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China's Engagement and Aid Effectiveness in Africa

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China's Engagement and Aid Effectiveness in Africa

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Abstract

Chinese aid, finance, trade and investment flows to Africa are growing fast. We consider the consequences of these trends using a quantified framework. Very often, adequate data are simply non-available, but we find that existing data provide useful insights on what is ongoing. We first discuss the allocation of Chinese aid, using data on turnover of economic cooperation, and we find it is at least partially comparable to other bilateral aid. We also consider the potential issue created by re-indebtedness of African countries borrowing to China. Second, we show, through studying African import patterns, that the growing importation of Chinese products in Africa can be interpreted as trade creation instead of trade diversion. Hence it has positive rather than negative impact on African economies. Third, we study the influence of Chinese engagement on economic diversification. We show that the usual "Dutch disease" argument is debatable. We find that none of the various dimensions of China engagement has had so far a significant impact, positive or negative, on African economic diversification. For the future, the evolving preferential trade regime offered by China, and its policy of creating special economic zones, could help tip the balance on the positive side.

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1. Introduction

Engagement with China is an important phenomenon for the African continent. Beyond the quantitative impact of growing aid, finance, trade and investment flows, this engagement may have significant qualitative impacts on African development, positive and negative. It is often alleged that the heavy role played by extractive industries in Africa's engagement with China will impede diversification. More generally it is stated that China's engagement in Africa could undermine African development, implying an adverse impact on aid effectiveness. However, too often such discussions are based on informed opinion, rather than on hard data and research results. This paper approaches these debates using as much as possible a quantified framework, in an attempt to go beyond the common wisdom. The issues addressed include aid effectiveness, trade creation, and diversification.

Chinese assistance (defined by the turnover of economic cooperation) has traditionally focused on countries with which it has good political relations and countries with oil and mineral resources. However, recent trends have seen some broadening of Chinese assistance. Chinese assistance has traditionally provided support for poverty reduction, has focused on sectors that have been relatively untouched by Africa's traditional development partners, and does not appear to have impaired debt sustainability. Thus Chinese assistance has overall played a positive role in supporting African development.

UN Comtrade data reveal that China's involvement in Africa has contributed to a sharp increase in Africa's trade and welfare, in part related to China's financial assistance. And so far, China's engagement with Africa has not affected African economic diversification, although China's support for special economic zones and tariff preferences may help increase African diversification.

The rest of the paper is organized as follows. The next section provides a brief review of China's past engagement in Africa, based on the existing literature and on data describing stylised facts on China-Africa trade, FDI and aid flows. The third section considers the debate over the effectiveness of China's development assistance. The fourth section examines trade, FDI and diversification in detail. And the final section considers the way forward in the context of the global financial crisis.

2. Background information

2.1. Literature review on China engagement in Africa

As background to the research in this paper, the following is a non-exhaustive review of the recent literature on China's engagement in Africa through aid, finance, trade flows, trade policy, and FDI.

A few authors (Wang 2007, Brautigam 2008, and Kragelund 2008) have developed estimates of aid flows to Africa, which remain relatively small compared to aid flows from DAC members. Foster and others (2009), using a new database based on information released by the press, estimate that Chinese infrastructure finance commitments to sub-Saharan Africa totalled $16 billion from 2001-07. While some of this finance has an element of concessionality, most of it does not meet the DAC definition for aid.

Several studies, many critical of Chinese policy, focus on the nature and "quality" of Chinese aid to Africa. For example, McCormick (2008) and Penhelt (2007) are concerned that China does not take into account the quality of governance in recipients when allocating aid. Thus according to Penhelt, China is willing to provide aid to "unstable and problematic regions and rogue States" that DAC members are more reluctant to support. Kaplinsky, McCormick and Morris (2006) also point to several examples of China's significant involvement in fragile states. However, none of these papers provide statistical evidence to support the claim that China provides aid regardless of the quality of governance.

Some studies point to positive aspects of Chinese aid. While Davis et al. (2008) acknowledge the debatable role that China has played in resource-rich countries like Angola and the Sudan, they find that "China's approach has been one of mutual respect, also awarding small African countries with relatively little economic and political significance, with aid and investment support." Wang (2007) and Foster and others (2009) point out that China provides substantial funds for infrastructure, for example in power (mainly hydropower), transport (mainly railroads), and information and communications technology (mainly equipment supply), where traditional donors allocate relatively little assistance.

It does not appear that China's engagement in Africa has substantially impaired efforts to ease Africa's debt burden. Reisen (2008) concludes that Chinese lending has not endangered the

positive outcome of the HIPC initiative, and several papers points to the significant amounts of debt relief granted or promised by China (e.g., Wang, 2007, and Penhelt, 2007).

The determinants and impact of China's trade with Africa are discussed extensively in the literature. It is often considered that China's engagement in Africa is driven primarily by its strategic search for raw materials (e.g., Kaplinsky, McCormick and Morris, 2006; Asche and Schüller, 2008).

China's trade with Africa has been supported by trade liberalization in both Africa and China, including Chinese tariff exemptions on a number of products exported by eligible African countries (Zafar 2007). However, both Zafar (2007) and Broadman (2007) point to the persistence of tariff escalation and tariff peaks that may limit increases in the value added content of Africa's exports to China. Minson (2008) concludes that, while the benefits for Africa of China's preferential trade policy are likely to be modest, the preferences have been thoughtfully tailored to African export capacities. China's trade and investment in Africa also has been supported by implicit subsidies provided by Government support programmes with low cost loans (Asche and Schüller 2008), while Kernen (2007) emphasizes the importance of multiple private sector networks and the increasingly significant role of Chinese privatized companies and the Chinese diaspora.[2]

Broadman (2007) is one of the few studies based on microeconomic data, using a survey of both Chinese and non-Chinese firms in South Africa, Ghana, Senegal and Tanzania. He finds that China's trade with and investment in Africa tend to reinforce each other, and notes significant investments in non-primary industries such as clothing, food industry, transport, building, tourism, power plants, and telecommunications. He finds that Chinese investment in Africa has had a limited role (largely in apparel) in integrating African countries in the global decomposition of the value chain, and that Chinese enterprises have played a positive role through transferring technology and are more active than other enterprises in regional trade. Thus trade with China could contribute to the product and geographic diversification of African exports.

Henley et al. (2008) survey firms involved in FDI outside of the extractive sector. Chinese firms within this sample are overwhelmingly concentrated in the manufacturing sector (particularly in

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[2] On the role of the Chinese diaspora, see also the February 2008 issue of the China Monitor published by the Centre for Chinese Studies, University of Stellenbosch.

the textile and apparel industry) and (consistent with Broadman 2007) many have set up export platforms in East Africa to take advantage of the trade preferential regimes granted by the US and EU to African countries.

Chen et al (2007) survey Chinese firms involved in the African construction sector, and find that the success of Chinese firms was due both to cost competitiveness, derived from access to cheap capital, low-cost labour, and cheap building materials, and to political support from the Chinese government. However, the political support enjoyed by Chinese construction firms does not exempt them from the challenges faced by other construction firms in terms of economic and political instability, poor quality of local inputs and weak infrastructure.

2.2. Recent Trends in Trade between China and Africa

While the analysis of African trade data confronts significant issues (box 1), it is clear that Africa's trade with China has increased sharply since the late 1990s (figure 1). African exports to China increased from close to zero in 1998 to about $50 billion in 2008, while China's exports to Africa have risen 15-fold. China accounted for only 0.9% of African exports and 3% of African imports in 1998, rising to 11.1% of exports and 9.1% of imports in 2008. The CIF/FOB trade balance of African countries vis-à-vis China shows an average deficit of $ 1.3 billion from 1998 to 2007, but exhibited a surplus of US$ 1.9 billion in 2008, thanks to the oil and mineral price boom.

Box 1: Data on African trade with China

We have at our disposal different sources of data on Africa's trade with China: Chinese official data provided by MOFCOM, and data from international organizations, including UN COMTRADE data and IMF DOT. We prefer using international sources, so as to include data on Africa's trade with countries other than China. UN COMTRADE data have the merit of being a primary source, being based on statistics reported by the governments to the UN system, and of including details on the commodity composition of trade that are necessary for our analysis. Since not all African countries report to this system, regional aggregations are generally based on "mirror" data, i.e. estimates of African trade based on data reported by African partner countries. However, the partner data report African imports in FOB terms and African exports in CIF terms, so that estimates of the trade balance are not accurate. Also, UN COMTRADE data are available only until 2006 or 2007, depending on the country. IMF DOT is a secondary source, and provides only aggregates, but it provides data up until 2008. Hence we will use IMF DOT data when recent data will be needed and UN COMTRADE data otherwise. IMF DOT data have also the merit of providing directly a correct assessment of the CIF/FOB trade balance. We have checked that the overall trends of China-Africa trade in the two sources are consistent.

Figure 1: China-Africa trade flows
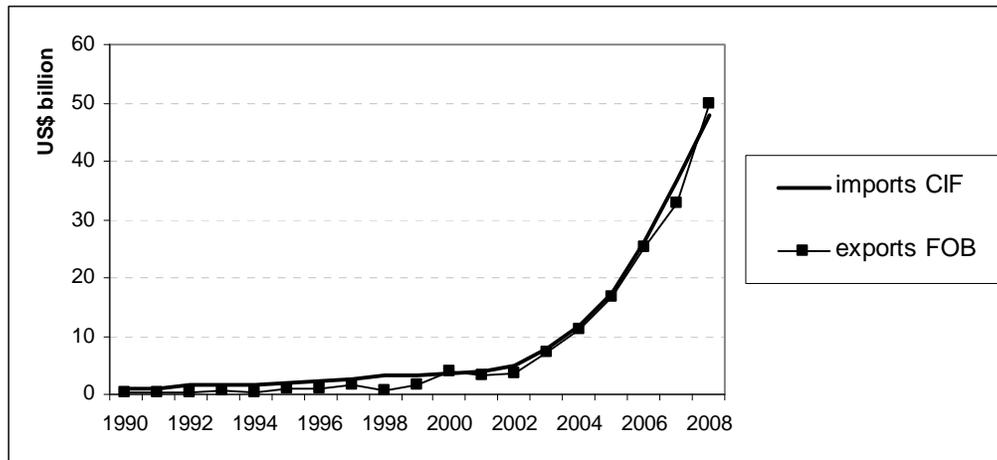
The rise in African exports is heavily concentrated in a few oil-exporting countries, although other countries that are dependent on the China market provide minerals (copper, cobalt, coltan) or beginning with 2003, agricultural raw materials (cotton, sesame). By contrast, a diverse set of countries import substantial amounts from China, including relatively rich countries (e.g. Botswana, Namibia) and relatively poor ones (e.g. Eritrea, Niger). Only six countries (Benin, DR Congo, Ethiopia, Mauritania, Sudan and Tanzania) that have large imports from China also have significant exports. As we will see below, the rise in imports from China is not closely correlated with exports and cannot easily be explained by a gravity model, but appears to be related to other aspects of Africa's engagement with China, notably investment and financial flows.

2.3. Foreign Direct Investment

Chinese investment in Africa has increased rapidly since 1996, stimulated by incentives from the Chinese government and by the economic recovery of African countries. By 2005, China had already established more than 800 enterprises in Africa, covering 49 countries. Nevertheless, the stock of China's FDI to Africa amounted to only 1.1% of total FDI to Africa in 2007, up from 0.2% in 2003. Still, this estimate (based on MOFCOM data) omits many Chinese foreign investments that go through offshore financial investment centers such as Hong Kong or the

Virgin Islands. And China's FDI to Africa is growing much more rapidly than FDI from other countries (figure 2).[3]

Figure 2: China and non-China FDI stocks in Africa
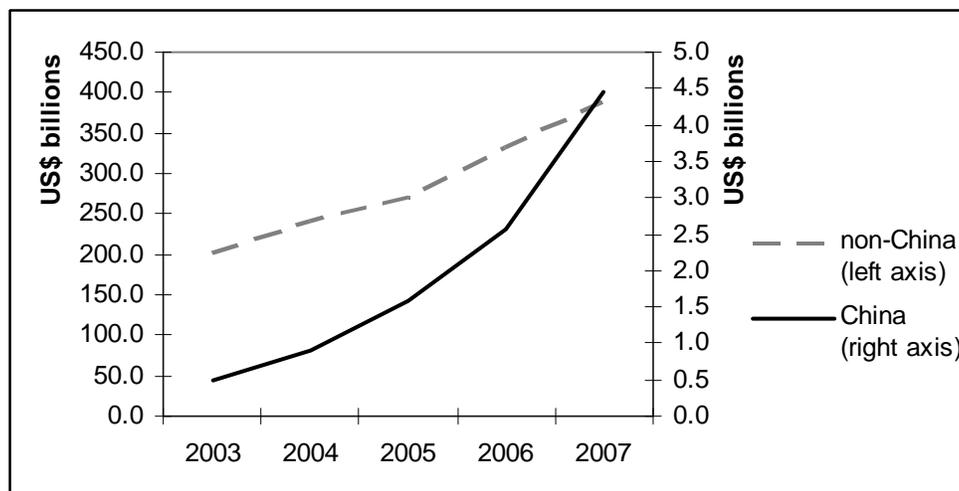
Source: based on MOFCOM and UNCTAD data

The destination of Chinese and non-Chinese investments in Africa have become more similar over time: the correlation between the country distribution of Chinese and non-Chinese FDI in Africa rose from 0.25 in 2003 (not statistically significant at the 5% level) to 0.71 in 2007 (and highly significant). Nevertheless, striking differences remain. For example, Algeria, Sudan, Zambia, Mauritius and Niger account for 37% of Chinese FDI to Africa, but only 8% of non-Chinese FDI to Africa.

2.4. Development assistance and financial flows

It is difficult to give a clear picture of China's development assistance to African countries. Such assistance is administered by no less than 23 line ministries and agencies (Kragelund, 2008). It is almost impossible to disentangle what would be development assistance in the OECD/DAC definition and what would be merely financial flows. Chinese development assistance can take different forms: grants extended for social projects (health, education, housing) in the form of material assistance, technical assistance and personnel training; interest-free loans given notably for infrastructure projects; concessional loans provided by China EXIM Bank; and debt relief.

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[3] These data are based on definitions comparable to UNCTAD definition and can therefore be compared to total FDI received by African countries reported by UNCTAD for the same period.

Kragelund (2008) finds that Chinese aid flows to Africa in 2005 substantially exceeded the $731 million reported by official sources, and may have reached $8.1 billion. Wang (2007) estimates that China's ODA to sub-Saharan Africa averaged between $1.0 billion and $1.5 billion per year in 2004-2005. Brautigam (2008), using the Chinese definition (which excludes the face value of concessional loans from the external assistance budget), finds that China's external assistance to Africa was about $525 million in 2007 and close to $1 billion in 2009.

By all of these estimates Chinese aid to Africa is growing rapidly, but remains small compared to assistance from OECD/DAC members. In January 2009, Chinese Minister of Commerce Chen Deming announced that in 2009 China would meet its commitment to double aid made at the 2006 Beijing Summit of the China-African Cooperation Forum, and that "168 debts" due by 33 African countries by the end of 2005 will have been cancelled.[4] In addition, China EXIM Bank's Vice President Li Jun stated at the 2007 African Development Bank Annual Meetings in Shanghai that it would provide $20 billion over the next three years in infrastructure and trade financing on commercial terms. Following this meeting, the Chinese State Council approved the creation of a $5 billion China-Africa Development Fund, to be administered by the China Development Bank.[5]

Given the close linkages between Chinese development aid and financing, an indirect estimate of the size of China's aid flows can be based on contracted projects under the turnover of economic cooperation data published in the China statistical yearbook.[6] According to this admittedly imperfect indicator, China's financial engagement with Africa was relatively stable at around $2 billion per year from 1998 to 2002, rising to $12.7 billion in 2007. Foster et al. (2009) finds that about 90% of the turnover of economic cooperation flows was related to Chinese (as opposed to multilateral) financing from 2002-05, so these data may provide a relatively accurate picture of

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[4] Source: Xinhua news agency, 20 January 2009.
[5] Source: Lucy Corkin, Christopher Burke and Martyn Davies, China's Role in the Development of Africa's Infrastructure, SAIS Working Papers in African Studies n°04-08.
[6] We include the estimates of projects under Turnover of Economic Cooperation with Foreign Countries or Regions", which reflects: (1) overseas civil engineering construction projects financed by foreign investors; (2) overseas projects financed by the Chinese government through its foreign aid programs; (3) construction projects of Chinese diplomatic missions, trade offices and other institutions stationed abroad; (4) construction projects in China financed by foreign investment; (5) sub-contracted projects to be taken by Chinese contractors through a joint umbrella project with foreign contractor(s); and (6) housing development projects. We add also to these labour services (activities of providing technology and labour services to employers or contractors in the forms of receiving salaries and wages) and design consultation (projects with income for technical services provided to overseas operators).

China's financial engagement with Africa. Since China's assistance is tied to the purchase of Chinese goods, data on Africa's imports from China also may provide information on the size of China's assistance, an issue addressed in the next section.

3. Aid and Official Financial Flows from China to Africa and the Aid Effectiveness Debate

3.1. Geographical allocation of aid and Official Financial Flows

The country allocation of Chinese aid provides important information on aid effectiveness. For example, is Chinese aid channelled largely to countries with poor governance, high rates of poverty, or with close diplomatic ties with China (to the possible detriment of countries that could use aid more effectively)? Here we undertake econometric tests of what has driven the country allocation of China's financial assistance. The dependent variable is the data on turnover of economic cooperation (divided by population) described above. The independent variables include: (i) governance indicators published by the World Bank; (ii) per capita income; (iii) size, defined by population; (iv) alternative specifications of political ties, including the number of years with continuous diplomatic relations, a dummy variable for the existence of diplomatic relations in each year, and dummy variables for the existence of at least 5 or 10 years of diplomatic relations; and (v) in order to control for the existence of opportunities for economic cooperation of Chinese companies related to privately funded projects, the stock of inward FDI (divided by population) and a dummy variable for oil rich countries.

We find that our explanatory variables are reasonably good predictors of the turnover of economic cooperation only in recent years, but that none of them can explain it in previous years. The results obtained for the period 2004-2007 are summarized in Table 1.

Table 1: Determinants of turnover of economic cooperation (2004-2007): OLS regression

	[1]		[2]		[3]		[4]	
GDP per capita	0.07		0.09		-0.02		0.06	
	(0.28)		(0.42)		(0.08)		(0.27)	
population	-0.38	***	-0.37	***	-0.35	***	-0.33	***
	(3.01)		(3.25)		(3.03)		(2.72)	
stock of FDI per capita	0.44	***	0.43	***	0.51	***	0.45	**
	(2.61)		(2.72)		(3.08)		(2.65)	
dummy for oil rich country	1.54	**	1.64	**	1.69	**	1.60	**
	(2.24)		(2.57)		(2.58)		(2.34)	
number of years diplomatic ties	0.03	**						
	(2.24)							
dummy for diplomatic ties			2.21	***				
			(3.50)					
dummy for 5 years diplomatic ties					1.59	***		
					(3.02)			
dummy for 10 years diplomatic ties							1.00	**
							(2.20)	
intercept	-3.66		-5.34		-3.54		-4.41	
	(1.05)		(1.66)		(1.06)		(1.28)	
R2	0.551		0.606		0.584		0.549	
Number of countries	52		52		52		52	

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level. Student-t statistics within brackets. Method of estimation: between countries. All variable in logs except the dummy variables for diplomatic ties and the control of corruption qualitative indicator.

The regression results provide some useful insight into the determinants of Chinese assistance. The stock of FDI per capita and the dummy for oil-rich countries are significantly related to the turnover of economic cooperation, indicating that Chinese financing is closely related to its foreign investment. All of the indicators of diplomatic ties are significant as well, indicating that Chinese aid, like that of the traditional donors (see Alesina and Dollar 2000), is closely related to political relationships. And we observe a bias towards small countries, as in analyses of DAC donors' aid.

Two negative results should be highlighted. The coefficient on per capita GDP is not significant. And while China's engagement in Africa (unlike that of traditional donors—see e.g. Berthelemy 2006) is usually described as focused on countries with governance issues, none of the governance indicators' coefficients were significant (result not reported).

The non-significant coefficient on per capita GDP may result because the turnover of economic cooperation can be financed both by development assistance (in which case it is expected to be decreasing with GDP per capita of the partner country) and by profitable investment (in which case it is expected to be increasing with GDP per capita). Another test of this relationship is to define a dummy variable for countries where the engagement with China (the ratio of economic turnover to GDP) was above the median. This dummy variable is the dependent variable in a probit model, where the explanatory variables are the same as before, averaged over the 2004-2007 period. The results of these probit regressions are reported in Table 2. The main difference with previous regressions is that this time GDP per capita has the expected negative and significant parameter. Attempts at introducing governance indicators failed as previously and are not reported. Alternative thresholds at 60% and 40% of the sample generated roughly the same results. [7]

Table 2: Determinants of turnover of economic cooperation (2004-2007): probit regressions

Dependent variable	Dummy variable for China engagement among 50% highest				Dummy variable for China engagement among 40% highest		Dummy variable for China engagement among 60% highest	
	Equation 1		Equation 2		Equation 3		Equation 4	
GDP per capita	-0.92	***	-1.20	***	-1.08	***	-0.60	*
	(2.78)		(3.29)		(2.91)		(1.79)	
population	-0.37	**	-0.41	**	-0.61	***	-0.47	**
	(2.31)		(2.48)		(3.16)		(2.59)	
stock of FDI	0.53	**	0.72	***	0.58	**	0.61	**
	(2.35)		(2.94)		(2.32)		(2.38)	
dummy for oil rich country	0.85		1.19		0.68			
	(1.09)		(1.51)		(0.76)			
number of years of diplomatic ties	0.03	*			0.05	**	0.04	**
	(1.93)				(2.39)		(2.19)	
Dummy for 5 years of diplomatic ties			2.91	**				
			(2.55)					
intercept	15.54	***	17.91	***	20.01	***	15.93	***
	(3.13)		(3.42)		(3.48)		(3.04)	
pseudo R2	0.196		0.293		0.305		0.288	
nb of countries	52		52		52		48	

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level.Student-t statistics within brackets. All variable are in logs except the dummy variables for diplomatic ties and the control of corruption qualitative indicator.

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[7] For the 60% threshold, the oil dummy is dropped because it perfectly predict being among the largest beneficiaries of China engagement.

Another issue which could be subjected to econometric tests is whether Chinese aid is directed at the same countries as that of traditional donors, which in the absence of adequate donor coordination would increase the administrative burden on recipient governments. In general, Chinese development and financial assistance is poorly coordinated with other donors' assistance. There is no coordination with other bilateral donors, although some very preliminary discussions have been initiated by China with bilateral donors, towards co-financing of projects (e.g. the French AFD). There have been some efforts at coordination with multilateral donors, including agreements between China EXIM Bank and both the World Bank and the African Development Bank, and an agreement between China's Development Bank and the African Development Bank.[8] It is too early to judge the effectiveness of these agreements, although joint financing of infrastructure projects is underway between China EXIM Bank and the two multilateral institutions. However, the low level of donor coordination may not have a substantial impact on recipient countries, because the geographical distribution of the turnover of economic cooperation is not significantly correlated with the geographical distribution of total ODA and other financial flows received from DAC and/or multilateral donors (results not reported). Thus Chinese assistance does not appear to increase aid fragmentation in recipient countries.

3.2. The tying of aid

Most Chinese development and financial assistance is tied. Development assistance is usually granted in kind, while financial assistance is given to finance contracts that are implemented by Chinese companies. The only part of Chinese assistance that may be considered as untied is debt relief. By contrast, about 90% of OECD/DAC member country assistance is untied, and only Korea (which only became DAC member in November 2009), still provides mostly tied assistance.

Tying reduces the effectiveness of aid only if it leads to higher prices of goods financed by aid, or less efficient or suitable goods not fully compensated by lower prices. Goods and services procured by China are highly competitive compared to the same goods and services that would be procured by OECD/DAC member countries. Hence its practice of tying of aid may not create

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[8] These Memorandums of Understanding focus on (i) Exchange of information regarding each other's respective activities in Africa; (ii) Sharing of development knowledge and experience; (iii) Providing co-financing or guarantee of public and possibly private sector investment projects; (iv) Exchange or secondment of professional staff; (v) Joint regional, country, economic and sector studies; (vi) Aid harmonization, development policy and strategy coordination; and (vii) any other areas as may be agreed upon between the parties from time to time.

a significant distortion of competition. In addition, Chinese aid tying is comparable to the Korean practice, and to common practice in OECD/DAC countries up until 15-20 years ago. However, the tying aid may reduce opportunities for domestic producers (see Brautigam 2008).

3.3. Official financial flows and debt sustainability

The availability of loans from China has been viewed as threatening concerted efforts to improve debt sustainability in poor African countries. Chinese loans to African countries could represent free riding by a new lender who takes advantage of the increased payment capacities of HIPC countries resulting from debt relief granted under the HIPC and MDRI (multilateral debt relief initiative) from Africa's traditional donors. Chinese loans also could undermine these efforts to restore poor country solvency. However, Reisen (2008) concludes that there is little risk of new excess indebtedness in HIPC countries due to borrowing from China. We expand his analysis by including all countries that reached the HIPC decision point by 2007, and by including a larger number of countries with high engagement with China.[9] The ratio of the net present value of debt to exports of goods and services of countries with high China engagement (with a turnover of economic cooperation to GDP ratio above the African median from 2004-07) is not significantly higher than the ratio for countries with low China engagement (Table 3). In addition, the change in the debt ratios between 2004 and 2007 are not significantly different between the two groups.

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[9] Among HIPC countries, Reisen (2008) assumes that Ethiopia, Mozambique and Zambia may have borrowed significant money from China. However the turnover of economic cooperation to GDP ratio of these three countries is only just above the median of African countries. Several HIPC or interim HIPC countries have turnover of economic cooperation to GDP ratio higher than the median: Central African Republic, Congo, Gambia, Guinea, Mali, Mauritania and Sierra Leone.

Table 3: Comparison of debt ratios for HIPC countries with high vs. low China engagement

	Large China engagement		Small China engagement		Difference	
	n. obs.	mean	n. obs.	mean	mean	
NPV of debt/GDP ratio 2004	9	70.7	9	30.7	40.0	**
NPV of debt/GDP ratio 2007	14	47.6	13	15.3	32.4	*
Δ(NPV of debt/GDP ratio 2007-2004)	9	-16.2	9	-21.8	5.5	
NPV of debt/Exports ratio 2004	9	272.5	9	199.7	72.8	
NPV of debt/Exports ratio 2007	13	159.6	13	109.7	50.0	
Δ(NPV of debt/Exports ratio 2007-2004)	9	-83.6	9	-144.7	61.1	

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level.

Similarly, more recent data (including estimates for 2007) reinforce Reisen's conclusion that resource rich, non-HIPC IDA-only countries with substantial engagement with China (Angola, Congo—included in our previous analysis—Nigeria, Sudan and Zimbabwe) have experienced a decline in debt ratios in recent years. However, the small number of observations does not allow tests of differences with a control group of non-HIPC IDA-only countries with low Chinese engagement. Hence this conclusion is not necessarily robust. We conclude that loans from China have not impaired debt sustainability in poor African countries, although this may become a problem as China becomes more involved with Africa. For example, the Democratic Republic of Congo had to modify the terms of its assistance package from China (which involves $9 billion in mining and infrastructure projects) to qualify for completion of its US$ 6.3 billion (in NPV terms) HIPC debt relief.

4. Trade, FDI and diversification

4.1. Primary commodity exports: the "Dutch disease" argument

Increased demand for oil and minerals by China and other big emerging countries have boosted prices on international markets. The resulting booms in African oil and minerals exporters could

divert capital and labour from tradable sectors (the Dutch disease), potentially limiting diversification. Investment in the mining sectors of African economies are often financed by FDI (box 2 shows the example of Angola), so that it is not obvious that a commodity boom in a poor African economy will reduce capital available for investment in manufactures or agriculture. And while the commodity boom may also divert skilled labour, much of the skilled labour required in mining is sector specific, and is often imported. Goldstein and others (2006) conclude that higher raw materials prices do not appear to have greatly impeded diversification in African economies.

Box 2: China's FDI in extractive industries in Angola

In a relatively short period of time China has become Angola's second largest trade partner, after the United States (40% of Angola's exports). In 2006, Angola's exports to China represented 35.6% of its total exports, up from 13.6% in 2002. Total bilateral trade increased seven fold between 2002 and 2005, from US$ 1 billion to almost US$ 7 billion, and doubled to US$14 billion in 2007. This rapid rise in Chinese imports is mostly explained by the sharp increase in China's oil imports from Angola since 2002. In the first trimester of 2008, Angola overtook Saudi Arabia for a second time as China's main oil supplier (the first time was in the first trimester of 2006). Timber, fisheries and marble have only a minimal share of Angolan exports to China. In 2006 Angola became China's top trading partner in the African continent surpassing South Africa, a status it continues to hold.

With the sector dominated by the Western oil majors, Luanda has been seeking to diversify its partnerships, having launched two licensing rounds recently (2005/2006 and 2007/2008), which attracted large and small contenders from all over the world, including companies from China, India and Japan. Following the signing of the ExIm Bank credit line in March 2004, Sinopec acquired its first stake in an Angolan oil block. The stake in question was 50% of oil block 18 that previously belonged to Shell (the other 50% belong to BP) and was initially to be sold to an Indian company (Videsh). Allegedly, in face of a bigger offer from the Chinese, Sonangol handed over the stake to Sinopec. In the bid round of 2005/2006, China claimed important stakes in the exploration of three important blocks: 40% stake in another part of block 18, 20% in block 15 and 27.5% in block 17. At US$2 billion, Chinese bids were reported to be the highest ever offered for exploration acreage in the world. In 2006 Sinopec established a joint venture with the Angolan national oil company (Sonangol) under the name of Sonangol Sinopec International in which it holds a 55% stake. The purpose was to jointly operate stakes in offshore oil blocks and to build a US$3 billion refinery at Lobito. Business, however, did not go as expected and in March 2007 Sonangol and Sinopec's negotiations over the refinery in Lobito collapsed, supposedly over a disagreement on the technology to be used, which would favour the supply of the Chinese market, while Angola mainly wanted to supply its own domestic market. In the end, the Angolan government decided to proceed alone with the project.

In the construction sector, Chinese companies have made impressive inroads, especially in the last four years. Excluding oil and diamonds, over half of Chinese FDI in Angola is directed to the construction sector, followed by light industry, retail and transport. According to Angola's private investment national agency Chinese investment in construction rose at a fast pace in recent years but still pales in comparison to traditional investors such as Brazil and Portugal. A large number of Chinese companies, mostly parastatals, entered the Angolan market in the framework of the first ExIm Bank loan in early 2004. Encouraged by political stability, fast economic growth and improved investment and legal frameworks, some have established headquarters in Luanda and started venturing outside the areas covered by the Chinese credit lines. Among these are: China Road and Bridge Corporation, China State Construction Engineering Corporation, China Guangxi International Construction Lda and China Jiangsu. Like in the rest of the continent, China seems to be particularly keen on delivering high prestige buildings such as the Ministry of Finance, the High Court, various Congress halls, as well as edifices for the masses, like hospitals, schools and stadiums. All of these works are wrapped up in quick and cheap delivery packages, with the aim of enhancing China visibility and political capital within the country and maximising goodwill amongst the Angolan government and the general population. Chinese reputation is, however, being threatened by the alleged poor quality of their work.

Source: Chris Alden, SAIIA.

4.2. Trade Liberalization between China and Africa

China engagement in Africa has led to major increases in trade flows. Development and financial assistance granted by China to African partner countries, which is generally tied, reduces the opportunity cost of imports from China. This acts the same way as a subsidy on China exports to African countries. The trade effect of this implicit subsidy is equivalent to a partial liberalization of imports of Chinese products in African countries, which could lead to trade creation and diversion: African countries import more Chinese products (trade creation) and could, as a counterpart, import less products from other partners (trade diversion). Measuring the size of trade creation versus diversion would be necessary to understand the net impact on welfare of the African importing countries.

We estimate the size of these creation and diversion effects in a standard gravity model, in which imports of African countries are explained by GDP and GDP per capita of the importer and of its partner, as well as by geographical and historical variables such as distance, common borders, common languages, and former colonial ties. We also include dummy variables for bilateral relations with China and with non-China partners. Each of these dummy variables is made time specific, so that trade creation and diversion effects can be observed in the pattern of the parameters of such variables over time.

This estimation is performed on all imports flows reported by African countries in the UN COMTRADE database, with all possible partners. We report here estimates using the fixed effects method, which collapses the effect of all the geographical and historical bilateral dummies in the fixed effect parameters (Table 4). Estimates for the parameters associated to GDP and GDP per capita have reasonable values (both GDP and population have a positive influence on trade flows). We find that the parameters associated with the dummy variables for bilateral relations with China increase over time, suggesting a clear trade creation effect over the period 1996-2007. On the other hand, the parameters associated with bilateral relations with non-China partners have no significant trend. We conclude from these estimates that there is no significant trade diversion effect.

Part of the explanation of the increase of imports from China could be due to imports of parts of products newly exported to the United States under the AGOA scheme, which provides generous rules of origin treatment in the apparel industry. In order to check that this AGOA effect does not explain the aggregate patterns that we observe, we have re-estimated our equations with a sub-

sample excluding African countries that have exported significant quantities of apparels with high content on non-AGOA/non-US textiles to the United States under the AGOA scheme. These countries are Kenya, Lesotho, Madagascar and Swaziland. Results reported in Table 4 do not change significantly. Hence our results do not result from an indirect effect of the AGOA.

Table 4: Estimation of trade creation and diversion effects using a gravity model

	All African reporters			Sample excluding countries importing textile to export apparels under AGOA		
	unilateral variables	Dummies for China partner	Dummies for non-China	Unilateral variables	dummies for China	dummies for non-China
GDP reporter	1.07 *** (4.14)			0.88 *** (3.38)		
GDP partner	0.62 *** (3.32)			0.41 ** (2.18)		
GDP per cap. reporter	-0.50 * (1.94)			-0.30 (1.13)		
GDP per cap. partner	-0.51 *** (2.74)			-0.30 (1.61)		
intercept	-25.64 *** (5.01)			-19.36 *** (3.74)		
year 1996		-0.14 (0.36)	-0.12 *** (3.02)		-0.13 (0.33)	-0.12 *** (2.90)
year 1997		-0.11 (0.29)	0.01 (0.29)		-0.11 (0.27)	0.02 (0.53)
year 1998		0.00 (0.01)	-0.01 (0.13)		0.02 (0.04)	0.01 (0.20)
year 1999		0.12 (0.32) ***	-0.13 *** (2.72)		0.15 (0.38) ***	-0.11 *** (2.32)
year 2000		0.24 (0.65)	-0.19 *** (3.66)		0.25 (0.65)	0.17 *** -
year 2001		0.30 (0.82)	-0.20 *** (3.55)		0.37 (0.98)	-0.16 *** -
year 2002		0.35 (0.95)	-0.08 (1.37)		0.37 (0.96)	-0.04 -
year 2003		0.60 (1.62)	-0.03 (0.46)		0.60 (1.56)	0.00 (0.00)
year 2004		0.79 ** (2.12)	-0.02 (0.24)		0.79 ** (2.04)	0.01 (0.14)
year 2005		1.11 *** (2.91)	0.01 (0.07)		1.13 *** (2.87)	0.04 (0.48)
year 2006		1.39 *** (3.53)	0.08 (0.86)		1.41 *** (3.48)	0.10 (1.12)
year 2007		1.39 *** (3.21)	0.10 (1.03)		1.52 *** (3.42)	0.15 (1.55)

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level, Student-t statistics within brackets. Method of estimation: within countries. All variable in logs except the dummy variables.

On the export side, China offers significant preferential tariff treatment to a number of African countries. In recent years, it has significantly expanded the list of products that it imports duty-

free from eligible African countries. This list covers now more than 250 products, and it has been announced that the list will be expanded to more than 440 items, possibly by the end of 2009 (Minson 2008). Current preferences are equivalent on average to a 10% tariff preference, which is quite significant. Minson has estimated the overall economic value of such preferences as $10 million per year.

Products for which China grants tariff exemption are principally raw materials, while transformed products face higher tariffs. This is not favourable to diversification of African exports. However, China grants also tariff exemption for some semi-finished or finished products that several African countries are able to export, such as products made of plastic, leather products, and textile and apparel products.

Comparing the AGOA and EBA trade preferential regimes, Collier and Venables (2007b) have found that rules of origin are a major determinant of the impact of trade preferences on diversification: the AGOA has a positive impact in some countries due to its loose rules of origin in the apparel industry, contrary to the EBA scheme. Given that the rules of origin imposed by China are also relatively generous, with a minimum of 40% value added in the exporting countries, these tariff exemptions can have a positive effect on African industrialization, insofar as it would help some African countries to develop export diversification based on decomposition of the value chain. This effect would be possibly lower than the effect of the AGOA rule of origin system in the apparel industry, but probably more significant than that of the EBA provision of the European Union.

Up to now, African countries have been little involved in global networks of manufacturing based on decomposition of the value chain, except in the apparel industry thanks to the AGOA. But the Chinese industrial companies have a long experience of this. The success of African countries in creating such production networks with Chinese partners will however be conditioned by their capacity to be competitive in particular segments of production. As the experience of the AGOA shows, only a few African countries are currently able to reach this stage.

4.3. Synthesis on Chinese Engagement in Africa and Diversification

There is little evidence that Chinese engagement in Africa is adverse to economic diversification there. The most serious argument, about the Dutch disease, is about the influence of China on

world markets rather than specifically about engagement of China in Africa. Nevertheless, it is worth testing this hypothesis. Through its investment, its aid policy and its trade policy, China's engagement in Africa is becoming large, and could have an impact on economic diversification in countries where China is particularly engaged. For example, the sectoral orientation of Chinese FDI could be more (or less) oriented towards natural resource extraction than that of non-Chinese firms. African partner countries receiving assistance from China may also have policies more favourable to the extraction of natural resources (or not). In order to test these ideas, we start by building a standard diversification equation, based on ideas developed notably by Imbs and Wacziarg (2003) and UNECA (2007).

Imbs and Wacziarg (2003) have shown that economic diversification of a country can be related to its economic development, measured by GDP per capita, through an inverted-U shaped curve. Diversification is also positively related to the size of the country, measured by its population size. Diversification can be influenced also by policies. We introduce two policy variables: the first, the time required to register a new business, provides information on the costs of starting a business; the second is the existence in the country of an export processing zone (EPZ). The objective of creation of EPZ is mainly to diversify the economy, through fiscal and regulatory exemptions granted to companies that export manufactured goods. In previous literature, the success of EPZs in helping diversification has been debated. Nevertheless, there are examples of EPZ successes (the EPZ schemes of Mauritius and more recently Madagascar). Finally, we introduce a dummy variable for oil rich countries, to take account of the possibility of a severe Dutch disease effect in such countries.

Our dependent variable is the inverse of a Herfindhal index computed on exports disaggregated at the HS 6 digit level. We use all data reported by African countries in the UN COMTRADE database. We report here regressions computed using a between estimator, as the period covered (2003 to 2007) is not long enough for a time-series analysis. Our benchmark equation is reported in the first column of Table 5 (all variables are in logarithms, except the oil dummy).

Table 5: Determinants of diversification

	Equation 1		Equation 2		Equation 3	
GDP per capita	0.45	***	0.47	***	0.43	***
	(2.99)		(6.40)		(2.97)	
population	0.36	***	0.36	***	0.38	***
	(3.73)		(6.19)		(4.03)	
time to start a business	-0.60	***	-0.57	***	-0.14	*
	(2.71)		(5.67)		(1.74)	
EPZ dummy	0.62	**	0.66	***	0.58	**
	(2.37)		(5.13)		(2.21)	
oil rich country dummy	-2.47	***	-2.58	***	-2.45	***
	(6.07)		(10.31)		(5.97)	
intercept	-5.31	**	-5.58	***	-7.09	***
	(2.05)		(3.91)		(3.08)	
estimation method	Between		OLS		Random effect	
R2	0.657		0.610		0.570	
number of observations	35		130		130	

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level. Student-t statistics within brackets. All variable in logs except the dummy variables.

Attempts at estimating an inverted-U relation with GDP per capita failed. Given that all African countries are below the threshold point above which diversification declines with GDP per capita, as estimated by Imbs and Wacziarg (about US$ 16 000, converted in 2007 PPP terms), this result is not surprising. Hence we introduce here the GDP per capita in linear form, instead of the usual quadratic form. All parameters are highly significant, and this regression explains a large part of the between variance of the dependent variable. In order to check the robustness of this estimation, we have also performed OLS and random effect estimations, with very similar results (equations 2 and 3).

In Table 6 we use this benchmark equation to test the impact of diversification of variables measuring engagement with China (the share of exports to China in total exports, the share of imports from China in total imports, the share of the stock of FDI from China in total FDI received, and the ratio of turnover of economic cooperation with China over GDP). It is clear

from these results that China engagement in African countries has had so far no significant influence, whether negative or positive, on economic diversification. We find the same results whatever the estimation method (between, OLS or random effect – results not reported).

Table 6: Test of the impact of China's engagement on export diversification

	Equation 1		Equation 2		Equation 3		Equation 4	
GDP per capita	0.46	***	0.47	**	0.40	**	0.49	***
	(2.93)		(2.94)		(2.40)		(3.03)	
population	0.36	***	0.35	***	0.37	***	0.33	***
	(3.33)		(3.30)		(3.50)		(3.18)	
time to start a business	-0.61	**	-0.58	**	-0.61	**	-0.60	**
	(2.66)		(2.41)		(2.51)		(2.69)	
EPZ dummy	0.59	**	0.56	*	0.66	**	0.64	**
	(2.11)		(1.92)		(2.27)		(2.40)	
oil rich country dummy	-2.50	***	-2.53	***	-2.41	***	-2.36	***
	(5.90)		(5.87)		(5.44)		(5.42)	
share of exports to China	0.01							
	(0.25)							
share of imports from China			0.10					
			(0.44)					
share of FDI from China					-0.03			
					(0.39)			
turnover of economic coop. with China/GDP							-0.06	
							(0.72)	
intercept	-5.27	*	-5.13	*	-5.20	*	-5.98	**
	(1.88)		(1.84)		(1.81)		(2.15)	
estimation method	Between		Between		Between		Between	
R2	0.66		0.662		0.688		0.663	
number of observations	35		35		32		35	

Note: *** (resp **, *) significant at 1% (resp. 5%, 10%) level. Student-t statistics within brackets.

Method of estimation: within countries. All variable in logs except the dummy variables.

4.4. Special Economic Zones and Diversification

While China appears to have had no significant impact on African diversification so far, China's support for the creation of Special Economic Zones (SEZ) in Africa could change this. Special Economic Zones have similarities with economic processing zones, insofar as their aim is to stimulate the agglomeration of new economic activities in a given area by providing infrastructure and other facilities.[10] In both cases, it is expected that this agglomeration will create positive externalities among businesses that will promote a sustainable diversification process. China has a long and fruitful experience at home with SEZs, which have formed the backbone of its industrial development in the 1980s. Nevertheless, the development impact of such projects is uncertain, given the enclave nature of SEZs and potential limitations such as lack of infrastructure and institutional governance issues.

The information on SEZ projects is scattered and sometimes inconsistent. According to Davies et al. (2008), the Chinese government has announced in the context of the FOCAC the development of 3 to 5 SEZs in Africa, in Zambia, Mauritius, Nigeria, Egypt and Tanzania. In January 2009, the Chinese Minister for Commerce Chen Deminz confirmed that five SEZs have been initiated as follows: the Zambia–China Economic and Trade Cooperation Zone, the Guangdong Economic and Trade Cooperation Zone and the Lekki Duty Free Trade Zone in Lagos, Nigeria, the Egypt-Suez Economic and Trade Zone and the Ethiopian Orient Industrial Park. In April 2009, Chinese press indicated that China was building 7 economic and trade cooperation zones.[11] Table 7 below summarizes information available on several SEZs. Time will be required to see if these zones make a significant contribution to diversification in Africa.

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[10] We prefer however keeping the term SEZ for these Chinese projects in Africa, instead of using the term EPZ, given that the building of an EPZ is a domestic policy, and may entail specific measures such as tax exemptions.
[11] Source Xinhua News Agency, April 19, 2009.

Table 7: Chinese SEZs in Africa

Country	Name	Planned investment (US$ million)	Principal sectors
Planned in FOCAC			
Zambia	ZCCZ	800	Copper products
Nigeria	Lekki FTZ	200	
	Ogun State FTZ		
Egypt	Suez SETZ	800	textile, petroleum, automotive and electrical appliance
Ethiopia	Dukem Industrial Park	713	textile, leather and construction equipment
Others			
Mauritius	Tianli ETCZ	625	
Algeria	Mostaganem ETZ	550	automotive industry, construction materials, electronic industry and textiles
Botswana	Phalalane Industrial Park	52	

Source: various press reports

5. Conclusion

This paper has considered the consequences of China's engagement in Africa for African economic development. Due to a lack of good information, we have attempted to analyze this engagement using indirect methods. Given the fact that Chinese assistance to Africa is essentially tied, we interpreted the fast growing imports from China and turnover of economic cooperation with China as relevant signals of this engagement. By doing so, we cannot disentangle the effect of true aid flows (in the sense of DAC definitions) from the effect of other financial flows, but in any case no data source provides accurate data on aid flows compatible with the DAC definition.

The usual suspicion is that China provides assistance to a few natural resource rich countries and does not pay attention to criteria advocated by the DAC donor community, notably good governance.

Our findings suggest that the core of the Chinese financial engagement in Africa is either in countries with which it has good political relations, notably its "all weather friends" such as Egypt, Ethiopia, Mali and Tanzania, or in countries that represent strategic interests for the Chinese economy due to their oil and mineral resources, such as Algeria, Angola, Congo, the

Democratic Republic of Congo, Nigeria, Sudan and Zambia. Thus China, like other bilateral donors, does pursue its own economic interests in its engagement with Africa. However, in recent years China's engagement with Africa has expanded to cover most countries in the continent and beyond natural resources to light manufacturing and services. Clear examples are China's projects in Mauritius and Botswana. China is also significantly involved in some countries that are "aid darlings" of the international donor community, such as Ghana.

Moreover, China's development assistance policy has had from its very beginning an orientation towards poverty reduction, with significant cooperation and technical assistance in the health sector and agriculture. In recent years, we observe also, insofar as data permit, some influence of poverty on Chinese geographical aid allocation. Recently, China's financial engagement in Africa has supported sectors that are under-financed by the international donor community, notably infrastructure. This is an area in which there is room for cooperation between China and multilateral financial institutions such as the World Bank and the African Development Bank, although so far such cooperation has been limited. It should also be noted that Chinese financing, including loans, has not had an adverse effect on the reduction of African over-indebtedness under the HIPC initiative, although a risk of excessive debt still exists in some countries. Mitigating this risk is another important reason for increased cooperation between China and multilateral financial institutions. On balance, China's engagement in Africa can be beneficial both to China and to African countries.

This engagement can be helpful in assisting African economies through the current global financial crisis. Since the end of 2008, Chinese leaders have repeated that the crisis will not affect their assistance to Africa. Keeping this commitment would help Africa mitigate the adverse consequences of the global financial crisis, and will be a good test of China's desire to maintain its support for African development.

Engagement with Africa can also help support China's growth through the current economic environment. As China's financial sector is insulated from international financial markets, the main impact of the financial crisis on China has come through reduced demand for its exports (for example, China's exports fell by 25.7% in February 2009 below the February 2008 level). While Africa receives only a small share of China's exports, nevertheless continued growth in Africa will contribute to the recovery of China's exports. And lending to resource-rich African

countries in RMB may not turn out to be a poor investment, particularly if the RMB continues its appreciation against the dollar.

Finally, the global financial crisis gives China an opportunity to consolidate its role in Africa as a major partner, and hence strengthen its diplomatic ties with a continent that will become in future decades an increasingly significant player in the global economy due to its demographic trends and its natural resource endowment. Continued assistance to Africa will serve China's long term strategic and political interests.

There is some anecdotal evidence of a recent slowdown of China engagement in some African countries, such as Guinea and the Democratic Republic of Congo, perhaps reflecting the plunge of prices of commodities in global markets. But China's disengagement may also signal China's unwillingness to continue pouring billions of dollars into countries with extreme levels of political instability and government mismanagement. Steps by China to be more selective in choosing the partner countries where it increases its engagement may be bad news for the governments of countries where it adopts a more cautious attitude, but may be good news for the development of the African continent as a whole.

China's trade and investment flows to Africa have increased exponentially. These flows still may be described as exports of African raw materials to China and imports of Chinese manufactured goods by Africa, reinforced by significant FDI flows from China into Africa's natural resource industries. This pattern is not different from the pattern of Africa's trade and investment relations with developed market economies, and simply corresponds to Africa's comparative advantages. The assumption that there would be a specific "Dutch disease" effect attributable only to increased trade with China does not make much sense, given the similarity of Chinese and non-Chinese imports of African commodities.

Two more interesting questions are (1) whether trade with China leads to a trade diversion effect and (2) whether the growing trade and investment relations between Africa and China will help or hinder the necessary diversification of African economies from a purely resource based structure. Our answer to the first question is definitely negative. The impressive growth of imports of Chinese products in Africa corresponds to a trade creation rather than a trade diversion effect. This trade creation may be related to growing financial assistance given by China to Africa, which can be interpreted as the equivalent of an export subsidy. The absence of

a trade diversion effect supports the conclusion that such new trade flows are welfare improving for African countries.

As to the second question, China's engagement in Africa, however defined, has not had any impact on African economic diversification. However, China could help some African countries diversify their economies in the future. First, the numerous SEZ projects that have been initiated in the past few years in several African countries will promote diversification, if they succeed. Some of them may fail, as in other regions, because countries with poor governance and infrastructure are not good candidates for successful development of SEZs. Second, China has reduced tariffs on manufactured exports from some of its trading partners, with relatively flexible rules of origin. Such preferences may help at least a few African countries where there is some potential for developing manufacturing production integrate into the global decomposition of the value chain, in the same way as AGOA has been beneficial for a few African countries.

References

Alesina, A. and Dollar, D. (1998) 'Who Gives Foreign Aid to Whom and Why?' Journal of Economic Growth (2000), Vol.5, pp.33-63, *National Bureau of Economic Research*, Cambridge.

Asche, H. and Schüller, M. (2008) 'China's Engagement in Africa – Opportunities and Risks for Development', *Deutsche Gesellschaft für Technische Zusammenarbeit*, Eschborn.

Brautigam, D. (2008) 'China's African Aid: Transatlantic Challenges', *German Marshall Fund of the United States*, Washington, D.C. http://www.gmfus.org/publications/index.cfm

Broadman, H.G (2007) 'Africa's Silk Road: China and India's New Economic Frontier', *World Bank*, Washington D.C.

Butterfield, W., Foster, V., Chen, C. and Pushak, N. (2009) 'Building Bridges: China's Growing Role as Infrastructure Financier for Sub-Saharan Africa', *World Bank*, Washington, D.C.

Chen, C., Chiu, P.C, Ryan J. and Goldstein, A. (2007) 'An Empirical Analysis of Chinese Construction Firm's Entry into Africa', CRIOCM 2007 international symposium.

Collier, P. and Venables, A.J. (2007) 'Rethinking Trade Preferences: How Africa Can Diversify its Exports?', *The World Economy*, Vol.30, pp.1326-1345.

Corkin, L., Burke, C. and Davies, M. (2008) 'China's Role in the Development of Africa's Infrastructure', *SAIS Working Papers* in African Studies, No.04-08.

Davies, M., Edinger, H., Tay, N. and Naidu, S. (2008) 'How China delivers development assistance to Africa', *Centre for Chinese Studies,* University of Stellenbosch.

Henley, J., Kratzch, S., Külür, M. and Tamer Tandogan, T. (2008) 'Foreign Direct Investment from China, India and South Africa in sub-Saharan Africa: A New or Old Phenomenon?', *World Institute for Development Economics Research of the United Nations University* working paper 2008/24.

Imbs, J. and Wacziarg, R. (2003) 'Stages of Diversification', *American Economic Review*, Vol. 93, No. 1, pp.63-86.

Kaplinsky, R., McCormick, D. and Morris, M. (2006) 'Dangling by a Thread: How Sharp are the Chinese Scissors?' Paper prepared for Africa Policy Division, DFID, Brighton: *Institute of Development Studies.*

Kernen, A. (2007) 'Les stratégies chinoises en Afrique : du pétrole aux bassines en plastique', *Politique Africaine*, No. 105, pp. 163-180.

Kragelund, P. (2008) 'The return of non-DAC donors to Africa: New prospects for African development?' *Development Policy Review, Vol. 26, No.* 5, pp.555-584.

McCormick, D. (2008) 'China & India as Africa's New Donors: The Impact of Aid on Development', *Review of African Political Economy*, Vol. 35, No.115, pp. 73-82.

Minson, A. (2008) 'China's preferential trade policy for Africa. China in Africa', *South African Institute of International Affairs*, China in Africa Briefing n°1.

Penhelt, G. 'The Political Economy of China's Aid Policy in Africa', *Jena Economic Research Paper* n°2007-051, 2007.

Reisen, H. (2008) 'Prudent versus Imprudent Lending to Africa: From debt relief to emerging lenders', *Organisation for Economic Co-operation and Development* Development Centre.

United Nations Economic Commission for Africa *(*2007) Economic Report on Africa: Accelerating Africa's Development through Diversification, *United Nations*, Addis Ababa, Ethiopia.

Wang, J.Y. (2007) 'What's Drives China's Growing Role in Africa?', IMF Working Paper, *International Monetary Fund*, Washington, D.C.

Zafar, A. (2007) 'The Growing Relationship between China and Sub-Saharan Africa: Macroeconomic, Trade, Investment, and Aid Links', The World Bank Research Observer, Vol. 22, No. 1, pp. 103-130.

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