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Corporate codes of conduct and labour turnover in global apparel supply chains

Chunyun Li¹  | Sarosh Kuruvilla²

¹Department of Management, London School of Economics and Political Science, London, UK

²The ILR School, Cornell University, New York, US

Correspondence

Chunyun Li, Department of Management, London School of Economics and Political Science, London, WC2A 2AE, UK.
Email: c.li46@lse.ac.uk

Abstract

Research on private regulation of labour issues in global supply chains has focused extensively on whether supplier factories comply with the codes of conduct of global companies. Less is known about how such compliance relates to the preferences and behaviours of workers at export factories. This study analyses a unique dataset of factory audits matched with a survey of worker turnover rates from 622 factories in 28 countries supplying a large global apparel retailer. The results show that violations of the retailer's codes of conduct for suppliers are generally related to turnover, but that workers 'vote with their feet' primarily for violations of wages and benefits, relative to violations of other code provisions such as environment protection and safety standards. This 'means-ends' decoupling between factory practices and worker preferences implies that global firms need to incorporate the livelihood logic that underlies workers' turnover decisions while implementing their private regulation programmes.

1 | INTRODUCTION

About 25 years ago, multinational corporations (MNCs, e.g., Levi's and Nike) adopted codes of conduct (CoCs) and auditing for their supply chain factories. This 'private regulation' model

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was developed in response to activist critiques spotlighting sweatshop conditions and the use of child labour in apparel factories in the global South that ‘intensified questions of legitimacy and accountability’ of global firms (Bartley & Child, 2014; Locke et al., 2007; Meyer et al., 2015, p. 41). From its origins in apparel and footwear, this model has now diffused to many other industries such as toys, electronics and horticulture.

Research on the efficacy of this model indicates that there has been *limited and uneven* improvement in working conditions in supplier factories (Amengual & Kuruvilla, 2020; Bartley & Egels-Zanden, 2015; Locke, 2013; Lund-Thomsen & Lindgreen, 2014). There have been some improvements for visible outcome standards such as occupational safety and health (OSH) and child labour that afford some legitimacy to global buyers, but little or no impact on process rights such as freedom of association (FOA; Anner, 2012; Barrientos & Smith, 2007; Bartley & Egels-Zanden, 2015). Overall, compliance with minimum standards is modest and far from complete (Morris et al., 2021).

Scholars have used policy-practice decoupling to describe this limited and uneven compliance (Egels-Zanden, 2007). Lead firm policy-supplier factory practice decoupling may arise for a variety of reasons. Global firms may practise symbolic adoption (white washing) and not seriously implement their CoCs. Global firms may lack the leverage to compel supplier performance (Locke et al., 2009), or may lack accurate information regarding supplier behaviour due to problems with auditing (Kuruvilla et al., 2020). Alternatively, lead firms themselves often undermine their compliance efforts by aggressive purchasing practices (Anner, 2018; Locke & Samel, 2018). Prior research also suggests that policy-practice coupling can be increased through better supplier management systems (Bird et al., 2019) and through the activities of trade unions (Bartley & Egels-Zanden, 2016; Oka, 2016).

We suggest that not enough attention has been paid to means-ends decoupling (Bromley & Powell, 2012), that is, the disconnect between *implemented factory practices* and *intended outcomes for workers*. Means-ends decoupling is nonetheless a widespread problem in private regulation because the typical business-driven global governance programmes normally did not incorporate workers’ voices (Reinecke & Donaghey, 2021b). Workers, after all, are the purported beneficiaries of private regulation.

Specifically, we suggest that means-ends decoupling can occur in part because global firms tend to adopt the standards that afford them legitimacy in their home markets (Anner, 2012; Bartley & Egels-Zanden, 2015). The content and stringency of codes reflect rule-making interactions between firms, civil society organizations and governments in advanced countries (Bartley, 2007; Franzen & Burgoon, 2012). While some aspects in codes are inspired by universal standards (e.g. universal declaration of human rights), others such as environment protection and ethical governance practices are a function of what is seen as legitimate corporate behaviour by salient actors in the private regulation/corporate social responsibility (CSR) eco-system in advanced democracies (Bartley et al., 2015).

We argue that code standards driven by this logic of legitimacy concerns may not align with the preferences of factory workers in apparel supply chains in developing countries. These workers, who struggle with poverty (Lebaron, 2021) and hunger (Better Work, 2016, p. 46), may likely prioritize income over other code issues that afford global buyers with legitimacy, such as environment protection. In other words, different actors in the private regulation eco-system have different priorities.

Given the potential disconnect noted above, supplier factories face pressures to couple their practices with global buyer’s legitimacy-based policies as well as to align with the needs of local workers. The need for more business from buyers may induce a survival logic among

factory owners to prioritize the standards that global buyers adopted, that is, engage in ‘upward coupling’. In so doing, the supplier factories may implement practices that are seen as legitimate in the global North but are less relevant for workers in the global south, that is, there is low ‘downward coupling’. Constrained by low profit margins (Clelland, 2014), supplier factories may not have extra resources to implement practices that are crucial to attracting and retaining workers. Factory owners may compensate for the costs of compliance by intensifying work or subcontracting work to unauthorized factories (Alamgir & Banerjee, 2019; Lund-Thomsen, 2013; Caro et al., 2021). Indeed, Barrientos (2008) argues that corporate codes improved standards for some regular workers but simultaneously led to high labour mobility in global supply chains as suppliers use contract workers or subcontractors to reduce costs. Such actions could increase supply chain risks such as late delivery or low product reliability/quality (Moon et al., 2021). It is thus important to examine the degree of alignment between factory practices and workers’ preferences as reflected in their turnover.

In this article, to better understand factory workers’ preferences and their turnover decisions, we draw on the livelihoods perspective (Chambers & Conway, 1992; Scoones, 2009)—a prominent framework that has been used to understand the choices of the poor. Livelihoods approaches recognize the limited resources of poor people and the trade-offs they often face among income, well-being and long-term sustainability. The poorest individuals and households are often forced to prioritize short-term income to survive over general well-being (Rakodi & Lloyd-Jones, 2002). We posit that among the various standards in codes, labour rights and wages and benefits issues will be critical to workers’ turnover decisions because these directly impact their income and livelihoods.

Our analysis of a unique dataset of audits matched with a survey of worker turnover in 622 supplier factories in 28 countries supplying a large US apparel retailer shows that in the aggregate, violations of code provisions are associated with higher worker turnover. However, looking deeper into the data, our results show that workers ‘vote with their feet’ *primarily* with regards to violations of *labour standards* in codes, compared to other categories such as safety and health, environment protection and governance. And, within the cluster of labour issues, substantive *wage* and *benefits* issues are the primary determinant of turnover, in contrast to procedural wage issues, working hours and other standards. Moreover, we find that the effect of wages on turnover is more pronounced in poorer supplier countries (e.g. Bangladesh and Cambodia) relative to richer ones (e.g. China).

To our knowledge, this constitutes the first systematic analysis of worker turnover and code violations in global supply chains across many countries. Our revealed preference analysis of the determinants of worker turnover responds to recent calls to bring in employment relations perspectives (Jackson et al., 2018) or ‘worker-driven’ mechanisms (Reinecke & Donaghey, 2021b) in private regulation research. Practically, bridging the disconnect between the ‘livelihood’ logic used by workers with the ‘legitimacy’ logic underlying corporate codes will require some re-thinking of current private regulation model, which, as noted, has not been very effective. Melding the two logics will enable global companies to simultaneously make improvements in workers’ lives while reducing supply chain risk to product deliveries due to high worker turnover.

2 | PRIVATE REGULATION IN GLOBAL SUPPLY CHAINS: DECOUPLING AND THE LOGIC OF LEGITIMACY

Over the last two decades, an elaborate eco-system of multi-stakeholder institutions, social auditing firms, consultancies and NGOs has developed to underpin private regulation (Djelic &

Quack, 2018). The research on private regulation has shifted from a focus on its emergence and design (Bartley, 2007; Franzen & Burgoon, 2012) to assessing the impacts on the ground over the past decade (Amengual & Kuruvilla, 2020; Bartley, 2022; Locke, 2013).

There is burgeoning evidence that the model, which emphasizes policing of suppliers to compel compliance, has resulted in limited and uneven impacts in factory conditions generally (Barrientos & Smith, 2007; Locke, 2013). Some improvement has been noted for outcomes such as safety and health and child labour issues, but no improvement in workers' process rights such as FOA (Anner, 2012; Barrientos & Smith, 2007; Bartley & Egels-Zanden, 2015; Lund-Thomsen & Lindgreen, 2014; Morris et al., 2021). Summing up, Bartley et al. (2015, p. 161) note that 'existing evidence suggests that they have had some meaningful but narrow effects on working conditions...standards in many parts of the [apparel and footwear] industry remain criminally low in an absolute sense'. And a recent multi-industry multi-country study based on data from over 40,000 audits shows no discernible improvement in most labour issues between 2011 and 2017 (Kuruvilla, 2021). Scholars have used a 'decoupling' lens to explain the limited and uneven impact of private regulation on factory practices (Egels-Zanden, 2007; Kuruvilla et al., 2020) and suggest that 'decoupling is rampant in the field of CSR' (Bartley & Egels-Zanden, 2016, p. 234).

Prior research has focused on the reasons for lead firm policy-supplier practice decoupling as reflected in poor compliance. For example, research suggests that global buyers may not have the leverage to impose codes on their suppliers (Locke et al., 2009; Soundararajan & Brown, 2016), given that suppliers typically 'hedge their bets' and only allocate a small percentage of their production to each global buyer. Further, several measurement problems may prevent lead firms from obtaining accurate and transparent information about working conditions among supplier factories to enforce compliance (Lebaron & Lister, 2015; Locke et al., 2009), given a variety of problems with auditing and falsification of records (Kuruvilla, 2021). And codes and programme multiplicity create a level of opacity that makes it difficult for suppliers to conform to different standards in codes of their numerous clients (Kuruvilla et al., 2020). Research also suggests that lead firms' compliance initiatives are often undercut by their own purchasing practices (e.g. pricing squeezes and demand for shorter lead time) as several authors have shown (Locke et al., 2009; Locke & Samel, 2018; Anner, 2018; Amengual et al., 2020).

On a more positive note, scholars have found a few mechanisms that improve compliance through better coupling of codes and factory practices. For instance, social actors such as trade unions, NGOs and freedom of press in the supplier countries are associated with higher compliance (Bartley & Egels-Zanden, 2015; Bird et al., 2019; Oka, 2016; Short et al., 2020; Toffel et al., 2015). Global buyer's commitment-based approach to build long-term relationship with suppliers and diffuse best practices (Locke et al., 2009) and capacity building programmes such as lean management system training (Distelhorst et al., 2017) have both been found to improve compliance with labour standards. These mechanisms either increase the pressure on the suppliers or enhance factory management's knowledge of buyer's codes or best practices to improve compliance.

While policy-practice decoupling (global lead firm policy-supplier practice coupling) is important, the equally important means-ends decoupling (Bromley & Powell, 2012)—the discrepancy between factory practices and outcomes for factory workers—has been less analysed. There may indeed be a gap between global brands' code standards and factory workers' preferences, as long pointed out by critical CSR research (e.g. Khan & Lund-Thomsen, 2011).

It is well-established that global firms adopt the standards that afford them greater legitimacy in their institutional environments (Anner, 2012). The private regulation model emerged out of interactions and contestations among global brands, civil society groups and governments (Bartley, 2007) in both the United States and Europe. Different contestations and power relations

have produced differences in standards of multi-stakeholder institutions, with ‘different levels of stringency in the labour protections they offer’ (Franzen and Burgoon 2012, p. 2). As Wright and Rwabizambuga (2006, p. 90) note, ‘codes of conduct primarily function as tools for maintaining or enhancing corporate reputation *in institutional environments where it is threatened*’ (emphasis added). By adopting codes, global companies seek ‘legitimacy’ from activist groups and ‘conscientious consumers’ in rich democracies (Bartley et al., 2015; Donaghey & Reinecke, 2018; Meyer et al., 2015). Many scholars have suggested that global firms implement private regulation in ways that ‘protect their reputations and preserve their legitimacy’ (Anner, 2012; Bird et al., 2019, p. 848).

This suggests that corporate codes largely reflect normative standards important to preferences of consumers and activists of the global North. A major motivation for conscientious consumption in developed countries is ‘post-materialist’ concerns such as environmental protection and human rights ‘that become possible when individuals move beyond “materialist” concerns such as economic well-being and physical security’ (Bartley et al., 2015, p. 44). Although some standards draw from ‘universal’ principles such as the Universal Declaration of Human Rights (e.g. freedom from child and forced labour), others such as environment protection, governance and ethical conduct reflect the particular interests of groups within the institutional environment of the global North where those global companies operate in. This is a classic example of ‘globalized localisms’ (Santos, 2006), where localized concerns in the global North have evolved into global norms for private regulation.

Hence, code standards derived from the logic of legitimacy for lead firms may overlap only partially with priorities and interests of factory workers in the global South. Factory workers may value some labour standards within the legitimacy-oriented codes. They may not harbour the ‘post-materialist’ concerns of conscientious consumers because many of them suffer from severe hunger (Better Work, 2016, p. 46) and receive wages that ‘fall well below the poverty line, leaving workers insufficient income to cover basic expenses such as food and school fees’ (LeBaron, 2021, pp. 11–12). Livelihood issues may thus be more important for factory workers.

Supplier factories therefore have to contend with lead firm’s legitimacy-based code standards and workers’ differing priorities. Factory managers may follow a survival logic to prioritize business orders, and focus therefore on ‘upward coupling’ with the standards demanded by global buyers, especially the easier and less costly ones. In so doing, downward coupling with worker preferences is likely to be downplayed. And, to survive with typically thin profit margins, factory owners may compensate for the costs of compliance by intensifying work, using temporary workers, or subcontracting work to unauthorized factories (Alamgir & Banerjee, 2019; Barrientos & Kritzinger, 2004; Lund-Thomsen, 2013; Caro, Lane, Saez de Tejada Cuenca, 2021). It is not surprising then that some workers shun intense and rigid jobs at large compliant Indian garment factories and choose to work at small workshops for higher pay and autonomy (De Neve, 2014). Such high labour mobility can result in lost productivity and quality issues for suppliers, and create supply chain risks such as product reliability problems for MNCs (Moon et al., 2019). In fact, research suggests that some supplier factories did want to improve conditions to reduce worker turnover (Huq et al., 2014, p. 622; Rossi, 2013, p. 229), but they were left with limited resources given small profit margins and costs of implementing other code standards. For instance, a large compliant Indian garment supplier sought to pay living wages to improve worker retention rates and thus productivity, but it could only implement this among the small portion of its workforce that produced for the one buyer who agreed to pay living wages (Egels-Zanden, 2017).

In essence, our argument is that in general, lead firms, suppliers and factory workers have different priorities. Global buyers’ legitimacy-based code provisions may be partially violated by suppliers, that is, policy-practice decoupling noted in prior research. The implemented factory

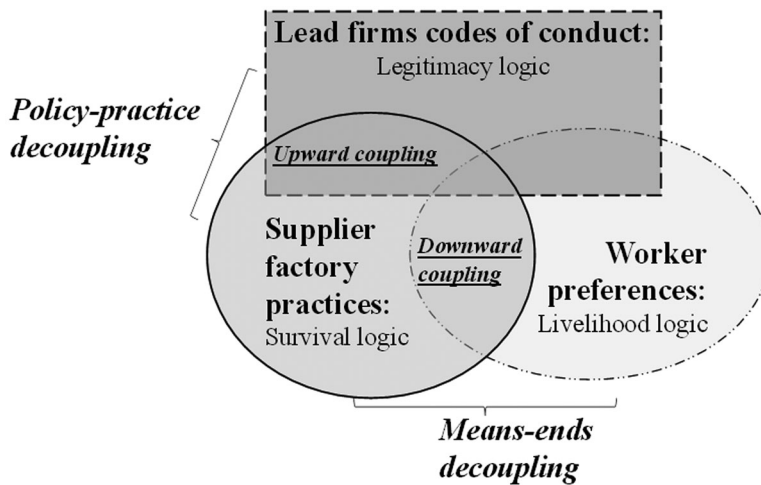


FIGURE 1 Decoupling and partial coupling of priorities among global buyers, suppliers and factory workers in private regulation

practices resulting from ‘upward coupling’ with codes based on legitimacy concerns in buyer countries may still be decoupled from workers’ preferences in developing countries. We depict the different decoupling in Figure 1 for a visual representation of the argument. The decoupling between factory practices and worker preferences raises normative questions regarding what is the ultimate purpose of private regulation. Besides, this form of means-ends decoupling also posts practical challenges for suppliers and lead firms as it may increase labour instability, and consequently supply chain risks.

3 | THEORY AND HYPOTHESIS: LIVELIHOODS LOGIC AND WORKER TURNOVER IN APPAREL SUPPLY CHAINS

Worker turnover is high and challenging in global supply chains (Moon et al., 2019). For example, worker turnover exceeded 300 per cent annually in China-based electronics factories supplying global markets (Moon et al., 2019). Among garment factories, it is 5 per cent per month in Cambodia, between 30 per cent and 40 per cent per year in Vietnam, and averages above 60 per cent per year in Bangladesh (Kaing, 2017; Vietnam News 2018;¹ ILO, 2017; Kabeer et al., 2020). That many factories are close to each other in industrial clusters (Lund-Thomsen et al., 2016) may facilitate workers’ ‘voting with their feet’, in contrast to the argument that workers in apparel sweatshops have few alternatives (Krugman, 1997). Few studies have examined the causes of turnover among workers in apparel supply chains across countries.

To better theorize apparel workers’ preferences, we draw on the livelihoods perspective (Chambers & Conway, 1992; Scoones, 2009). The livelihoods perspective is concerned with how poor people in developing countries make choices to earn their living when resources are limited. A livelihood is ‘a means of gaining a living’ (Chambers & Conway, 1992, p. 5), and the perspective, which originated from research on the rural poor, has been applied to analyse the urban poor (Rakodi & Lloyd-Jones, 2002) and how workers and small farmers decide to participate in global production networks (Carswell & De Neve, 2013; Vicol et al., 2019). The livelihoods perspective

recognizes the limited stocks of capital available to poor people, including human capital (e.g. the quantity of labour time, skills and health), financial capital (e.g. savings), social capital (kinship or social networks). As Scoones (1998) and Farrington et al. (1999) suggest, the key is that individuals' livelihood strategies require trade-offs among different outcomes such as income, well-being and long-term sustainability (e.g. reduced vulnerability and food security in the future).

The portfolios of capital held by a household often shape its livelihoods strategies (Rakodi & Lloyd-Jones, 2002), such that households with limited resource are more likely to prioritize current consumption requirements to meet basic needs while households with more resources have more capacity to invest resources for the future (Dorwards et al., 2009). Poor people thus often face contradictions and trade-offs among the types of capital they can hold and among the outcomes they prioritize (Scoones, 1998). For instance, the poorest households are more likely to prioritize short-term versus long-term issues and income versus well-being or sustainability (Rakodi & Lloyd-Jones, 2002). The priorities may evolve along with accumulated capital or resources for the individual and households.

A key implication of the livelihoods perspective is that there is likely to be variation to what export factory workers value based on their livelihoods priorities. On the one hand, many workers may prioritize short-term issues such as wages. Indeed, Carswell and De Neve (2013) show that unmarried long-term migrant male Indian garment workers would prefer to earn as much as possible in a short space of time, and as such value high overtime hours and piece-rate payments over other working conditions, and would often move from factory to factory to maximize these needs. Thus, supplier firms that were mostly compliant with global buyers' codes (especially with regard to overtime work) had little attraction for these workers.

On the other hand, Carswell and De Neve (2013) also suggest that unmarried female workers, for whom social norms require them to live in secure and safe environments (dormitories), were more willing to accept a smaller income, prioritizing safety and freedom from discrimination and sexual harassment over wages, which more compliant factories provided. Other workers preferred flexible work arrangements and piece-rate wages which allowed them to maximize flexibility and earnings. De Neve (2014) suggests that many Indian garment workers are rural migrants and choose various types of factories based on their livelihood needs. Lund-Thomsen (2013) suggests that workers in a Nike subcontractor factory in Pakistan making soccer balls stay in their jobs because of the good employment facilities as well as higher pay and benefits provided by the supplier as a result of Nike's CSR efforts, despite having to work harder and being monitored constantly.

It is thus possible that the 'logic of livelihood' underlying poor workers' priorities will make some features of codes more salient than others for different supplier factory workers. In other words, the trade-offs workers make between different priorities may converge with some standards in codes and diverge with other private standards. While standards such as environment and ethical conduct of their employers may align with the priorities of some workers who are in a life cycle or households that value well-being over earnings (Carswell & De Neve, 2013), factory workers who are struggling to meet shorter term livelihood needs are more likely to value labour standards issues. Thus, violation of CoCs, *in general*, may threaten the short-term livelihoods of many factory workers or undermine the long-term needs of others. Workers in non-compliant factories may leave to work for compliant factories, engage in informal work, or return to farming to improve their livelihoods. Therefore, we hypothesize the following.

Hypothesis 1 (H1): Supplier factories with a larger number of violations of codes provisions will experience higher labour turnover.

More specifically, it is possible that some categories of codes may be more important than others to the majority of workers. We posit that the provisions concerning labour issues (e.g., working hours, wages and benefits and freedom from discrimination and forced labour) will be more strongly related to worker turnover than other standards (e.g., environment, safety and health and governance) because they more directly influence workers' short-term livelihood needs. While long-term organizational impacts on environment may reduce employee turnover through fostering organizational trust (Hansen et al., 2011) and organizational pride (Ng et al., 2019) for better-off employees in developed countries, environmental issues may be trumped by labour standards for workers in poor countries. Likewise, governance issues—for example, the integrity of the suppliers in providing transparent information to auditors—may be important for the legitimacy of lead firms, but less important for supplier factory workers given their focus on livelihoods.

Similarly, health and safety standards may influence worker's physical and human capital in the long term, but relatively poor workers focusing on survival may trade off this aspect in favour of labour issues. An example is the finding that garment workers removed the protective guards on their sewing machines—often required by codes—to work faster and earn more (Locke et al., 2009, p. 342). This is not to suggest that workers do not care about health and safety and environmental impacts in general, and it is also true that some workers may care about some particular safety violations more than others. Salient accidents (e.g. factory collapse at Rana Plaza) may intensify workers' attention to specific safety standards (e.g. building and fire safety issues). But violations of labour issues in general immediately impact workers' livelihoods and thus are more likely to constitute a salient trigger of turnover. Hence, our second hypothesis:

Hypothesis 2 (H2): Violations of the labour issues in codes will be a stronger predictor of worker turnover relative to violations of other categories such as environmental and governance issues or safety and health standards.

As the poorest households are often forced to focus on survival relative to welfare (Rakodi & Lloyd-Jones, 2002), we suggest that *within* the labour issues cluster, the wage and benefits category would be more likely to be the strongest predictor of worker turnover. Other issues included in the labour cluster such as hours of work and discrimination do affect workers' well-being, to be sure, but we argue that workers may trade off these issues in exchange for higher wages, given their survival needs.

There is evidence that income is the primary cause of turnover in some studies of apparel workers. Egels-Zanden's (2017, p. 108) study of an Indian garment supplier showed that wage levels were a key reason why turnover rates were between 15 per cent and 20 per cent per year. Kabeer et al.'s (2020, p. 14) survey of 1500 workers in Bangladesh's garment export industry in 2017 showed that the workers identified wages as one of the most important priorities in their job shifts. This leads to our third hypothesis.

Hypothesis 3 (H3): Within the category of labour standards, violations in respect of wages and benefits standards will be a stronger predictor of worker turnover than other standards such as working hours and discrimination.

The various items within wage and benefits standards may vary in their impacts on export factory workers' livelihoods. A distinction could be made between procedural standards (e.g. proper pay slips and wage records) and substantive measures that concern the level of income (e.g. paying above minimum wages and overtime premium). We argue that violations of substantive measures

will relate stronger to worker turnover relative to violations of procedural standards, given the livelihoods perspective. Hence, our hypothesis:

Hypothesis 4 (H4): Violations of substantive wage and benefits standards will be a stronger predictor of worker turnover than violations of procedural standards.

Finally, we argue that there will be systematic differences in the trade-offs workers make between income and welfare issues depending on average incomes in their countries. And therefore, the relative importance of standards in codes in predicting turnover may vary for workers across these country groups. Apparel firms enact the ‘spatial fix’ (Silver, 2003) and constantly move production to lower cost locations: from Korea and Taiwan to China and Vietnam and South Asia (Bartley et al., 2015, pp. 151–153; Gereffi, 1999). Today, Bangladesh, Cambodia, Myanmar and Ethiopia are the primary low-cost centres for global garment production. Not only are wages lowest in Bangladesh, Cambodia and Ethiopia, but these countries also have the largest gap between their wage levels and a variety of estimates of living wages (Kuruville, 2021). For instance, Kuruville’s (2021) analysis of 3953 factory audits in 2017 showed that the monthly take-home pay in Chinese apparel factories would need to be increased by 7.7 per cent to reach the living wage estimated by Asia Floor Wage (a major living wage estimator in the region). In contrast, monthly take-home pay in apparel factories needs to rise by 156.3 per cent in India, 299.4 per cent in Bangladesh and 359 per cent in Cambodia to meet reach the same estimate (Kuruville, 2021, p. 138). Given the large gap between actual wages and living wages in low-income countries, violations of these already low wage standards may have stronger negative impacts on workers’ livelihoods, and thus may constitute a stronger cause of turnover. Therefore, we hypothesize that:

Hypothesis 5 (H5): Violations of wages and benefits standards in codes will be a stronger predictor of supplier worker turnover in lower income countries than in higher income countries.

4 | DATA AND METHODS

We test our hypotheses with data from a large US-based global garment retailer called Pangia—(a pseudonym based on a non-disclosure agreement). Pangia markets several brands of clothing through its stores as well as online, and is considered to be a leading exponent of private regulation, having been one of the earliest adopters of private regulation. As a firm that has significantly improved its private regulation programme, Pangia is among one of the ‘most likely’ cases where private regulation could work based on significant resource investment and well-intended implementation.

Our analysis draws on two sources of data from Pangia. First, we used Pangia’s survey of its suppliers in 2016 asking questions about factory and workforce characteristics and specifically about worker turnover. A total of 807 suppliers from 30 countries (representing 70 per cent of Pangia’s suppliers at that time) responded, and included average monthly worker turnover rates. Worker turnover can be influenced by the availability of alternative jobs and the attractiveness of the current job, as summarized in March and Simon’s (1958) classic ease and desirability of movement framework. Our data come from first tier factories that supply directly to Pangia. It is likely that these workers can find alternative employment in the garment manufacturing

clusters where they are located. We thus take their turnover as expressing dissatisfaction with their working conditions.

Second, we matched the survey data with detailed audit records of Pangia's supplier factories, done by Pangia's audit staff. We acknowledge the potential bias in the data here, as internal auditors could be more lenient than third-party auditors, as documenting severe violations may pose legitimacy risk for the brand. But internal auditors could also be more knowledgeable about a factory's violation history because they may have longer term relationships with particular factories and developed the rapport and trust with factory managers relative to third-party auditors.² Given such measurement errors in these internal audits, we emphasize pattern of inferences over precise effect sizes. The audit records were drawn from 2015 for the majority of the factories (88 per cent) or from early 2016 for the balance, thus, audit data were obtained before the survey data for most factories. The resulting dataset, excluding missing values, consists of 622 factories from 28 countries. The top five countries in the sample include China (129 factories or 20.7 per cent of sample) and India (128 factories or 20.2 per cent of sample), Indonesia (80 factories or 12.9 per cent of sample), Vietnam (62 factories or 10 per cent of sample), Cambodia (53 factories or 8.5 per cent of sample).

4.1 | Dependent variable

Turnover rate was measured by the percentage of workers that leave the factory in a typical month. Note that this is total turnover—the data do not differentiate between voluntary quits versus discharges. But Pangia's auditors confirmed that the vast majority were voluntary quits.³ In our sample, monthly turnover rates ranged from 0 per cent to 30 per cent, the mean being 4.59 per cent ($SD = 4.16$).

4.2 | Independent variables

Our primary independent variables are drawn from the number of violations found in factory audits. Audit data are the only 'available large-scale measure of supplier compliance' (Short et al., 2020, p. 14) despite some findings that audit results may be 'decoupled' from actual working conditions given the prevalence of audit fraud and other measurement issues (Kuruvilla et al., 2020). The latter may be less of an issue here given that Pangia, unlike other companies, uses its own highly trained audit staff. Similar to Jayasinghe (2016) who argues that labour codes adoption constitutes human resource management investment in emerging economies, we interpret the violations as factory employment practices experienced by workers.

Total violations. Pangia's private regulation programme requires its auditors to check on over 700 measures. To ensure that our total violations measure was consistent across all countries, we deleted items⁴ that were not common to all countries. For instance, Pangia's code includes a category on 'foreign contract labour' within the 'labour standards' cluster. But only a few countries employed foreign contract workers (e.g. no such workers and thus no such violations among Chinese factories). So, if this category is included in the analysis as an independent variable within the 'labour' cluster (i.e. Hypothesis 3), the coefficient of this country-specific variable indicates the effect comparing factories that violated foreign contract workers' rights versus both factories in countries without foreign workers *and* factories that employed foreign workers but respected their rights. This would make the coefficient uninterpretable.

Hence, we deleted the 80 items out of the 700 pertaining to foreign contract labour from the analysis.

Similarly, the category of 'dormitory standards' within the 'health and safety' cluster applied mostly to Chinese and Indian factories that provide such dorms. Hence, we deleted the 100 items pertaining to dormitories. Finally, given the large differences in the meaning of FOA and collective bargaining rights across the countries (Anner, 2012; e.g. FOA not permitted in China and Vietnam which accounts for 31 per cent of the factories in our sample), we deleted 28 items on FOA as well, similar to the approach taken by Bird et al. (2019), for the same reason. Note that however, the results do not change much if we run the analysis including these items.⁵ For the remaining 520 items, we calculated the *percentage* (%) of items on which violations were found in each audit for each factory.

Cluster violations. Pangia categorized the 520 items into four clusters: *labour standards* (164 items on child or forced labour, wages, hours, etc.), *safety and health* at the workplace (243 items relating to fire exits, extinguishers, protective equipment, ventilation and sanitation and so forth), *environment* (70 items on chemical handling and storage, environmental management system and waste water treatment), and *governance* (43 items on abiding business laws and ethical issues such as coaching workers' answers and restricted access to the factory and documents). These clusters were developed by Pangia as part of its own analysis of supply chain compliance performance. We use them as is, since our analysis is to test the effects (or lack thereof) of code standards based on the buyer's logic. For each of the four clusters, we calculated the *percentage* (%) of items that were found violated by the particular factory for that cluster.

Violations within labour standards cluster. The labour standards cluster included six subgroups and we calculated the *percentage* (%) of items violated for each subgroup. These subgroups included *forced labour* (6 items), *discrimination* (11 items), *child labour* (26 items), *work hours* (22 items), *humane treatment* (36 items on various verbal and physical abuse issues) and *wages and benefits* (65 items).

We also divided the items within the wage and benefits group into procedural versus substantive items, expecting that substantive measures would have a stronger effect on turnover than violation of procedural ones. *Violations of substantive wages and benefits* refer to items that impact the take-home pay of workers, that is, livelihood issues, and included issues such as payment of minimum wage (4 items), overtime pay (7 items), benefits including various social insurances (10 items), and pay for leave not taken (3 items); illegal delay, deduction or encash payments (6 items) and providing services to employees exceeding actual costs or work tools free of charge (2 items). The *violations of procedural wages and benefits* measure include rules and procedures such as whether wage statements were translated into the local language and clearly displayed (5 items); communication of leave application procedure, period of leave and related documentation (11 items); use of layoffs, short term contracts or illegal termination to avoid benefits (14 items); legally required withholdings like social insurances not forwarded to proper government authority (3 items).

Table 1 summarizes the number of items in each category, the percentage of factories that violated any items in that category (incidence) and the average of the share (%) of violated items among total items across all factories (intensity).

Table 1 showed that no factory was in full compliance. As shown in the violation intensity column (the third column in Table 1), work hours were the most heavily violated issues. This may result from converging interests among the three actors: global buyers place orders with short lead time which compel factory managers to use excess overtime that is welcomed by workers for the extra income. Table 2 shows the variation across countries in terms of factory numbers, violations

TABLE 1 Items and violations of categories of standards in Pangia's codes of conduct

Codes standards	No. of items	Violation incidence (percentage of factories violated one or more items)	Violation intensity (averaging percentage of violated items across all factories)
Total violations	520	99.7%	1.8%
Cluster violations			
Governance	43	52.9%	2.0%
Environment	70	56.9%	1.8%
Labour rights	164	76.4%	1.3%
Safety and health	243	95.8%	2.0%
Within labour standards			
Forced labour	6	1.1%	0.2%
Discrimination	11	2.6%	0.2%
Child labour	24	10.1%	0.5%
Humane treatment	36	10.3%	0.3%
Work hours	22	43.1%	3.5%
Wage and benefits	65	58.4%	1.8%
Within wage and benefits			
Procedural issues	33	25.2%	1.0%
Substantive issues	32	34.4%	1.5%

Note: N = 622 factories.

TABLE 2 Factory distribution by country, wage violations and monthly worker turnover rates

Country	No. of factories	Total violations	Wage and benefit violations	Procedural wage violations	Substantive wage violations	Worker turnover rate
China	129	1.63	1.22	1.05	2.10	3.70
India	128	2.01	2.47	1.78	5.52	8.06
Indonesia	80	1.88	1.34	0.91	3.21	3.25
Vietnam	62	2.48	3.65	2.85	7.37	3.05
Cambodia	53	1.55	2.47	1.78	5.53	2.15
Sri Lanka	52	1.21	1.41	1.32	2.06	4.50
Guatemala	20	0.96	1.10	1.08	1.43	3.20
Bangladesh	15	4.65	2.84	1.83	7.14	3.40
Pakistan	13	1.18	0.45	0.30	1.10	8.08
Philippines	11	0.76	0.27	0.36	0	9.18
Egypt	10	2.12	1.32	0.78	3.57	11.90
Dominican Republic	7	0.96	1.26	0.84	3.06	6.29
South Korea	7	0.46	0.84	0.56	2.04	0.00
Portugal	7	1.19	0.21	0.28	0.00	0.29

Note: This table only includes countries with more than five observations; it excludes other 14 countries where 28 factories located.

rates and worker turnover rates. It is thus important to analyse the data across countries to draw general conclusions.

4.3 | Control variables

We used two variables related to ‘job embeddedness signals’ that may impact turnover rates (Heavy et al., 2013). First, we control for the *share of regular workers* (%) whose jobs are relatively stable in contrast to temporary, agency or trainee workers. This variable may relate negatively to turnover because it signals the employer’s commitment to stable employment and embeds workers in their jobs. Second, we included the *share of female workers* (%). There is meta-analytic evidence (Heavey et al., 2013, p. 414) from many turnover studies around the world that show female workers are more likely to quit (given family obligations or lack of formal career ladders). However, garment workers in third world factories are generally young women, many with primary financial responsibility for children (Better Work, 2016; Kabeer et al., 2020, p. 10) and thus may be more willing to stay with garment jobs which are preferable to other more physically demanding manufacturing jobs.

We control for several factory characteristics that are typically included in prior studies of turnover rates (Heavey et al., 2013). *Factory size* is the log of the number of total workers. Large factories may have higher turnover when large size results in process inefficiency and low cohesiveness, or lower turnover when the effect of richer resources associated with size dominates (Heavey et al., 2013). We also controlled for the factory type: using the manufacturing factories as the base group and creating dummy variables for *embroidery* (45 factories or 7.2 per cent), *laundry* (55 factories or 8.8 per cent) and *screen printing* (39 factories or 6.3 per cent). These types of factories may face varying supply and demand of different types of workers and skills and thus experience different worker turnover rates. Finally, we included dummy variables for each of the countries to control for country fixed effects such as local labour markets.

5 | RESULTS

Table 3 presents the mean, standard deviation, range and bivariate correlations of the variables in this analysis. As expected, violations of labour standards and wages and benefits issues were positively and significantly related to turnover.

We use ordinary least square (OLS) regression⁶ to test our hypotheses. Table 4 reports results for hypotheses H1–H4. As shown in the first two columns of Table 4 (the first column includes only country fixed effect while the second column includes all controls as well), the statistically significant and positive coefficient for *total violations* ($\beta = 0.24$, $p = 0.03$) suggests that factories that violate more standards in codes experience higher turnover than other factories, supporting H1. The estimate suggests that a 1 per cent increase in violations is associated with a 0.24 per cent increase in worker turnover rate.

We had hypothesized that the labour standards cluster will be more strongly related to turnover relative to other standards (H2). The H2 column in Table 4 shows that the coefficient for the labour cluster is the largest and the only one that is statistically significant ($\beta = 0.301$, $p = 0.003$). Two-tailed Wald test (to compare coefficients) revealed that the coefficient for labour issues is statistically larger than that for safety and health ($F = 3.95$, $p = 0.047$), environment ($F = 6.24$, $p = 0.013$) and governance issues ($F = 5.96$, $p = 0.015$). Thus, H2 is supported.

TABLE 3 Mean, standard deviation and bivariate correlations among variables

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1. Turnover	4.588	4.156	0	30																	
2. Total violation	1.767	1.179	0	7.839	0.07																
3. Labour rights	1.327	1.326	0	7.784	0.18*	0.62*															
4. Safety and health	2.011	1.576	0	12.35	0.04	0.85*	0.24*														
5. Environment	1.844	2.44	0	17.14	-0.11*	0.55*	0.17*	0.32*													
6. Governance	2.034	2.549	0	13.95	0.08*	0.54*	0.34*	0.34*	0.13*												
7. Forced labour	0.214	2.104	0	33.33	0.09*	0.09*	0.16*	0.05	-0.02	0.05											
8. Discrimination	0.234	1.44	0	9.091	-0.01	0.14*	0.10*	0.13*	0.03	0.08*	-0.02										
9. Child labour	0.476	1.485	0	8.333	-0.06	0.17*	0.21*	0.10*	0.09*	0.09*	0.11*	0.03									
10. Work hours	3.471	4.969	0	22.73	0.15*	0.37*	0.71*	0.11*	0.06	0.15*	0.12*	0.00	0.05								
11. Humane treatment	0.330	1.064	0	11.11	0.08	0.27*	0.40*	0.13*	0.08*	0.12*	0.13*	0.16*	-0.01	0.19*							
12. Wage and benefits (W&B)	1.809	2.205	0	11.76	0.13*	0.55*	0.82*	0.22*	0.19*	0.35*	0.01	0.00	0.04	0.28*	0.18*						
13. Substantive W&B issues	1.504	2.611	0	19.35	0.20*	0.35*	0.64*	0.09*	0.07	0.25*	0.04	-0.03	0.01	0.32*	0.11*	0.72*					
14. Procedural W&B issues	1.083	2.14	0	11.76	-0.05	0.44*	0.56*	0.21*	0.22*	0.22*	0.00	-0.03	0.04	0.17*	0.14*	0.69*	0.21*				
15. Share of regular workers (%)	85.914	29.03	0	100	0.04	0.01	0.13*	-0.11*	0.07	0.04	0.05	0.04	-0.03	0.13*	0.06	0.08*	0.09*	0.06			
16. Share of female workers (%)	60.732	24.9	0	100	-0.17*	0.00	0.01	0.04	-0.07	0.00	0.00	-0.02	0.02	-0.02	-0.04	0.04	-0.05	0.07	-0.06		
17. Factory size	6.190	1.47	0.69	9.073	0.18*	0.17*	0.18*	0.19*	-0.11*	0.10*	0.07	0.14*	-0.07	0.19*	0.13*	0.08	0.07	0.04	-0.04	0.26*	

Note: N = 622. *p < 0.05.

TABLE 4 Determinants of worker turnover in supply chain factories: OLS estimates

	H1	H2	H3(a)	H3(b)
	Total violations percentage	Violation percentage by cluster	Violation percentage within labour cluster	Violation percentage within wage and benefits group
Dependent variable:	Turnover rate			
Total violation percentage	0.239* (0.117)	0.240* (0.111)		
Governance		0.016 (0.052)	0.005 (0.053)	0.019 (0.053)
Environment		-0.003 (0.049)	-0.013 (0.050)	-0.004 (0.051)
Safety and health		0.003 (0.096)	0.015 (0.095)	0.039 (0.096)
Labour standards		0.301** (0.099)		
Forced labour			-0.044 (0.070)	-0.054 (0.072)
Discrimination			-0.030 (0.063)	-0.041 (0.062)
Child labour			-0.133† (0.081)	-0.124 (0.079)
Working hours			0.005 (0.027)	0.007 (0.028)
Humane treatment			0.090 (0.092)	0.148 (0.092)
Wage and benefits			0.226** (0.071)	
Wages substantive issues				0.165** (0.061)
Wages procedural issues				-0.022 (0.071)
Share of regular workers (%)	-0.012* (0.006)	-0.012* (0.006)	-0.012* (0.006)	-0.012* (0.006)
Share of female workers (%)	-0.010 (0.008)	-0.011 (0.008)	-0.011 (0.009)	-0.011 (0.008)
Factory size (log)	0.128 (0.197)	0.119 (0.197)	0.163 (0.198)	0.122 (0.202)
Factory type: embroidery	-0.742 (0.617)	-0.727 (0.612)	-0.629 (0.604)	-0.691 (0.622)

(Continues)

TABLE 4 (Continued)

Dependent variable:	H1		H2		H3(a)		H3(b)	
	Total violations percentage		Violation percentage by cluster		Violation percentage within labour cluster		Violation percentage within wage and benefits group	
Factory type: laundry	-1.470*	(0.696)	-1.372*	(0.695)	-1.246 [†]	(0.696)	-1.414*	(0.707)
Factory type: screen printing	0.139	(0.794)	0.148	(0.795)	0.169	(0.800)	0.085	(0.788)
Intercept	1.739***	(0.128)	2.610	(1.823)	2.588	(1.798)	2.566	(1.805)
Country fixed effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R ²	0.354	0.371	0.371	0.375	0.383	0.383	0.382	0.382

Note: OLS regression coefficients with robust standard error in parenthesis. N = 622. [†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ two tailed test.

Our third hypothesis was that among the various sub-groups within the labour issues category, the wages and benefit items would evidence the strongest relationship with turnover (controlling for violations of other clusters). As the results in the H3 column of Table 4 indicates, the coefficient for the wage and benefit sub-group is the largest and the only one that is statistically significant and positive ($\beta = 0.226$, $p = 0.002$). Two-tailed Wald test indicated that the coefficient for wage and benefits is statistically larger than that for forced labour ($F = 6.33$, $p = 0.012$), discrimination ($F = 7.54$, $p = 0.006$), child labour ($F = 10.03$, $p = 0.001$) and work hours ($F = 7.05$, $p = 0.008$). However, the coefficient is not statistically larger than that for humane treatment standards such as various abuse ($F = 1.08$, $p = 0.299$)—in part due to the large standard error in estimating the coefficient of humane treatment.⁷ This may also reflect the fact that some supply factory workers also value dignity and autonomy at work in addition to major concern over wages (De Neve, 2014). H3 is thus only partially supported. Surprisingly, the coefficient for child labour is negative and marginally significant ($\beta = -0.133$, $p = 0.098$). This might be so because workers may be unaware about child labour in the factory or that underaged workers may be less likely to move to other factories given that not many factories will take the risk to violate easily detectable child labour issues (only 10 per cent of the factories in the sample violated child labour issues).

Hypothesis 4 stated that violations of substantive wage and benefits issues would be more important in explaining turnover than violations of procedural wage standards. The H4 column of Table 4 indicates that the coefficient for substantive wage and benefits issues ($\beta = 0.165$, $p = 0.007$) is larger than the one for procedural wage and benefits issues ($\beta = -0.022$, $p = 0.757$). Two-tailed Wald test comparing the coefficients indicated that this difference is statistically marginally significant ($F = 3.06$, $p = 0.081$). As our hypothesis is one-directional—substantive issues having a stronger effect than procedural one—rather than the two-directional null hypothesis in Wald test that the two coefficients equal each other, one-tailed F -test would render the p -value lower than 0.05. Thus, H4 is supported.

Our final hypothesis was that the relationship between wage and benefits and turnover would be far stronger in poorer countries relative to richer countries. We use the World Bank's

classification of countries based on per capita income to divide the suppliers into lower and higher income groups. In the sample, 455 of the factories belonged to the 'lower middle-income category' in 2016, which includes Bangladesh, Cambodia, India, Indonesia, Vietnam, Guatemala, Philippines and Pakistan. We combined the 149 factories that were in the 'upper middle-income category' (China, Dominican Republic, Jordan, Malaysia, Mauritius, Mexico and Turkey) with 18 suppliers⁸ in World Bank's 'high income' group (mainly South Korea and Portugal) to form the *higher income group* in comparison to the 455 factories in the *lower income group*.

As no factory in the *higher income group* violated forced labour and discrimination, we combined the violations of all five non-wage subgroups within the labour standards category to form a *non-wage* and *benefits* category. This permits us to compare the coefficients for violation of *wages* and *benefits issues* and *non-wage* and *benefits issues* within each country group as well as across groups.

We ran regressions within each of the two groups and then compared their effects with interaction terms in the pooled sample. Table 5 presents the results. The coefficient for wage and benefits issues is statistically significant in the lower income country group ($\beta = 0.301, p = 0.006$), while it is not significant in the higher income group ($\beta = 0.054, p = 0.600$). And, the coefficients for violation of non-wage and benefits issues were positive and significant in the higher income group ($\beta = 0.299, p = 0.014$) and negative and nonsignificant in the lower income group ($\beta = -0.091, p = 0.377$). This suggests that, after controlling for environment and OSH clusters, violations of non-wage issues within the labour cluster (such as humane treatment and excessive work hours) are far more salient to workers in higher income countries relative to low-income countries, where wage violations are the primary precursor of turnover in low-income countries.

Pooling the two groups, we then tested interaction terms between 'lower income group' and violation of wage and benefits as well as non-wage and benefits issues. We do this because the interaction term is a more stringent test relative to the split sample tests used above, as the interaction term in the pooled sample sets the effects of all other variables to be the same across the samples. The interaction term—*lower income*violation of non-wage and benefits issues*—was negative and significant ($\beta = -0.315, p = 0.044$). This confirms the split sample results noted earlier. The coefficient for the interaction term (*lower income*violation of wage and benefits issues*) was positive—meaning stronger effect in the lower income country group—but not statistically significant ($\beta = 0.180, p = 0.194$). As the *p*-value is derived from a two-tailed test, a one-tailed test along with our hypothesis would half the *p*-value and make it within marginal significance, that is, $p < 0.10$. H5 is thus largely supported.

Regarding control variables, the share of regular workers is associated with lower worker turnover, while laundry factories in general experienced lower turnover than manufacturing factories (perhaps due to less physically intense work at laundry factories which often rely on large industrial washing machines). The share of female workers is associated with lower turnover rates, consistent with the arguments that female workers would be less likely to quit in low-cost garment factories in the third world, though the coefficients are not statistically significant.

6 | DISCUSSION

In this article, we engage in a revealed preference analysis of workers' turnover across 622 supplier factories distributed across 28 countries in the supply chain of a large global US retailer. Our analysis shows that worker turnover is lower in factories where compliance with codes provisions

TABLE 5 Determinants of turnover: Lower and higher income country groups

Dependent variable	Higher income group Turnover rate	Lower income group	Pooled
Violation of wage and benefit (W&B) issues	0.054 (0.103)	0.301** (0.110)	0.108 -0.092
Violation of non-W&B issues in labour cluster	0.299* (0.121)	-0.091 (0.103)	0.239* -0.116
Lower income × W&B			0.18 -0.139
Lower income × non-W&B			-0.315* -0.156
Lower income group (dummy: 1 yes vs. 0 no)			0.767 [†] -0.422
Governance	-0.031 -0.101	-0.012 (0.060)	-0.014 -0.052
Environment	0.075 -0.08	-0.038 (0.066)	-0.003 -0.049
Safety and health	-0.039 -0.13	0.003 (0.119)	-0.008 -0.095
Share of regular workers (%)	0.009 -0.009	-0.014* (0.007)	-0.012* -0.006
Share of female workers (%)	-0.005 -0.014	-0.013 (0.010)	-0.01 -0.009
Factory size (log total workers)	-0.005 -0.222	0.245 (0.274)	0.166 -0.196
Factory type: embroidery	-0.946 -0.872	-0.634 (0.791)	-0.724 -0.61
Factory type: laundry	-1.489 -0.928	-1.176 (0.916)	-1.269 [†] -0.694
Factory type: screen printing	1.343 -2.33	0.073 (0.835)	0.152 -0.803
Country fixed effect	Yes	Yes	Yes
Intercept	1.601 -2.102	3.567 (2.691)	2.628 -1.803
Observations	167	455	622
R ²	0.272	0.379	0.383

Note: OLS regression coefficients with robust standard error in parenthesis. [†] $p < 0.10$, * $p < 0.05$, ** $p < 0.01$ two tailed test.

is higher overall. However, when we probe deeper into the data, we find that workers ‘vote with their feet’ only when it comes to violations of labour standards. Further, we find that within the labour standards category, turnover is primarily related to low compliance regarding substantive wages and benefits issues. Our results are unequivocal—workers care most about wages, and the poorer the country, the more likely that workers will leave their current employers for violations

regarding wages and benefits. This finding is consistent with some prior research showing that workers prioritize income over most other aspects of working conditions (Carswell & De Neve, 2013; De Neve, 2014; Lund-Thomsen, 2013; Oka, 2016). The centrality of wages in determining turnover indicates that worker concerns are driven more by a livelihood logic. Other aspects of codes such as environment protection, governance and building safety are included in codes because they are deemed to be 'of interest to the consumer public' and 'comparatively less costly' (Bartley & Egels-Zanden, 2015, p. 26), but are of less relevance to workers' turnover decisions.

Our results demonstrate partial decoupling between factory practices as measured by Pangia's codes and the preferences of factory workers as reflected in their turnover decisions. More generally, we show that code standards, adopted by global firms based on the logic of legitimacy (Anner, 2012), may not be aligned well with the preferences of factory workers, who make decisions based on the logic of livelihood. Thus, there is means-ends decoupling, where workers interests are not being met, and is reflected in their high turnover. Recall that the object of private regulation was to make improvements in the lives of supply chain workers.

To incorporate factory workers' logic and voice into private regulation, the insights from employment or industrial relations research can be helpful (Jackson et al., 2018; Kuruvilla & Li, 2021). For instance, Reinecke and Donaghey (2021b) explicate how democratic participation of workers through trade unions and other representative structure at export factories and transnational level can bring in workers' voice to improve the design and implementation of CSR programmes. Individual lead firms may face contradictions in developing workplace dialogue among suppliers especially when worker representatives raise questions about higher wages or lead time problems that conflict with the buyer's core interests and competitiveness in the industry (Reinecke & Donaghey, 2021a). At the industrial level, a contemporary development that could meld the two logics is the ACT (Action, Collaboration, Transformation) initiative, an agreement spearheaded by 20 global brands and the IndustriALL global union federation to negotiate living wages at the garment industries in several key supplying countries (Ashwin et al., 2020). This is an important institutional attempt to level the playing field for global corporations and to incorporate workers' collective voice and livelihood logic.

The livelihoods perspective and the importance of wage issues for worker turnover found in our analysis supports the living wage agenda in private regulation. The perceived trade-off between legitimacy and wages/costs for global companies may be exaggerated. As a Nike VP commented, '[supplier] labour is really only small portion of your [brand's] total costs. . . . You also need to factor in the cost of disruption, the cost of noncompliance, cost of productivity, cost of low quality, volatility' (Hsieh et al., 2019, p. 13); the latter costs may rise along with worker turnover. A medium-sized Swedish garment retailer—Nudie Jeans—found it 'feasible to pay a living wage' at its Indian supplier after calculating that this only increased the price of its T-shirt by EUR 0.26 (Egels-Zanden, 2017, p. 106).

A key practical implication of our analysis is that a more targeted approach to enforce standards aligned with workers' livelihood needs may be appropriate. For instance, instead of enforcing numerous standards (e.g. checking 3000 questions among Nike suppliers, Hsieh et al., 2019, p. 8), lead firms could make average wages a critical metric, and base their sourcing decisions on this metric, introducing this policy in lower income countries first. The many demands for global buyers to build in wage costs into their pricing models (e.g., FairWear Foundation, 2016) appear to be vindicated by our results, as it is clear that higher wages reduce turnover that can help stabilize production (Lollo & O'Rourke, 2020) by meeting the interests of both supplier factory management and workers.

We do not intend to suggest foregoing safety and health and environmental standards in private regulation. Rather, the idea here centres on priorities aligned to workers' needs and a gradual process. As LeBaron (2021) argued and demonstrated, 'ensuring minimum and living wages are paid is a basic but fundamental and structural precondition' to eradicate other forms of exploitation in global supply chains. Once workers can earn a living wage within normal work hours, they may expand their livelihood goals and gradually push for well-being issues including working hours, safety and health and environmental sustainability concerns.

Future research can build on the limitations of our analysis to provide more robust evidence on the preferences of export factory workers. First, an important limitation of our study is the cross-sectional nature of the data that preclude causal inferences, although the audit data were collected before the turnover data for most factories. Given the challenges involved in collecting longitudinal data on worker turnover from a large number of factories across countries, our cross-sectional analysis is valuable despite its limitations.

Second, our independent variables—violations of labour standards, safety and health and environmental and governance standards in audits—may suffer from varying degrees of measurement errors. It may be easier to detect violations of observable environmental and safety and health standards (such as air quality and temperature) than more opaque labour rights, especially process rights such as forced labour and discrimination (Anner, 2012). To the extent that documented labour standards violations in our analysis suffer more measurement error, our analysis may provide a conservative⁹ estimate of the importance of labour standards violations versus other safety and health and environmental standards. Similarly, our results may overestimate the importance of more easily detectable wages and benefits violations over other process rights issues which may be measured less accurately.

Finally, the data we received only had a limited number of control variables, and we must acknowledge that our estimates may be biased due to omitted variables. For example, factories that violated codes may have poor management systems which may cause both violations and worker turnover. Unobserved factory characteristics omitted in our models may bias our results in either positive (making it larger) or negative (making it smaller) ways, depending on the nature of the omitted variable and alternative estimation methods (Viscusi & Aldy, 2003, pp. 15–16). Given these limitations, our contribution here is to provide *initial* systematic evidence on what apparel supply chain workers value. Future studies may wish to collect more comprehensive data on workplace standards and link them to turnover.

7 | CONCLUSION

Our analysis of the relationship between violations of codes and worker turnover among 622 factories in the global supply chain of a large North American apparel retailer suggests that workers use a livelihood logic in evaluating working conditions and quit when wages and benefits do not fulfil their livelihood needs. In contrast, other standards regarding environmental protection and safety that are adopted due to the legitimacy logic important for the global firm did not significantly relate to worker turnover. Thus, our results highlight a previously understudied form of means-ends decoupling between export factory practices and workers' preferences. Our research suggests a need to better meld the livelihood logic of factory workers and the legitimacy logic underlying code standards.

Our study is the first to systematically investigate the violation-turnover link across several countries in an apparel supply chain. In so doing, this study highlights the need for integrating

factory workers' logics and voice into private regulation. This is consistent with contemporary calls for a more 'worker-driven' approach to private regulation (Reinecke & Donaghey, 2021b). Incorporating workers' preferences in private regulation is more likely to fulfil the goal of private regulation to improve workers' lives.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request due to non-disclosure agreement.

ORCID

Chunyun Li  <https://orcid.org/0000-0001-5909-0889>

NOTES

¹Vietnam News, 2018, online resource: <https://vietnamnews.vn/economy/426352/garment-firms-should-meet-workers-needs-to-keep-them-experts>, Assessed 7 August 2020.

²Amengual and Distelhorst's (2020, p. 28) analysis comparing GAP's internal audits versus audits conducted by external auditors from ILO's Better Work program allow them to draw similar inferences.

³It is not clear whether the voluntary/involuntary turnover issue is that relevant since Heavey et al.'s (2013, p. 412) meta-analysis suggests that the effect of firm practices on turnover rates generally did not vary based on whether turnover was voluntary or involuntary.

⁴Analysis with all the items (FOA, dormitories and foreign contract labour) leads to a similar pattern of results, that is, only the labour cluster was significant; within the labour cluster, only wages was significantly related to turnover. The coefficients with all the items tended to be slightly smaller. Results with all the items show that 'child labour' was not significantly related to worker turnover; this differs from the significant negative coefficient when country specific items were deleted. We report the results without these country-specific items to reduce bias in measurement and results.

⁵The results including FOA items produce similar inferences. The coefficient for wage and benefits issues is larger when FOA violations are included in the regression on worker turnover (H3), although the difference is not statistically significant.

⁶We have tried estimation based on fractional logit models; such alternative tests produce inferences similar to those from OLS.

⁷The coefficient for humane treatment is not significant because its 95% confidence intervals include 0. The confidence intervals are calculated by adding or subtracting 2× standard error from the estimated coefficient. The standard error for the coefficient of humane treatment is the largest (0.092). So, it is likely that the intervals include 0 and that the intervals overlap with the intervals for the coefficient of wages and benefits.

⁸Results are very similar when we excluded the 18 suppliers in developed countries from the 'higher income group' in regression analysis.

⁹More measurement error (in labour rights violations) would make this variable more random vis-à-vis turnover and thus more likely to bias its coefficient close to zero, that is, negative bias.

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