

IDCEA

Industrial Development, Construction
and Employment in Africa



SOAS
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**Researching Chinese Firms and
Employment Dynamics in Sub-Saharan
Africa:
Context, Analytical Framework and
Research Design**

**IDCEA Research design and
concept paper**

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RESEARCHING CHINESE FIRMS AND EMPLOYMENT DYNAMICS IN SUB- SAHARAN AFRICA

CONTEXT, ANALYTICAL FRAMEWORK AND RESEARCH DESIGN

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1. Introduction

Emerging economies in Africa have experienced accelerated growth and varying degrees of structural change in recent years, especially since the early 2000s. In some countries such as Ethiopia growth has been resilient, even during the post-2008 global recession. International investors and contractors from different parts of the world have contributed to these processes in different ways as they tap into growing opportunities for business growth in Africa.

Foreign firms, and particularly Chinese firms, have had a substantial role to play in many African countries since the early 2000s. Indeed, China's growing economic engagement in Africa is attracting widespread attention, and is generating debates both in the continent and beyond about the implications for Africa's economic development. Academic contributions from Western, African and Asian institutions have been numerous and international organizations (World Bank, UNDP, among others) have also engaged with the debate on various relevant issues, from trade to investment and aid flows, migration, development policy, security, diplomacy and geo-political dynamics. Perhaps more significantly, international and national media attention have also been booming in the past ten years. This growing attention in mass media and academic circles is clearly reflected in the results of simple internet searches. For example, at the time we started the project, Google scholar hits (academic items) for 'China AND Africa' in title increase from 152 hits in 1985-2000 (many not being directly relevant to

* Lead author, based on a compilation of multiple background outputs from various IDCEA team members: Florian Schaefer, Christina Wolf, Sam Kee Cheng, Weiwei Chen, Fernandes Wanda, Assefa Admassie. This report has been an internal 'live' document that has been updated and amended since we started writing it as an internal research guide in 2016. The literature review and analytical framework were developed in 2016-17 but then updated in 2018. The research design was initially crafted in 2015-16, then updated and refined as data collection proceeded until the final phase (phone survey) ended in December 2018.

key topics) to staggering 2,360 hits 2001-2015. Search hits in Google web (wider than Scholar) amounted to 205,000 hits since 2001 up until 2015. There is even a dedicated Wiki page.¹

In the academic sphere, a series of important books and articles have been published by many well-known authors in the field, which have shed light on numerous questions about the vectors of trade, investment, migration, diplomacy and aid that characterise the growing engagement of China in Africa² (Alden et al. 2008; Brautigam 2009; Corkin 2012; Power et al. 2012; Lee 2017; Alden and Large 2019). In this growing field of Africa-China studies field-based research on Chinese investments and enterprises in sub-Saharan Africa (SSA henceforth) has also expanded, although this sub-field still suffers from significant research gaps and requires more field research. There are indeed various myths that have continuously circulated on Chinese investments and finance in Africa. Brautigam (2015) aptly stresses five myths in particular: (a) that China is in Africa only to extract natural resources; (b) that the Chinese state has flooded Africa with huge amounts of official finance (or ‘aid’) to prop up its geopolitical influence and the operations of Chinese enterprises; (c) that Chinese companies employ mainly their own nationals; (d) that Chinese aid and financing is a key mechanism to secure oil concessions and mining rights; (e) that Chinese actors are very active in ‘grabbing’ land to grow food in Africa to export to China. Brautigam and many other scholars and increasingly journalists have long debunked these myths despite their persistent circulation (Brautigam 2011).³

However, while much has been written about financing flows, aid and Chinese investors in Africa, employment-related issues have received less attention and empirical research within academic circles. Much of the reporting on labour issues concerning Chinese firms in SSA tends to be journalistic or anecdotal, at least until recently. Thus myths and rumours continue to abound, but there is in fact as yet little reliable evidence on the effects of Chinese investments and contractors on employment dynamics, especially in some of Africa’s fastest growing non-resource sectors, such as construction, services and manufacturing. There is especially a dearth of detailed and properly contextualised empirical knowledge on several questions concerning the employment effects of Chinese FDI and contractors in the continent. Employment outcomes ought to attract much attention given that the broader developmental outcomes of such investments and projects are also mediated by the employment dynamics they generate and their contribution towards poverty reduction through direct and indirect channels. Given the known scale of involvement of Chinese firms in many SSA countries, especially in sectors like construction, manufacturing, trade and mining, it is clear that their presence is likely to have had an important economic impact via employment outcomes.

There are various aspects of employment dynamics that are relevant. First is the creation of much-needed jobs in contexts of fast growth in labour market entrants, especially youth (Filmer and Fox 2014). There is an opportunity to substantially expand labour demand in higher-productivity non-agricultural sectors, which may contribute to the needed building of an industrial workforce in Africa. In relation to job creation, a dominant concern in the media and some academic debates has been the extent of localisation of the workforce in Chinese firms and construction projects, i.e. the proportion of jobs held by African workers as opposed to foreign (Chinese) workers at different skill levels. Second, the creation of new jobs may not

¹ https://en.wikipedia.org/wiki/Africa%E2%80%93China_relations

² By ‘Africa’ we will refer to sub-Saharan Africa in this report. SSA acronym will also be used.

³ See also Hirono and Suzuki (2014) and <http://www.oecd.org/development/emea/chinainafricadebunkingmythsanddebatingtruths.htm>

necessarily mean ‘decent work’, at least in a broader sense. Therefore, an important question is whether the working conditions found in these sectors, and specifically among these emerging employers are better than existing norms in African countries and how they vary across different types of employers and investors. Third, the extent to which such investments and construction projects contribute to skill development directly and indirectly, thereby contributing to the building of a non-agricultural (industrial) workforce to support future efforts towards dynamics structural change in SSA (Bashir 2015; Oya 2019).

This research project was initially designed to empirically engage with all these questions (see section 4 on research questions). By doing so the research also broadly engages with wider, but equally relevant, questions such as: (1) the employment dynamics in emerging construction and manufacturing sectors in Africa; (2) the economic development effects of FDI’s engagement in SSA; (3) the prospects for structural transformation in Africa and the opportunities arising from Chinese (and other) investments, finance and infrastructure projects. The project proposes to carefully collect quantitative and qualitative evidence on employment in foreign (including Chinese) and national companies in the key sectors of construction (mainly public works) and manufacturing.

This report (also concept paper) is based on months of desk review and scoping field research in Angola and Ethiopia, the two countries selected to be the focus of this research. At this stage the project has just completed direct data collection through quantitative surveys and further qualitative research which has been extended until the end of 2018. As section 5 shows, this research process was lengthy and complicated because of the sensitivities around labour issues, especially in the target sectors and in the types of companies selected for the research. A substantial amount of work to generate ‘buy-in’ was needed to make sure access was possible under the terms dictated by the methodological parameters of the research design.

This report has as primary objective the presentation of the (a) rationale, (b) research design and (c) research process of this project. Specifically the report aims to:

- a. Provide an overview of some results of extensive desk reviews and scoping research on issues of employment outcomes and dynamics, FDI, construction projects and the realities of construction and manufacturing sectors in the two selected countries, as well as in China, for comparative purposes. This will serve to highlight some of the main evidence gaps and suggest key areas where this project can potentially contribute. This is mainly done in Section 2.
- b. Propose an analytical interpretive framework and discuss key concepts and categories of analysis that have been central to the formulation of research questions and the design of this project (Section 3).
- c. Present the methodological framework of the project, namely its research questions, research design, main data collection methods and key methodological protocols, as well as details of how the research process unfolded in the course of three years of fieldwork (Sections 4, 5 and 6).

2. Literature review

This section discusses the main themes of the literature/desk review conducted to understand the dynamics of Chinese firms ‘going out’ in the diverse industrializing context of African economies, with particular attention to the rationale for investing and operating in Africa, the key drivers and possible implications in terms of employment and the prospects for the

structural transformation of African economies. The section is organised in two main blocks: the first block ('main trends and dynamics') briefly captures key trends and dynamics of globalisation of Chinese firms with a special focus on Africa as a destination, and discusses the main features of the economic and social context these firms find in SSA, with particular reference to Ethiopia and Angola. The second block reviews the evidence and debates about the employment effects and dynamics of Chinese firms operating in manufacturing and construction in Africa. This literature review ends with a summary of key evidence gaps and needs, which underpin the choice of research questions and thematic focus presented in Section 4 of this report.

Main trends and dynamics

Global forces and 'go-out' (走出去)

Since the turn of the century the rapid increase in Chinese overseas FDI and its growing contribution to financing development in other parts of the developing world has been associated with the policy of 'Go Global' or 'Go Out' (*zou chu qu* 走出去), aiming at globalizing Chinese firms and deepening trade, financial and investment links with an ever expanding number of countries⁴. Much of the 'go out' dynamic concerns investments in OECD countries through M&A transactions, especially in well-established business and brands⁵, but it is clear that it is also leaving an important impact on low and middle income countries. In fact, China has not only become the biggest trading partner for many developing countries, especially in Africa, but is also increasingly becoming a major source of FDI. In 2014, 79% of China's outward FDI flows went to developing economies (Lo 2018) and now China is the fourth largest source of FDI stock in Africa, after USA, UK and France, having expanded from \$13bn in 2010 to \$35bn in 2015 (UNCTAD 2017).

An important element of this trend is the gradual shift in China's economic development strategy towards a 'New Normal' (*xin chang tai*) of slower growth and upgrading towards a high-technology production model, i.e. a form of restructuring for more quality growth, through a new wave of structural change. There are also important labour market trends that are changing the prevailing labour regimes in China, driven by rapid wage growth above productivity growth since the early 2000s (Lo 2018), more significant labour militancy, and greater government concern for the welfare of workers (Xu and Chen, 2019; Luthje et al., 2013). These labour market trends are also shaping the nature of 'going out' processes among different varieties of state and private capital in China, and driving the dynamics of expansion and relocation of low-wage productive segments overseas, including towards Africa. Therefore, the globalization of Chinese firms has implications for developing countries, which are a primary destination of their productive investments and construction services.

One of the possible implications of this process, if attained, is that many of its low-technology labour intensive industries could soon be moving overseas as profitability in China dwindles (Lin, 2012). Indeed Norbrook (2016) quotes Helen Hai (who contributed to the establishment of one of the leading Chinese industrial investments in Ethiopia) as saying 'There are over 80

⁴ See following statement as example of aims of policy and some key challenges http://www.gov.cn/node_11140/2006-03/15/content_227686.htm

⁵ See, for a recent news report: <http://www.atimes.com/article/hunger-foreign-know-propels-surge-chinese-odi/>

million labour-intensive jobs from China that Africa can try to capture'.⁶ This quote encapsulates the opportunities arising from China's restructuring and globalization of production networks at a time when the prospects of industrialization in countries such as Ethiopia appear for the first time realistically positive.

During the period 2000-2015 labour conditions in low-pay industrial sectors in China improved, mainly in terms of average wages. Between 2004 and 2011 the average wage of garment workers in China more than doubled (Lerche et al 2017). Although some scholars have argued that economic upgrading in China's industrial sector has not resulted in significant social upgrading, as firms move internally to areas of the country where wages are lower (Butollo 2015) it is undeniable that real wages, even for low-wage earners have increased significantly since the early 2000s (Lo 2018). As a result, nowadays comparative wage levels in China are higher than in many other middle-income competing manufacturing export countries such as Brazil and Mexico, and getting closer to 70% of the level in the weaker Eurozone countries.⁷ Thus the combination of rising real wages in low-technology industries and rising consumer demand in China and generally in Asia are seen as a critical opportunity for those countries that aspire to tap into these segments of global manufacturing (Page 2012; Lin 2012).

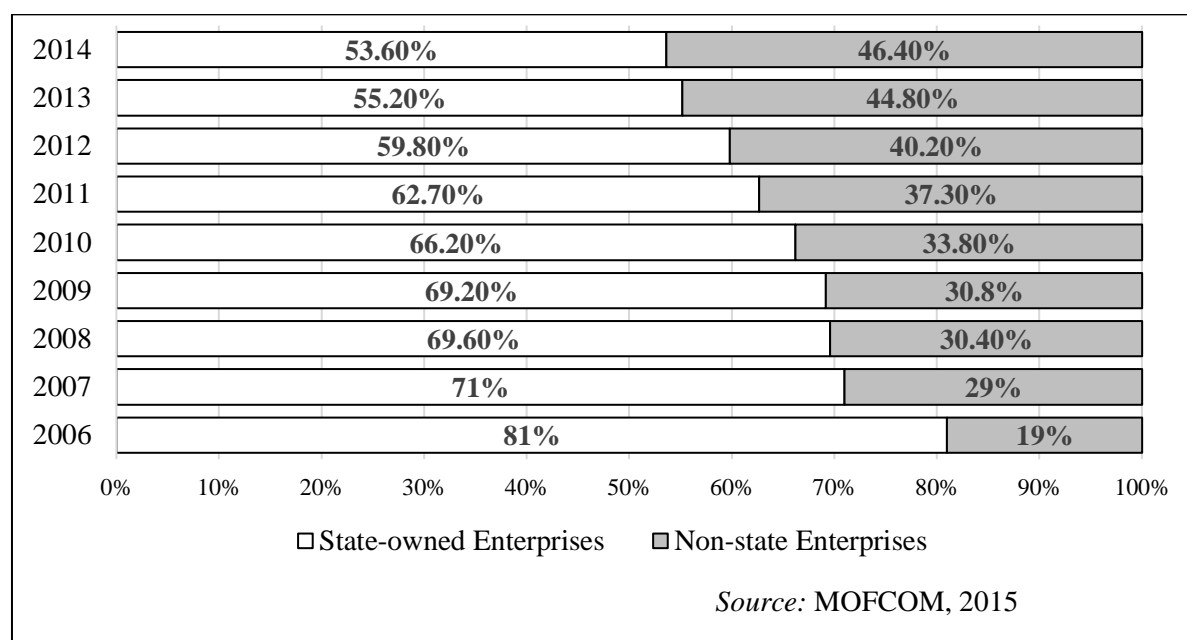
Moreover, the 'Go Out' strategy also responds to the challenges facing a large number of SOEs at a time when overcapacity and market exhaustion threaten their survival. Although "Go Global" is not exclusive to state-owned enterprises (SOEs), the strategy design and the timing have worked hugely in favour of the SOEs particularly at the start (Wolf and Cheng 2018a). Chinese SOEs have been under waves of reform and restructuring including corporatization and privatization of some small and medium sized SOEs. This has led to massive lay-offs of workers and an emerging private sector in the Chinese economy. However, the reforms are anything but giving up the state sector. It actually includes an ambitious plan to turn the fortune of the selected SOEs in strategic industries and make them competitive and leaders in the industries. Gradually, though, the weight of SOEs in Chinese capital externalization is declining as the Figure 1 below shows.

The presence of Chinese firms in Africa is now well established. The expansion into almost all countries in the sub-continent and into a wide range of sectors is increasingly evident from emerging statistical evidence as well as media reporting. The number of firms of different sizes and market orientation is large and generally underestimated by official statistics, whether from MOFCOM or national investment agencies in African countries (McKinsey 2017). This project is particularly interested in two sectors where Chinese firms are assuming a substantial role since the early 2000s: construction (especially infrastructure) and manufacturing. These are also particularly important sectors in a continent that has suffered from limited structural change, so an expansion driven by a new group of firms 'going global' may generate pressures for more dynamics economic diversification in countries that are still excessively dependent on natural resources.

⁶ <http://www.theafricareport.com/North-Africa/when-china-sneezes-does-africa-catch-a-cold.html>

⁷ See <http://www.chinaeconomicreview.com/chinese-wages-higher-brazil-mexico> and referred source in Financial Times <http://www.ftchinese.com/story/001071536/en>

FIGURE 1 - PROPORTION OF STATE-OWNED ENTERPRISES AND NON-STATE ENTERPRISES IN CHINA'S OUTWARD FDI STOCK 2006-2014

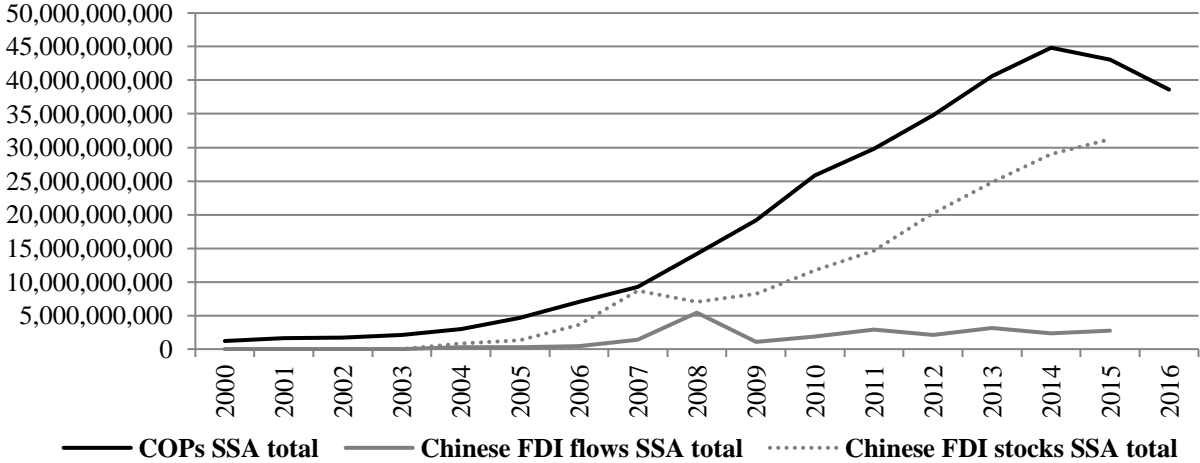


Despite the frequent reference to the allegedly natural resource-seeking nature of China's engagement in Africa, in reality the presence of Chinese firms appears stronger in non-resource sectors. Although, in terms of value, about a quarter of China's FDI to Africa goes to resource extraction, construction and manufacturing are two important destinations of such investment flows, in contrast with other developing regions where trade-related services seem to represent a much larger proportion of overseas FDI from China (Lo 2018, Wolf and Cheng 2018a). The share of mining related activities in Chinese OFDI is at around 25% actually *below* the global level, mining accounting for as much as 35% of total FDI to SSA in 2012 (Wolf and Cheng 2018a; UNCTAD, 2015). If we look at it in terms of number of FDI projects and firms, the significance of non-extractive sectors becomes even clearer. Shen (2015) reports that the leading sector in terms of share of investment projects from *private* firms from China for the period 2000-2013 was manufacturing (31% from data from MOFCOM or 44% based on data reported by a sample of leading host African countries) followed by trade & logistics (24%). Unsurprisingly construction contracting dominates the sample of SOE projects for the same period with 42%.

A report by McKinsey (2017), based on a large-scale survey of Chinese enterprises in Africa, confirms the non-resource focus of most of the Chinese firms in Africa, McKinsey (2017) found that 31% of the sampled companies were in manufacturing and 15% in construction, with trade and services combined accounting for over 50%. A much smaller proportion of firms were reported to be in resource sectors (agriculture and mining). When put together, the motivations underpinning these flows, according to Shen (2013; 2015), include (a) 'market access', both local market and export market, depending on the circumstances of the host country; (b) cheap labour, especially for manufacturing companies belonging to the 'low-wage classic' regime of production (see section 3); (c) availability of raw materials for processing firms seeking to lower costs and tap into new markets.

Chinese firms have a clear competitive advantage in construction, especially infrastructure building. The visibility of Chinese contractors in infrastructure in an ever increasing number of African countries is stark, and has followed a trend over the past 15 years of rapid expansion of large construction companies overseas. The aggregate data corroborate this trend as what has been called Chinese overseas contracted projects (COPs) have grown rapidly and outpaced FDI growth into SSA (Figure 2).⁸

FIGURE 2 - CHINESE FDI (STOCKS AND FLOWS) COMPARED TO CHINESE OVERSEAS CONTRACTED PROJECTS SSA AGGREGATE (2000-2016, CURRENT USD)



Source: China Statistical Yearbook (various years) and Statistical Bulletin of China's Outward FDI

Furthermore, Sub-Saharan Africa is the second most important overseas market for Chinese construction firms, second only to Asia, with USD 64.3 billion contracted value in Asia in 2013 against USD 40.6 billion in SSA, i.e. 29.6% of all overseas construction projects (Wolf and Cheng 2018b).

Indeed, the financing and building of infrastructure is one of the leading features of contemporary Chinese engagement in Africa. China, through mostly state finance institutions, is the largest bilateral infrastructure financier in Africa, with Chinese firms, mostly SOEs, accounting for more than 50% of the market share in construction (McKinsey 2017: 39;). Their presence is not simply driven by Chinese finance, ie by the government. Chinese contractors have indeed ‘gone out’ and now win a substantial number of World Bank projects outside China. In sub-Saharan Africa they represented 42% of World Bank project contracted value in 2013 (Gutman and Zhang 2015). It is also clear that after many years of unprecedented construction boom in China, overcapacity and the ‘new normal’ have become additional ‘push’ factors for construction activities to internationalise at a faster pace.

A key issue for this research project goes beyond the micro-dynamics of firms and labour outcomes at the workplace. It is the extent to which the dynamics briefly described above are at a meso and macro level associated with greater prospects for structural change, and in particular for a renewal of industrialisation efforts. Thus a focus on investments in manufacturing is an obvious choice for this project. However, infrastructure building is also highly relevant, not only because this is indeed one of the key areas in which Chinese

⁸ Data refer to the volume of contracted projects completed during the reference period, expressed in monetary terms, including completed work on projects signed in previous years.” (China Statistical Yearbook 2009).

companies, especially SOEs, have contributed to the ‘going out’, but also because they can potentially generate conditions for industrialisation. In this regard, there are two important linkages between the construction of infrastructure and prospects for industrialisation. First, the large-scale building and rehabilitation of much needed economic infrastructure (transport networks and energy supply) are an essential ingredient for any successful industrialisation agenda. Without reliable power and access to roads it is hard to build an industrial base. Second, employment in construction generates some skills and habits that are transferable to conditions in industrial employment.

Overall, the engagement of Chinese institutions, firms and individuals in Africa has been expanding and shifting over time. Questions about employment effects require an understanding of investment dynamics and structural changes in African countries where the presence of Chinese firms (as investors and/or contractors) is significant and growing. The famous saying coined by Deng Xiaoping, ‘crossing the river by feeling the stones’ (摸着石头过河), pertinently describes the process through which Chinese firms experience their engagement in African countries, and gradually adapt to the challenges and contextual differences they encounter in terms of managing labour relations or addressing key operational constraints that affect potential and actual job creation. This project aims to document some of these challenges and the mechanisms found by companies to overcome them.

FDI, Global Production Networks and employment dynamics

The dominance of natural resource sectors in many African countries is exemplified by the concentration of much of the value of FDI stock in mineral-oil exporting countries. Based on UNCTAD 2017 data, in the eve of the global recession, 2008, 80% of the stock of FDI in Africa was concentrated in the top 10 recipients. Of these, if we exclude South Africa, the powerhouse of the continent, almost all the other nine recipients are well-known mineral-oil exporters (Nigeria, Angola, Equatorial Guinea, Congo, Zambia among others). By 2016 the ranking had not changed much with the top 10 countries attracting 76% of the overall SSA FDI inward stock and two newcomers, Mozambique and Ethiopia representing two very different stories: the former receiving a big boost as a result of FDI into natural gas exploration and the latter banking on FDI to non-resource sectors, notably manufacturing and construction, as the exception. At the same time, with the commodity price boom over since 2013, other sectors, especially services seem to have attracted more FDI to the region in the past two years (especially ‘business services’, construction and utilities).

By and large FDI to mineral extractive sectors are unlikely to address the employment challenges discussed in the previous section, whether directly or indirectly. This is why foreign investments into manufacturing or sectors with comparable employment potential (tourism, high-value labour-intensive agriculture, for example) are so important for SSA, where the domestic production capabilities in these sectors are still very limited.⁹ Even when they do not dominate in value terms, the proliferation of many Greenfield investments into manufacturing

⁹ Page (2012) rightly reminds us that promoting ‘industry’ does not necessarily mean ‘smokestacks’. New technologies, transport logistics and emergence of GPNs have created conditions for other economic activities in agriculture and services to closely resemble manufacturing in terms of scope for productivity growth, labour intensity, linkages with other sectors and export revenue generation potential. Examples are flowers and horticulture, as representatives of the ‘industrialisation of freshness’ (Cramer 2015; Okubay 2015).

can generate spill-over effects and linkages that may contribute to the emergence of industrial clusters in parts of the continent where manufacturing is still in its infancy. Spill-overs through technology transfer and learning are critical. In other service sectors that have linkages with manufacturing, such as trading, logistics and telecoms, FDI technological spill-overs and demand linkages are also potentially significant. Brautigam (2008) gives the example of Chinese trading networks having spurred a small boom in the production of spare auto parts in the Nigerian town of Nnewi. The Rwandan government has, for instance, negotiated technological upgrading and transfer of expertise with ZTE and Huawei, as part of the broader government strategy to enhance the country's ICT sector (Gu and Carty 2014). Likewise, Chinese overseas contracted projects have been shown to induce demand for locally manufactured building materials (Tang 2010).

Technology transfer also takes the form of imported machinery and technology that often comes with FDI. In this sense, China's industrial success in recent decades may have another kind of externality for aspiring low-income countries to industrialise, in the form of cheaper capital goods which are vital for the potential contribution of China to industrialisation overseas. As quoted in Poon's report (2014: 20), the OECD commented that 'Such a downward shift in the relative price of capital goods could represent a major growth payoff from the expansion of India and China for the world economy as a whole, but especially for low-income countries where prices for capital goods have historically been excessively high'.

Besides the technological and market linkages between FDI in manufacturing and related economic activities, a critical effect is via employment. This is the focus of this research project. It is particularly important in Africa where the dynamic of labour supply now and in the future will put hundreds of millions of people in the labour market ready to find jobs in emerging labour-intensive activities. It is not the supply of this labour that will generate such jobs, as the conventional poverty reduction wisdom seems to promote, rather the mass job creation in higher productivity sector and especially factory jobs (Amsden 2012). There is now much debate about the prospects of moving millions of jobs in light manufacturing from China and other Asian sources of supply to Africa, especially in sectors that do not require skilled labour and where unit labour costs are of paramount importance (Hou et al. 2017). Sun (2017) highlights the potential for job creation in foreign direct investment projects led by individual private Chinese entrepreneurs. As Sun argues, this potential depends on a number of structural factors and strategic decisions by different entrepreneurs, such as between labour-intensive and capital-intensive production, and between international customers (exporting to global markets) and domestic markets (Sun 2017: 52-55). The expansionary logic of Global Production Networks in contexts of flexible specialisation (Lerche et al 2017; Hou et al. 2017) and 'trade in tasks' (Page 2012) offers substantial opportunities to African countries where industrial bases are still small but conditions for their growth continue to improve, especially thanks to infrastructure development fuelled by Chinese finance and Chinese contractors.

The evidence on the impact of FDI on employment in Africa is patchy at best. A recent attempt by World Bank staff (Ezemenari et al 2016) to estimate the differential effects of BRICS and G7 FDI on employment and productivity suggested that there was competition and substitution effects between the two sources of FDI and that investments from BRICS countries seemed to exert greater impact on employment compared to FDI from G7 countries. This result is however based on aggregate estimates, including several countries and with an insufficient number of variables to control for. Part of the reason for these differences is likely to be the particular sector where FDI goes and evidence shows that investment flows from BRICS tend to go to

more labour-intensive sectors whereas G7 FDI seems concentrated in capital-intensive high technology extractive sectors. An advantage of manufacturing jobs, particularly in export sectors with presence of TNCs, is that they normally come with a much steadier stream of income and on more formal terms than most jobs in agriculture or informal services (UNECA 2016).

Given the widespread informalization of labour markets in Africa and generally the highly exploitative conditions found in these activities and especially where micro- and small enterprises dominate, it would be plausible to expect that labour conditions in TNCs in non-agricultural sectors are better. There is indeed evidence that foreign firms tend to pay higher wages than domestic firms, even after controlling for differences in other firm characteristics (Te Velde and Morrissey, 2003). The main argument is that foreign firms bring in capital, new ideas and technologies and thereby increase the productivity of their workers and allow higher wages to be paid (Harrison, 1994). Paying higher wages may also be a strategy to increase efficiency or to retain productive workers (efficiency-wage hypothesis) (Akerlof and Yellen, 1986). In addition, Oya (2012) argues that the exposure of foreign firms to consumer scrutiny in industrial countries may force these firms to stick more to wage and non-wage standards than domestic firms (e.g. large scale agro industrial investments Malawi). Indeed the difference in attention to Chinese firms compared to national firms in African contexts underscores this greater visibility and scrutiny.

One of the sectors in China that is most likely to contribute to 'go out' is precisely the labour-intensive textile & garment (T&G) and footwear, where African countries could potentially generate production capabilities (Hou et al. 2017; Page 2012). To be sure, T&G grew in China at an unprecedented rate before the crisis of 2008. The number of firms (mostly small and medium size by Chinese standards) more than doubled between 2000 and 2007 but then thousands of them went bust as a result of the crisis and structural problems of overcapacity (Luthje et al 2013: 254). The process of relocation and/or expansion of these industries is already under way, as early signs in Southeast Asia and Ethiopia suggest (Calabrese et al. 2017). However, low-tech T&G industries face low barriers to entry which means that competition is fierce and a country must invest efforts and resources to be able to attract large numbers of suppliers to its industrial parks, as in the case of Ethiopia. Understanding the geographies as well as the cost pressures and governance of specific global value chains is essential in order to grasp the range of effects on industrial capabilities and employment outcomes (Gereffi 2018).

Chinese and other foreign firms in T&G production networks have already grasped the key advantages of a country like Ethiopia. As Shen (2015) reports based on interviews with Chinese investors, wages in Ethiopia are seen as particularly attractive, even by African standards, as they represent only one-fifth of comparable levels in China. Even with initially low labour productivity because of lack of industrial experience overall unit labour costs remain 'exceptionally competitive'. However, low wages are not the only ingredient to persuade firms from distant areas of the world to expand or relocate in unknown territory. Various aspects of supply chain organisation, the quality of infrastructure and the credibility of government agencies dealing with FDI are equally important ingredients (Sun 2017). If absent, even extremely low wages would not be enough to attract investors in large numbers.

In the case of T&G, supply chain governance and relations matter a lot. So, given the subcontracting systems and vertical integration with well-known global brands (Inditex-Zara, PVH Corp, H&M, etc.), competing in these GPN may hinge on establishing relations with the global brands and trying to influence their sourcing strategies by 'building verticality', as the

Ethiopian industrial strategy (e.g. Hawassa Industrial Park) is pointing towards (Oqubay 2019; Mihretu and Llobet 2017). The question is whether a country is able to absorb all the various ‘tasks’ and go for full vertical integration (e.g. from cotton production to packaged finished garment products) in newly created industrial clusters or simply try to capture key segments (tasks) of the supply chain and specialise in those to serve multiple brands (Page 2012; Hou et al. 2017). The Ethiopia case suggests that a strategy of full vertical integration and productive linkage maximization is difficult, particularly due to the obstacles in securing reliable supplies of high quality inputs, e.g. cotton for T&G and hides for leather product industries (Staritz and Whitfield 2019).

More fundamentally, flying-geese type relocations of labour-intensive export-oriented industries cannot prompt industrialisation evenly across and within countries, unless they are coupled with domestic market formation (Lin and Monga 2017). Being driven by the search for cheap labour, these flying-geese investment patterns reflect systems of hierarchical production and investment, in which competitive pressure on labour (in peripheral and core countries) intensifies while the technological and financial core remains under control of capital in developed countries (Hart-Landsberg and Burkett, 1998).

The economic and labour market contexts in Africa

What is the context that these companies find when investing in sub-Saharan Africa? Understanding the dynamics and implications of the arrival Chinese enterprises, and indeed any other foreign and national investors, requires some relevant contextualisation. Although there is a significant variety of economic, social and political contexts in which these firms operate, it is possible to highlight some common traits.

First, there has been a shift in narratives from pessimistic accounts of an ‘African tragedy’, typical of the 1990s, to optimistic celebratory stories of ‘Africa rising’ as clearly described by UNECA report (2016). Both these sets of general narratives exaggerate the problems and hopes. The healthy growth experienced between the late 1990s and 2015 is underpinned by a range of different factors, which make generalisations problematic. The lower frequency of growth collapses (due to conflict, for example) or the post-conflict reconstruction in some countries (Mozambique, Angola, Sierra Leone, Rwanda) constitute one important story. Another story is that of growth acceleration in resource-abundant economies, especially oil exporters, due to the commodity boom until 2014 (Arbache and Page 2009). The commodity boom of the period 2000-2008 underpins a substantial fraction of the positive growth recorded in aggregate terms and for many SSA economies (e.g. Angola, Nigeria, Zambia, Eq. Guinea among many others). Countries like Angola benefited from both the oil price boom and the peace dividend at the same time. However, some of the strongest performers are not resource rich. The most obvious cases are Ethiopia and Rwanda, both landlocked and not resource rich. Indeed, according to World Bank data of GDP growth, four countries out of the top 10 in growth rates between 2001 and 2016 are non resource rich (Ethiopia, Rwanda, Tanzania and, depending on indicator, Mauritius or Uganda). Many of the top performers did not do well in the preceding 1980-2000 period but some have experienced sustained growth since the early 1990s (Mozambique, Uganda, Mauritius). Ethiopia and Angola, the two countries chosen for this study, reflect this variety of growth trajectories but are both strong recent performers.

Second, there is consideration of the pattern of growth and the kind of *structural change* that is happening in Africa and whether lack of manufacturing development is a major obstacle. McMillan et al. (2014) have suggested that a commonality of African growth experiences post-

1990 is ‘reverse structural change’ from higher to lower productivity activities or towards natural resource extraction at an aggregate level. This would mean, for that time period (1990-2005) and that sample of countries, a move back towards lower-productivity activities, whether natural-resource based sectors or informal services at the lower end of the productivity spectrum. However, the same researchers find that after 2000 ‘structural change contributed positively to Africa’s overall productivity growth’, even though to a limited extent (McMillan et al. 2014: 27). Their overall results somewhat contrast with Martins (2019) who shows that there has been structural change in Africa, based on a much larger sample of countries. By breaking down sources of productivity growth Martins finds that 46% of total productivity growth experienced in the period 1991-2013 may be explained by structural change (movement between sectors), in contrast with the negative or null finding of McMillan et al (2014). Behind these averages lie both a substantial diversity of experiences and evidence that whatever structural change has taken place it is not through industrialization. On this point all studies agree. According to Martins’s own analysis (2019: 28), two thirds of per capita growth came from the contributions of commerce, transport and other services (including the various sub-components of productivity growth and employment growth). This study corroborates the patterns observed in aggregate terms in many African economies: that the slow decline in agriculture as a share of VA and employment is combined with expansion in construction and services, which increased their share of employment in aggregate terms from 30.7% to 37.3% between 1991 and 2013, while manufacturing actually decline from 7.4 to 6.2.¹⁰ In this context, it is not surprising that the share of manufacturing in value added at aggregate level declined from 12% to 11% between 1980 and 2013 (UNECA 2016; Martins 2019). Martins (2019: 20) concludes that on a global scale ‘services were the main driver of economic performance and the key catalyst for structural change’. McMillan and Harttgen (2014: 33) conclude that ‘unlike other developing regions, structural change in SSA has not yet been accompanied by a significant expansion in the share of the labor force employed in manufacturing’, a result that is robust across different sources of data. Teal (2016) does not see a significant problem in this as long as labour demand for unskilled labour expands across firm types and sectors. Based on evidence from Ghana and Tanzania, he shows that substantial job expansion, including wage jobs and self-employment occurred in small and medium urban firms across different sectors, leading to remarkable increases in real wages, while employment in the large firm segment, which pays higher wages, stagnated. In sum, a mixed picture of job expansion and not so dynamic structural change.

Whether this kind of structural change is likely to put African economies on a path of long-run sustained economic growth and development is another question and subject to much debate. McMillan and Harttgen (2014: 33) argue that the ‘services sector in Sub-Saharan Africa is unlikely to be an engine of sustained productivity growth over the long run’. Certainly historical evidence suggests manufacturing development is an essential part of long-term structural change but there are now some dissenting voices suggesting growth enhancing structural change can happen via services (more on this in Section 3). The question is what kind of services and whether the growth of modern services is not itself linked to an expansion in the productive base towards manufacturing, especially higher value added manufacturing and production of machines (Andreoni and Gregory 2013).

¹⁰ The share of manufacturing in value added at aggregate level declined from 12% to 11% between 1980 and 2013 (UNECA 2016; Martins 2019).

Page (2012) calls this situation ‘Africa’s structural deficit’. He shows that the manufacturing share in employment and in value added in a ‘typical’ low-income African country is about half of the benchmark value, provided by comparative non-African countries when they reached lower-middle income status. This is a long distance from the relevant benchmark. The structural deficit can be broken down into three distinct ‘deficits’: (a) insufficient manufacturing development in aggregate, with other lower-productivity sectors gradually replacing agriculture; (b) relatively low-productivity manufacturing, compared to benchmarks (as shown in Martins 2019 estimates); (c) limited diversification and sophistication in existing manufacturing production. Indeed, these gaps are to be expected in countries with very low levels of income per capita relative to the rest of the world, but SSA economies have shares of manufacturing below their income benchmark levels. These gaps reflect prevailing economic structures that have important employment policy implications, as well as the effects of more than two decades of deindustrialisation in most countries (UNIDO 2009; Mkandawire 1988; Grabowski 2016). For example, the composition of firms in African manufacturing is alarming given the predominance of small, informal, and natural resource-based firms, i.e. in the lowest productivity range, even if there is also observable heterogeneity within what is reported as ‘informal’ (Mbaye and Benjamin 2015). Even labour productivity in existing manufacturing sectors is below the relevant benchmarks and indeed in comparison to levels in Asia (Martins 2019). It is also unlikely that all these structural features are sufficiently captured by national account statistics (Jerven 2013).

Africa’s ‘structural deficit’, exacerbated since the 1980s, has vivid manifestations in the current employment challenges facing the region. During the colonial and early postcolonial periods the expansion of wage employment was a major trait, coupled with the incorporation of large masses of the peasantry into emerging and national global markets through a variety of forms of wage and non-waged labour relations, as small-scale producers, even forms of coercive labour and various combinations of self-employment with disguised wage labour, especially in agriculture (Freund 1988; Bernstein 2007; Meagher et al. 2016). The processes of structural adjustment, liberalisation, privatisation and associated deindustrialisation exacerbated the generalisation of *informal labour relations* whether in the form of self-employment (classic cases of household farm production or one-person informal micro ‘businesses’) or wage employment (largely of a casual nature with low levels of remuneration). Whether this can be described as ‘deproletarianisation’ or simply as ‘informalisation’ is a matter of terminological taste and often masks important statistical biases (Meagher et al 2016; Meagher 2005). The most important question is that African economies have failed to produce a sufficient number of decent jobs in higher productivity activities for new labour market entrants in the past three decades. Mbaye and Benjamin (2015) among many other contributions depict a labour market characterised not simply by ‘informality’ but generally by a large proportion of the labour force stuck in straddling essentially low-productivity activities, with the typical shift from small-scale agriculture to urban-based informal services (mainly trade, transport and personal services). Teal (2016) shows evidence that higher returns to labour are found in larger sized firms, usually formal but also informal, whereas remuneration for wage employment in small firms is not different from returns to low productivity self-employment. These studies together with literature reviewed by Meagher et al. (2016) question narratives of economic dualism, given that the formal-informal divide is blurred and similarities in economic insecurity and vulnerability cut across this artificial statistical boundary.

Much has been said about the potential demographic dividend that some analysts (Garcia and Fares 2008) expect from demographic projections in Africa. However the potential

demographic dividend may well translate into a demographic ‘catastrophe’ if fertility rates do not drop as expected, in a context of economic vulnerability and scarcity in good jobs (Bongaarts and Casterline 2013; Meagher 2016). Rather than having a ‘youth bulge’, dependency ratios may well reach unprecedented levels at a time when job creation in SSA is not buoyant. Although there is substantial variation in labour supply dynamics across SSA countries, the sluggishness of job creation in more dynamic and higher productivity sectors is alarming. As Meagher (2016: 493) suggests, recasting ‘Africa’s labour force and expanding informal economy as *resources* seems counter-intuitive’ (emphasis mine). People cannot afford to be unemployed in contexts of widespread poverty with limited safety nets, so the issue is not ‘finding work’, rather the productivity and conditions of work (ILO 2014; Oya and Pontara 2015). Andreoni and Chang (2016), echoing Amsden’s (2012) preoccupation with the ‘jobs dementia’ affecting international organisations working on poverty in Africa, note that the agenda for industrialisation-driven structural change is intimately linked to an employment agenda. They conclude that ‘bringing production back into the development discourse also implies a fundamental refocusing of the debate from poverty reduction to employment creation and improvements in working conditions’ (Andreoni and Chang 2016: 9). This is indeed the challenge that many studies on employment and especially youth employment often emphasise and one that this research project takes at heart.

In sum, Chinese and other foreign companies invest in African economies that have experienced a ‘revival’ since the late 1990s, leading some of them to top the world rankings in economic growth rates. The range of drivers of renewed growth is diverse, including: (a) post-conflict reconstruction and peace dividends, (b) the primary commodity boom until 2014, and (c) improvements in economic policies in non-resource-rich countries, especially a recovery of investment after decades of structural adjustment and fiscal squeeze (Ethiopia, Rwanda, Tanzania). Despite this remarkable growth, the record on structural change is not so impressive. While there is evidence of structural change partly contributing to some labour productivity growth, this process has consisted of the rise of services at the expense of agriculture, with very limited or not manufacturing development in most countries. While industrialization is showing signs of recovery in some countries, by and large the regional picture is yet to show clear signs of the kind of structural change that has characterized social and economic transformations in higher income countries. This record is then reflected in labour structures that are marked by much slower developments, i.e. stalled demographic transitions combined with limited expansion in higher quality wage employment and labour market structures where economic insecurity, vulnerability and low returns predominate, whether in the vast ‘informal’ sector or generally among the labour force. Therefore the employment challenge in terms of mass job creation and improvement in employment quality remains imperative on the agenda of all African countries.

The two national contexts we have selected for this project, Angola and Ethiopia, share the experience of rapid GDP growth since the early 2000s (as two of the top fastest growing African economies in this period), but differ substantially in the sources of growth as Angola is regarded as primarily resource (oil) dependent whereas Ethiopia is not rich in natural resources. Both contexts are also characterized by fragile labour contexts, for different reasons, linked to demography, legacies of war, labour force growth, weak labour institutions, and prevalence of low-productivity vulnerable employment. These two countries also have ranked very high, often in the top 2 or top 5 as destinations for Chinese construction companies as well as for Chinese FDI (SAIS-CARI database). The following subsections provide some pointers and stylized facts about the economic and labour contexts of Ethiopia and Angola.

Ethiopia's economic and labour market context

Ethiopia has been one of the star African performers since 2000 in terms of both growth and changes in productive structures. Starting from an extremely low industrial base, Ethiopia has experienced one of the fastest growth records in MVA since 2000, and employment creation in non-agricultural sectors is gathering pace. Yet, this growth has not been yet enough to significantly increase the share of manufacturing in GDP and employment, and most structural transformation indicators to a level comparable to the top 15 African countries that make up a majority of the region's GDP, manufacturing and agricultural (UNECA 2016: 102). The strong dynamic of incipient industrial transformation and export oriented manufacturing in Ethiopia is however taking hold and promises to contribute significantly to a gradual change in economic and employment structures in one of the most populous countries in Africa. In both countries substantial job creation in the sector of infrastructure development has accelerated at least until 2015, partly thanks to Chinese finance and SOEs building roads, dams, bridges and ports in the past 15 years. Jobs in these sectors are also important in terms of the process of building a future industrial labour force given the transferability of skills and the importance that new work cultures have in leading socio-cultural shifts in societies under transformation from agrarian to industrial forms (Oya 2019).

Martins (2017) concludes his analysis with evidence that there has been significant structural change in terms of shares of VA but shifts in the composition of employment have lagged behind, based on labour force surveys between 1999 and 2013. This data does not of course take into account the substantial job creation in the manufacturing sector since 2012. According to ILO data (ILOSTAT), the expansion of recorded wage employment (primarily in formal sector occupations) has been remarkable in the period 2007-17, almost doubling while labour force grew by 40% in the same period (ILO 2018a). However, it still only represents 13% of the total labour force, which is still concentrated in agriculture.

Ethiopia, like many other African countries, is experiencing a youth bulge in a context in which a demographic transition in Africa is not evident yet (Meagher 2016). Employment structures reflect lack of higher-productivity jobs and much reliance on low-productivity agricultural and 'informal' service activities, with relatively high unemployment rates in large urban centres despite improvements since the 1990s (World Bank 2016; Kibret 2014; Martins 2017). The limited progress in generating mass creation of decent permanent jobs for the rapidly expanding young labour force and better educated population constitutes a threat to economic and political stability and a source of weak bargaining power of those employed in emerging sectors.

In fact, despite the impressive GDP growth rates since 2000 and some creation of new jobs across sectors, especially in market services and more recently in manufacturing, there are no signs yet of labour market tightening, at least in the formal (recorded) sector. Studies of real wages in urban Ethiopia show a worrying decline with significant fluctuations as a result of food price inflation dynamics. The World Bank found real wage declines between 2003 and 2014 despite a more educated labour force and generally expanding employment (WB 2016). In the period 2008-17, according to the ILO (2018b) the annual real wage growth was negative (-0.8%), well below the SSA median of +2.7%. These trends in real wages reflect weak workers' bargaining power, partly driven by the vast reserve army of labour in the countryside and growing urban centres, partly by imperfect adjustments of nominal wages to inflation spikes, which reflect the influence of sticky nominal wages in the public sector and knock-on effects on wage setting in the private sector.

Angola's economic and labour market context

Angola came out of a protracted civil war in 2002 with the military victory of the ruling party MPLA over UNITA. The post-conflict scenario started with the legacies of the civil war, i.e. a mass of internally displaced people, dilapidated infrastructure and severe dependence on the oil sector. Socially this scenario was characterised by widespread poverty, especially in rural areas and large urban slums that hosted thousands of internal refugees, and very high levels of inequality. The post-conflict political settlement reflected the reinforced power of the MPLA regime at a time where the imperative to 'deliver' on economic development became increasingly urgent.

The labour market context of the early post-conflict years was one of acute skill deficits, high unemployment levels in urban areas and expanding informality, which reflected the need for the poorest segments of the Angolan population to survive by any means. Already during the war, levels of informality had soared, when in 1990, over two thirds of the employed population survived on irregular informal jobs while most of the remainder were distributed in the army, in jobs in government and SOEs (Rodrigues 2006). Given the war, the agricultural sector was severely disrupted and this contributed to additional urbanization that led to the labour-supply drive informality that prevailed in the main urban centres. This war-driven urbanization that was highly concentrated in Luanda followed previous waves of rural exodus in the colonial period: first, as a result of mainly men avoiding contract and forced labour in agriculture before the 1960s; second, attracted by incipient industrialization in Luanda combined with the effects of the liberation war that was particularly affecting rural areas (Rodrigues 2006).

The urban employment landscape has since then generated a familiar range of distress-driven urban informal jobs in petty trade (*zungueiros*), foreign exchange parallel markets (*kinguilas*), and transport (*candongueiros*), which have coexisted with the remnants of a formal sector that had recorded significant employment growth during the late colonial period, across manufacturing and services (Queiroz 2016; Rodrigues 2006). Many jobs created in these informal activities are irregular forms of wage employment as a large proportion of total wage employment in Luanda is accounted for by informal SMEs (Rodrigues 2006). For a country with widespread poverty, the recorded unemployment rate as per the 2014 Census, is very high, at 24%. This is likely to reflect very high youth unemployment among youth who can afford to be unemployed in the absence of an effective social protection system. It is also possible that some people who are classified as unemployed are actually informally and casually employed in the vast informal economy of towns.

To be sure, the post-conflict reconstruction boom and overall recovery of activity among existing and new private firms in construction, manufacturing and services led to substantial job creation under 'formal' arrangements. Thus construction jobs between 2002 and 2012 grew by a cumulative 142% in contrast with only 30% in manufacturing, and 360% in financial services, all from a relatively low base (Wanda 2017). In absolute terms, however, the sectors adding more jobs to total employment were trade, agriculture and transport. The construction sector did add around 240,000 net jobs between 2002 and 2012, period when the construction boom was at its peak, which resulted in an increase in its share of total employment from 9% to over 16%. More recent data until 2016 suggest stagnation in the construction sector, combined with a surge in jobs in energy/electricity which could be associated with the large-scale construction of new dams (therefore, still construction jobs) and an impressive growth in manufacturing employment from around 73,000 to over 130,000 employees, paradoxically coinciding with the beginning of the crisis triggered by the collapse of oil prices since 2015.

The reliability of these official statistics is questionable. This research team spent much time trying to obtain consolidated employment statistics for stock and not just flows (i.e. government reports on ‘job creation’), but consistent series were hard to come by and national accounts statistics feed from dubious estimates done at ministry level without the backing of regular enterprise surveys, let alone labour force or household surveys. It was also not possible to obtain consistent series for wages at sector level as the official statistics (national accounts) provide annual ‘wage bills’ by sector which would imply per person monthly salaries that were too high to be realistic. ILO (2018b) suggest a real wage decline between 3 and 5.4% based on two or three data points between 2000 and 2017, whereas UCAN (2017) suggests that real wages increased during this period, based on official data sources.

Chinese firms and labour issues: what debates?

A literature review on employment effects of Chinese firms (whether investors in new activities or contractors for infrastructure and engineering projects) was conducted with a number of key questions in mind:

- What are the characteristics of Chinese labour practices in Africa?
- Which factors shape Chinese labour practices in Africa?
- Which wider developmental effects stem from Chinese labour practices in Africa, particularly in relation to skill development and the building of an industrial labour force?

A clear finding of this literature review is the scarcity of empirically-grounded research material as opposed to media or advocacy reporting. The topic of labour conditions seems to be dominated by documents published in English as there is much more literature in English than in Chinese about environmental issues and labour rights issues associated with Chinese overseas enterprises (唐 Tang and 熊 Xiong 2015).

A popular topic in the emerging literature (reports and studies arising from the mid-2000s), and especially in media reporting, on employment effects of Chinese actors in Africa is the importation of Chinese labour, especially in infrastructure construction. Whenever we tried to explain our research objectives, the immediate reaction from many (largely biased) interviewees was that Chinese firms ‘mainly rely on Chinese workers, even for low-skilled labour’. There is an abundance of reports and claims that suggest construction projects barely create any jobs for local workers (examples from media etc.). A well-known US journalist reporting on these issues claimed that the Chinese government sends to Africa ‘large work crews on big infrastructure projects... Essentially all of the labor is done by Chinese people...’ (French 2014: xx).

However, our preliminary desk research and a growing number of more evidence-based reports have shown that the claim that Chinese firms in Africa import all or substantial parts of their workforce from China is untenable. In fact, contrary to this widely held belief, some case studies have already indicated that there has been a significant local labour content within Chinese workplaces in Africa. Corkin’s survey data from 32 Chinese companies in the construction sector in Angola, perhaps the country where the use of Chinese workers has been most visible, reveal that 51% of the labour content has been sourced locally, and this was in the early stages of infrastructure contracts after the end of the war in 2002 (Corkin 2012). A study by Tang (2010) estimates the average share across all sectors of Angolan labour in Chinese companies to be 60%. Brautigam (2013a) also suggests that the increase in national labour content can be driven by domestic agency. In Ethiopia, for example, ‘labor unions were able to press

effectively for the employment of Ethiopian workers in the Chinese ring road project' (Brautigam 2013a). (<http://www.chinaafricarealstory.com/p/research-topics.html>).

The most recent and comprehensive source of evidence on workforce localization is the survey of over 1,000 Chinese firms in 8 countries conducted by McKinsey (2017). This report shows how these firms largely rely on local labour, despite some significant variation by project and sector. The average rate of localization is 89 per cent. Sector matters and in manufacturing this proportion reaches 95 per cent (McKinsey 2017: 41). This is consistent with another large-scale compilation of more than 400 firms/projects from several hundred interviews and thousands of documents on mainly construction and manufacturing (Sautman and Yan 2015), which concludes that the average localization rate is 85 per cent, with most firms clustered within the 80-95 per cent band largely depending on sectors. In our own project, we compiled nearly 60 studies/cases (including the ones cited in this paragraph), covering the wide spectrum of projects from very low to very high levels of localization and a *weighted* average of 85 per cent (see Annex B).¹¹ About two thirds of these cases/studies had localization rates exceeding 80 per cent. Even in cases/countries where localization rates were relatively low, overall local job creation was not meaningless. For example, one of the flagship projects in Angola, the development of a new satellite town with 20,000 apartments by CITIC Construction (Kilamba-Kiayi phase I) employed cumulatively 36,000 Angolan workers in different stages over 54 months, representing just 60% of the total labour force in a single project (Bo 2014).

Variation in workforce localization rates depends on several factors, including country, sector, type of firm (ownership, scale, and management ethos), type of (construction) projects and level of skill requirements. For example, several sources during the scoping phases of this project suggested that the share of national workers is constrained by the scarcity of skilled labour, which is more acute in some countries than others, thus leaving countries like Equatorial Guinea and Angola, where construction projects were numerous and skilled labour force relatively limited, with lower rates of localization. This also means that construction projects that required more skill and specialization might have lower rates of localization. Yet, as Brautigam (2013a) suggests and our comparison between Ethiopia and Angola corroborates domestic agency and labour institutions matter, as the arrival of Chinese labour for construction projects may be restricted by deliberate policies to maximise the employment of local workers.

More reliable statistics of Chinese workers in Africa, as compiled by SAIS-CARI, show a marked increase between 2001 (nearly 47,000 workers) and 2016 (227,000 workers) with a peak of over 263,000 in 2015. Of these, the proportion of Chinese workers in SSA countries has been steadily declining from a peak of 78 per cent in 2011 to only 58 per cent in 2016, so that North Africa has a disproportionate share of Chinese workers and lower levels of localization, especially in countries like Algeria. In absolute terms, after years of growth, the number of Chinese workers in SSA declined by nearly 20 per cent, a sign that workforce localization has been gaining force both in absolute and relative terms.¹²

The literature review produced more consistent, albeit still very limited, findings on the quality of employment generated. In this case too, the picture appears to be much less bleak than the one presented in media narratives. Tang (2016: 121), in a recent survey of different experiences

¹¹ The simple arithmetic mean is 75 per cent.

¹² All these calculations are based on analysis of data provided by SAIS-CARI at <http://www.sais-cari.org/data-chinese-workers-in-africa>

of labour encounters, concludes that, while popular (negative) perceptions about Chinese firms' labour practices are not always unfounded, they are often based on observations that are 'partial or imprecise'. Variation in conditions across enterprises is significant enough to question some of the most popular generalizations. Moreover, there is also a clear trend towards changes in such practices, especially among firms that are bound to adapt to more demanding local contexts.

It is important to put such perceptions and analyses in the context of labour markets in Africa in the era of post-liberalization and structural adjustment of the 2000s (Lee 2017). Indeed, it should not be surprising to find instances of casualization and precarious short-term employment without welfare benefits in contexts of widespread informalization and very weak labour institutions, an industry-wide phenomenon stemming from neoliberal reforms introduced under structural adjustment or in contexts where labour market formation is still in incipient stages (see Lee 2009; Akorsu and Cooke 2011). The practices found in the limited number of studies on working conditions in Chinese firms are not at all far from what is reported in same sectors in China and other large developing countries like India (Lerche et al 2017; Chan 2015). Methodological nationalism is also risky since it may blinker our capacity to grasp the heterogeneity of practices among firms of the same nationality, as there seems to be variation among Chinese firms with various examples of situations with long-term contracts and non-wage benefits (see Huang and Ren 2013; Kamoche and Siebers 2015; Tang 2016). The evidence available is biased towards a narrow set of countries and sectors. Zambia is perhaps the country that has received most attention in relation to the empirical investigation of labour practices in Chinese firms in Africa (see more in paragraph below).

The lack of comparative evidence, i.e. comparisons of labour practices by type and nationality of firms, is a major obstacle to any meaningful analysis of labour standards, by country, sector and firm type (e.g. more or less formal/informal enterprises; smaller or larger firms). Where research follows systematic comparisons the evidence does not suggest labour standards are worse at Chinese workplaces. Akorsu and Cooke (2011) compare Chinese labour practices in a manufacturing firm in Ghana to that of an Indian firm in the same and reveal that their labour practices are quite similar in terms of remuneration, freedom of association and health and safety stipulations. A more recent attempt, by Rounds and Huang (2017), compares labour conditions in Chinese and American (US) firms in Kenya, concluding that variation among Chinese firms is more significant than any differences with American and Kenyan firms, and that similarities in labour localisation (ie % of national employees in total employment), practices, attitudes and perceptions are far more evident than reported in media.

Evidence on working conditions in Chinese firms in Zambia seems more developed. Lee (2009, 2017), HRW (2009), Sautman and Yan (2012), and Sinkala and Zhou (2014) have contributed with different kinds of arguments and evidence, often with different results. In the case of Zambia's mining sector, Fraser and Lungu's (2007: 73) study remind us that casualization is a general problem across the sector, not Chinese specific. It is impossible to understand labour practices in Zambian mining without an analysis of historical changes in the sector and especially the dramatic process of deregulation, privatization and liberalization that took place in the 1990s. Chinese firms, like other foreign TNCs benefited from the privatisation process and a much more deregulated labour market. Yet, reports like HRW (2011) seem to obviate these important factors and focus on what they regard as exploitative practices intrinsic to Chinese firms. Sautman and Yan (2012) have questioned the validity of comparisons in the HRW report as well as the lack of evidence on non-permanent workers in non-Chinese firms.

Besides methodological biases, a key issue is explaining these outcomes in these particular contexts and some contradictions emerging from comparisons between Chinese state firms and foreign TNCs. For example, Lee (2017), with an unusual longitudinal comparative research on accumulation regimes and labour outcomes in Zambia, in mining and construction, proposes the notion of ‘varieties of capital’ to distinguish different types of Chinese capital to overcome the trap of ‘methodological nationalism’ or ‘national institutionalism’ inherent to a ‘varieties of capitalism’ approach (Ibid.: 9). By looking at different varieties of Chinese and non-Chinese capital in different sectors, she shows how the combination of systemic forces (inherent accumulation logic of capital, competition imperatives, etc.) and contingent events (1970s and 2008 crises, technological breakthroughs, ‘going out’ of Chinese enterprises) produces outcomes that cannot be simply deduced from some form of historical determinism or methodological nationalism. Chinese state capital, for example, ‘at home and abroad, is Janus faced, both centrally controlled and also capable of decentralized and local improvisation’ (Ibid.: 10). Understanding the double logic of Chinese state capital (accumulation for profit and securing resources and political/diplomatic influence) compared with the single-minded profit-driven logic of private capital, whether Chinese, other foreign or domestic, is essential to understand different labour outcomes, labour practices and their evolution over time. Studies such as HRW (2011) and Baah and Jauch (2009) lack this kind of nuanced comparative approach and contextualisation.

As shown by Lee, comparisons are important to explore variation in outcomes among firms of same nationality. Indeed, most of the Chinese-language literature suggests that SOEs have greater capacity and respect for labour protection compared to the private owned enterprises as profits are not the only targets for SOEs. Concerns for national image, resource security and Chinese strategy on foreign policy are all part of the job and thus result in better labour relation in general. For example, in Zhao et al.’ s interview, only one SOE reported to have labour conflict compared to 14 privately owned enterprises in Zimbabwe. (赵 Zhao, 唐 Tang, and Ngwawi 2015). Similarly, one would expect important differences among other foreign firms, because of size, management practices and specific activities in which they are involved.

Another issue is the contribution to skill development, especially in new sectors where skill shortages are critical. Our desk review showed that, against the frequent perception that Chinese firms do not generate new skills, all reviewed studies give evidence of training provision, even if the most dominant forms tend to be informalised and on-the-job (McKinsey 2017; Tang 2016; Bashir 2015; Meibo and Peiqiang 2013). Warmerdam and Dijk (2013) report that 61% of all companies interviewed in Uganda had training policies in place. Training of local labour is undertaken to replace Chinese labour in various though particularly in low-skilled positions. On the job training involves the acquisition of specific skills such as carpentry, electricity and engineering, as well as learning how to use new machinery and devices. On Chinese construction projects Angolan engineers are trained for maintenance work (Tang 2010). In the case of the large state-owned enterprises (SOEs) labour training is encouraged by the Chinese state for image reasons (Corkin 2012) but also to secure long-term strategic interests, in particular access to raw materials and market outlets for construction firms and machinery. Training interventions such as inviting host country officials and workers to China is integral part of the municipal/ provincial governments’ strategy in facilitating their SOEs to venture abroad (Cooke et al. 2015). There are many more examples like these. It is clear that it is in the interest of companies, precisely in sectors where vocational training is missing or insufficient, to develop mechanisms so that they can turn low-skilled labour with very limited education into employable workers in factories and construction sites.

Finally, the evidence collected in the studies under review suggests that Chinese labour practices improve both in terms of quantity and in terms of quality, the longer Chinese companies stay in the market. In other words, it is a fluid dynamic situation and the picture of reports from the early to mid-2000s may no longer apply to a vast majority of Chinese firms in Africa. This also underscores the speed of adaptation and the impact of longer-term engagement on labour practices, which ought to question the power of quick ‘snapshots’ of the situation. Thus, rather than conceiving employment relations in Chinese firms as something static and enquiring merely the characteristics of labour relations in Chinese firms, the more pertinent research question is to ask what explains evolutions of labour relations over time and to the extent that systematic (case mix adjusted) differences in employment practices between Chinese and non-Chinese firms can be observed, what explains such sector and country specific differences in labour practices.

It is equally important to frame these questions within the canvass of the dynamic of contemporary global capitalism in which the balance of power between labour and capital has significantly shifted in favour of the latter since the 1970s. Changes in labour regimes on a global scale and specific configurations are country and sector level need to be understood in order to make sense of whatever differences and similarities one can find when exploring labour practices in Africa. Section 3 takes these broad aspects in consideration and extracts key analytical categories from the literature on capital-labour relations in the context of contemporary global capitalism and with consideration of long-term trends and cycles. Before we move to that analytical discussion, it is important to summarise the key evidence needs and how this project proposes to add value to this emerging field of research.

Key evidence gaps and needs

Why do we need more research on labour conditions and dynamics in Chinese firms in Africa? The gaps and biases identified in the overview of the literature presented in the previous section calls for a comparative framework to tackle questions on labour practices and working conditions, which would require determining, in a more systematic way:

- The share of host-country labour in Chinese companies in each sector, disaggregated primarily by level of skill (especially relatively skilled vs relatively low-skilled);
- the incentive compensation systems and wage levels of national workers employed by Chinese companies (compared to compensation systems and wages of workers in comparable domestic and other foreign firms); this should include the payment of bonus (performance-related or others);
- Other forms of compensation, adding to the ‘social wage’, such as allowances for housing, food, and transport;
- Whether there is a contract and its duration;
- Working hours;
- Health and safety conditions;
- Skill development and promotion systems;
- Workplace labour relations, and particular management of performance, claims and conflict.
- Unionisation and role of trade unions at enterprise level.
- Different forms of labour market segmentation, with special focus on gender and the use of migrant labour.

- All the above, taking into account (a) the national contexts of countries where these enterprises operate; (b) the national context of China where these firms come from; (c) the sectorial contexts (and their local, national, and global attributes) where these enterprises work.

As shown in this section of the report and in a working paper of this project (Oya et al. 2018) we have carried out a desk review of recent projects that have attempted to cover the same general topic, i.e., employment conditions in Chinese firms in sub-Saharan Africa. For example, Baah and Lauch (2009), Corkin (2012) Lee (2009, 2014, 2017), Sautman and Yan (2012; 2015; 2016) and Tang (2010, 2016) have published articles based on gathering data on employment in Chinese firms in the construction and mining sectors in different African countries, especially Angola and Zambia. However, not all publications are directly focused on labour issues and not all studies provide a systematic comparative framework, including firms of other nationalities. Moreover, most studies under review are only small in scale and often cover only one country.

Lack of contextualisation is often a major drawback in the reporting of labour issues in Chinese firms in Africa. Indeed, one major limitation of most existing studies and a starting point for this project, is the scarcity of high-quality evidence on general labour market dynamics and outcomes, especially in the construction and manufacturing sectors in SSA. Generally evidence on employment conditions, labour market structures and trend, wages, sector dynamics and other related topics in Africa is alarmingly scarce. Official data on employment are incomplete and often unreliable. There are many reasons for this neglect but the situation has not substantially improved despite the increasing frequency of household surveys (Sender et al. 2005; Oya and Pontara 2005; Rizzo and Wuyts 2015). While there is an abundance of literature on the informal economy, on self-employment and micro-entrepreneurs, there is limited attention to wage employment in agriculture, construction and manufacturing. Any bibliographic search for material on employment in the construction and manufacturing sectors in Africa leads to a number of items focused on South Africa and limited material on other sub-Saharan African countries. There are some studies drawing from Enterprise Survey data such as Fafchamps and Soderbom (2006) and Page and Soderbom (2015) but these tend to be limited to formal sector firms and with not enough detail on wages and other working conditions. There is also work conducted by French researchers on urban labour markets, which have shed light on the scale of informal employment and the diversity of conditions along the formal-informal labour continuum (Roubaud and Torelli 2013). Despite these contributions, there is an important gap since the study of comparative working conditions for specific groups of firms would necessitate a more solid and up-to-date evidence base on *average* working conditions in relevant sectors. After our scoping research in Ethiopia and Angola and follow-up desk reviews it became clear that evidence on wages and working conditions in the target sectors (construction and manufacturing) was largely missing or patchy, so it would be hard to know whether conditions found in sampled firms correspond to the ‘average’ reality of these labour markets or not. It may be possible to at least compare to other non-nationally representative data from micro studies conducted before or at the same time as the surveys of this project, especially in Ethiopia where substantial research has been conducted in manufacturing sector in the past 5 years. It is also possible to compare the profiles of our sampled workers with those of the relevant ‘average’ population if similar indicators on education, demographic characteristics and socio-economic status could be found for contemporaneous nationally representative surveys.

Finally, outdated snapshots may lead to biased claims. Despite the availability of more recent research material (Lee 2017, Sautman and Yan 2015, Sautman and Yan 2016; McKinsey 2017, Tang 2016 as good examples), research on the characteristics of Chinese labour practices needs to be updated for more countries and more sectors. As emphasised repeatedly throughout this review, Chinese-African employment relations evolve rapidly and many of the widely cited reports that meticulously documented labour abuses in Chinese firms such as Human Rights Watch (2011) or Baah and Lauch (2009) are not only methodologically problematic but also sorely outdated.

Therefore, to ascertain the key employment trends and to deepen our understanding of how and why any differences between labour practices in different firms and sectors are observed, generally future research should include:

- A larger number of firms, of different types (i.e. of different ‘varieties of capital’ to use Lee’s terminology);
- A greater variety of stakeholders/ institutional actors (beyond the employers, ‘state’ and trade unions);
- Rigorous comparative analysis, which would require to quantitatively isolate:
 - Sector specific dynamics through comparison of Chinese labour practices across different sectors within the same country;
 - Country specific dynamics through comparison of Chinese labour practices in the same sector across different countries;
 - Other firm attributes;
 - Individual workers’ characteristics.
- Analysis of the reasons underpinning observed differences as well as of changes over time, primarily through mixed methods analysis (i.e. to ascertain causal mechanisms affecting outcomes such as wages, benefits, workplace characteristics, skill development practices and so on).

As will be shown in section 5, our research approach builds on the desk review of the available evidence and chooses to focus on core employment issues, even if it complements a labour-focused data collection with research on relevant contextual aspects such as the dynamics of Chinese FDI and contractors overseas; China’s ‘going out’ context; manufacturing and construction trends in China and Africa. The project aims to also more systematically comparative in its methodology than most studies, since it seeks to cover both construction and manufacturing across two countries, Angola and Ethiopia, for two types of labour (semi-skilled and low-skilled). It also builds on a unique combination of (a) extensive employment survey experience of SOAS-based researchers and their research assistants in both countries, and (b) thorough knowledge of investment and employment outcomes in both China itself and in its engagement in sub-Saharan Africa. The closest in terms of approach and questions is the ethnographic work conducted by Lee (2014; 2017) over an extended period in two sectors in Zambia. Tang’s work (2016) is also highly relevant and has also directly contributed to this project with additional qualitative research conducted by the author as a co-researcher. In terms of the nature of evidence, the main value added of this project is the organisation of large-scale quantitative surveys of workers, including a substantial number of non-Chinese firms for comparative purposes. To the best of our knowledge there is no other research that has undertaken this task yet. In addition, as described in section 5, this project also collected a wide range of types of evidence on multiple questions, and mapped the official evidence base on these issues in both Angola and Ethiopia as well as other countries (from the desk reviews).

3. Analytical framework

The analytical framework and the design of this research project are informed by different strands of literature and debates, some of which have already been discussed in section 2. This section discusses the key theoretical threads and conceptual/analytical categories that inform our research questions, possible hypotheses and the various forms of data collection that are proposed in this report. This section is divided into three parts, each dealing with a body of work that has produced relevant analytical categories for this research:

- a. Literature on China's engagement in Africa, with contributions from different fields, including international relations, international political economy and development economics.
- b. Debates about 'labour regimes' in contemporary capitalism and especially in the context of cross-border movements of firms. We pay particular attention to the body of work on labour regimes in China and elsewhere (Lee 1999; Luthje et al 2013; Pun and Smith 2007; Lerche et al 2017; Baglioni 2018) in order to better contextualise the operations of Chinese firms overseas.
- c. Contributions and insights from 'old' structuralist development economics (or *New Developmentalist* framework, cf Andreoni and Chang 2016) on the process of structural change and associated employment dynamics in low-income countries, particularly on the notion of production capabilities and centrality of learning processes through direct experience for future industrialisation prospects. This is a body of work that includes the insights of classic development economists like Hirschman, Kaldor or Akamatsu, as well as those who in the last three decades have carried forward this agenda in their analysis of industrialisation in developing countries, e.g. Amsden and Chang among others.

The inclusion of an eclectic mix of approaches and analytical categories embodied in the literature cited below does not imply a simple 'application' of such debates and categories to our research agenda. Rather, the various concepts and analytical insights emerging from these bodies of work may be relevant to the questions asked by this project and provide a useful analytical canvass over which a detailed empirical analysis can be drawn with the evidence that has been collected in the project. The overall analytical framework informing this project is one of political economy analysis of contemporary capitalism and labour relations arising from new forms of globalisation, as represented by Chinese firms in Africa. The capital-labour relations embodied by these new 'encounters' is at the centre of our analysis. Several, but not all, of the contributions mentioned in sub-sections below do pertain to the broader field of political economy of capitalism.

China's engagement in Africa: agency and interdependence

In section 2 we have provided an overview of some of the most relevant literature on China-Africa relations in general and labour encounters between Chinese employers and African workers in particular. This literature includes mostly empirical debates on the drivers and effects of China's engagement in Africa, and the implications for Africa's developmental prospects and particularly for its employment challenges. Much attention is either devoted to (a) macro-level dynamics and the implications of a growing presence of China in Africa in terms of volumes of trade, finance, infrastructure development and FDI; or (b) to micro-dynamics of migration, investment, governance, and employment.

From the burgeoning literature on China's engagement overseas and specifically in Africa we capture the following key ideas that have influenced our thinking on China's engagement in Africa generally, in order to understand the potential and real effects on employment:

- **Understanding economic shifts in China to understand its global outlook.** The dynamics and drivers of the 'go out, i.e. the need to understand the motivations and structural dynamics pushing Chinese financiers and enterprises to expand operations overseas, with African being an increasingly important destination. The 'new normal' in China, and how expected structural transformations in the Chinese economy, its shift towards higher technology, higher value added and more knowledge intensive sectors may have implications for the structural transformation and industrialization of some countries in Africa if opportunities are translated into more widespread realities.
- **China's engagement as a potential catalyst of structural transformation.** There is a contrast of narratives between Africa being seen as a site of scramble for resources vs the image of an arena for opportunities into new sectors, i.e. between a narrative of exploitation and 'neo-colonialism' and one of 'win-win' cooperation. While not denying the importance of resources and energy security to understand China's engagement in Africa, there is still limited understanding of the potential and realities of Chinese engagement in other productive sectors, and the prospects for industrialization that are open partly thanks to contributions in the sphere of infrastructure development and FDI towards capital-starved manufacturing sectors. Our reading of the literature is that framing China's engagement in Africa in terms of 'neo-colonialism' or new 'imperialism' misses the point and risks misrepresenting the realities of China's 'going out' in comparison with historical forms of surplus appropriation in Africa.
- **Multiplicity of actors and the bias in a 'China in Africa' narrative.** The field of Africa-China studies has already evolved towards an understanding that the notions of 'China' and 'Africa' as monolithic entities have little analytical potential. Both are characterised by a multiplicity of actors, institutions and historical backgrounds. Context matters and must be at the centre of any analysis of the engagement of particular Chinese actors in concrete economic, political and social formations in Africa. This project also questions the biases of 'methodological nationalism' and focuses on analysing variation and the drivers of differences in outcomes.
- **African agency in shaping outcomes from relations with Chinese actors.** Another important lesson of our desk review is that African agency must be put at the centre of analysis. This entails a consideration of the variety of African contexts, their economies, polities, societies and institutional actors. Each type of actor may engage with Chinese actors in multiple directions and with different and evolving results. The accumulated body of empirical research shows that African actors (whether the state, capital, or labour) cannot be seen as passive spectators watching the screen of Chinese actors (state, capital, and labour) arriving and living in Africa. African 'actors' do shape the way Chinese 'actors' operate, and many of the differences observed between countries may be explained in terms of how agency is exerted.

Therefore, analytically our approach to examining the effects of Chinese contractors and investors on labour outcomes is informed by the previous points. Our research design, from data collection, to data analysis and interpretation of findings will be largely influenced by these

considerations about what ‘China in Africa’ means. However, developing a relevant analytical framework for this project requires consideration of the dynamics of economic development and structural change in the long run and its implications for employment outcomes on the basis of historical analysis.

Development, structural change and employment dynamics

Understanding the employment dynamics associated with investments and operations of firms in the emerging construction and manufacturing sectors requires a broader understanding of the relationship between economic development, structural change and employment, and particularly the role of capitalist accumulation dynamics in determining labour market outcomes in processes of economic restructuring.

So, from a political economy and heterodox development economics tradition (Fine 1998; Amsden 2001; Andreoni and Chang 2016), different mechanisms can be considered as central to the linkages between investment, structural change and labour outcomes:

- Accumulation dynamics and relation between investment dynamics and labour market outcomes / thus considerations of constraints on investment from the demand side with implications on employment outcomes (e.g. factors causing tightening of labour markets).
- Specificities in labour processes at sector level, impacting on workers structural power because of nature of sector and national/global markets for products/services.
- Labour institutions, including legislation, the role of the state in mediating labour conflict and acting on resistance and associational power, i.e. how the balance between attracting capital to boost chances of industrialisation and structural change on the one hand, and the imperative of creating decent jobs, is struck in the context of low-income agrarian based economies.
- Global to local capitalist interactions → Do FDI and the travelling international contractors reflect a movement of ‘flying geese’ or simply a ‘race-to-the bottom’ whereby working conditions worsen on a global scale, by incorporating new sites of production and accumulation in the expansionary logic of capitalism?

Trends in China’s labour markets, and especially the rapid rise in wages for industrial workers, have led to potential delocalisation of particularly light manufacturing overseas, mainly to other parts of Asia but increasingly to SSA (Calabrese et al., 2017). Therefore the structural change being experienced in one part of the world has implications for potential structural change in other parts of the world. While deindustrialisation’ is experienced in one place ‘industrialisation’ is experienced in another place, or different kinds of ‘industrialisations’ may be experienced simultaneously in different production areas. ‘Flying geese’ theory has been used to understand the transfer of factory jobs from China to Africa. Lin and Monga (2017) show that as manufacturing specialisation moves from low-tech sectors (garment) to high-tech sectors (electronics, HDTV, industrial machinery) over time within a country (say China), certain sectors move across borders, following the geographies of manufacturing flexible production, with production and labour processes ‘travelling’ and adapting to new labour market contexts (Sun 2017).

However, it is not only factories that are moving to SSA, but also Chinese capital moving to mining, construction and services. Whether they do so displaying a ‘race to the bottom’ is a matter of empirical investigation that is still scarce on Africa, as shown in the previous section.

Therefore there may be forces acting to promote the process of industrialisation in African countries and forces acting to reinforce primary production and extractive patterns. Given the growing importance of manufacturing and infrastructure construction in Chinese investments in Africa the prospect of industrialisation has become more realistic in recent years (Sun 2017; Calabrese et al., 2017).

Until recently, the record of structural change in SSA and the widespread informalization of employment is not promising (Meagher 2016). In a recent analysis of structural change in Ethiopia, Martins (2017) offers evidence of substantial structural change in terms of production shares but employment lagging behind such changes. Moreover, much of the observed structural change is not in terms of manufacturing rise at the expense of agriculture but rather services and construction taking over agriculture's shares. Thus while the engine of economic transformation has been set in motion, effects on employment dynamics are not automatic and may lag behind production restructuring. In this light, the success, or not, of bold industrial policy initiatives to boost labour-intensive manufacturing sectors such as the industrial parks in Ethiopia and the rapid rise of FDI towards these sectors in recent years may lead to a catching up between employment restructuring and structural change more broadly in due course if the process is sustained.

These emerging experiences of structural change and industrialisation are critical for agrarian-based low-income countries. Amsden (2001) argues that the building of early 'manufacturing experience' (even in uncompetitive industries) is essential to lay the ground for more rapid structural transformations through industrialization and mass factory job creation. Early 'manufacturing experience' and the building of an industrial workforce then act as key ingredients for further attraction of industrial FDI and domestic private investment in large-scale volume and towards a diversified set of sectors.

These dynamic forces of capital accumulation and globalization, when set in motion, may of course produce tensions and disasters that may block or slow down the process of structural change and new job creation. Do structural change and industrialisation in the era of global capitalism produce immiserising growth and new forms of poverty or do they unleash social forces that affect the future of work in recipient countries? On this question the framework for this project is also influenced by Silver's analysis of forces of labour in the long-run of capitalist development. In particular, her analysis of the debate of whether investment flows towards other developing, especially low-income countries, represent a 'race to the bottom', is highly relevant. Silver (2003: 64) questions whether such characterisation really pays attention to the *longue durée* of capitalism. She suggests that the spatial fix to the problems of profitability that companies seek by relocating in search of cheap labour actually leads to the relocation of the contradictions 'from one site of production to another'. In other words, that while capital initially succeeds by incorporating new cheap labour in new production locations, it eventually faces the prospect of labour unrest in those new location too. The configurations and manifestations of resistance are likely to vary but the point is that contradictions always emerge. This project also attempts to engage with this question insofar as evidence is collected on the challenges and forms of resistance that Chinese and other companies face in the target sectors in Ethiopia and Angola, two countries with very different contexts of labour relations and manifestations of labour resistance but also sharing some common traits.

Understanding different contexts of labour relations and outcomes requires an understanding of how labour is configured in capitalism and particularly how the variety of labour processes and outcomes observed across countries reflects complex combinations of micro, meso and macro

factors in different realms of social relations. The following section proposes an interpretative framework that will combine the literature reviewed in this section with the highly relevant literature on labour regimes and the political economy of labour markets in the contemporary world.

Labour regimes in contemporary capitalism and on the move

Zooming into questions on employment dynamics and labour outcomes, we need a conceptual apparatus to help us select and develop key categories of analysis in order to frame our questions, the approach to collect evidence and our analysis. In order to understand labour outcomes (as working conditions and standards) generally, there are several relevant factors. Different levels of analysis, from more abstract to more concrete, from the global to the local, are necessary to make sense of the multiple aspects that affect the conditions workers face in particular workplaces at particular times. The concept of *labour regime* is useful as a conceptual tool to explore interconnections between multiple factors and the differences between practices in different sectors and workplaces. Bernstein (2007: 7) argues that ‘the notion of ‘labour regimes’ usefully encapsulates the interrelations of (segmented) labour markets and recruitment, conditions of employment and labour processes, and forms of enterprise authority and control, when they coalesce in sociologically well-defined clusters with their own discernible ‘logic’ and effects.’ Labour process theory is useful to understand the workplace dynamics and antagonistic interests of capital and labour, the former driven by the logic of accumulation to control and extract as much labour as possible from workers, and the latter resisting such pressures. Bernstein’s definition, however, implies an extension of the analysis to understand how labour is mobilized to become available beyond the workplace, as well as how it is reproduced in a capitalist labour market. This analytical extension is exemplified by Burawoy’s notion of the “factory regime” (Burawoy, 1985), encompassing labour relations in production in conjunction with relations of production more broadly, by connecting the micro of the workplace with the macro politics of capital–labour relations in a national or global context.¹³ Lerche et al. (2017) add the relation between productive and reproductive realms to the concept of labour regime.¹⁴ As Selwyn (2016) notes, labour regime analysis is “necessarily multi-scalar”, incorporating the global, national, regional, and local. The analytical extension also combines relations of production (and the capital–labour conflict) with relations to the market (i.e., commodification, especially of labour, land, and money) (Burawoy, 2013). These two relational processes in capitalism reflect both class struggle in the Marxian sense, and the movements and counter-movements in the Polanyi sense, or, as Selwyn (2014: 1020) puts it, “Marx-type and Polanyi-type struggles (offensive and defensive struggles)”.

Debates about labour regimes are not simply abstract and conceptual but can be situated in an empirically grounded political economy analysis of labour processes, global production networks and the global restructuring of capitalism, with particular attention to the phenomena of ‘delocalisation’, ‘race to the bottom’, and the dynamics of new forms of workers’ resistance in the new global centres of production (Silver 2003). In other words, a labour regime analysis

¹³ Lee (1999) uses the notion of “factory regime” to encompass the institutional and political apparatus that regulates workplace politics (at macro level) and the labour process and social organization of production at micro-factory level.

¹⁴ In plain language, employers operate different mechanisms of labour control that affect workers’ lives beyond the factory floor.

is intrinsically historically specific and can offer a relevant typology of situations where labour relations and outcomes are shaped by the interaction between workplace-level relations, firm and sector-level production processes and structures, and the broader dynamics of accumulation in a particular capitalist social formation.¹⁵

Ben Fine (1998), from a Marxist political economy standpoint, connects labour market structures, relations, and processes to their reproduction and transformations, and stresses the importance of investigating how they relate to and are shaped by broader processes of long-term change and social, economic and political transformations. Fine, in a classic Marxist tradition, argues that what distinguishes labour markets from other markets is that it is the labour that produces the value in the economy. Moreover, labour is a relation, not a commodity. Fine's approach to labour markets exemplifies the intrinsic connection between the macro and the micro, and the spuriousness of boundaries between the two levels. In relation to an assessment of the employment challenges in South Africa, Isaacs and Fine (2015) posit the problem of 'four lows', i.e. low productivity, low wages, low employment, low investment, all intimately related by the structure of accumulation and distribution predominant in the country and manifesting the power structures in place since the end of apartheid. In other words, the four parameters go together, so it is possible to aim for 'four highs'. The key issue is what constitutes the binding constraint in each context, and how domestic and global forces operate to affect these four key economic variables. A virtuous circle can be generated through more rapid accumulation, i.e. boosting investments via public investment with strong linkages, it is possible to envisage a process whereby productivity growth ensues, labour markets tighten and labour outcomes (wages and employment) grow as a result. This is precisely the kind of scenario mostly missing in contemporary SSA, with South Africa being a remarkable example.

Whether in a virtuous or vicious macro-micro economic circle, a typical labour market outcome in contemporary capitalism is labour market segmentation, along different kinds of boundaries (Silver 2003): gender, location, skill, sector, corporate strategy, and so on. Therefore an important empirical question is to ascertain existing forms of labour segmentation and the main drivers causing them, from the local to the global context. This is a common area of interest in political economy and some variants of new development economics applied to labour markets (Fine 1998).

Different incidence of forms of labour market segmentation also depend on the nature of capital and the institutional environment in which it operates. Thus, the concept of varieties of capitalism and possible applications to global/transnational encounters and labour outcomes, may be useful to inform a comparative framework in which the nation as unit of analysis may have some relevance. However, in order to assess working conditions at micro level, the concept of 'varieties of capital' as developed by Lee (2017) is of greater use than the notion of 'varieties of capitalism', which suffers from excessive 'methodological nationalism'. Different stylised 'varieties of capital' can be connected to comparative outcomes through the origin of employers, not just in terms of country but also in terms of the specific sectors and activities in which they originate and the ownership structures they have (Luthje et al. 2013; Lee 2017). An empirically grounded description of 'varieties of capital' can help us analyse how they travel, since the existence of 'varieties of capitalism' at a more macro level and their associated corporate cultures does not mean these are reproduced wherever they set new production bases. Hence, a likely result is that labour practices become 'hybridized' through a combination of the

¹⁵ See Lee (1999) for an application in the Chinese context.

‘variety of capital’ represented by a firm in a particular sector and the actual national and local conditions in which the foreign firm operates, and how those conditions change over time.

The literature reviewed so far in this section suggests that a set of relevant analytical categories to understand employment dynamics and outcomes requires an interdisciplinary approach, spanning mainly the fields of political economy, industrial sociology, and economic geography, to analyse different combinations of explanatory factors, which taken together, may explain the configuration of contextual, structural and agency factors determining workplace and sector-level labour outcomes. For example, the following factors are likely to impact on labour outcomes:

- Capital-labour relations and the relative strength of one or the other in a national setting, i.e. broad features of the national political economy and the role of the state in shaping capital-labour relations.
- State interventions shaping capital labour relations at macro level.
- Drivers of accumulation/investment at global, national, sector and micro level, which also requires consideration of global and national economic cycles.
- Sector specificities in terms of technology, skill levels and markets (whether operating in global or domestic markets, against more or less competition, and so on).
- Labour force (supply) characteristics (structural aspects), including spatial dimensions of labour processes and skill stocks.
- Work culture and management ethos, themselves function of corporate strategies and traditions as well as sector specificities. These can have an impact on conflict over work cultures and the racialization of work and discipline (a topic of interest in the China-Africa literature).
- Labour process specificities at different stages of the production process along the value chain, with particular attention to mechanisms of labour control at macro and micro levels and along different nodes of a value chain.
- Labour institutions, including the nature and strength/weakness of labour institutions (legislation, its enforcement, institutional actors, especially trade unions, state interventions in labour matters) with particular emphasis on drivers, incidence and effects of collective action.

From this review of the literature, our analytical framework combines three different and interconnected levels of analysis to explain the multiple determinants of labour outcomes in a given context (see First, beginning at the bottom, are the micro-level workplace dynamics and ‘raw’ encounters between employers and workers over wages, productivity imperatives, safety, effort, and labour time. In addition, labour regimes incorporate the institutions of social reproduction which, taken together, ensure that workers can be mobilised, motivated, utilised in production, and reproduced (Taylor and Rioux, 2018).

Second are the characteristics and dynamics of a particular sector or global production network, which cut across national boundaries and generate specific imperatives of labour control and standards, through market structures, competition, global chain rules, and technology, and which are intimately linked with skill requirements, the spatial dimensions of labour processes, and even prevailing work culture and management ethos (Anner, 2015). Integration into sophisticated global production networks serving consumer markets in high-income countries is different to ‘simply’ exporting goods. While all exporting companies are exposed to the

‘disciplining’ effects of international markets, the pressures they face are very different to those found in the global production networks that produce relatively high-quality goods for sale in the US and EU. These networks are organised and controlled by powerful and demanding lead companies that impose rapid turnaround times and low profit margins on their suppliers. For suppliers tied into such global production networks these pressures result in a very different organisation of the labour process, by which we mean the conversation of labour power, which is a person’s capacity to work over a given time period, into realised work (Taylor and Rioux, 2018). *A priori*, we expect labour processes in companies tied into global production networks to be subject to much more detailed managerial interference, and managers to rely on more sophisticated – and often harsher – labour control regimes.

Third is the national political economy, and particularly the macroeconomic dynamics shaping economic transformations and structural change alongside the macro-level politics of production and state–society relations which shape labour supply dynamics and the arenas of different struggles, whether over the extent of commodification, the limits to labour reproduction, or claims over representation. In this case, the national-level politics of production in terms of the relations between state, capital, and labour, as well as the institutions that underpin these relations are critical to understanding labour outcomes in any given sector across countries (Lee 2017; Anner 2015). Through this analytical lens, it is possible to explore the combination of a wide range of factors in determining labour standards for a particular firm and sector.

Figure 3). Variants of this multi-scalar approach have been deployed in recent research on local labour regimes, labour standards and competitive pressures in global value chains (Smith et al., 2018; Baglioni, 2018).

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FIGURE 3- MULTI-SCALAR LABOUR REGIME CONFIGURATION



Source: Author’s elaboration.

Labour regimes in China and beyond

Labour regimes in China have some shared characteristics in terms of shifts over time but also important variations that are sector and location-specific. Lee (2012: 124) characterises the key changes in China’s employment by the dual forces of commodification and casualization. She argues that, despite increases in labour unrest, there is durable subordination of Chinese workers, primarily due to the combination of the unequal citizenship regime encapsulated in the hukou system and the ‘lack of social movement support for workers in Chinese civil society’. The ‘semi-proletarian’ nature of a large mass of migrant workers still connected, not by choice, to their rural origins, contrasts with the full proletarianization experienced by the

most of the South Korean industrial workforce during their industrialisation take off, as argued by Lee (2012). China underwent the dual processes of commodification and casualization since the 1980s whereby the ‘socialist social contract’ gradually broke down. The lifetime and largely immobile employment characteristic of the Chinese labour regime before the reforms thus has led way to a labour regime driven by market competition and multiple forms of ownership and increasingly characterized by a ‘legal labour contract’ focused on ‘individualised’ and negotiable labour rights. Less secure employment and largely informalisation have transformed the labour regime in China across different sectors and types of enterprises, especially since the mid-1990s (Lee 2012).

Partly influenced by Lee’s work on labour regimes in China’s *rustbelt* and the *sunbelt*, Luthje et al (2013) propose a useful taxonomy of *regimes of production*, also reflecting Burawoy’s methodological departure and applying it to the connections between global capital and China’s manufacturing boom. By regime of production they understand different combinations of organization of production (integration, technology, stability of production flow), working conditions (workforce composition and stability, income stability, type of payment, wage levels, etc.) and labour relations (trade union presence and influence, regulation of conditions, OSH standards, benefits, labour conflicts, flexible pay, etc.),¹⁶ all linked to particular institutional settings with multiple actors involved. At the heart of the characterisation of these regimes of production lies the capital-labour relation and the bargaining power of workers under different regimes. In some cases the workforce is highly segmented, casualized and hyper-exploited (‘low-wage classic regime’), whereas in other cases a mix of the old ‘traditionalism’ of secure employment with benefits with more flexible but highly paid forms of work predominates (SOEs and JVs with foreign TNCs in higher technology sectors).

The labour regimes in the construction sector are arguably as or more exploitative than the ‘low-wage classic’ or dormitory labour regimes typical of light manufacturing in coastal China, which also predominate, even with worse working conditions in countries like India (Lerche et al. 2017; Chan 2015). Different reviews and studies of working conditions in construction (and informalised garment industries) have emphasised the ‘triple absence’ in their labour regimes: 1) the absence of recognised labour relations and recognised employers (because of the role of intermediaries), 2) the absence of the right to organise (resistance to unionisation) and 3) the absence of rights other than those directly related to labour relations (Lerche et al. 2017). In the construction sector workers’ rights are more systematically violated thanks to complex systems of subcontracting and reliance on migrant workers on temporary project-related basis (Swider 2015; Chan 2016). To be sure, the types of characteristics one finds in complex construction subcontracting schemes, where workers are only directly employed by their labour brokers/agencies, are not unique to China, but a common feature in many construction sectors around the world, even in some OECD countries, where labour legislation to tackle some of these abuses is fairly recent (CCOO 2008).

At this point, two caveats are fundamental. First, as stated above, the most exploitative labour regimes coexist with other regimes where labour outcomes were different and better, reflecting legacies of the neo-traditional regime of “organized dependence” (Lee, 1999). Second, the conditions observed in the export-oriented industrial ‘sunbelt’ of coastal China or in its

¹⁶ The boundaries between working conditions and ‘labour relations’ in Luthje’s classification are not entirely clear, since some of the elements under ‘labour relations’ could well fall under working conditions (e.g. benefits, flexible pay etc.).

booming construction sector are similar and not necessarily worse than what is observed in other parts of Asia (Lerche et al., 2017) and generally in the developing world, lending credence to the fallacy of Chinese exceptionalism (Chan, 2015).

Chinese exceptionalism in labour relations can also be questioned on the grounds of dynamics of change in the past three decades, and especially trends in the past fifteen years, which make us doubt that Chinese workers are mostly powerless vis-à-vis the more exploitative labour regimes. Silver's work (2003) on historical tendencies in labour resistance and mobilization shows that capitalism's technological fixes, such as flexible sourcing, automation, and other innovations may partly weaken labour's bargaining power in some places but ultimately provoke new instances of potential resistance and enhanced bargaining power. This has happened in China in recent times. Real wages of urban workers, including migrant workers, have grown substantially between 2000 and 2016—five-fold in the case of real urban wage rates and four-fold for migrant workers, an unprecedented change in China's contemporary history (Lo 2018).

Labour 'striking back', if this is what rapidly rising wages mean, is linked to a range of competing explanations. First, JIT systems in globally integrated production networks and industrial upgrading (as experienced in Guangdong) increase the vulnerability of capital to workplace disruption at key nodes of the chain (Silver, 2003; Pringle, 2017). These shifts may empower certain worker segments, in transport and communications sectors, while other segments remain stuck in low gear, so the outcomes are uneven (hotels, retail, restaurant and other seasonal service workers). Second, state intervention, especially through new labour legislation enacted in 2008 and 2013 and its relatively enhanced enforcement, have strengthened a set of new 'hard rules', with an important role for minimum wages and moves towards reducing segmentation and insecure employment (Lüthje et al., 2013; Chan, 2015). Third, despite a rather weak official union system, labour militancy and Marx-type 'offensive' struggles seem on the rise, often on issues of closures and compensation (Pringle, 2017; Xu and Chen, 2019). Fourth, demographic change, population ageing and the gradual exhaustion of the vast pool of rural young labour may explain emerging evidence of labour shortages and a "Lewis turning point", which may have strengthened industrial workers' bargaining power (Yao, 2014). It is difficult to establish which of these factors is more important, not least because they are all interrelated, especially the increasingly 'pro-labour' state interventions since 2008 and growing labour conflict, both feeding one another.

The combination of ideas, concepts, categories of analysis and debates presented in this section also inform our choice of research questions and research design, which are presented in the following two sections.

4. Research Questions and Hypotheses

This research project began in response to debates about the employment outcomes of Chinese firms in Africa. The initial focus therefore considered research questions that were relevant to this particular research problem. In the course of the research and based on the initial desk work phase and critical engagement with the literature it became clear that the focus had to be broadened up to understand labour processes and outcomes in the selected sectors and taking into account the importance of specific country contexts in Africa. Therefore, from a narrow focus on the impact of Chinese firms, we moved to a comparative focus that looked at working conditions in the upper echelons of the manufacturing and infrastructure construction sectors in

two distinct African contexts. This transition to a broader comparative framework was informed by the intrinsic epistemological and methodological biases inherent in ‘methodological nationalism’, whereby the nationality of the investor/employer is assumed as a critical factor. While we include this determinant of working conditions as one of many, the project eventually evolved towards a more open and comparative analysis of working conditions of key segments of emerging sectors of employment, with implications for debates on structural change and employment dynamics in Africa.

Therefore we distinguish research questions for these two phases of the research project. For Phase 1, when the focus was squarely on Chinese firms, the starting point research questions were:

- a) To what extent do Chinese firms create jobs for national workers or import labour from China?
- b) What are the employment conditions of national (Angolan or Ethiopian) workers in Chinese firms operating in the construction and manufacturing sectors in Angola and Ethiopia compared to other foreign and domestic firms?
- c) To what extent and how do Chinese and other foreign and domestic companies contribute to skill development and upgrading for African workers?

On the basis of the debates, issues and concepts discussed in sections 2 and 3 in this report, this project extended the scope of these questions and aimed to transcend the ‘Chinese exceptionalism’ implicit in their initial formulation, by asking sets of broader questions aimed at understanding the emerging labour regimes in manufacturing and infrastructure construction sectors in Africa. Therefore, the main guiding questions were:

Research Question 1: What are the patterns and determinants of job creation (and labour localization) in manufacturing and infrastructure development in SSA?

Three Sub-Questions:

- A. How does job creation and workforce localization vary across types of sectors, firms and specific activities? Why such variation?
- B. Has the share of national workers changed over time? If so, why?
- C. What are the key determinants of firm labour demand decisions? What constrains additional job creation?

Research Question 2: What are the *extrinsic (objective)* working conditions in the *leading* firms of the infrastructure construction and manufacturing sectors in Angola and Ethiopia?

Four Sub-Questions:

- A. How do working conditions for low-skilled and semi-skilled labour compare across domestic and foreign firms in the same sectors?
- B. Why are they different or similar? What are the main determinants of observed differences?
- C. How do current (non-agricultural) jobs compare with previous employment experiences for individual workers? Do they lead to an improvement?
- D. To what extent are labour regimes in Chinese firms in Angola and Ethiopia similar to regimes in China or not? Why?

Research Question 3: To what extent and how do foreign and domestic companies contribute to skill development and social upgrading for African workers in these sectors?

Four Sub-Questions:

- A. What kinds of skills predominate in these processes of skill development and why?
- B. What were the main mechanisms of skill development?
- C. What are the main constraints on skill development on the job or outside firms?
- D. How do skills constraints of local workforces affect the recruitment and management of labour by foreign and domestic firms?

Research Question 4: What are the characteristics of the emerging non-agricultural workforce and their implications for future structural transformations?

Four Sub-Questions:

- A. What are the demographic and socio-economic characteristics of workers sampled in the manufacturing and construction sectors and how do they differ across types of companies (by size and ownership)?
- B. If there are systematic differences across sectors and/or types of firms, what are the main determinants of these differences in workers' profiles?
- C. How important is migration for jobs in these sectors? Why?
- D. What were the individual trajectories of workers towards jobs in infrastructure construction and manufacturing? What facilitated or constrained their access to these new jobs?

These questions reveal a comparative focus where the priority is to investigate the extent to which there are differences by country, sector, type of job and type of firm, and the reasons for observed differences. Therefore it is not simply a matter of whether Chinese firms are different or not but rather what explains variation in labour outcomes, beyond a focus on firm's 'nationality'. *How* and *why* questions are obviously the most challenging but they receive special attention in this project. The questions above manifest the focus on three inter-related areas, namely (a) basic (*extrinsic*) working conditions (wages, security, rights, health and safety, workplace environment, etc.); (b) skill development; (c) workers' profiles. Our main *priority* in the analysis phase will be questions on comparative working conditions, including skill building (i.e. RQs 2 and 3). Therefore the bulk of collected data address those two questions and their related sub-questions. For RQ 1 and 4 the project combines desk work and selected evidence from our own qualitative research especially from firm questionnaires and life histories.

The first research question (RQ1) is important because in contexts of low-income countries the absorption of surplus and/or low-productivity, low-skilled labour from rural and urban settings into modern-sector employment with higher productivity levels remains one of the key challenges. The number of new labour market entrants every year is substantial and growing. Therefore it is important to document what drives job creation and variation among firms in terms of their demand for local/national labour, especially for foreign companies. Within this set of questions, the main focus of the project is on rates of localization, i.e. the proportion of national workers (Angolans, Ethiopians) in total workforce by firm, since this is one of the main questions in the literature on employment issues in Chinese firms in Africa. This project, therefore, tackles this question on African workforce localization head-on, through the literature review summarised in section 2, firm-level surveys and qualitative research.

Hypothesis RQ1. For this question our working hypothesis is that the country context is highly significant so we expect the contrast between Ethiopia and Angola produce relevant findings which may question the narrative that firms of particular origins are less likely to generate jobs.

First, in relative terms the degree of employment localization is expected to be much higher in Ethiopia across all kinds of firms. Second, even if localization rates in Chinese firms could be lower, their impact in absolute job creation is likely to be substantial in both countries given the volume of work they carry out.

The questions on comparative working conditions (RQ2 and linked sub-questions) are *central* to this project, given the widespread perception of ‘worse’ working conditions in Chinese firms, despite the lack of comparative evidence for this purpose. Indeed, the lack of evidence at all in these countries and sectors calls for a broader assessment over a relevant range of leading firms in key sub-sectors. The bulk of the data collected in this project, particularly the workers’ survey, respond to the sub-questions under RQ2. The empirical analysis of working conditions in Angola and Ethiopia across comparable samples of firms of different origins and sizes is complemented with a desk review of labour relations and practices in China, Ethiopia and Angola in similar sectors (infrastructure construction and low-wage manufacturing). One outcome is to establish what kind of labour regimes predominate in Ethiopia’s and Angola’s manufacturing and construction sectors and whether there is significant variation across firms within sectors.

Hypothesis RQ2. Our working hypothesis, based on the theoretical discussion in section 3, is that ‘methodological nationalism’ is unlikely to be of relevance. Rather, the nature of the sector (construction vs manufacturing; garment vs building materials), firm size, incorporation in global production networks, and national political-economic context and labour institutions are expected to be more important determinants. In particular the specific configuration of the ‘politics of production’ in each country is likely to be a critical determinant of similarities in working conditions across and within sectors.

The theme of skill development and job upgrading addressed by RQ3 is important considering not only the imperative of improving the quality of labour supply in countries aspiring to experience sustained growth, but also for their role in facilitating the structural transformation of the economy. This is related to the problem of building an industrial labour force in agrarian-based economies. The extent to which firms contribute to improving skills or creating new skills is critical to understand their broader developmental contribution besides simple job creation and payment of wages. There are various questions linked to this theme, not only how firms of different types and nationalities compare with one another, but also how pressures to invest in more skill development arise as they settle in the countries of destination. For example, Corkin’s case study (2012) on the Angolan construction industry, and Tang’s analysis (2010; 2016) of different case studies suggest that both large and small Chinese firms have a tendency to employ more local labour and engage more in training programmes the longer that they operate in the national setting, but that the expectations in each national setting (from the state or civil society organisations) also shape practices. Equally important is to know what barriers counteract efforts to upgrade skill base of low-skilled and semi-skilled workers in these contexts, whether economic, social, cultural or directly linked to policy priorities.

Hypothesis RQ3. In relation to these research questions, our working hypothesis is that the origin of the firms may impact more on the nature of training and skill development than on whether firms contribute to skill formation or not. Moreover, sector specificities and the relative skill shortages at national and local level are likely to be critical confounding factors in training outcomes and management strategies regarding skill development.

The employment trajectories of individual workers are also explored to address the fourth set of research questions (RQ4), designed to understand the characteristics of the emerging

industrial and construction labour force. The age, gender and previous employment experience of current workers in the target sectors and target national and foreign companies can help us draw patterns of recruitment and potential impact of such firms' operations on different population groups. Different aspects of labour market segmentation may be linked to differences in labour regimes across types of firms and sectors, with important lessons in terms of what can be expected from particular forms of investment. Given demographic projections and labour quality needs for a future structural transformation this evidence on workers' profiles and their employment trajectories can shed light on the most important opportunities and challenges.

Hypothesis RQ4. Our working hypothesis is that the sectors we study in Ethiopia and Angola display significant segmentation of the labour force in terms of their main demographic, education and socioeconomic attributes. Within each sector there may be different kinds of 'labour force segments' present, e.g. in terms of gender, age, education, socio-economic status and migrant status, with implications for working conditions. Therefore, theoretically these attributes are likely to be correlated with observed working conditions. The working hypothesis is also that migrant labour is dominant in these emerging sectors, but patterns of migration may vary across sectors and countries.

5. Research Design and Process

Given the range and nature of proposed research questions, the availability of data and the challenges of access that were expected, this research project chose a mixed-methods methodological approach. The selected design is part of a family of *explanatory sequential mixed-methods designs* (Creswell 2014).

The general logic of a MM approach is encapsulated in the following quote:

'The bias inherent in any particular data source, investigators, and particularly method will be cancelled out when used in conjunction with other data sources, investigators, and methods' (Burke et al. 2007, citing Denzin 1978).

The combination of qualitative and quantitative methods and their sequencing responds to three methodological needs: triangulation, facilitation and complementarity.

The approach combined two main types of data collection:

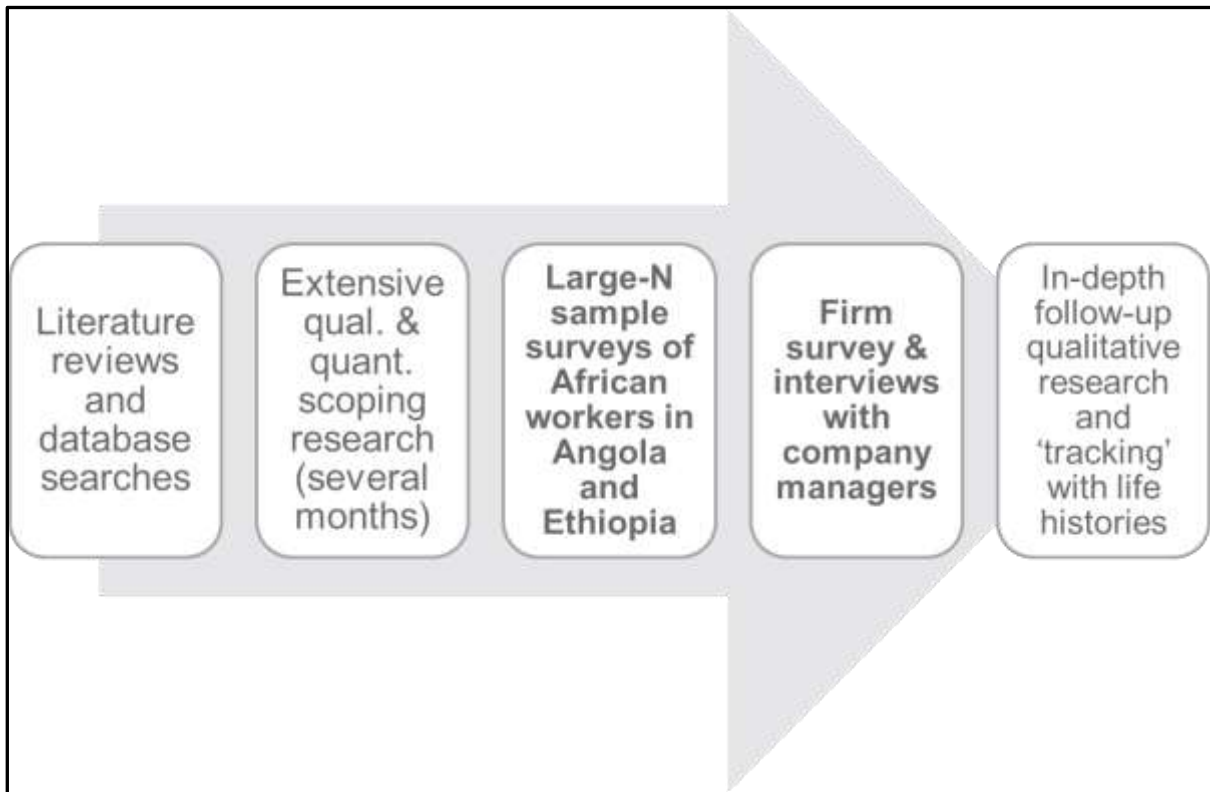
- (1) **Large-N sample surveys.** This consisted of quantitative data collection through firm-level employment surveys that sample a representative cross-section of low-skilled, and semi-skilled workers in foreign and domestic firms in Angola and Ethiopia, complemented with **firm management surveys** for additional data at firm level. This large N survey was followed by an ad-hoc **phone survey** for a smaller sub-sample of workers in each country, conducted 12-18 months after the first survey, in order to capture trends in wages and labour attrition across target sectors and firms.
- (2) **Qualitative research.** Evidence collected through qualitative research is essential for triangulation with findings from quantitative surveys. Qualitative research consisted of two *main* stages: scoping and follow-up.
 - a. The former, completed by late 2016, was designed to build an understanding of the context, the sectors and to help frame research questions and prepare the ground for the quantitative research to follow. In this sense, qualitative research

played a '*facilitation*' role to frame and improve the design of quantitative components (sample surveys). The scoping phase was also crucial to negotiate access for hard-to-reach populations (see section below).

- b. The follow-up stage played a triangulation and '*complementary*' role in the sense of exploring themes emerging from previous phases of data collection (scoping and sample surveys) in more depth. This stage followed sample surveys which were concluded in September 2017. This stage of qualitative research consisted of two sets of semi-structured and open interviews, and observations through field visits, which helped with collection of *complementary* data and with *triangulation* between different sources and methods:
 - i. **Life/work histories** of a sample of workers extracted from the main quantitative sample, with a focus on their employment histories, particularly the nature of their previous employment, the process towards the current jobs and the history of upgrading, if any, they have experienced through these jobs. This evidence was important to incorporate a longitudinal and more in-depth understanding of labour market participation in the target sectors.
 - ii. **Semi-structured and open interviews** with company managers, supervisors, government officials, representatives of international organizations, trade union leaders and union factory-level representatives, among other groups of respondents. For this purpose research teams targeted particularly company managers and trade union representatives, in order to explore issues of work culture clashes, compliance with labour legislation, management of labour conflicts and mechanisms to improve conditions and address problems faced by enterprises (e.g. labour retention and productivity).
 - iii. **Field visits and observations.** Different members of the research team (including the field supervisors managing the quantitative sample surveys on the ground) have visited several factories and construction sites, being able to observe labour practices, physical workplace conditions, and interactions between workers and managers. These direct observation were also important to corroborate/crosscheck data from both qualitative interviews and quantitative surveys.

The research design followed a *sequential* process involving the deployment of different data collection instruments, as illustrated in Figure 4. During the initial phase (July 2015-June 2016) extensive literature reviews (see section 2) and database searches were done to inform the research framework, provide background data and help design the quantitative surveys. The literature reviews and datasets are now being updated so that the information published by the end of the project is more up-to-date.

FIGURE 4- RESEARCH PROCESS STAGES



Scoping research. During and after the initial desk review phase, a period of extensive qualitative *scoping* research followed. This was designed to facilitate the preparation of the design and implementation of the large-scale worker surveys, thus to:

- collect all available statistics and relevant lists to contribute to the building of suitable sampling frames;
- negotiate access to enterprises and workers;
- design sampling protocols,
- obtain evidence through qualitative interviews, which could be used for analysis, either to complement the desk reviews or to add field-based data on the sectors, labour market contexts, typologies of key actors (government, firms, other organisations), and on existing official statistics on employment in the target sectors.

This scoping phase lasted over 8 months in each country (longer in the case of Ethiopia given the political situation in late 2016 and 2017, see below).

Workers' survey. The quantitative worker surveys took place at different times in Angola (September 2016–April 2017) and Ethiopia (March–October 2017). This was due to a series of unanticipated challenges that are discussed in the section on the politics of fieldwork in this report. In total, over 1,500 workers were interviewed with long questionnaires. These workers were employed by nearly 80 companies in total (see sections on data collection instruments and information on samples below).

Follow-up qualitative research. As quantitative surveys were implemented and completed, a follow-up phase of qualitative research ensued, as described above, with two main objectives:

- (1) collect detailed life-work histories from selected samples of workers in both countries (23 in Angola and over 30 in Ethiopia), responding to different types of worker profiles and characteristics as collected from the quantitative surveys;
- (2) conduct qualitative interviews and field visits to enterprises, government institutions, trade unions, international organisations and other stakeholders in order to investigate a number of selected themes emerging from the previous phases of research (from issues of workforce localization, investment dynamics, drivers of accumulation, to constraints on job creation, labour conflicts, skill constraints and development, and so on).

Firm management survey. Broadly at the same time as the main phase of qualitative research was conducted between 2017 and 2018, we approached firms to complete basic firm questionnaires with background information on the operations of these companies in Angola and Ethiopia, their main projects and activities, basic data on employment trends and working conditions (salary levels and benefits by worker category) and some questions on perceptions about market conditions and government policy in each country. This phase took longer than expected as several firms delayed the completion of questionnaires, especially Angolan and OF firms in Angola. Although the team managed to get a reasonably high response rate, there are some gaps in the data sought in this survey, especially in Angola. The main gaps affect data on investment levels (which we cannot use given low response rate) and on salaries (which many firms declined to share, especially in Angola). In Angola we had a 78% full response rate by Chinese firms and only 58% full response rate by Angolan and OF firms (i.e. firms that provided information on all the core questions of the firm questionnaire). The resistance by many of the Angolan and OF firms to sharing basic company data was remarkable and may be related to the period of stress some firms were under during the crisis times of 2016 and 2017. In Ethiopia response rates were in the order of 70% with no significant differences between firms although rates for also higher for Chinese firms. In order to fill in all the main data on firm attributes we therefore had to combine information shared through the formal firm survey and most data collected through qualitative interviews with managers, which helped us fill many of the gaps left by the quantitative firm questionnaire survey, only leaving few firms with little information and therefore out of the firm-level data analysis (3 out of 37 firms left out in Angola).

Follow up phone survey. Although not initially planned, the research coordination team decided to add a new stage to the research process once the follow-up qualitative phase had been completed in the summer of 2018. Field supervisors conducted phone interviews with a sub-sample of workers from the sectors included in the main workers' survey. This survey took place in the last quarter of 2018, roughly 12-18 months after the initial quantitative surveys in both countries. The sample was consisted of 126 workers in Angola and 155 in Ethiopia, distributed roughly in similar shares across construction and manufacturing. The main aim was to update and add a longitudinal dimension to two main issues: (a) wage levels/trends since the main survey; (b) labour attrition (i.e. whether they are still employed by same firms and reasons for leaving if not). This data is useful to address potential shifts at a time of rapid change in the sectors analysed in these surveys. Both countries have also been affected by relatively high inflation rates and it is useful to confirm whether nominal wages followed inflation or lagged behind and whether these trends vary by sector and firm type. It is also important in the case of Ethiopia as some of the workers surveys, especially in Hawassa IP, took place only few months after firms had started operations and the situation has been quite dynamic on the ground since then.

Research independence. At all times and given the difficulties and sensitivities of the topics of analysis, the research design also sought to protect the *independence* of the research process. Given the sensitivity of the topic and the difficulties in penetrating sensitive workplaces in sensitive sectors, it was important for the research team to have full control over key decisions in the research process. The selection of sub-sectors, firms and final respondents all had to respond to the project's objectives and to the basic demands of scientific rigour. There were of course pressures to include or exclude firms, as well as to follow employer-driven sampling decisions. These attempts at interfering with the research process were systematically resisted. Therefore, at all times, researchers aimed to avoid influence or manipulation by those participating in the research, and especially representatives from company management, government officials, or other interested parties (NGOs, Trade unions, other researchers, and so on). This was especially important for the correct implementation of the sampling protocol in quantitative surveys (see section on sampling below). Research independence was particularly important given the project's commitment to comparative analysis and the need for different types of participants in the evidence base.¹⁷

Comparative Framework

The sequential mixed methods approach was operationalised through a carefully designed comparative framework. As argued in Section 2, one of the key problems with the existing literature on labour issues in Chinese firms is the lack of comparators and contextual evidence. Claims are often made about practices in Chinese firms without really addressing similar question in other comparable firms in the same sectors. This project tried to overcome such shortcoming by developing a set of comparative contrasts following a logic of *contrastive exploration* (Lawson 2004). This approach contrasted conditions in firms that should normally be expected to have similar conditions given sector, specific branch of activity, size and degree of sophistication in the production process.

Overall, the labour surveys at firm level were carried out in a 2-by-2-by-3-by-2 comparative framework (Figure 5):

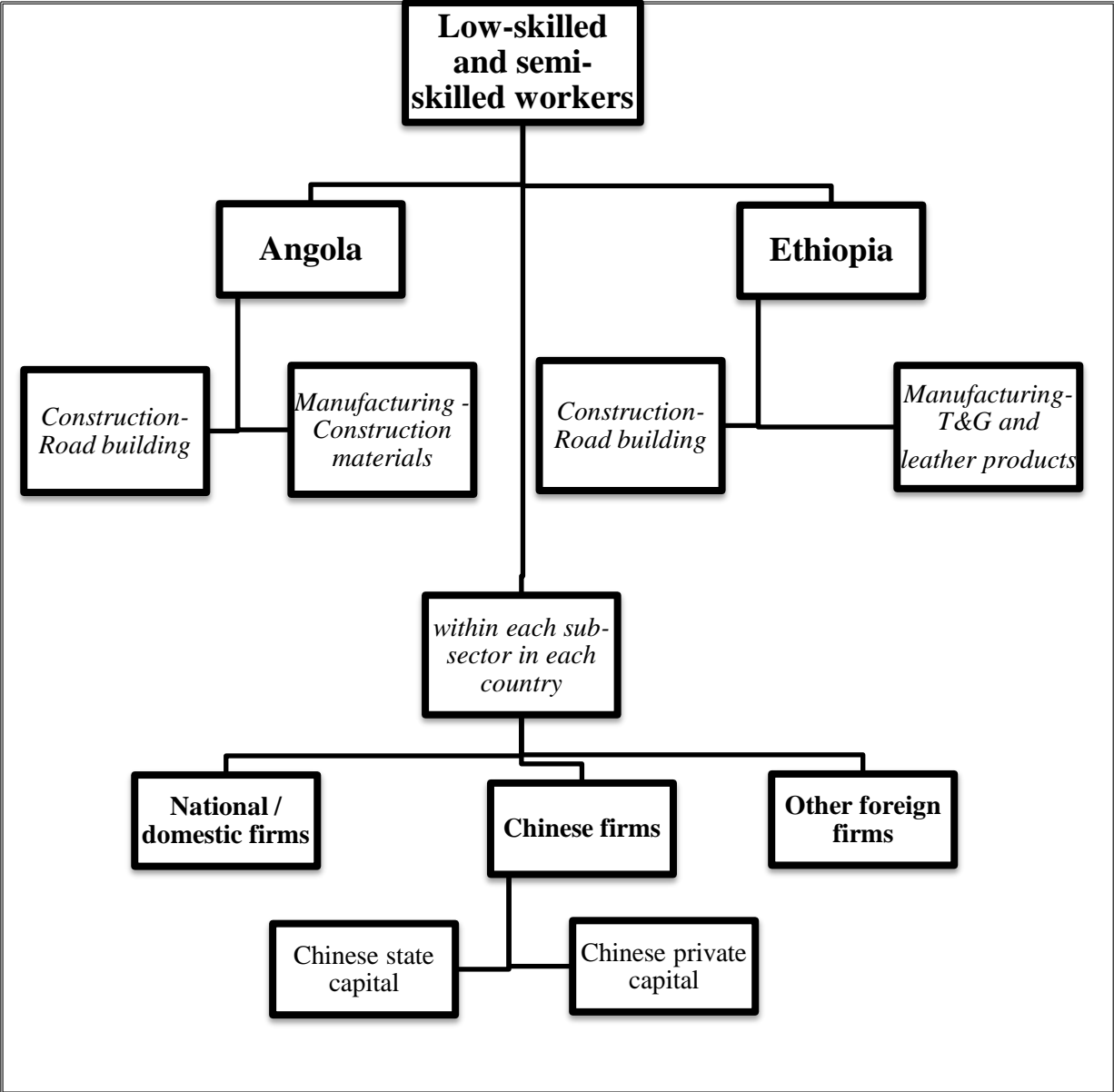
- two countries (Angola and Ethiopia);
- two sectors (construction and manufacturing);
- three origins (national/domestic, Chinese and other foreign –OF-);
- two varieties of Chinese capital (private and state), which may be extended to similar varieties of Ethiopian/Angolan capital, with distributions relevant to each sub-sector (e.g, Chinese SOEs mainly found in infrastructure construction and private firms mostly in manufacturing within these samples).

Such a framework, based on cross-sectional surveys and comparative case studies, is designed to analyse a variety of factors (sector, country context, type of activity, size, experience in country, degree of sophistication in terms of business model and production process, location, and management practices, among other factors), which, together may explain different configurations of employment outcomes (wages, payment methods, non-wage benefits, skill development, health and safety, job creation, etc.). Therefore, this approach is expected to help establish whether there are *significant* differences between: sectors, types of firms, their origins,

¹⁷ On similar tactics and experiences regarding research independence in Ethiopia and Uganda see Cramer et al. (2015).

labour practices, different categories of workers, or countries; and second, to help explain some of these differences (Lawson 2004; George and Bennett 2005).

FIGURE 5 – COMPARATIVE FRAMEWORK: LAYERS OF COMPARISONS



In order to reduce excessive variation in outcomes, the surveys focused on the type of workers, namely low-skilled and semi-skilled labour, that represent the vast majority of jobs created in the target sectors, especially by foreign companies in Ethiopia and Angola. According to evidence collected through several interviews with managers and HR departments in selected companies in target sectors, most jobs created in Angola and Ethiopia for national workers are in low-skilled or semi-skilled categories, with many semi-skilled workers having been upgraded from low-skilled status through on-the-job training and direct work experience. Therefore we expected these two groups of workers to share some characteristics, which would be useful in terms of analysing the causes of their segmentation into the workforce in these sectors, particularly the role of previous employment experiences.

Two Countries: Angola and Ethiopia.

Angola and Ethiopia were selected for this study for two main reasons. First, both feature among the most important markets for Chinese contractors in infrastructure building in Africa, as well as among the top recipients of Chinese FDI and Chinese official finance. Second, they are different contexts of Chinese engagement in terms of their political economy, employment dynamics and industrial development. Therefore they offer a significant contrast that is useful for analytical and empirical purposes.

Angola is the top African recipient of Chinese official loans in the period 2002-17 whereas Ethiopia is in the top 5 (Hwang et al 2016). As a result both countries are at the top in terms of shares of Chinese infrastructure contract revenues with roughly 14% each. Angola accounted for 26% of these revenues in 2009, at the peak of its infrastructure boom (calculations based on data from SAIS-CARI database). The size of these contracts is substantial with respect to the countries' GDP. For example, the three-year average face-value of Chinese contracted projects during 2008-2010 was 5.5% of GDP in Angola and 4.6% in Ethiopia (UN 2013 and China Statistical Yearbook 2011).

Both countries feature prominently in various rankings of China's engagement in Africa. In terms of FDI they feature 4th (Ethiopia) and 7th (Angola) in terms of number of FDI projects accumulated between 2000-2013 (Shen 2013 and 2015). Chinese FDI has also been growing rapidly in Africa, and especially in Ethiopia, where the FDI stock doubled between 2014 and 2017, to over \$2bn, representing 5% of total Chinese FDI stock to SSA (calculations based on data from SAIS-CARI database). Moreover, large proportion of this Chinese private investment has gone to manufacturing in Ethiopia, unlike in other African countries. These flows of FDI to labour-intensive sectors in Ethiopia have certainly contributed to much job creation as explained in this report before. According to SAIS-CARI data, the share of manufacturing in Chinese FDI stock is usually around 14% but the share in the number of projects (not the volume of investment) is significantly higher (Shen, 2015). The McKinsey (2017: 30) report estimated that there are 10,000 firms in Africa, mostly private, and 31% in manufacturing, 25% in services, 22% in trade and 15% in construction and real estate. Angola has received a similar share of FDI in the period 2014-17 according to the same sources, growing fast in the 2014-17 period, with construction and mining receiving the lion's share of Chinese FDI at that time (typically 25-30% each).

Despite these similarities, there are, however, important differences between the two countries. Angola is richer in terms of income per capita, much greater natural resource abundance, as a leading oil exporter, whereas Ethiopia is not resource rich and is probably the country that has been singled out as the potentially leading destination of industrial investments in Africa. Thus, Ethiopia has a much larger and more diversified Chinese FDI in manufacturing, which is of special interest for this project. By contrast, Angola's industrialisation is stalled and still too dependent on imports and on the management of oil rents. Angola has undergone an ambitious programme of postwar reconstruction, partly thanks to abundant Chinese finance for infrastructure, but war only ended in 2002. This construction boom, in turn, has generated spillover effects on Angola's industrial sector, driving growth in factories producing building materials so that import dependence was reduced (Wolf and Cheng 2018b). Ethiopia, has also enjoyed sustained economic growth rates since 2000, after its own postwar dynamics in the 1990s. This growth has been sustained by agriculture and services, with the manufacturing sector taking off since 2010. While Ethiopia has an abundant trainable young labour force, Angola's demographic dividend is still uncertain and skill shortages raise questions about the

employability of a large segment of its population, especially since still a large proportion of its rural population has limited education. There are also important similarities and differences in relation to labour institutions (although these will be analysed in more depth in another document): both countries have reformed their labour legislations to make them more attractive to investors, especially to FDI, but labour enforcement in Ethiopia appears significantly stricter than in Angola. Moreover, despite the weakness of trade unions in both countries, evidence in recent years suggests that collective action and labour militancy is substantially more developed in Ethiopia than in Angola. Labour conflict in Angola is subdued and TUs play a very minor role in collective bargaining, leaving the setting of working conditions primarily to employer's discretion, especially in the increasingly important construction sector.

Two Sectors: Construction and Manufacturing

The construction sector has been chosen because Chinese-implemented construction projects have been a very significant aspect of Chinese involvement in these two countries (and in many other African countries). Manufacturing has also been chosen because the manufacturing sector (though often smaller than the construction sector) is a particularly dynamic sector that is receiving increasing attention in Africa and holds significant growth potential. Both sectors are potentially leading job creators for non-agricultural jobs and hold the key to the structural transformation of African economies. The building of an industrial labour force, to which countries like Ethiopia aspire, depends much on the dynamics of these two sectors, where skill development is potentially significant. The barriers to entry to both sectors are also limited, thus it is possible for fairly uneducated young workers to obtain jobs in light industries and infrastructure construction sites. However, the nature of these jobs forces them to rapidly acquire skills that are necessary to increase productivity and respond to the tight demands that employers display in these sectors. As evidence discussed in section 2 shows, these two sectors are key loci of encounters between Chinese employers and African workers, as the number of Chinese companies in these two sectors is very large and growing.

There is also an important comparative logic in the choices of these two sectors. As discussed in section 3, labour regimes are sector specific and labour outcomes depend on a host of characteristics intrinsic to particular sectors. Working conditions in construction are usually considered as particularly harsh compared to other sectors, but much depends on whether workers are directly employed by main contractors or managed by an informal labour broker. There is also lot of variation in the manufacturing sector, with labour outcomes depending on the type of manufacturing enterprise, its size, its market orientation (domestic, export, more or less competition), its technology, production processes, the relative importance of time efficiency for productivity, vulnerability to economic shocks, and so on. While construction work is usually temporary and bounded by project cycles, manufacturing jobs are potentially more stable. This has implications for the potential for worker mobilization, much more limited in construction than in manufacturing. Casual labour is in the nature of construction work, whereas industrial employers have an interest in retaining workers they have trained and who have become more dependable over time.

The approach was not to cover the entire construction sector due to its huge heterogeneity and also to the uneven presence of Chinese firms in different areas of construction work. Thus we decided to focus on one type of construction, linked to the process of structural transformation, and where progress in recent years and therefore the number of projects has accelerated in Africa: road building. Why road projects as a primary focus for the construction sector? There are three main reasons. First, roads are one of the most important examples of the development

of economic infrastructure for future structural change and the skills and experience accumulated in road building can substantially contribute to further improvement in transport infrastructure and efforts to diversify the economy. Second, Chinese firms have developed a major role in road building in Africa, and specifically in Angola and Ethiopia, to the point that they dominate the road building landscape not only because of the tied nature of Chinese loans for infrastructure (which secures a market for Chinese SOEs) but also because these firms are competitive enough to win bids funded by other agencies (e.g. World Bank, African Development Bank) and thus have become leading contractors for many national road authorities in Africa (Gutman and Zhang 2015). Third, the road sector requires a set of skills, technical competence, machinery that only some higher-level contractors can ensure. This reduces the scope for variation in samples of Chinese and non-Chinese firms and makes inter-firm comparisons tighter.

We also added dam construction in Angola as there was an opportunity to capture an example of top benchmark employment conditions in infrastructure development, and the range of skills, technical demands and machinery needed for dam construction was relatively similar to higher-grade road building. Indeed, many of the firms involved in dam construction were leading contractors in the road building market in Angola.

Comparing Three Types of Ownership: Chinese, Other Foreign and National (domestic)

As argued in section 2, a major gap in the literature on working conditions in Chinese enterprises is the lack of comparative evidence within a quantitative framework. The main aim was to find adequate comparators for Chinese firms in each of the target sectors in order to foster a useful comparison of employment conditions in Chinese firms vis-à-vis employment conditions in national firms and other foreign firms and ascertain the extent to which Chinese firms follow ‘national’ labour market ‘norms’ or not.

One challenge for such comparisons in African labour markets is the widespread informalization of the labour force. Most people find jobs in different forms of informal employment, whether agriculture or services. Much of the employment in private residential construction is also highly informalised. There are huge numbers of micro and small domestic enterprises employing labour in most sectors, perhaps with the exception of manufacturing and mining, which tend to be more ‘formal’ in most countries (with some clear exceptions in countries where ‘artisanal’ forms of production predominate in these sectors too).

Comparing the employment conditions in large Chinese SOEs in infrastructure building or in new industrial investors in emerging sectors with the ‘average’, i.e. the highly informalised and small-scale firms, would not make much sense and could be interpreted as a source of bias. Instead, we opted to compare the most significant and bigger Chinese firms within each sectors with the top benchmark in each of the two other categories: i.e. the top or largest foreign and national/domestic firms in each of the sub-sectors that were finally targeted by the sample protocols:

- Road building (main roads, grade 8 contractors in Ethiopia and grade 10 contractors in Angola).
- Construction materials in Angola (cement, bricks/cement products; steel products)
- Textile and garment and leather products (shoes, gloves, bags) in Ethiopia.

Within each of these sub-sectors there was a sufficient number of firms from the Chinese, domestic and other foreign categories. And in most cases it was possible to sample the top within each group. Of course comparisons were not always perfect, since there were variations within each group that made it difficult to find like-with-like comparators on a systematic basis. For example, Chinese brick/cement product makers in Angola were smaller scale and relatively more ‘informal’ than most established foreign business and top domestic producers in the same sub-sector. This reflects the different histories of recent Chinese investments in this sub-sector and of other foreign and domestic employers with a much longer history in the country. However, the particularities of each sub-group of firms will also be taken into account when making systematic comparisons.

One of the advantages of looking at these two sectors and the range of relevant firms involved is that we are able to capture different ‘varieties of capital’ from China, for example: Chinese state capital in infrastructure construction, and within this firms from central and provincial enterprises; Chinese private capital expanding or delocalising from production bases in China or other parts of Asia; Chinese private capital established in Africa and without roots in China (what is also called ‘translocal’ – Lam 2014). Likewise, different varieties of domestic and other foreign capital can also be captured: from well-known branded TNCs to medium-scale local and foreign investors with business only in the destination country (like the ‘translocal’ case mentioned before).

Considering different varieties of capital among firms of same origin

The risk with ‘methodological nationalism’ lies in obscuring the significance of differences between different varieties of capital originating in the same country. There probably are much more similarities between Chinese private firms and other private companies within the same sector, e.g. garment production, than among Chinese firms operating in the same country. Therefore this comparative layer is also helpful in terms of accounting for variation in labour outcomes. As Lee (2017) has argued these are different varieties of capital in terms of their logic of accumulation and corporate/management ethos and as such offer distinct entry points into understanding workplace relations and their trajectories over time.

Unit of Analysis: African Employees at Selected Skill Levels

The core unit of analysis for our research were *mainly* national (Angolan and Ethiopian) workers. The survey did not collect data on expat labour even if qualitative interviews addressed issues with foreign workers as part of the discussion of the workforce localization.

In order to reduce excessive variation in outcomes and explanatory variables, the surveys focused on the type of workers that represent the vast majority of jobs created in the target sectors, especially by foreign companies in Ethiopia. According to evidence collected through interviews with managers and HR departments in selected companies in target sectors, most jobs created for national workers in Ethiopia and Angola are in the low-skilled or semi-skilled categories. Many semi-skilled workers have been upgraded from low-skilled status through on-the-job training and direct work experience. Typically, eight out ten jobs created by firms in these sectors are within these target skill categories. We therefore sampled only low-skilled and semi-skilled workers. While it was easy to define what a low-skilled worker was in each of the target sector, the notion of ‘semi-skilled’ was more conditional on the particularities of each country and sector. The boundaries between a semi-skilled and a ‘skilled’ workers also posed some challenges and led to the inclusion of a fraction of workers in Angola who were in fact skilled and outside our target sampling group.

The identification of low- and semi-skilled categories was based on a combination of two criteria, namely (a) specific job title and tasks as specified/reported by worker, and (b) qualifications in terms of education level and total number of schooling years. The education criteria was given significant weight in coding decisions but it was not necessarily determinant. There were some cases where workers had jobs well below their reported highest qualifications. Assuming there was no error in the education data, we had to assume these individuals had to accept such jobs, which could be unskilled or semi-skilled depending on specific job description. In sum, job description was the primary criterion. These classifications were also cross-checked against broad salary scales for consistency purposes. This approach was more precise and less crude than other attempts at classifying workers by skill groups as in Teal (2016: 9), who defines ‘unskilled’ as ‘those with no education or incomplete primary’, ‘low skill’ as ‘those with primary complete and secondary incomplete’ and ‘medium skill’ as those with secondary complete or tertiary incomplete’. Most of our sampled workers could be classified across these three schooling categories but their skill-group location was primarily determined by the nature of the job they performed as there were cases of workers in low-skilled occupations (factory line production workers) who had higher education completed.

Roughly there was consistency between the definitions in sample stratification and the final coded groups by skill category. However, the wealth of data collected allowed for some necessary corrections on the initial sample categories, which were based on a less detailed definition of ‘low-skilled’ and ‘semi-skilled’.

Sampling protocol and access

Selecting respondents (workers) in a large-scale survey in sectors where boundaries are tight (factories and construction sites) is a major challenge. Trying to do sampling by respecting basic rules of representativity and therefore need to implement a minimum of random selection on site makes the task even harder, especially in factories where the rhythms of work are notoriously demanding. However, this project aimed to reach a sufficient sample of workers, thus the need to target many firms in each country, and to make sure that any substantial selection bias did not occur.

The sampling procedures followed lessons from two previous projects on employment-related issues in which several SOAS-based researchers have been involved, the *Working Poor* project (Lerche et al. 2017) and the *FTEPR* project (www.ftepr.org Cramer et al. 2014). Sampling protocols were also developed on the basis of lessons learned from the findings of scoping research in relation to the specific circumstances of the target sectors in Angola and Ethiopia as sampling options ultimately depend on the particularities of accessing workers in each case.

From the *Working Poor* project we learned the difficulties in accessing workers on site and the need to find them outside the workplace and sample them without appropriate sampling frames, often following convenience sampling methods. We tried to avoid this situation because we aimed to produce representative samples of the relevant workers within each firm, in order to avoid selection biases. Selection biases may be serious in cases of heterogeneous workforces and important labour force segmentation, implying that limited access could mean inclusion of only certain categories of workers, who might be the most or least vulnerable, for example, depending on where they are found. that Based on the FTEPR experience, when access was logistically problematic or not granted, we considered the possibility of ‘venue-based-sampling’ techniques which consist of the identification of key ‘venues’ where relevant workers respondents can be identified and linked to target companies. These venues can be

geographical/residential settings with large concentrations of such workers, areas around the gates of factories, or construction sites or workers' dormitories. However, during our scoping research we realized that this option would be logistically impossible in many cases where such 'venues' don't exist and workers are sparsely distributed in distant places away from workplace (as near big cities like Luanda and Addis Ababa). Also, in the case of construction sites, with exception of locally hired workers, most employees were sleeping at the sites, therefore had to be identified and interviewed there. So 'venue-based' sampling would at best be viable for a segment of the workforce in each site.

Therefore, in all cases, explicit authorization for the study was sought from employers, and workers were interviewed either inside or outside the premises of their workplaces, depending on the realities and access in each case. In any case, when interviews happened at the workplace, survey teams made every effort to stay out of sight from managers and supervisors in order to ensure independence and privacy. This was generally possible once field supervisors had done enough work explaining the protocols to site managers and had negotiated the terms on which interviews would take place.

A key aim of the project was therefore to try to obtain *representative samples within each company or workplace*. This meant following a number of basic principles for selection:

1. First, there should be a large enough absolute sample size for each site/firm: it was decided that sample sizes within each firm/site would range between 20-30 depending on the relative size of total employment in the firm/site. Larger samples sizes within same firm/site would not add much precision and would add to costs unnecessarily. Moreover, the aim was to cover a reasonable number of firms/sites as variation was expected to happen more between than within them.
2. Second, we aimed to work with precise and unbiased sampling frames (i.e. lists of workers). In order to construct suitable local sampling frames, enumerators were asked to conduct, whenever logistically feasible, PDA-GPS censuses of potential respondents, including some basic questions to allow for stratification of the final samples. For example, during this 'census' process, teams would collect information on basic jobs/tasks to ascertain the stratification between low-skilled and semi-skilled workers. Whenever possible, full and updated lists of employees would be used and crosschecked against site evidence of presence of temporary workers or any workers that might not be on the list. Therefore, in some cases, existing employee lists were combined with on-site counting and checking. This was essential to ensure the independence of the sampling process, i.e. any manipulation by employers to avoid the interviewing of certain categories of workers (usually more temporary and 'invisible'). However, in some cases and circumstances this protocol could not be strictly followed (see section on sampling realities below).

These principles referred to the selection of workers once target firms were identified. How did we select target firms? The sampling of firms was *purposive* and followed these analytical and empirical criteria:

- ✓ Firms in sectors where job creation had been very significant in the last decade → road building in both countries; building materials factories in Angola and T&G and leather products in Ethiopia. They were not necessarily labour-intensive (e.g. steel factories) but certainly significant job creators.
- ✓ Firms in sectors where there was a large enough pool of firms of the categories needed for this research: Chinese, domestic and other foreign. In some other alternative

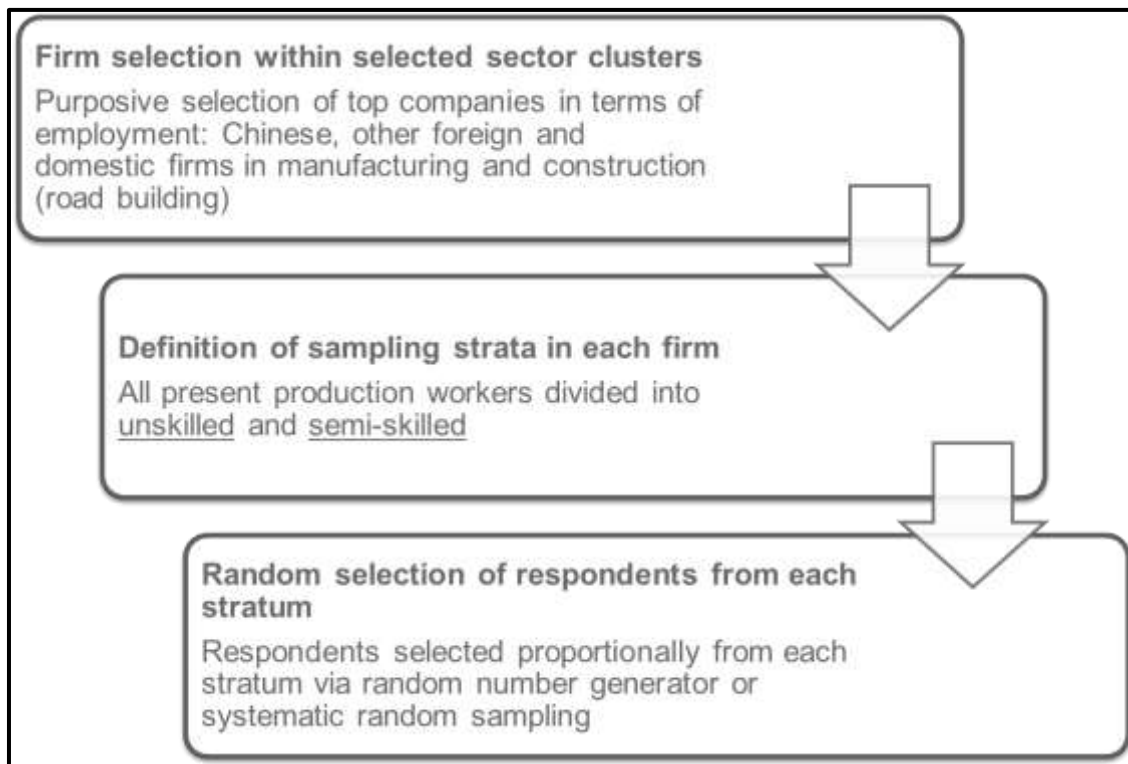
industrial sub-sectors there was limited representation of one or more of these categories.

- ✓ Firms in sectors where more low-skilled or semi-skilled labour can be hired, i.e. where barriers to entry are lower, which gives more opportunities to poorer workers needing the acquisition of basic skills for non-agricultural occupations.
- ✓ Once specific sub-sectors were selected, the following criteria applied:
 - Important generators of employment, i.e. the largest and more significant job creators;
 - Firms that were considered as among the *most important* in each sector (from interviews in scoping phase) but were also active at the time of the survey, especially important for the road construction sector, since activity and employment depend on active projects.
 - Both large and medium firms but not small-scale firms given scale standards within each sector.
 - At least some examples of enterprises that were known for best practice in labour standards, so that the sample had a ‘top benchmark’ against which other firms could be compared, instead of a sector ‘average’ for which there was no secondary information. This entailed the inclusion of a flagship dam project in Angola, which served as top comparator.
 - In the case of the industrial sub-sectors in Ethiopia we tried to have a fair representation of firms that had a longer history of presence in the country as well as new arrivals to the new industrial parks, in order to capture also differences associated with the experience of foreign firms in the host country.

For the purpose of applying the criteria above, researchers spent a significant amount of time collecting data from multiple sources (usually government departments) to draw long lists of potential target firms, from which a shortlist could be developed based on these and other emerging criteria. In Angola, for example, the fragmentation of data sources became an important challenge as information about enterprises was distributed among different government departments with different degrees of detail and disaggregation. Once a shortlist was agreed among the core members of the research team in charge of coordinating the surveys, we moved to negotiate access for each firm, a process that took a long time as discussed in the section on access and the politics of fieldwork. Figure X below summarises the sampling process and its three main stages.

Although the field teams had received intensive training and close supervision in the early stages of the survey, we devised a method of permanent communication via WhatsApp and WeChat to troubleshoot any unexpected problems and guide the sampling process in a fully coordinated way. This was necessary at times and proved hugely useful given that teams could be sometimes stuck with hard choices to make on the process of building sample frames and selecting the respondents. For each sector we developed sets of indications for alternative scenarios (see sections below) and research coordinators were always ‘on call’ to assist if necessary at the time the sampling protocol was being implemented. This also meant intervening at times and remotely speak to site/factory managers to explain and reiterate the objectives and protocols of the research project. One important comment to add is that the fieldwork process and implementation of these sampling protocols was *not* more difficult in Chinese companies once authorization had been granted. In fact, resistance to sampling protocols was very common among other foreign employers and generally more frequent than among domestic firms.

FIGURE 6- DESCRIPTION OF SAMPLING PROCESS FOR WORKERS' SURVEYS



Manufacturing

In the manufacturing sector the key constraint was working inside factories. Even with authorization from company headquarters there was always the potential source of misunderstanding with local managers and factory floor supervisors. An important source of friction was that supervisors were not prepared to 'free' several workers when the factory was at full speed, and especially not a random selection of workers, which would mean selecting a workers who might not be available. Field teams had to negotiate these contingencies and adapt to each circumstance. Their instructions were to implement a *stratified random sampling protocol* considering two possible scenarios:

1. *Factory with authorised access*

- Identify priority clusters/sections if more than 100 workers → systematic random sampling by groups of workers in each relevant cluster (i.e. where low-skilled and semi-skilled were concentrated). This was particularly suitable to larger-scale garment and shoe factories, where production lines could act as small clusters within relevant departments.
- Identify and list *all* eligible workers if 1-100 → use random number generator or other suitable randomisation method once the two strata had been clearly defined and counted from existing employee lists or, preferably, through a full on-site census by field team so that all kinds of workers present then could be included, i.e. also temporary workers.

2. *Factory without authorised access at time of visit*

- Negotiating access directly with credentials and choosing another day and place for survey ;
- If unsuccessful, use ‘Venue sampling’: identify largest possible group of workers at factory gates after/before work or in transport hubs → count, list and arrange contact numbers → use random number generator or other suitable randomisation method and arrange meetings for interviews. This method, however, depended on identifying a suitable ‘venue’, which would have been a major constraint.

In the end only the first scenario applied since we managed to gain access to all the selected factories (after plenty of time of negotiation). The main issue was how to operationalise the first scenario ensuring random selection at time of peak employment and appropriate interviewing times and places to ensure privacy and enough time to complete interviews.

Construction

In the road and dam building sites, the challenges were similar (negotiating timing of interviews, who could be selected and so on) but with some specific features. In particular, road construction sites were multi-local, i.e. there were often different work fronts with different groups of workers. Given this scenario, field supervisors had to inspect the different clusters and ensure a good representation in order to avoid any bias, i.e. selecting a work front with very few relevant workers. Ex-ante two scenarios had been envisaged, with the following indications:

- ✓ *Construction site with worker dormitories*
 - Identify eligible workers with company list or directly on site, making sure all eligible workers, including casual workers were included in sample frame.
 - Discuss convenient interviewing times.
 - Access to dormitory in case interviews could be conducted there after work.
 - Avoid systematic exclusion of casual external workers – always probe.
 - Stratified random selection from sample frame developed before.
- ✓ *Construction site with different work fronts and sites*
 - Identify size of sites and treat them as unique clusters, noting the main jobs and size in terms of number of low-skilled and semi-skilled workers.
 - If similar in size and workers composition choose 1-2 randomly to reach sample target.
 - If different in terms of types of workers, prioritise work fronts with largest concentration of low-skilled or semi-skilled workers, again following a random choice afterwards.
 - Discuss convenient interviewing times.
 - Stratified random selection from sample frame developed before.

In all cases field supervisors had a random generator tool to extract the random selection of workers from the list of employees identified on site. Sometimes, site managers provided lists

of employees for the day, sometimes field teams had to do on-site census after selecting relevant work fronts (as clusters).

Samples: from plans to realities

This brief section presents the composition of the samples of enterprises and workers in Angola and Ethiopia, by country, sector, and firm origin. All the numbers, aggregated and by country are presented in Tables 1, 2, 3, 4, 7 and 8 below. As these tables suggest, these are fairly large samples given the focus of sectors.

Table 1- COMBINED SAMPLE OF FIRMS BY SECTOR AND FIRM ORIGIN (both countries)

	Manufacturing	Construction	Total
CHINESE firms	16	15	31
OTHER FOREIGN firms	14	8	22
DOMESTIC firms	12	11	23
TOTAL	42	34	76

Table 2- COMBINED SAMPLE OF WORKERS BY SECTOR AND FIRM TYPE

	Manufacturing	Construction	Total
CHINESE firms	313	287	600
OTHER FOREIGN firms	285	180	465
DOMESTIC firms	238	218	456
TOTAL	836	685	1,521

The overall sample in Ethiopia was bigger for two main reasons:

- ✓ There was a special focus on labour-intensive industries in the old and new industrial parks, with more eligible firms to be included in the sample, so as to add explanatory factors to the analysis of variation in working conditions.
- ✓ In Angola the focus was particularly on the construction sector (much bigger job creator than manufacturing in recent years) but the survey coincided with a severe economic crisis that particularly hit the infrastructure sector due to the fiscal squeeze implemented in 2016 and 2017. Therefore, there were fewer than planned firms and road projects that could be finally included in the sample, thereby reducing the overall sample.

The difficulties in implementing the different sample protocols described in the previous section varied between countries and across sectors and types of firms. The process was more arduous

in Angola for different reasons. The implications for the analysis of differences in wages and working conditions were also more significant in Angola, as will be shown in the Angola results report.

The context of sampling was the economic crisis in Angola at the time of the survey and how different approaches and understanding of firm managers about academic research meant that the sample protocol had to be adapted to the circumstances of each visit and, in the case of construction, the particularities of each road or dam project. Although an attempt was made to reduce these potential biases, in practice problems of accessibility and the crisis hitting the sector at the time of the survey meant that options were limited for controlling all sampling process parameters. To be sure, all firm samples were based on random selections of low-skilled and semi-skilled workers. In all cases, field teams tried to capture both sets of relevant workers. While teams were able to randomise selection and stratify by skill categories, they sometimes faced limited options in terms of the *sample frames* found in each site because of (a) company restrictions over the lists of workers (use of more restricted lists), (b) time agreed to complete the survey (which could exclude some workers) and (c) the possibility of constructing own sample frames through on-site rapid censuses. The problem was that these limitations were *not* randomly distributed across firms by origin. Rather a pattern emerged whereby Angolan and non-Chinese foreign firms exerted more control over the sample frames than would have otherwise been desirable. We distinguish between three types of sample protocol implementation based on the sampling frames available:

- An open count, based on a site census conducted by field teams in order to them stratify and randomise selection;
- Availability of a full list of workers at time of survey by the target firm;
- A restricted sample frame (list) provided by the firm, which could not be sufficiently verified and which might be biased towards including only well-established ‘core’ permanent workers.

A rapid analysis of sample characteristics revealed that the third sampling scenario occurred in a number of cases (where supervisors could not impose their own site census) and biased the sample frame from which selection was made. Therefore, for companies that followed the third protocol, comparisons with workers from other firms have to be taken with a lot of caution since they are likely to be different workforces. Sampling that was conducted through open counts on site is more likely to include more vulnerable temporary/casual workers or newly hired employees and better represent the overall reality of employment in the firm at the time of the survey, whereas sampling based on restricted lists represent the realities of the best/more senior jobs in the company (within the relevant skill categories). The distribution of the samples across firms by origin and sample frame features clearly shows that non-Chinese firms were far more likely to have samples representing permanent or “core” workforces. Most companies (80%) followed the preferred routes of open census on site or full inclusive lists obtained from HR departments/ site supervisors (59% and 19% of firms respectively). However, sampling in non-Chinese firms was more likely to include *restricted* lists with core/permanent workers only or lists that were likely to exclude casual workers or employees on probation (case of full list) as Table 5 below shows. While 83% of Chinese firms followed an open count sampling process, this could only happen in less than 40% of the non-Chinese firms, where HR managers and site supervisors were more prepared and managed to partly shape the sample frame. Particularly problematic is that 37% of workers sampled in non-Chinese firms were taken from restricted lists that mainly included ‘core’ permanent employees. Another implication was that a

significant number of respondents turned out to be outside our target sample because they were in skilled technical categories (a priori outside our analysis), which meant that data analysis for comparisons can only be performed on 638 workers instead of 682. All the ‘skilled’ technical workers who had been included in the survey were in fact employed by Angolan and non-Chinese foreign firms and almost all in the dam project. Fortunately these problems were not encountered in Ethiopia to any comparable extent.

The other potential source of bias derives from the different situations facing different firms in the sample in the context of the 2016-17 economic crisis. This was mainly the case in the construction sector. Many Angolan and OF companies were operating at low intensity given the fiscal squeeze at the time of the survey. Where projects were ongoing a large proportion of these non-Chinese firms were essentially deploying their ‘core’ employees, i.e. those who have more formalised employment and are always called first whenever a new project arises or the ones who work permanently in the company. In order to keep them busy, many of these workers would be found in work sites but working under no time pressure. The contrary was observed in Chinese firms at the time of the survey. This was primarily due to the fact that the Chinese firms operating at the time of the survey were either under time pressure to complete final phases of projects or were just starting new projects of road rehabilitation accelerated by the extension of the last credit line from Chinese financial agencies, approved in 2015 and deployed in 2016-17. Few of these companies were starting operations and therefore did not have a core labour force to deploy. Most were employing newly hired and temporary workers while projects were being set up. Table 6 below reflects these patterns where the proportion of all workers sampled in Chinese firms belonging to a wider employee pool is very high in contrast with the sample of workers from Angolan and OF firms, a majority of whom were part of the core (and probably permanent) workforce of these companies. These different sample frames reflect the different realities facing comparable leading firms in the infrastructure business during a slump and are in themselves empirically interesting and a useful lessons for issues of labour survey design. The collection of sufficient qualitative information on the sampling process and the detailed field observation notes taken by researchers and supervisors allowed for the identification of these potential biases and therefore corrective measures at data analysis and interpretation stage.

Samples in Ethiopia

TABLE 3- SAMPLE OF FIRMS BY SECTOR AND FIRM TYPE - ETHIOPIA

	Manufacturing	Construction	TOTAL
CHINESE firms	8	6	14
OTHER FOREIGN firms	9	3	12
ETHIOPIAN firms	8	6	14
TOTAL COMPANIES	25	15	40

TABLE 4- SAMPLE OF WORKERS BY SECTOR AND FIRM TYPE - ETHIOPIA

	Manufacturing	Construction	TOTAL
CHINESE firms	169	120	289
OTHER FOREIGN firms	200	60	260
ETHIOPIAN firms	170	120	290
TOTAL INTERVIEWS	539	300	839

Samples in Angola

TABLE 5 - SAMPLE FRAME BASIS IN ANGOLA (% WITHIN FIRM ORIGIN)

Firm origin	full company list	restricted list	open count	Total
Other	26%	37%	37%	100%
Chinese	11%	6%	83%	100%
Total	19%	22%	59%	100%

TABLE 6- SAMPLE FRAME COMPOSITION IN ANGOLA (% WITHIN FIRM ORIGIN IN CONSTRUCTION SECTOR)

<i>Composition of workforce on site</i>	Full labour (core and temp)	Core labour mainly	Total (N)
ANGOLAN and OF firms	23%	77%	186
CHINESE firms	87%	13%	170
Total (N)	193	163	356

TABLE 7- SAMPLE OF FIRMS BY SECTOR AND FIRM TYPE - ANGOLA

COMPANIES IN ANGOLA	Manufacturing	Construction	TOTAL
CHINESE companies	8	9	17
OTHER FOREIGN companies	5	5	10
ANGOLAN companies	4	5	9
TOTAL COMPANIES	17	19	36

TABLE 8- SAMPLE OF WORKERS BY SECTOR AND FIRM TYPE- ANGOLA

WORKERS IN ANGOLA	Manufacturing	Construction	TOTAL
CHINESE companies	144	167	311
OTHER FOREIGN companies	85	120	205
ANGOLAN companies	68	98	166
TOTAL INTERVIEWS	297	385	682

Data collection instruments

Main survey questionnaire

The main data collection instrument was a detailed questionnaire administered to workers for a large-N survey. The surveys of sampled workers collected information mainly on:

- Workers' demographic and socio-economic characteristics (in order to construct workers' profiles), including questions to construct indices of socio-economic status or poverty proxies.

- Level of their education and skill, and sources of skills (whether formal or informal training).
- A full account of all economics activities in previous 12 months, in order to capture occupation multiplicity as well as seasonality in cases of temporary workers, through a detailed employment matrix.
- Working conditions in main job (the one performed for target firm in sample survey):
 - payment methods and wage levels;
 - non-wage working conditions, including health and safety, additional benefits, leave and so on;
 - access to vocational training and on-the-job training
 - form of organisation of employees in different firms and particularly the role of trade unions or other forms of association in their collective bargaining.
- Migration patterns and history
- Employment history

These different topics each entailed a questionnaire module, which applied in most cases. The length of the questionnaire was substantial but most interviews could be completed in around 1-1.5 hours.

The administration of the main worker survey greatly benefited from the use of computer-assisted interviewing tools (CAPI). This is now becoming the norm in large-scale surveys for many reasons, and particularly:

- Data entry and some cleaning done at the same time as data collection – with more consistency, fewer mistakes (non-sampling errors), thanks to multiple tools developed at questionnaire design stage to prevent easily avoidable errors;
- Lower risk of data loss (than paper questionnaires being transported in challenging conditions);
- Easier to train – new generations of enumerators more adept at using tablets than handwriting;
- Sampling frames and follow-up easier with use of GPS;
- More precise measurement (e.g. plots) if this is needed;
- Cost-effective given low cost of tablets compared to photocopying thousands of sheets.

In this survey we opted for one of the best software programmes available for CAPI: Survey Solutions. A major advantage of this software is that it is completely free as it was developed by the World Bank as a public good for national statistics agencies and researchers in developing countries. Survey Solutions combines three tools:

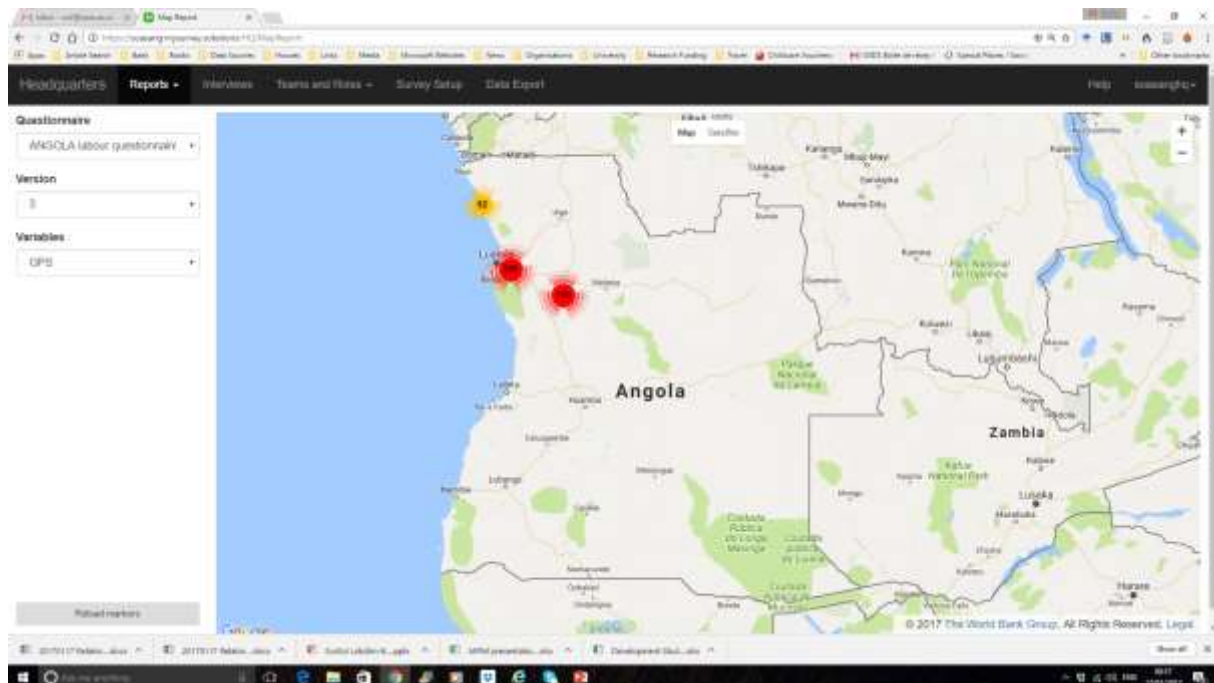
- ✓ A mobile app, which interviewers can use to conduct interviews on a pre-designed questionnaire format.
- ✓ A survey design tool, including a wide range of options for questions and questionnaire layout. Almost any complex questionnaire can be designed with this tool and the creation of ‘rosters’ from filter questions is user-friendly.
- ✓ A server tool that manages surveys and aggregates data, providing the means for remote monitoring of interviews (including maps that connect to GPS

coordinates from interviews) and for management of interview checks and corrections, allowing multiple players to work on completed interviews and passing tasks to interviewers if revisions are needed. Supervisor also access this server to organise their supervision. Data were stored in the cloud provided by the server so that leading researchers could crosscheck interviews as these were completed and uploaded (only needing an internet connection via a mobile phone even in remote areas). This provides major security to prevent data loss.

- The software therefore gave us the chance to perform key functions:
 - ✓ data collection in tablets;
 - ✓ survey management: managing teams of enumerators, supervision of enumerators, checking of interview quality and so on.
 - ✓ data management: data aggregation, cleaning, reporting, including mapping samples.

Although the main users of this programme increasingly are national statistics offices this is a tool that can be adapted to all sorts of surveys of different scales. Indeed, this was a major advantage for the effective and smooth administration of the survey and field teams were particularly satisfied with how easy it was to use and troubleshoot in case of problems.

FIGURE 7- VISUALISATION OF INTERVIEW SITES WITH SURVEY SOLUTIONS MAP



Firm management questionnaire

The firm questionnaire was sent to the relevant departments/ persons within each firm (usually a general/deputy manager and HR manager) and focused on background data on the company and key questions on employment facts and skill development in addition to some questions on main constraints and prospects for further job creation (or reduction). The questionnaire was eventually simplified in light of resistance to share some data on financial matters and production. However, questions to gauge the relative business scale of companies as well as

their main market orientation were kept in the final questionnaires. In the end not all firms returned their questionnaires, particularly in Angola, as already reported in the previous section. Different rounds were organized and researchers attempted to complete some firm questionnaires through SSIs with managers in order to avoid delays. A number of firms eventually refused to complete the questionnaires in Angola: four Chinese firms and seven Angolan and other foreign firms. For those who participated, in Angola the completion of questionnaires was actually more systematic and complete among Chinese firms than among other foreign and domestic firms, which left questions unanswered. The situation of the economic crisis in the country and the effects on some struggling firms led some of these firm managers to avoid completing the questionnaires or leave questions unanswered. The research team tried to fill some gaps by triangulating with other sources of information, including other interviews and online searches. Two rounds of qualitative interviews with managers (scoping and follow-up phases) had in fact produced usable data on various aspects included in the formal firm questionnaires. Therefore, some key data gaps were finally filled with notes from these SSIs, especially on employment levels, some characteristics of firms, their history in the country and main activities.

Phone survey

The follow-up phone survey has already been described in section 5 above. In terms of contents, the survey included only a few selected questions in order to make sure respondents could handle the phone interview. Interviewers asked if respondents were still in the same job, their new salary level and any changes in job description. Then they were asked follow-up questions for those who had left the job to know more about their current situation, i.e. new jobs (or unemployment) and new remuneration. This helped us get an idea of attrition rates and turnover (after 12-18 months) and how that varied across different firms. The sample consisted of 126 workers in Angola and 155 in Ethiopia, distributed roughly in similar shares across construction and manufacturing. This was the very last data collection process, completed by early January 2019.

Life and work histories

Towards the end of the data collection phase of the project, researchers, supported by survey assistants in Angola and Ethiopia, also collected around 50 detailed personal “Life’s Work Histories” (LHs). These LHs traced the history of individuals’ passage into and out of jobs in different kinds of firms, as well as detail the knowledge and skills that they gained through these job experiences. Attention was given to the family origins of the respondents and the conditions that led to their incorporation in the labour market. Their transition from agriculture to non-agricultural jobs was also especially important in these narratives. Respondents for this qualitative phase of the research were selected following a ‘nesting’ principle, whereby the results of the quantitative surveys were used to determine key profiles of national workers in different types of firms, taking into account differences in employment, age, skills, gender and migrant status, as well as their ability to sustain rich conversations with interviewers (this evidence was noted for each respondent in their main worker’s questionnaires, as ‘suitability for a longer open interview’). In total we completed 23 LHs in Angola and 33 in Ethiopia.

Semi-structured and open interviews

Overall, the team conducted a substantial volume of qualitative research. For most interviews in the scoping and follow-up phases a method of semi-structured interviews (SSIs) was chosen, with different themes and questions included according to the objective of each interview,

whether it was to gather additional information to triangulate with survey data, or to understand the context of the firm and/or sector prior to the worker surveys, or to discuss more sensitive topics on labour conflicts or work culture clashes. The following tables summarise the interviews and visits completed by category, excluding the important category of life/worker histories. Overall, 215 qualitative interviews (excluding LHs) were conducted, mainly with government and company management respondents, with a slightly higher share in Ethiopia, and a half completed in the final follow-up phase (Tables 9 and 10). These numbers do not include the work-life histories, also a variant of in-depth qualitative interviews, commented in section above.

TABLE 9- QUALITATIVE INTERVIEWS: ETHIOPIA

<i>Category</i>	Number	Share (%)
Government	27	23
Firms	72	62
Trade union	9	8
International Orgs	6	5
NGO	3	3
TOTAL	117	100

TABLE 10- QUALITATIVE INTERVIEWS: ANGOLA

<i>Category</i>	Number	Share (%)
Government	19	19
Firms	69	70
Trade union	4	4
International orgs	5	5
NGO	1	1
TOTAL	98	100

TABLE 11- QUALITATIVE RESEARCH BY PHASE

<i>Category</i>	Number	Share (%)
Scoping	76	35%
Main survey	31	14%
Follow-up	108	50%
TOTAL	215	100%

TABLE 12- SUMMARY OF DATA COLLECTION INSTRUMENTS AND SAMPLES

<i>Data collection instrument</i>	<i>Angola</i>	<i>Ethiopia</i>	<i>Period</i>
Workers survey (main questionnaire)	682	839	<u>Angola</u> : Sept 2016-March 2017 <u>Ethiopia</u> : March-Sept 2017
Firm management survey	34	40	<u>Angola</u> : March 2017- July 2018 <u>Ethiopia</u> : January – August 2018
Life/Work histories	23	33	<u>Angola</u> : March 2017- April 2017 <u>Ethiopia</u> : October– December 2017
Qualitative research – other SSIs	98	117	<u>Angola</u> : November 2015- July 2018 <u>Ethiopia</u> : November 2015 – August 2018
Phone survey (follow-up)	126	155	<u>Angola</u> : October – December 2018 <u>Ethiopia</u> : September- November 2018

Negotiating access: challenges and solutions

Any reader of this report would probably expect that the implementation of such a large-scale quantitative survey was only possible after strenuous efforts to negotiate access while ensuring research independence. Often one or the other are compromised, especially for sensitive topics like working conditions. This section briefly summarises the main challenges faced and our different strategies to overcome the obstacles.

The main obstacles were the following, almost confronted in chronological order during the research process:

1. Selection of firms was complicated because of paucity and unreliability of official statistics for sample frames. There were not comprehensive and readily available lists of firms by sector and with the information we needed to select them. It was necessary to consult multiple sources and build our own sampling frames of enterprises through triangulation and repeated crosschecking and updating of data. This was especially hard in the case of the infrastructure sector in Angola where the institutional fragmentation for data availability was striking.
2. Access to firms and workers was generally difficult, as expected. There were different layers of ‘sensitivity’ that made access particularly hard:
 - **Sensitivity of topic:** labour conditions and labour relations are normally a challenging topic as tensions and frictions often arise. Researchers are often seen to ‘take part’ in contexts of conflictual relations. Interviewing is also sometimes feared by managers because it can entice labour mobilization.
 - **Sensitivity of sectors:** infrastructure and factories, especially many newly established by foreign investors who were new to the country and

wary of unwanted visitors. Infrastructure projects have strategic importance and both governments and contractors are concerned with potential bad publicity of important flagship projects.

- **Sensitivity of countries:** Ethiopia and Angola are countries with different research cultures but both characterised by significant control over the reporting of matters that are of public concern so any sensitive topic is treated with caution and suspicion. Obtaining authorizations, support and information from several government departments requires a lot of patience, methodical work and capacity to engage government officials and build ‘buy-in’. While in Ethiopia many research institutions and agencies organise surveys, in Angola this is not so frequent and most people are unaware of the protocols needed to ensure research independence and avoid selection bias. Not surprisingly conducting research in these sectors was substantially more challenging in Angola.
- **Sensitivity of firms:** Most firms operating in these sectors, and especially firms concerned about their international reputation are likely to resist such a research exercise. Chinese SOEs are often perceived to be more impenetrable, in China and abroad, although this depends much on the network of contacts developed and on the ‘buy-in’ achieved with the host government. Private firms may also have less interest in collaborating even when local government is on board. In the end, there is significant variation in sensitivity across firms and it SOEs may not necessarily be harder to access.

3. Timing of research complicated operations because of unforeseen events:

- ✓ Economic crisis and the vagaries of infrastructure building in Angola since 2015 (linked to the drop in oil prices), lead to a shortage of road projects at the time of the survey and an atmosphere of concern and uneasiness among firm managers caused by the difficulties most firms were facing during that period. This meant that their patience and tolerance of visitors and especially researchers was at a minimum.
- ✓ Demonstrations, localised violence and state of emergency in Ethiopia since October 2016 also generated greater sensitivity and caution and indeed made survey work impossible for some months (see more below).

4. Complex logistics of access to 1) remote construction sites (on the move) and (2) heavily guarded factories/industrial parks.

During the early stages of the scoping phase it became clear that the best tactical option was to maximise ‘buy-in’ from government, so that important doors could be opened to access the most resistant firms. While government departments and relevant authorities were approached to present the aims of the research and its protocols, we also made sure to visit potential target firms to build networks and identify potential ‘allies’ among the business community. This was especially important for Chinese firms, since building *guanxi* could also potentially contribute to open some doors. This process took time and a number of sequential steps, summarised below:

- Finding the right stakeholders within Ethiopian and Angolan governments (Ministry of Industry, Road Authority, Investment Commission, etc.).
- Working tirelessly on ‘buy-in’ from host governments, especially the key department mentioned above.
- In the case of road and dam contractors, having the key ‘client’ on board (i.e. the relevant government department contracting the construction firm) was crucial and eventually proved determinant to help open some doors of firms that were particularly resistant. Introduction letters from key government offices and research partners – e.g. key ‘client’ in infrastructure projects (Road Authority, GAMEK in Angola) were critical.
- Working alongside highly reputed local institutional partners. This helped build ‘buy-in’ within government, which had our local partners in high esteem.
- Careful introduction to the project, tailored to different audiences, bearing in mind sensitivities and keeping low profile in the early stages.
- Repeated scoping research trips and visits to companies and government institutions to maintain the contact and interest in the project, especially finding ‘allies’ among firms and snowballing from these to other firms and business networks so that openness to our project was possible.
- Strong field teams with multiple roles and tight coordination, including locally hired Chinese assistants with experience in the country and ability to negotiate access and support Angolan/Ethiopian field teams in some of the most difficult circumstances.
- Patience and time was needed, as more than 8 months were spent in achieving ‘buy-in’ and strong support and flexibility over timing of surveys.
- Close monitoring of survey operations (Survey Solutions, WhatsApp, frequent field presence of lead researchers) was also important because, however well selected and trained our field team was, they often needed additional support from research coordinators (PI and Postdoctoral researcher) and some of our ‘specialist’ field assistants (with deep knowledge of contexts and sufficient experience in negotiating at higher level).

These were the practical challenges and the practical solutions to overcome them. However, it is difficult to appreciate the magnitude of the task without due consideration of the importance of the politics of fieldwork, in this and almost any other project of similar characteristics. The following section provides a dose of reflexivity on some of these issues, which help us better grasp the context in which the research was conducted.

Politics of fieldwork: reflections and implications

This project had to request a time extension due to the various obstacles faced. While the difficulties in negotiating access were anticipated, some of the economic and political developments in the two countries could not be fully predicted.

In fact, the initial objective was to begin quantitative surveys in June 2016 in *both* countries, especially in Ethiopia. These delays were due to a combination of factors, some partly anticipated as possible risks/threats in the project plans, some totally unexpected. The risks that had been initially considered as having a potential impact on progress were:

1. Gradual establishment of institutional partnerships due to slow processes in target countries and limits in administrative and logistical capacities for large-scale surveys.
2. Potential need for additional support for logistics of survey implementation in the case of Angola.
3. Difficulties and delays in access to stakeholders (government institutions and firms) because (a) the topic of this research is highly sensitive (labour conditions); (b) the sectors and firms targeted present challenges in terms of access; (c) target countries, especially Angola, are characterised by obstacles to field-based research on sensitive topics (as discussed above).

The experience of 2016 confirmed the three risks above. It took over five months to set all the terms and conditions for the institutional partnership in Angola and seek additional logistical support for the workers' and firm surveys. Final logistical arrangements could not be confirmed until July 2016, thereby delaying beginning of surveys. During this period, however, extensive scoping research was completed, which laid the foundations for a better designed sample protocol, consistent with the context-specific obstacles, and gave space and time for more 'buy in' among government institutions and some companies.

The process of securing access to key players in the target sectors required persistent negotiations, discussions, formal and informal meetings with middle- and higher-level government officials and company managers. Researchers operated through formal and informal channels to make sure access was not blocked by formalities. From the start it became clear that the topic of labour conditions was very sensitive for most parties involved, even including our own partner institutions in Angola and China. The sensitivities and fears of reputational risk caused substantial delays in the completion of the scoping phase, especially access to key data and documents, as well as endorsement from the government to conduct the kind of research and surveys we were planning. Acknowledgement or endorsement from key government departments in both Angola and Ethiopia were absolutely critical to gain access and "buy-in" from firms in the target sectors, especially for Chinese firms. The latter are simply not accessible for this kind of research, especially for quantitative surveys at workplace level, unless there are formal or informal recommendations from government institutions in the country to request cooperation with the project. In Ethiopia access was easier thanks to high-level contacts of the project researchers in key institutions. In Angola the process was slower and stop-go, despite working alongside the best recognised higher education institution in the country. Eventually having FECUAN leading the negotiations was crucial to open doors in the National Road Authority (INEA), the Ministry of Energy (GAMEK), and the Ministry of Industry. But the process took at least 10 months since the first meetings with authorities took place. By the time the survey started in late August 2016, a more explicit endorsement/support from the Ministry of Industry had not been achieved yet, but finally arrived in October. Even with contacts and 'buy-in' from key government departments, most firms, both Chinese and non-Chinese, presented resistance to allow surveys at work sites. There were unsurprising fears about possible agendas behind research, confidentiality issues, exposure to media, and so on.

The terms of access to workplaces, survey implementation, the sampling protocols and the times of surveys, were all negotiated through multiple channels and communications until a final agreement was reached. In all cases permission from firms was necessary in order to sample workers as otherwise they could not be identified. The construction sectors are particularly inaccessible and entail more complex negotiations due to the nature of work, the reluctance of companies to let survey teams into construction sites and reputational risk fears.

Moreover, particularly in Angola, there is not a developed field research culture, let alone field research culture on labour issues. Therefore many government officials and almost all firm managers were not familiar with the research needs and protocols followed for quantitative surveys on this topic.

Despite all these obstacles, the team managed to begin surveys in Angola only with a delay of three months (22 August 2016 instead of May-June). One of the outcomes of this protracted process and the significant sensitivities encountered was a revision of plans for interim workshops. It was clear that organising inception workshops before surveys were implemented could backfire and result in sample biases because of drop-outs among key companies in the target sectors, especially in construction. There were strong views about Chinese companies in certain Angolan circles, especially within the local business community and some civil society organisations. An inclusive interim workshop might have exposed some of these problems and sensitivities and probably led to even more reluctance to participate in the project among both sets of firms (Chinese and non-Chinese) and government departments. Moreover, fieldwork costs, especially in Angola, were likely to be higher than initially budgeted and we needed contingency budgets for any potential delays. On balance, these decisions on the eve of worker surveys paid off.

While the challenges above did cause some delays in the project, the main obstacle arose from unexpected political developments in Ethiopia. During the first scoping trips in October 2015 and February-March 2016, access was much better than in Angola, the local institutional partnership was smooth, and much progress was made towards starting surveys in May-June, including data for sampling frames and access to both Chinese and non-Chinese firms that seemed initially more open to the research than counterparts in Angola. During the first half 2016, however, there were signs of political tensions, manifested in demonstrations and some unusual anti-government violence in different parts of the country. Government action to curb protests expanded in the second half of the year. The political climate at the time, combined with some unexpected administrative problems at the local partner, meant that operations had to be interrupted, especially once the Ethiopian government responded to the growing unrest with the declaration of a state of emergency on 9th October 2016. The state of emergency and the associated curfews in practice excluded the possibility of properly conducted surveys in factories and construction sites, for obvious reasons. Eventually the situation became calmer and some of the restrictions under the state of emergency were lifted. After various consultations with key contacts in government and international organizations we decided it was possible to continue with the project in Ethiopia. Thus in early March 2017 we managed to organise the process for the pre-selection, training, pilot testing and final selection of field supervisors and enumerators in Ethiopia, with two teams of one supervisor and three enumerators each.

By then, surveys in Angola had nearly finished, towards the end of March 2017. The duration of the survey phase in Angola (September 2016-March 2017) was affected by continued resistance on the part of some firms (incidentally none of them Chinese) and by the need to wait for the start of a number of road projects that had been delayed due to the fiscal crisis that the Angolan governments faced in 2016-17 as a result of the oil-price crisis. Indeed, the context of the economic crisis in Angola since 2015, and especially in 2016, meant that construction projects were either at low-intensity, with only 'core' workforces in the case of some Angolan and other foreign companies, or simply delayed, as in the case of several road projects to be implemented by Chinese contractors. Field teams had to visually inspect the state of some of

these road projects to triangulate information with conflicting reports from firms and government departments. Only when we had proof that works had commenced, we could start deploying enumeration teams trying to coincide with more labour-intensive phases of project execution.

Meanwhile, the survey in Ethiopia proceeded smoothly, despite the maintenance of the state of emergency, because the risks were lower and the situation in the area where our survey teams operated was calm. Access was not affected during that period. The Ethiopian survey of workers ended in September 2017, when the only company that had not responded to requests for permission finally granted access (incidentally a non-Chinese foreign firm). Since September, the interviews from the two surveys were checked online again (via the survey server offered by Survey Solutions) and field teams worked on revisions, consistency checks and corrections for a few months until the interview data were deemed exportable and usable for the subsequent phase of data processing, cleaning and exploration.

During this period (October 2017-May 2018) research teams chased firms to complete their own company surveys (a set of basic questions to be answered by management) as a follow-up to the main worker survey. Although most companies had not refused to provide the requested data, a significant number of non-Chinese firms in Angola delayed responses until present, probably weary of sharing information on company production statistics and salary scales that they somehow deem sensitive (despite our repeated assurances of anonymity and confidentiality). The context of economic crisis in Angola does not help, since many firms are facing serious threats to their survival and resistance to sharing information becomes even more acute than usual.

The experience of the surveys conducted in this project therefore demonstrates the importance of political awareness, context and how the fluidity of economic and political circumstances in the countries where research takes place shape the progress and obstacles that an ambitious research project has to face. The extensive field experience of most research team members as well as the combination of researchers and field-teams with sharp awareness of specific economic and political conditions are essential ingredients for the ability to tackle these kinds of challenges. Solid methodological rigour and knowledge of the research topic is almost as important as a good understanding of the politics of fieldwork in each context.

Summary of research design: methods and links with research questions

This final section summarises the research design framework by explicitly linking specific research questions and sub-questions to the main data sources and methods, while some of the main challenges and sources of bias are also noted.

Research questions	Data sources and methods (primary source in bold)	Main challenges
<p><i>1a. How does job creation and workforce localization vary across types of sectors, firms and specific activities? Why such variation?</i></p> <p><i>2b. Has the share of national workers changed over time? If so, why?</i></p> <p><i>2c. What are the key determinants of firm labour demand decisions? What constrains additional job creation?</i></p>	<p>Literature / desk review</p> <p>Firm surveys</p> <p>SSIs with managers</p>	<ul style="list-style-type: none"> ➤ For collection of data from multiple studies and sources, there is uneven quality and reliability ➤ Probing and crosschecking reliability of responses from managers ➤ Absence of reliable official data sources on job creation for comparison across firms ➤ Incomplete firm survey completion
<p><i>2a. How do working conditions for low-skilled and semi-skilled labour compare across domestic and foreign firms in the same sectors?</i></p>	<p>Worker surveys</p> <p>Worker phone surveys</p> <p>Firm surveys</p> <p>SSIs with workers</p> <p>SSIs with managers</p>	<ul style="list-style-type: none"> ➤ Comparability across firms and types of workers if heterogeneity higher than expected ➤ Differences in sample frames for each firm ➤ Any systematic biases on more sensitive questions ➤ Limited sample sizes of some sub-groups ➤ Possible enumerator biases and sample protocol deviations
<p><i>2b. Why are they different or similar? What are the main determinants of observed differences?</i></p>	<p>Worker surveys</p> <p>Firm surveys</p> <p>SSIs with workers</p> <p>SSIs with managers</p> <p>SSIs with other stakeholders</p>	<ul style="list-style-type: none"> ➤ Possibility of multiple causes and confounding factors ➤ Effects of unobservables, especially on firm management ➤ Limited sample sizes of some sub-groups ➤ Collinearity between independent variables
<p><i>2c. How do current jobs compare with previous employment experiences for individual workers? Do they lead to an improvement?</i></p>	<p>Worker Life Histories</p> <p>Worker surveys</p> <p>Worker phone surveys</p>	<ul style="list-style-type: none"> ➤ Recall problems ➤ Biased memories ➤ Limited sample sizes of some sub-groups

Research questions	Data sources and methods (primary source in bold)	Main challenges
<i>2d. To what extent are labour regimes in Chinese firms in Angola and Ethiopia similar to regimes in China or not? Why?</i>	Literature / desk review Worker surveys SSIs with managers	<ul style="list-style-type: none"> ➤ Comparability of fieldwork evidence and desk review data ➤ Possible biases in qualitative research responses
<p><i>3. To what extent and how do foreign and domestic companies contribute to skill development and social upgrading for African workers in these sectors?</i></p> <p><i>3a. What kinds of skills predominate in these processes of skill development and why?</i></p> <p><i>3b. What were the main mechanisms of skill development?</i></p>	Worker surveys SSIs and Work Histories with workers Worker life histories	<ul style="list-style-type: none"> ➤ Comparability across firms and types of workers if heterogeneity higher than expected ➤ Limited sample sizes of some sub-groups ➤ Limited longitudinal evidence with young workers
<i>3d. What are the main constraints on skill development on the job or outside firms?</i>	Firm surveys Worker surveys SSIs with workers and managers SSIs with other key informants Literature / desk review	<ul style="list-style-type: none"> ➤ Comparability across firms and types of workers if heterogeneity higher than expected ➤ Possible biases in qualitative research responses ➤ Incomplete firm survey completion
<i>3d. How do skills constraints of local workforces affect the recruitment and management of labour by foreign and domestic firms?</i>	Firm surveys SSIs with managers	<ul style="list-style-type: none"> ➤ Possible biases in qualitative research responses ➤ Incomplete firm survey completion
<p><i>4. What are the characteristics of the emerging non-agricultural workforce and their implications for future structural transformations?</i></p> <p><i>4a. What are the demographic and socio-economic characteristics of workers sampled in the manufacturing and construction sectors and how do they differ across types of companies (by size and ownership)?</i></p>	Worker surveys Worker life histories SSIs with workers and managers Literature / desk review	<ul style="list-style-type: none"> ➤ Comparability across firms and types of workers if heterogeneity higher than expected ➤ Limited sample sizes of some sub-groups ➤ Possible errors in some socio-economic status variables

Research questions	Data sources and methods (primary source in bold)	Main challenges
<p><i>4b. If there are systematic differences across sectors and/or types of firms, what are the main determinants of these differences in workers' profiles?</i></p> <p><i>4c. How important is migration for jobs in these sectors? Why?</i></p>		
<p><i>4d. What were the individual trajectories of workers towards jobs in infrastructure construction and manufacturing? What facilitated or constrained their access to these new jobs?</i></p>	<p>Worker Life Histories Literature / desk review</p>	<ul style="list-style-type: none"> ➤ Limited longitudinal evidence with young workers ➤ Lack of long work histories ➤ Recall bias

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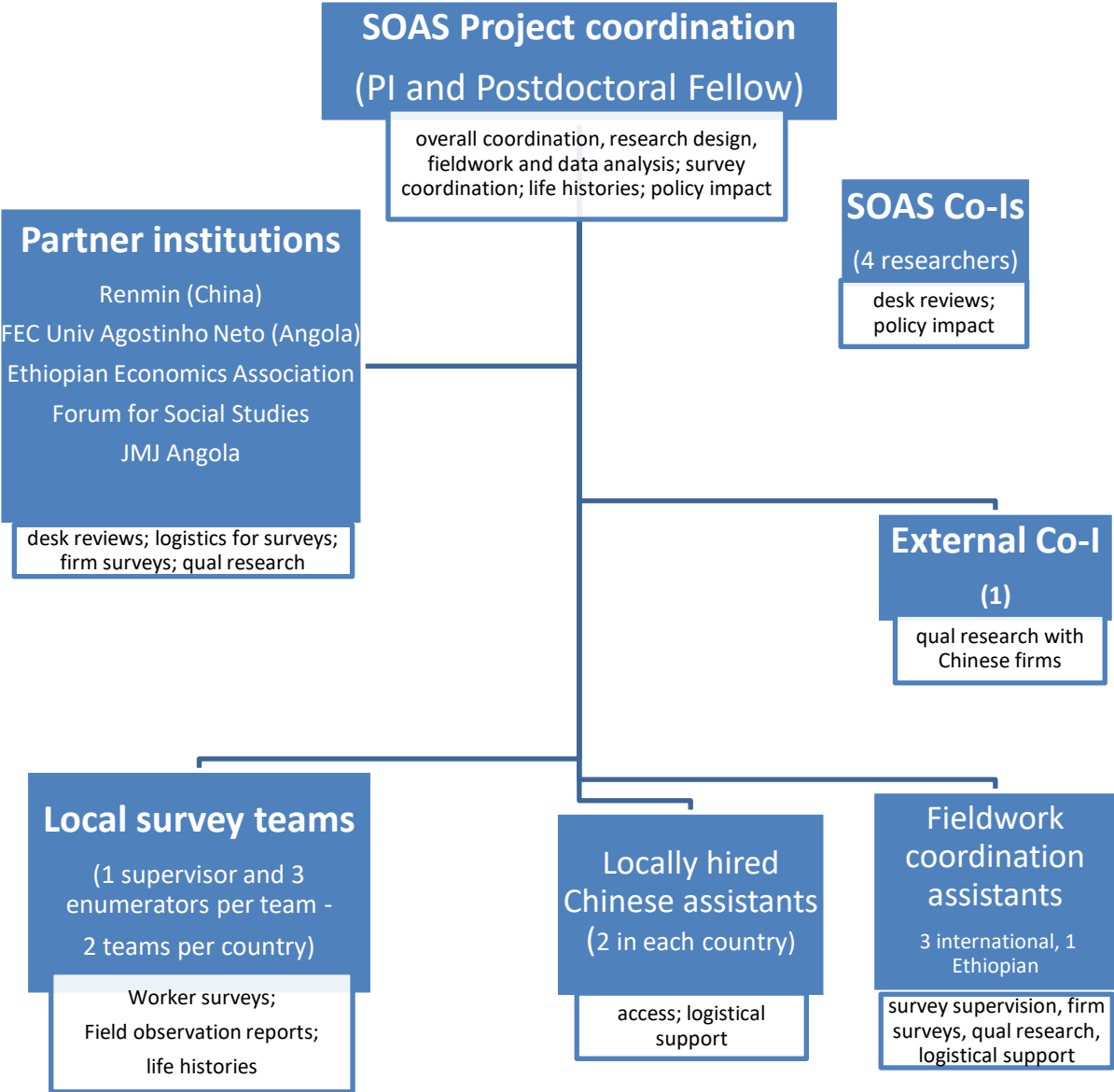
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Annex A – Project Organigram

The diagram below summarises the organigram of the project and the different research team components, each with different and equally important tasks. The team consisted of different groups participating in different tasks of the project: desk reviews; survey design; survey administration; survey logistics; life histories; other qualitative research (scoping and follow-up); policy impact design and administration. The SOAS coordination team acted as the coordinating anchor for each of the participating teams, institutions and individual co-researchers.



Note: PI = Principal Investigator and main coordinator of research process; Co-I = Co-investigators. Fieldwork coordination assistants (one of them Chinese) were non-locally based researchers who assisted with scoping research, access negotiation and direct field survey supervision in early stages of survey. Locally hired Chinese research assistants primarily assisted in following up contacts with Chinese firms for the purposes of the main workers’ survey and accompanied local survey teams to survey sites to troubleshoot any issues of access and communication. They also provided updates on some company projects before surveys were confirmed.

Annex B– Workforce Localization in Chinese Firms: Summary

Study	Year	Country	Sector	Firm/ project	African workers	Chinese workers	African workers (% total)
Akorsu and Cooke (2011)	2009	Ghana	manufacturing	GUMCO	250	3	99%
Baah and Jauch (2009)	2008	South Africa	manufacturing	FIDA, IINCOOL, KaRITA (all clothing)	958	27	97%
CARI-SAIS (Survey by Chinese official)	2011	Rwanda	construction	China Road & Bridge Corp. (Road building)	2,000	110	95%
Lee (2017)	2007	Zambia	mining	Chambishi copper mine	2,063	189	92%
Chen et al. (2016)	2018	Nigeria	manufacturing	16 Chinese firms (cumulative number of workers)	5,656	540	91%
Warmerdam and Dijk (2013)	2012	Uganda	various	42 companies in Kampala	9,845	1,004	91%
World Bank (2012)	2011	Ethiopia	manufacturing, services, and construction	Survey of 69 Chinese firms	23,723	2,728	90%
CARI-SAIS (Reuters)	2011	Zimbabwe	mining	Anjin: Joint venture diamond mining	1,700	210	89%
McKinsey report (2017)	2016–17	8 countries	various	Survey of over 1,000 companies	300,000	37,079	89%
Brautigam and Tang (2012)	2011	4 countries	manufacturing	Firms in 4 Special Economic Zones	13,592	1,979	87%
CARI-SAIS (Hans E. Petersen and Sanne van der Lugt's report)	2011	DRC	construction	DRC Reconstruction of Lubumbashi (N1) – Kasenga (Zambian Border) Road Reconstruction	600	100	86%
Sautman and Yan (2015)	2007–13	12 countries	various	Surveys and reports for over 400 firms/projects	N/A	N/A	85%
CARI-SAIS (China Africa Business Council)	2013	Africa	various	193 Chinese companies in Africa	34,000	6,400	84%
Baah and Jauch (2009)	2008	Ghana	construction	Bui hydroelectric dam (Sino Hydro)	560	110	84%
Huang (2013)	2012	S. Africa	various	16 companies	4,160	779	84%
Baah and Jauch (2009)	2008	Angola	construction	Sinohydro	715	312	70%
CARI-SAIS (The Africa Report)	2010	Mozambique	construction	Mozambique stadium	1,000	500	67%
Tang (2010)	2007	Angola	various	55 companies	5,482	3,353	62%
CARI-SAIS (Enrique Martino reports)	2013	Equ. Guinea	construction	China Road and Bridges	60	600	10%

Source: Author's elaboration based on sources reported in first column; CARI-SAIS sources are available from their database at <http://www.sais-cari.org/data-chinese-workers-in-africa>

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