Special Section Article

Bartering Globalization: China's Commodity-backed Finance in Africa and Latin America

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Abstract

In just over a decade, China has become a source of finance for emerging market and developing country governments. Recipient governments and the Chinese have been less than transparent with respect to the scale, terms and composition of this finance, engendering a great deal of speculation about its nature. This article provides preliminary estimates of Chinese finance to both Africa and Latin America since the turn of the century, with a specific focus on 'commodity-backed' or 'resource-secured' loans. We estimate that Chinese banks have provided approximately $132 billion in financing to African and Latin American governments and state-owned firms since 2003. Just over half of these, or $75 billion, are in the form of resource-secured finance. Contrary to many of the claims in the popular press, we found that Chinese finance is generally not out of line with interest rates found in global capital markets, does not bring windfall commodity profits to China, and does not mandate the use of Chinese workers.

Policy Implications

- Chinese banks have become major development financiers, but their lack of transparency has left many policymakers understandably uneasy about the size and nature of their loans.
- In engaging China on its overseas finance, OECD policy makers need to understand that they are not dealing with a fellow donor. The bulk of Chinese finance is not subsidized and should be seen as export credits rather than foreign assistance.
- Countries receiving these credits can be reassured that as far as we can see, there is no evidence that they lock in low commodity prices, or mandate the use of Chinese workers.
- China's package loans, while relatively rare, are attractive to recipients. Policy makers in competing countries might explore how they can use this model of project finance to reduce payment risks for their own loans.
- Policy makers that negotiate these loans have some leeway to demand employment, training, and local content conditions, and should make the most of these opportunities.

Chinese bank finance has become a very significant part of the international political economy of Latin America and Africa. Yet despite this new prominence, scholars, journalists and policy makers have largely been working in the dark as they try to analyze the implications of this finance. Separately, the two authors of this article have led teams that have developed databases of Chinese finance in their respective regions (Gallagher et al., 2012; Brautigam, 2009).

We have a particular interest in understanding 'commodity-backed' or 'resource-secured' financing given that it has been the subject of a great deal of speculative concern. There have been claims that Chinese finance is in the form of 'sweetheart deals' whereby China offers abnormally low interest rates to attract emerging market and developing country governments. Conversely, there have been claims that China's resource-secured loans have allowed China to gain windfall profits from the recent commodity price surge. Finally, there has also been great concern over the extent to which Chinese finance is tied to Chinese suppliers and mandates the use of Chinese workers.

We estimate that China has committed around $132 billion in financing to African and Latin American governments between 2003 and 2011. Just over half, or $75 billion, is in the form of resource-secured finance, involving the export of oil, cocoa, platinum and diamonds. Contrary to many of the claims in the popular press, Chinese finance is generally not out of line with interest rates found in global capital markets and does not bring windfall commodity profits to China. While it is tied to procurement of goods and construction services from Chinese firms, there are no specific requirements to employ Chinese workers, and flexibility exists to procure locally when this would benefit the project.

Chinese finance and natural resources in Latin America and the Caribbean and Africa

This section presents the primary actors in China's overseas finance, outlines the various models and compares the operations of these actors in Africa and Latin America (LAC).

Actors

1. China's Ministry of Commerce (Department of Foreign Aid) coordinates projects financed through zero-interest loans and grants. These funds are relatively modest. In 2011, the Chinese State Council published its first white paper on Chinese foreign aid, revealing that as of the end of 2009, i.e. over nearly five decades, the Chinese had committed 106.2 billion yuan (US$15.6 billion) in grants, and 76.54 billion yuan (US$11.2 billion) in interest-free loans (State Council, 2011).[1]

2. China Eximbank was established in 1994 to serve as China's export credit agency. The bank provides four broad kinds of finance: letters of guarantee, export seller's credits (for Chinese exporters and investors), export buyer's credits (for overseas governments and firms; these can be at fixed, preferential rates, or at Libor plus a margin, and require a sovereign guarantee or a commercial form of security such as an off-take arrangement) and concessional foreign aid loans (fixed, concessional rate).

3. China Development Bank (CDB) is also a major policy bank, that is run largely on commercial principles though some claim that the CDB has political motivations as well (Sanderson and Forsythe, 2013). Its overseas business has expanded in recent years, with project finance, export credits and loans to Chinese firms for their overseas investments. According to CDB, 'as of the end of 2012, the Bank had outstanding foreign currency loans of US$224.5 billion, and an offshore yuan-denominated loan balance of 72.6 billion'. (China Development Bank, 2013).

4. China's state-owned commercial banks are also increasingly active overseas. Bank of China first set up an office in Africa in 1997. China Construction Bank has operated in Africa since 2000, providing support to Chinese construction companies. Recently it has moved into project finance, and participates in consortium loans to African banks. China's largest commercial bank, Industrial and Commercial Bank of China (ICBC), began to finance projects in Africa after purchasing 20 per cent of South Africa's Standard Bank in 2008, a deal valued at over $5 billion.

Model and history

China's policy banks are central actors in the country's push to develop national champion firms, secure attractive investments for Chinese companies and promote the sales of Chinese goods and services abroad. Two aspects of the financing model are of particular interest: strategic partnerships with major Chinese companies and commodity-secured package finance:

1. *Strategic partnerships*: both China Eximbank and CDB have provided medium-term strategic financing support to national champion firms, usually as part of China's five-year plans. For example, Chinese telecoms firm ZTE Corporation has signed three successive strategic agreements, in 2005, 2009 and 2012, with the most recent involving a line of credit for $20 billion over five years (China Development Bank, 2012). These lines of credit allow the companies to offer their own supplier's credits.
2. *Resource-backed package finance*: resource-backed credits from Chinese banks come in two forms – individual project loans and a line of credit secured by resource exports.

The Chinese renminbi is not a convertible currency, and most countries where the Chinese provide loans do not have convertible currencies. In the early days of China's aid program, the Chinese allowed borrowing countries to repay their zero-interest loans 'in kind'. Beginning in 1995, China Eximbank expanded on this practice. In Sudan, for example, Chinese companies moved into joint venture oil exploration, exploitation and refining, receiving loans from China Eximbank, repaid with oil. Individual project loans can be secured with a guarantee of some kind: a mortgage on an asset, or a future-flow receivables model. Future flows can be an 'off-take' from the project (electricity sales from a hydro-power dam, for example) or an unrelated source of income. Ghana secured a Chinese loan for its Bui Dam hydropower project with the export of cocoa beans, while Ethiopia has had several rounds of credit packages for infrastructure secured with its exports, primarily sesame seeds. In countries without good credit ratings, a resource guarantee increases security and lowers risk, and allows projects to be financed at a reasonable interest rate.

These arrangements are often described as 'package deals'. At their most complex, the players involved would include the borrowing government's Ministry of Finance, a company exporting a commodity (the Ghana cocoa marketing board, for example) and one importing the commodity in China, and the ministry commissioning the project.

The Chinese bank would require a letter of application from the Minister of Finance of the borrowing country, an engineering, procurement and construction (EPC) contract with a well-regarded Chinese firm, a project feasibility study and an environmental impact assessment report. The Chinese importer would sign a purchase agreement with the company selling the commodity. The borrowing government would sign the loan agreement with the Chinese bank, and the proceeds from a specified amount of the export (usually in quantity, rather than value) will be deposited into an escrow account with the Chinese bank, and drawn down to repay the EPC contract loan. Thus it is not the export commodity itself that repays the loan, as in a true barter system, but the proceeds from the sale of the commodity.

Variations on this model use a joint venture company's profits to secure and repay the loan, rather than a specific export, or a mortgage on an asset to secure the loan. The complications and risks of the arrangements mean that this model is not used very frequently. We identified only a handful of project loans financed in this manner, outside of a commodity-backed line of credit.

This financing model is not uncommon with western bank consortia lending to risky countries such as Angola. However, whereas the western banks place no conditions on the use of their credits, the Chinese banks require that their credits be used to finance projects carried out by Chinese firms, or imports from China. In China, these credits have been called different names: 'hu hui dai kuan' (mutual benefit loan) and 'shiyou, xindai, gongcheng yi lanzi hezuo xiangmu' (cooperation package of oil, credit and construction projects). They are rarely concessional, but are usually offered at variations on Libor plus a margin.

Commodity-backed loans in Africa and Latin America

This section provides estimates of Chinese finance in Africa and Latin America, and compares commodity-backed finance in each region. We estimate that Chinese banks have made commitments of approximately US $132 billion in financing to African and Latin American governments. More than 80 per cent of this finance has gone to these regions since the 2008 global financial crisis. More than 50 per cent of Chinese finance in Africa and Latin America is in the form of commodity-backed loans. In the rest of this section we outline the methodology used to estimate these figures, and discuss the scale, composition, and terms related to commodity-backed finance that China has provided to Africa and Latin America.

Methodology

Chinese banks rarely publish information regarding specific financing agreements and recipients are unlikely to fully disclose the details of the finance they receive. We thus build on previous work by Bräutigam (1998; 2009) and examine government, bank and press reports in both China and borrowing countries to compile a list of loans and their characteristics. Such a method is highly imperfect, but we have gone to great lengths to ensure reliability by confirming reports with actors in China, Africa, and LAC. Still, our estimates should not be taken as precise figures. On the one hand, we may have underestimated Chinese finance in these two regions if a loan has not been in the public eye. On the other hand, we may have overestimated the total if any of the most recent loans get partially or entirely cancelled, or if a line of credit does not get fully committed.

To compile these data we began with a systematic review of online media (Lexis/Nexis and Factiva) and then refined these reports through consulting a wide variety of publicly accessible sources in English, Chinese, Spanish, French, Arabic and Portuguese. For example, we found loan agreements published by the Venezuelan and Bolivian governments and summaries of loan details published by the Ghana government. Other governments listed details of loans on the websites of their central banks. We learned about the interest rates for Brazil's state-owned oil company, Petrobras, in Petrobras's filings with the US Securities and Exchange Commission (SEC). We also discovered four Chinese loans to the Jamaican government in its 2011 Annual Report to the SEC. We found details on Brazilian and Ecuadorian loans-for-oil in local newspaper interviews with the countries' finance

Table 1. Chinese Finance in Africa and Latin America: 2003-2011

	Africa	Latin America	Total/Average
Total Financing ($USb)	52,818	79,799	132,617
%GDP	2.8%	1.6%	2.2%
Commodity-backed ($USb)	29,555	47,000	76,555
%total	56%	54%	55%
ave size	906	5,222	3,064

Table 2. Commodity-Backed Finance in Africa and LAC

Year	Country	Lender	USD (m)	Resource-Secured	Sector
Africa					
2004	Angola	Eximbank	2000	Oil	
2007	Angola	Eximbank	2000	Oil	
2007	Angola	Eximbank	500	Oil	
2009	Angola	Eximbank	6000	Oil	
2009	Angola	ICBC	2500	Oil	
2007	Congo-Brazzaville	Eximbank	1500	Oil	
2008	DRC	Eximbank	3000	copper	
2005	Equa. Guinea	Eximbank	2000	Oil	
2011	Ghana	CDB	1500	Oil	
2011	Ghana	CDB	1500	Oil	
2009	Sudan	Eximbank	1500	Oil	
2008	Ethiopia	Eximbank	500	export-backed	
2011	Ethiopia	Eximbank	300	export-backed	
Latin America and the Caribbean					
2009	Brazil	CDB	10,000	Oil	
2009	Ecuador	PetroChina	1,000	Oil	
2010	Ecuador	CDB	1,000	Oil	
2011	Ecuador	PetroChina	1,000	Oil	
2011	Ecuador	CDB	2,000	Oil	
2007	Venezuela	CDB	4,000	Oil	
2008	Venezuela	CDB	4,000	Oil	
2010	Venezuela	CDB	20,000	Oil	
2011	Venezuela	CDB	4,000	Oil	
Total Africa			24,800		
Total LAC			47,000		
Total			71,800		

ministers (see Gallagher et al., 2012 for a more in-depth discussion on LAC finance). Details on many loans, including those in Ethiopia, Zimbabwe and Nigeria, were discovered during field interviews. We also found extensive information on the Chinese language website of the Ministry of Commerce, on Chinese companies' websites, and on the websites of African central banks and ministries of finance. We supplemented and double-checked all these sources with newspaper articles or governments from both the borrowing countries and from China. We omit loans that appear in media reports but that have not been confirmed by reliable sources on both sides of financing.

Scale, composition and terms of Chinese finance

We estimate that China has committed approximately US $132 billion to the two regions since the turn of the century. Table 1 summarizes Chinese finance to Africa and LAC on an annual basis from 2000 to 2011. As noted, over 80 per cent of this finance has been promised since the global financial crisis. In aggregate, Latin America receives more finance at US$79.7 billion compared to $52.8 billion for Africa.[2] With respect to GDP, however, Africa receives significantly more Chinese finance than LAC. Africa and Latin America receive finance on the order of 2.8 per cent of GDP and 1.6 per cent of GDP respectively from China.

Africa's estimated US$53.4 billion in Chinese finance is disbursed to 43 countries in over 317 loans and lines of credit. The average size loan is $906 million in Africa. LAC's finance is more concentrated, with 14 countries receiving US$1.7 billion in finance from China on average. Fifty-four per cent, or $75.09 billion of Chinese finance in Africa and LAC is in the form of commodity-backed finance. In Africa, there have been at least 13 large, commodity-backed lines of credit in seven nations since 2000, with several other countries using this system to secure a single project loan. Table 2 provides a list of the composition and characteristics of commodity-backed loans for Africa and LAC.

In Africa, the nations with commodity-backed finance from China include Angola, Congo-Brazzaville, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gabon, Ghana, Nigeria, Sudan and Zimbabwe. Angola and Ghana appear to have received the highest amount of commodity-secured finance commitments. Angola used US$4.5 billion in oil-backed credits for infrastructure

Table 3. Comparing Terms of Commodity-Backed Finance in Africa and LAC

Year	Country	Lender	USD (m)	Resource-Secured	Interest Rate	Term
Africa						
2007	Angola	Eximbank	2000	Oil	LIBOR+1.25	15
2007	Angola	Eximbank	500	Oil	LIBOR+1.5	17
2009	Angola	Eximbank	6000	Oil	LIBOR+2.2	28.5
2008	DRC	Shareholders	1070	copper profits	0	
2008	DRC	Eximbank	3000	copper profits	LIBOR+1	
2009	DRC	Eximbank	2130	copper profits	6.1	
2005	Equa. Guinea	Eximbank	2000	Oil	LIBOR+2	5
2008	Ethiopia	Eximbank	500	export-backed	LIBOR+2-3	13
2007	Ghana	Eximbank	270	cocoa; offtake	2	20
2011	Ghana	CDB	1500	Oil	LIBOR+2.85%	10
2011	Ghana	CDB	1500	Oil	LIBOR+2.95%	15
2002	Nigeria	Eximbank	115	Oil	6	12
2002	Nigeria	Eximbank	115	Oil	6	12
2011	Zimbabwe	Eximbank	98	diamond profits	2	20
Latin America and the Caribbean						
2009	Brazil	CDB	10,000	Oil	LIBOR+280bp	10
2009	Ecuador	PetroChina	1,000	Oil	7.25	2
2010	Ecuador	CDB	1,000	Oil	6	4
2011	Ecuador	PetroChina	1,000	Oil	7.08	2
2011	Ecuador	CDB	2,000	Oil	6.9	8
2007	Venezuela	CDB	4,000	Oil		3
2008	Venezuela	CDB	4,000	Oil		6
2010	Venezuela	CDB	20,000	Oil	LIBOR+50-285bp	10
2011	Venezuela	CDB	4,000	Oil		3

between 2004 and 2009, and has since received new commitments of $US 6 billion from China Eximbank (later apparently scaled down, by the Angolans, to US$3 billion) and US$2.5 billion from ICBC. Most of this financing has come through China Eximbank, though ICBC has emerged as a new player. Ghana has received US$3.56 billion in three separate commitments. In Africa, commodity-backed loans generally finance infrastructure projects and are secured not only by oil but a variety of methods and commodities. For example, Ghana's loan for the Bui Dam was secured and repaid by the sale of 38,000 tons of cocoa to China each year for the 17 year life of the line of credit (Habia, 2009). Ethiopia secured its credit line with its entire annual exports to China (mainly sesame seeds). One of Zimbabwe's loans was secured with profits from a joint venture diamond mine, while another was secured with a platinum concession.

The recipients of Latin America's commodity-backed loans from China are Brazil, Ecuador and Venezuela. Venezuela received more than half of these loans. Most loans to LAC are provided by the CDB to state-owned enterprises in LAC, rather than finance directly to governments as is the case of the China Eximbank in Africa. Two Chinese loans to LAC are supplier's credits from PetroChina to PetroEcuador. PetroChina is part of the large Chinese state-owned oil company Chinese National Petroleum Corporation. With the exception of a few lines of credit to Venezuela that are co-financed with Venezuela that go to infrastructure projects, the bulk of Chinese finance to LAC is for oil exploration and extraction.

Table 3 compares what we could learn about the terms of various commodity-backed loans and lines of credit. In Africa, this finance has been secured by a variety of commodities and methods, including exports to China of oil, cocoa, platinum and tobacco, and profits from copper and diamond mining. Thus far, all of the commodity-backed loans to LAC are secured with oil. African financing tends to have lower nominal interest rates and longer payment periods, with LAC financing having higher rates and shorter terms of pay back. In other work we have shown that such interest rates do not appear to be out of line with mainstream capital markets or even the international development banks. In Africa, oil-secured loans from western bank consortia have sometimes been offered at rates lower than those from China's policy banks: Libor plus 1 per cent, for example (Global Witness, 2009). In Latin America, China's policy banks offer comparable terms to the World Bank and Inter-American Development Bank. They also are analogous to the terms demanded in sovereign bond markets during the period (Brautigam, 2009; Gallagher et al., 2012).

Tied finance

Loan agreements that we have seen support the conclusion that the finance is to be used preferentially to procure goods and services from China. Yet it does not appear to be the case that the finance cannot be used for local supplies. In Zimbabwe, for example, the concessional loan that financed the construction of the National Defense College specified that 'The goods, technologies and services purchased by using the proceeds of Facility [sic] shall be purchased from China preferentially and also from Zimbabwe where this will benefit the Project and End User' (Government of the Republic of Zimbabwe, 2011). Angola's lines of credit specified that 70 per cent of the projects should be carried out by Chinese companies and 30 per cent by local firms (Corkin, 2013). The China Eximbank's website states that for export buyer's credits (the main form of finance on offer):

> The Chinese content of export products should be no less than 50 per cent of the total contract value. For the overseas contracting projects, no less than 15 per cent of the project shall come from the export of Chinese equipment, construction mechanics, materials, engineering work, technical and managerial expertise, and labor services (China Eximbank, 2013).

We have seen no examples of agreements that specified the use of Chinese workers.

Conclusions

While much ink has been spilled over the issue of Chinese bank finance in Africa and Latin America, the lack of available data has limited sound analysis. Though official data would be preferable, our data represents a unique resource. We have carefully checked each report of a line of credit, and all loans of $25 million and above, using multiple sources, including official Chinese, Latin American and African government sources, interviews and secondary research. The data does not sort neatly into 'commitments' and 'disbursements'. We tried to guard against double counting. When we were able to confirm an agreement for a line of credit, we used this rather than the projects it later funded.

We estimate that Chinese policy banks have provided just under $132 billion in financing to African and Latin American governments since 2000. Just over half of these, or $75 billion, have some form of commodity-secured finance. Contrary to many of the claims in the popular press, Chinese finance is by and large not out of line with interest rates found in global capital markets, does not bring windfall commodity profits to China and is generally not tied to bringing Chinese employees to Africa and Latin America. Much Chinese finance is 'tied' to Chinese suppliers; however, controversy linking Chinese finance with Chinese suppliers is often a result of the misconception that Chinese finance to these regions is 'aid' and should be untied. Yet the goal of all export-import banks is specifically to provide credits for buyers of a nation's goods.

Our estimates are far from the last word on this matter, given general lack of transparency on the part of host governments and China with respect to publishing data on lending and borrowing. The figures we provide here could be under-estimates given the lack of transparency, or over-estimates given that sometimes financing never materializes or full lines of credit are not drawn from. It is our hope that this analysis can help scholars and policy makers gain a more evidence-based understanding of the operations of Chinese policy banks across the globe.

Based on our analysis, we draw five policy lessons from our work. First, Chinese banks have become major development financiers, but their lack of transparency has left many policy makers understandably uneasy about the size and nature of their loans. Second, in engaging China on its overseas finance, OECD policy makers need to understand that they are not dealing with a fellow donor. The bulk of Chinese finance is not subsidized and should be seen as export credits rather than foreign assistance. Third, countries receiving these credits can be reassured that as far as we can see, there is no evidence that they lock in low commodity prices, or mandate the use of Chinese workers. Fourth, China's package loans, while relatively rare, are attractive to recipients. Policy makers in competing countries might explore how they can use this model of project finance to reduce payment risks for their own loans. Finally, policy makers that negotiate these loans have some leeway to demand employment, training and local content conditions, and should make the most of these opportunities.

Notes

1 Conversion to US$ by authors, using the exchange rate for 2009. These sums are not discounted.

2 Our figures for African loans differ from those reported by another group of reseachers (AidData), who drew on media reports to estimate that China had provided finance (including grants) of US$73 billion over the same period (Strange, Parks, Tierney et al., 2013). For critiques of the AidData methodology, see the social media commentary and other media stories collected at http://storify.com/witschinaafrica/the-aiddata-database-debate-heats-up.html [Accessed 10 February 2014].

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