Chinese Foreign Direct Investment in Africa: Its Motivations, Determinants, and Impact on the African Economies

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1 Introduction

China has emerged as an important source of foreign direct investment (FDI) in Africa in the twenty-first century (MOFCOM 2018). The rapid increase of Chinese investment in the continent and its growing impact on African economies have generated considerable controversy in Africa and the West. Popular and elite opinion in Africa about China's FDI has largely been positive, but the Western reaction has often been negative.[1] The West's main concerns/myths over the Chinese investment include its motivation, true size, its focus on natural resources, less local employment, and its disregard for quality institutions or good governance.[2] While these issues are important, related research is limited (Chen et al. 2018, 2020). This chapter attempts to answer the questions around these issues using the most recent available data and information in order to reveal a more balanced picture. These questions include:

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I. How much of China's FDI is in Africa?
II. What drives the Chinese investment in the continent?
III. Are Chinese firms attracted to natural resources only?
IV. How does the Chinese investment affect the African economy?
V. Is China a new colonist as more Chinese move to Africa for work?

The main results from our analyses can be summarized as follows. First, China's share of the global FDI stock in Africa is small relative to that of traditional investors from the West, though its flows have grown rapidly in recent years. Second, China's FDI patterns in resource-rich countries are similar to the Western FDI. Contrary to common perceptions, Chinese FDI has few projects in natural resource sectors. The largest portion of Chinese projects is in construction and infrastructure, with a significant number of investments in manufacturing as well. Third, China's FDI tends to be more profit-driven, just like investors from the West. Fourth, the contributions of China's FDI to the African economy tend to be obvious in terms of building up infrastructure and manufacturing capacity and providing suitable technology, as well as adding capital stock, jobs, and training.

The rest of the chapter is organized as follows. The next section analyzes the trend of China's FDI in the world as well as Africa and identifies the main driving forces behind FDI in Africa, focusing on China's motives and African location attractions. In Sect. 3, we use comparative analyses to investigate the scale of China's FDI in Africa and its sectoral distribution. Section 4 offers an assessment of the impact of China's FDI on African economies, focusing on benefits to infrastructure development and manufacturing ability, as well as costs and possible negative effects. The last section presents policy implications for Africa.

2 Motivations for China's Investment in Africa

The history of China's FDI is short but spectacular. Virtually nonexistent on the eve of the economic reforms beginning in 1978, FDI remained insignificant through 2000. But by 2008 the annual FDI flows had grown to around \$56 billion, then doubled to more than \$100 billion in 2013, and even reached approximately \$200 billion in 2016, as shown in Fig. 1. Although the flows fell to \$143 billion in 2018, the FDI stock rose to approximately \$1980 billion by the end of 2018 (MOFCOM 2019). In 2018, China's FDI

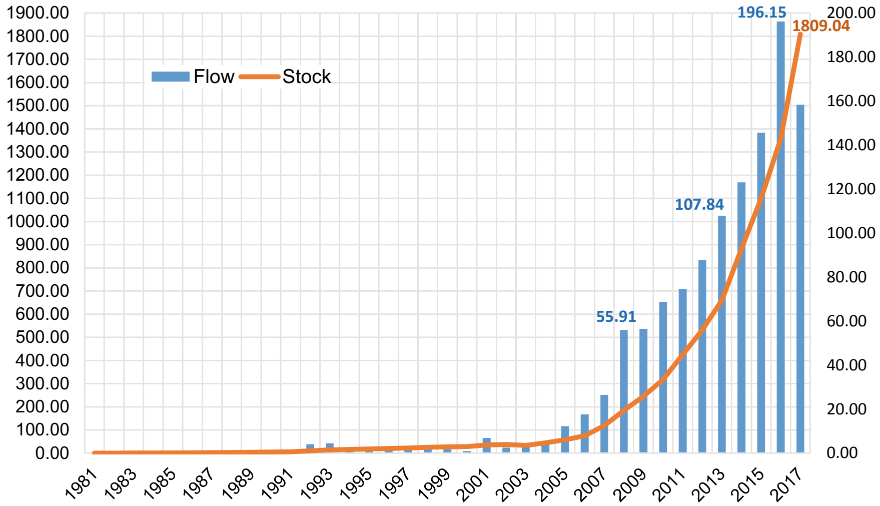

Fig. 1 China's FDI flows in 1981–2017 (billions of US dollar) (*Notes* FDI stock is measured by the left vertical axis, and the right vertical axis for FDI flows *Source* UNCTAD STAT Database UNCTAD [2019] and MOFCOM [2018])

flow and stock were the 2nd and the 3rd largest in the world, respectively (UNCDAD 2019).

Emerging as the largest trading nation and the second-largest economy in the world, China now is Africa's largest trading partner and top investor.[3] China considers Africa not only as an important source of energy and other crucial natural resources required for its growing economy; but also as an expanding market for Chinese products, especially manufactured goods. China's FDI in Africa is running parallel to its overall outward investment trend, but with larger fluctuations in flows, as shown in Fig. 2. Starting with only $0.07 billion in 2003, FDI flows rose rapidly and reached a record high of $5.5 billion in 2008. The following year saw a big drop to $1.4 billion, and then fluctuated to $4.1 billion eventually in 2017. China's FDI stock increased 88 times in 14 years (2003–2017), from $0.5 billion to $43.4 billion (MOFCOM 2018).[4] In the same period, China's trade with Africa increased more than 20-fold, supplanting the US as the continent's largest trading partner in 2010. In addition, about one million Chinese live in Africa, up from only a few thousand 15 years ago (Dollar 2019)

The surge of China's FDI in Africa is an outcome of the interaction between Africa's location advantages and China's rise as an economic power (Zhang, 2009). China is resource-scarce relative to its population. China possesses a small share of global resources such as arable land, renewable

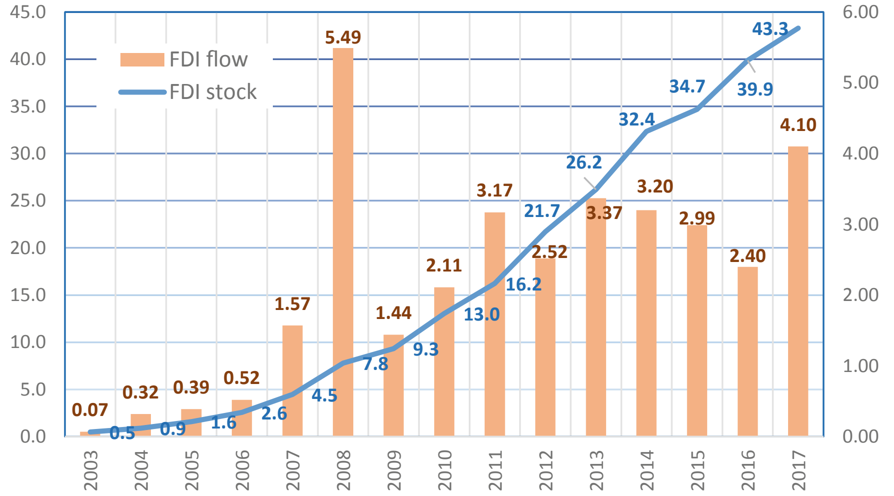

Fig. 2 China's FDI flow and stock in Africa: 2003–2017 (billions of US dollars) (*Notes* FDI stock is measured by the left vertical axis, and the right vertical axis for FDI flows *Source* UNCTAD STAT Database [UNCTAD] 2019 and MOFCOM [2018])

water, petroleum, and metals. By contrast, the African continent is resource-rich compared to its population. Africa has abundant natural resources, which is most attractive to foreign investors including China. Africa's known mineral wealth places it among the world's richest continents. Its large share of the world's mineral resources includes coal, petroleum (more than 10% of global oil reserves), natural gas (7.5% of global natural gas reserves), uranium, radium, low-cost thorium, iron ores, chromium, cobalt, copper, lead, zinc, tin, bauxite, titanium, antimony, gold, platinum, tantalum, germanium, lithium, phosphates, and diamonds (UNCTAD 2019).

The other attraction of Africa to China is its potential and growing market. As of 2018, Aggregate GDP of Africa was $2.36 trillion and 1.27 billion people live in 54 countries in the continent (UNCTAD 2019). In 2013, Africa was the world's fastest-growing continent at 5.6% a year, and the world's second-fastest-growing economy in 2017 at 3.4% (World Bank 2019). The World Bank (2013) projected that Africa's GDP would rise by an average of over 6% a year in the 2013–2023 period and most African countries would reach "middle income" status (defined as at least $1000 per person a year) by 2025 if current growth rates continue.

The rapid growth of the Chinese economy leads to rising demand for outward investment and strong capability to invest in Africa. Figures 3 and 4 present GDP per capita and GDP of China and Africa for the 1978–2018 period. Being lower than Africa until 1998, China's per capita income

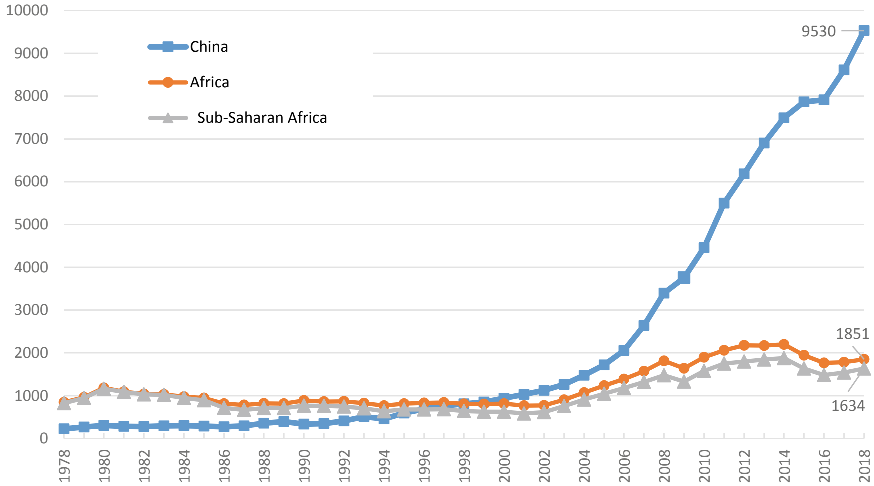

Fig. 3 GDP per capita of China and Africa: 1978–2018 (US dollar) 2019 (*Source* UNCTAD STAT Database [UNCTAD] and World Bank [2019])

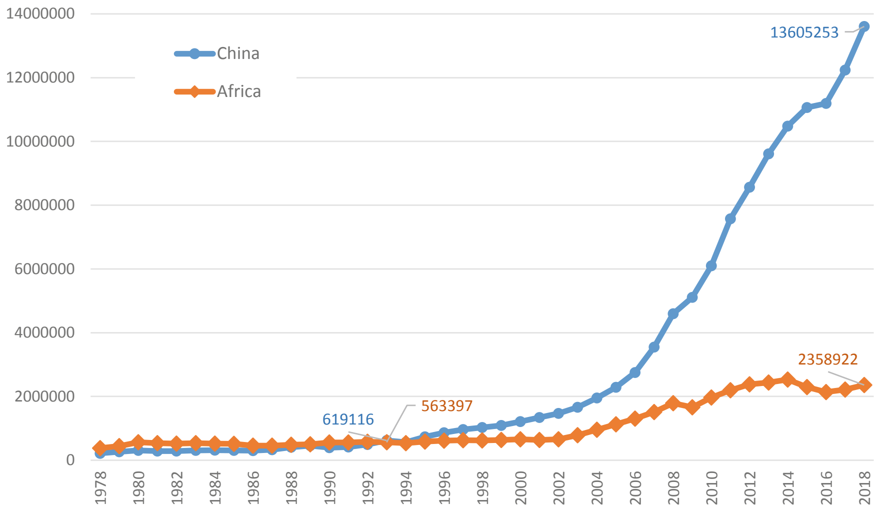

Fig. 4 GDP of China and Africa: 1978–2018 (Millions of US dollar) (*Source* UNCTAD STAT Database [UNCTAD] [2019] and World Bank [2019])

grew more than 11 times in 1998–2018, from $809 to $9530, resulting in more than five times higher per capita GDP than Africa by the end of 2018 (UNCTAD 2019). The income gap indicates not only China's higher development level compared to Africa, but also, technological advantages of Chinese firms investing in Africa (Zhang 2006, 2010, 2015). The same growth pattern of GDP is shown in Fig. 4. China's GDP grew 62 times in

40 years, from $218.5 billion in 1978 to $13,605.2 billion in 2018. The large economic size in terms of GDP suggests a large amount of investment that China could make in Africa. As a global investor, China has some additional advantages: availability of finance, strong capability of infrastructure construction, and manufacturing skills, which are especially helpful for Chinese firms to invest in Africa (OECD 2008).

Like FDI from the West, Chinese investment in Africa is largely motivated by resource-seeking and market-seeking.[5] Given China's relative natural resource scarcity, natural resource-abundant countries in Africa have been especially attractive to China. The resources sought after by Chinese firms in Africa include: oil in Algeria, Angola, Republic of Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Kenya, Libya, Namibia, Nigeria, and Sudan; copper in Republic of Congo, Zambia and Democratic Republic of Congo; chrome in South Africa and Zimbabwe; iron ore in Gabon, and fisheries in Ghana and Morocco (OECD 2008). These countries host many of China's large FDI projects, and these FDI deals in the natural resources sector are often accompanied by the Chinese investment in infrastructure projects (Sauvant and Noland 2015). Furthermore, ports, electricity plants, roads, and railroads constructed by Chinese contractors may provide better transport, logistics, and utility services which can be useful for local economic development as well as other foreign enterprises' operations (including other Chinese firms) in Africa.

Viewing Africa as an expanding market for goods and services in an optimistic perspective, Chinese construction and manufacturing firms have engaged actively in the continent (Landry 2019). For instance, China's construction business has been successful in winning construction contracts in Africa (Gutman et al. 2015). This may reflect Chinese firms' comparative advantage over others in access to easy and cheap financial sources and availability of production capacity (Dollar 2019). These advantages allow Chinese firms to overcome the high risks commonly perceived by foreign investors for infrastructure development projects in Africa (Fayissa et al. 2010).

Table 1 presents the top five sectors of Chinese investment in Africa by the end of 2017. The construction sector received the largest amount of China's FDI (about 30%, followed by mining (22.5%), financial services (14%), manufacturing (13%), and leasing and business services (5%). Considering that about half of total FDI received in Africa goes to natural resource extractions in many countries, China's FDI in Africa is not particularly biased toward resource exploitations in international comparison. A large portion of China's investment in the services sector has been in construction due to China's long engagement in investing in infrastructure projects in Africa.

Table 1 Top 5 Sectors of China's FDI stock in Africa and world by the end of 2017

Africa		World	
Sectors	Share (%)	Sectors	Share (%)
Construction	29.8	Leasing and business services	34.1
Mining	22.5	Wholesale and retail trade	12.5
Financial services	14.0	Info. trans., soft-IT services	12.1
Manufacturing	13.2	Financial services	11.2
Leasing and business services	5.3	Mining	8.7
Subtotal	84.8	Subtotal	78.6
Others	15.2	Others	21.4
Total	100.0	Total	100.00

Source UNCTAD STAT Database (UNCTAD 2019) and MOFCOM (2018)

3 The Size and Sectoral Patterns

Global Position of China and Its FDI Determinants

Although its FDI in Africa has accelerated in recent years, China has so far remained a relatively small investor in Africa, far from matching those of traditional investor countries from Europe and North America. Figure 5 presents China's shares in total FDI *flows* and *stock* received in Africa in 2003–2017.[6] The average of China's share in total FDI flows into Africa in the period was only 3.1%, with 1.6% for 2003–2007, and 6.1% in 2008–2017. The largest amount of China's FDI flows in 2008 and 2017 (as shown in Fig. 2) account for less than 10% of total foreign investment in Africa,

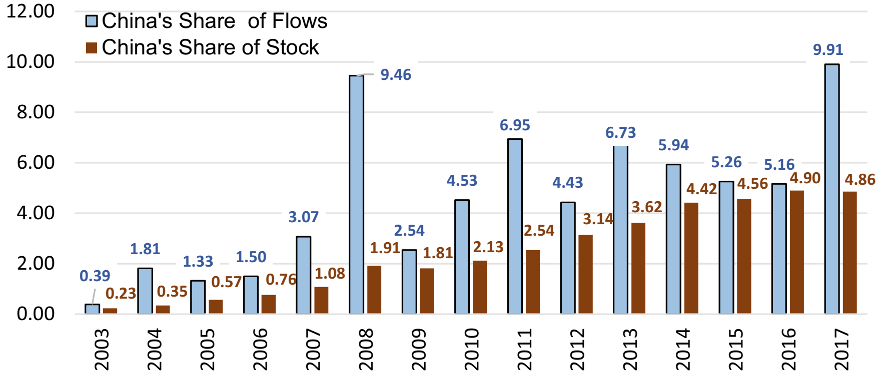

Fig. 5 China's shares of world FDI Flows and Stock in Africa: 2003–2017 (%) (*Source* UNCTAD STAT Database [UNCTAD] [2019] and MOFCOM [2018])

considering that total FDI fell due to the global financial crisis in 2008. As a latecomer, China's share in total FDI *stock* in Africa is even smaller: less than 1% before 2007 and merely 4.89% by the end of 2017.

Although recent data is not available, the information on sources of FDI *stock* in Africa by 2006 may suggest a basic pattern (OECD, 2008). China's FDI stock in Africa in 2006 accounted for 0.76% of total FDI stock in Africa. The West, with traditional ties to Africa, has occupied prime positions as foreign investors. The top investor in Africa remained the United Kingdom with *FDI stock* share of 16.6%, followed by the US with a 9.2% share and France with a 7.7% share. Figure 6 shows FDI flows from China and the US to Africa in 2003–2017. Excluding three unusual years (2015–2017), the average of the U.S. FDI flows to Africa in 2003–2014 was $4.6 billion, more than double of China's FDI ($2.0 billion).

Africa is far from a leading destination for FDI from China and the rest of the world. Africa's share is dwarfed by Chinese investment in other Asian states (over half of FDI), followed by Latin America and Europe.[7] Figure 7 presents Africa's shares in both China's FDI and world FDI flows in 2003–2017. Two points are obvious: First, while Africa receives small portions of FDI flows from China and the rest of the world, its share of Chinese FDI flows is slightly greater than that of world FDI flows in 2003–2017 (3.53% vs. 3.24%). Second, in terms of FDI stock, China is similar to investors from other countries in allocating their funds in Africa, as shown in Fig. 8.[8]

In 2018, the entire African continent received FDI inflows worth $45.9 billion (a mere 3.5% of world FDI flows), and FDI stock of $894.7 billion

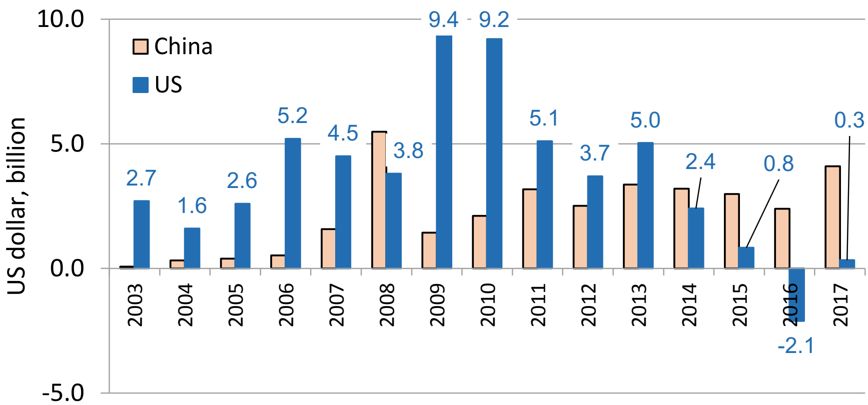

Fig. 6 FDI flows of China and U.S.: 2003–2017 (billions of US dollars) (*Source* UNCTAD STAT Database [UNCTAD] [2019] and MOFCOM [2018])

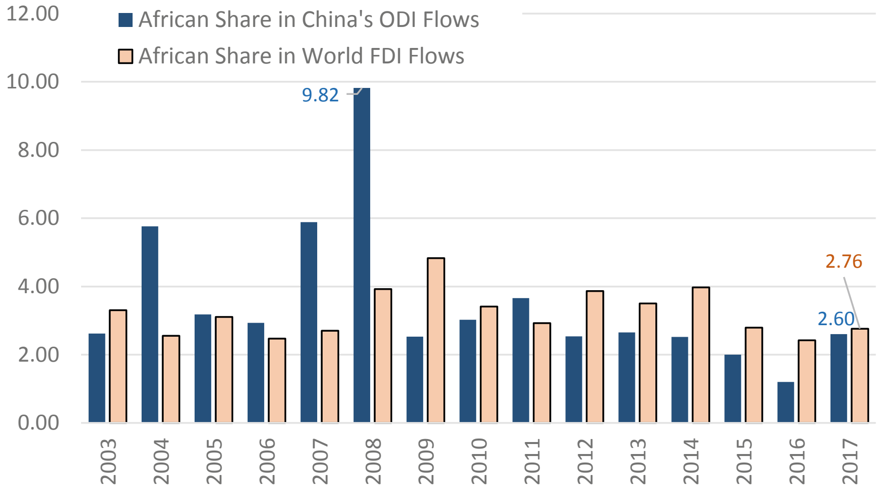

Fig. 7 African share of FDI flows from China and World in 2017 (%) (*Source* UNCTAD STAT Database [UNCTAD] [2019] and MOFCOM [2018])

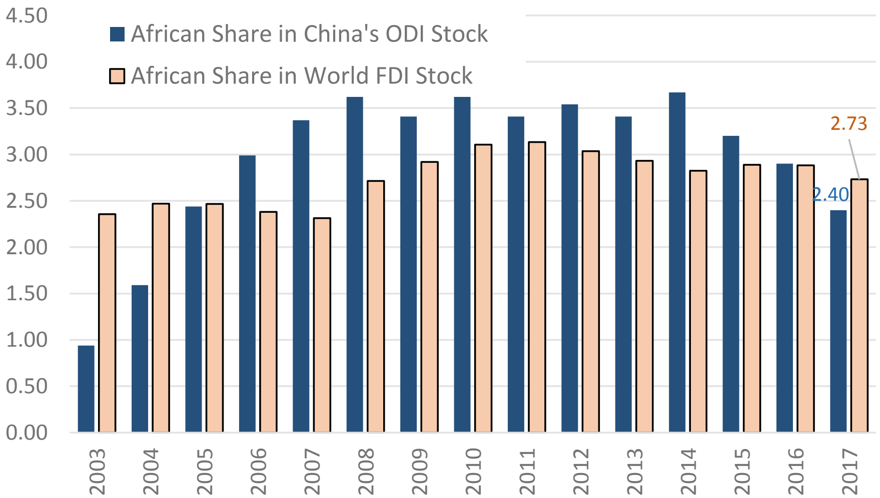

Fig. 8 African share of FDI stock from China and world in 2017 (%) (*Source* UNCTAD STAT Database [UNCTAD] [2019] and MOFCOM [2018])

(2.8% of world FDI stock) (UNCTAD 2019). Several reasons may be identified for this seemingly spectacular failure of African countries to attract foreign investors. Low income and poor infrastructure seem to be obvious problems for most African countries to attract FDI, as shown in Fig. 9. While gross returns on investment could be high in Africa, the effect is more than counterbalanced by high taxes and significant uncertainties.[9] Other factors

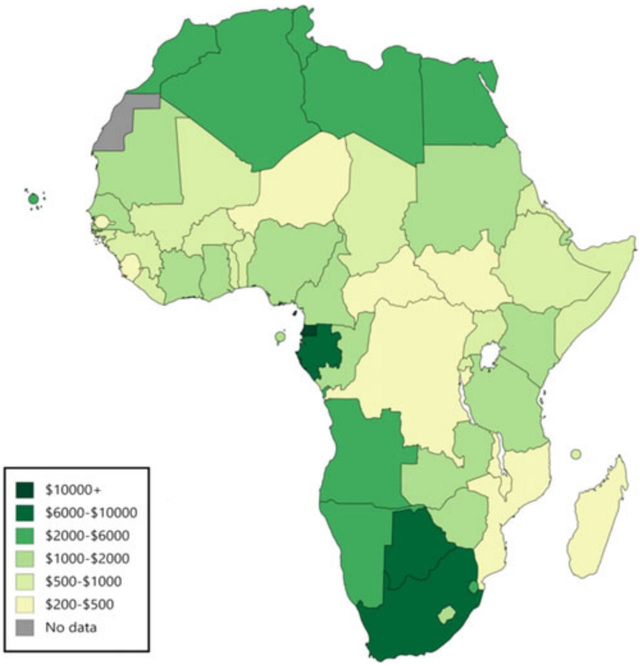

Fig. 9 Nominal GDP per capita by country in Africa in 2017 (*Source* UNCTAD STAT Database [UNCTAD] [2019] and World Bank [2019])

holding back FDI include the perceived sustainability of national economic policies, poor quality of public services, and closed trade regimes (Odenthal 2001; Landry 2019).

China's FDI in Africa is highly diversified, reaching 52 out of 60 countries/regions in the continent by the end of 2017 (MOFCOM 2018). The top countries hosting the largest China's FDI are either resource-rich or market-large countries, including South Africa, Congo, DR, Zambia, Nigeria, Angola, Ethiopia, and Algeria. As shown in Fig. 10, the top ten recipients account for 65% of total Chinese investment stock ($28.1 billion out of $43.3 billion) in 2017, with South Africa leading at 17% ($7.47 billion). While the top ten are dominant recipients in terms of FDI stock, their share has been decreasing, as Chinese FDI flows have diversified in recent years (MOFCOM 2018).

Sectoral Pattern of China's FDI

The sectoral composition of China's FDI in Africa has evolved from manufacturing and natural resources to construction and infrastructure since the

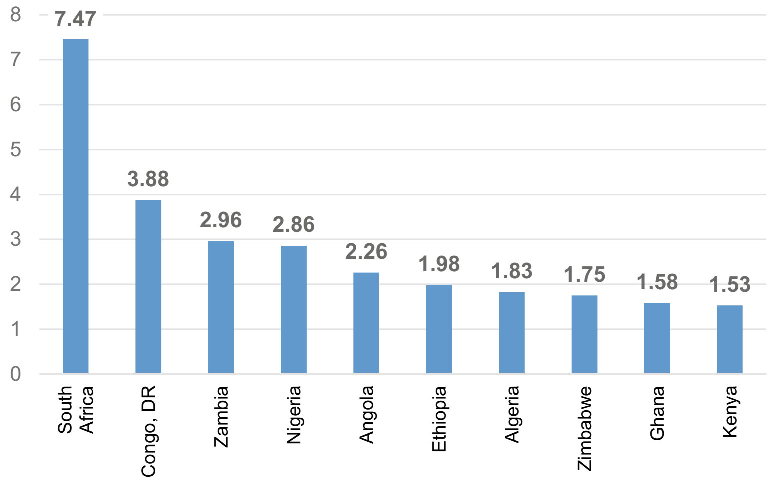

Fig. 10 Top 10 recipients of China's FDI stock by 2017 (billions of US dollars) (*Source* MOFCOM 2018)

late 1970s. During 1979–2000 the manufacturing sector received the largest amount of China's investment flows (46%), followed by resource extraction (28%), services (18%), and agriculture (7%) (OECD 2008). In 2001–2008, the largest amount of investment went to natural resources, and then the following decade until 2017 witnessed a large portion of China's FDI in construction due to more infrastructure projects in Africa. Figures 10 and 11 display the sectoral distribution of FDI stock by the end of 2017. Construction and infrastructure received about $12.9 billion (30% of total stock), followed by mining ($9.8 billion and 22%), financial services ($6.1 billion and 14%), and manufacturing ($5.7 billion and 13%).

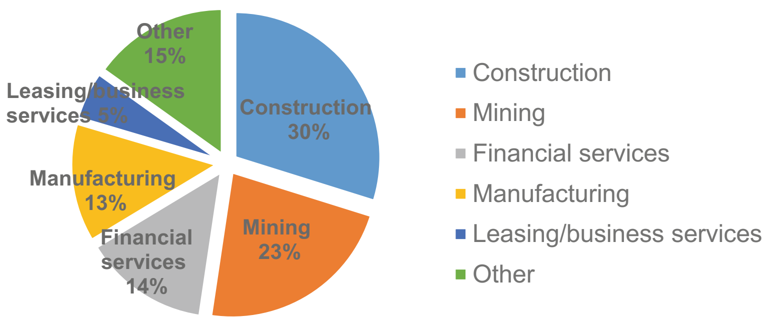

Fig. 11 China's FDI stock in Africa by Sector Share in 2017 (%) (*Source* MOFCOM 2018)

Considering that more than half of FDI from developed countries goes to natural resource exploitation in many African countries, China has been attracted to the sector as well. Oil is particularly important since China seeks both greater supply and greater diversity of suppliers for rapid domestic demand growth. This highlights the longer-term energy security value of African oil. In addition, Africa has been an important supplier of several key minerals in the world market, which are demanded largely by China as economic inputs (Chen and Tang 2014). Cumulative Chinese FDI in oil in Africa, however, has remained less than 10% of such developed-country firm investment, typically on the fringes of Africa's oil landscape (OECD 2008; Chen et al. 2020).

While natural resources are clearly a primary economic interest of Chinese investors, China's FDI in Africa has not been particularly skewed toward the sector in international comparison, as indicated in Table 2. Market-seeking is also a prominent motivation for Chinese firms investing in Africa, especially in the construction sector and the manufacturing sector, as indicated in Figs. 11 and 12. For countries like DRC that lack the resources and

Table 2 Top 5 sectors of China's FDI stock in Africa and other regions by 2017

Sectors	Africa	Asia	Europe	Latin America	North America	Oceania	Total
Construction	29.8						1.9
Mining	22.5	7.0	20.3	2.3	16.9	53.6	8.7
Financial services	14.0	12.3	16.0	6.5	12.2	6.8	11.2
Manufacturing	13.2	6.4	20.8		22.4	4.7	7.8
Leasing/business services	5.3	44.8	9.6	19.8	14.7	7.5	34.1
Wholesale/retail trade		13.5	4.7	15.4			12.5
Information Transmission, Software and IT Services				48.2	7.6		12.1
Real Estate						10.6	3.0
Top five share (%)	84.8	84.0	71.4	92.2	73.8	83.2	78.6
Top five stock ($ billion)	36.7	956.9	90.1	356.5	64.3	34.8	1202.7
Total stock share (%)	2.4	63.0	6.1	21.4	4.8	2.3	100.0
Total stock ($ billion)	43.3	1139.3	110.9	386.9	86.9	41.8	1809.0

Source UNCTAD STAT Database (UNCTAD 2019) and MOFCOM (2018)

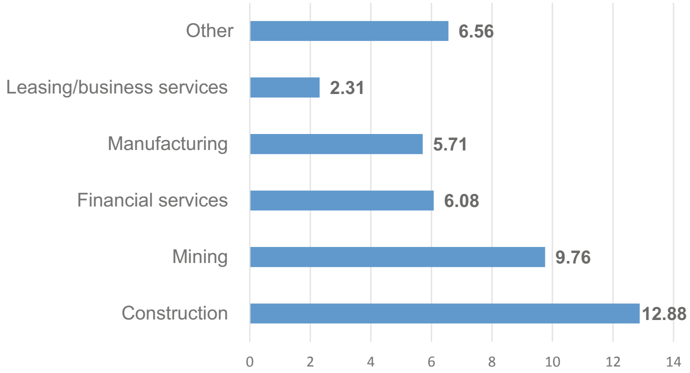

Fig. 12 China's FDI stock by sector in 2017 (billions of US dollar) (*Source* MOFCOM 2018)

the governance to build the urgently needed infrastructure themselves, such investment can have a dramatic multiplier effect on the economy (Dollar 2016).

4 Impact on Africa

There is a widely shared view that FDI accelerates host countries' growth by augmenting domestic investment, helping technology transfer, increasing competition in the host country's domestic market, promoting exports and foreign exchange earnings, and imparting other positive externalities (spillovers) to the economy at large (UNCTAD 2006). On the other hand, it is suggested that FDI may repatriate funds almost to the same amount as it brings in, transfer technologies that are inappropriate for the host country's factor proportions, "kill" indigenous enterprise through an intense competition—especially due to the strong economic power of multinational corporations (MNCs), fail to increase exports if primary reason for investment is to target the host country's market, cause distortions in the host country's policies so as to benefit the foreign investors, and create distortions in the host country's social and economic structures by infusing inappropriate social and cultural norms and behavior patterns (Zhang 2004). The above mixed theoretical predictions reflect conflicts between host countries and MNCs as shown in Table 3.

While potentials for FDI to promote host country economic growth exist, the benefits do not automatically accrue. Whether or not a host country could benefit from FDI depends on its absorptive capability, which is determined

Table 3 Conflicts between FDI Host Countries and Multinational Corporations (MNCs)

Host-country preferences	MNC preferences
Objective: To promote economic growth so as to maximize national welfare	Objective: To enhance their global competitiveness so as to maximize profits
Obtaining advanced and suitable technology	Transferring old technology only
More exports by MNC affiliates	More sales in host-country markets
Joint venture or majority joint venture	Wholly-MNC-owned structure
More local contents and intensive forward and backward linkages	More imports from parent companies with transfer pricing practice
Developing *dynamic* location advantages for industry-upgrading via moving up on MNCs' global value chains	Organizing the global value chains based on *static* location advantages of different host countries
More MNC-profits for re-investing locally	Repatriating more profits back home
More greenfield-investment projects	More projects through mergers & acquisitions
More FDI in desirable sectors such as in manufacturing, infrastructure, and agriculture	More FDI in profitable sectors such as banking, insurance, and other services
More "big bang" up-front capital injection	Gradually phased paid-in capital

Source Zhang (2004)

by local infrastructure, human capital, and industrial base (Zhang 2006). For instance, by plugging into global value chains through FDI, a developing country may become suppliers of labor-intensive products and components without gaining and upgrading its industrial capabilities. Host country's firms may even have production capabilities downgraded in the global production system controlled by MNCs (UNCTAD 2006). The magnitude and extent of technological benefits from MNCs thus depend on the host country's absorptive capability that is needed to acquire and work with the technology.

The economic impact of China's FDI on Africa is difficult to determine, in part because its presence is relatively recent, and a valid assessment would take several years. Moreover, Africa consists of 53 individual countries, with different histories, development models, and political regimes. African countries also differ greatly in their dependence on China's FDI. Some tentative assessments, however, are still useful based on available information. Overall, the Chinese investment seems to be welcomed in Africa (Zhang, 2021).[10] In the Africa–China context and relative to other investors, three special contributions from China's FDI to Africa may be identified: more investment in infrastructures, suitable technology that may not be most advanced but workable and effective in Africa, and promoting local exports through complementarities with Africa–China trade.

First, Chinese investment in infrastructure projects in Africa has been enabling the provision of basic services such as water supply, transport, communications, and power supply at relatively low cost (Foster and Briceno-Garmendia 2009; Gutman et al. 2015). All these services are fundamental for African countries' economic growth and poverty reduction. Like many low-income developing countries, Africa has serious infrastructure deficiencies. In the past few years Africa has received about $30 billion annually in external finance for infrastructure and China provided about one-sixth of this amount, mainly on transportation and power (Farrell 2016; Dollar 2019).

Second, technology associated with China's FDI tends to be labor-intensive relative to that of developed countries, and hence may be easier and more suitable to transfer to local economies—given African countries' factor proportions and their development gap with China.[11] More generally, Africa can learn important lessons from China's experiences in opening and modernizing the economy (Zhang 2006; Chen and Landry 2016). For example, China can provide an opportunity for Africa to participate in the global value chain, especially in labor-intensive manufactures such as textiles and the apparel sector (Zhang 2010, 2015).

Third, Chinese investment seems to enhance local firms' exports through complementarities with Africa–China trade created by FDI (Zhang 2006; Davies 2013). The rising share of Africa's exports to China in total exports is driven by China's resource-seeking investment in Africa, reflecting the increasing demand for resources within China. Similarly, China's growing share in Africa's total imports is linked to China's market-seeking investment in Africa, especially in the manufacturing sector which requires intermediate inputs and capital goods from China (Schiere et al. 2011).

It is worth noting a recent study conducted by Weisbrod and Whalley (2011) on the role of China's FDI in Africa's economic growth. In the three years before the global financial crisis, the average GDP growth in sub-Saharan Africa was around 6%. This period also saw significant Chinese FDI flowing into the continent. Weisbrod and Whalley use growth-accounting methods to assess what portion of this growth can be attributed to Chinese FDI. Although for some countries and years the effects were negligible, and some countries even saw total GDP growth increase by 0.5% point between 2002 and 2009 due to Chinese FDI alone. The contribution of Chinese FDI to sub-Saharan Africa's growth also expanded from having significant growth effects in a relatively small group of core countries (Nigeria, Niger, Sudan, Zambia and, to a lesser extent, DRC) in the years preceding the global financial crisis (2005–2007) to producing noticeable growth effects in a big group of sub-Saharan African countries during the crisis in 2008–2009 (Weisbrod and Whalley 2011). These results suggest that a significant portion of growth in sub-Saharan Africa in recent years can be attributed to Chinese inward investment.

While host country governments in Africa generally welcome the Chinese investment, some criticisms have been raised in the US and Europe (Chen et al. 2018; Landry 2019).[12] One criticism is the so-called "debt-trap diplomacy": China offers excessive infrastructure loan and FDI to African countries, with the intention of extracting economic or political concessions from the debtor countries when they become unable to honor their debt (Hurley et al. 2018).[13] China has characterized its FDI in Africa as a win–win for its aspirations to become a global power and African economies' desire to fund infrastructure. It has certainly filled the vacuum created by a shrinking American presence in Africa, but China would have to face accusations of imperialist behavior when its debt plans go wrong.

African nations in dire need of boosting their infrastructure development, economic growth, and global competitiveness, have increasingly looked to China for FDI and loans. Some African countries could also let Chinese investment become a full replacement for Western FDI on the grounds that Western investment comes with too many conditions (Dollar 2016). Aside from multilateral financial institutions, currently China is the only country that has shown interest in financing Africa's enormous infrastructure deficit, especially in power and transport. Of course, China needs Africa's natural resources and markets to fuel its own growth. Yet, such large borrowing has come under scrutiny in recent years, with critics noting it could encourage dependency, entrap nations in debt, and push debt limits to unsustainable levels (Hurley et al. 2018).

Another criticism is less job creation for local workers because Chinese firms in Africa employ mainly their own nationals (French 2014). This argument may not be an accurate description of Chinese business practices. According to Brautigam (2015), in a small group of oil-rich countries (Algeria, Equatorial Guinea, and Angola) with expensive construction sectors, governments do allow Chinese construction firms to import their own workers from China, due to shortage of domestic skilled labor.[14] But elsewhere in Africa, the majority of employees at Chinese firms are local hires (Brautigam 2015). Hong Kong-based academics (Sautman and Yan 2015) surveyed 400 Chinese companies operating in over 40 African countries. They found that while management and senior technical positions tended to remain Chinese, more than 80% of workers are local. Some companies had localized as much as 99% of their workforces (Sautman and Yan 2015).[15]

5 Concluding Remarks

The objective of this chapter is to investigate China's FDI in Africa as it pertains to motivations of such investment, China's global position, sectoral patterns, and more importantly the impact on African economies. We arrive at five main conclusions. First, although China's FDI in Africa has increased dramatically since 2000, it still has a long way to rival OECD member countries. Second, China's FDI is jointly driven by Africa's abundant natural resources and potential market size, and China's comparative advantages in accessing large funds for FDI, capability in funding infrastructure projects, and suitable technology in manufacturing. Third, while similar to the Western FDI in terms of investing in natural resources sector, Chinese investment tends to have more projects in infrastructure and manufacturing sectors. Fourth, many African countries seem to have positive attitude toward Chinese FDI due to investing in infrastructure sector, transferring suitable technology, and promoting local exports. Fifth, the negative effects may stem from possible debt trap and less employment created by Chinese investment.

Several policy implications emerge for Africa. First, African countries may improve their investment climate by establishing special economic zones (SEZs) and providing necessary infrastructure. While most African countries have made considerable efforts over the past decades in liberalizing their FDI regulations and offering incentives to foreign investors, some specific progresses in SEZs and infrastructure should be made in order to attract FDI in targeted industries. Second, African countries may encourage more Chinese FDI in labor-intensive manufacturing activities through industrial parks. With rising wages in China and other developing economies in Asia and Latin America, many African countries relatively are attractive to FDI in labor-intensive manufacturing. Industrial parks with targeted incentive policies on this kind of FDI could not only promote host country industrialization in the long run, but also create jobs in the short run. Third, African governments may encourage export-oriented FDI through export processing zones (EPZs). EPZs have been a good way to stimulating exports in developing countries with abundant cheap labor. FDI may help host countries get into international production networks and overcome difficulties (such as short of capital) in establishing EPZs. Fourth, African governments may enhance technology transfers from foreign firms operating in their countries. The ways to do so including promoting spillover effects of FDI through local content requirements, and backward and forward linkages between domestic economies and FDI activities.

Notes

1. A recent report (Dollar 2016) cited some headlines that portray China's FDI as follows: "Into Africa: China's Wild Rush"; "China in Africa: Investment or Exploitation?"; and "(Hillary) Clinton warns against 'new colonialism' in Africa".
2. Brautigam (2009, 2015) discusses several myths that persist in the West about China's FDI in Africa, including that China is in Africa only to extract natural resources; China's FDI is enormous; Chinese firms only employ Chinese workers; China's FDI is a vehicle for securing oil and mining rights; and China has its eyes on African land and perhaps even a plan to send Chinese peasants to Africa to grow food and ship it back to China.
3. Since 1949 when the People's Republic of China was established, Sino-African relationships have evolved from being highly influenced by ideological and political considerations to being increasingly driven by economic motivations (OECD 2008). In the 1950s and 1960s, China provided support to liberation movements in many African countries, and after their independence, benefited from the numerical advantage of African countries in the United Nations General Assembly to push China's political agenda. Africa's importance to China, however, declined in the 1980s and 1990s while China turned its focus to economic development. In the new century, there has been a great revival of China's relationship with Africa, mainly through economic links (Brautigam et al. 2018).
4. One milestone for the Sino-Africa relationship was the first summit of the Forum on China–Africa Cooperation (FOCAC) which took place in Beijing in 2000. The forum has become an important platform for promoting China's FDI in Africa. In the following FOCAC summits, China announced more assistance package to Africa, including a development fund to support China's FDI projects in Africa (MOFCOM 2018).
5. China's contemporary relationship with Africahas been driven by a strong commercial impulse and an economic rationale. Most of the Chinese investment is profit-driven and succeeds on its own commercial merits, rather than as a state-directed foreign policy tool (UNCTAD 2006; Chen et al. 2018).
6. A note on the data of China's FDI in Africa is worth mentioning. Some scholars believe that comprehensive and reliable data of FDI are generally difficult to acquire, particularly in capital flows. Given areas of low regulation, black markets, routing of investment through Hong Kong or overseas tax shelters,

speed and volume of private transactions, and transparency issues, much of the data are suggestive rather than authoritative (Dollar 2016).

7. Official Chinese figures cite $46.3 billion in cumulative Chinese FDI into Africa by the end of 2017, which appears to underestimate Chinese FDI at least by half. It should be noted that China is not alone in having difficulties tracking FDI into Africa (Dollar 2019). But even doubling the figure, the African share is not quite significant.
8. China's expansion into Africa does not seem particularly outstanding. Though China's pragmatic approach to economic relationships with Africa, based on the principle of "no interference in internal affairs," has allowed Chinese enterprises to expand business in certain African countries from which firms from the West have had to withdraw due to concerns regarding human rights violations, weak governance, and corruption, China's overall investment in Africa is far much smaller than that of traditional investors from western countries and the US (Davies 2013; Farrell 2016; Landry 2019).
9. As for the uncertainties or risk factors, three of them may be particularly pertinent: macroeconomic instability; loss of assets due to non-enforceability of contracts; and physical destruction caused by armed conflicts (UNCTAD 2006; OECD 2008).
10. In the Pew Global Attitudes survey for 2015, African respondents had a significantly more positive view of China (70% with a favorable view) than respondents in other regions such as Europe (41%), Asia (57%), or Latin America (57%). This likely reflects the positive impact of China's engagement on African growth (Dollar 2016).
11. In the early 2000s, the Chinese telecom firm Huawei established its West African training school in the Nigerian capital, Abuja. Ever since, it has been honing the skills of local engineers who are rolling out the cell phone networks that underpin Africa's telecommunications revolution. Chinese factories in Nigeria employing Nigerians and producing building materials, light bulbs, ceramics, and steel from salvaged ships (Brautigam 2015).
12. In addition to the myths, other criticisms include poor implementation of social and environmental safeguards in China's investment projects; and lack of harmonization with international efforts to tackle human rights abuses, corruption, and repressive regimes (Brautigam 2009).
13. Hurley et al. (2018) identified Eight nations that will find themselves vulnerable to above-average debt: Djibouti, Kyrgyzstan, Laos, the Maldives, Mongolia, Montenegro, Pakistan, and Tajikistan.
14. John Hopkins SAIS (2019) provides figures for Chinese workers in Africa. The total number of Chinese workers in Africa was 46,800 in 2001, 82,000 in 2005, 221,604 in 2010, 263.659 in 2015 (the highest), and 201,057 in 2018. The countries with the most Chinese workers in 2018 were Algeria (61,491), Angola (25,567), and Nigeria (11,088). There were modest numbers of Chinese workers in countries where Chinese investment and infrastructure projects are

extensive, such as Ethiopia (14,078 workers in 2014 and fell to 9112 in 2018), DRC (7668 in 2018), and Sudan (5234 in 2018).

15. According to Sautman and Yan (2015), nearly 4800 Ethiopians were employed by the Chinese firm that built Ethiopia's urban light rail project. Another 4000 Ethiopians worked at Huajian, a Chinese shoe factory close to the capital of Addis Ababa. In both cases, some local workers were even sent to China for management training.

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