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Construction as a springboard for industrialisation: Chinese overseas construction projects and structural transformation in Angola, Ethiopia, and Nigeria

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Title:

Construction as a springboard for industrialisation: Chinese overseas construction projects and structural transformation in Angola, Ethiopia, and Nigeria

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Abstract

This paper looks at Chinese construction projects in Angola, Nigeria and Ethiopia – the three countries that registered the highest cumulative value of construction projects completed by Chinese firms in sub-Saharan Africa between 1998 and 2019. This paper firstly shows that Chinese construction projects were an important catalyst for structural transformation. Beyond providing critical infrastructure for productive sector activities, the construction boom has induced domestic manufacturing of building materials and second-round demand multipliers. This paper secondly shows that the transformative potential of construction activities is not necessarily fully realised nor stable over time due to the nature of the emerging accumulation processes. In the case of Angola and to a lesser extent in Nigeria, the government failed to adequately support demand- and supply structures through complementary industrial and redistributive policies. The Ethiopian case shows that even where there were extensive efforts to support supply capacity, distributional conflicts can derail accumulation processes.

INTRODUCTION

China pledged to step up its international infrastructure construction activities over the next decade under the umbrella of the Belt and Road Initiative (BRI) seeking to create synergies between economic and geopolitical interests of varying nature including but not limited to the addressing oversupply problems in the Chinese economy and securing energy resources

1 (Carmody & Wainwright, 2022). With projected BRI spending of \$ 1.3 trillion by 2027, this
2 unparalleled initiative is an acceleration and a continuation of China's international
3 construction activities, building on and beyond the 'Going Out' strategy (Han and Webber,
4 2020; Liu and Dunford, 2016). Under the BRI, the Chinese government has created new policy
5 tools, such as new domestic and multilateral finance mechanisms (Pascha, 2020), and new
6 dimensions of cooperation but also extended existing ones namely hard infrastructure
7 development pioneered under the 'Going Out' strategy (Han & Webber, 2020) especially in
8 sub-Saharan Africa (SSA). Most SSA countries only signed BRI Memoranda of Understanding
9 in 2018, five years into the initiative (Calabrese, 2021), but they look back at two decades of
10 extensive hard infrastructure development by Chinese firms. This continuity provides a
11 sufficiently long time-horizon to investigate longer-term, macrolevel processes like structural
12 transformation and their dysfunctionalities.

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“If Africa is to have its ‘Roaring Twenties’, infrastructure needs to come first” argued Dawes
(2021). To explore the economic significance of construction activities, this paper looks at
Chinese construction projects and their impact on structural transformation (ST) at the example
of Angola, Nigeria and Ethiopia, which have seen the largest volume of Chinese construction
projects between 1998 and 2019. Their experience with respect to ST on the back of
construction cooperation provides important lessons regarding the transformative potential of
the BRI.

Chinese financial commitments to SSA economies have been scaled back substantially since
2016 and we witness a slow but steady decline in Chinese construction activity in SSA as some
host countries reached the limits of sustainable debt. This raises the issue of the longer-term
economic viability of the BRI. For debt to remain sustainable, construction projects have to
support economic activities which generate revenue streams out of which debt can be repaid

1 and based on which the tax base can be expanded. This paper *firstly* shows that the BRI, in
2 principle, has the potential to support productive sector activity and ST in host countries
3 because (i) it provides critical infrastructure for productive sector activities and (ii) because it
4 fundamentally changed the demand conditions for manufactured goods. Indeed, one of the
5 most important capitalist interests to emerge across SSA over the past 15 years was the cement
6 industry following an increase in demand for building materials. Employment on construction
7 projects and in building materials industries generated further second-round demand-multiplier
8 effects for basic consumer goods. If supported by industrial policy (IP) that facilitates learning
9 and capability development of domestic producers, such a demand stimulus from the
10 construction sector can be an important engine for structural transformation.
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24 However, this paper *secondly* shows that the transformative potential of construction activities
25 is not necessarily fully realised nor stable over time due to the nature of the emerging
26 accumulation processes. In the case of Angola and to a lesser extent in Nigeria, the government
27 failed to adequately support demand- and supply structures through complementary industrial
28 and redistributive policies. The Ethiopian case shows that even where there were extensive
29 efforts to support supply capacity, distributional conflicts can derail accumulation processes.
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31 In short, the impact of construction activities on ST and ultimately the viability of China's
32 mode of cooperation advanced under the BRI depends on the nature of the accumulation
33 processes that unfold within specific domestic power relations.
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47 Section 1 provides an overview of the Chinese-induced construction boom in SSA. Section 2
48 reviews the relationship between construction and manufacturing. Section 3 focusses on
49 linkage formation between the construction and manufacturing sector in Angola, Ethiopia and
50 Nigeria demonstrating that only a narrow range of building materials industries emerged, and
51 that second-round demand multipliers were weak. Section 4 traces the political economy of the
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1 accumulation dynamics at the example of the cement sector in all three countries and the
2 reasons why the transformative potential of the construction sector was not fully realised.
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4 Section 5 concludes.
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10 **1. THE CHINESE-INDUCED CONSTRUCTION BOOM IN SUB-SAHARAN** 11 **AFRICA** 12 13 14

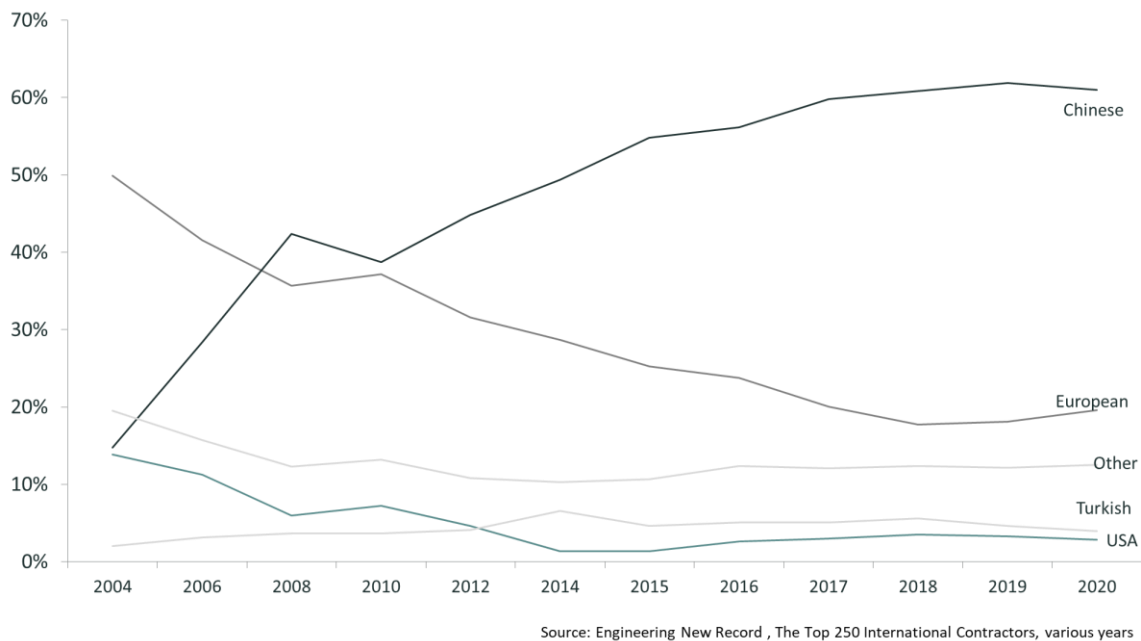
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16 The BRI initiated a wave of globalisation, which is closely tied to Chinese construction activity
17 abroad if also complemented by other ‘soft-infrastructure’ dimensions. Over the past 30 years,
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19 China has been urbanising at a historically unprecedented speed and its construction sector has
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21 grown at an annual average rate of 12% between 2000-09 and 8.2% between 2010-19
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23 (calculations based on UN National Accounts). Measuring total revenue, six out of the top ten
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25 globally operating contractors were Chinese in 2019. Some show a significant degree of
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27 internationalization, in particular Powerchina (Power Construction Co of China) and CCCC
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29 (China Communications Construction Company) which generate 26% of their revenues
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31 internationally (ENR 2021).
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39 A significant part of this internationalisation has taken place in SSA as part of the ‘Going Out’
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41 strategy that pioneered the hard infrastructure development aspect of the BRI. Growth rates of
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43 the construction sector in SSA were highest across developing regions with 10.6% over the
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45 period 2000-09 and 7.3% over the period 2010-19, even ahead of the BRICS (9.5% and 6.4%
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47 respectively) and exceeding average GDP growth rates by 3 percentage points. The SSA-wide
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49 construction boom was led by Chinese contractors, whose share in the rapidly increasing
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51 African market rose from 15% in 2004 to 61% in 2020 (Figure 1). By 2017, all of the top five
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53 contractors in Africa were Chinese. 78% of international contractors active in Ethiopia and
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72% of those active in Angola in 2020 were Chinese (ENR, 2021). Out of the 97 countries in which it operates, CCECC has its strongest presence in Nigeria with signed contracts in over 120 projects (source ENR 2019).

Figure 1. Market share of international contractors in the African construction market



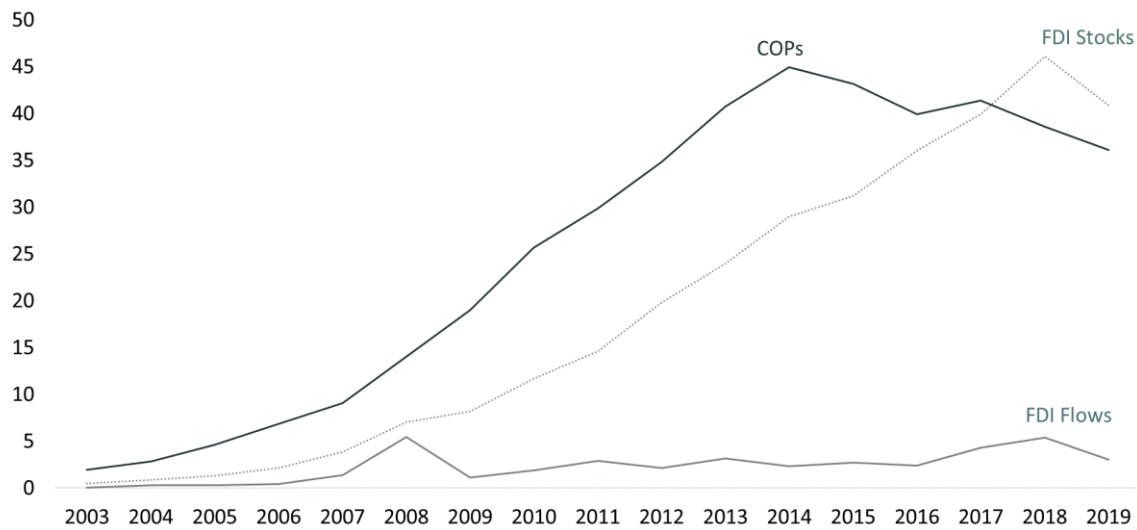
The growth of Chinese construction activities in SSA is closely tied to their increasing competitiveness but also to policy and financial support from the Chinese government for “go global” enterprises (CICA 2014: 3). To support the expansion of Chinese overseas construction activities, State-Owned Banks (SOBs) finance many construction projects with loans secured by natural resources (the so-called “Angola-model”) or by the host country sovereign in escrow accounts held in Chinese SOBs in the case of non-resource-rich countries. Chinese lending to SSA amounted to a total of \$144.7 billion between 2000 to 2019, though declining sharply from its peak of \$26.4 billion in 2016 to \$5.7 billion in 2019. Angola has received the largest cumulative loan disbursements (\$42.7 billion) followed by Ethiopia (\$13.7 billion), while Nigeria ranks fifth with \$6.7 billion loans from Chinese SOBs since 2000 (calculations based

1 on (Boston University Global Development Policy Center, 2022)). In the Nigerian case, private
2 firms have also obtained loans directly from Chinese banks, including cement magnate
3 Dangote, who obtained \$2 billion from the Industrial and Commercial Bank of China (ICBC)
4 for the expansion of two cement plants in 2016 (Africa Confidential, 2016a).
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10 Not all Chinese-contracted projects are also Chinese-financed. Between 2007 and 2015,
11 Chinese firms have, for instance, won 30.3% of World Bank financed infrastructure projects
12 in SSA (Farrell, 2016). More generally, the monetary value of Chinese-built infrastructure in
13 Africa outstrips that of Chinese-financed infrastructure implying that Chinese contractors win
14 projects not financed by Chinese sources. While Chinese finance may have facilitated the
15 expansion of Chinese construction SOEs (and was initiated on their pressure), contractors'
16 increasing competitiveness and own financial resources have reduced dependence on Chinese
17 loans over time (Zhang, 2021).
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30 In terms of magnitude, the total turnover of overseas construction contracts of Chinese firms
31 in SSA (contracted overseas projects, COPs) is far more important than Chinese firms investing
32 directly (FDI), with \$3 billion in FDI flows against \$36.1 billion of COPs completed in 2019
33 (Figure 2).
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Figure 2. Chinese FDI and COPs in SSA 2003-2019 (USD billion)



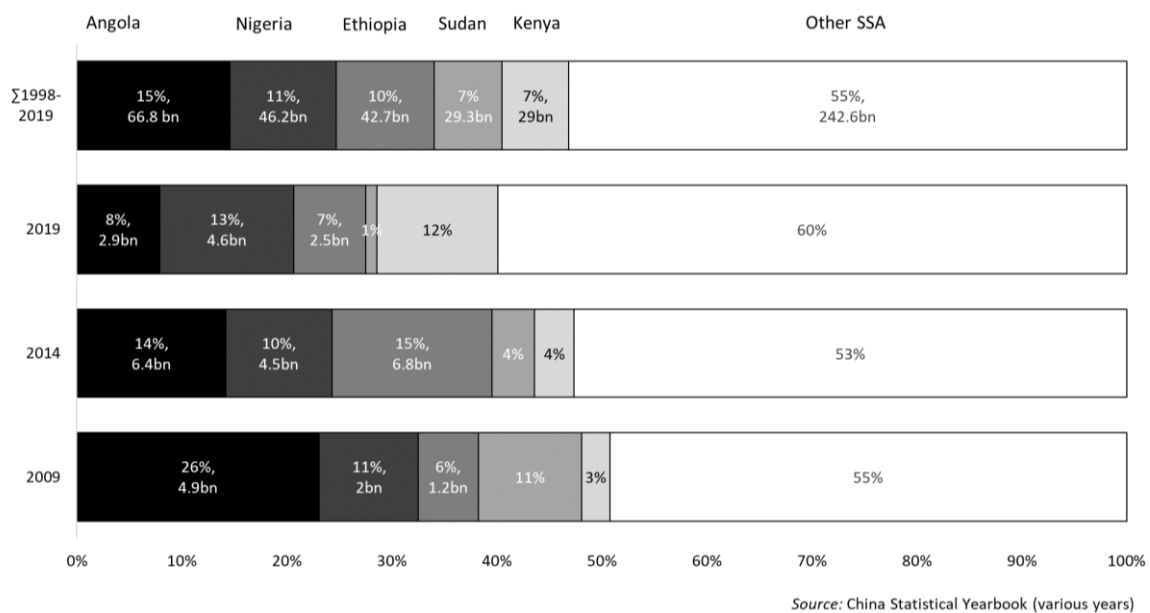
Source: China Statistical Yearbook (various years) and Statistical Bulletin of China's Outward FDI

Often though COPs and FDI are closely linked, Chinese companies entering the market as contractors and eventually setting up subsidiaries, thereby adding to FDI in the construction sector. A prominent example includes CITIC Angola, which entered Angola in 2008 as a contractor of major projects like the Kilamba housing project and, from its base in construction, became an investor in aluminium processing, farms (McKinsey, 2017) and a vehicle for infrastructure finance. In Nigeria, CCECC, which had a vital role in the construction of highways, ports, major railway lines and airport terminals, operates a subsidiary with over 19,600 employees (ENR, 2019). By contrast, in Ethiopia, Chinese contractors operate predominantly through COPs, whilst Chinese FDI is heavily concentrated in manufacturing, accounting for about 80% of total Chinese FDI in Ethiopia (Chen, 2021).

Similar to loan disbursements, COPs have declined since 2014 although still substantial in absolute terms. In Angola, COPs fell from \$6.4 billion in 2014 to \$2.8 billion in 2019, in Ethiopia from \$6.8 billion to \$2.5 billion. By contrast, in Kenya COPs nearly trebled between

2013 and 2019 and, by 2019, Chinese firms were carrying out more construction projects in Kenya than in Angola. This indicate that Chinese construction firms diversified but also that some host countries are approaching limits to the infrastructure spending they can sustain. On aggregate, between 1998-2019, most construction projects were completed in Angola (\$66.8 billion), followed by Nigeria (\$46.2 billion) and Ethiopia (\$42.7 billion) (Figure 3).

Figure 3. Top 5 SSA economies for Chinese construction projects selected years, % of total



2. THE AFRICAN CONSTRUCTION BOOM AND ITS ECONOMIC SIGNIFICANCE

What is the economic significance of the Chinese-induced construction boom for structural transformation? The neoclassical growth literature emphasises construction's role in reducing production costs (Moreno et al., 2002) and generating spill-over effects on human capital formation (Agénor, 2010). Such effects are important and have materialised on the back of Chinese construction activities. Across SSA, China has financed and constructed infrastructure that is critical to enhance profitability and productivity of manufacturing production, in

1 particular in transportation infrastructure and electricity generation, cited by firms across the
2 continent as a major constraint in the World Bank’s doing business survey. China has played a
3 transformative role in SSA’s energy sector, building 9GW out of the total of 28GW installed
4 energy generating capacity in SSA between 2001 and 2010 (Hwang, Brautigam, and Wang
5 2015) and adding another 8GW hydro-capacity between 2010 and 2020, i.e. about half of total
6 capacity increases (Han & Webber, 2020). In Ethiopia, Chinese contractors have been leading
7 large dam projects such as the 300MW Tekeze hydroelectric dam and the 90MW Amerti-Neshe
8 hydropower dam, which are vital to provide the industrial parks reliably with power. Nigeria’s
9 Mambilla dam – a prominent BRI project 85% financed by China ExIm Bank – will, once
10 completed, be among the biggest on the continent with a planned capacity of 3GW.
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25 In the transportation infrastructure sector, prominent BRI projects have contributed to the
26 reduction of production costs. Ethiopia’s Addis Ababa-Djibouti railway line (Eom, 2016) and
27 the Mojo dry port renovation were critical in reducing the logistics costs for export and imports.
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29 In addition Chinese contractors have dominated the construction of industrial parks in Mekelle,
30 Kombolcha, Dire Dawa, Hawassa and Adama as well as factories such as the Derba and
31 Dangote cement plants in Ethiopia (China Daily, 2017). In Nigeria, the Lagos-Ibadan railway
32 constructed by the CCECC facilitates international trade after it was linked to the Apapa port
33 in January 2021 (Olurounbi, 2021), with further vital long-distance North-South (Ibandan-
34 Kano) and East-West (Lagos-Calabar) railway arteries being planned. In Angola, Chinese
35 construction activities substantially extended transportation infrastructure (ports, national and
36 municipal roads), the water supply and telecommunications network as well as educational and
37 health care facilities (Wolf & Cheng, 2018). Nuru (2019) estimates that between 2011 and
38 2017, economic infrastructure contributed about 1.4 percentage points of total output growth
39 in Ethiopia (Shukra et al., 2021).
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1 Construction does not just have forward linkages to manufacturing as supplier of critical
2 infrastructure with corresponding effects on productivity, it also has substantial backward
3 linkages to manufacturing because it relies on a wide range of manufactured inputs. To this
4 add further second-round demand multiplier effects from employment creation (Rameezdeen
5 & Ramachandra, 2008). Figures for advanced industrialised economies suggest that more than
6 50% of total inputs in construction are sourced from the domestic manufacturing sector (direct
7 backward linkage), and one monetary unit change in final demand of construction has
8 multiplier effects of more than two on total output of all other sectors (indirect backward
9 linkages; Bon and Pietroforte 1990). At the macro-level, the business environment depends
10 strongly on demand conditions. If not matched by synchronous increases in demand for output,
11 the labour-saving effects of productivity increases will lead to reductions in employment and
12 structural change will remain limited to small islands of efficiency (Storm & Naastepad, 2005).
13 Evidence from NSE-listed firms suggest that favourable demand conditions were a driver of
14 capital accumulation, while unfavourable demand conditions were a factor holding back their
15 expansion (Wolf 2022).

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17 The potential importance of these demand chains triggered by BRI infrastructure projects as a
18 catalyst for ST is illustrated in Figure 4. Increases in government spending on infrastructure
19 financed among other through Chinese lending increase demand for manufactured products
20 and lead to increases in investment demand (I) in the building materials sector. Increases in
21 purchasing power (C) resulting from employment on construction projects and in building
22 materials industries can trigger second-round increases in investment demand (I) for basic
23 consumer goods manufacturing, especially food and beverages (Figure 4).

Figure 4. Demand-chains from construction sector

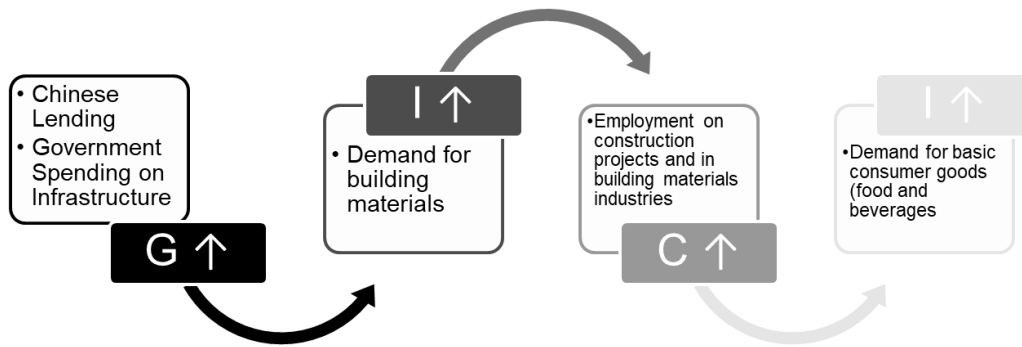


Table 2 reports calculations of the potential direct (through manufactured inputs) and indirect demand multipliers (through wages) stemming from one unit monetary change in construction output in Angola and Nigeria. There are, inevitably, limitations to our ability to estimate the resulting multipliers. Notably, there is no data, for the three countries studied, on what the demand induced by the construction sector is actually spent on. Nonetheless, for Nigeria and Angola, there is sufficient data to construct a counterfactual estimate of the average potential multiplier effect of construction sector output on manufacturing if no demand was lost to imports and savings out of wages using data on the size of the demand injection coming from the construction sector’s ‘intermediate consumption’ and from the ‘compensation of employees’ in construction and manufacturing reported in UN DESA (2021). This is summarised in table Table 2.

The data sources and assumptions used are summarised in Table 1. While the full data required for these calculations is not available for Ethiopia, data from Ethiopia has been used to inform assumptions made on expenditure on manufactured goods, where information from Nigeria or Angola was not available. Overall, the estimates are conservative because they are partial multipliers which understate the potential impact on overall demand, because they assume a zero multiplier from any demand that does not affect the manufacturing sector.

Table 1. Data sources and scenarios for potential construction demand multipliers			
Input coefficients	Central Scenario	Low Scenario	High Scenario
<i>Direct</i> demand multipliers: <ul style="list-style-type: none"> • Intermediate consumption as % of total construction output • Intermediate consumption as % of total manufacturing output <i>Indirect</i> demand multipliers <ul style="list-style-type: none"> • Compensation of employees as % of total construction output • Compensation of employees as % of total manufacturing output 	Median of: <ul style="list-style-type: none"> • last observation • 5-year weighted average • 10-year weighted average 	-25%	+ 25%
Data Source: UN-DESA (2021) for Angola 2008-2020 (Table 2.3, pg. 52ff) and Nigeria 2008-2020 (Table 2.6, pg. 318ff)			
Expenditure on manufactured goods <ul style="list-style-type: none"> • % of households' total individual consumption expenditure spent on manufacturing goods 	59.2%, Median of: <ul style="list-style-type: none"> • last observation • 5-year weighted average • 10-year weighted average 	-25%	+ 25%
Data Source: UN-DESA (2021) for Ethiopia 2010-2018 (Table 3.2, pg. 606ff)			

The results suggest sizable potential multiplier effects coming through both directly and indirectly induced demand for given reported input coefficients. In Angola, the central scenario with medium wages spent on manufactured goods, suggests that a 1 unit monetary increase in output of the construction sector triggers a further 0.8 unit increase in demand for manufactured goods, of which 0.5 through direct demand for intermediate inputs and 0.3 through wages. In Nigeria a 1 unit increase in output of construction would trigger a further 1.4 unit increase in demand for manufactured goods for direct intermediary inputs and a further 0.5 unit increase in demand coming through wage effects, within the central scenario with medium wages spent on manufactured goods. These differences between Angola and Nigeria stem from the overall higher share of intermediate inputs and wages relative to total output of construction and manufacturing reported for Nigeria (i.e. lower gross operating surplus relative to output).

Table 2. Potential demand multiplier (direct and indirect) of 1 unit monetary change in output of the construction sector in Angola and Nigeria

Country	Scenarios		Results		
	Intermediary consumption and compensation of employees as % of output in construction and manufacturing	% age of wages spent on manufacturing	Total Multiplier	Of which: direct intermediate inputs	Of which: indirect through wages
Angola	Central	42.1%	1.7	0.5	0.2
		59.2%	1.8	0.5	0.3
		75.7%	1.9	0.5	0.4
	Low	42.1%	1.4	0.3	0.1
		59.2%	1.5	0.3	0.1
		75.7%	1.5	0.3	0.2
	High	42.1%	2.2	0.9	0.4
		59.2%	2.4	0.9	0.5
		75.7%	2.6	0.9	0.7
Nigeria	Central	42.1%	2.8	1.4	0.3
		59.2%	2.9	1.4	0.5
		75.7%	3.1	1.4	0.7
	Low	42.1%	1.8	0.8	0.1
		59.2%	1.9	0.8	0.1
		75.7%	1.9	0.8	0.1
	High	42.1%	4.6	2.5	1.1
		59.2%	5.2	2.5	1.6
		75.7%	5.8	2.5	2.2

The multipliers have been calculated as follows:

$$(1) m = 1 + m_i + m_w$$

Where m is the total multiplier of a monetary unit change in construction demand on overall demand for manufactured goods.

m_i is the component of the multiplier stemming directly from the production of intermediary inputs. This is calculated as follows:

$$(2) m_i = 1 + \frac{i_c}{1 - i_m}$$

Where i_c is the proportion of construction sector output spent on intermediary goods and i_m is the proportion of manufacturing sector output spent on intermediary goods (in both cases assumed to be produced by the manufacturing sector).

m_w is the component of the multiplier resulting indirectly through consumption demand out of wages paid in construction and manufacturing. This is calculated as:

$$(3) m_w = m_w^1 + m_w^2 + \dots + m_w^{10}$$

Where m_w^1 is the multiplier stemming from the consumption of manufactured goods out of the wages paid to a) all workers in the construction sector, and b) workers in the production of manufactured inputs demanded by the construction sector. This is calculated as:

$$(4) m_w^1 = \frac{w_c * p_m + (m_i - 1) * w_m * p_m}{1 - i_m}$$

Where w_c and w_m are the wage share in the manufacturing and construction sector respectively, $m_i - 1$ describes the production of intermediary inputs triggered directly by the initial construction expenditure and p_m is the proportion of wages assumed to be spent on products from the manufacturing sector.

m_w^2 is the multiplier stemming from consumption of manufactured goods out of the wages paid to workers producing inputs for the manufactured goods counted in m_w^1 . This is calculated as follows (and in a similar way for the subsequent rounds of the multiplier for a total of 10 rounds at which point any additional multiplier effect becomes negligible).

$$(5) m_w^2 = \frac{m_w^1 * w_m * p_m}{1 - i_m}$$

Calculations based on: UN-DESA (2021). National Accounts Statistics, Main Aggregates and Detailed Tables 2021. <https://unstats.un.org/unsd/nationalaccount/sdpubs/MADT-2021.pdf>

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However, this potential is not necessarily fully realised nor are demand multiplier effects stable over time. In Singapore, for instance, direct backward linkages and further demand multipliers remained well below those observed in developed countries (Rameezdeen and Ramachandra 2008). In practice, several factors can impede circular cumulative causation of demand, output and productivity growth. *First*, supply-growth may not keep up with demand growth, with additional demand therefore leaking into imports. *Second*, demand multipliers can remain below potential if entrepreneurial expectations or distributional dynamics are unfavourable. *Third*, political instability resulting from rapid socio-economic change can derail ST (Andreoni and Chang 2019).

In policy terms, for first and second-round multiplier effects to occur, both demand- and supply structures need to be supported by policy. To produce profitably, manufacturing firms need productive and organisational capabilities (Khan, 2019), which can only be acquired through the production process itself. Therefore, IP is needed to ensure production can take place *before* competitiveness is reached (Khan, 2013). Successful implementation of IP relies on incentivising entrepreneurial effort within historically grown power-relations (Khan 2019, 2013) and within environments in which policy outcomes are determined by deals rather than formal rules and are therefore highly unpredictable (Kar et al., 2022) whilst addressing a range of structural tensions such as supporting growth of vertically linked sectors in particular agriculture (Andreoni and Chang 2019). At the same time, domestic demand structures can be supported by government spending (Storm and Naastepad, 2005), targeted public procurement (Edler & Georghiou, 2007) and pro-poor redistribution. While pro-poor redistribution through higher wages and taxes increase an individual firm's costs of production and cuts into profit margins (that is, profits per item sold), the aggregate level of output that can be profitably sold increases - and with it overall sales and the profit rate (Kalecki's 'paradox of costs', Kalecki

1954). Section 4 shows that the policy frameworks to support supply-capacity, demand structures and political stability were on a whole limited in Angola, Nigeria and Ethiopia though to varying degrees.

3. DEMAND-CHAIN FORMATION: THE CONSTRUCTION-INDUSTRY

NEXUS IN ANGOLA, ETHIOPIA AND NIGERIA

Manufacturing output increased in Angola, Ethiopia and Nigeria over the past ten to 20 years both in absolute and in per capita terms, value added per capita increasing from \$118 to \$251 in Angola, from \$10 to \$28 in Ethiopia and from \$172 to \$225 in Nigeria between 2000 and 2019. Significantly, there were periods in which growth rates of value added in construction and in manufacturing exceeded average GDP growth rates (Table 3; grey shaded areas), hinting at a potentially interconnected growth pattern. This section shows that in all three countries direct demand effects and second-round multiplier effects occurred, but generally remained limited to a narrow range of building materials, most prominently cement, and second-round demand multiplier effects were weak.

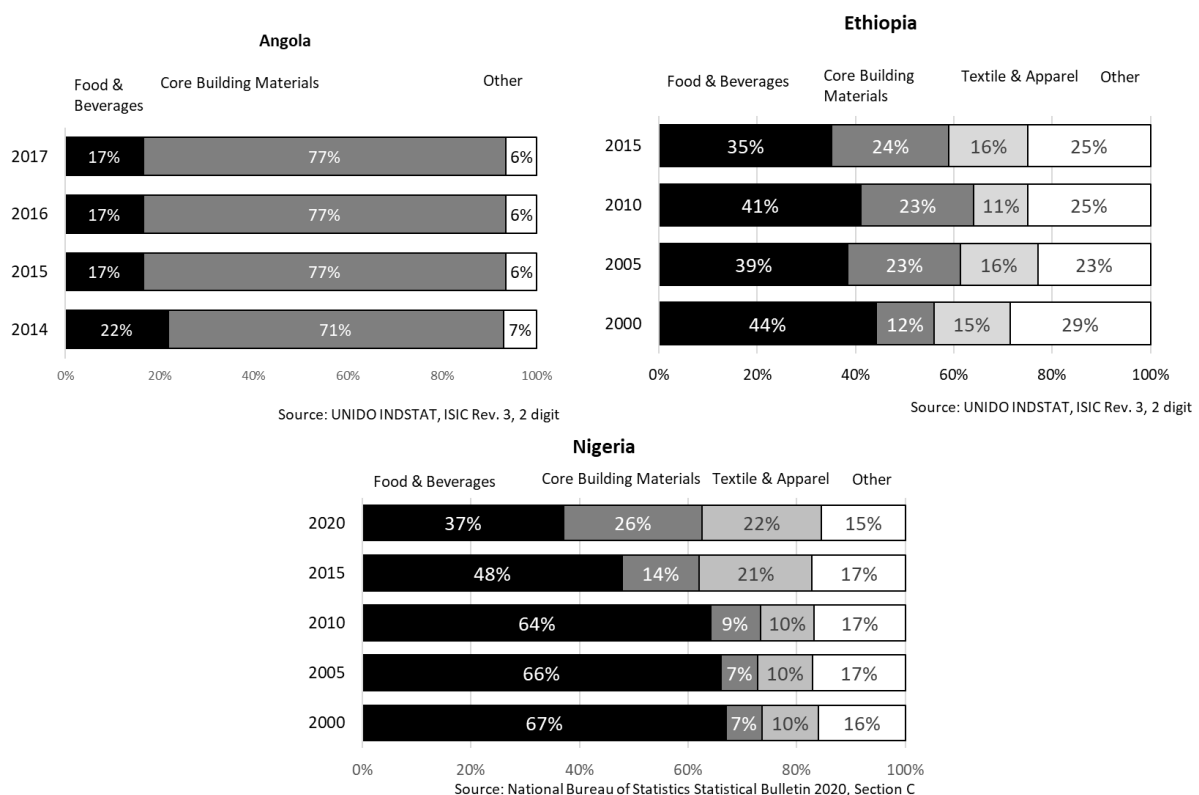
Table 3. Angola, Ethiopia and Nigeria– Average real GDP growth rates by sector

Country	Period	MVA		Average real annual growth rates by sector					
		p.c.	% GDP	agri.	manf.	constr.	mining	non-mining	GDP
Angola	1990-99	121.3	4.4%	-1.4%	-0.8%	4.1%	3.9%	-1.4%	-0.2%
	2000-09	167.9	5.3%	8.3%	11.3%	11.4%	9.0%	7.9%	8.1%
	2010-19	251.4	6.4%	5.5%	4.7%	6.2%	-0.5%	3.5%	2.4%
Ethiopia	1990-99	8.9	3.7%	2.3%	1.3%	4.2%	2.7%	2.3%	2.3%
	2000-09	10.9	3.8%	6.5%	7.1%	11.2%	6.6%	7.8%	7.8%
	2010-19	27.6	4.8%	5.7%	15.1%	22.6%	7.4%	10.1%	10.1%
Nigeria	1990-99	233.3	15.5%	3.5%	-2.2%	4.0%	-0.1%	1.7%	1.3%
	2000-09	168.5	9.2%	10.9%	1.8%	8.5%	2.8%	8.9%	7.7%
	2010-19	224.5	8.7%	3.6%	6.7%	6.8%	-2.8%	4.3%	3.6%

Calculations based on UN National Accounts and constant 2015 USD

Sub-sectoral output data suggest that building materials played an important role in recent manufacturing output growth. ‘Core building materials’ (measured by non-metallic minerals, wood products excluding furniture, basic and fabricated metals) increased from 12% to 24% of MVA between 2000 and 2015 in Ethiopia, making it the second most important sub-sector after food and beverages. Similarly, in Nigeria, ‘core building materials’ increased from 7% to 26% of MVA between 2000 and 2020. The Angolan manufacturing sector, in turn, is largely dominated by ‘core building materials’, accounting for as much as 77% of total MVA in 2017 (Figure 5).

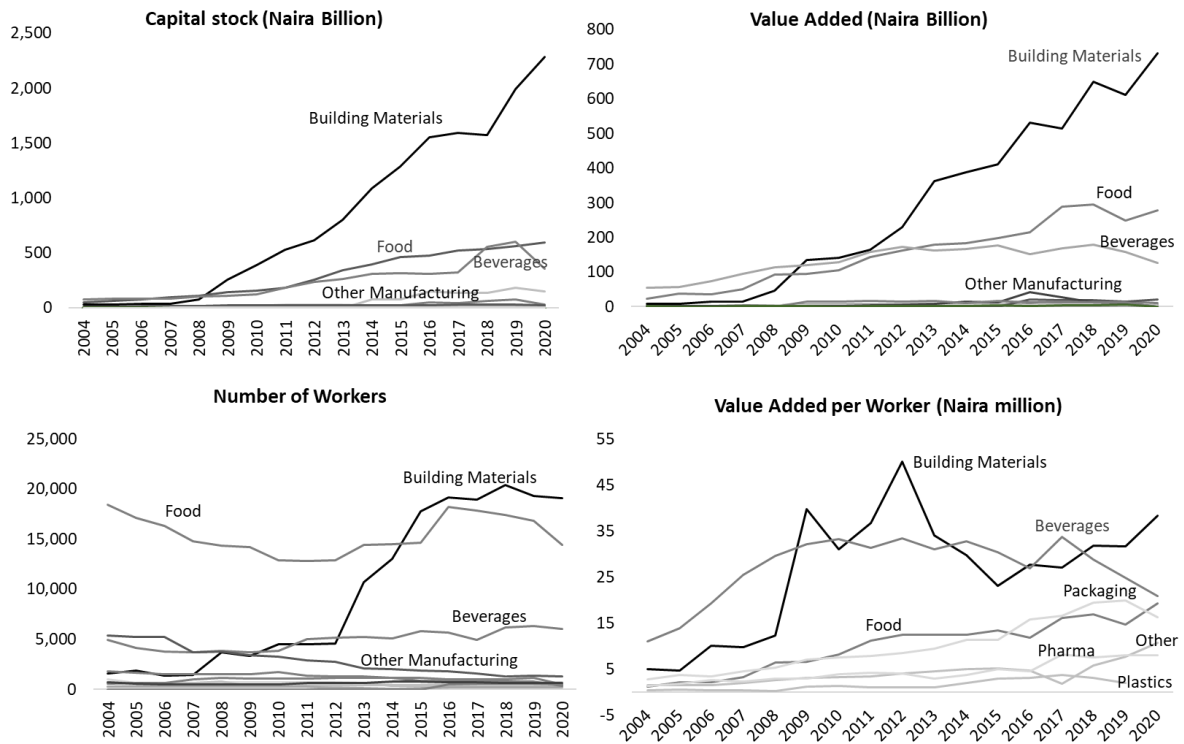
Figure 5. Composition of manufacturing value added by broad category (% of total manufacturing value added)



The rapid growth of building materials producers listed on the Nigerian Stock Exchange (NSE) in terms of capital stock, value added, and employment (Figure 6) further illustrates this trend.

1 In 2020, value added of NSE-listed building materials firms (₦ 730 billion) was more than
2 double that of food manufacturers (₦ 278 billion) and more than 6 times that of NSE-listed
3 beverage producers (₦ 128 billion). The capital stock of NSE-listed building materials
4 producers exceeded that of food producers about four times and that of beverage producers
5 about six times. By 2020, NSE-listed building materials producers employed about 19,000
6 people, about the same as the NSE-listed firms in food and beverage production combined
7 (Figure 6). This expansion of building materials manufacturing is directly linked to Chinese
8 construction activities. CCECC in Nigeria sourced cement, one of the core inputs in the railway
9 projects, exclusively from the domestic suppliers Dangote and Lafarge (ENR 2019).
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Figure 6. Capital Stock, Value Added and Employment in NSE-listed manufacturing firms by sector.



Compiled based on financial statements of NSE-listed manufacturing companies

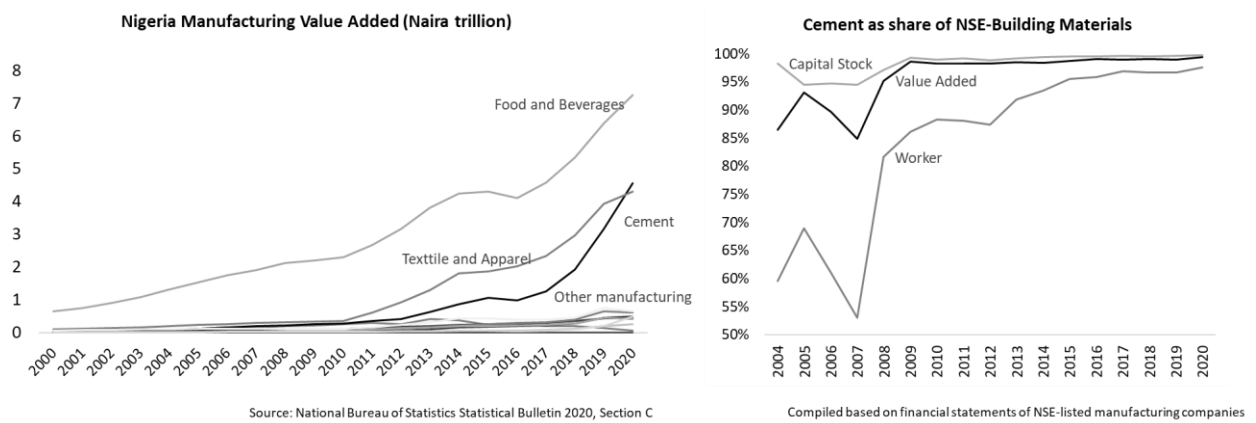
Whilst building materials manufacturing accounts for an increasing share in total manufacturing output, only a limited number of building materials industries emerged. Evidence from Angola and Ethiopia suggests that 8.2% of all merchandise imports in both countries were building materials between 2012 and 2016. Though a reduction relative to the period 2007-11, this is considerably more than in China (0.8%) and in major OECD economies (<2%) indicating the (still) limited overall range of building materials produced domestically (Wolf & Cheng, 2018).

Cement production largely dominates building materials manufacturing, especially in Angola and Nigeria. By 2020, cement accounted for as much as 24% of total Nigerian MVA (Figure 7). Similarly, whilst there are eight building materials companies listed on the NSE including

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three cement companies (BUA, Dangote and Lafarge), four paints companies (Berger, Chemical and Allied Products, Portland Paints, Premier Paints) and Aluminium Extrusion Industries,¹ the three cement conglomerates dominate the sector in terms of value-added, employment and capital stock, accounting for close to 100% of value added and the capital stock and employing 98% of workers in NSE-listed building materials firms in 2020 (Figure 7).

Figure 7. Cement in total Nigerian Manufacturing Value Added and as Share of NSE-listed Building Materials firms



In Angola, as much as 97% of ‘core building materials (i.e. 74% of total MVA) were non-metallic mineral products, which includes mainly cement and smaller scale production of bricks, plaster and the processing of natural stone (MIND, 2014). Beyond cement, a number of steel producers established or expanded production in Angola, including Fabrimetal, San Yuan,

¹ producing extruded aluminium profiles, billets and roofing sheets

1 *Companhia Siderúrgica do Cuchi* (CSC) (Macauhub, 2015) and *Aceria de Angola* (ADA)
2 (Winsor, 2016).
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5 Cement is less dominant in Ethiopia, which has promoted a larger range of building materials
6 through its targeted IP (see section 4). The share of non-metallic minerals in ‘core building
7 materials’ declined from 61% in 2000 to 40% in 2015, whilst the share of basic and fabricated
8 metals increased from 36% to 53% and wood products excluding furniture increased from 2%
9 to 7% of core building materials production over the same time period (calculations based on
10 UNIDO INDSTAT, ISIC Rev. 3, 2 digit).
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20 If building materials manufacturing remained mainly confined to cement production, second-
21 round multiplier effects firms were also limited. The Angolan construction sector employed
22 about 6% of the Angolan workforce between 2010-2016 (Wolf, 2018: 217) and evidence from
23 Angola and Ethiopia suggests that Chinese contractors have been the largest contributors to job
24 creation in absolute terms in recent years (Oya & Schaefer, 2019). Estimates for the potential
25 second-round demand multipliers out of wages in the central scenario for Angola, suggested
26 that one unit monetary change of construction sector output would trigger a further 0.4 units
27 demand out of wages. Yet, this demand potential was not fully realised. While, the anticipation
28 of rising levels of per capita income and purchasing power has indeed attracted investment by
29 foreign beverage multinationals including BGI, SAB Miller, Distell, Unicer and Diageo at the
30 height of the commodity price boom (Wolf, 2017), production stagnated after the 2014/15 oil
31 price shock with very limited ST beyond cement.
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50 In Nigeria, where potential second-round demand multipliers out of wages were even higher
51 in the central scenarios, consumer goods industries lagged behind building materials. Among
52 the 24 NSE-listed consumer goods producers including multinationals like Cadbury and
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1 Guinness and domestic producers like the Nigerian Breweries and Flour Mills Nigeria, value
2 added, and labour productivity stunted over the past decade (Figure 6). Importantly also,
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4 increases in value added per worker in the food and beverage sector were not accompanied by
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6 increases in employment (Figure 6), suggesting that labour saving effects of productivity
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8 increases were not fully outweighed by expanding markets and that second-round demand
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10 multipliers remained below potential.
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15 For Ethiopia, the situation is more difficult to assess given the absence of data necessary to
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17 estimate potential second-round demand multipliers. Ethiopia has actively attracted and
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19 supported FDI (including from China) from firms supplying lead firms in GVCs, in particular
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21 in textiles and apparel and horticulture in the expectation that these would generate growing
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23 volumes of foreign exchange. Firms in export-oriented sectors also expanded production for
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25 the domestic market in response to growing domestic purchasing power, lower risk and quality
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27 requirements. FDI by Chinese family-owned SMEs in particular, was often motivated by
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29 Ethiopia's domestic market (Chen, 2021). However, domestically oriented firms have
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31 developed fewer capabilities (Whitfield and Staritz, 2021). In sum, domestic market-oriented
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33 manufacturing played a role but the presence and size of demand multiplier relative to potential
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35 cannot easily be established nor is there sufficient research on what drives productivity
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37 dynamics in Ethiopia's domestically-oriented manufacturing sector.
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4. THE POLITICAL ECONOMY OF BUILDING MATERIALS MANUFACTURING: THE CEMENT SECTOR IN ANGOLA, ETHIOPIA AND NIGERIA

The following section unpacks the distinct patterns of accumulation in Angola, Ethiopia and Nigeria at the example of cement manufacturing. Second-round demand-multipliers were weak in Angola and Nigeria and both faced economic crisis after the oil price shock in 2014-15 but their recovery trajectory was different. Both Angola and Ethiopia faced leadership transitions from within the ruling party but with different economic and political outcomes.

Angola: The rise and fall of state-capitalists

In Angola, post-civil war ‘oil for infrastructure’ contracts with China turned oil into an engine of productive sector investment. Attracted by expanding markets forming on the back of the infrastructure boom, domestic elites’ accumulation strategies shifted from rentierism in oil-related activities towards the domestic productive sector. Just as oil rents, access to new business opportunities was limited to the inner (political and family) circles around then president dos Santos as a way to tie material success to support for his presidential leadership (Ovadia, 2016; Wolf, 2017; Lippolis, 2022; Wanda, 2022). Isabel dos Santos, for instance, owned majority shares of the Nova Cimangola cement factory and the Sodiba brewery. Her total business interests in Angola are reported to span as many as 99 companies (Bartenstein & Almeida, 2021). Joaquim David, a former minister of industry, is an investor in Fábrica de Cimento do Kwanza Sul (FCKS). Even in the foreign multinational dominated beverages sector links to dos Santos’ political allies ran deep (Wolf, 2017; Wanda, 2022).

IP support for the cement sector emerged on an *ad hoc* rather than strategic basis following pressures from leading business-political elites through industrial lobbies such as the *Associação Industrial de Angola* (AIA). The largest producer is CIF Luanda, a joint venture between Angolan capital and the Hong-Kong based China International Fund. The remaining plants are owned by domestic capital (see Table 4). FCKS received subsidised loans from Sonangol and the *Banco Angolano de Investimentos* (BAI) (Marques De Morais, 2015) and in 2014 the Angolan government granted Nova Cimangola USD 116 million (Armstrong et al., 2015). The Angolan government also gradually increased tariffs on cement imports and banned cement imports in 2015 (WTO, 2015). Beyond trade policy and subsidised credit, there was no comprehensive IP support for the Angolan cement sector, which continues to suffer from infrastructure and logistics problems in the supply chain (Campos et al., 2022).

Table 4. Angolan Cement production base

Company	Capacity (Mta)	No. of Plants
CIF Luanda	3.60	1
Nova Cimangola	2.40	1
Fabrica de Cimento do Kwuanza Sul	1.46	1
Cimenfort industrial Lda (Genea Angola)	0.40	1
Secil Lobito	0.35	1

Source: Author's compilation

The absence of comprehensive IP support explains why diversification in Angola remained limited to a narrow set of manufactured goods, namely those sectors in which transportation costs substantially cut firms' margins. The 2014/15 fall in oil prices, in turn, exposed the fragility of the Angolan demand structures. Between 2013 and 2015, the price for Angolan crude oil fell from \$108 to \$50 per barrel, corresponding to a fall in government revenue from oil from \$69.7 billion to \$31.9 billion and causing government spending cuts of 30%. The fall in government revenues slowed down the execution of key infrastructure projects (IMF, 2016). In 2016, China provided a new life-line credit of over \$15 billion to initiate new construction

1 projects and restructure debt, illustrating the adaptability of Chinese state capital as well as
2 agency of the Angolan state in favour of protecting selected core interests (Wanda et al., 2023).
3
4 But overall, this life-line was not enough to stop the decline in Angolan demand for cement,
5
6 which dropped to just 2.5 Mta by 2020 against an installed capacity of 8.5Mta (ANGOP, 2020).
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8 Despite exporting parts of their output, the five local cement producers continue to operate only
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10 at about 40% capacity utilisation (Sapirinha, 2021).
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14 Shortages of demand for manufactured goods in the Angolan economy are structural and linked
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16 to the declining productivity in crude oil production, on the one hand, and the distribution of
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18 income, on the other hand. The fall in oil prices led to a devaluation of the Kwanza, which
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20 made imported inputs more expensive and cut consumers' purchasing power. This contraction
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22 in demand amplified contractions in government demand in a context in which no efforts were
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24 made to broaden the consumer demand base through redistributive measures, explaining why
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26 second round demand-multipliers were weak (Wolf, 2017).
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32 The recession from the oil price shock was much deeper in Angola than in Nigeria, which has
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34 to do with different policy contexts and responses and the declining productivity of Angola's
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36 oil fields. Angolan crude oil production has fallen by more than a third since 2015 to just about
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38 1.2 million barrels per day (Figure 8) because international oil companies have cut their
39
40 exploration investments in Angola since 2014. Angolan oil production is largely dependent on
41
42 deep-water fields, whose production dropped rapidly without investments to improve oil-
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44 recovery rates or discover additional reservoirs. By contrast, about two-thirds of Nigeria's
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46 production comes from shallow-water and onshore fields, where output had recovered prior to
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48 the Covid-19 pandemic. The pandemic triggered another plunge in oil prices to \$23 per barrel
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50 of Brent crude in April 2020. Though prices have recovered quickly to \$85 per barrel by
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November 2021, the fundamental problem is declining production in the absence of exploration investment.

Figure 8. Crude oil production in Angola and Nigeria, in thousands of barrels



Source: Bloomberg OPEC Crude Oil Production

If the recovery of oil prices did not provide a way out of the recession by redressing public finances, neither did the domestic political context allow for the implementation of countercyclical spending or the implementation of wide-ranging strategic IP. Rising popular unrest against deteriorating living conditions and ongoing cronyism forced a leadership transition within the MPLA, if the party was to stand a chance in the 2017 elections (Maussion, 2021; Wanda, 2022).

In the dos Santos years, the Angolan state had become a means through which elites accumulated wealth, albeit to some extent in the productive sector after the end of the civil war. To signal a clear break away from dos Santos' kleptocracy and to sustain his own political legitimacy, the policy priorities of incoming president João Lourenço were to fight corruption targeting in particular the inner circle around former president dos Santos (Maussion, 2021).

1 Dos Santos' son Filomeno was charged with five years of prison while the assets of his daughter
2 Isabel, which included among other a beer company and a cement factory were frozen
3
4 (Bartenstein & Almeida, 2021).
5
6

7 Though signalling a break away from patronage politics, economic reforms implemented by
8 Lourenço neither allowed for a recovery of demand nor did they provide active support to build
9
10 productive capacity outside of the oil sector. The economic reform programme implemented
11
12 by Lourenço relied heavily on the recommendations of privatisation, market liberalisation and
13
14 fiscal restraint pushed by the IMF in exchange for loans (Schipani & Pilling, 2021). Austerity
15
16 policy measures added to rather than resolving the contraction in demand further cutting the
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18 purchasing power of the poorest parts of the Angolan population, over half of which lived on
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20 less than \$2 per day in 2021 (Schipani & Pilling, 2021). Meanwhile, the market liberalisation
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22 and privatisation programmes did little to revive agricultural and manufacturing productive
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24 capacity. The Nova Cimangola cement factory built by the Chinese contractor Sinoma is on
25
26 the list of companies to be privatised but so far struggled to attract investors given insufficient
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28 demand for cement output. Accumulation was based on weak and fragile domestic demand and
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30 supply regimes and these problems were exacerbated rather than addressed by the economic
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32 reforms of president Lourenço.
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45 **Ethiopia: The tides of ethno-national distributional struggles**

46 Ethiopia has put in place far-reaching and coordinated IP managing to build supply capacity in
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48 a range of domestically and export-oriented sectors including cut flowers, leather and apparel
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50 (Oqubay 2015; Abebe and Schaefer 2015; Mengisteab 2019) and is seen as an aspiring
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52 developmental state (Fourie 2015; Clapham 2017). There is active institutional support for
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1 different building materials industries. The Ethiopian Chemicals and Construction Input
2 Industries Development Institute, for instance, supports firms such as clay tiles producers with
3 market and viability studies (CCIIDI, 2015) and Ethiopia has set out a cement industries
4 development strategy (Ministry of Industry, 2015). The Ethiopian government set incentives
5 to encourage full vertical integration of cement plants as well as the use of local content,
6 including concessions for larger scale factories, subsidies for local mining resources and
7 measures guaranteeing energy security (Chen, 2021). Other building materials are supported
8 on an *ad hoc* basis on the initiative of private capital.
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10 Paradoxically, despite sufficient installed capacity and comprehensive IP support, Ethiopia is
11 unable to meet its own demand for cement (Gebreamlak, 2020). Alongside problems of power-
12 rationing and shortages of distribution trucks (Gebreamlak, 2020), supply disruptions linked to
13 distributional conflict are a major factor contributing to this situation. Delivering economic
14 progress through structural transformation was the foundation of legitimacy of the TPLF
15 (Tigray People Liberation Front), which emerged as the dominant faction within the EPRDF
16 (Ethiopian People's Revolutionary Democratic Front) after it took power in 1991. Whilst the
17 TPLF was able to deliver success as evidenced by falling poverty rates, high average annual
18 growth rates and the emergence of numerous manufacturing industries (Ikpe, 2021), the TPLF
19 monopolised access to rents across multiple sectors of the economy and dominated decisions
20 over the distribution of surplus (Opalo and Smith 2021).
21

22 Checks and balances to the TPLFs domination were exercised through the principle of ethno-
23 national self-determination, which gives all regions the constitutional right to secede. Ethno-
24 national self-determination became the means around which marginalised ethnic groups
25 structured their political demands and popular mobilisation. The TPLF-dominated EPRDF
26 therefore had to balance its ambitions for national dominance but increasingly failed to
27

1 maintain the semblance of equitable distribution of the gains of economic progress (Opalo &
2 Smith, 2021).
3

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5 After Meles Zenawi’s death in 2012, power within the EPRDF was transferred symbolically to
6
7 Hailemariam Desalegn of the SEPDM (Southern Ethiopian People’s Democratic Movement)
8
9
10 faction but in practice the TPLF retained significant influence. Mounting popular unrest
11
12 following the 2015 election, especially in Oromia and Amhara, accounting for more than 50%
13
14 of the Ethiopian population (Africa Confidential, 2018), called for a more substantive changes
15
16 to preserve the EPRDF. The succession of Abiy Ahmed from the Oromia region as prime
17
18 minister in 2018 marked a real shift in the balance of power away from the TPLF. His move to
19
20 merge the constituent parts of the EPRDF into a unitary party, the Prosperity Party, faced strong
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22 opposition from the TPLF leading into constitutional crisis and outright civil war in 2020
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25 (Opalo & Smith, 2021).
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30 These distributional struggles structured along ethno-regional lines are reflected in the
31
32 accumulation processes within Ethiopia’s cement industry. Ownership structures are less
33
34 concentrated than in Angola and Nigeria. About 20 companies currently operate in Ethiopia.
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36 As of 2018, the five largest producers controlled just over 53% of total installed capacity
37
38 standing at 20Mta (USGS, 2021). The five largest producers include foreign-owned (Dangote
39
40 Ethiopia), private (National Cement, Derba Midroc), state-owned (Mugher) and a party-owned
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42 EFFORT² company (Messebo) (see Table 5). There are numerous smaller, foreign-owned
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44 plants, including Habesha (owned by the South African PPC) and Chinese producers – Huan
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46 Shan, East Cement, Zhongshun and West China Cement. Chinese producers struggled to secure
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57 ² Endowment Fund for the Rehabilitation of Tigray
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supply contracts in the Ethiopian market because Chinese construction firms preferred to source from local cement brands to improve their chances to win the infrastructure contract (Chen, 2021).

Table 5. Ethiopian cement production base (main producers)

Company	Capacity (Mta)	No. of Plants
Dangote (Ethiopia)	2.50	1
Derba Midroc Cement plc	2.50	1
Mugher Cement	2.20	1
National Cement Share Co (NCSC)	1.40	2
Messebo Cement Factory plc	2.10	1
Huang Shan Cement	0.66	1
East Cement SC	0.75	1
Tura Dire Dawa	0.50	1

Source: Author's compilation

Ethiopian cement production was initially led by the state- and party-owned companies Mugher and Messebo, and investments by the Dangote Group and Derba Midroc only followed later (Oqubay, 2015). Party- and state-owned companies were a key vehicle through which the TPLF monopolised access to economic rents. Through the national budget, the TPLF heavily expanded the size and reach of its party-owned endowment fund, allowing the TPLF to expand its economic resources and use them to finance political activity and to allocate favours to political allies and selected constituencies such as job offers, sub-contracts or procurement opportunities (Lanfranchi, 2021). The party-owned Messebo cement has benefitted from central government tax resources, in the form of subsidised loans, preferential access to scarce foreign exchange and inputs as well as preferential allocation of government construction contracts (Gebremedhin, 2013). Though EFFORT could not provide direct finance to the TPLF, nor pay dividends or compensation to TPLF board members, in practice, EFFORT was a large source of political finance for the TPLF and the Tigray regional administration through taxes and more opaque routes (Lanfranchi, 2021). To reduce the TPLFs political influence, Abiy Ahmed has therefore targeted the TPLFs key streams of political finance. When the

1 conflict escalated, the accounts and assets of EFFORT and its subsidiaries were frozen
2 (Lanfranchi, 2021).
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4
5 Ethno-national distributional conflicts also surfaced within Dangote Ethiopia. The factory is
6 based in the Oromia region, which had witnessed series of protests against TPLF domination
7 since 2016 (Africa Confidential, 2018). In 2018, the country manager of Dangote Ethiopia and
8 two other staff were killed in relation to conflicts over sourcing of raw material inputs (Manek,
9 2018). To address youth unemployment in the region, Oromia's regional government had
10 implemented a policy overseen by Abiy Ahmed in his prior role as head of Oromia's urban
11 development and housing bureau, obliging cement producers to source inputs from local
12 miners. Ethiopia's federal mines ministry (then TPLF-controlled) did not back the regional
13 government and opposed the motion unless cement companies voluntarily complied with it.
14 This was not the case for Dangote Ethiopia who threatened to shut down its Ethiopian factory
15 unless prices of locally sourced additives were subsidised, which then motivated the attacks on
16 Dangote staff (Manek et al., 2017).
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35 Other cement plants equally got caught in the crossfire of ethno-regional distributional struggle,
36 including Derba Cement, which stopped operations between March and June 2020 due to an
37 armed attack on its management (Gebreamlak, 2020), and the Chinese owner-operated cement
38 plants Zhongshun and East Cement, which had to stop production during the first state of
39 emergency (Chen, 2021). Ethno-regional distributional struggles also structure other parts of
40 Ethiopia's manufacturing sector. Strikes in industrial parks, for instance, are at least partially
41 politically motivated expressing demands for better political representation in the federal
42 government (Oya & Schaefer, 2021).
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Nigeria: large-scale monopoly capitalists

Nigeria emerged as the largest cement producer in SSA with an installed capacity of 47.8 Mta as of 2020 (Table 6), exceeding that of South Africa and Ethiopia by more than twice. The rise of Nigeria's cement manufacturers has transformed both Nigeria's domestic manufacturing sector and cement production across the continent. The leading domestic conglomerates, Dangote and BUA, expanded their manufacturing activities domestically beyond cement including to basic consumer goods such as sugar, salt, seasoning, tomato paste, flour and rice as well as more recently petrochemical products like refined oil and fertilizers. Dangote also established cement production subsidiaries in 7 other SSA countries (Itaman & Wolf, 2021).

Company	Capacity (Mta)	No. of Plants
Dangote Cement	29.00	3
Lafarge Africa	10.40	5
Cement Company of Northern Nigeria (BUA)	8.40	1
Purechem	0.1	1

Source: Author's compilation

Their rise was supported by the Backward Integration Policy (BIP) initiated by the then ruling PDP coalition under President Obasanjo in 2002, which made benefiting from import quotas or concessions on tariffs contingent on building domestic supply capacity and introduced tax exemptions for up to seven years (Akinyoade & Uche, 2018). Large-scale conglomerates, with sufficient access to capital and with roots in the colonial merchant capitalist class such as Dangote and BUA (Forrest 1987), were best placed to take advantage of privatisation and trade policy measures, which formed the cornerstone of Nigerian IP measures. IP therefore favoured monopoly capitalist concentration processes (Itaman & Wolf, 2021). The Nigerian cement conglomerates continued to thrive even when the ruling coalition changed, and Buhari's ACP took power in early 2015. Their ability to realign themselves with the new ruling coalition

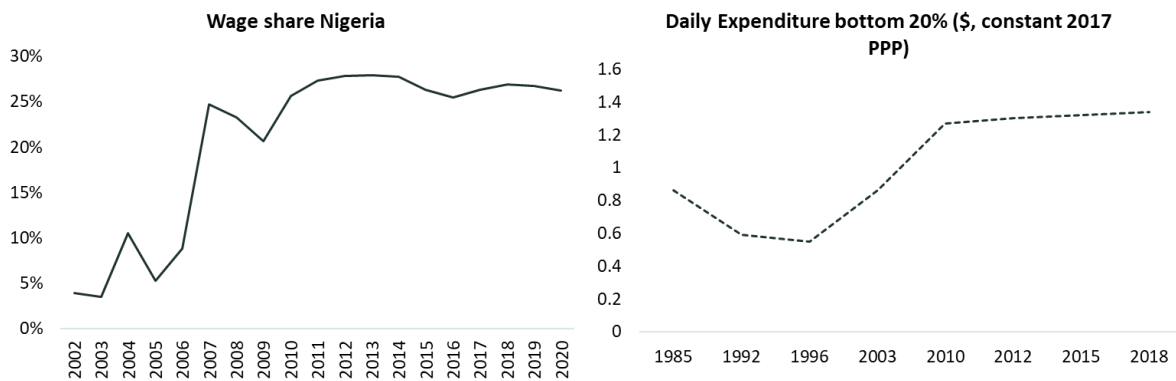
1 illustrates the extent of their political power and ability to structure the continuation of IP in
2 their favour (Odijie & Onofua, 2020).
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5 As in Angola, the oil price crisis thwarted the economy and threatened Buhari's political
6 survival (Africa Confidential, 2016b) but unlike Angola, Nigeria managed to maintain
7 government (infrastructure) spending by obtaining new loans from China, increasing its foreign
8 reserves held in renminbi and extending the use of Chinese currency in Nigeria's trade finance
9 arrangements. In this context, the ICBC also lent \$2 bn to Dangote directly to finance cement
10 plants (Africa Confidential, 2016a). The Buhari government maintained its stance on
11 expansionary fiscal spending after the Covid-19 pandemic, embarking on plans to spend \$20
12 billion mainly on transportation and electricity infrastructure (Africa Confidential, 2020). In
13 addition, unlike Angola, output of crude oil production did not decline and hence the recovery
14 of oil prices eventually paved the way for redressing government finances.
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30 On the back of strong and sustained increases in government demand, Nigerian IP incentivised
31 tacit learning and productivity increases, at least among cement producers (Itaman & Wolf,
32 2021). However, focussing on the politically influential merchant-capitalist elites and
33 deploying a narrow range of policy tools, IP support failed to reach backwardly linked
34 producers of agricultural inputs (Karkare et al., 2022) and manufacturing remained highly
35 import-dependent. What is more, when the Nigerian economy was exposed to the commodity
36 price shock of 2014/15, the resulting depreciation of the exchange rate put pressure on domestic
37 prices and reduced purchasing power of lower income households. Qualitative evidence from
38 the annual reports of NSE-listed manufacturing firms shows that the uneven distributional
39 impact of inflation negatively impacted consumer goods producers and was a factor holding
40 back their expansion (Itaman and Wolf, 2021; Wolf, 2022). There were no macro-level
41 distributional policies in place to cushion against such uneven distributional impacts of
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1 inflation. Neither wages nor daily expenditure of the lowest two income deciles have increased
 2 substantially since 2010. The wage share in Nigeria is low by absolute standards and has
 3 stagnated between 25% and 28% since 2009. Similarly, the daily expenditure that marks the
 4 cut-off point of the bottom 20% of the income distribution has barely increased since 2010
 5 (Figure 9).
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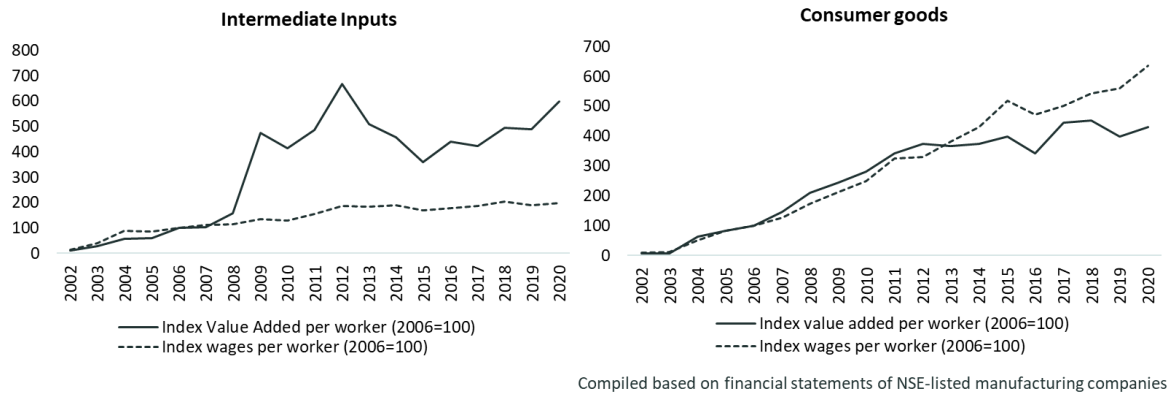
32 Figure 9. Nigeria – Wage share and daily expenditure below which 20% of the population falls



33 Compiled based on 2014 and 2020 NBS Statistical Bulletin (Section C) and World Bank Poverty and Inequality Platform

34 Distributional dynamics in NSE-listed firms are symptomatic for this trend and reinforce it.
 35 Whilst in the consumer goods sector, wages per worker increased in line with productivity,
 36 purchasing power created in the intermediate goods sector was not passed down into wages or
 37 taxes to the same extent (Figure 10). This indicates substantial leakages out of the domestic
 38 demand system stemming from the most dynamically expanding sub-sector, namely capital
 39 goods and within that building materials.
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Figure 10. Index of value added per worker and wages per worker (2006=100)



CONCLUSIONS

Through its BRI, China has pledged to substantially increase finance for and construction of infrastructure across the global South building on and beyond a mode of cooperation pioneered under the ‘Going Out’ strategy. Under the umbrella of these initiatives, China has played a central role in the African construction boom. This paper has investigated the significance of the China-induced construction boom with respect to ST through the examples of Angola, Ethiopia and Nigeria pointing to an important dimension of China’s impact on ST in SSA, namely that construction can be one among other engines for industrialisation because it changes demand conditions for manufactured goods and enhances profitability and productivity of manufacturing production.

This has happened with varying degrees of success across the three countries. The paper has shown that the size and stability of demand multiplier effects depends on the way in which accumulation processes are structured within domestic power relations and how distributional conflicts over who captures a growing surplus are resolved.

1 In Angola, new business opportunities arising from growth in demand were channelled to close
2 political allies of then president dos Santos without any efforts to consolidate domestic demand
3 structures through redistributive measures and with IP support administered ad hoc rather than
4 strategically. When the oil price crisis caused a sharp decline in demand, nascent manufacturing
5 activities foundered. Economic policies implemented under Lourenço exacerbated rather than
6 resolved these issues.
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14 To justify its political legitimacy, the dominant faction within Ethiopia's ruling coalition had a
15 strong interest in implementing forward-looking IP to deliver fast output and employment
16 growth. Yet even rapid output growth and continuous progress in ST were not enough to
17 overcome distributional conflict, which in the Ethiopian case played out at the ethno-regional
18 level and which compromised ST.
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27 The rise of Nigeria's cement manufacturers has transformed both Nigeria's domestic
28 manufacturing sector and cement production across the continent. They flourished through
29 changing ruling coalitions and could withstand economic crises thanks to expansionary fiscal
30 policy. However, output and productivity growth in the capital goods sector (driven by cement)
31 decoupled from consumer goods production given ongoing supply shortages from the
32 backwardly linked agricultural sector and because the distributional dynamics in the fastest
33 growing sectors did not reinforce the growth of domestic purchasing power.
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45 For China's mode of cooperation formalised and extended under the BRI to remain
46 economically viable, it needs to support economic activities which have the potential to
47 generate revenue streams out of which debt can be repaid and based on which the tax base can
48 be expanded. Whilst the external stimulus coming from construction can in principle be an
49 important catalyst for ST, for it to translate into a self-sustaining system of productivity and
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1 output growth, several economic and political conditions need to be in place: (i) active
2 industrial policy in backwardly linked manufacturing and agricultural activities; (ii) support of
3 domestic demand structures through pro-poor redistribution; (iii) maintenance of political
4 stability in the context of rapid social change.
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10 The article adopted a macro-lens to study macro-level ST patterns based on a comparison of
11 three different cases, thereby having to gloss over sector-level, firm-level and project level
12 specificities, which can exacerbate or counteract the macro picture. Similarly, the comparative
13 case study approach comes at the expense of losing detail even at the country-level. Future
14 research can fill these gaps and relate these details and specificities to the macro-level picture.
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22 There is also further scope to disentangle and further quantify the second-round demand
23 multiplier effects once more and better data are available.
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31 Conflict of interest statement:
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33 The corresponding author states that there is no conflict of interest.
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London, 15/06/2023

To: Dr. Linda Calabrese, Dr. Lorena Lombardozi and Dr. Rhys Jenkins (Guest Editors European Journal of Development Research, Special Issues on BRI and Structural Transformation)

Subject: Manuscript Revision 1, edits EUDR-22-00493

Dear guest editors

Dear guest editors

Many thanks for accepting my manuscript for publication in the *European Journal of Development Research*. I am very grateful for the detailed attention the editors have paid to the manuscript!

I went through all the suggested edits one by one and have amended the manuscript accordingly.

Kind regards