The Role of Market Devices in Addressing Labour Exploitation:
An Analysis of the Australian Cleaning Industry

Abstract

This study examines how the risk of labour standards noncompliance can be rendered calculable and commensurable through a market device. We present a case study of the Cleaning Accountability Framework (CAF), an industry certification scheme, which seeks to address labour exploitation in the Australian contract cleaning industry. We pay particular attention to the central device of the certification scheme – the pricing schedule. We examine how the pricing schedule shaped the calculative space informing contracting parties during the procurement process. In doing so, the pricing schedule increased transparency around the potential risk of labour standards noncompliance. The nature of this transparency and the perceived objectivity of the pricing schedule acted to reshape the market for contract cleaning, resulting in a redistribution of accountability for labour exploitation. We also examine how the pricing schedule formed part of a wider framework of accountability, and how these mechanisms enabled strategic co-enforcement of labour standards compliance by supply chain stakeholders. Overall, our study indicates the potential for accounting practices to play a more active role in shaping how markets address modern slavery risks.

Keywords: Modern Slavery, Supply Chains, Accountability, Market Devices, Labour Standards, Strategic Enforcement

1. Introduction

Regulatory efforts to address modern slavery predominately rely on voluntary disclosures and the incentivising effects of the market (New, 2015).[1] Coinciding with these developments is an emerging stream of accounting research on modern slavery, which like the broader literature on accounting for sustainability, focuses on assessing the veracity of disclosures and whether they generate improved organisational responses (Georg and Justesen, 2017; Sobkowiak et al., 2020; Rogerson et al., 2020). Existing research suggests that the efficacy of external reporting as a mechanism for addressing modern slavery, and organisational sustainability more generally, is limited at best (Christ, Roa and Burritt, 2019; Crane et al., 2019; Gold and Heikkurinen, 2018). As such, it is important to consider alternative ways in which to mobilise accounting practices to address modern slavery concerns. The general concern in this study is with labour exploitation, which has emerged as a widespread problem in several industries (Chesney et al., 2019), occurring not only throughout global supply chains, but also within local supply chains of industrialised countries (Davies, 2019). Labour exploitation encompasses a wide array of practices that result in parties unfairly benefiting from the work of others (Skrivankova, 2010). Although only the most extreme forms represent instances of modern slavery (i.e., forced labour), focusing on labour exploitation more generally is important as it is not always clear at what point regulatory noncompliance seep into instances of criminal exploitation (Boersma and Nolan, 2022).

Our study explores how the risk of labour standards noncompliance is rendered calculable and commensurable through a market device, and in turn, how this device enacts change in the way that market actors address this risk. Market devices, which have been largely neglected in the social and

[1] Prominent examples include the California Transparency in Supply Chains Act (2012), the UK Modern Slavery Act (2015), and the Australian Modern Slavery Act (2018).

environmental accounting literature (for an exception, see McLaren and Appleyard, 2020), are a form of calculative device that intervenes in the construction of markets by shaping how market participants interact (Muniesa, Millo and Callon, 2007). Market devices translate previously unobserved factors into measurable quantities to enable the commensuration of goods and services by market participants (Callon and Muniesa, 2005; Kornberger and Carter, 2010). Through this process, market devices influence the behaviour of market participants (McFall, 2009). Accounting is often implicated in the operation of market devices because it provides the information and calculative processes from which the device is constructed. Our interest in market devices, in relation to labour exploitation, stems from the understanding that "accounting and other calculative practices and instruments are deeply entwined in issues and events that are of wider social, economic and political concern" (Vollmer, Mennicken and Preda, 2009, p. 626).

We conduct our study in the context of the Australian contract cleaning industry. Over the past two decades, several attempts by regulatory and union bodies to address labour standards noncompliance in this sector have had limited success. The most recent effort is the Cleaning Accountability Framework (CAF), a multi-stakeholder initiative that has developed a certification scheme. The CAF is premised on a model of strategic co-enforcement, which relies on the coordinated efforts of multiple stakeholders to mutually reinforce adherence to regulatory standards and proactively ensure compliance by changing employer behaviour (Weil, 2018). A central part of this scheme is the 'pricing schedule', a mandatory tool used during the procurement of cleaning services for a building. The pricing schedule increases information transparency by disaggregating a tendered price into the resources (i.e., labour) necessary to fulfil contract specifications. Importantly, the pricing schedule connects the allocated resources to industry benchmarks, providing an indication as to whether the contract price is sufficient to meet compliance with labour standards.

Based on a review of the CAF certification process, and 41 semi-structured interviews with CAF members and key decision-makers in organisations undergoing CAF certification, we examine how the pricing schedule influences the behaviour of market participants. We find that by rendering the risk of labour exploitation calculable and commensurable, the previously opaque process of constructing contract prices and their implications for noncompliance becomes more transparent to supply chain actors. This visibility acts to "conceive and establish new rules for the game" (Callon, Meadel and Rabeharisoa, 2002, p. 194) by materially altering what market participants consider in their contracting decisions, shifting attention from purely cost minimisation to the risk of labour exploitation. Furthermore, the pricing schedule distributed accountabilities for labour standards compliance across the supply chain. This was achieved in conjunction with a wider framework of accountability, including auditing and ongoing worker engagement, that minimise the risk of noncompliance through strategic co-enforcement of standards by supply chain stakeholders.

Our study contributes to the literature in the following ways. First, we extend the accounting literature by demonstrating the potential for mechanisms other than external reporting to increase accountability for social and environmental impacts (McLaren and Appleyard, 2020). While external reporting has been the principal mechanism to address the non-economic responsibilities of organisations, existing research has exposed limitations in theory and practice (Christ et al., 2019; Gold and Heikkurinen, 2018). We propose that market devices can effectively transform how organisations frame and respond to social and environmental concerns. However, we also observe that the influence of the pricing schedule was reliant on a wider structure of accountability mechanisms, including audits and worker engagement. This suggests that practices such as external

disclosures might be observed to be ineffective in isolation because they require a wider array of complementary mechanisms to achieve their performative potential.

Second, we propose several theoretical properties that determine the influence of a market device. We provide support for the contention that the form of transparency matters in determining the consequences of a market device. Specifically, we argue that increased transparency within the supply chain is at least as important as transparency to external parties. The increased internal transparency provided by the pricing schedule led to greater accountability and mutually reinforcing pressures to address the causes of regulatory noncompliance (Gray, 2010; Messner, 2009; Neyland, Ehrenstein and Milyaeva, 2019). Further, we find that perceptions of objectivity have important implications for the performative potential of a market device. While a shared perception of objectivity may not always be necessary for calculative devices to substantively shape market behaviour, we propose that it is a precondition in the presence of diverse stakeholder interests. Without a shared belief in objectivity, a calculative device is unlikely to be accepted as the basis for market exchange.

Our study also has practical implications. In showing how a market device can create the necessary conditions for effective strategic co-enforcement, we provide evidence for regulators on the effectiveness of alternative models of labour standards enforcement (Amengual and Fine, 2016). We also contribute to the debate concerning the effectiveness of 'softer' mechanisms for enforcing modern slavery regulation in the absence of strong regulatory monitoring and punishment (Hardy and Howe, 2020). Our findings show how voluntary compliance schemes that incorporate a market device can increase regulatory compliance even in the relative absence of other pressures.

The remainder of this study is structured as follows. In the next section we first review the literature on how organisations account for risks associated with labour exploitation. We then discuss the increased use of strategic enforcement approaches to ensure labour standards compliance, before turning attention to market devices and how they can be mobilised to intervene in markets. In the third section we outline the research context and the method of data collection and analysis, with the fourth section presenting our findings. In the final section we discuss the implications of our findings for theory and practice, the limitations of our study, and areas for future research.

2. Literature Review

2.1 Accounting for Labour Exploitation

Labour exploitation refers to any instance where one party is unfairly benefitting from the work of another (Skrivankova, 2010). Labour exploitation is commonly equated with forced labour, which is defined by the International Labour Organization (ILO) as "all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily".[2] Forced labour is often discussed under the umbrella of 'modern slavery'. Although there is no definitive legal delineation, modern slavery generally entails any "attempt to under-price a key resource (labor) through illegitimate means" (Crane, 2013, p. 51). This includes traditional slavery, bonded labour, human trafficking, as well as forced labour (Christ et al., 2019; Nolan and Boersma, 2019). Evidence suggests that modern slavery is associated with labour intensive, poorly mechanised activities, in industries that have a low barrier of entry (Chesney et al., 2019).

Labour exploitation exists on a continuum. While most of the literature focuses on severe forms of exploitation, there is a wide array of practices that nevertheless result in worker abuses (Boersma

[2] International Labour Organization - Convention Concerning Forced or Compulsory Labour, 1930 (No.29)

and Nolan, 2022). One way to conceptualise this continuum is to consider forced labour at one end and the idea of 'decent work' at the other. Decent work entails work security, upholding of labour rights, provision of adequate income and benefits, social protection, and freedom of association (ILO, 2016). As Davies (2019) comments, it is important to consider all forms of labour exploitation, not only the most egregious:

> Individual cases of routine exploitation may appear somewhat 'trivial' and 'mundane' in contrast to severe practices, yet they appear to occur more frequently, since they are more subtle and become embedded and normalized within otherwise legitimate business practices (p. 297)

Furthermore, there is the risk that the continual undermining of labour standards (e.g., partial payment of wages) can enable more severe forms of exploitation and forced labour to emerge (Skrivankova, 2010; Labor Exploitation Advisory Group, 2016). Governments that have introduced modern slavery regulation acknowledge this. For example, the UK Government states that: "[t]here is a spectrum of abuse and it is not always clear at what point, for example, poor working practices and lack of health and safety awareness seep into instances of human trafficking, slavery or forced labour in a work environment" (Home Office, 2017, p. 18).

The primary way in which regulators have attempted to address modern slavery and labour exploitation is by requiring organisations to produce detailed reporting (Christ et al., 2019). The rationale is that increased external transparency encourages responsible business practices and greater compliance, as organisations are more easily held accountable for their (lack of) actions (Gold and Heikkurinen, 2018). Yet in practice, reporting requirements often leave significant discretion as to what and how much organisations reveal (Christ et al., 2019). Furthermore, research indicates that there is a subtantial gap between reporting representations of environmental and social impacts, and the reality of organisational performance (Milne and Gray, 2013). Instead, many disclosures act as symbolic attempts to influence stakeholder perceptions (Hahn and Lülfs, 2014). Although third-party assurance can be employed to increase the veracity of organisational accounts, there are concerns as to the capacity of auditing processes to identify breaches and affect improvements (Islam, Deegan and Gray, 2018).

While some firms elect to go beyond minimum compliance, the immediate concern in industries where labour exploitation is widespread is to ensure that firms compete on a level playing field by at least complying with minimum regulatory requirements. One of the central barriers to ensuring compliance is the information asymmetry between the regulator and the regulated organisations (Desai, 2016). Similarly, when organisations contract with suppliers, instances of labour exploitation are often hidden from the focal organisation. For instance, forced labour is most prevalent in the case of multinational organisations that have complex, global supply chains in remote locations (Stringer and Michailova, 2018). However, extreme forms of labour exploitation have also been uncovered with local suppliers in developed economies (New, 2015).

2.2 Strategic Co-Enforcement

In domestic supply chains, labour standards compliance is traditionally pursued through public enforcement, or more recently, a combination of public and private monitoring and enforcement (Weil, 2009; Nossar et al., 2015). However, David Weil, former administrator of the Wage and Hour Division at the US Department of Labor, and others, have argued that conventional approaches to labour standards enforcement are becoming increasingly ineffective. This is due to changes in the structure of the economy, the declining influence of trade unions, and the complexity of

employment relationships, which are characterised by businesses shifting employment towards third parties that often operate under highly competitive conditions (Weil, 2010). These developments have been discernible in the Australian cleaning industry, where cut-throat competition and sub-contracting have led to increased noncompliance, which occurred despite the efforts made by the trade union and the workplace regulator (Rawling et al., 2021).

One alternative proposed in the literature is a 'co-enforcement' model (Amengual and Fine, 2016; Fine and Bartley, 2019). Co-enforcement involves participation by workers, worker organisations, influential firms, and government bodies in mutually enforcing labour standards (Fine, 2017). A significant advantage of co-enforcement is that it reduces the burden on resource constrained public regulators (Weil, 2018). This has been recognised by the Australian workplace regulator, which has argued that a more strategic, stakeholder-centric approach is necessary to ensure labour standards compliance in the Australian cleaning supply chain (Kaine and Rawling, 2019). CAF embodies this strategic co-enforcement approach by bringing together government and non-government stakeholders and by creating mutually reinforcing pressures between stakeholders to proactively influence labour standards compliance (Rawling et al., 2021). Importantly, the co-enforcement model does not mean that mechanisms premised on increased transparency should be discarded. In fact, co-enforcement requires greater transparency between stakeholders to ensure the risk and actual incurrence of labour standards violation are identified and the root causes addressed (Fine, 2017). The literature, however, provides little insight into what the mechanisms are, how they operate, or why they have particular consequences for compliance outcomes within strategic co-enforcement initiatives.

This study focuses on how and why the pricing schedule influences supply chain participants to proactively address labour standards noncompliance. The pricing schedule is a central mechanism in the CAF certification scheme that CAF members are required to use when procuring cleaning services for a building. The aim of the pricing schedule is to increase the visibility of resources that are being allocated to the cleaning contract. Importantly, it links the allocated labour and other resources to industry benchmarks, indicating whether the resources in the contract are sufficient to achieve labour standards compliance. We explore how the pricing schedule acts to shape the behaviours of cleaning supply chain actors by drawing on the concept of a 'market device'. Fundamental to market devices are calculative processes through which objects become commensurable. The following section considers the process of calculation and the role of accounting, before turning attention to how market devices produce and mediate economic exchanges between actors. This serves as the theoretical frame for our analysis, and enables us to examine how and why the pricing schedule creates the conditions for market actors to proactively address labour standards compliance.

2.3 Calculative devices and accounting

Calculation involves establishing differences between objects, typically by quantifying qualities of those objects (Callon and Muniesa, 2005). The process of calculation can be conceptualised in three stages (Callon and Muniesa, 2005). First, the entities to be quantified need to be detached, arranged, and displayed within a single space. Calculative spaces come in numerous forms – spreadsheets (Neyland et al., 2019), trading screens (Preda, 2006), supermarket trollies (Cochoy, 2008) – essentially any surface where selected entities are to be compared and organised. Second, the entities are manipulated and transformed. This entails determining how the data are to be translated into commensurable measures of performance. In doing so, relations are created between the entities, such as between revenues and expenses on an income statement. In the third step a result is created, for example, a ranking, a sum, or an evaluation. The new entity corresponds

to the relations and manipulations performed within the calculative space but can be extracted and circulated independent of the calculative processes from which it emerged.

This definition emphasises the importance of devices in calculative processes. As Callon (1998) points out, calculation could not exist without calculative devices – the set of material practices that manipulate and transform objects within a single spatiotemporal frame. The notion of 'device' is imbued with performativity – devices do things, "they act or make others act" (Muniesa et al., 2007, p. 2). Calculative devices do not just record an independent reality, but through measurement they work to actively construct that reality (Miller and O'Leary, 2007). By bringing certain things into frame while excluding others, calculative devices shape how actors understand their world and the actions available to them. Calculation is also closely related to accountability as it makes objects commensurable – the ability to compare or value objects through a standardised metric (Espeland and Sauder, 2007). Indeed, accounting practices are particularly powerful forms of calculative devices:

> The calculative practices of accountancy have one defining feature that sets them apart from other forms of quantification: their ability to translate diverse and complex processes into a *single financial figure* […] The labour efficiency variance, the return on investment of a division, and the net present value of an investment opportunity all share this elegance of the single figure. The objectivity and neutrality widely accorded to numbers achieves its most developed form (Miller, 2001 p. 381)

There is an increasing body of research that examines the calculative capacity of accounting practices and their consequences (e.g., Kornberg and Carter, 2009; Mouritsen, Hansen and Hansen, 2009; Skærbæk and Tryggestad, 2010). However, only recently have researchers in the social and environmental domain begun to consider the role of accounting practices as calculative devices (e.g., Georg and Justesen, 2017; Cuckston, 2018; Sobkowiak, Cuckston and Thomson, 2020). One area that has yet to receive much attention is the role of accounting practices in enacting forms of market exchange. Markets are an important consideration for social and environmental issues, as the influence of neoliberalism has reshaped these concerns according to the logic of economic exchange (Hébert, 2014). Much of this transformation has been achieved through the creation of market devices, which we turn our attention to next.

2.4 Market Devices as a Theoretical Frame

Markets contain an array of devices that insert actors into economic relations by creating spaces of calculation (Muniesa et al., 2007). Market devices do this by translating previously unobserved factors into measurable quantities to enable the commensuration of goods and services by market participants (Kornberger and Carter, 2010). Through this process, market devices influence the behaviour of market participants and the way in which markets function. Prior research has explored how market devices influence actors such as financial analysts (Vollmer et al., 2009) and lay-investors (Roscoe, 2015).

Using a qualitative study of lay-investors, Roscoe (2015) considers how market devices structure investment behaviour. He shows how investors make use of market devices, for example software programs and printed lists, inscribed with information that lay-investors can use to participate in the market. Roscoe (2015) gives the example of the price-to-earnings growth ratio, which allows market complexity to be reduced into a single, commensurable number, that investors can quickly compare to industry benchmarks. Similarly, Socially Responsible Investment (SRI) indices are market devices that abstract information used for calculation by market participants, as they construct an analysis of

corporate social performance, which over time "have an impact on responsible corporate behaviour" (Slager et al., 2010, p. 3).

In relation to social and environmental concerns, market devices such as carbon credits (Lohmann, 2005) and water credits (Kauffman et al., 2014) have brought the environment into calculative spaces. While "in human rights there is no equivalent to buying carbon offsets" (Ruggie, 2016), market devices may still be mobilised to address the risk of labour exploitation. Indeed, Neyland et al. (2019) consider market devices as a means to address collective concerns, such as healthcare and the environment. They see the potential for "market-based interventions as made up from a broad range of different participants, with a central, co-ordinating role played by a device" (p. 245) that not only function to make markets operable but holds market participants accountable. Understanding how market devices intervene "into collective concerns is crucial […] to bring into focus what is at stake and who and what will address the matter at stake" (Neyland et al., 2019, p. 262).

As such, the notion of market devices offers a useful analytical frame to understand how forms of market activity come to be, and what actors account for when entering economic exchanges (McFall, 2009). One of the few studies in the accounting literature to take seriously the notion of market devices is McLaren and Appleyard (2020). They analyse the characteristics of a benchmarking tool on farm animal welfare, which increases its performativity in framing market exchanges: it forms part of the common language of market participants, it facilitates building networks between participants, and it supports market expansion. We extend the limited work in this space by examining how the risk of labour standards noncompliance can be rendered calculatable and commensurable through a market device, and how such a device influences how actors address this risk.

3. Method

Our research setting is the Australian contract cleaning industry, which has a labour force of over 150,000 workers (IBISWorld, 2021). We focus on this industry because there is significant evidence of persistent labour exploitation in this sector, despite several efforts by regulatory agencies and unions over the past two decades (Kaine and Rawling, 2019). Our study centres on CAF, a multi-stakeholder initiative that has designed and implemented an industry certification scheme to ensure adherence to labour standards and regulations.

We follow the methodological process outlined by Morse et al. (2002) to ensure both reliability and validity of our data and analysis. The first step is to ensure congruence between the research question and the method. The data collected is part of a wider project examining the conception, implementation, and consequences of the CAF certification scheme. This project took place over four years, from 2017 to 2020. The overarching question was to examine how CAF is addressing labour standards noncompliance in the industry and outline the reasons why CAF may succeed (or not) where previous efforts by industry stakeholders had limited effect. On this basis, we collected empirical evidence through an in-depth case study of CAF, as case studies are appropriate when investigating 'how' and 'why' questions and facilitate an understanding of a phenomenon in the context in which it occurs (Scapens, 2004; Yin, 2018).

While interviews form the basis of our data set, we also draw on CAF documentation, which are available publicly or provided by CAF upon request. Most of the documentation relates to the certification process (e.g., audit methodology, standards specifications, contractual documentation). This documentation was used to develop the semi-structured interview guide (see Appendix 1). The guide comprises a set of general questions related to the aims of the wider project and as such covers several topics, including how and why the individual and/or organisation became involved in

CAF, the historical conditions preceding CAF, the strategy of CAF, the certification process, cleaning contracting and management, and relationships between supply chain participants. The interview guide was developed as part of a multi-year government funded research project, with the aim of investigating the enforcement of labour standards in supply chains through multistakeholder collaboration. Consequently, the questions do not explicitly relate to the pricing schedule, although this topic was frequently mentioned, and its prominence became apparent in the coding process.

The second step involves identifying a sample of knowledgeable participants who are aligned with the aims of the research. Interviewees were initially selected based on purposive sampling. During initial meetings with the CAF executives, we identified the individuals who had been influential in the development of the CAF and its ongoing governance. We also identified the stakeholders that were participating in the certification process. In most cases we contacted the interviewees directly, although for some interviewees the CAF CEO provided an initial introduction. Additionally, some of our interviewees suggested other people who would be worthwhile contacting (e.g., a consultant involved in the early stages of the CAF). Our final sample included most members of the CAF steering committee[3] and key decision-makers in the certification process. This includes cleaning contractors (CC), building owners (BO), facility managers (FM), building tenants (BT), union officials (UO) and other stakeholders (OS) including CAF, academics and the industry regulator.

Interviews continued until all project members considered that we had reached a point where little new information was being uncovered. In total, we use data from interviews with 41 individuals, who were involved as members of the CAF steering committee (n=14) or through participation in the CAF certification process (n=27). Interviews took place between March 2017 and June 2020. The interviews were conducted online or where possible in person. Over half of the interviews had at least two researchers present, one tasked with taking notes.[4] At the start of the interview, we informed participants of the general purpose of the research and promised them anonymity, to encourage them to speak openly. All interviews were recorded and transcribed, after which we provided the interviewees an opportunity to review their transcript. Interviews lasted an average of 56 minutes. The schedule of interviews is summarised in Appendix 2.

The third step concerns the mutual interaction between data collection and analysis. Following each interview, the interviewers spent time reflecting on the conversation, and took notes concerning findings of interest and areas where further probing was required. While the interviews were recorded and transcribed verbatim by a professional transcription service, at least one project team member carefully reviewed the transcripts while listening to the recording to ensure veracity. Furthermore, all team members met frequently (about once a month) to discuss interview findings. Detailed summaries of emerging themes were also periodically written up and shared amongst the team. The semi-structured nature of the interview guide allowed us to ask both general and specific questions depending on the location of the interviewee in the supply chain. In addition, impromptu follow-up questions would be asked as new themes arose. We also compared documentation to interviewee statements regarding the certification process where relevant. In addition, we were participant observers at numerous steering committee meetings over the life of the project, as well as at several 'worker engagement' meetings between cleaners, union officials, and CAF representatives, at building sites undergoing CAF certification.

[3] The CAF Steering Committee is the governing body of the CAF that draws together members from across the cleaning supply chain including property owners and managers, cleaning companies, industry representatives, the Fair Work Ombudsman, and the United Workers Union (Cleaning Accountability Framework 2020).
[4] Overall, there were five researchers involved in conducting interviews across the project.

The fourth step relates to the emergence of ideas from the data and their validation. The process of coding began with the first author immersing themselves in the data through intensive reading. Each interviewer had familiarised themselves with the data by comparing notes taken during and after each interview. This contributed to the emergence of initial categories and themes. The data was then organised and examined using thematic data analysis (Braun and Clarke, 2012; Glesne, 2006). The analysis was facilitated by the software NVivo. As the research team did not enter the field with any specific theoretical orientation, the initial categories were largely descriptive in nature and covered our initial interest in how a multi-stakeholder initiative addresses labour exploitation risks.

Following this, the second author independently evaluated the interview data and emerging coding framework, during which the centrality of the pricing schedule to the CAF certification process became increasingly apparent. As the understanding of the pricing schedule mechanics solidified, the second author revised categories and themes to connect our empirical evidence with the theoretical lens of market devices. During this stage the coding frame included both inductive and deductive categories, which reflected an iterative process of going back and forth between empirical data, theoretical concepts, coding, and themes identified by both authors. While our initial approach was largely inductive, the resulting process was more akin to an abductive one (Dubois and Gadde, 2002; Lukka and Modell, 2010). We then jointly reflected on response patterns and shared meanings in the data, after which some initial themes were retained, and others emerged from the data. We analysed each theme in relation to empirical evidence, including archival documentation and observational data, and its relation to the research question. This process ensured that the themes were confirmed across the data sets. The themes are outlined in Table 1.[5]

<Insert Table 1 about here>

The last step involves moving iteratively between the data and conceptual frame to develop theoretical insights. This is a particularly salient point for our study, as we did not have knowledge of the pricing schedule prior to starting the data collection. The frequent references to the pricing schedule in the context of the CAF certification process piqued our interest in understanding how accounting as a calculative technology becomes constitutive of the reality it attempts to represent through a market device. In the following section we provide a descriptive account of our findings. In the subsequent discussion, we return to the main themes in considering the implications of our findings for understanding accounting practices as market devices and how these enable stakeholders to better address labour exploitation risks through co-enforcement.

4. Case findings

In this section, we use the three main themes to structure our case findings. We first discuss the historical conditions in which the CAF emerged. Understanding the historical context is important as market devices do not simply appear – they are the result of a "long and collective effort" (Callon, 2007, p. 313). We detail the history of the largely unsuccessful interventions by the regulator and the union representing cleaners to address the two most problematic factors that were endemic in the industry – pressures for cost minimisation and lack of oversight. In the second section we turn to analysing the pricing schedule, which was identified as the central mechanism to shift accountability for labour standards compliance in the supply chain. We describe its content and how it enables the risk of labour standards noncompliance to become calculable and commensurable, through the measurement of productivity rates and the use of industry benchmarks. We then explain how the nature of transparency produced by the pricing schedule acts to reshape the market for contract

[5] A coding framework including illustrative quotes is available as an online supplement (Appendix 3).

cleaning by changing the behaviour of market participants, therefore enabling a key factor of strategic enforcement of labour standards. In the final section, we consider how the pricing schedule fits into the wider accountability framework, and how these mechanisms can lead to greater accountability for labour exploitation.

4.1 Historical conditions and the emergence of CAF

The prevalence of labour exploitation in the contract cleaning industry in Australia has been widely reported. For instance, in a 2010 report, the Fair Work Ombudsman (FWO, the national workplace relations regulatory) revealed that 37% of audited cleaning companies had underpaid wages: "A common theme to emerge was that a number of small to medium sized employers are paying their staff a so-called 'market rate' – not the award rate,[6] but a rate of pay which their competitors were paying" (Fair Work Ombudsman, 2011, p. 15). Furthermore, they reported that 21.5 percent of businesses in the industry engaged in "sham contracting" (Fair Work Ombudsman, 2011).[7]

In several instances the conditions that cleaners were subject to were characterised by the risk of modern slavery. In a submission to a Federal inquiry into modern slavery, a former cleaner noted that labour abuses in the industry are common: "Every [migrant] cleaner I know has been threatened, explicitly or implicitly, on the basis of their immigration status" (United Voice, 2017). Other issues in the industry include poor job security, work intensification leading to low service standards, and health and safety issues (Holley and Rainnie, 2012; Kaine and Rawling, 2019). As an example, in 2017 an Australian cleaning company was fined after an investigation found that they implemented "dubious 'labour hire' arrangements, corporate structures and sham contracting arrangements […] in a calculated attempt to avoid responsibility for vulnerable workers' entitlements," with the verdict noting that these workers were essentially treated as "slaves" (Taylor, 2017).

Interviewees attributed the prevalence of labour compliance breaches to cost-minimisation pressures exerted from the top of the supply chain. Consequently, the driving factor in contracting decisions was price, essentially to the exclusion of any other consideration. There were also concerns of insufficient oversight of labour practices in the industry. Despite coercive enforcement powers, the view was that the FWO was unable to address market pressures.

> The pressure on the property owner, the facility manager, the head contractor, the subcontractor, the pressure to compress prices to then meet a tenant's expectations for the lowest possible price, these were incredibly powerful pressures that the regulatory environment just wasn't up to meeting. (OS8)

Insufficient resources to address the regulatory breaches were mentioned as a reason to engage in a multi-stakeholder effort to address labour standards noncompliance.

> The Fair Work Ombudsman, with its limited resources, can only do so much. We need partners and that's a classic description of coproduction. If we can coproduce with others, that's why we're interested [in CAF]. (OS2)

[6] An award is an industry or occupation-based document describing minimum terms and conditions of employment, which is applicable to employers and employees who perform work covered by the award.
[7] Sham contracting is an arrangement where an employment relationship is disguised as an independent contracting arrangement by an employer, usually with the intent of avoiding responsibility for employee entitlements.

The combined efforts of stakeholders constituted a critical step forward, as up until that point there was little, if any, attention to compliance with labour standards among supply chain stakeholders. Accountability was placed solely with the cleaning contractor.

> It would probably be an email simply saying make sure you've got the sustainability in there and make sure you meet the legal requirements. It won't be any more detail than that […] the way it's actually managed and so forth, we're not deeply involved in. (BO6)

> As far as their conditions of employment it's not something I would monitor. (FM7)

In 2006 the trade union representing cleaners (previously United Voice, now United Workers Union) attempted to devise a collective agreement to improve pay and working conditions (the "Clean Start" campaign). While supported by several major building owners, property managers and cleaning contractors, the number of signatories to the agreement represented a small minority of the industry. In one telling example, a contractor illustrated the failure of the agreement to change embedded industry practices.

> We walked out of a tender interview a couple of years back, and we were asked the question of why we were that much higher than [the next company]. We explained that we were Clean Start signatories, that we had to tender at the Clean Start rates. As we walked out of that interview [they said] 'but surely you could create these phoenix companies[8] like the other guys are and you could have tended at the minimum.' That's a major property owner. (CC1)

The campaign ultimately dissolved. Upon reflection, the protagonists attributed the failure of the campaign to an inability to shift the locus of accountability in the supply chain.

> What we did with Clean Start wasn't enough in terms of holding owners to account […] I think it's really only through the supply chain approach and through reforming how procurement happens and how contracts are managed and how they're valued. (UO1)

Yet stakeholder concern about the economic viability of the industry continued to grow. This led to a renewed attempt to address systemic issues around working conditions and entitlements with the formation of the CAF in 2013. The CAF was created as a multi-stakeholder membership body, that included participation by major parties along the supply chain – building owners, property managers, cleaning companies, industry associations, the union, and the FWO. The model adopted by the CAF was heavily informed by the strategic enforcement approach to addressing labour exploitation (Weil, 2010).

> Our strategic-enforcement model is unashamedly based upon David Weil's work and it's all about going to the top of an industry structure or top of a sector, going to the heart if you like. (OS2)

In 2018 the CAF suspended memberships to become a certification authority.[9] The idea was that external recognition for meeting or exceeding labour standards and regulations, and other

[8] A phoenix company arises when an owner/director deliberately orchestrates the failure of one company to avoid tax and other liabilities, such as employee entitlements, and continue operations through another trading entity.

[9] As a sign of legitimacy, CAF certification is internationally recognised by real estate sustainability frameworks such as the Green Star – Performance Rating Tool that assesses the operational performance of buildings and the Global Real Estate Sustainability Benchmark.

obligations outlined in the Modern Slavery Act, would incentivise organisations to undergo certification. Interviewees generally recognised the increasing risks for property owners.

> It was more to do with addressing our responsibilities under the modern slavery legislation, and understanding that, as owners and managers of that property, we can't necessarily contract out of our obligations. (BO2)

Furthermore, there was a general acknowledgement that the circumstances in the industry meant that the potential for labour rights violations was ever present.

4.2 The pricing schedule

4.2.1 Form and content

Central in efforts to shift accountability in the supply chain is a set of standards and templates that must be followed during the procurement process. The main mechanism is the pricing schedule, a standardised document that contractors must complete and submit as part of a contract tender. Importantly, as certification is by property, all cleaning firms must submit a pricing schedule as part of the tender, irrespective of whether they are involved with the CAF or not.

The form of the pricing schedule is a set of integrated spreadsheets. Initially, the property manager inputs information regarding details of the property, such as area types, size, and specific cleaning tasks to be performed. The pricing schedule is then sent to cleaning firms that are tendering for the contract. They must provide a detailed breakdown of the resources they intend to allocate to meet contract specifications and the associated costs. The resources vary by the cleaning scope requirements (i.e., the cleaning tasks) specified in the tender as well as the size and complexity of the property. There are multiple versions of the pricing schedule to meet the resource allocation requirements of different property types (e.g., office buildings, shopping malls).

The determination of labour costs is based on the hours allocated as well as the specification of labour grades and shift type (e.g., day or night shift). These categorisations are tied to different award wage rates, which can substantially alter the contract price. Importantly, the pricing schedule does not allow award rates to be adjusted downwards, although the contractor can incorporate above-award rates at their discretion. A wide range of labour on-costs (e.g., provisions for holiday pay, sick pay, long service leave, superannuation, staff training) and overheads (e.g., insurance, payroll tax, cleaning materials, depreciation, equipment maintenance, uniforms), are detailed separately.

When the pricing schedule was initially presented as a tool that would be required to achieve CAF certification, there was concern among building owners and property managers. These stakeholders had little awareness of the level of resourcing that must be covered by the contract price to meet legislated labour standards. As one interviewee explained:

> People were afraid of the pricing schedule because I think what it did was it very clearly demonstrated the lack of viability of the sector, because the way with which contracting was occurring was not considering the full suite of things that you probably should be accounting for […] All of a sudden you probably have 20 or 30 per cent extra cost going into a cleaning contract which would then have to be pushed through the chain of costs. (OS6)

4.2.2 Calculability of resource sufficiency and worker productivity

Based on the information supplied by the property manager and cleaning contractor, the pricing schedule performs two key calculations. One is termed the on-cost rate and the other a set of

productivity rates. The first metric indicates whether the contract is adequately resourced, in terms of covering required on-costs and overheads, and is represented as a proportion of total labour costs. This assesses whether the contract price covers entitlements such as superannuation and sick leave, and the provision of other overheads. Also incorporated in this rate is a profit margin, which the contractor must specify. While the calculation of on-cost rates is relatively straightforward, having the on-costs visible in a single metric was seen as crucial for stakeholders to understand whether a contract price is sustainable.

> One of the really important pieces of information I take is the value of all of these on costs, because the value of these on costs is a demonstrator essentially of whether they're complying with what we consider to be the minimum provisions you need to run a company in accordance with legislation. (FM1)

The second calculation produces productivity rates on a per square metre basis for a specific area in a property. For example, in a shopping mall, productivity can be broken down into different locations (e.g., internal, external), area purpose (e.g., food court, bathrooms), as well as surface type (e.g., carpeted, hard floor). The purpose of the productivity rates was to address one of the central failings of the Clean Start campaign that preceded the CAF.

> From the outset with Clean Start we said, it's too hard, we're not going to solve workload, so we're not going to go there, we'll just go for pay. I think, in hindsight, that was a massive mistake. (UO1)

Incorporation of productivity rates is critical as a contractor could maintain that they were paying award wages, but without also giving visibility to productivity, cleaners could be exposed to excessive workloads. This can result in substandard quality of service, as cleaners are unable to complete their tasks in the given time. However, more often cleaners are pushed into working both harder and longer, additional efforts for which they are not remunerated. This allowed contractors to submit tender offers at low prices while maintaining that they were paying award wages.

> Quite often it can be ‘don’t leave until you finish the job.’ That is a real industry dynamic that was occurring. Vulnerable workers, people with not much power, people with nothing else to go to, ‘if I fail at this job I’ve got nothing else.’ (FM1)

4.2.3 Benchmarks and perceived objectivity

The calculative power of the on-cost and productivity rates comes not only from their capacity to enable comparisons between cleaning firms vying for a particular contract, but their ability to be benchmarked against an industry standard. As one steering committee member recalled:

> What we were finding, there was lots of individual buildings that had nothing to benchmark their own pricing. They ran a tender every few years. They didn’t even know what minimum wage was. (CC3)

Benchmarks for on-costs and productivity rates are derived from industry data provided by one of the largest property management firms in Australia. Using a database of tenders across a wide range of properties, ‘league tables’ are constructed by ranking contractors based on on-cost and productivity rates. The tables incorporate thresholds that visually categorise contractors as blue (exceeding standards), green (meeting standards), yellow (possible risk of noncompliance) or red (high risk of noncompliance). This visualisation and comparison to calculated rates acts as an initial signal concerning the likelihood of labour standards noncompliance.

> What the pricing schedule does within the [CAF] standard is that's the canary within the coal mine. If you get the pricing schedule back and the figures are red, they're probably not complying. (OS3)

The pricing schedule has been central to the CAF certification process gaining legitimacy within the industry. Legitimacy is substantially enhanced through the perceived objectivity of the benchmarks. In the development of the pricing schedule, CAF deliberately sought to construct benchmarks that were accepted as evidence-based and free from manipulation by vested interests (e.g., unions). One interviewee who was involved in the CAF's inception, commented that it was "absolutely pivotal in ensuring the benchmarks that were put in [the pricing schedule] were evidence-based" (OT3). Another commented on the shared belief amongst stakeholders of pricing schedule objectivity.

> What's really great about the pricing schedule is that it's an objective measure. I think all stakeholders can easily come together and accept the pricing schedule as an objective measure […] Everyone can see that with statistical methods you can create a bell curve which literally shows this is where sustainable rates lie. (OS4)

This perceived objectivity was essential for constructively engaging stakeholders with competing interests from across the supply chain, as it provided the justification for the need to address contract pricing practices in the industry.

> The CAF pricing sheet provided the platform to have those conversations about why [on-cost and productivity] are important and why these areas need to be protected. (CC3)

However, the actual mechanics of rate calculations and the derivation of benchmarks are not known by most of the CAF stakeholders. The spreadsheet containing the pricing schedule does not enable users to observe how rates are calculated, and the league tables used to construct benchmarks have been shared between just a few individuals within CAF. Most stakeholders we interviewed had little understanding of how the pricing scheduled worked in practice.

In actuality, the determination of benchmarks incorporates numerous judgements. In a revealing comment by one of the architects of the pricing schedule, in relation to setting upper and lower thresholds for classifying a contractor as 'meeting standards', "we've just said let's pick a number that's sensible to go above and below the average" (FM1). A potential problem is that the 'average price' has had continual downward pressure placed on it. While those involved in constructing the benchmarks understand this possibility, the primary concern was ensuring 'buy-in' by stakeholders.

4.2.4 Transparency

While perceived objectivity was essential for gaining acceptance of the pricing schedule, it is the increased transparency that was the key mechanism for shifting behaviours in cleaning contract procurement. Prior to the CAF, there was no standard as to what information should be disclosed in a contract tender.

> Most contractors will say, okay, we can deliver you all those specs that you want for this price. They're not required to then break that down to the owner, and say, this is how we do it. (UO1)

Decisions about who to award the contract to were based on price. As one interviewee noted, owners and building managers were making "leaps of faith" (FM1) that the price submitted by a contractor would be enough to meet minimum labour standards, while another noted that "it was this ignorance is bliss phenomena" (OS6) that pushed accountability for compliance to the cleaning

contractor. Overall, there was little impetus by owners or property managers to gain visibility of the practices of contracting firms in providing services at the tendered price. There was also the prevailing view that cleaning contractors were the ones with expertise in determining the resources necessary to meet regulatory obligations.

> From the building contract manager's point of view, how can he know whether he needs 20 cleaners, or 30 cleaners, or what those cleaners are supposed to be paid? [The pricing schedule] lets the purchasers know what a realistic price is going to be, both in terms of how much labour is going to be required to do that work, and how much that labour should cost." (UO3)

The opaqueness of contracts meant that property managers remained unaware of how cleaning contractors were delivering service requirements at the tendered price. This allowed property managers to meet client demands for lower cost services while avoiding responsibility for the practices of the cleaning operators. The pricing schedule increases transparency by providing the property manager and building owner a detailed disaggregation of the tendered price by cost and resource allocations, and the ability to benchmark costs and productivity against minimum thresholds.

> It gives you transparency. So the market has transparency about how that particular building has basically costed its cleaning. Because I can tell you, it's opaque. We would not know how these tender processes go on. (OS4)

The perceived objectivity of the pricing schedule also enabled owners and property managers to understand the necessity for significant increases in the cost of contracting cleaning services compared to the prevailing 'market rate'.

> If you ask a group of owners who wants to pay the award wage to all of their staff, they'll all put their hands up […] It's just the meaning of all that gets lost in a tender process and they just look at this big number and think these guys are all out to gouge me, I'm going to try and gouge them. We're saying they're not out to gouge you, you just bought the bottom of the industry, and you actually asked them to cut more off. This is the way we're showing owners that no one's gouging anybody, this is market competitive, this is fair. (FM1)

The pricing schedule acts to reshape decision making in the procurement process. As the benchmarks create a minimum acceptable price, property managers have observed a convergence in contract prices tendered by cleaning contractors. Some contractors argue that this reduces market competition. Other industry stakeholders see this as reshaping the priorities of the market, shifting emphasis away from cost as the primary determinant in contractual decisions to more qualitative factors such as quality of service and supplier relationships.

> I've done this exercise twice and there was significant convergence [in price…] The way that [my firm] is doing procurement evaluation, is to separate out pricing and qualitative [factors] which includes performance, past performance, account management, and ESG type of metrics. (BO4)

Apart from improved transparency between contracting parties, the pricing schedule also allows for better informed decision-making among contracting parties and increased accountability for ensuring labour standards, as it determines a minimum price at which the contract is deemed to be sustainable. Offering or accepting contracts priced lower than this is done so with the knowledge that the contractor is at risk of breaching labour standards.

> If there's levels of information and knowledge around the place that it's reasonable for a procurement officer to have and they're turning a blind eye, they're going to - they're in risk territory. I think that's the chief virtue of the pricing schedule; transparency, accountability and everyone knowing what's fair and reasonable. (OS2)

The increased knowledge across the supply chain of the resources required to meet minimum regulatory standards reduces the incentive to engage in labour exploitation. Through the transparency provided by the pricing schedule, building owners and property managers better understand what the minimum viable price of contracting cleaning services are to meet regulatory requirements. The effect of increasing the minimum price reduces the pressure on cleaning contractors to engage in labour exploitation to win contracts and ensure profitability.

4.3 The wider accountability framework

It was recognised that the pricing schedule, while being the main mechanism, was insufficient by itself to prevent labour exploitation from occurring. The pricing schedule increases visibility of labour exploitation risks at the contracting stage but cannot ensure that standards are upheld post-contract. As such, the pricing schedule sits within a wider framework of complementary practices designed to address breaches and increase accountability.

> [T]here are six instruments that constitute the core of the CAF regulatory model: the core principles, the star standard, the pricing schedule, the external audit process, the worker engagement protocol and the remediation procedure. The core principles, the 3 Star Standard and the pricing schedule together constitute the tools through which CAF has determined and articulated minimum standards. The external audit process and the worker engagement protocol are the bases of monitoring compliance with the standards. Finally, the remediation procedure forms the basis of the enforcement activities undertaken by CAF which are prioritised by severity of non-compliance with the minimums. In that sense, CAF is an attempt to create a co-regulatory framework that overcomes the limitations previously observed in such initiatives (Rawling et al., 2021, p.446).

Part of the certification process is a detailed independent audit, which includes assessing whether pay, entitlements, and working conditions are in line with regulatory obligations and contractual specifications as set out in the pricing schedule. The auditor's report is included as part of the submission to the CAF Certification Panel who decide whether a property should be certified. Additionally, maintaining certification requires ongoing adherence with the CAF standards. Annual audits are conducted post-certification to ensure compliance over the life of a contract. Any issues identified that require rectification are then documented in a compliance register, which is accessible by all stakeholders.

Several stakeholders expressed reservations concerning the capacity of external audits to effectively detect instances of labour exploitation. As one interviewee involved in workplace regulation explained:

> Audits have, through their design, a limitation in their methodology because [previously] they were heavily reliant upon the credibility or the integrity of employer documentation […] we then began to discover, not just in the cleaning sector but Australia-wide, that there was a massive problem with fabricated records. All regulators for the last decade have been challenged by the fact that many, many records, unfortunately, are false or fabricated or misleading. [OS2]

Worker engagement was seen as a critical component of the CAF methodology, which serves to increase the validity of audit findings as well as provide an additional compliance mechanism.

> The role of cleaners in CAF is to be the real time assurance that CAF standards are being applied. The role of the worker voice mechanism is to ensure that aside from that paper audit that those conditions are being achieved, experienced by workers. (OS1)

Prior to certification, a minimum of two worker engagement meetings are conducted with cleaners, with additional meetings conducted as part of the annual audit. Additionally, cleaners, as well as other stakeholders, can report issues confidentially. These are investigated and incorporated into the compliance register if remediation is required. Work teams on property sites also elect one of their peers to act as a CAF representative, who acts as a liaison between the CAF and the workers.

Whereas the pricing schedule primarily emphasises upward accountability by increasing transparency to stakeholders higher up the supply chain, worker engagement creates downward accountability as workers provide an account of whether contractual conditions are being adhered to in practice. By including worker engagement practices as part of the CAF certification, all major stakeholders in the supply chain have a voice, and ultimately responsibility, for adhering to labour regulations and ensuring the sustainability of the industry.

> [CAF] expands the scope of influencing [the cleaning industry]. By having the building owners and investors there, it just unpacks the supply chain and all the different people that intersect with the cleaning labour force from the cleaner, right up to the investors, so that means that you can have a response that touches on all of those levels. That's very, very important. It just forces the industrial parties to have a relationship […] a more cooperative one, where we all have to take responsibility for what happens in the industry. (UO6)

This redefining of relationships between market actors represents an alternative to the dominant means of achieving labour standards compliance. As one of our interviewees framed it, instead of relying on only regulatory oversight or external reporting, CAF represents "one expression of a sustainable self-monitoring arrangement" (OS2). The increased awareness and transparency throughout the supply chain regarding the risks and occurrence of labour exploitation through the CAF is reinforced by the changes made to market dynamics.

> The thing we can uniquely do is bring to the market transparency and disclosure so that people can make informed choices […] You'll have a sector of the economy that is assured and certified and, as a result, has lower risks and can generate more sustainable returns and have a distinctive place in the market. There'll be that tier. Then there'll be the other tier that chooses not to and increasingly we think that people will make choices and the capital will flow. (OS8)

The involvement of stakeholders at each level in the supply chain during the certification process, and the transparency afforded by the pricing schedule, annual auditing, and worker engagement, create mutual accountabilities that enable the co-enforcement of labour standards.

5. Discussion and conclusion

Our study examines how accounting practices are implicated in actively shaping the functioning of a market and the implications for labour standards compliance. We observe how the pricing schedule made labour exploitation risks more visible to contracting parties by quantifying the potential risk for labour standards noncompliance. In making labour standards compliance calculable and commensurable, the pricing schedule transformed the calculative space in which market actors

contracted with one another. Additionally, we show how the form of transparency, in terms of what is calculated and to whom those calculations are made visible, is important for understanding how accountabilities are distributed and how labour standards can be co-enforced. The existing literature provides little insight into the mechanisms that enable greater transparency and their consequences for compliance outcomes within strategic co-enforcement initiatives. Our findings demonstrate that market devices can shape the behaviour of market participants, which is necessary for the strategic enforcement approach to operate effectively (Weil, 2018). Below we first discuss the theoretical implications of these findings and how our study extends the literature, followed by a discussion of practical implications, before concluding the study.

5.1 Theoretical Implications

Market devices are capable of abstracting and presenting complex information in a straightforward manner, enabling market participant to make better-informed decisions (Callon and Muniesa, 2005). While prior literature has revealed how calculative practices allow for environmental concerns such as greenhouse gas emissions (Lohmann, 2005) and water scarcity (Kauffman et al., 2014) to influence market behaviours, there is little empirical research into whether and how social concerns such as the risk of modern slavery can be made calculable and commensurable. Our results show that at least certain forms of labour exploitation (e.g., underpayment of wages, unsustainable workloads) are amenable to calculation and can shape the decisions of market actors (Callon and Muniesa, 2005). As such, we propose that the risk of labour standards noncompliance is subject to calculation, and in doing so, can actively construct the way in which markets operate.

As noted by Roscoe (2015), market devices provide "a powerful means of problematising naive assumptions about the reality of market process and order, and opens up market activity to a critical and political reading" (p. xx). Prior to the CAF, there was limited transparency around how a tendered price was constructed and whether financial resources would be sufficient to meet contractual specifications and minimum labour standards. These contracting practices represented a form of "opaque accounting" whereby details that would bring to light unsustainable practices were hidden (Crane, 2013). Such accounting practices insulate contracted parties from scrutiny by supply chain participants. Opaque accounting also works to shield other actors from accepting increased accountability for labour exploitation as well as limiting the capacity of stakeholders concerned with labour exploitation to take remedial action (Crane, 2013). The pricing schedule, as a market device, gives market participants "access to the minimum information necessary to hold preferences, rank, then reveal and negotiate them to enable transactions to take place" (McFall, 2009, p. 270). Where previous contract decisions were predominantly made based on cost minimisation, the pricing schedule reveals information about the risk of noncompliance that market participants are now also able to consider before entering into a market transaction. This increases transparency and creates accountability for achieving labour standards between contracting parties.

Consistent with extant research, we show that market devices shape the way market actors account for social and environmental concerns (Gray, 2010; Neyland et al., 2019). We extend this work by proposing that the form of transparency matters for the consequences of a market device. The social and environmental accounting literature focuses on increased information disclosure to stakeholders external to supply chains, either made voluntarily or mandated by regulation (Georg and Justesen, 2017; Sobkowiak et al., 2020; Rogerson et al., 2020). In contrast, the pricing schedule acted to reduce information asymmetry within the supply chain. We propose that transparency internal to the supply chain is at least as important as transparency to external parties, as it is the former that generated a shift in accountability from solely on cleaning contractors to being more distributed across the cleaning supply chain. Furthermore, the pricing schedule removed the

incentives of cleaning contractors to tender at prices where profitability could only be achieved by engaging in labour exploitation. As Roscoe (2015) argues, market devices perform calculations but "at the same time constitute investor subjectivities: productive, docile consumers of investments and investment technologies, capable of disciplining themselves in the face of continued difficulties in the market" (p. 214). Within our research context, those making contract decisions are made into compliant market participants by using the pricing schedule and are afforded the means to hold themselves and other CAF participants to account due to the clear objectification of the risk of labour standards noncompliance. We therefore propose that accounting practices have greater potential to shape the behaviour of market participants to conform to regulatory standards than is thus far recognised in the literature.

Prior literature is also largely critical of accounting practices that rely on market forces, which are seen as having "severe limitations in moving organisations and societies towards sustainability" (Gold and Heikkurinen, 2018, p. 318). Rogerson et al. (2020, p. 1506) conclude that "the effectiveness of disclosure as a tool to drive change in supply chains to safeguard workers is relatively ineffective." Based on our analysis, we propose that increasing transparency between the parties involved in market transactions can lead to mutually reinforcing pressures to address the underlying causes of regulatory noncompliance. Specifically, the pricing schedule played a pivotal role in increasing visibility to building owners who have the "ability to shape the market (or portions of it) and set market conditions" (Kaine and Rawling, 2019, p. 325). Building owners became aware of how the risks of labour exploitation are connected to their influence on the cleaning procurement market. This shifted concern away from purely cost minimisation towards the risk of labour exploitation. The pricing schedule thus contains notions of the way in which the commercial cleaning sector operates, which is exchanged between market participants. That knowledge is also incorporated into the market device in question through codification of on-costs and productivity rates, and comparative benchmarks expected to achieve minimum regulatory requirements.

We also find that perceptions of objectivity have important implications for the performative potential of a market device. The performativity of the pricing schedule rests upon the acceptance of metrics by which contractors can be compared and ranked against predetermined benchmarks. While the determination of the benchmarks was not widely known among interviewees, the perception was that they were objective in their representation of minimum standards. Yet the objectivity of the benchmarks is easily open to critique – they are derived from a historical database of tenders from a single property management firm, and the thresholds that categorised firms in a league table are subjectively determined. We propose, therefore, that the process of calculation therefore does not necessarily need to be rigorous nor transparent for a market device to be effective. As Mitchell (2008) comments, "successful calculative devices are not necessarily those that are most statistically complete or mathematically rigorous. They are those that […] assist in the practical work of bringing [the market] into being" (p. 1118). What does matter is a shared *belief* in the neutrality of the pricing schedule. While a shared perception of objectivity may not always be necessary for calculative devices to substantively shape market behaviour, we propose that it is a precondition in the presence of diverse stakeholder interests. Without a shared belief in its objectivity, the pricing schedule would unlikely have been accepted as a valid mechanism for setting contract prices, nor would it have provided the initial platform to engage stakeholders in constructive dialogue.

Finally, we provide insight into the role of accounting practices in the strategic co-enforcement model of producing regulatory compliance. CAF relies on strategic co-enforcement, as it draws on the unique capacities and coordinated efforts of state agencies, worker organisations, and lead-firms in

the supply chain to develop mutual accountabilities for adherence to labour standards (Fine and Bartley, 2019; Kaine and Rawling, 2019). The pricing schedule was important for both engaging a diverse set of stakeholders in constructive dialogue and shaping their market behaviours. In doing so, the pricing schedule transports actors and elements from the social world into a specific calculative space (Callon and Muniesa, 2005). For Neyland et al. (2019), market devices must be understood in relation to the normative effects that they anticipate and produce. Within the CAF, the pricing schedule has the clear normative aim of enabling labour standards compliance, while it simultaneously acts as an accountability mechanism that enables strategic co-enforcement, providing evidence for the claim that "forms of calculation in market-based interventions could be considered as much accountability devices as they are market devices" (Neyland et al., p.246).

5.2 Practical Implications

Our study also has implications for practice. First, our findings support the contention of Rogerson et al. (2020) that in sectors where there is little incentive to engage in a "race to the top", increased knowledge of supply chain practices is a necessary condition for organisations to effectively address modern slavery risks. This suggests that organisational responses to legislation that attempts to increase transparency through mandated external reporting is likely to result in a gap between reported performance and actual achievements to address labour exploitation. Second, regulators should consider alternative modes of enforcement to safeguard working conditions (Amengual and Fine, 2016). This seems particularly important in industries where there are systemic pressures that incentivise labour exploitation and where the monitoring capacity of regulatory bodies is restricted. Rather than relying solely on legislation premised on self-regulation or the outsourcing of enforcement to private agencies, co-enforcement through partnerships with industry stakeholders should be given serious consideration.

But we also show that the pricing schedule does not operate in isolation – it is not a substitute for other accountability mechanisms, such as auditing and reporting, but rather a supplementary tool to reinforce those practices. In particular, the capacity of the pricing schedule to enact change is reliant on effective worker engagement. Workers are instrumental for identifying noncompliance as they have "first-hand experience with changing working conditions and employer practices over time" (Amengual and Fine, 2016, p. 131). The arm's length distance between building owners and cleaners on the ground would remain were it not for the worker engagement component, which helps to overcome the lack of oversight that building owners have on the working conditions that cleaners experience. Worker engagement also mitigates incentives for cleaning firms to misrepresent contract provisions in the pricing schedule as breaches are more likely to be uncovered.

Our study provides insight into the set of reinforcing mechanisms, and the centrality of a market device, in shifting accountability and encouraging more proactive behaviours to address labour exploitation risks. This does not, however, negate the role of regulatory bodies or the union movement in ensuring compliance. An important change to workplace regulations just prior to the formation of the CAF was the inclusion of 'accessorial liability' provisions, which extended liability for noncompliance to all contracting parties, not just the contractors. These changes likely provided greater incentives for supply chain actors to engage with the CAF and provided mechanisms such as the pricing schedule greater power to effect change.

We also provide insight into the enforcement of the Modern Slavery Act. Like other 'soft laws' (Lindsay, Kirkpatrick and Low, 2017), the Australian Modern Slavery Act is not enforced by public authorities but through stakeholder scrutiny and market forces. It has been noted that "there is growing unease about these 'softer' mechanisms [as] it is increasingly uncertain to what extent (if at

all) lead firms would be willing to adopt voluntary compliance mechanisms in the absence of consumer pressure, regulatory scrutiny, and/or the credible threat of liability" (Hardy and Howe, 2020). We propose that voluntary compliance mechanisms can however be adopted in the absence of these pressures, namely by changing market participant behaviour through a market device.

Finally, by participating in the CAF, firms approach the risk of labour standards noncompliance and modern slavery in the cleaning industry proactively, and therefore undertake due diligence to address these risks. Due diligence is as a process whereby businesses identify, prevent, mitigate, and account for how they address their impacts on human rights. The growing emphasis on due diligence in relation to labour and human rights signifies an important shift away from a reactive approach by companies to abuses in their operations and supply chains (Boersma, 2017). Our study provides evidence of the proactive role that accounting can play in the development and execution of labour standards enforcement strategies.

5.3 Limitations and Further Research

There are limitations to our study. As the CAF is in the initial stages of gaining market traction, it is too early to comment on the extent to which the certification process and its constitutive mechanisms will lead to sustainable, industry-wide change. Much of our analysis also relies on the accounts of market actors that have chosen to be involved in CAF or the certification process. We did not talk to stakeholders that remain outside of this framework. As such, we are unable to account for their perceptions of how the market operates and what the ramifications of using certification mechanisms such as the pricing schedule might be. Importantly, both the pricing schedule and the contract cleaning market remain subject to adaptation. As Callon (1998) argues, "[n]ot only do accounting tools constitute spaces of calculability and define the way the calculation is made up, but also, through the reactions they provoke, new calculative strategies emerge which lead to the changing of goals" (p. 24). This may mean market actors are able to find ways to work around the pricing schedule to keep exploitative practices hidden from view.

Organisations may also focus purely on ensuring adherence to benchmarks rather than the underlying practices that those metrics are intended to assess (Espeland and Sauder, 2007). By bringing compliance with labour standards into the calculative space of market actors, the pricing schedule potentially invites a more rational assessment of labour exploitation risks. Making labour exploitation calculable enables the quantification of risk – the difference in price between tenders that meet, and those that fall below, industry benchmarks. Such benchmarks constitute the economic cost of compliance with labour standards, which can be evaluated against the liabilities associated with cost of regulatory breaches uncovered in the future. As Sobkowiak et al. (2020) note, this may enable "the justification of destructive activities" (p. 1675) if modern slavery concerns such as labour exploitation become considered purely in financial terms. This underlines the importance of complementary practices such as worker engagement.

Finally, our study focuses on labour standards enforcement in a relatively confined domestic supply chain. As such, care should be taken when extrapolating findings from the present study to other supply chain contexts. While market devices similar to the pricing schedule may well be effective in domestic industries that have similar supply chain characteristics to contract cleaning, industries with more complex and global supply chains may not lend themselves as easily to the CAF model of strategic co-enforcement.

There are several opportunities for future research. The role of accounting in framing market exchanges remains an underexplored area of research. The present study, along with McLaren and

Appleyard (2020), demonstrate the potential for accounting practices to not only inform market actors about social and environmental concerns but to shape how markets operate. Both studies point to characteristics that increase the performativity of accounting practices, but more research is required to understand the limits to performativity. It is unclear as to the potential of accounting practices to shape (global) markets where severe forms of exploitation, such as forced labour, are more structurally prevalent. It is also important to understand how market devices may (perversely) shape the incentives for organisations to actively engage in addressing modern slavery and other collective concerns. Additionally, our study focused on risk of noncompliance within a supply chain limited to a national jurisdiction. The characteristics and performativity of accounting practices situated in more complex, global supply chains is an important extension, as is how the form and function of market devices varies between institutional settings that have different regulatory frameworks and modes of enforcement.

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