Industrial Hubs and the Industrial Labour Force in Africa and Asia

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20.1 The Expansion of Industrial Hubs and Industrial Employment

Industrial hubs (IHs) in the form of special economic zones (SEZs) and export processing zones (EPZs) have become an important feature of the globalized world economy and in many ways encapsulate the opportunities and challenges presented by the production and export of manufactured goods. Encouraged by both foreign and domestic firms, governments in many low- and middle-income countries have created industrial hubs, and millions of people now work in such hubs. This chapter examines the role IHs play in creating and maintaining industrial labour forces, and the impact such industrial hubs have on job creation, wages, and working conditions. The main focus is on industrial hubs for light manufacturing, as these can play an important role in developing manufacturing experience for low-income economies seeking to industrialize.

Industrial hubs date back at least to the Ford Motor Works in the Port of Cadiz in Spain in the 1920s. Beginning in 1947, the Puerto Rican government began constructing clusters of factory sheds for rent to investors. The first special economic zones in Asia were established in Taiwan and India in 1965. By 1970, the first Taiwanese zone was employing almost 60,000 workers; in 1970 South Korea opened the Masan industrial park and in 1971 Malaysia followed suit with an industrial hub in Penang (World Bank 1992). The most dramatic example of the use of special economic zones, both in Asia and globally, is China in the reform era. China opened its first special economic zone in 1979 as part of an experiment with market-oriented policies. While the first industrial hubs in sub-Saharan Africa were opened relatively early, in the 1970s, they lack the scale and success of their Asian counterparts.[1] Liberia was the first country on the continent to open an industrial hub in 1970, followed by Mauritius in 1971 and Senegal in 1974. Ghana, Kenya, Madagascar, Nigeria, Rwanda, and Uganda opened industrial hubs in the 1990s and Ethiopia, Mali, South Africa, and Tanzania followed suit in the 2000s (Baissac 2011a).

In Africa, the industrial hubs in Mauritius and Ethiopia stand out due to their unusual features. The Mauritian hub is unusual, both in terms of its success in generating employment compared to other countries in Africa, and in that it is not confined to a particular part of the country and instead covers the entire island of Mauritius. The Mauritian hub reached a peak

[1] We will refer to sub-Saharan Africa simply as Africa hereafter.

in terms of employment and exports in 2000, but both have been in near unbroken decline since (Baissac 2011b). Ethiopia, which only began using industrial hubs relatively recently, is actively expanding its use of hubs in a bid to attract manufacturing FDI, in contrast to most African countries where industrial hubs are comparatively stagnant (Farole 2011). Ethiopia's first industrial park was the Eastern Industrial Zone near Addis Ababa, which opened in 2012. This park, which was privately funded by Chinese investors, albeit with support from the Chinese government, served as a model for the later programme of hubs built by the Ethiopian government (Brautigam and Tang 2011; Staritz and Whitfield 2017). Government-owned industrial hubs were built near Addis Ababa in 2015 and near Hawassa in 2016. Both parks, along with a host of other public and private industrial parks, primarily aim to attract foreign companies engaged in labour-intensive light manufacturing as part of an integrated programme of active industrial policy (Staritz and Whitfield 2019).

Most of the early industrial hubs developed in the 1970s were dominated by footloose foreign companies engaged in labour-intensive light manufacturing (Warr 1989), and IHs today remain especially important in the manufacturing sector, where production patterns and locations are increasingly determined by multinational lead firms and the global production networks they build (Coe and Yeung 2015; Henderson et al. 2002). Drawing on a survey of 346 special economic zones, almost all in twenty-one low- and middle-income countries, Frick et al. (2019) find that the majority of zones are relatively recent in origin and most are focused on manufacturing. More than half of the zones in their sample had opened after 2000, while just 18 per cent had been in operation before 1980, and 70 per cent were devoted to manufacturing.

Employment in industrial hubs has grown rapidly in recent decades. Between 1975 and 2006 the number of counties with some form of industrial hub grew from twenty-five to 130, while the number of zones increased from seventy-five to over 3,500. In 2006 these zones were estimated to employ a total of 66 million people, of whom 40 million were in China (Boyenge 2007). In Shenzen SEZ alone, employment grew from 5,000 in 1980 to around 700,000 in 1993 (Ge 1999). From the early 2000s, however, the growth in industrial hub employment was particularly rapid outside China. In only five years (2002–6) employment in industrial hubs outside China doubled from 13 to 26 million (Milberg and Amengual 2008). After Asia, where in 2006 over 900 hubs employed some 55 million work- ers, the largest concentrations of industrial hubs are in Central America and Mexico, where over 5.2 million people work in 155 hubs, and in the former transition economies of Central and Eastern Europe, where in the same year around 400 hubs employed over 1.4 million workers (Boyenge 2007). By contrast, in 2008 sub-Saharan Africa had just 114 industrial hubs (Farole 2011). Industrial hubs account for only a small share of total manufacturing in most African countries (Farole 2011).

Section 20.2 describes the theoretical foundations for analysing industrial hubs in light of their effects on jobs and workers. Best available evidence concerning employment, remuneration, and non-wage working conditions in industrial hubs is then presented, followed by an examination of the role industrial hubs play in producing and reproducing gendered labour dynamics. The final section offers some thoughts on what this evidence means for industrial policy.

20.2 Hubs as Spaces of Labour Force Formation: Between Job Creation and Labour Control

The expansion of industrial hubs and their associated employment, which seems to have accelerated since the 1990s, and the geographical reconfiguration in global production networks for light manufacturing raise a number of research questions that require both theoretical and empirical responses. First is the impact of IHs on job creation and industrial labour-market formation. Second is the role of IHs in enhancing the bargaining power of capital vis-à-vis labour in increasingly integrated global value chains and production networks. Third is the impact of IHs on working conditions and labour upgrading compared to spaces outside the IHs, which is related to the second question.

The two main employment-related expected benefits of IHs are (a) employment creation and (b) knowledge transfer via skill upgrading that can eventually benefit firms outside zones, if they employ IH workers in the future (UNDP 2015). Industrial job creation is at the centre of many hub initiatives and narratives favouring the establishment of industrial hubs. Even if the literature tends to focus on the dimension of capital (firms), exports, and competition, the development of industrial hubs often responds to imperatives of job creation, especially in contexts where unemployment or underemployment are high and perhaps rising, or other sources of decent work are drying up. As noted above, Ethiopia's industrial zones and manufacturing clusters have been successful in attracting foreign direct investment and creating jobs. This was particularly the case in the garment and leather products sectors, where production is very labour intensive and most jobs are relatively low-skilled positions in cutting, sewing, finishing, and packaging that can be filled by people with limited education and no prior experience or training. Such labour-intensive light manufacturing sectors provide a good fit for labour-market contexts characterized by large pools of relatively unskilled and uneducated labour. Within early development economics (and structural economics) perspectives the notions of 'unbalanced growth' (Hirschman 1971) and 'growth poles' (Perroux 1955) help us frame IHs as deliberate mechanisms to accelerate industrial employment expansion, while addressing foreign exchange constraints.[2] IHs are therefore by design potential sites of accelerated structural change, whereby the transfer of 'surplus' labour is driven by the creation of new spaces of labour pooling in labour-intensive industries (Johansson 1994; Stein 2008). As markets are unlikely to generate these transfers automatically, the visible hand of the state is needed to 'artificially' create spaces of job concentration.[3] The optimistic view of IHs therefore con- siders that different objectives can be met through careful design and scaling up: new job creation entailing structural change; easing foreign exchange constraints (especially in the case of SEZs); and technology transfer for catching up (Engman et al. 2007; Johansson and Nilsson 1997).

[2] According to the growth pole theory, economic development tends to cluster around poles where core industries develop and generate linkages for the development of linked and secondary industries. this sense, industrial employment is also likely to be concentrated in and around poles and employment effects can be regarded as direct, indirect, or induced, depending on the linkages. See original work by Perroux (1955).

[3] In fact, early neo-classical analysis of IHs articulated a negative view of them for creating distortions that would be welfare reducing (Stein 2008, citing work by Hamilton and Svensson (1982). Indeed, some literature suggested IHs were problematic insofar as they contributed to delaying liberalization and deregulation in the rest of the economy (Madani 1999).

Much of the optimistic literature on the potential of IHs in economic development and job creation also has its origins in firm-centred approaches that build on the seminal work of Marshall (1920) on agglomeration economies and skilled labour pooling, and Porter (1990) on advantages of clusters for knowledge exchange and innovation capabilities leading to economic upgrading. Labour pooling in IHs thus lowers the business operating costs by facilitating the knowledge exchange that collectively contributes to labour skill upgrading (Zhang 2019). Clusters also contribute to reduced transaction costs associated with labour recruitment, training, and organization of the labour process. The incorporation of IHs into certain value chains can allow firms to upgrade their economic performance, and this can be beneficial for workers in low- and middle-income countries if more skills and higher-productivity jobs also translate into higher remuneration and better working conditions (Schmitz 2006; Humphrey and Schmitz 2002). In ideal scenarios the scope for learning and improvement in skills is continuously developed in the context of clustering, but this may not happen where hubs are simply spaces for quick fixes to crises of profitability elsewhere, as in assembly-type industrial hubs that have limited scope for learning and skill development (Farole 2011; Silver 2003).

The issue, however, is not simply to add to the quantity of employment, and expect virtuous circles of skill upgrading and productivity growth, but to also contribute to social and developmental outcomes through 'better jobs', in other words, social upgrading (World Bank 2019; Barrientos et al. 2011). For instance, recent efforts by the Chinese government to rebalance the economy towards higher domestic consumption have led to wage increases, but technological upgrading at firm level has not automatically translated into better conditions for workers, and in some cases has led to deskilling and disempowerment (Butollo 2014). In this respect it is necessary to consider the critical literature that has questioned the contribution of IHs, and especially EPZs in certain GVCs, to decent work as understood by international organizations. This substantial body of critical literature has proposed that IHs contribute to a 'race to the bottom' (Anner 2015; Neveling 2015, 2017) and that any social upgrading in global value chains depends on labour agency (Selwyn 2013). The idea of a race to the bottom and the role of IHs therein are connected to Harvey's and Arrighi's concept of a 'spatial fix' (or 're-fix' after previous fixes become obsolete and over-accumulation crises recur) that privileges the mobility of capital in the search for new assets (land, infrastructure), lower production costs, and additional incentives to operate, to compensate for increasingly tight profit margins (Harvey 2001; Arrighi 2006). In this vein, Neveling (2015) frames EPZs as instruments facilitating capital mobility under preferential conditions, while labour is treated as the passive recipient of capital's preferences or, worse, as easily replaceable and therefore dispensable. The rapid growth of EPZs since the 1980s resonates with the new 'spatial fix' of the post-1970s globalization era. These spatial fixes, nonetheless, have also had political underpinnings, as the examples of Puerto Rico (one of the first EPZs) and Mauritius (the leading example in Africa) show. In both cases the threat of unemployment and expanding agricultural surplus labour was generating destabilizing social and political tensions that engendered pressures to rapidly attract labour-intensive industries into EPZs (Neveling 2015, 2017; UNDP 2015: 11). The more jobs were created and the more disciplined the workforce was, the better for employers and governments in those social and political circumstances.

These cycles of capital–labour conflict increasingly manifested on a global scale have

been a key subject of inquiry in critical political economy and more specifically among scholars working in a tradition of labour process theory (cf. Burawoy 1979). Within this tradition the issue is not only wages or labour costs. Anner (2015: 18) argues that 'patterns of global production are not based solely on costs, but also on labour control'. The imperative of both labour costs and control helps us explain how, in the case of the apparel value chain, where labour costs are so important, countries with widely different wage rates (e.g. China vs Vietnam or Bangladesh) continue to compete with one another (WRC 2013). Firms in global production networks require effective mechanisms (and regimes) to 'discipline' labour in order to avoid any disruptions that may affect the smooth functioning of their flexible and just-in-time production systems. This implies operating in multiple sites, with different wages, productivity, and mechanisms of labour control. Labour-control regimes therefore consist of formal or informal techniques, norms, and institutions in an interplay of labour exploitation and disciplining that determines work effort, habits, remuneration, and discipline (Baglioni 2017). Across different labour regimes the remuneration workers receive depends on both their productivity, which influences the ability of companies to pay higher wages, and their bargaining power, which determines how much of the value workers create they are able to retain as wages and how much is taken by their employer in profits. Workers' bargaining power in turn depends both on their structural position in the value chain (the effects that any work stoppage would have on downstream production and value realization) and on the degree to which they are able to create and sustain effective associations, in particular trade unions (Silver 2003). This matters for the study of labour relations in IHs for two reasons. First, IHs in developing countries may be disproportionately incorporated into certain value chains with particularly repressive forms of labour control, as in the case of textiles and garments. Second, IHs themselves may operate with distinct labour-control regimes that are different from what prevails in outside clusters.

The expansion of industrial hubs in developing countries, especially since the 1970s, is closely associated with the rapid globalization of apparel value chains and other labour-intensive light manufacturing sectors (footwear, electrical and electronic goods) where competitive pressures make the search for low labour costs, cheap infrastructure, and tax incentives a major imperative (Lin and Wang 2014). The apparel value chain accounts for the largest share of export value and employment in industrial hubs that have been created since the 1970s, reflecting the importance of quota systems before the Multi Fibre Arrangement (MFA) was finally phased out in 2005 and the new incentives for Africa-based suppliers introduced under the African Growth and Opportunity Act (AGOA) (Milberg and Amengual 2008). In the garment value chain lead buyers are increasingly looking to work with fewer, larger, and more capable suppliers, which greatly increases competition both among supplier companies and among production locations, leading to downward pressure on wages (Gereffi and Frederick 2010). Global production networks within these value chains expand and find new suppliers that are subject to tight pricing systems and highly demanding requirements in terms of just-in-time inventory and flexibility to meet volatile orders (Anner 2015; Farole and Akinci 2011). These structural characteristics contribute to the global apparel industry's notoriety for low wages and poor working conditions, thus also affecting the perception of industrial hubs' performance in terms of labour standards.

The way labour is disciplined and 'controlled' under different regimes in the apparel value chains varies according to the political, economic, and social features of each sourcing

country. Anner (2015) highlights three extreme types of labour-control regime that are found in this value chain and therefore are often present in IHs in developing countries:

1. *Authoritarian state labour control*, where strong states articulate legal and extra-legal mechanisms to minimize workers' collective action and achieve a highly disciplined workforce at low labour costs (e.g. China and Vietnam).
2. *Despotic market labour control*, where labour-market conditions and widespread real or disguised unemployment discipline labour through threat of dismissal or firms leaving the country (Bangladesh and many low-income countries).
3. *Repressive employer labour control*, where employers have direct means of economic and extra-economic coercion over workers (present in Central America and Colombia, as well as in conditions of modern slavery).

These different labour-control regimes are particularly relevant to many of the labour-intensive sectors that travel across borders and locate preferentially in IHs and especially in EPZs. The three types may coexist in the same country but may be more or less important in specific contexts, depending on their features. Contexts where much of the labour force is formed by migrants and where residential status is controlled, as in China's 'sunbelt', allow for the establishment of 'dormitory labour regimes', where employers house and control the lives of their workers more directly (Ngai and Smith 2007). Indeed, reliance on migrant workers may facilitate one or more of the three modalities of labour-control regimes described above.

Finally, each of these labour-control regimes generates different forms and strengths of worker resistance, depending on the structural vulnerabilities of industrial workers, their associational power (relative power of trade unions), and their capacity and means to disrupt GPNs. As GPNs expand into new locations, they generate new sources of labour resistance (Silver 2003). In several instances, IHs and particularly EPZs have been configured to counteract this by creating spaces of regulatory exception, that is, regimes where labour laws and institutions are not applied or function differently, usually at the expense of workers' rights. These may apply to 'enclave'-type IHs, where physical boundaries determine the spaces of special labour regulation (e.g. in the Dominican Republic), or to contexts where EPZ status is given to firms regardless of their location, as in Mauritius (Romero 1995; Farole 2011). The types of labour conflict will then be determined by whether or not unions are allowed in IHs, or whether their weakness and lack of action leads workers to act on their own through wildcat strikes or forms of passive resistance.

Considering these different analytical lenses, labour relations in industrial hubs can be analysed as the outcome of contradictory imperatives: accelerated job creation through organized transfer of labour to manufacturing activities on the one hand; and spaces of tighter labour control on the other hand. Overall the result may be a transfer of labour force to spaces of more disciplined labour-control regimes. Even if wages, for instance, are not lower than in labour markets outside IHs, the economic upgrading found in IHs may not be commensurate with the expected (and unmet) social upgrading.

Section 20.3 probes some of these arguments against the available evidence on the contribution of IHs to job creation and the working conditions in such hubs compared to alternative labour arrangements.

20.3 The Effects of Industrial Hubs on Job Creation and Working Conditions

As noted above, industrial zones pursue the triple goals of encouraging technology transfer, increasing foreign exchange earnings, and generating jobs. Employment is not just important for structural transformation and economic development. The right to work is a basic human right, and the UN defines work in this context as decent work.[4] We therefore assess the impact of special economic zones on labour across three broad categories of outcomes: namely employment creation, wages, and non-wage conditions, in particular working hours and freedom of association.

With regard to employment creation, the question is not simply how many jobs such zones encompass, but whether the jobs created in industrial zones are additional (to the domestic economy) or are simply the result of reallocating labour from outside the zones. Empirically, this question is very difficult to tackle, as a full answer would require know- ledge of the counterfactual situation: would these jobs have been created in the absence of an industrial hub? Additionality at the global level is even harder to ascertain given the reorganization of global production into low- and middle-income countries, where many jobs in export-focused industrial hubs nonetheless serve consumer markets in rich countries. The effects of industrial hubs on wages are easier to measure. From the point of view of workers who accept employment in an industrial hub, the remuneration received is of central importance. At a minimum, wages should be sufficient to allow workers to live in conditions that respect their human dignity. The empirical literature on wages in special economic zones generally seeks to assess how wages inside the zone compare to wages in the wider domestic economy.[5] Unlike wages, which have an indirect effect on workers through their ability to purchase goods, non-wage working conditions directly impact the well-being of workers. Excessive working hours are detrimental to both physical and mental health, and inadequate health and safety provisions can cause illness, injury, and death. The ability of workers to organize is not just a legal right enshrined in ILO conventions, but also the most potent tool for workers to protect themselves against abuses.

20.3.1 Employment

Industrial hubs appear to have contributed to substantial job creation but results have been highly uneven across regions. In a review of SEZs covering Ghana, Kenya, Lesotho, Nigeria, Senegal, and Tanzania, Farole (2011) found that zones in sub-Saharan Africa have been less successful than zones in East Asia or Latin America in terms of attracting investment or creating jobs. In 2008, companies in SEZs in Ghana, Kenya, Lesotho, Nigeria, and Tanzania collectively employed around 110,000 people, compared to almost 1,170,000 in Vietnam

[4] According to the UN Economic and Social Council, decent work is work 'that respects the fundamental rights of the human person as well as the rights of workers in terms of conditions of work safety and remuneration. It also provides an income allowing workers to support themselves and their families . . . These fundamental rights also include respect for the physical and mental integrity of the worker in the exercise of his/her employment' (UN-ESC 2006).

[5] This is a valid approach in that the wages available in the domestic economy constitute the outside option for people considering taking up employment in an industrial hub, which are important in understanding both the willingness of new workers to take a job at a given wage rate, as well as a company's willingness to pay, given local labour market conditions. However, such an approach does not consider the amount of value added per worker in comparison to the wage they receive, which is more indicative of a company's ability to pay.

alone. An exception in this regard is Mauritius, where the SEZ had created around 600,000 jobs by 2011.

As noted, the additionality of industrial hub employment is difficult to assess and the empirical literature is unclear on this point (Cirera and Lakshman 2017). There are, however, a number of examples where additionality can nonetheless be inferred. The case of Mauritius is a good example of 'additional' employment in a context where unemployment was beginning to become a serious problem in the 1970s (Sawkut et al. 2009). The trends between the 1970s and 1990s show a remarkable expansion of industrial hub employment from just 600 workers in 1971 to 74,000 in 1986, by then already nearly 90 per cent of total manufacturing employment in Mauritius (Hein 1986). In 1991 there were nearly 90,000 workers in industrial hubs, mostly in the apparel/garment industries (Rogerson 1993) and the peak of 84,000 for the textile and garment sector (more than 80 per cent of EPZ employment) was reached in 2001, before declining to less than 60,000 in the second half of the 2000s (NESC 2010). Moreover, while employment in industrial hubs is usually seen as inherently unstable, evidence on Mauritius suggest that lost jobs in industrial hubs were more than compensated by the creation of new jobs also in IH firms, whereas job losses in other sectors (e.g. sugar) were structural and definitive (Rogerson 1993).

Industrial hubs also appear to have generated additional employment in Lesotho, where hubs became a key vehicle for attracting FDI as a result of incentives introduced by the pas- sage of the African Growth and Opportunity Act. In this case, 'additionality' can be assumed due to the fact that manufacturing sectors were almost non-existent before the industrial hub was established. In 2008 IH employment comprised 80 per cent of all manufacturing employment in Lesotho (Farole 2011). In Bangladesh, industrial hubs are dominated by garment companies that in 2007 employed around 190,000 people (Milberg and Amengual 2008). A detailed survey of over 1,300 workers in 2001 found that garment workers inside industrial hubs are generally young women and are almost universally migrants. Data suggest that the IHs created about 200,000 additional jobs in twenty years but, given Bangladesh's vast labour force, this is not a substantial amount in relative terms, and 90 per cent of garment-sector jobs were outside IHs (Shakir and Farole 2011). A very high proportion of these jobs went to young women, who were hitherto outside the formal labour market, and therefore were 'additional' in this sense. (See section 20.3.4 for a discussion of IHs in relation to key patterns of gendered employment relations.)

Many jobs in SEZs are filled by labour migrants, which is, in part, due to the increased demand for women workers created by the relatively low value-added sectors that favour industrial hubs as production sites (Pettman 1998). In some countries these are largely internal migrants. In Bangladesh a majority of IH employees were found to be internal migrants (Zohir 2001). Migrating for work resulted in better educational outcomes for Bangladeshi women (Heath and Mobarak 2015), but also produced substantial employment risk (Shonchoy et al. 2018). Internal migration could be seen at its most dramatic in China. In the process of SEZ expansion China created the largest system of internal labour migration ever seen. By 2013, there were an estimated 230 million migrant workers in China, accounting for half of the urban labour force (Lam et al. 2015). Migrant workers in China are often housed in large dormitories built close to factory sites (Ngai and Smith 2007), and the social infrastructure in many SEZs remains inadequate to meet the needs of many migrant workers (Zeng 2011). However, IH jobs can also be taken up by migrants from other

countries, as in the case of Mauritius, where migrants comprise around 20 per cent of the IH workforce but remain isolated from the wider population (Lincoln 2009).

20.3.2 Remuneration

As explained above, the remuneration workers receive depends on both their productivity, which influences the ability of companies to pay higher wages, and their bargaining power, which determines how much of the value workers create they are able to retain as wages and how much is taken by their employer in profits. Workers' bargaining power in turn depends on both the structural position of workers in the value chain—the effects that any work stoppage would have on downstream production and value realization—and on the degree to which workers are able to create and sustain effective associations, in particular trade unions (Silver 2003). Wages in special economic zones are also influenced by the sectoral composition of the zone. Low-margin sectors such as garments, leather products, and simple electronics assembly tend to pay lower wages, and also offer worse working conditions (Cirera and Lakshman 2017). We compare wage levels across three relevant axes: between workers inside and outside industrial hubs, between workers inside industrial hubs in different countries, and lastly between the wages IH workers receive and their living costs.

While there are relatively few studies that systematically compare wages inside and outside industrial hubs, most of these studies do not support the conclusion that wages in industrial hubs are generally lower than in the wider economy. In a systematic review of twenty-two studies comparing wages inside and outside industrial hubs across twelve country contexts, as well as global assessments, just five studies find lower wages inside industrial hubs, while fourteen studies report higher wages inside hubs and three find little or no difference (Cirera and Lakshman 2017). In Bangladesh, for instance, wages for garment workers working inside the Dhaka SEZ in 2001 were on average around 76 per cent higher than for garment workers working outside the zone (Kabeer and Mahmud 2004).[6] Such results are likely to be driven by a combination of firm size and the fact that firms in industrial hubs in many cases export their products (Farole 2011). For example, in a study on wages and working conditions in Myanmar, Tanaka (2019) finds that export behaviour has a positive effect on working conditions and reports that exporting firms are almost five times the size of firms that do not export. Most of the studies analysed by Cirera and Laksman do not control for workers' skill levels, though. Looking only at studies that control for skill levels and other observables, industrial hubs pay higher wages than informal-sector jobs in the wider economy, but the comparison with formal-sector jobs is inconclusive. A good example comes from the Zone Franche in Madagascar. Using a standard wage regression, workers inside the zone were found to have received lower monthly wages than workers in the industrial sector outside the zone, while also working longer hours (Cling et al. 2007, 2005).

Comparing across regions, wage levels in African industrial hubs tend to be higher than in Bangladesh and in many cases also higher than in Vietnam, but lower than in China. Drawing on a wide array of firm-level surveys, Farole (2011) finds that workers in African industrial hubs earn between US$232 and US$371 per month, which is twice as much or more as workers in Bangladeshi industrial hubs, whose earnings stand at around US$120 per month. All of these are corrected for purchasing power—actual cash wages are much lower. For

[6] This study also found that jobs in the industrial hubs were formalized to a greater extent than jobs in the wider economy, which was, however, not taken into account in the analysis of wage differentials.

instance, cash wages for Bangladeshi IH workers in 2011 stood at around US$32 per month. Purchasing power-corrected monthly wage levels in Vietnam are around US$280, slightly above those in Kenya and Ghana (c.US$250), but below those in Tanzania or Senegal, where workers are paid more than US$350.

Sources that analyse economy-wide wage differences across countries, rather than focusing on industrial hubs, point in a similar direction. Dinh et al. (2012) report that monthly wages in garment production ranged from US$237 to US$296 in China, US$78 to US$138 in Vietnam, and just US$26 to US$48 in Ethiopia. However, wages in Tanzania were found to range between US$93 and US$173. Gelb et al. (2017) study manufacturing wages in Africa and a number of comparator countries in Latin America and Asia. They find labour costs are higher in Bangladesh than in most of the African countries in their sample, including Kenya, Tanzania, Zambia, Malawi, Uganda, and Mali. Only the Democratic Republic of Congo has lower labour costs, while costs in Ethiopia are comparable to those in Bangladesh and about 25 per cent of those in China.

To adequately and sustainably secure livelihoods, wages have to be enough to cover living costs and allow for savings so that workers can invest in assets, health, and education. In Ethiopia, a number of studies report on prevailing wages, savings, and living costs in the country's industrial hubs. A controlled experiment by Abebe et al. (2018) providing support to pre-screened applicants for manufacturing jobs in Bole Lemi Industrial Park, Addis Ababa, found that workers in the treatment group, who were offered jobs in the park, had average monthly earnings of US$37 (exclusive of fringe benefits), while workers in the control group, who were not offered employment in the park, had earnings of only US$28. All participants in the study were women. However, neither group was able to regularly save money, with those who were offered employment reporting monthly savings of just US$4.50. A survey of garment workers conducted in Hawassa Industrial Park found that workers reported average cash earnings of around US$43 (SUSA 2017). Unions argue that remuneration at such levels is not enough to provide sustainable livelihoods in urban areas (IndustriALL 2017). Workers in industrial hubs are, however, not all paid equally and, as mentioned above with regard to employment, in most industrial hubs women seem to be systematically disadvantaged compared to men (Tejani 2011). The implications of gender pay gaps for our analysis of working conditions in IHs will be examined below.

20.3.3 Non-wage Working Conditions

We turn now to the question of what conditions of employment workers face in industrial hubs. Here we briefly consider health and safety, and working hours, before looking at how industrial hubs impact freedom of assembly in greater detail. The evidence on health and safety (H&S) in industrial hubs is mixed, but several studies have illustrated instances of a poor H&S record in relation to lack of safe equipment, fire incidents without adequate exit mechanisms, and higher rates of worker hospitalization, especially in Central America and Bangladesh (Milberg and Amengual 2008). By contrast, in a study of Bangladeshi garment factories, Liu et al. (2018) find a negative, albeit not statistically significant, association between location in an industrial hub and indicators of building risks. This is, however, in a context in which there are severe concerns about factory safety, not least since the disaster at Rana Plaza (Kabeer et al. 2019). Nonetheless, some improvements are being made, especially

in countries and factories that have implemented new protocols and entered into agreements with the Better Work programme (Brown et al. 2016).

With regard to working hours, there is inconclusive empirical evidence as to whether workers inside industrial hubs have to work longer hours than in comparable jobs outside such zones, with studies reporting longer hours in industrial hubs in some contexts and finding no systematic differences in others. There is very clear evidence that long hours are a feature of most IHs, though (Cirera and Laksman 2017). A clear example of this is China, where working hours tend to be particularly long. A study in Shenzen SEZ found that on average workers spend more than 300 hours per month at work (Chan and Siu 2010), while an IMF working paper found that domestic Chinese labour migrants work 63 hours per week (Lam et al. 2015). While long hours are a widespread phenomenon in China and many other low- and middle-income countries and there is no suggestion that such hours are peculiar to the SEZ, compulsory overtime has been documented in Shenzen (Yonghong 1989). Similarly, in Mauritius workers at firms registered inside the IH have less job security and can be subjected to mandatory overtime (Hein 1986).

We have already discussed industrial hubs as potential sites of enhanced labour control and the theoretical reasons for studying the effects industrial hubs have on the ability of workers to organize and defend their interests vis-à-vis their employers. Farole (2011) and Tejani (2011) provide cross-country evidence that the restriction of the right to freedom of association and collective bargaining is indeed a major concern around the establishment of IHs worldwide. This can happen de jure or de facto, when either industrial hubs are exempted from implementing labour legislation or when workers face discrimination and harassment from employers with acquiescence from governments (Tejani 2011). The degree to which IHs contribute to the weakening of labour institutions or to regulatory exceptions depends much on the country context and the sectors affected. Anner (2015) proposes a taxonomy of extreme forms of labour control that depend on the relative independence and weakness of trade unions, the relative control of the state over labour relations, and the extent to which markets or employers directly discipline labour through economic and extra-economic means. In the cases analysed by Anner, IHs played a very important role in the growth of the apparel industry (in Vietnam, Bangladesh, and Honduras). In countries like Bangladesh, the high degree of unemployment and underemployment and widespread informality, combined with weak state labour regulation and social protection, generate a sense of extreme vulnerability for workers and weaken labour movements (Anner 2015). The ‘hyper-competitiveness’ of the global apparel value chain drives a race to lower labour costs and increase workers’ time efficiency which is particularly viable in contexts like Bangladesh. Despite the fact that Bangladesh is one of the examples where industrial hubs were exempted from national labour legislation (Shakir and Farole 2011), arguably in these contexts IHs are not the main reason for poor working conditions; rather, it is the combination of the characteristics of the value chain and the labour market structures and institutions of the country context. However, in contexts where labour movements are stronger and more militant, the use of IHs as spaces of ‘exception’ appears particularly effective, as in the case of most of Central America.

From the point of view of workers, trade unions are the most important labour institution. The systematic review by Cirera and Laksman (2017) finds no clear evidence that unionization rates are lower inside industrial hubs than they are in the wider economies that

surround them. However, there is substantial heterogeneity across different contexts and systematic labour-rights violations have been recorded in industrial hubs in a number of countries, including in Bangladesh, where trade unions were banned from industrial hubs until 2006, in China, where independent trade unions and union organizers continue to face repression, and in Madagascar, where at least some of the companies inside industrial hubs illegally hamper union activity (ICFTU 2004).

Luchman (1994) explores the reasons why levels of unionization in the Mauritian IHs were the lowest in country (despite trade unions being allowed and a tradition of strong unions in the sugar sector), and especially why women workers were so hard to unionize. A mix of socio-cultural norms, whereby women regarded union participation and activism as a 'male' activity, and employers' preferences, especially the resistance of mostly Asian investors to the establishment of unions at firm level, were the primary factors. Of course, the nature of the work and industrial relations in garment industries were not conducive to union participation. Work pressure and the resort to overtime left little time and energy for workers to become active in unions, added to a 'low-intensity' war on unionization by man- agers and supervisors, who often discouraged women from participating through a mix of victimization and veiled threats. The establishment of workers' councils by firms was also a tool to reduce the presence of 'outside' unions in Mauritius and helped tick the box of collective bargaining mechanisms while preventing access to formal unions. The high turnover rates common in many industrial hubs present additional barriers to successful workplace organization, especially where unions are organized at factory level and lack wider structures.

Even where unionization rates are no lower in industrial hubs, such findings occur in the context of the very low overall unionization rates in low- and middle-income countries that host large concentrations of IH employment. In part, comparisons between labour institutions inside industrial hubs and in the countries that host them therefore miss the point. The reconfiguration of manufacturing production into global supply chains since the 1970s is a deliberate move by lead companies from rich economies to increase profitability by moving production to low- and middle-income countries characterized by low wages, weak labour laws, and comparatively lax regulation (Milberg and Winkler 2013).

Low unionization levels do not, however, prevent workers from organizing using less formal means, and many countries have seen strikes in low-wage industries. In China, where there were 127,000 incidences of labour unrest in 2008 alone, strikes are increasingly focused on improving wages and working conditions, rather than simply defending the status quo (Elfstrom and Kuruvilla 2014). Strikes in Vietnam increased from sixty a year in 1995 to over 900 a year in 2011 and have mostly targeted foreign-owned companies (Chi and Broek 2013). These have largely been wildcat strikes not organized by formal trade unions (Cox 2015). Similarly, the concentration of workers in large factories and industrial hubs has contributed to a strike wave in Ethiopia which has been notable for the relative absence of formal union-led disputes (Admasie 2018).

20.3.4 Industrial Hubs as Spaces of Gendered Labour Dynamics

Labour control in industrial hubs does not affect all workers equally. Women face particular, and additional, types of discrimination through the gendering of labour markets and labour processes. Labour markets are gendered in at least two senses. First, as arenas where gender-based divisions of labour operate, leading to occupation segmentation and gender pay gaps.

Second, labour markets are gendered because ‘gender roles, ideologies and norms shape the [above] sex-based division of labour, assign multiple work burdens and responsibilities to women, and determine workers’ vulnerability and bargaining strength’ (Sen 1999: 6).

Employment patterns in many industrial hubs across Africa and Asia are highly gendered and a majority of workers are women, though there is substantial variation across countries. It seems likely that this feminization of the industrial hub workforce is driven by the sectoral composition of these hubs (Cirera and Lakshman 2017). Women are especially prevalent in low value-added sectors that focus on labour-intensive assembly work (Tejani 2011). In Vietnam, for instance, where the industrial hubs are dominated by the garment sector, around 60 per cent of all workers in the hub are women, the vast majority of whom are young and have at most high-school education (Trần 2012). In Ethiopia, companies in some industrial hubs exclusively hire women for low-skilled manufacturing jobs (Abebe et al. 2018).

Women’s incorporation into new spaces of industrial development, such as industrial hubs, has contributed to accelerated manufacturing development in low-wage light industries, partly thanks to the systematically lower wages women workers earn. In the example from Madagascar discussed above, the wage differential between workers inside and out- side the zone is almost entirely explained by differences in the gender composition of the labour forces. Companies inside the zone hired relatively more women, who then received lower wages. Male wages inside the zone were comparable to those of male workers outside the zone (Cling et al. 2007, 2005). Such discrimination has been an important—if frequently ignored—factor in building export industries in recent decades. In Asia, for instance, lower wages paid to women increased economic growth through lower unit labour costs, which allowed for greater competitiveness and more rapid capital accumulation. In addition, women perform the vast majority of the unpaid care and domestic work that underpins the social reproduction of the entire labour force (Seguino 2000a, 2000b). Women can be forced to accept lower wages than men due to their ‘secondary status’ in many labour markets, which results from the fact that, in a patriarchal society, a woman has ‘obligations of domestic labour, difficulties in establishing control over her own body, an inability to be fully a member of society in her own right; but also the possibility of obtaining her subsistence from men in exchange for personal services of a sexual or nurturing kind, of realizing her labour power outside the capitalist labour process’ (Elson and Pearson 1981: 200). In this sense light-manufacturing export industries are frequently based on the double exploitation of women, once as wage labourers and once as unpaid service providers and care givers in their role as wives, mothers, sisters, and daughters.

The feminization of industrial hubs, especially in garment production networks, reflects a set of corporate preferences built on stereotypes about women in factories that are as popular as they are false: women are supposedly more docile, have ‘nimble fingers’ (i.e. are technically more adept than men), pay attention to detail, are more willing to take orders (especially in strongly patriarchal societies such as Bangladesh), may be willing to work from home, and may be less prone to engage in collective action and join unions (Anker 1998; Sen 1999). Where do these stereotypes come from? In their article on the notion of ‘nimble fingers’, Elson and Pearson (1981) point out that supposedly natural differences in dexterity between men and women are in fact the result of the ‘training’ women receive by being relegated to particular types of work within the household, and that the supposed docility of women is frequently a façade purposively presented to men to avoid conflict. However, lower wage

rates for women alone cannot explain feminization and cannot account for the wide variation in feminization rates even within the same industry in the same country. A fuller explanation must include gendered discourses about labour that help determine how managers react to the imperative to raise productivity (Caraway 2005).

In addition, care must be taken not to view women as a singular category. As Butler (2006 [1990]) pointed out, sex and gender are both constructed categories, and understanding local particularities of oppression requires an analysis of race, class, and sexuality as well. Intersectionality, that is, 'mutually constitute[d] relations among social identities' (Shields 2008: 301) can help us to identify how women can have very different experiences depending on the particular social locations they inhabit. An example is the experience of female migrant workers, who may be subject to additional forms of oppression and exploitation. Research that ignores these additional dimensions risks erasing such intersectional experiences (McBride et al. 2015).

Yet, it is necessary to recognize that industrial jobs may also be emancipatory for women despite widespread gender discrimination. In what ways? Many women who got jobs in IHs of different kinds in Asia and Latin America were either participating in the labour market for the first time or transiting from previous agricultural or informal activities, generally badly remunerated (whether as self- or wage-employment) and highly insecure. Comparatively stable jobs in industrial hubs brought a more reliable source of income to women, sometimes for the first time in their lives. Kabeer et al. (2018), for instance, report on the apparent correlation between some measures of women's empowerment and their access to formal paid jobs. However, the line of causality may also run from the fact that these women are more educated and assertive, and therefore able to overcome the social barriers that would pre- vent them from going in search of such jobs. The contradiction lies in the fact that women's incorporation to new industrial jobs, especially in more exploitative sectors, may lead to an erosion in certain types of gender inequality but generate new structures of inequality (Elson 2007, cited in Tejani 2011).

The effects of earning cash income on intra-household relations are, of course, complex. Independent incomes may lead to women's improved bargaining power over patriarchal norms, and a renegotiation of gender roles and redistribution of the household work bur- den, but also to more intense intra-household conflict and even gender-based violence (Sen 1990). Empirically, it is not clear that independent incomes always result in greater decision-making power within the household, and women are often stuck with a double burden of waged labour and housework (Kabeer 1997; Kabeer et al. 2018). The degree to which women can upgrade their jobs is also uncertain. Women working in industrial hubs are much less likely than men to be promoted to supervisory and managerial roles, which are mostly filled by men (Tejani 2011). Moreover, there is evidence to suggest that work- forces in South-east Asia and Latin America have become more male as capital intensity has increased—as jobs improved, they were more likely to be taken by men (Tejani and Milberg 2016).

20.4 Conclusion: Towards Decent Work in Industrial Hubs

Industrial hubs, like SEZs and EPZs, have historically been considered spaces for significant job creation in manufacturing, especially in countries with limited manufacturing bases or undergoing important processes of economic reform. The evidence suggests that many IHs in

developing countries have indeed contributed to expanding industrial employment, especially in cases where labour-intensive light manufacturing has been promoted. Addressing the question as to whether this employment is 'additional' against theoretical counterfactuals is difficult but there are many cases of labour-intensive industrial hubs where the employment generated can be considered additional. While the expansion of industrial employment in quantity terms is much needed for processes of structural transformation, it is equally important that new jobs provide decent work. Much of the critical political economy literature has focused on the quality of jobs in IHs and has provided evidence that a variety of repressive forms of labour control regimes have predominated, especially in the EPZs of low-income countries. Empirical evidence is mixed when conditions in IHs and outside them are compared, as wages and working conditions may not be worse there, other things being equal. However, it is hard to establish these comparisons rigorously and somewhat comparatively better conditions in IHs do not mean that jobs there are 'decent' according to accepted global standards (Farole and Akinci 2011; Milberg and Amengual 2008). There is much to be done towards improving working conditions in IHs in low- and middle-income countries and especially towards avoiding the appeal of labour regulatory exceptions that many industrial hubs have embraced in the past.

There is a broad question as to whether particular sectors, such as fast-fashion garments and consumer electronics, can provide for decent working conditions—inside or outside IHs—without a fundamental restructuring of global value chains and the distribution of surplus across them. Industry-wide accords, consumer pressure, and increasing collective action by workers have brought some improvements to these sectors, but in key producing countries such as China and Bangladesh real wage rises in these sectors have been modest, unions remain weak, and long and excessive hours are still the norm (Kabeer et al. 2019; Lüthje and Butollo 2017). What happens in these value chains may be beyond the remit of IH managements, but governments that are developing IHs can at least limit the excesses of these global production networks if labour legislation is enforced inside as well as outside IHs and effective monitoring of labour standards in IHs is made part of their priorities in order to promote decent jobs in manufacturing.

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