China's Role in Promoting Innovation and Productivity in Africa

By Linda Calabrese

Summary

At the micro-level, evidence shows that Chinese firms support innovation among their African counterparts despite several challenges. Meanwhile, in China, COVID-19 has accelerated innovation among Chinese firms. Increased support to knowledge and technology transfer between Chinese and African firms could therefore be a key contributor to Africa's post-pandemic recovery. This essay draws from the DEGRP synthesis report *Africa's economic transformation: the role of Chinese investment*[1] to discuss how Chinese firms contribute to productivity growth in Africa.

Thematic Context

Like their counterparts in the rest of the world, African firms have been hit by COVID-19. The pandemic first impacted China, Africa's main trading partner, and then caused a collapse in demand in Europe and North America—important destinations for Africa's exports. Chinese firms have recovered faster than others thanks to innovation spurred by the pandemic, especially in the digital and financial sectors.

By introducing new products, processes, and technologies into the market, foreign investors and firms often play a major role in promoting innovation. To recover quickly and effectively, African businesses need to grow their productivity, finding space in the domestic and international markets. Innovation is key to enhancing firms' productivity and helping them bounce back.

Innovation and the Role of Chinese Firms

There are two main pathways in which China can promote innovation for Africa's COVID-19 recovery: first, by ensuring that innovations developed in China reach African firms; and second, by boosting productivity of Chinese firms in Africa through links with African firms.

Let us consider the first pathway. Chinese firms have weathered the pandemic and have used it as an opportunity to accelerate their path towards innovation. Digital and financial innovations have allowed Chinese firms to survive and adapt to the new context.[2] This has been possible also thanks to the Chinese government's continued support to research and development (R&D), and the emphasis on technological self-reliance.

While China has not offered much support for innovation to African firms since the start of the pandemic, some pre-pandemic initiatives can continue to support African businesses. One example is the Alibaba Group's electronic World Trade Platform, which allows Rwandan producers to sell their coffee in China through digital auctions. If the pandemic has promoted further innovation in China, over time this may reach African countries as well.

The second pathway requires us to consider that innovation is much broader than R&D; it includes the diffusion, adaptation, and adoption of existing know-how and techniques, services, processes, and ways of working. ***Africa's economic transformation: the role of Chinese investment*** explores this further. It looks at the role Chinese investment plays in supporting innovation in Africa and identifies many examples of Chinese companies introducing new technologies to African markets. For instance, Huajian in Ethiopia, China-Africa Cotton in Southern Africa and Twyford in East Africa brought advanced production technologies to host countries. These leading companies stimulate innovation in local competitors through "demonstration effects".

Business partnerships, either through buyer-supplier relations or joint ventures, are great vehicles for knowledge and technology transfer. Chinese companies occasionally train their long-term suppliers, or provide them with machinery that helps them upgrade. Joint ventures are the most effective ways to transfer knowledge, as local managers are trained and trusted with key responsibilities in many areas including sales, marketing, finance, and human resources. Large African manufacturers contracting Chinese firms to provide technical services also effectively facilitate knowledge transfer to local businesses.

For African firms, being part of these knowledge and technology transfer processes is not always easy. Imitating the processes and technologies of foreign counterparts may be challenging, and very often, limited access to capital prevents African businesses from adopting new technologies, investing in machinery or securing reliable supplies.

Even as some Chinese firms establish long-term local partnerships, others complain about regulations and try to bypass them. Moreover, not all Chinese companies enable technological upgrading of their African competitors. Small and medium-size Chinese firms, in particular, may not have any obvious technological advantage over African businesses and therefore they may compete with them rather than assist them.

So while micro-evidence of knowledge and technology transfer between Chinese and African firms exists, the process is hindered by many challenges that limit its reach.

Recommendations

As African economies recover, African firms must do more than go back to "business as usual"—they will also need to become more productive to survive. Increased interaction with Chinese firms is a pathway to help make this happen, but certain conditions need to be fulfilled.

- African and Chinese partners need to work together to consider technologies and innovative products and processes developed in China during COVID-19 that could be beneficial to African firms.
- African governments and development partners should provide better access to capital to all African firms, including smaller and informal ones. This is necessary for African firms to be able to invest in the machinery and the capacity building needed to capitalize on the knowledge they gain from their Chinese counterparts.
- African governments and development practitioners need to design policies to facilitate long-term partnerships and durable supplying relations. This needs to involve both African firms, to allow them to match the foreign firms requirements, and Chinese or other foreign firms, to find and maintain relations with suitable African partners, or to have the tools to train the partners.

- African governments need to find better ways to facilitate the diffusion of knowledge and technology between firms. This could include thinking about the spatial dimensions of economic activity, through clustering, to facilitate spillovers.

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About the Series

Policy experts and researchers from the African Center for Economic Transformation **(ACET)** and the Development and Economic Growth Research Programme **(DEGRP)**, in partnership with ODI, explore the critical role of innovation in Africa's recovery from COVID-19. Essays identify areas in which innovation can contribute to effective responses and offer high-level policy recommendations.

Endnotes

1. Linda Calabrese and Xiaoyang Tang, Africa's economic transformation: the role of Chinese investment (ODI, June 2020).
2. Shusong Ba and Haifeng Bai, "COVID-19 pandemic as an accelerator of economic transition and financial innovation in China" (Journal of Chinese Economic and Business Studies, Volume 18–Issue 4, 2020); Xiaomeng Kang and Dingding Chen, "Why China's Economy Keeps Booming Even After COVID-19" (The Diplomat, November 10, 2020).

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