

- Occupational Safety and Workplace Health. John Wiley & Sons, Ltd, Chichester, United Kingdom: 61-82
- Sim, M. R. (2020). The COVID-19 pandemic: Major risks to healthcare and other workers on the front line. *Occupational and Environmental Medicine*, 77: 281-282
- Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69(1): 99-118
- Sinclair, R. R., Allen, T., Barber, L., Bergman, M., Britt, T., Butler, A., Ford, M., Hammer, L., Kath, L., Probst, T. et al. (2020). Occupational health science in the time of COVID-19: Now more than ever. *Occupational Health Science*, 4: 1-22
- SLIC (Senior Labour Inspectors' Committee) (2014). Evaluation of the Finnish System of Labour Inspection on Occupational Safety and Health. SLIC, Helsinki
- SLIC (2017). Common Principles for Labour Inspection in Relation to Safety and Health at Work. European Commission, Brussels
- SLIC (undated). Common Standards for OSH Inspector Training Programme: Non-Binding Publication for EU Labour Inspectors. European Commission, Brussels
- Smith, P., Saunders, R., Lifshen, M., Black, O., Lay, M., Breslin, F. C., LaMontagne, A. and Tompa, E. (2015). The development of a conceptual model and self-reported measure of occupational health and safety vulnerability. *Accident Analysis & Prevention*, 82: 234-243
- Soede, A. J., Vrooman, J. C., Ferraresi, P. M. and Segre, G. (2004). Unequal Welfare States: Distributive Consequences of Population Ageing in Six European Countries. Social and Cultural Planning Office, The Hague
- Sommer, S. and Schröder, C. (2015). Arbeitsschutzpraxis von Kleinst- und Kleinbetrieben mit und ohne alternative Betreuung. Ergebnisse der GDA-Betriebsbefragung 2015. Bundesanstalt für Arbeitsschutz und Arbeitsmedizin, Dortmund
- Sparrow, M. (2000). *The Regulatory Craft: Controlling Risks, Solving Problems and Managing Compliance*. Brookings Institution, Washington, DC
- Sparrow, M. (2008). *The Character of Harms: Operational Challenges in Control*. Cambridge University Press, Cambridge, United Kingdom, and New York
- Spence, L. J. (2007). CSR and small business in a European policy context: The five 'C's of CSR and small business research agenda. *Business and Society Review*, 112: 533-552
- Spinazzè, A., Cattaneo, A. and Cavallo, D. M. (2020). COVID-19 outbreak in Italy: Protecting worker health and the response of the Italian Industrial Hygienists Association. *Annals of Work Exposures and Health*, 64(6): 559-564
- Standing, G. (2011). *The Precariat: The New Dangerous Class*. Bloomsbury, London
- Starheim, L. and Rasmussen, M. B. (2014). Labour inspection strategies addressing the psychosocial work environment. *Policy and Practice in Health and Safety*, 12(1): 53-70
- Strauss-Raats, P. (2019) Temporary safety. Regulating working conditions in temporary agency work. *Safety Science*, 112: 213-222
- Subash, M., Sakumoto, M., Bass, J., Hong, P., Muniyappa, A., Pierce, L., Purnal, C., Ramaswamy, P., Sono, R., Uptegraft, C. et al. (2020). The emerging role of clinical informatics fellows in service learning during the COVID-19 pandemic. *Journal of the American Medical Informatics Association*, 28(3): 487-493
- Swuste, P., Zwaar, W., Groeneweg, J. and Guldenmund, R. (2019). Safety professionals in the Netherlands. *Safety Science*, 114: 79-88
- Tait, R. and Walker, D. (2000). Motivating the workforce: The value of external health and safety awards. *Journal of Safety Research*, 31(4): 243-251

- Takala, J. (2015). Eliminating occupational cancer. *Industrial Health*, 53: 307-309
- Takala, J., Hämäläinen, P., Saarela, K. L., Yun, L. Y., Manickam, K., Jin, T. W., Heng, P., Tjong, C., Kheng, L. G., Lim, S. et al. (2012). Global estimates of the burden of injury and illness at work. *Journal of Occupational and Environmental Hygiene*, 11: 326-337
- Taylor, P. (2020). Covid-19 and Call/Contact Centre Workers: Intermediate Report. University of Strathclyde Business School, Glasgow
- Terwoert, J., Verbist, K. and Heussen, H. (2016). An intervention study on the implementation of control banding in controlling exposure to hazardous chemicals in small and medium-sized enterprises. *Safety and Health at Work*, 7: 185-193
- Testa, F., Corsini, F., Gusmerotti, N. M. and Iraldo, F. (2018). Predictors of organizational citizenship behavior in relation to environmental and health & safety issues. *The International Journal of Human Resource Management*, 31(13): 1705-1738
- Thelen, K. (2015). Varieties of capitalism: Trajectories of liberalization and the new politics of social solidarity. *Annual Review of Political Science*, 15: 137-159
- Thomason, T. and Pozzebun, S. (2002). Determinants of workplace health and safety and claims management practices. *Industrial and Labor Relations Review*, 55(2): 286-307
- Thornton, N., Gunningham, N. and Kagan, R. (2005). General deterrence and corporate environmental behaviour. *Law and Policy*, 27(2): 262-288
- Toffelson, C., Gale, F. and Haley, D. (2008). *Setting the Standard: Certification, Governance and the Forest Stewardship Council*. University of British Columbia Press, Vancouver
- Tombs, S. (2017). *Social Protection after the Crisis: Regulation without Enforcement*. Policy Press, Bristol
- Tombs, S. and Whyte, D. (2007). *Safety Crimes*. Willian Publishing
- Tombs, S. and Whyte, D. (2013a). Transcending the deregulation debate? Regulation, risk, and the enforcement of health and safety law in the UK. *Regulation & Governance*, 7(1): 61-79
- Tombs, S. and Whyte, D. (2013b). Safety, profits, and the new politics of regulation. In: Nichols T. and Walters, D. (eds). *Safety or Profit? International Studies in Governance, Change and Work Environment*. Baywood Press, New York
- Tompa, E., Trethivick, S. and McLeod, C. (2007a). Systematic review of the prevention incentives of insurance and regulatory mechanisms for occupational health and safety. *Scandinavian Journal of Work Environment and Health*, 33: 85-95
- Tompa, E., Dolinschi, R., de Oliveira, C. and Irvin, E. (2007b). *A Systematic Review of OHS Interventions with Economic Evaluations*. Institute for Work and Health, Toronto
- Tompa, E., Dolinschi R. and Laing, A. (2009). An economic evaluation of a participatory ergonomics process in an auto parts manufacturer. *Journal of Safety Research*, 40: 41-47
- Tompa, E., Kalcevich, C., Foley, M., McLeod, C., Hogg-Johnson, S., Cullen, K., MacEachen, E., Mahood, Q. and Irvin, E. (2016). A systematic literature review of the effectiveness of occupational health and safety enforcement. *American Journal of Industrial Medicine*, 59: 919-933
- Torén, K. and Sterner, T. (2003). How to promote prevention — Economic incentives or legal regulations or both? *Scandinavian Journal of Work Environment and Health*, 29(3): 239-245
- Tosine, H. and Wedege, N-P. (2009). *Measuring Performance of the Occupational Safety and Health Function*. International Association of Labour Inspection, Singapore
- Toukas, D., Delichas, M., Toufekoula, C. and Spyrouli, A. (2015). The role of labour inspectorates in tackling the psychosocial risks at work in Europe: Problems and perspectives. *Safety and Health at Work*, 6: 263-267



- Treichel, B. (2005). The ten steps for strengthening labour inspection. In: International Labour Organisation (corporate ed.). *The Global Challenges of Labour Inspection*. Labour Education 2005/3-4, Nos 140-141. ILO, Geneva: 74-78
- Tucker, E. (2013). Old lessons for new governance: Safety or profit and the new conventional wisdom. In: Nichols T. and Walters, D. (eds). *Safety or Profit? International Studies in Governance, Change and the Work Environment*. Baywood Press, New York
- Tucker, E., Hall, A., Vosko, L., Hall, R. and Siemiatycki, E. (2016). Making or administering law and policy: Discretion and judgment in employment standards enforcement in Ontario. *Canadian Journal of Law and Society*, 31(1): 65-86
- Tyler, T. (2003). Procedural justice, legitimacy, and the effective rule of law. *Crime and Justice*, 30: 283-357
- Tyler, T. (2006). *Why People Obey the Law*. Princeton University Press, Princeton, NJ
- Udayasankar, K. (2008). Corporate social responsibility and firm size. *Journal of Business Ethics*, 83: 167-175
- Uegaki, K., de Bruijne, M. C., Anema, J. R., van der Beek, A. J., van Tulder, M. W. and van Mechelen, W. (2007). Consensus-based findings and recommendations for estimating the costs of health-related productivity loss from a company's perspective. *Scandinavian Journal of Work Environment and Health*, 33(2): 122-130
- Uegaki, K., de Bruijne, M. C., Lambeek, L., Anema, J. R., van der Beek, A. J., van Mechelen, W. and van Tulder, M. W. (2010). Economic evaluations of occupational health interventions from a corporate perspective: A systematic review of methodological quality. *Scandinavian Journal of Work Environment and Health*, 36(4): 273-288
- Underhill, E. and Quinlan, M. (2011). How precarious employment affects health and safety at work: The case of temporary agency workers. *Relations Industrielles/Industrial Relations*, 66: 397-421
- Van Boetzelaar, K. and Princen, S. (2012). The quest for co-ordination in European regulatory networks. *Journal of Common Market Studies*, 50(5): 819
- Van Der See, B., Levitt, T. and McSweeney, E. (2020). Chaotic and crazy: Meat plants around the world struggle with virus outbreaks. *The Guardian*, 11 May. Available at: <https://www.theguardian.com/environment/2020/may/11/chaotic-and-crazy-meat-plants-around-the-world-struggle-with-virus-outbreaks>
- van Dongen, J. M., Proper, K. I., van Wier, M. F., van der Beek, A. J., Bongers, P. M., van Mechelen, W. and van Tulder, M. W. (2011). Systematic review on the financial return of worksite health promotion programmes aimed at improving nutrition and/or increasing physical activity. *Obesity Review*, 12(12): 1031-1049
- van Dongen, J. M., Tompa, E., Clune, L., Sarnocinska-Hart, A. and Bongers, P. M. (2013). Bridging the gap between the economic evaluation literature and daily practice in occupational health: A qualitative study among decision-makers in the healthcare sector. *Implementation Science*, 8: 57
- van Vliet, A. and Venema, A. (2011). *Evaluatie Arboret: Deelproject C Arbocatalogi*. Ministerie van Sociale Zaken en Werkgelegenheid, The Hague
- Verbeek, J. (2009). Economics of occupational safety and health. *Scandinavian Journal of Work Environment and Health*, 35(6): 401-402
- Verbeek, J., Pulliainen, M. and Kankaanpää, E. (2009). A systematic review of occupational safety and health business cases. *Scandinavian Journal of Work Environment and Health*, 35(6): 403-413

- Verma, S. and Gustafsson, A. (2020). Investigating the emerging COVID-19 research trends in the field of business and management: A bibliometric analysis approach. *Journal of Business Research*, 118: 253-261
- Viscusi, W. K. (1983). *Risk by Choice: Regulating Health and Safety in the Workplace*. Harvard University Press, Cambridge, MA
- Viveros-Guzmán, A. and Gertler, M. (2015). Latino farmworkers in Saskatchewan: Language barriers and health and safety. *Journal of Agromedicine*, 20(3): 341-348
- Vo, L. C. (2011) Corporate social responsibility and SMEs: A literature review and agenda for future research. *Problems and Perspectives in Management*, 9(4)
- Vogel, D. (2005). *The Market for Virtue: The Potential Limits of Corporate Social Responsibility*. The Brookings Institution, Washington, DC
- Vogel, D. (2010). The private regulation of global corporate conduct: Achievements and limitations. *Business and Society*, 49(1): 68-87
- Vogel, L. (1994). *Prevention at the Workplace. An Initial Review of How the 1989 Community Framework Directive is Being Implemented*. European Trade Union Technical Bureau for Health and Safety, Brussels
- Vogel, L. (1998). *Prevention at the Workplace: Sweden, Finland, Norway, Austria, Switzerland*. European Trade Union Technical Bureau for Health and Safety, Brussels
- Vosko, L. and the Closing of the Enforcement Gap Research Group (2020). *Closing the Enforcement Gap: Improving Employment Standards Protections for People in Precarious Jobs*. University of Toronto Press, Toronto
- Vosko, L., Grundy, J. and Thomas, M. P. (2016). Challenging new governance: Evaluating new approaches to employment standards enforcement in common law jurisdictions. *Economic and Industrial Democracy*, 37(2): 373-398
- Wahl, G. (1998). Ergonomic intervention has a return on investment of 17 to 1. *Applied Occupational and Environmental Hygiene*, 13(4): 212-213
- Walters, D. (ed.) (1996). *The Identification and Assessment of Occupational Health and Safety Strategies in Europe. Volume 1: The National Situations*. Office for Official Publications of the European Communities, Luxembourg
- Walters, D. (1997). Preventive services in occupational health and safety in Europe: Developments and trends in the 1990s. *International Journal of Health Services*, 27(2), 247-271
- Walters, D. (1998). Health and safety strategies in a changing Europe. *International Journal of Health Services*, 28(2): 305-331
- Walters, D. (2002). *Regulating Health and Safety Management in the European Union*. Peter Lang, Brussels
- Walters, D. (2007a). Introduction: Occupational health services in a changing world. In: Westerholm, P. and Walters, D. (eds). *Supporting Health at Work: International Perspectives on Occupational Health services*. IOSH Services Ltd, Wigston, United Kingdom
- Walters, D. (2007b). *An International Comparison of Occupational Disease and Injury Compensation Schemes*. Industrial Injuries Advisory Council. Available at <http://iiac.independent.gov.uk/pdf/reports/InternationalComparisonsReport.pdf>
- Walters, D. (2016). Labour inspection and health and safety in the EU. *HESA Magazine*, 14: 12-17
- Walters, D. and Bailey, N. (2013). *Lives in Peril: Profit or Safety in the Global Maritime Industry?* Palgrave Macmillan, Basingstoke, United Kingdom
- Walters, D. and James, P. (2009). *Understanding the Role of Supply Chains in Influencing Health and Safety at Work*. Institution of Occupational Safety and Health, Leicester, United Kingdom

- Walters, D. and James, P. (2011). What motivates employers to establish preventive management arrangements within supply chains? *Safety Science*, 49(7): 988-994
- Walters, D. and Wadsworth, E. (2014). Contexts and determinants of the management of occupational safety and health in European workplaces. *Policy and Practice in Health and Safety*, 12(2): 109-130
- Walters, D. and Wadsworth, E. (2019). Participation in OSH in European workplaces: Framing the capture of representation. *European Journal of Industrial Relations*, 26(1): 75-90
- Walters, D., Johnstone, R., Frick, K., Quinlan, M., Baril-Gingras, G. and Thébaud-Mony, A. (2011a). *Regulating Workplace Risks: A Comparative Study of Inspection Regimes in Times of Change*. Edward Elgar, Cheltenham, United Kingdom
- Walters, D., Wadsworth, E., Lissner, L., Zayzon, R., Frick, K. and Pawlowska, Z. (2011b). *The NERCLIS Project: Contract to Assess the Potential Impact of Emerging Trends and Risks on Labour Inspection Methodologies in the Domain of Occupational Health and Safety*. European Commission, Brussels
- Walters, D., Wadsworth, E., Sampson, H. and James, P. (2012). *The Limits of Influence. The Role of Supply Chains in Influencing Health and Safety Management in Two Sectors*. Institute of Occupational Safety and Health, Wigston, United Kingdom
- Walters, D., James, P., Sampson, H., Bhattacharya, S., Xue, C. and Wadsworth, E. (2016). Supply chain leverage and regulating health and safety management in shipping. *Relations Industrielles/Industrial Relations*, 71(1): 33-56
- Walters, D., Frick, K. and Wadsworth, E. (2018). Trade union initiatives to support improved safety and health in micro and small firms: Trade Union Prevention Agents (TUPAs) in four EU Member States. *Instituto Sindical de Trabajo Ambiente y Salud*, Valencia
- Walters, D., Wadsworth, E. and Bhattacharya, S. (2020). What about the workers? Experiences of arrangements for safety and health in global container terminals. *Safety Science*, 121: 474-484
- Waterman, L. (2013). A lesson on health and safety from the London Olympics. Today, 12 May. Available at: <https://www.todayonline.com/commentary/lesson-safety-london-olympics>
- Watterson, A. (2020). COVID-19 in the UK and occupational health and safety: Predictable not inevitable failures by government, and trade union and nongovernmental organization responses. *New Solutions*, 30(2): 86-94
- Watts, N. T. (1995). Health economy: Evaluating the costs and benefits of occupational health programs. *Scandinavian Journal of Rehabilitation Medicine*, 32: 101-106
- Weel, A. N. H. and Plomp, H. N. (2007). Developments in occupational health services in the Netherlands: From a professional to a market regime. In: Westerholm, P. and Walters, D. (eds). *Supporting Health at Work: International Perspectives on Occupational Health Services*. IOSH Services Ltd, Wigston, United Kingdom
- Weil, D. (1991). Enforcing OSHA: The role of labor unions. *Industrial Relations: A Journal of Economy and Society*, 30: 20-36
- Weil, D. (1992). Building safety: The role of construction unions in the enforcement of OSHA. *Journal of Labor Research*, 13: 121-132
- Weil, D. (2005). Public enforcement/private monitoring: Evaluating a new approach to regulating the minimum wage. *Industrial and Labor Relations Review*, 52(2): 238-257
- Weil, D. (2008). A strategic approach to labour inspection. *International Labour Review*, 147: 349-375
- Weil, D. (2009). Rethinking the regulation of vulnerable work in the USA: A sector-based approach. *Journal of Industrial Relations*, 51(3): 411-430

- Weil, D. (2010). *Improving Workplace Conditions Through Strategic Enforcement: A Report to the Wages and Hours Division*. US Department of Labor, Wage and Hours Division, Washington, DC
- Weil, D. (2011). Enforcing labor standards in fissured workplaces: The US experience. *Economic and Labor Relations Review*, 22(2): 33-54
- Weil, D. (2014). *The Fissured Workplace: Why Work Became So Bad for So Many and What Can Be Done to Improve It*. Harvard University Press, Cambridge, MA
- Weil, D. (2018). Creating a strategic enforcement approach to address wage theft: One academic's journey in organizational change. *Journal of Industrial Relations*, 60(3): 437-460
- Weil, D. (2019). Understanding the present and future of work in the fissured workplace context'. *The Russell Sage Foundation Journal of the Social Sciences*, 5(5): 147-165
- Weil, D. and Mallo, C. (2003). *Estimating the Impact of Monitoring on FLSA Regulatory Performance*. Technical Paper for the US Department of Labor Wage and Hour Division. Boston University, Boston, MA
- Weil, D. and Mallo, C. (2007). Regulating labour standards via supply chains: Combining public/private interventions to improve workplace compliance. *British Journal of Industrial Relations*, 45(4): 791-814
- Weil, D. and Pyles, A. (2006). Why complain? Complaints, compliance and the problem of enforcement in the US workplace. *Comparative Labor Law and Policy Journal*, 27(1): 59-92
- Weil, D., Mallo, C. and Pyles, A. (2003). *Final Report on Regulatory Performance in the Garment Industry*. Report to the US Department of Labor, Wage and Hour Division, and to the Office of Strategy, Analysis and Management. Boston University, Boston, MA
- Weindling, P. (ed.) (1985). *The Social History of Occupational Health*. Croom Helm, London
- Weissbrodt, R. and Giauque, D. (2017). Labour inspections and the prevention of psychosocial risks at work: A realist synthesis. *Safety Science*, 100: 110-124
- Westerholm, P. (1999). Challenges facing occupational health services in the 21st century. *Scandinavian Journal of Work, Environment and Health*, 25: 625-632
- Westerholm, P. and Walters D. (eds) (2007). *Supporting Health at Work: International Perspectives on Occupational Health Services*. Institution of Occupational Safety and Health, Leicester, United Kingdom
- WHO (World Health Organisation) (2020). *Getting Your Workplace Ready for COVID-19*. WHO, Geneva
- Wilkinson, R. and Marmot, M. (2003). *Social determinants of health: The solid facts*. 2nd edition. World Health Organisation, Geneva
- Wilkinson, R. and Pickett, K. (2009). *The Spirit Level: Why More Equal Societies Almost Always Do Better*. Bloomsbury, London
- Williamson, N., Stampe-Knippel, A. and Tina Weber, T. (2014). *Corporate Social Responsibility. National Public Policies in the European Union Compendium*. European Commission, Brussels
- Woodcock, J. (2016). *Working the Phones: Control and Resistance in Call Centres*. Pluto Press, London
- World Bank Group, Investment Climate Department (undated). *Introducing a Risk-based Approach to Regulate Business: How to Build a Risk Matrix to Classify Enterprises or Activities*. Nuts & Bolts, Technical Guidance for Reform Implementation. World Bank, Washington, DC
- Wright, C. and Lund, J. (2003). Supply chain rationalization: Retailer dominance and labour flexibility in the Australian food and grocery Industry. *Work, Employment and Society*, 17(1): 137-157

- Wright, M., Marsden, S. and Antonelli, A. (2004). Building an Evidence Base for the Health and Safety Commission Strategy to 2010 and Beyond: A Literature Review of Interventions to Improve Health and Safety Compliance. HSE Books, Norwich, United Kingdom
- Wright, M., Antonelli, A., Doyle, J. N., Bendig, M. and Genna, R. (2005). An Evidence-based Evaluation of How Best to Secure Compliance with Health and Safety Law. Summary Report. HSE Books, Norwich, United Kingdom
- Yassi, A., Tate, R., Cooper, J. E., Snow, C., Vallentyne, S. and Khokhar, J. B. (1995). Early intervention for back-injured nurses at a large Canadian tertiary care hospital: An evaluation of the effectiveness and cost benefits of a two-year pilot program. *Occupational Medicine*, 45(4): 209-214
- Yeung, K. (2004). *Securing Compliance: A Principled Approach*. Hart Publishing, Oxford
- Yildiz, A. and Ozerim, G. (2014). Corporate social responsibility in European context. In: Türker, D., Toker, H. and Altuntaş, C. (eds). *Contemporary Issues in Corporate Social Responsibility*. Lexington Books, USA: 43-55
- Zadros, K. (2019). Work safety in CSR standards, norms and management practice. *CzOTO*, 1(1): 69-76
- Zwetsloot, G. (2003). From management systems to corporate social responsibility. *Journal of Business Ethics*, 44: 201-207
- Zwetsloot, G., Hale, A. and Zwanikken, S. (2011). Regulatory risk control through mandatory occupational safety and health (OSH) certification and testing regimes (CTRs). *Safety Science*, 49(7): 995-1006
- Zwetsloot, G., Aaltonen, M., Wybo, J., Saari, J., Kines, P. and Op De Beeck, R. (2013). The case for research into the zero-accident vision. *Safety Science*, 58: 41-48
- Zwetsloot, G., Leka, S., Kines, P. and Jain, A. (2020). Vision zero: Developing proactive leading indicators for safety, health and wellbeing at work. *Safety Science*, 130: 104890



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