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Rising Power Clusters and the Challenges of Local and Global Standards

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Abstract This paper explores the intersection between three processes associated with globalisation. First, the rise of emerging economies like China, Brazil and India, the so-called 'Rising Powers', and their potential to define the contours of globalisation, global production arrangements and global governance in the twenty-first century. Second, the importance of corporate social responsibility (CSR) goals in the shaping of global trade rules and industrial practices. Third, the significance of small firm clusters as critical sites of industrial competitiveness. Some of the most significant examples of successful, innovative and internationally competitive small firm clusters from the developing world are located in the 'Rising Powers' and cluster promotion is a core element of national industrial policy in some of these countries. There is also evidence of engagement by clustered actors with corporate social responsibility goals around labour and environmental impacts. While these three processes have been separately studied there has been no attempt to explore their intersections. This paper addresses this gap through a comparative analysis of secondary data, and a detailed reading of the literature, on CSR and clusters in Brazil, China and India. It assesses the evidence on small firm clusters in the Rising Power economies and considers how these Rising Power clusters engage with CSR goals pertaining to labour, social and environmental standards. It argues for a greater focus on the formal and informal institutional context, termed the 'social contract', in explaining divergent experiences and practices observed across these countries. This raises important questions for future academic and policy research on clusters, CSR and the Rising Powers. The paper concludes by outlining a research agenda to explore the local and global consequences of the relationship between Rising Power clusters and international labour and environmental standards.

Keywords Industrial clusters · Rising Powers · Standards · Industrial policy · Brazil · China · India

Abbreviations

ACFTU	All-China Federation of Trade Unions
APL	Arranjos Produtivos Locais (local productive arrangements)
BRIC	Brazil, Russia, India, China
CDP	Cluster development programme
CSR	Corporate social responsibility
EPZ	Export Processing Zone
ETDZ	Economic and Technological Development Zone
FSC	Forestry Stewardship Council
GPN	Global production network
GRI	Global Reporting Initiative
GVC	Global value chain
HIDZ	Hi-Tech Industrial Development Zone
ISO	International Standards Organisation
MSME	Micro, small and medium enterprises
PCP	Pentachlorophenol
R&D	Research and Development
SEBRAE	Serviço Brasileiro de Apoio às Micro e Pequenas Empresas—(Brazilian service of assistance to micro and small enterprises)

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SENAI	Serviço Nacional de Aprendizagem Industrial (National Service for Industrial Training)
SEZ	Special Economic Zone
SME	Small and medium enterprises
UNGC	United Nations Global Compact
UNIDO	United Nations Industrial Development Organisation

Introduction

The literature on the emerging economies, variously described as the 'BRICs', the 'Asian Drivers' or more aptly the 'Rising Powers', is rapidly growing (Kaplinsky and Messner 2008; Henderson and Nadvi 2011; Henderson et al. 2013; Lund-Thomsen and Wad 2014; Nadvi 2014). While there are no singular definitions of what constitutes an 'emerging economy' there is no dispute that China, and to a lesser extent India and Brazil, are now key global economic powers. China has become, over a very short period of time, the world's second biggest economy and the biggest trading power on the planet, Brazil is the world's seventh largest economy and India the tenth biggest global economic power. Sustained rates of economic growth (over 10 % a year for 30 years in China), have led to rising levels of income and employment and a rapidly growing domestic market marked by a significant and increasingly discerning middle class (Guarin and Knorringa 2014). Manufacturing and service sector firms from these countries are internationalising, rapidly becoming recognised global brands and corporate multinationals (Fleury and Fleury 2011; Sinkovics et al. 2014). These new growth economies have, through their economic dynamism and their global competitiveness, come to shape the contours of the global economy with substantial implications for global governance (Breslin 2007; Cohen 2001; Henderson and Nadvi 2011).

While this is now acknowledged, what remains unrecognised is the significance of small- and medium-sized enterprise clusters (SMEs) in propelling the economic dynamism of the Rising Powers (RP).[1] Interest in SME clusters spans the disciplines of business studies, economic geography, innovation studies and international development, with conceptual and empirical research on cluster-based economic dynamism in developed and developing country contexts (Bathelt et al. 2004; Ketels 2013; Malmberg and Maskell 2002; Martin and Sunley 2003; Pietrobelli and Rabellotti 2006; Porter 1990; Schmitz and Nadvi 1999). While earlier cluster studies sought to identify the basis of competitiveness and upgrading by local firm agglomerations, a more recent strand of the literature has begun to explore the links between clusters and corporate social responsibility (CSR) goals of improving labour conditions and environmental impacts (Battaglia et al. 2010; Lund-Thomsen and Nadvi 2010a, b; Lund-Thomsen and Pillay 2012; Puppim de Oliviera 2008). Although, as Blowfield and Frynas (2005) observe, CSR as a concept can have multiple meanings to different actors and, thus, be difficult to pin down, our view aligns with that of Lund-Thomsen and Pillay 2012 who describe it as a process wherein corporate actors integrate economic, social and environmental concerns into their core business activities. But we go further by suggesting that this also requires a need to recognise the multiple interests of diverse stakeholders that shape this process, including firms and their owners (shareholders), workers, suppliers, local communities, local institutions and the state.

SME clusters proliferate in Brazil, China and India, often in sectors where these countries have experienced growing international competitiveness (Das 2005; Dinh et al. 2013; Pires et al. 2013). Moreover, there is evidence that in some of these clusters there is a degree of engagement, and contestation, around CSR concerns (De Neve 2009, 2014; Puppim de Oliviera 2008; Lund-Thomsen and Nadvi 2010b; Sachdeva and Panfil 2008). Our focus in this paper is to explore the intersection between these three distinct processes associated with globalisation and global transformations: first, the emergence of Rising Power economies; second, the role of small firms clusters in promoting industrial development and international competitiveness; and third, the growing importance attached to CSR norms and linked social and environmental impacts by firms, civil society and public actors. Our proposition is that it is in these spatial contexts that we may well observe some of the most significant experiences around how small firm clusters not only compete in the global economy, but also how they engage with CSR concerns, and potentially shape CSR discourses for the future. Moreover, we are interested in exploring differences between Brazil, China and India to see how a comparative perspective might provide us a better understanding of future transnational governance practices on CSR norms and labour and environmental regulations.

The paper draws on a close and extensive reading of secondary data and published and grey literatures. Our aims in this paper are three-fold. First, we seek to understand the role played by SME clusters in these economies. If clusters are important to Rising Power economies then we should be able to observe some indication of the significance of their presence, their specific roles in promoting the economic dynamism and international competitiveness,

[1] We define clusters as sectoral and spatial agglomerations of firms, often with linked institutional actors, that together can generate the basis for economic competitiveness and promote local economic development (Schmitz and Nadvi 1999; Parrilli et al. 2013).

and the nature of national policy engagement around SME clusters within these Rising Power economies. Second, we consider how these Rising Power SME clusters interact with concerns around labour and environmental standards. To date, the literature on global process standards and their impacts on local clusters has concentrated on dynamics within the cluster and also the relationship between clustered actors and their global principles. In this paper we argue that one aspect that tends to get neglected in this discussion is the ways in which national policy frameworks associated with social compliance affect the ways clusters respond to such issues. This institutional context, what we term here as part of the national 'social contract', is in our view a missing element of the jigsaw that one needs to understand in order to assess how SME clusters in the Rising Powers confront social, environmental and labour pressures. The institutional context includes the public and private formal organisations, rules, public regulations and industry practices as well as informal norms and values of the different actors to be found in, or that engage with, local clusters. The importance of the institutional context is increasingly acknowledged in research on global value chains and global production networks (see Neilson and Pritchard 2009; Smith 2014) but tends to be relatively less well understood by those working on clusters and CSR (a gap also recently observed by Pyke and Lund-Thomsen 2014). Third, we want to consider the consequences of our findings for future research agendas on clusters and CSR linkages. This has implications not only for policy actors seeking to define future cluster development strategies, but also for academics working on the relationships between local clusters and global value chains and how these ties are impacted upon by pressures on labour, social and environmental concerns. Thus, we aim, through this paper, to formulate an agenda for further enquiry.

The paper is structured as follows: The next section provides a brief overview of our core conceptual frameworks that underline the economic gains that SMEs accrue from local clusters, how local clusters integrate into global value chains (GVCs), and how standards and CSR concerns affect the governance of local cluster ties and global linkages. We point to gaps within the literature and emphasise the need for further understanding of the institutional contexts that shape local cluster ties as well as linkages between cluster actors and the global value chain. We then provide an overview of the evidence on SME clusters, and cluster development strategies observed in Brazil, India and China. We illustrate how the evidence and policy discourse on clusters in these countries is also linked to a particular political economy engagement on what we refer to as the dominant 'social contract' that has prevailed in these economies during the past three decades. It is this political economy relationship between state, civil society and business that has in effect set out norms and values that shape local attitudes to labour, social and environmental standards. We go on to reflect on the implications of this in shaping a research agenda for further work on how Rising Power clusters are engaging with, challenging, and potentially shaping labour, social and environmental standards and the implications that may arise from this for issues of local cluster and global value chain governance. We conclude by emphasising the importance of the local and the public spheres and the consequences that could arise for future research on clusters, global value chains and CSR.

Clusters, Global Value Chains and the Institutional Context for CSR

The concept of clustering, and the agglomeration economies that it can potentially generate for co-located SMEs, is now well understood (Porter 1990; Schmitz and Nadvi 1999; Gordon and McCann 2000; Martin and Sunley 2003; Ketels 2013). Clustering owes it origins to the work of Alfred Marshall who illustrated how small firms in the industrial heartlands of UK and Europe had acquired critical external economies of scale and scope by locating within geographically defined areas. The concomitant division of labour between firms, and the rise of specialisation and flexibility enhanced the competitiveness of such clustered regions (Marshall 1920). The phenomenon is now observed extensively across Europe, the United States, and most notably for our purposes in developing country contexts. There are multiple case studies from the developing world that illustrate how clustering can help SMEs, often working in precarious and informal settings, produce for, and effectively compete in, highly demanding local and global markets (Knorringa 1999; McCormick 1999; Nadvi 1999a; Tewari 1999; Rabellotti 1999; Schmitz 1999). At the same time, it is clear that such gains are differentiated over space and time. Clusters that were internationally competitive at one point in time can find their position eroded as new actors, new competitive challenges and new forms of technological innovation come to the fore. Hence, analysis of developing country clusters studied over time show that competitive success is not guaranteed, that the engagement of institutional actors can rise and fall, and that gains from clustering are not only highly differentiated but can also clearly impact the dynamic tendencies within a specific cluster.[2]

[2] The most notable examples of this are the Sinos Valley shoe cluster analysed by Schmitz (1995, 1999), Bazan and Navas-Alemán (2004), and Navas-Aleman (2011) and the Sialkot surgical instrument and sports goods clusters researched by Nadvi (1999a, b, c, 2004, 2008), Nadvi and Halder (2005) Lund-Thomsen and Nadvi (2010b), Lund-Thomsen (2013), and Lund-Thomsen (2013).

Cluster research also indicates that alongside agglomeration economies, clustered firms can engage in various forms of co-operation and collective action. Such gains can enhance competitive advantages, through the setting up of marketing consortia, research and development and the upgrading of local skills and technological capabilities. But ensuring collective action can succeed in an environment where clustered SMEs are also in close competition with each other requires complex mechanisms of institutional support as well as socially embedded norms of trust (Humphrey and Schmitz 2002; Nadvi 1999c). Local clustered institutions, such as formal business associations as well as informal social practices can alongside public agencies help clustered firms to effectively and simultaneously compete and co-operate (Nadvi 1999d).

Local clusters also connect to global markets through a variety of trade linkages, through intermediary traders as well as with global buyers and global lead firms that provide access to global markets (Schmitz and Knorringa 2000). The literature on clusters and GVC linkages offers extensive illustrations of this (Schmitz 2004; Nadvi and Halder 2005). The GVC framework provides a heuristic model to understand how global production is undertaken by various independent and geographically dispersed actors who collectively turn raw materials into finished goods and services that can be traded in distant markets. Central to the GVC model is the role of 'lead firms' who organised and structure and thus effectively govern the ties within the value chain: determining who does what, where and at what price. Much of the recent literature on GVCs has been concerned with two inter-connected issues. First, how do firms within the chain upgrade, take on higher value added activities, and effectively capture the rents that accrue from this (Humphrey and Schmitz 2002; Kaplinsky 2005). The second is what determines the governance of the chain itself (Gereffi et al. 2005; Ponte and Gibbon 2005; Ponte and Sturgeon 2014). Gereffi et al. (2005) have argued that the governance of chain ties is rooted in the attempt by lead firms to minimise transaction costs in their supplier linkages. Thus faced with the opposite options of pure market based transactions at one end and a hierarchical firm structure at the other, lead firms in value chains have opted for distinct forms of network relationships. The nature of these network ties being determined by the capabilities of the supplier, the complexity of the transaction, and the extent to which the transaction can be easily codified. This framework has been used to show how local clustered producers can be integrated into global value chains with differing levels of power asymmetry between clustered suppliers and global lead firms. This framework has, however, been critiqued on the grounds that it is both static and that it fails to recognise that in the multi-scalar contexts in which most GVC ties are organised there may be more than one given governance arrangement in place (Coe et al. 2008). Recent work by Ponte and Sturgeon (2014) provides scope for considering a multi-polar governance agenda.

These recent interventions are significant for considering the ways in which local clusters insert themselves into GVCs. The interaction, as well as tension, between local, cluster-based, governance and different levers of global, GVC, governance has been highlighted within the literature as important for understanding how local clusters engage, upgrade, and compete in global and local markets (Humphrey and Schmitz 2002, 2004; Messner 2004; Nadvi and Halder 2005; Navas-Aleman 2011).

In the literature on the linkages between local clusters and global value chains (see, for example, Humphrey and Schmitz 2004; Nadvi and Halder 2005) there is a tendency to address, albeit unevenly, two distinct aspects of governance. First, the 'global' governance within the GVC as exercised by the global lead firms who co-ordinate the chains, and by virtue also extract the most significant rents from it (Kaplinsky 2005). One aspect of this global governance is the increasing importance of the trade rules that pertain to quality assurance, health and safety, environmental, and labour compliance concerns (Bartley 2003, 2007; Nadvi and Waltring 2004; Nadvi 2008; O'Rourke 2003; Henson and Humphrey 2010). Such 'rules' are at times publicly enforced through regional and national regulatory measures (such as European Union directives on food safety, or waste disposal, for example). In some cases, such 'rules' are privately set and assessed, through company specific codes of conducts, or sectoral codes and standards formulated by multi-stakeholder initiatives that bring together corporate and non-governmental organisations (NGOs), and yet have equally significant implications where they become 'de facto' if not 'de jure' norms that define and restrict market access. Where compliance concerns with such public and private rules are especially acute global governance pressures within the chain can lead to more tightly defined relationships with clustered producers, requiring more effective and at times independent monitoring to ensure that rules are met.

The second aspect of governance in cluster-GVC linkages is the role of local institutions and local governance processes. This, however, is relatively less well understood. There is some research that explores local cluster governance through an investigation of the role of local business associations and other support institutions and the ways in which they help clustered firms to collectively enforce rules (Nadvi 1999d, 2004). But local governance is much more than the formal institutions that form part of the cluster landscape. As Hess (2004), and others, argue regional firm agglomerations are socially embedded within a particular milieu. This generates norms and values of trust and 'good' business behaviour and culture. There are a few studies that investigate non-formal forms of local governance, including an analysis of trust linkages and social networks within local clusters (Battaglia et al. 2010; Laha 2014; Nadvi 1999c) and its implications for labour agency (Lund-Thomsen 2013). Such local values can also sharply differ, and potentially challenge, globally defined normative perspectives on CSR (Khan and Lund-Thomsen 2011).

At the same time, national and regional policy frameworks also impact on, and shape, local cluster governance, especially on areas where rule making and enforcement on social compliance concerns are involved. It is this aspect of the institutional context, we argue, that is often neglected in much of the cluster and GVC literatures. Although many writers (including early work by Gereffi (1999) as well as by Messner (2004)) make note of the importance of the institutional context and the nature of local, regional, national and global policy frameworks, this is an area that is often overlooked in empirical cluster research. Similarly, the cognate GPN framework, which in many ways is conceptually more complex, also recognises the significance of the national and local regulatory environment (Henderson et al. 2002). Yet, as recent contributions have indicated (Smith 2014) even in the multi-scalar GPN framework, which not only addresses the issue of power within vertical chain ties but also gives equal cognisance to the horizontal linkages (and actors and processes) at each distinct spatial node of the chain and how they impact on chain dynamics, the role of public policy and the state tends to be somewhat neglected.

Neilson and Pritchard (2009) in their highly influential study of tea plantations in south India have emphasised the importance of the institutional environment in shaping GVC dynamics within the tea sector, and its consequences for labour. By drawing on work from new institutional economics (in particular from Williamson and North) they show how an institutionally rich understanding can be brought to traditional GVC analysis. In essence, such an approach effectively integrates the vertical focus on chain governance that underlies the GVC approach with the institutionally richer analysis offered by the GPN approach and the equal footing that this provides to the horizontal planes or nodes at which vertical GVC linkages are located. Yet, the institutional dimension still remains a gap within cluster studies.[3]

[3] More recently Pyke and Lund-Thomsen (2014) have taken a first step in this regard by seeking to provide an institutional dimension to an understanding of the dynamics of the Sialkot sports goods sector. Yet, as their work indicates, there is clearly a great deal of further unpackaging needed to understand how institutional processes, actors and drivers influence local cluster outcomes.

Our argument in this paper is simple. In seeking to understand how clustered firms in the Rising Powers engage with corporate social responsibility (CSR) concerns, we posit that this requires an interrogation of local cluster dynamics and local cluster governance, global value chain dynamics and GVC governance *and* an understanding of the ways in which the national policy framework shapes the public rules as well as the private norms that apply to social compliance issues. How local clustered firms, for example, meet labour and environmental standards is thus a complex function of local attitudes and values with regards to these concerns, national and international regulations on, and enforcement of, labour and environmental norms as well as the pressures on CSR issues that permeate down the value chain. This, we argue, requires, inter alia, a greater understanding and awareness of the nature of the local and national 'social contract' within which each individual cluster is situated. Such a social contract includes the formal and informal institutional arrangements, rules and norms in a society, and refers among others to historically and culturally shaped expectations concerning (minimally) acceptable social and environmental behaviour by various actors (Boucher and Kelly 2003, Donaldson and Dunfee 1994). Moreover, societies differ in how they assign primary and secondary responsibility in upholding and monitoring their social contracts to government, business and civil society organisations. These 'divisions of tasks' are, however, not fixed. Cragg, for example, has argued that the division of responsibilities between government and business in the Western world on protecting human rights has changed in recent decades (Cragg 2000). We will show how differences in the social contracts of China, Brazil and India help us to better understand different attitudes towards CSR and distinct compliance practices in clusters in these three Rising Powers.

In the next section we investigate these arguments in greater detail, documenting not only the wide presence of clusters in China, Brazil and India, and the cluster development policy frameworks that have helped to shape these, but also critically how the nature of the national 'social contract' on labour and environmental concerns is likely to affect the overall dynamics of local clusters in these countries.

Rising Power Clusters, Institutional Frameworks and the 'Social Contract' on Labour and Environmental Concerns

This section seeks to map the presence of SME clusters in Brazil, China and India. As we state at the outset, one under-emphasised aspect of the international competitiveness of these distinct emerging economies is the significance and importance of SME clusters within them, and the role that they play in fostering industrial development and trade. Clusters, we argue, are key to the economic and trade dynamism observed in each of these Rising Powers. Further underlying this we show how policy frameworks have explicitly sought to promote cluster development strategies in two out of these three countries. Next, in light of our interests in how Rising Power clusters engage with local and global standards relating to social responsibility concerns, we look at the main drivers of compliance. Finally, we outline the distinct social contracts that apply in Brazil, China and India. We argue that while engagement with standards partly differs by sector and by case as illustrated in the case study literature, we also see more structural differences in engagement with standards between these three countries that can be traced back to their different 'social contracts'.

We start to discuss India, where the social contract contains the lowest internal pressures towards compliance with social standards, and where most clusters focus on cut throat price competitive markets in which standards are less important. China provides the in-between case, while firms in Brazilian clusters are most familiar with actually implemented public regulations and private compliance expectations.

India

Clusters abound in India, both in a wide variety of industrial, artisanal and agro-processing activities. Any trader and most consumers in India can tell you that the better shoes, locks, sarees, textiles, jewellery, pottery, etc. originate from specific cities or regions. According to the Indian cluster observatory website (www.clusterobservatory.in) there are more than 1,000 industrial clusters and over 6,000 micro-enterprise clusters. These together are said to account for 45 % of total manufacturing production, 50 % of total exports and 90 % of all enterprises in India. As a phenomenon, clustering dominates the landscape for Indian micro, small and medium enterprises (MSMEs), with over 80 % of all MSMEs operating in spatially and sectorally defined cluster settings, and over 90 % of MSME exports originating from clusters. Clusters are also highly diverse in India, from microenterprise based rural clusters, rural and urban artisanal clusters, urban and peri-urban industrial clusters, services clusters especially around the informational technology sector, and finally hub and spoke clusters that operate around large enterprises (FMC 2007).

Clustering in India has been well studied in the academic literature (see, for example, the edited volumes by Holmstrom and Cadene 1998; and Das 2005). Many of these case studies marvel about the resilience of artisanal clusters in a modernizing and increasingly globalizing economy. While some emphasize more their competitive dynamics, others stress the embeddedness of traditional skills and the challenges of upgrading these clusters. A number of authors explore the export competitiveness of Indian clusters (see, for example, Knorringa 1999; Tewari 1999).

While clusters are not only widespread and have a long history in the Indian context, institutional support for cluster promotion is a relatively recent experience. The Abid Hussain Committee in 1997 provided the first official documentation on the extent of clustering and the need for a focused policy framework targeted at clustered enterprises (Hussain 1997). The leading cluster development programme within India at the time was that initiated by the United Nations Industrial Development Organisation (UNIDO) in 1995 (Ceglie et al. 1999). This programme initially focused its efforts on identifying and intervening in a small number of pilot industrial clusters with the aim of promoting networking and collaboration between clustered firms to encourage technological upgrading and improved marketing that could effectively strengthen the national and international competitiveness of these clusters (Russo et al. 2000). By 2003, the UNIDO programme broadened its scope to include interventions that aimed primarily to promote poverty alleviation in rural, peri-urban and artisanal clusters. A cluster development strategy was designed and implemented by UNIDO for the state of Orissa, one of the poorest states in the Indian Union, and targeted at a range of low-income artisanal clusters. Towards the end of its programme the UNIDO initiative focused on two specific aims. First, to mainstream the cluster development strategy within Indian industrial and SME development programmes. Second, to initiate an agenda on clusters and corporate social responsibility (FMC 2007; Gulati 2012).

On mainstreaming, the UNIDO programme was incredibly successful. It was able to convince key government agencies on the potential benefits in terms of economic, export, employment and incomes growth to be had from targeted cluster development programmes (CDP). The national Ministry of Micro, Small and Medium Enterprises (formerly the Ministry of Small Scale Industry) started with a budget of INR 7 billion (approximately US$ 130 million) allocated to 24 CDPs to be completed by 2006, with cluster promotion interventions taking place in over 1,300 clusters (FMC 2007). The primary objective in these programmes was to strengthen infrastructure within clusters, and a variety of national and state-level public and private bodies were identified through which CDPs were to be administered. The Government of India's subsequent 11th Five Year Plan (2007–2012) earmarked INR 45 billion (approximately US$ 830 million) to cluster development during the plan period while the 12th Plan

(2012–2017) raised the overall budget for cluster development strategies to US$ 2.5 billion (Planning Commission Government of India 2013).

Cluster promotion strategies have involved a number of federal level ministries (Ministry of MSMEs, Ministry of Textiles, and Ministry of Commerce and Industry), state-level governments (including the governments of Orissa, Gujarat, Kerala, Rajasthan, Madhya Pradesh and West Bengal) and various parastatal agencies (including the State Bank of India, the Small Industries Development Bank of India, and the National Bank for Agricultural and Rural Development) (FMC 2007). Cluster promotion activities have focused on a range of areas, including the development of networks to undertake bulk purchasing of inputs (such as in the Bangalore machine tools cluster, the Alleppy coir cluster, the Chanderi silk weaving cluster, the Rajkot engineering cluster), the development of market linkages through bulk tendering (such as in the Rajkot engineering cluster), common market outlets (as in the Ludhiana garment cluster) and the promotion of trade fairs (as in the Jaipur handblock textiles cluster). A number of CDPs have targeted technological upgrading and knowledge dissemination, such as design development (in the Jaipur handblock textiles and Chanderi handloom silk textiles cluster), promotion of quality systems (as in the Pune food cluster, the Tiruppur garment cluster) and common training facilities (for example in the Jalandhar cluster). Finally, infrastructure development and infrastructure facilities have been central to CDPs focusing on the tannery clusters in Tamil Nadu (through the development of common effluent treatment plants), the Pune food cluster (through the building of research and development facilities) and the Bangalore machine tools cluster (through the common design facility) (FMC 2007).

In ‘pro-poor’ interventions aimed primarily at rural and artisanal clusters there has been a focus on the use of micro-credit interventions, targeting of poor and vulnerable workers and communities, the linking of health and education to local entrepreneurship, the promotion of local self-help groups (SHGs), and the training of women workers (as seen, for example, in the UNIDO programme in the Chanderi silk handloom cluster, the Orissa cluster programmes, and the work of the Apparel Exporters Association in the Ludhiana cluster) (Ray and Sarkar 2007). Finally, a few initiatives have sought to focus on the promotion of corporate social responsibility concerns, especially with respect to labour and environmental considerations. One of the most significant of these has been the interventions undertaken in the Jalandhar football cluster (see Lund-Thomsen and Nadvi 2010b; Khara and Lund-Thomsen 2012).

Our aim in this paper is not to assess the effectiveness of the policy interventions on cluster development initiated by UNIDO and then subsequently by various Indian public agencies. This is clearly a key area for future research and policy given the emphasis, and the budgets, being placed on cluster development initiatives in India. Instead, what we have sought to do here is to provide a sense of the wider institutional policy framework that has been constructed to promote growth and competitiveness of Indian MSME clusters. We turn now to reviewing how the Indian experience on clusters, and cluster policy, has to be seen within a wider understanding of the ways in which the ‘social contract’ in Indian policy has been shaped.

While many of these clusters have been long-standing and successful exporters, by far most of them focus on relatively low quality markets, and specialize in relatively smaller and flexible orders for more labour-intensive varieties of traditional products. In many global value chains Indian suppliers are seen as, and identify themselves, as ‘job-workers’, firms with little ambition towards functional upgrading in the future but more interested in making a margin today. This attitude among entrepreneurs can at least partly be traced back to the traditional caste-based division of tasks in many of these sectors, with a chasm between traders as entrepreneurs and artisans as workers. For example in the Agra footwear cluster, ‘traders are predominantly forward caste Hindus, …, Sikhs and some well-to-do Muslims.’ (Knorringa, 1999, p. 1591). In turn, ‘footwear workers are predominantly Jatavs, a sub-group of the Chamars, …, who are found close to the bottom of the caste hierarchy.’ (ibid).

Production in many Indian clusters often takes place either in home-based units run by artisans with mainly family labour, or in workshops run by white-collar trader-entrepreneurs who usually pay piece rates and often sub-contract labour recruitment to some master-artisans (Mezzadri 2014a, b). In such working environments labour conditions cannot be gauged through an assessment of formal labour contracts. Moreover, what in a ‘Western consumer’ perspective would be seen as ‘child labour’, is at local level identified as an ‘apprenticeship system’, which allows young boys to learn the ‘tricks of the (caste-based) trade’, often on a part-time basis. The absence of formal contracts does not imply that workers are an anonymous mass. Instead, intricate relations of obligation, debt and patronage exist, but within a broader context of highly exploitative labour relations. Volatility is a key characteristic in the seasonal production patterns of most clusters, and the dominant piece-rate system effectively passes on this instability to workers (Mezzadri 2014a). While workers may have the upper hand in a few peak-season weeks every year, a labour surplus characterizes most clusters for the main part of the year. Most trader-entrepreneurs simply see labour as a cost, not a potential asset, and investing in the quality of the labour force is virtually unheard of in these more traditional sectors. Only a very limited number of relatively larger export-oriented firms in high-profile consumer-facing sectors like garments and footwear actually offer labour contracts to workers.

As informality is the norm, an overwhelming majority of workers in Indian clusters are unprotected by public labour legislation and unions seldom achieve effective countervailing power. Moreover, Indian entrepreneurs are experts in manoeuvring around attempts by public private and civic actors to regulate their behaviour. For example, Mezzadri (2014a, b) reports how entrepreneurs in the export-oriented garment industry subcontract the more labour-intensive activities through layers of invisible contractors, thus aiming to thwart effective compliance with standards used by foreign brands. As most Indian clusters tend to focus on producing for lead firms who are less focused on compliance with labour and environmental standards, both domestic and internationally, they do not even need to try to thwart compliance. In effect, most entrepreneurs in Indian clusters face few pressures to comply with social responsibility concerns, neither from their private value chain relationships nor from Indian public agencies. Entrepreneurs may still wish to engage with these responsibility concerns out of their own moral values, but this would imply 'going against the tide' in the predominantly cut-throat price-driven segments in which they operate (see e.g. Das 2005).

Nevertheless, this rather gloomy picture from a social responsibility perspective needs to be qualified on at least three accounts. First, in a large country like India you are likely to find exceptions. One instructive exception is the case of environmental compliance in the leather sector (Kennedy 1999; Tewari and Pillai 2005). Kennedy's study illustrated how civic pressure combined with judicial intervention could bring about collective response to address effluent treatment by tanneries in Tamil Nadu. Tewari and Pillai (2005) show how the Indian leather goods sector adjusted to a German ban on importing leather goods that used PCP and Azo dyes. Because exports to Germany were critically important to the Indian leather goods industry (and vice versa!), producers could not simply move towards alternative market outlets. Moreover, German importers, industry associations, and governmental agencies were keen to assist Indian actors to effectively respond.

This case study from the Indian leather goods industry shows how Indian government agencies (in particular the Ministry of Commerce which saw a major threat to exports), private firms and boundary spanning organizations (key business associations with quasi-governmental status and a research and development (R&D) institute subsidized by the government working on behalf of the industry) entered into a process of 'negotiated' collective action (Tewari and Pillai 2005). Instead of following the dead-end standard approach of trying to force a sprawling network of small-scale tanneries to stop using dyes with these ingredients, the Indian government passed a law to ban the import and production of dyes that contain PCPs or Azo. Even though the chemical companies who produced these dyes initially vigorously contested this ban, it turned the input industry into a *de facto* diffuser of environmental compliance among small-scale tanneries (Tewari and Pillai 2005). This would not have been possible without synergetic interaction between public and private compliance mechanisms. While recent research emphasizes the importance of these types of synergy and the relative ineffectiveness of compliance mechanisms that aim to 'stand on one leg' (Knorringa 2014; Mayer 2014), more longer-term collaboration between public regulators and labour or environmental inspectors on the one hand, and private compliance consultants on the other, is unlikely to occur in India. In effect, this compelling case study (Tewari and Pillai 2005) shows how far fetched such a successful compliance scenario is for most artisanal clusters in India.

Second, many observers in India are enthusiastic about the recent and ambitious implementation of what might become a 'social floor' in the Indian labour market, through the so called Employment Guarantee Act. Initial findings suggest that in regions where these programs have been implemented, the daily wage rate for unskilled labour tends to rise, which makes it a potentially important instrument to raise the effective—be it informal—minimum wage level in India (Basu 2013). Finally, India recently passed a law that obliges larger firms to re-invest 2 % of their turnover in CSR-related activities. It is too early to assess whether this will become a significant driver of more socially responsible investments in India (Gulati 2012).

Notwithstanding these qualifications, we conclude that by and large the rather implicit Indian social contract does not provide clustered entrepreneurs with any incentives to engage with responsibility concerns. In some cases such pressures are exerted through the value chain, but their 'bite' is often blunted by difficult to trace layers of subcontracting. Finally, for clustered entrepreneurs with personal moral incentives to engage with responsibility concerns it is difficult to put this into practice. Most of them compete in cut-throat price-driven market segments without a premium for a higher responsibility profile (see e.g. Khara and Lund-Thomsen 2012).

Brazil

While there are no accurate measures of the numbers of clusters in Brazil, the phenomenon of clustering, known locally within Brazilian policy circles as 'arranjos productivos locais' (APLs- or local productive arrangements), is widespread. One recent study suggests over 2,000 potential cluster regions within the country (Pires et al. 2013) while there are over 260 officially recognised APLs. These include a number of cases that have been documented in the cluster literature, such as the well-known shoe cluster of Sinos Valley (Schmitz 1999; Bazan and Navas-Alemán 2004; Navas-Aleman 2011), the ceramics cluster of Santa Catarina (Meyer-Stamer 1998), the furniture clusters in Rio Grande de Sol and Santa Catarina (Puppim de Oliviera 2008; Navas-Aleman 2011), and the auto and auto components cluster of the Sao Paulo ABC region (Quadros 2004; Lema et al. 2012). In addition to these relatively mature clusters located in relatively more affluent regions of southern Brazil, there are a number of clusters to be found in the more impoverished Northeast states including the fruit clusters in the states of Ceara and Rio Grande de Norte (Gomes 2006), the jeans cluster of Toritama (Almeida 2008), and the organic honey and oil for cosmetics clusters in Piauí and Maranhão states (Puppim de Oliviera and Fortes 2014). Examples of Brazilian clusters extend from agro-processing activities to labour-intensive manufacture, capital-intensive and knowledge-intensive industries as well as in the services sector. Moreover, clustered firms are engaged in developing products and services for export and domestic markets.

The promotion of industrial clusters has been a key plank of Brazil's industrial strategy, with a primary objective of raising employment and incomes especially in poorer regions in the country. As the strategy unfolded, enhancing competitiveness of clustered firms also led to a growing emphasis on firm and cluster upgrading. Thus, in more recent years cluster promotion policies have in large measure addressed firm-level technological upgrading, cluster-level research and development activities including building linkages with universities and research centres, and improving the capabilities of clustered firms and workers through training programmes. The key agencies implementing these cluster development activities are the Brazilian Support Service for Micro and Small Enterprises (better known as SEBRAE) and the National Service for Industrial Training (SENAI). SEBRAE employs more than 4,000 employees and over 9,000 consultants distributed between the headquarters and 27 state-level centres who deliver services to SMEs through 750 points of service delivery. SENAI runs a large network of vocational training, technical education, and innovation of industrial technologies initiatives. These institutional interventions have a long history. SENAI, for example, was founded in 1942. It has over 780 operations unit, including 323 mobile units, with many located in and undertaking specific training functions for designated clusters.

Brazil is known for its relatively strong labour and environmental regulations (Posthuma and Bignami 2014). Yet, the Brazilian experience on the engagement of local clusters with national social and environmental considerations is mixed. Tendler (2002) made a very powerful observation when she noted that in order to 'protect' relatively weak and under-resourced SMEs Brazilian politicians and government regulators would take a more lax approach on the enforcement of labour, environmental and social regulations for clustered firms. This 'devil's deal' as she coined it was seen as one way to promote small producers in relatively backward regions.

Brazilian clusters have faced pressures on labour and environmental norms. What distinguishes the Brazilian experience is that while such pressures may emanate from global buyers down the value chains to local clustered suppliers,[4] equally and in some cases more significant has been the driver of domestic regulations and their enforcement. As Puppim de Oliviera (2008) notes the literature on clusters in developing countries rarely takes note of the significance of national regulations on labour and the environment, and its consequences for promoting social upgrading.

Almeida's study on how the Toritama jeans cluster in Northeastern Brazil addressed environmental pollution and improved working conditions illustrates how critical local regulation and local public enforcement can be to environmental and social upgrading within clusters. According to Almeida (2008, p. 111) the Toritama cluster of 2,000 firms contributed 15 % of Brazil's total blue jeans production. The washing and chemical processing of jeans required high levels of water consumption (in excess of 21 million gallons a month) and resulted in substantial levels of polluted effluent discharge (twelve times the level permitted under Brazilian environmental regulations). The cluster's laundry practices not only undermined the water quality of the region but also led to very poor working conditions, and meant high costs to firms in terms of their need for scarce water that had to be transported to the cluster. Almeida' study illustrated how key private and public actors within the cluster responded to these challenges. Firms realised the economic benefits to be had in developing low cost technologies that not only reduced pollution but also reduced water consumption costs for firms by relying on recycled water. The public attorney's office, along with the state environment and water resources agency, was able to initiate a dialogue with the jeans laundries in the cluster to implement environmental

[4] As in the furniture clusters of Rio Grande de Sol and Santa Catarina where pressures to meet ISO 14000 and Forestry Stewardship Council (FSC) standards on sustainable wood primarily came from European Union buyers according to Puppim de Oliviera (2008).

and labour upgrading strategies with support from SEBRAE and other public agencies. The 'stick' of public enforcement (closure of laundries and the imposition of fines and other legal and judicial procedures) was combined with the 'carrot' of subsidies to undertake environmental and social upgrading and the associated costs reductions in water use (Almeida 2008).

Almeida's case study is not unique in Brazil. The recent study by Posthuma and Bignami (2014) underlines the ways in public and private actors are able to come together to address regulatory gaps and thus improve working conditions. Drawing on the experience of the Sâo Paulo garment sector they illustrate how a private industry body, the Brazilian Association of Apparel Retailers (ABVTEX), was able to formulate a CSR initiative that sought to work with the public labour inspectorate regime to enforce labour standards down the garment value chain.

Labour regulation and enforcement in Brazil is notably strong (Locke 2013). Pires's (2008) study on the labour inspectorate regime in Brazil shows how labour inspectors work with local firms, including clustered SMEs and farms, to address the root causes behind non-compliance and thus not only seek to implement Brazil's strict labour codes but also to enhance the competitiveness of firms. As Pires (2008, p. 225) notes, this experience points to a very different regime of enforcement wherein a combination of 'sanction with assistance' is more likely to lead to sustainable outcomes. These observations are further borne out in Coslovsky's (2014) recent study which illustrates how Brazil's labour inspection regime works to enhance labour outcomes as well as returns to firms. According to Coslovsky (2008, p. 194) Brazil's 3,000 labour inspectors on aggregate undertake inspections that cover 22 million workers a year (approximately one-fifth of the national labour force). Alongside the labour inspectors are up to 10,000 labour prosecutors, an array of specialist labour lawyers and a separate arm of the judicial system purely focused on enforcing the various aspects of the labour legislation. Drawing on evidence from four different sector case studies, namely sugarcane harvesting in Sao Paulo state, temporary agricultural workers in Parana state, and the clusters of firework manufacturers in Minas Gerais and charcoal producers (used for pig iron smelting) from Eastern Amazonia, Coslovsky (2014) shows how the public labour regulatory regime effectively led to improved outcomes for workers, such as through reduced incidences of accidents and better occupational health and safety standards (particularly noticeable in firework production), improved working conditions, higher levels of formalisation of the labour force (especially pronounced in sugarcane harvesting), and substantial reduction in the extent of servitude for workers in some of the sectors (such as in charcoal production). What is also apparent from a number of these cases was how the public inspectorate regime, combined the 'stick' of judicial enforcement with changes to the structure of the industry leading to closer ties between charcoal producers and pig iron smelters, or between sugarcane farms and the contract labour force used for harvesting. These closer relationships have resulted in wider changes in commercial practices, including increasing mechanisation in some sectors (such as sugarcane harvesting), improved quality outcomes through preferred user-producer ties (as in the case of the charcoal cluster) and enhanced national quality and safety standards (as in the case of the fireworks sector which also helped the sector to compete against lower quality Chinese imports).

The recent Brazilian experience suggests that what Tendler earlier termed as the 'devil's deal' between lax enforcement of public regulations on labour and the environment and the needs for SME clusters to be 'protected' has now moved towards a more positive outcome. Threats of judicial sanction have combined with various forms of public assistance to bring about outcomes for labour and the environment across a number of sectors where clusters dominate, as well as enhance the capacity of clustered firms to upgrade and compete in national and domestic markets. This is not to suggest that there is a completely virtuous cycle in Brazil, but rather that the dominant 'social contract' in Brazil provides many more in-built pressures towards socially responsible behaviour from that seen in India.

The engagement between the private sector and the state around issues of corporate social responsibility is pronounced in Brazil. Brazilian private capital has worked closely with state institutions and labour bodies in taking on board a number of international initiatives on CSR. This includes, for example, the Global Reporting Initiative (GRI) and the UN Global Compact (UNGC). There are also a number of sector specific initiatives such as ABVTEX's formulation of a domestic CSR code for the garment industry (Posthuma and Bignami 2014) and the role of the Brazilian sugarcane industry association in addressing 'slave labour' conditions in Brazilian sugarcane cultivate and in helping to formulate the international multi-stakeholder initiative (Bonsucro) seeking to improve sustainability goals in the global sugar industry code (author interviews, Sâo Paulo, April 2014). Possible the most significant example of private and public engagement around CSR is the Brazil's role as Chair and Secretariat of the technical commission in the International Standards Organisation (ISO) that defined the international ISO 26000 standards on social compliance (Pena 2014).

Within Brazil, firms do complain about the costs associated with meeting Brazil's labour and environmental codes and regulatory regimes (Coslovsky 2014). This is locally often termed as the 'Brazil cost', and a factor that can hamper the international competitiveness of Brazilian producers against other lower costs and more weakly regulated producers in the developing world. However, the evidence from Brazil on CSR engagement, suggests that despite the anxiety expressed on high regulatory costs, there is it appears a wider consensus between the state, civil society actors and key elements of private capital within Brazil that such labour and environmental norms, and their enforcement, are in the long term for the good (Posthuma and Bignami 2014).

China

China's industrial development experience, and overall dynamism, is both remarkably different from and sharply distinctive to that seen in India and Brazil. In terms of trade and industrial growth, China represents a different scale and order of magnitude. Moreover, this has been achieved over a much shorter period. China's transition from a global political superpower to becoming *the* rising global economic power began in 1980 when the first of the Special Economic Zones (SEZs), in Shenzhen, Zhuhai and Shanton (Guangdong province) and Xiamen (Fujian province), along the coastal belt, were opened up to foreign investment and private capital (Ge 1999). The initial platform for industrial and export growth was the city of Shenzhen, on the border of Hong Kong, which grew in terms of economic output at a phenomenal pace, 58 % per year between 1980 and 1984 (Zeng 2011, p. 9), attracting foreign direct investment particularly from Hong Kong and Taiwan and migrant workers from other regions of China. Shenzhen was soon followed by other major urban areas in Guangdong province, and then by the greater Shanghai region and the neighbouring provinces of Jiangsu and Zhejiang, being opened up as SEZs or as designated Economic and Technological Development Zones (ETDZs) and Export Processing Zones (EPZs).

It is hard to gauge the exact numbers of clusters in China. But the scale of clustering is substantial, its overall impact on China's economic and export growth huge (Zeng 2011). Many of China's leading industrial clusters have emerged out of the SEZs. These include: the electronics and information and communication technology cluster of Shenzhen and the electronics and biotech cluster of Pudong, Shanghai (ibid.). Some clusters are heavily dominated by foreign direct investment—the most notable being the electronics and computing cluster of Kunshan on the outskirts of Shanghai which is in large measure a cluster of Taiwanese firms that migrated from Taiwan to obtain lower wage cost advantages. Similar patterns of foreign direct investment driven clusters can be seen in other parts of Guangdong province (most notably in the city of Dongguan) and the wider Pearl River delta region (Enright et al. 2005).

Most Chinese clusters, however, have strong local roots. Such clusters tend to be dominated by SMEs and usually draw on a long standing tradition of local manufacturing skills, specialised capabilities and tacit artisanal knowledge, a history that often predates the Communist era. Many of the small and medium sized private firms that dominate these clusters have emerged out of town and village enterprises (TVE). The main concentrations of clusters are nevertheless along the coastal belt, and in regions that are well connected in terms of logistics, and domestic and export markets. These include the provinces of Zhejiang, Fujian, Jiangsu and Guangdong. A number of towns have emerged as leading centres of sector specialised production. For example, Qiaotou, Zhejiang province, a small town of 65,000, accounts for 60 % of world production of buttons with 500 factories generating a total output of nearly US$ 1 billion (Dinh et al. 2013, pp. 243–246). Yangzhou, Zhejiang province with a population of 36,000 is the toothbrush capital of China where 80 firms generated output of US$ 1.5 billion in 2009, and accounted for 35 % of the global market, and 90 % of the Chinese market (ibid: 261). Datang, again in Zhejiang province, is the world's centre for sock production with over 5,000 firms (Zeng 2011). Haining, Zhejiang province has 400 warp knit factories with over US 1.1 billion of output of warp fabrics (Dinh et al. 2013, p. 236). Dieshiqiao, Haimen, Jiangsu province is the leading centre for home textiles manufacture in China—for both domestic and export markets (ibid.). And, according to Zeng (2011), the 228 clusters in Guangdong province together accounted for 25 % of the provincial gross domestic product (GDP).

There is no explicit policy framework for cluster development in China. However, while the central government has determined the planning framework behind the SEZs, the ETDZs and the new Hi-Tech Industrial Development Zones (HIDZ) from which many clusters have emerged; the key policy actor for most clusters is local government. City and municipal administrations have been particularly influential in assisting local SME clusters, especially through fiscal incentives, infrastructure development, marketing linkages and via targeted support from R&D and training institutions. City and municipal level governments also link closely to provincial government institutions in supporting local industrial strategies.

Chinese firms' engagement with corporate codes of conduct has been closely studied, illustrating that such private measures often fail to improve working conditions (Sum and Pun 2005; Yu 2008) More recently there is evidence that Chinese firms engaged in GVC ties can and do engage more positively with CSR concerns (Egels-Zandén 2014). It is also clear that environmental considerations are increasingly becoming part of the Chinese industrial regulatory framework (Brandi 2014). There is a growing emphasis placed by national, provincial, and local governments to reduce environmental impacts, improve water and air qualities as well as promote green economy initiatives. Moreover, the labour regulations framework, including the labour contracts law of 2008 and the minimum wage legislation is being more actively used by the state, at various levels, to address issues in the labour market (Chan 2010) and drive geographical shifts in some labour industries away from relatively higher waged and better regulated regions along the southern coast to regions with lower wages and relatively more lax regulatory enforcement (Zhu and Pickles 2014). These developments help to shape our understanding of the institutional landscape within which Chinese clusters operate and the nature of the consequent social contract that applies.

Chinese manufacturing firms have been challenged over a number of years for their poor working conditions, their excessive reliance on long working hours and the nature of control exercised over dormitory based migrant workers (Chan 2010). Migrant workers, with limited citizenship (*hukou*) rights at their places of work, provide a labour regime in China that is associated with high levels of labour exploitation. Workers often work 10–12 hours a day (albeit 2–4 of these hours would be on an overtime basis) for 6 days a week. In many sectors pay is predominantly based on piece-rated production. Workers have limited representation and collective bargaining rights with factory unions usually being led by management nominated officials. The national-level trade union, the All-China Federation of Trade Unions (ACFTU) is a direct arm of the state and the Party (Chan and Hui 2014).

Consequently, many leading Western global brands have required their Chinese suppliers to conform to their specific codes of conduct. The compliance practices around such private codes, and their wider implications for workers and workers' outcomes, have been substantially challenged by various authors, with documented evidence of labour abuse, poor working conditions and the control of workers that arise from the dormitory labour system (Chan 2003; Pun 2005; Sum and Pun 2005; Pun and Smith 2007; Chan 2010). While independent collective bargaining rights remain restricted in China, workers do exercise agency. The most obvious is through high levels of labour turnover, especially at the time of the annual Chinese new year holidays. At the extreme, there are now numerous cases of worker agitation and protest, including organised and wildcat strikes and at its most poignant form a number of cases of workers' suicides (Chan and Hui 2014).

In recent years, the Chinese state has sought to respond to growing labour, and environmental, concerns through a variety of public regulatory initiatives. These have included the Labour Contract Law of 2008, the minimum wage legislation, social insurance legislation and a range of environmental measures (Brandi 2014; Chan 2010; Chan and Zhai 2013). There are also debates, and in some cases shifts in local policy, around extending some *hukou* (local citizenship) rights to migrant workers. One consequence of this has been the annual increases in minimum wages in much of the coastal regions, with minimum wages in Shenzhen rising by around 10 % a year over the past decade. There has also been a greater public investment with enhancing the standards regime in China, improving particularly standards related to quality assurance, food safety, and environmental impacts as well as a greater emphasis on investing in product standards. These moves within the regulatory environment are given shape by national government, and implemented by provincial and local governments. However, China's devolved administrative structures have meant that public regulatory interventions, and their effective enforcement, are regionally uneven. Some of the most significant interventions are observed in the more developed coastal provinces. A key aspect of this is that in some regions, and clusters, local minimum wage legislations, enforcement of the contract labour laws and social insurance provisioning, as well as pressures around enforcement of environmental regulations, is resulting in both industrial upgrading as well as shifts in the geographies of production (Zhu and Pickles 2014).

China, therefore, presents a much more complex landscape in some ways then that seen in Brazil or India. SME clustering is not only extensive it is also a significant element behind China's phenomenal record of industrial competitiveness. At the same time, while there is no clear and explicit national policy framework focusing solely on SME clusters, unlike the earlier initiatives around SEZs, there is substantial local government support to local industrial clusters, especially through infrastructure and R&D investments. It is also apparent, that there is an emergent 'social contract' being discussed and shaped in China particularly on environmental but also on labour issues. This is not as clearly marked as we observe in Brazil, yet in terms of public policy it appears far more substantial in terms of its overall impact as compared with India.

Shaping a New Research Agenda on Rising Power Clusters and Labour and Environmental Standards

The importance of both the global value chain and local cluster dynamics in explaining the attention given to labour and environmental standards has already been highlighted in the literature on this topic. In this paper we aim to add another dimension: an understanding of the ways in which the national policy framework shapes the public rules as well as the private norms among local clustered entrepreneurs that apply to compliance with labour and environmental standards. We argue that we also need a better understanding of the nature of the local and national 'social contract' within which each cluster and entrepreneur is situated. Moreover, these processes interact. Private standards pushed down through the value chain 'touch down' (Helmsing and Vellema 2011) on more 'fertile ground' when public regulation is more effective and when local entrepreneurs are more receptive to responsibility pressures.

While both the small firm cluster and the CSR/standards literature are booming, the overlap is as yet rather limited. The reason for that seems obvious: small firm clusters are not seen as pro-active but as passive secondary actors—followers, implementers—of new ways of thinking around CSR and standards that originate at higher levels of the value chain, among lead firms, NGOs and consumers. Small firm clusters are seen as the 'cheap workshops of the world', a least likely suspect for researchers interested in the dynamics around environment and labour standards. But this may be a too simplistic way of looking at the role of clusters, in particular those in the Rising Powers, for several reasons.

First, we have tried to argue the existence of significant differences in the 'social contracts' in India, Brazil and China, and that these at least partly set the boundary conditions for cluster actors. Therefore, next to a continued focus on how lead firms selectively push for standards' compliance, future research should connect this focus with more explicit attention for the extent to which national and regional policy frameworks, public regulation and its implementation differ. This can help us to identify under which 'social contract' the interaction between private and public governance on standards is more likely to lead to virtuous enforcement cycles.

Second, entrepreneurs in Rising Power clusters may well have their own—indigenous—traditions of CSR, which are more implicit and are not well recognized in the 'Anglo-Saxon' business literature. The little research on these indigenous traditions tends to focus on responsible behaviour among entrepreneurs and with other value chain actors, and may well include 'enlightened' patron-client relationships with workers. Such relationships may defacto reduce insecurity for workers, but cannot withstand the scrutiny of formalised labour standards given their high levels of dependence of workers on their employer.

A future research agenda could develop some hypotheses and questions to make sure that we 'see' these more localised forms of CSR, to avoid getting 'locked-in' to only seeing 'western' 'formalised' standards. It would be important to create space to be able to follow up whether these more localised indigenous forms of CSR play a role (enabling/disabling) in clusters being able/willing to conform to standards from outside, and/or are more likely to experiment with their 'own' standards. In other words, is a more extensive 'invisible' indigenous tradition a useful 'training ground' for formalised social standard implementation and commitment, or are these so different that an indigenous tradition may actually make it more difficult to implement formalised standards? This also connects to the debate between certification as 'ticking the boxes' versus a commitment approach (Lund-Thomsen and Lindgreen 2014). Our hypothesis is that an indigenous tradition is a more likely stepping stone for a commitment approach, while it may hamper a 'ticking the boxes' approach.

Third, Rising Power clusters actually do not always consist of only small firms, and therefore do not always fit the conventional 'developing country' cluster perception. Perhaps especially in China quite some clusters seem to propel forward new lead firms, or at least firms that become major first-tier suppliers that also become at least partly responsible for standards implementation. Therefore, future research on Rising Power clusters related to standards requires very careful sampling procedures that take into account size distributions of firms, cluster structures, but also the extent to which firms have experience and capabilities in handling labour and environmental standards through a 'ticking the boxes' modality or a more commitment focused approach with longer-term value chain relationships, or both.

Fourth, many Rising Power clusters seem to operate in both international and domestic markets, and are more likely to acquire more lead firm characteristics in the rapidly expanding domestic middle class markets. If and when they perceive market opportunities for labour and environmental standards attached to premium domestic market segments, they could in principle quite easily apply their acquired know how from working along labour and environmental standards in their export channels. A key question would then be: when do domestic upmarket retailers in the Rising Powers, together with lead firms, see a need or an opportunity to attach a labour and/or environmental standard to products they produce for domestic markets. Of course, not all production for export markets uses social and/or environmental standards, but by and large the more mature firms in the more competitive small firm clusters do have capabilities and experience with social standards. Future research could follow through the main value chain connections from these Rising Power clusters to the wholesalers/retailers for domestic middle class consumers, to investigate to what extent a demand for social standards seems to be 'in the air', and which actors are the more likely ones to spearhead an initiative to develop and implement a labour or environmental standard in the domestic market. This would also require a focus on other actors that can influence the perceived need/opportunity for standards in the (premium) domestic market, like consumer awareness and labour activists and NGOs, trade unions, and politicians.

In operationalizing a research agenda on clusters and standards three other characteristics of especially larger and more heterogeneous clusters need to be taken into account. First, vertical subcontracting relationships in clusters often make it very difficult to assess whether standards are really fully implemented, or whether a part of the production process takes place outside the main first-tier factory and escapes standards implementation. Researchers need sharp local 'eyes' and 'ears' to make sure they can be confident about their assessment of the extent to which informal subcontracting is used to side-step certification costs. Second, different sub-segments of firms may live within their own 'silos' and that makes it difficult if not simply incorrect to talk about these clusters as following one strategy towards, for example, dealing with standards. Clusters have different levels of homogeneity/heterogeneity in terms of the type of market segments they serve, quality and technology levels, type of firms, and more heterogeneous clusters may find it more difficult to develop more coherent responses to standards challenges. For example, more heterogeneous clusters will find it more difficult to 'brand' their cluster with buyers to represent a specific (high) quality level in production and standards compliance. Future research on the interface of cluster and standards thus needs to establish in advance the relative homogeneity/heterogeneity of the studied clusters. Finally, next to the direct value chain actors, cluster-level business associations, local government agencies, local offices of national ministries like trade and industry, local unions and NGOs can also play key roles in determining perceptions and practices in relation to standards and compliance among local entrepreneurs. In many ways these indirect cluster actors reconfirm the main planks of the respective social contracts in the three Rising Powers, and in that way co-shape cluster and entrepreneur's behaviour.

Conclusion

Clusters have been a key part of the industrialization strategies of the Rising Powers. Indian clusters are based more often on artisanal skills and lowest cost labour-intensive production of semi-traditional products, while Brazilian and Chinese clusters more often focus on higher value added industrial manufacturing. In India and Brazil, major national-level policy incentives have been directed towards cluster development, in order to achieve employment creation and poverty alleviation. In China mainly local governments have supported clusters as a vehicle to achieve their mind-boggling growth rates in recent decades.

We have proposed that next to know-how about how lead firms push standards through the chain, future research should also pay attention to the ways in which national and local policy frameworks and social contracts co-shape public rules as well as private norms on compliance with labour and environmental standards. After all, the interaction between value chain pressures and the localised social contract provide the context within which local clustered entrepreneurs strategize.

We have argued that cluster entrepreneurs in India operate under a social contract that does not incentivize them to comply with the 'letter' of labour and environmental standards, let alone with the 'spirit' of these standards. Brazil provides the contrasting case, where meaningful enforcement of public labour and environmental regulation is by and large the rule (and not the exception, like in India). China offers the intermediate situation, where shifting alliances and tensions between national and local governments lead to a social contract in which compliance with a variety of public regulations might at times be more negotiable than in Brazil, but it cannot be simply ignored like in India. Future research on clusters and social and environmental standards would do well to include these contextual factors, as more demanding social contracts clearly offer a more fertile ground for virtuous interaction patterns between public regulation and private standards.

Our emphasis on the importance of the national policy framework mirrors the growing body of literature on what is increasingly referred to as a 'regulatory renaissance' where public agencies undertake collaborative and complementary roles in CSR, filling gaps that exist around private codes and standards (Amengual 2010; Locke 2013; Piore and Schrank 2008; Sabel and Zeitlin 2013). As Levi-Faur and Starobin (2014) have recently argued there is a need for greater emphasis on what they term as the 'rule-takers' and the 'rule intermediaries' who link them to the 'rule makers' within regulatory frameworks. The boundaries between these categories can, however, shift with national states and global lead firms being both rule makers and rule takers.

The research agenda that we suggest, which places a renewed interest in the 'local' and the 'public' spheres of labour and environmental regulatory interventions, can start by making more visible existing indigenous CSR traditions among local entrepreneurs in clusters and explore how these traditions can be used as a stepping-stone for more recognized compliance with evolving societal expectations. Moreover, Rising Power clusters are of particular interest as a possible transmission mechanism between two distinct markets. They play a key role as first-tier suppliers to many global brands—and as such possess the experience and capabilities needed to comply with the most stringent standards. But Rising Power clusters are also home to more and more lead firms that cater to emerging middle class markets in the Rising Powers and the global South. These clusters could, therefore, pioneer with introducing social and environmental standards for premium segments in their domestic markets, depending on how they perceive emerging consumer preferences for more responsible products. This might propel clusters in Rising Powers to the forefront of a next frontier in the discussion about standards: how will new middle class consumers from countries like China, India and Brazil influence the uptake and depth of a next generation of labour and environmental standards?

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