POLICY BRIEF

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Do Chinese Infrastructure Loans Promote Entrepreneurship in African Countries?

Jonathan Munemo

POLICY POINTS

African nations with limited fiscal space can use foreign loans as an instrument for promoting entrepreneurship, prioritizing business creation opportunities and reducing the costs of doing business.

Loans should target financing all three types of economic infrastructure: transport, communications, and energy.

Policies that tackle unfavorable business regulations, poor quality institutions, and barriers to accessing private sector credit are also helpful.

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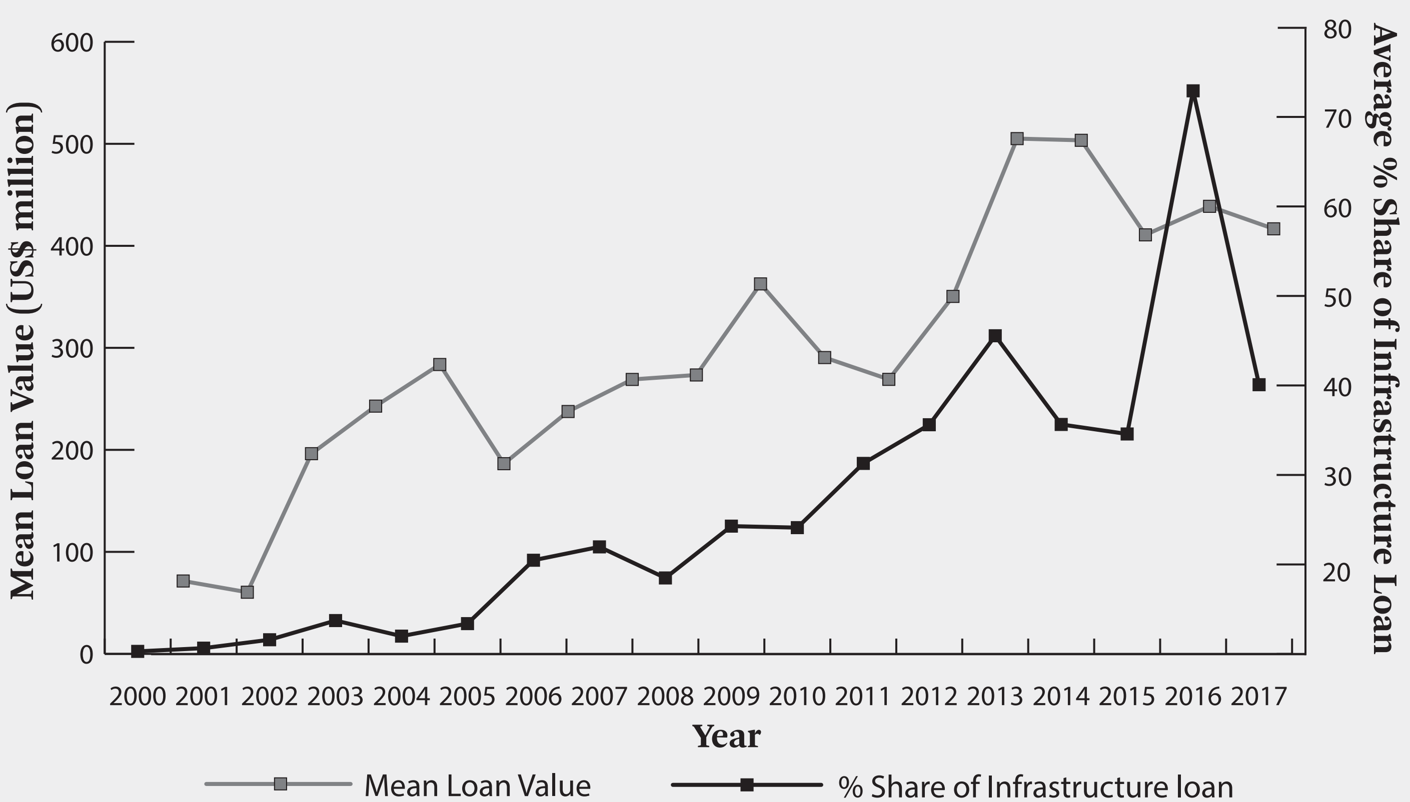
CHINESE LOANS TO AFRICA HAVE BEEN ON AN UPWARD trajectory for more than a decade. Figure 1 chronicles this growing dependence in the average African loan recipient, where the value of total loans from China rose sharply from about US$ two million in 2000 to a peak of about US$ 552 million in 2016. From a development perspective, this raises questions about the economic consequences that large scale borrowing from China has on African economies. One important question that I investigate relates to the impact that Chinese loans disbursed to finance economic infrastructure have on entrepreneurship. As illustrated by Figure 1, infrastructure loans account for a significant share of China's lending to Africa, which increased significantly from 18 percent to 60 percent in the average African recipient country between 2000 and 2016. I find that African countries with a higher percentage of economic infrastructure loans have greater entrepreneurship in the form of new business startups. Specifically, increasing the total economic infrastructure loan amount (expressed as a percent of the recipient's gross domestic product - GDP) by one percent is on average associated with a 3.6 percent increase in new business startup activity.

This finding provides supportive evidence that large-scale investments in economic infrastructures such as roads, ports, electricity grids, and telecommunications networks create business opportunities and reduce doing business costs. Indeed, economic infrastructure deficits are consistently ranked as an important constraint for doing business in investment climate surveys by African country firms. For example, it has been found that unreliable power supply reduces production and/or forces firms to use their own power generators, which significantly raises firm costs and disadvantages new and small firms who may be unable to adapt to high-cost generators. Costly and unreliable power networks also increase initial input costs (investments) required to start a business. Good infrastructure, on the other hand, enables opportunities by connecting firms to their customers and suppliers, and by helping them to take advantage of modern production techniques. For example, efficient transport infrastructure links create opportunities for firms to buy and sell not only in neighboring markets but in the entire world. This is particularly important for Africa, where poor transport infrastructure has been found to account for a large percent of the cost of

Figure 1: China's Average Loans to Africa



Source: SAIS-CARI Chinese Loans to Africa database (https://chinaafricaloandata.org).

transport, and this cost is much higher in landlocked African countries. Complementing efficient transport infrastructure links with access to modern telecommunications services and reliable power supply creates a business environment which reduces barriers to opportunities that impede entry of new firms in African markets. This paper's main focus on new firm creation is important, given that formation of new firms is often credited for boosting the overall productivity and economic growth of a country through its positive effects on efficiency and innovation. In addition, newly established firms also contribute significantly to job creation. The policy implications are clear: African nations with limited fiscal resources can use foreign loans as an instrument for promoting entrepreneurship as long as they prioritize creating business opportunities and reducing doing business costs by investing in economic infrastructure.

STUDY DESIGN

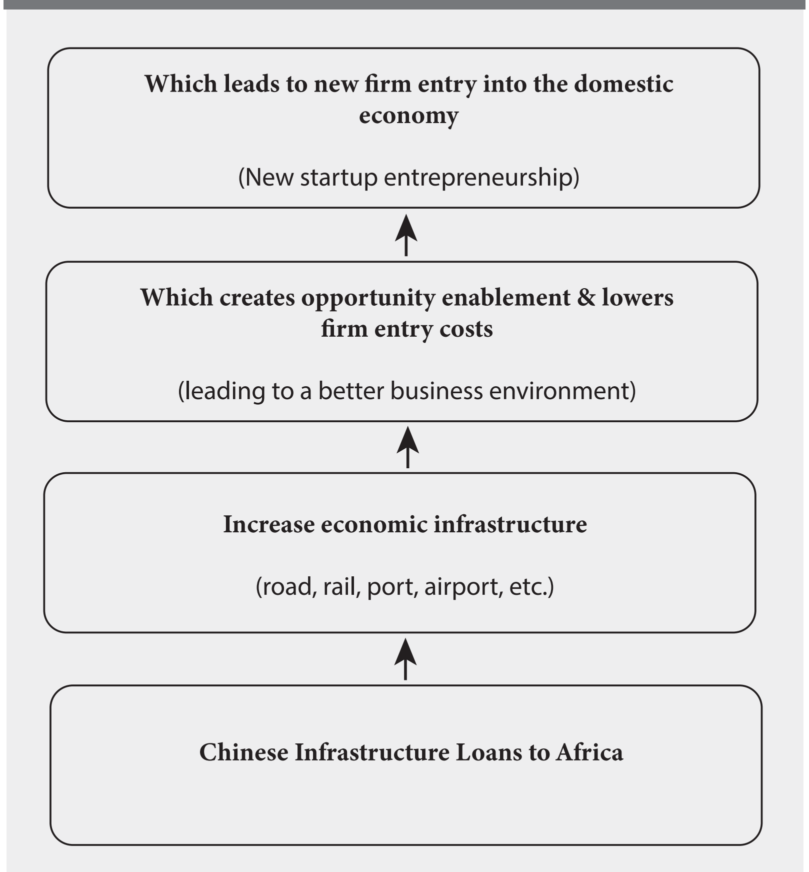
THIS STUDY EMPIRICALLY EXAMINES the impact of economic infrastructure loans from China on new firm entrepreneurship for a sample of African country recipients. Economic infrastructure consists of transport, communications, and energy infrastructures. The study exploits data on Chinese loans used to finance African economic infrastructure projects from the SAIS-CARI Loans database. Following related literature, new firm entrepreneurship is measured by new business density, which is defined as the number of newly registered limited liability firms per 1,000 working-age population. Data on new business density are drawn from the World Bank's Entrepreneurship Database project. A major appeal of this measure is that introduction of new firms is associated with innovation activities which are the source of Schumpeterian forces of creative destruction that drive the entrepreneurship process. Another advantage of using this measure is that comparable time series data on new business density is available for a large sample of African countries.

The empirical analysis is conducted by estimating a panel data model for the period 2006-2018. Factors that have been identified by the literature as good predictors of entrepreneurial activity at the country level are included as control variables. These include institutional quality, the quality of business regulations, access to credit, and overall economic development of a country. Data on measures of institutional quality was obtained from the World Bank's Worldwide Governance Indicators databank. The quality of business regulations is measured using data from the World Bank's Doing Business database. Data on the remaining two control variables was collected from the World Bank's World Development Indicators databank. The estimation procedure utilized in the empirical analysis also captures country-specific heterogeneity in entrepreneurship that is associated with each recipient country as well as differences in entrepreneurship for all country recipients in a given time period. Figure 2 below illustrates the infrastructure channel through which Chinese loans could be expected to have an impact on entrepreneurship: Chinese loans increase economic infrastructure, which enables opportunities and reduces doing business costs, making it profitable for new firm startups to enter the domestic market.

KEY FINDINGS

IN AN UNBALANCED PANEL OF 38 AFRICAN countries spanning the period between 2006 and 2018, the paper finds robust evidence that African countries with a higher percentage of economic infrastructure loans in GDP have greater entrepreneurship in the form of new business density. Increasing total economic infrastructure loan amount (expressed as a percent of the recipient's GDP) by one percent is on average associated with a 3.6 percent increase in new business density.

Figure 2: Chinese Loans and Entrepreneurship-Infrastructure Channel



Additionally, new firm creation is significantly lower in African countries with: 1) greater regulation-driven barriers to entry, 2) poor institutional quality, and 3) restricted access to private sector credit. Specifically, increasing entry regulation by one procedure significantly curtails new business density by approximately 8.1 percent. Turning to institutional quality, a one standard deviation improvement in institutional quality significantly raises new business density by 77 percent. Two institutional quality dimensions (i.e., control of corruption and rule of law) are shown to be especially important for promoting new business density. Lastly, expanding access to private sector credit by just one percent is significantly associated with a 2.3 percent increase in new business density.

CONCLUSION

THESE FINDINGS ARE CONSISTENT with the hypothesis that Chinese economic infrastructure loans promote new firm startups by creating business opportunities and by reducing infrastructure related costs. Clearly, Chinese loans that are used to improve the provision of economic infrastructure services in Africa can have a big impact on the entry of new firms into markets.

While China's engagement with Africa through trade has been widely studied, there has not been comparable research focused on China's lending activities in Africa, which, as discussed above, have significantly expanded in recent decades. The scarcity of comprehensive data on Chinese overseas lending and the fact that China's lending process is not always transparent largely explains why this is the case. Using the database of Chinese lending to Africa recently assembled by SAIS-CARI, this paper complements the existing literature on the economic consequences of China's large-scale lending by analyzing how its economic infrastructure loans affect entrepreneurship in Africa.

Although reasons have been provided as to why new business density is an appealing measure of entrepreneurship, it is important to keep in mind that this measure does not include the informal sector, which is an important component of entrepreneurship in some African countries. Future research should address this shortcoming as data on the number of firms operating within this sector becomes available. The concept of entrepreneurship can also be applied to the introduction of new products. Therefore, it would be useful for future research to analyze the impact of Chinese lending on product dynamics (i.e., entry, exit and survival rates) of African countries as well.

POLICY RECOMMENDATIONS

1. African nations with limited fiscal space can use foreign loans as an instrument for promoting entrepreneurship as long as they prioritize creating business opportunities and reducing doing business costs by investing in economic infrastructure.

2. An optimal policy strategy would be to target loans towards financing all the three types of economic infrastructure--transport, communications, and energy. This is crucial because these different economic infrastructures complement each other. For example, it has been found that transport costs caused by poor transport infrastructure are affected by other types of infrastructure, including the extent to which telecommunications systems allow firms to track their goods in transit, and how quickly goods are cleared through customs for firms engaged in international trade.

3. In addition to addressing economic infrastructure deficits through foreign debt finance, policies dedicated to supporting businesses by tackling various other domestic constraints (such as unfavorable business regulations, poor quality institutions, and barriers to accessing private sector credit) are also helpful. ★

AUTHOR

JONATHAN MUNEMO is an Associate Professor of Economics at Salisbury University. He earned his PhD in Economics from West Virginia University in 2005. He has several years of professional experience with leading international organizations and has taught at multiple institutions in the past. Jonathan is an applied econometrician whose primary areas of interest include international trade, development finance, business regulations, and entrepreneurship. His most recent research examines the impact of African Resource Rents on Entrepreneurship and is published in Small Business Economics (SBEJ).

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SAIS China-Africa Research Initiative
1717 Massachusetts Ave NW, Suite 733
Washington, DC 20036
www.sais-cari.org
Email: sais-cari@jhu.edu

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