

## SUPPLY CHAINS AND THEIR PRESENT AND FUTURE IMPLICATIONS FOR OCCUPATIONAL SAFETY AND HEALTH

The supply chain, and its new forms, present major challenges for the governance and regulation of workers' occupational safety and health (OSH), both currently and in terms of the future of work. Yet elements of these business structures and the relations that drive them also demonstrate possible opportunities for improved governance of and support for OSH in the emerging scenarios increasingly characterising the future of work environment. Drawing on recent research findings, this article explores both the challenges and opportunities for OSH presented by the role of the supply chain now and in the future.

### Introduction

A major element in the expansion of global trade over the last several decades has been the growth of cross-national supply relationships, most notably between western multinationals and suppliers based in developing economies. This growth, in turn, has often been accompanied, within countries, by a trend towards the outsourcing of both 'peripheral' and 'core' activities to external providers by both public and private organisations. These trends have served to increase the importance of vertical supply relationships between buyers and sellers both within and across national boundaries in determining conditions of work in both production and services. They have thereby radically altered the economic contexts in which compliance with regulatory and other standards on occupational safety and health (OSH) takes place. As a result, they have significantly increased the extent to which labour conditions, including OSH, are shaped by financial and other business dynamics operating within inter-organisational supply chains. Furthermore, it is acknowledged that the changes involved have created a more challenging scenario for conventional means of securing compliance on OSH, especially among organisations occupying vulnerable positions at the ends of supply chains (EU-OSHA, 2012).

In this essay, the authors consider the implications of these dynamics for OSH, as well as what can and has to be done to address them in relation to both domestic and global supply chains. The essay begins by questioning some of the assumptions around supply chain management, including for example the idea that consumer power in product and service markets is a positive influence on labour conditions in supply chains. It explores the differing features of relationships subsisting between corporate buyers and providers, and the contextual factors that influence them. It then considers evidence on how these relations impact on OSH. The success of the current strategies to counter their negative effects is explored.

The essay goes on to describe likely future influences on the role of supply chains. This includes reflecting on the ways in which new business models may influence the continued significance of supply chain relations in determining OSH experiences. It notes a growing need to address the relevance of regulatory provisions to further outsourcing domestically and globally.

Finally, the essay concludes by outlining what is known regarding what works in securing improved compliance with health and safety standards within the supply chain, and poses questions concerning the design of future strategies and approaches in this field to support compliance. The authors argue that voluntary-based supply chain initiatives, such as those forming parts of corporate social responsibility programmes, need to be supported by multi-stakeholder action aimed at creating legally binding initiatives and to incorporate joint governance by social partners, as well as to explicitly challenge the competitive dynamics and economic rationales behind the way in which chains operate.

## The varying nature of supply relationships

A mix of contemporary ideas concerning the market influence of consumer choice and the corporate social responsibilities of large organisations suggests that labour conditions, including OSH, may be improved by demand pressures flowing through supply chains. While this may occur in some contexts, at the same time the business contexts of supply chains, the economic motives driving them and the form of relationships they embody have all been shown to vary considerably. Their dynamics have therefore been found to reflect a complex host of influences, by no means all of which lend support to these ideas of positive market-based OSH influences.

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 <sup>(1)</sup>, as well as the more specific objectives they are pursuing (Gereffi et al., 2005). For example, evidence suggests (Cousins and Lawson, 2007) that, where complexity is high and codification is low, buyers are more likely to seek close collaborative relationships. Where 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 where 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.

Evidence suggests that closer supply relations are likely to be important in supporting positive OSH outcomes. Further evidence suggests that the balance of economic power between buyers and suppliers may vary considerably, and hence also the balance of dependency between them, 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 being 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. More particularly, 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 differences between the United Kingdom and Japan). Therefore, some may act to affect OSH more positively than others (Walters and James, 2011). Other research has noted how the corporate social responsibility orientations of multinationals tend to vary as a result of differences in the business environments of their home countries. It has also highlighted in 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 (ILO, 2017).

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 neoliberal economic orthodoxies that support a belief that it 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. It follows that all too often negative, rather than positive, labour-related dynamics flow from outsourcing decisions. Moreover, while caution is always warranted when speculating on the future development of business models, it seems likely that the dynamics of supply relations will remain powerful determinants of OSH outcomes in the foreseeable future. It is therefore to evidence of their known effects on OSH conditions and outcomes that we turn next.

## Health and safety effects of supply chains

For quite some time, international research evidence on the effects of outsourcing, both in relation to cross-national supply relations and in relation to the growing division between the core and peripheral

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<sup>1</sup> For example, where products are complex, a degree of after-sale support may be anticipated, which leads to and requires closer relations between buyers and suppliers.

work activities of business organisations, has produced remarkably consistent findings. A substantial and long-standing body of evidence highlights 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 increased incidence of serious injuries and fatalities that are seen in small firms at the ends of supply chains but also increased cardiovascular disease, burnout and depression (Quinlan et al., 2001; Benach et al., 2002; Ferrie et al., 2002; Quinlan and Bohle, 2008). These work changes include greater job insecurity, poorer pay, lower access to training among precarious workers and less control over working time (see for example Aronsson et al., 2002; Bohle et al., 2004). And, as is widely reported, this leads to poor conditions of work and OSH for indirectly and precariously employed workers in both developing and developed economies (see for example Walters et al., 2020 Lahari-Dutt, 2017). It is also 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 removed from the large and powerful economic actors that drive the business relations within them (EU-OSHA, 2016).

Typically, for example, these inequalities are found in the micro and small firms that are situated at the ends of long and complex chains of business relations, where they have little lateral decision-making power and few resources with which to address preventative OSH. It is no wonder, therefore, that workers in them 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, 2018). 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 invisible to them, these micro and small firms pursue 'low-road' business survival strategies that increase risks for their workers.

Such conclusions are further supported by strong sector-based evidence, in which numerous studies have, for example, identified the widespread use of subcontracting and its often poor management as important contributors to the occurrence of accidents and associated injuries 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 with adverse impacts on health and safety, 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 health and safety (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 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 suggest that 5-7 % of global fatalities are attributable to work-related illnesses and occupational injuries (ILO, 2006). Takala et al. (2012) provided an overview of data on employment and occupational mortality and morbidity, using publicly available literature and reports on the occupational burden of disease. They estimated that globally there were 2.3 million deaths each year attributable to work, with the majority, 2.0 million, being due to occupational diseases (see also Takala, 2015; EU-OSHA, 2019). Another ILO publication estimated that there were over 313 million non-fatal occupational accidents (with at least 4 days' absence) in 2010, and over 666,000 fatal occupation-related cancers, with again the burden being proportionally far greater in developing countries (Nenonen et al., 2014). Since the ILO has also estimated that more than 20 % of global production is associated with global supply chains, it indicates 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). They also include the high working temperatures, exposures to toxic substances and other appalling working conditions discovered, for example, in the Hansae Vietnam garment factory more recently (Brown, 2017).

Meanwhile, evidence of improved outcomes achieved through the influence of supply chain relations is strikingly more limited. Nevertheless, as we outline below, in some cases interventions have helped to reduce inequalities in risk exposure and the negative OHS effects associated with outsourcing and related business practices. The key issue, of course, is establishing what are the conditions that have promoted these positive outcomes and how their occurrence can be better encouraged in the future.

## Present and future attractions and problems of supply chain regulation

There has long been recognition among regulators that change in the organisation and control of work and employment requires a host of different and more innovative approaches to securing compliance with health and safety standards. Such strategies include using 'multiple tools' to achieve improvement in the 'atypical work scenarios of the new economy', as advocated in regulatory policy documents of countries such as Denmark, the Netherlands, Finland, Sweden and the United Kingdom (Walters, 2016). In the case of supply chains, central to these strategies have been attempts to achieve greater engagement with peak bodies in the economy, such as large corporations controlling multi-employer worksites, trade and employers' organisations, insurance associations and sometimes trade unions, and in this way encourage greater integration of OHS into the business models and decisions that drive the greater reliance now placed on the provision of goods and services by external suppliers.

At the same time, forms of nationally mandated supply chain regulation have become well established in some sectors in Europe. For example, the requirements of the Temporary and Mobile Worksites Directive have informed legal provisions in the construction industry in countries such as Germany and the United Kingdom that take account of outsourcing in the sector. Similar provisions have been introduced for sectors elsewhere, such as those addressing the clothing and footwear industry in Australia (James et al., 2007). More recently there have been efforts to extend such regulation to the economy more widely, most notably seen, for example, in Australia. The 2010 provisions of Australia's Work Health and Safety Act effectively introduced a framework of economy-wide health and safety supply chain regulation by placing the primary duty of care on the person in control of a business or undertaking and defining the workers to whom this duty is owed as those who carry out work for it 'in any capacity' (Johnstone, 2011).

In doing so it therefore extends the focus of regulatory duties beyond that traditionally bounded by the framework of law governing the contract of employment. Thus, it obliges economically powerful buyers at the heads of supply chains to acknowledge the duties they owe to workers who provide their goods and services, including those employed in other organisations. Furthermore, these developments have not been restricted to regulating domestic supply chains. For example, a French law of 2017 requires large organisations to exercise due diligence with regard to possible abuses against workers in their global supply chains. There are signs of similar developments in other countries too (see for example Barbière, 2017).

Meanwhile, there have been many voluntary actions to regulate working conditions, including OSH, in both domestic and global supply chains. These include the VCA in the Netherlands, and similar schemes in construction 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 (Walters and Bailey, 2013) and a host of other initiatives involving multiple stakeholders that are focused on regulating working conditions in global supply chains. Such private regulatory schemes have, however, often resulted from external regulatory and other pressures. In the early 1990s, for example, 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 also generated pressures on buyers to take such action. Some of these initiatives have taken the form of codes of practice operated by individual corporations, often as part of corporate social responsibility programmes. Others comprise multi-stakeholder initiatives, including sector-based

international framework agreements concluded between global union federations and groups of multinationals (Croucher and Cotton, 2011).

The advent of these initiatives has been 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 developing countries frequently do not have regulatory systems, or sufficiently powerful labour organisations, in place to counter these negative effects; and a view that it is possible to use the supply chain power of multinationals for improvement, rather than harm. Unfortunately, existing evidence paints a variable but disappointing picture overall regarding their effectiveness, both generally (Locke, 2013), and more narrowly in respect of health and safety (Brown, 2017).

A variety of factors help explain these poor outcomes. Four of these, which are somewhat inter-related, merit particular mention. One concerns the voluntary nature of the initiatives, and doubts about the commercial willingness of multinationals to comply with and enforce their requirements, and more generally to devote the resources needed to achieve positive vertical influences throughout their supply chains. A second relates to the superficiality and inadequacy of the systems of audit that are intended to monitor the implementation of these initiatives (Locke, 2013; Brown, 2017). A third centres on the lack of systems that could provide the lateral pressure required from domestic regulation to support compliance in many developing countries (Distelhorst et al., 2015). A fourth explanation focuses attention on the failure of initiatives to constrain price competition from exerting a downward pressure on labour costs (and conditions) in supplier factories (Anner et al., 2013; James et al., 2019): price dynamics that have been noted more generally to significantly limit the capacity of corporate social responsibility programmes to address poor labour conditions ( see for example Brown 2017 and 2019).

## Addressing key questions and moving forward

The limitations of current attempts to regulate global supply chains, set alongside the limitations of national supply chain initiatives previously mentioned, raise a host of questions concerning ways forward for improving OSH. While developments in technology may be supportive, existing evidence suggests that the following elements of current practice are likely to be central to the design of future effective interventions:

- imposition of legally binding vertical obligation on buyers at the head of supply chains, such as the French legal requirements on due diligence already referred to;
- creation of arrangements for monitoring compliance with these obligations that involve competent auditors/inspectors who are financially and organisationally independent of buyers, as was the case with the Accord on Fire and Building Safety discussed below and is the case with the role that trade unions play in monitoring Australian supply chain requirements in the clothing and footwear sector (Johnstone et al., 2012);
- imposing requirements on buyers, regarding such matters as the prices to be paid to suppliers and the length and security of supply contracts, that act to ameliorate competitive market dynamics that undermine the maintenance of decent labour standards within supply chains, as discussed at the end of the previous section;
- establishment of independent trade union involvement in the drafting and horizontal oversight of initiatives, as illustrated by the role that unions played in setting up how labour conditions were managed during the construction of Heathrow Airport's Terminal 5 (Deakin and Koukiadaki, 2009) and that played by global unions with regard to the drafting of international framework agreements (Croucher and Cotton, 2011).

Achieving these elements will, however, represent a huge challenge in many contexts, both nationally and globally. In many situations their achievement is arguably impracticable and runs against the tide of current economic orthodoxy and the anti-regulatory ethos it supports. Yet the need to address inequalities in the exposures of workers to risks in the changing world of work remains paramount and it is obvious that conventional approaches to achieving regulatory compliance are inadequate and equally constrained by the current political and business contexts. It is consequently clear that better understandings of the vertical and lateral dynamics of supply chains are also needed, if better ways of

achieving compliance with regulatory norms and good practice are to be identified and pursued effectively.

Nevertheless, there are signs that each of the above elements has contributed to successes in the regulation of domestic supply chains, as in the cases of the statutory framework of health and safety law in Australia and the progress made in reducing injuries and fatalities in the construction sector in Europe. While in global supply chain scenarios the challenges may be greater, even here there are also signs of success, such as the 2013 Accord on Fire and Building Safety. Concluded between over 200 global brands and two global union confederations after the Rana Plaza disaster, this agreement not only incorporated joint union governance, but distinctively sought to:

- regulate to some degree the buying practices of buyers by imposing on them requirements to fund safety improvements, to terminate business with non-cooperative factories and to make multi-year commitments to suppliers;
- limit competitive pressures by operating at a sector, rather than individual company, level;
- support the creation of safety committees, union inputs into training and the sharing of reports of inspections undertaken under the umbrella of the agreement with workers' representatives; and
- impose contractually binding obligations on buyers, thereby giving rise to potential legal liabilities.

Recent analysis of its operation highlights not only the impressive scale of the inspections carried out under its aegis, but how they have succeeded in identifying (and resolving) a large number of electrical, fire and structural safety defects that existed notwithstanding the programmes of audits previously conducted in many of the same factories on behalf of multinational buyers. Two arbitration cases brought under the agreement additionally served to highlight the potential role of legal sanctions in securing buyer compliance (Croucher et al., 2019). Thus, the accord has been argued to demonstrate how it is possible to operationalise all of the above elements in some contexts globally (James et al., 2019).

Finally, especially pertinent in current European contexts of OSH regulation is the observation that a feature common to most successful supply chain initiatives to improve compliance with good OSH practice is the multiplicity of coordinated actors and actions they embody. Far from being unilateral strategies adopted by a single agency, whether it be corporate, union or regulatory, they embody the coordinated engagement of a multiplicity of actors. 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 wider analysis of other forms of regulation, not only in relation to OSH but also concerning environmental regulation more generally (Short and Toffel, 2010; Weil, 2014).

Achieving such coordination, and the means of sustaining it, needs therefore to be at the forefront of the minds of regulatory policymakers in the future when they are seeking to use supply chain interventions to improve OSH both nationally and globally. The strong message for stakeholders with an interest in improving safety and health conditions in the future of work, both within and beyond national borders, is that traditional approaches to prevention cannot deal effectively with the consequences of business models in which supply relations are prominent determinants of outcomes. Such models are unlikely to disappear in the future. All stakeholders will therefore need to adapt their prevention strategies and tools to take account of this.

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