China's Aid and Investment in Africa:
A Viable Solution to International Development?

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Abstract: Despite the growing importance of China as a source of FDI and a provider of foreign aid in Africa, China's foreign aid policy is still not widely understood and its impact on African development is controversial. Comparing two project-level aid and investment datasets, this paper shows that while both Chinese aid and investment flows have increased rapidly over time, their correlation is not as strong as expected, in terms of both geographical and sectoral distribution. It suggests that China has not developed a consistent and coherent strategy of integrating aid and investment. With the rising costs of political risk, China will pay more attention to the domestic politics of recipient countries, which may lead to a convergence between traditional and emerging donors on the conditionality of development cooperation models. The convergence may lead them toward a middle ground that is more inclusive and development-oriented.

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Over the past few decades, China has experienced a fundamental transformation of aid policy from a net donor to a net recipient and to an emerging donor again. From 2000 to 2011, Chinese total financial commitments to Africa reached $73 billion, significantly higher than the official figure of foreign aid of $15 billion (Strange et al. 2013). Since the beginning of the 21^{st} century, China's trade and investment to Africa have also grown exponentially. FDI inflows surged from $75 million in 2000 to $3.2 billion in 2014 (MOFCOM 2015). With an average of 30% of annual trade growth between China and Africa in the last 15 years, China has become Africa's largest trading partner and stood at $180 billion in 2015 (UN Comtrade 2016).

Despite the growing importance of China as a major source of FDI and a provider of foreign aid in Africa, China's foreign aid policy is still not widely understood and its impact on African development is controversial. Rather than join the established aid regime under the framework of official development assistance (ODA), China has been promoting the integration of aid and investment, often through bilateral partnership agreements with African countries.

One key criticism against China's aid policy is its strong selfish motivation that puts its own political and economic interests ahead of recipients' priorities of economic development, and is thus characterized as "rogue aid" (Naim 2007). Although this exaggerated or even fraudulent claim cannot be justified (Dreher and Fuchs 2015), how to characterize the emerging Chinese model of development cooperation is still a challenging task. Could it evolve to be a viable alternative to the existing ODA model?

Comparing two project-level aid and investment datasets, this paper shows that while both Chinese aid and investment flows increased steadily over time, their correlation is not as strong as expected, in terms of both geographical and sectoral distribution. It suggests that China has not developed a consistent and coherent strategy of integrating aid and investment. Instead, it is profit-driven firms that use various aid schemes as a launching pad to implement their investment projects. While large SOEs still dominate large infrastructure projects, smaller and heterogeneous firms are increasingly involved in the aid-investment-trade trinity in Africa.

China's extensive use of aid for trade and investment has challenged the established ODA norm on tied aid. Despite the concern on aid effectiveness, improving and facilitating synergy between aid and investment has advantages that may lead to a more effective partnership between donor and recipient countries.

With their rising role as infrastructure investors in Africa, Chinese firms are more exposed to structural vulnerability than are investors in other sectors. The success of their projects is particularly sensitive to the stability of the recipient country's institutional and regulatory environment. While China continues to emphasize the "no-strings-attached" principle in its aid policy, it has to pay more attention to domestic affairs in the recipient countries, though there is no evidence that Chinese aid is tied with the regime type in recipient countries (Strange et al 2015).

The implications of this paper challenge a long-standing perspective about China's economic statecraft that with its rising economic clout in the international system, China is more capable of leveraging its economic power to realize strategic and diplomatic objectives (Reilly 2013, Norris 2016). This paper suggests, however, that there are competing actors, interests, and agendas that influence China's aid policy. In particular, Chinese companies, regardless of their ownership structure, can use aid schemes to advance their commercial interests, which may create unintended consequences on foreign policy objectives.

Motives of Chinese aid policy

Like established donors, China also justifies its overseas economic activities with development objectives that it helps developing countries to promote sustainable economic development and poverty reduction, but such development objectives have often been subordinated to strategic, diplomatic, or commercial considerations. There are three major perspectives on the motives of China's development cooperation strategy.

The first perspective maintains that the spike of China's foreign aid has been driven primarily by Beijing's desire to secure strategic resources—those most fundamental to national security—and secondarily for diplomatic reasons (Lum et al. 2009). As an emerging superpower, China will ultimately challenge the established international aid regime and subsequently build alternative aid model (Reilly 2013). China is more capable to leverage its economic power to realize political and strategic objectives, but the success of Chinese economic statecraft depends partly on the ability of the state to control the behavior of commercial actors (Norris 2016). The establishment of the Asian Infrastructure Investment Bank (AIIB), the New Development Bank (NDB), and the 'One Belt One Road' (OBOR) initiative could be examples of this view.

The second perspective suggests that the Chinese aid policy has always maintained its distance from the established aid model under the guidance of the OECD Development Assistance Committee (DAC) and will not necessarily challenge the existing international aid regime (Brautigam 2009). Through a careful examination of Chinese zone programs in Africa, Brautigam and Tang (2012) find that China's overseas economic activities are driven by strategic consideration, but not as a means to boost China's resource security. Chinese companies were encouraged to comply with the state's strategic objectives, but they were not pushed to move against their long-term commercial interests.

The third perspective argues that China does not have a coherent aid strategy that is carefully designed and implemented (Varrall 2015). The Chinese aid policy is often contested by diplomatic and commercial agendas. The diplomatic agenda regards aid as an instrument for exercising diplomatic influence on the international stage and deepening cooperation with selected countries whereas the commercial agenda views aid as a useful way of assisting domestic businesses to 'go international' and expand exports and investments. The dual agendas, though not necessarily conflictual, indicate an underlying competition for influence by different government agencies, particularly between the Ministry of Commerce (MOFCOM) and Ministry of Foreign Affairs (MFA). Recent research suggests, however, that Chinese aid is not strongly correlated with recipients' endowments of natural resources and institutional characteristics (Dreher and Fuchs 2015). Strange et al. (2015) find that the allocation of Chinese ODA is driven primarily by foreign policy considerations whereas economic interests better explain the distribution of less concessional forms of Chinese official finance.

While all these perspectives differ in their focuses on the objectives of China's development cooperation strategy, they all note a distinct feature of China's aid pattern. Chinese overseas economic activities often come as a package with a mixture of aid and investment. It is virtually impossible to unbundle what constitutes Chinese aid and FDI. For example, in 2015, China pledged $60 billion in development assitance to Africa. Of the $60 billion package, only $5 billion will fit the OECD criteria of ODA as it will come as grants and interest-free loans. The rest of the flows will arrive as loans and export credits (Robertson and Benabdallah 2016). Several factors may contribute to this distinct characteristic.

First, the Chinese definition of foreign aid is significantly different from the OECD's definition of ODA. In China, the term "foreign aid" refers to those activities which provide economic, technical, material, human resources, and administrative support to recipient countries, supported by the Chinese government's “financial resources for foreign aid.” While the forms of foreign aid include grants, interest-free loans, and concessional loans, the proportion of grant is much lower than standard ODA, which should contain a grant element of at least 25% (Strange et al. 2015).

Second, China’s aid giving has been guided by the principle of “equality and mutual benefit”, indicating that the interplay of aid and FDI in international development cooperation is a default arrangement. Capital flows from state-owned enterprises (SOEs) are particularly difficult to identify clearly as investments or aid-like state finance. Early Chinese multinational companies (MNCs) are predominantly state-owned and backed by strong state support. For the most part, SOEs, particularly those controlled by the central government, still enjoy access to capital on preferential terms from within the Chinese economy.

Third, Chinese aid and FDI activities are supervised by two sub-divisions in the same ministry—the Ministry of Commerce (MOFCOM). The Department of Aid to Foreign Countries (DAFC) is in charge of aid affairs and the Executive Bureau of International Economic Cooperation (EBIEC) is in charge of investment affairs. This institutional arrangement facilitates the integration and coordination between aid and investment projects. Two other related ministries are the Ministry of Foreign Affairs (MFA) and the Ministry of Finance (MOF). MFA works with MOFCOM in shaping specific aid packages and commitments. MOF drafts China’s foreign aid budget in consultation with MOFCOM and MFA.

Moreover, data availability and compatibility impose tremondous challenges to separate aid and FDI. Due to lack of specific aid information, the estimates of Chinese aid vary widely. The estimates of the total amount of Chinese aid between 2001 and 2012, for example, range from $8.5 billion by the OECD DAC and $670 billion by the Rand Corporation[2] (Wolf et al. 2013). Other estimates of China's ODA and ODA-like financing are much higher than the official statistics, but their methods are noticeably different, highlighting the data incompatibility problem (Kitano and Harada 2015, Strange et al. 2013). [3] (See Appendix for the specific comparison of these estimates.)

The huge variations across these studies owe much to the way China finances its overseas projects. The Eximbank and the China Development Bank (CDB) provide an intermediation function between financial markets and recipient countries based on a mechanism of sovereign guaranteed repayment of loans and market access for Chinese companies. While the Eximbank's concessional loans do not fall into the categories of trade, investment, or aid, they in fact demonstrate characteristics of all three because Chinese aid is often part of larger package of investment involving export promotion (Corkin 2013).

China's OFDI data is equally murky. The official FDI statistics, published by MOFCOM, have only country-year aggregate information since 2003, but they do not have detailed information on sectors, firms, and projects. Some other popular databases on Chinese OFDI projects focus on developed countries and collect only large M&A cases, but their methodologies and coverage are also often challenged.[4]

Relationship between Chinese aid and investment

[2] The OECD DAC ues a strict defintion of foreign aid to estimate China's ODA. The Rand Corporation takes into account of both ODA and governent-sponsored financial flows.
[3] Kitano and Harada's (2015) estimate is based on China's official statistics, including both bilateral and multilateral net disbursement.
[4] These Chinese OFDI databases include Thomson Reuters, the Rhodium Group, the American Enterprise Institute, and the Financial Times.

Since the official statistics of Chinese aid and FDI are not available at the sector or project level, we have to rely on alternative sources to gauge the relationship between aid and investment. For aid information, we use AidData's project-level database (Strange et al. 2013). AidData has produced a new methodology, Tracking Underreported Financial Flows (TUFF), which draws from open-source information produced by the media, scholarly research, and government reports and databases. It includes Chinese ODA-like and other official finance (OOF) as well as grants and loans. AidData's database includes 1774 Chinese ODA-like projects in Africa over the 2000-2013 period.

For FDI information, we use MOFCOM's database of registered overseas investment projects. All Chinese companies have to register with MOFCOM about their overseas investment activities. The database provides the investing company's name, location, investing country, and a description of investment project, but it does not include the amount of investment. Based on the descriptions of the overseas investment, we categorize the projects into 21 industries covering all sectors of the economy, based on the international standard industrial classification (ISIC). Our database includes 3051 Chinese investment projects in Africa over the 2000-2015 period.[5] By any means, we do not assume that these two databases contain complete and accurate information on aid or investment. Nevertheless, they provide a good starting point to investigate the relationship between aid and investment.

As shown in Figure 1, the number of both ODA-like and investment projects has increased rapidly over time. ODA-like projects increased steadily from 47 in 2000 to 159 in 2013 whereas the increase of investment projects was more drastic, from 2 in 2000 to 576 in 2015.

[5] Some entries are just records of the setup of overseas office without substantive investment activities. We drop these cases from the database.

[Figure 1 about here]

Table 1 shows the geographical distribution of aid and investment projects. Chinese aid projects are more evenly distributed than investment projects. The top 15 African recipients account for about half of the total Chinese aid projects whereas the top 15 destinations account for more than 70% of Chinese FDI projects. In terms of FDI flows, the distribution is even more concentrated. The top 15 destinations received 83% of total FDI flows in Africa. The major recipients of Chinese FDI projects, such as Nigeria, South Africa, and Zambia, are among the top destinations of Chinese FDI flows. While Zimbabwe received the largest share of Chinese aid projects, it seems authoritarian regimes are not favored by Chinese aid. Democracies like Tanzania and Ghana are the second and third largest recipients of Chinese aid projects.

[Table 1 about here]

Table 2 shows the sectoral distribution of aid and investment projects. The discrepancy between aid and investment is even larger. About a quarter of Chinese aid projects are in the health sector whereas a quarter of Chinese FDI projects are in the manufacturing sector. Nearly half of ODA-like projects have gone into social sectors—health, government and civil service, and education—reflecting a surprisingly similar preference to the established donors. Argriculture is only sector that has attracted similar percentages of aid and investment projects.

[Table 2 about here]

As shown in Table 3, in terms of the characteristics of Chinese firms, large SOEs controlled by the central government only accounted for 17% of total FDI projects (506 out of 3051). About a third of these projects list manufacturing as their primary industry. Wholesale and retail trade, construction, and mining and quarrying are also major industries. These figures indicate that while central SOEs have dominated in large manufacturing and infrastructure projects, the mass majority of investment projects were contributed by numerous heterogeneous actors, many of which are small-sized and privately-run firms.

[Table 3 about here]

The descriptive data indicates a modest correlation between Chinese aid and FDI, but the correlation between aid and FDI could be driven by different factors. Investment or loans may flow in as part of tied aid package, but it is also possible that aid may be used as an instrument to leverage more private investment. The following three cases illustrate how Chinese aid and investment projects are coordinated.

The Mali case

Prior to the 1980s, China's foreign aid was primarily driven by the needs of foreign policy. Many of the aid projects were later converted into commercial projects. The transformation of the Mali sugar industry is an example of how a Chinese aid project became an investment project. In response to the Malian government's request, China committed aid of $16 million in 1961, and then built two sugar plantations (Dougabougou and Sribala) in 1968 and 1974, respectively. Between 1965 and 1985, China's aid program built at least a dozen sugarcane plantations and factories around the world, including eight in Africa. Chinese SOEs like China Complete Plant Import and Export Corporation (Complant) were in charge of construction of these aid projects. As China has moved away from its ideology-driven aid policy since the 1980s, these aid projects were transformed into business ones in which China has a direct resource interest and seeks to build a long-term presence. In the 1980s and 1990s, companies like China

Light Industrial Corporation for Foreign and Technical Cooperation (CLETC) were directed to invest in Mali in order to bring expensive foreign aid assets back from the brink of ruin. As Brautigam (2015) notes, of the major Chinese agriculture investments in Africa between 1987 and 2003, half of them were former Chinese aid projects.

The Angola case

The Angola model illustrates the Chinese approach of development cooperation that facilitates strategic integration of aid, trade and investment. Large Chinese firms tender for large infrastructural and resource projects in Africa. But before they sink their investments, they use concessional loans to sweeten deals with local partners. From 2004 to 2010, Angola received $10.5 billion of Chinese credit from the Eximbank. These subsidized loans were tied to the use of Chinese companies to undertake 70% of construction and civil engineering contracts, and were to be repaid through commodity exports back to China (Corkin 2011, 171). At the same time, with the announcement of China Eximbank's $2 billion loan to finance Angola's infrastructure reconstruction, Chinese companies increased their investments in Angola. The China Petroleum and Chemical Corporation (Sinopec) acquired majority ownership of several oil blocks and formed a joint venture with Sonangol, Angola's national oil company, although there is explicit evidence linking Eximbank's loan to Angola and Sinopec's successful bid for the oil block contract. As a consequence, Angola has been China's top African trading partner since 2007. However, despite the close bilateral relationship, Angola received only a small share of Chinese investment, because of Angola's poor investment climate and the high control of the oil industry by political elites (Corkin 2011).

The Venezuela case

If the Angola case illustrates a scenario of aid-for-investment that creates positive spillover effects on economic development, the Venezuela case shows how this model can be vulnerable to political risks. China has been Venezuela's greatest economic supporter since the beginning of the Chávez regime in the late 1990s. With over $56 billion of grants and concessional loans since 2007, Venezuela is the third-largest overall recipient of Chinese aid, accounting for more than half of aid to South America (Kesler 2016). Venezuela was to repay these debts by exporting crude oil to China. Venezuela also granted Chinese companies priority in government projects sponsored by Chinese loans. One project was the $7.5 billion Tinaco-Anaco railway, which China financed and supervised with leadership from the China Railway Group Limited. The arrangement was very similar to the Angola model, but the death of Chávez put the Chinese investment into jeopardy. First, the railway project, derailed by poor management, was four years overdue (Kesler 2016). Then the slump of global oil prices crippled the Venezuelan economy. The threat of Venezuela defaulting forced China to renegotiate debts to Venezuela, underscoring the vulnerability of the aid-for-investment model in politically risky countries.

The three brief cases demonstrate that China has not developed a consistent and coherent model of integrating aid and investment. The coordination is primarily conducted by Chinese companies with the financing assistance from development banks. As such, aid, investment and trade are bundled together and transferred from Chinese development banks to Chinese firms.

A new development paradigm?

With its rising presence in the community of development finance, China desires its development strategies and aid policy to be endorsed by the community. However, while China has departed from the widely accepted ODA model adopted by the established donors, its own model is still evolving, and can be clearly understood and applied in other developing countries, partly because it has a strong practical orientation and thus lacks a consistent conceptual model of development, as argued by Xue Lan of Tsinghua University (2014).

To some extent, Chinese aid patterns share some similarities with Japan's aid model, which is noticeably distant from the orthodox ODA model. First, Japan prefers to fund specific projects rather than support country programs. Large infrastructure projects play a central role in Japan's aid program. Second, Japan tends to finance projects directly related to economic growth whereas other western donors are more likely to use aid to provide basic needs and promote human development. Third, Japan prefers loans to grants as the former would allow the recipient country to decide the terms of aid projects and thus increase the efficiency of resource allocation. Japan does not consider aid as charity or an obligation of the rich, but help for self-help. Fourth, a large proportion of Japan's aid was tied to the purchase of Japanese goods and services (Ranis et al. 2011).

Despite these similarities with the Japanese aid model, China's aid policy has not demonstrated a clear blueprint other than the vague "eight principles" laid out in the 1960s. Justin Yifu Lin (2012) argues that China's development cooperation should follow the logic of New Structured Economics by diffusing successful development experience (i.e., experimentation, partial reform, etc.) to other developing countries, but China has not specified a plan for how to use aid to promote its own development experience.

Part of the reaon might be the lack of transparency in the policymaking process of development cooperation, which gives observers little clue to understanding the strategy. All of the recent major initiatives, including the AIIB, NDB, and OBOR, did not emerge into the public sphere until they were officially announced. It gave little room for debates and assessments of their potential benefits and costs. While observers tend to agree that these initiatives have both political and commercial motives, it is controversial whether the commercial motive outweighs the political motive in the policymaking processes, or whether policy agendas may vary widely across regions.

Also like Japan, China has tried to use aid to supplement its export-led development strategy by developing new markets for Chinese construction and manufacturing companies, but tied aid is one of the most controversial parts of China's aid policy. China's focus on large-scale infrastructure and trade-enabling projects, executed with the no-strings-attached principle, has been criticized as insensitive towards recipient countries' needs and poverty alleviation. What are the pros and cons of tied aid?

Debates on tied aid

The close integration of aid, investment and trade has historical precedents in Africa during the colonial time, but they were gradually separated as newly independent African countries opposed this practice as they saw this integration as costly to them (Kaplinsky and Morris 2009). In recent years, the established donor community has conducted two important plans to reform the existing ODA system.

On the one hand, the Paris Declaration in 2001 urged donors to "increase alignment of aid with partner countries' priorities, systems and procedures and helping to strengthen their capacities" (OECD 2005). One study estimates that tied aid raises the cost of goods, services and works by 15% to 30% on average, and by as much as 40% or more for food aid (Clay et al. 2009). The criticisms against tied aid mainly come from three aspects. First, tying aid distorts the natural patterns of trade in favor of the donor country, imposing greater administrative burdens and technical incompatibilities on the recipient country. It may also constrain the recipient country's capacity for industrial development and limits the scope for trade between developing countries. Second, tied aid encourages the monopoly power of donors' firms whose owners were often politically connected, creating opportunities for rents and corruption. Third, tied aid is considered as a hidden subsidy to specific exporting industries in donor countries that may violate WTO rules, particularly the Government Procurement Agreement (GPA) and Subsidy and Countervailing measures (SCMs) (Chimia and Arrowsmith 2009). Therefore, untying aid would increase aid effectiveness by reducing transaction costs for partner countries and improving country ownership and alignment.

On the other hand, the donor community has highlighted the catalytic role of aid in economic growth based on the assumption that using aid to leverage private investment would help promote economic growth. The Monterrey Consensus in 2002 emphasized the need to intensify efforts to "promote the use of ODA to leverage additional financing for development, such as foreign investment, trade and domestic resources" (United Nations 2003, 15). The basic idea is that many investments in developing countries are sufficiently lucrative in private sector eyes, but with some help from donors to either raise returns or mitigate risk, private investments will start flowing.

Both plans have attracted enthusiasm in international organizations (World Bank 2013). As a consequence of the aid effectiveness plan, OECD donors have attached fewer conditions to their aid to developing countries. Between 1999 and 2007, fully untied bilateral aid from OECD donors increased from 46% to 76% (Clay et al. 2009). At the same time, the financial leveraging plan has also become prominent. The UNCTAD (2014, 14-15) estimates that developing countries need an annual investment of $3.9 trillion in key SDG sectors. This is only partially bridged by current levels of investment amounting to $1.4 trillion. The investment gap of $2.5 trillion would need to be covered by some combination of increases in public sector budgets, foreign aid, and new investments from the private sector.

Despite the tremendous demand for investment in less-developed countries' economic development, empirical evidence is largely inconclusive on the catalyst effect of aid on investment (e.g. Rodrik 1995). On the one hand, aid can ease important bottlenecks in developing countries by financing public infrastructure and human capital investments that would not have been undertaken by private actors. On the other hand, foreign aid invested in physical capital competes directly with other types of capital (Selaya and Sunesen 2012). Kimura and Todo (2010) find that providing aid may create a positive "vanguard effect" to attract investment from the same donor country but has no effect on investment from other donor countries.

Ironically, the Paris Declaration and the Monterrey Consensus set two different, if not opposite, goals for foreign aid: aid effectiveness is important for development, but aid is only part of the solution to development. Can donors kill two birds with one stone? Ideally, donors can delink aid and commercial-oriented capital or trade flows on the one hand, and connect aid with investment on the other hand. In reality, these dual goals create a dilemma for the donor community. Untying aid requires donors to focus on public interests of recipient countries whereas leveraging private investment requires donors to pay more attention to the business prospects of aid programs.

Will China's strategy of development cooperation, by facilitating the interplay of aid and investment, provide a viable solution to these two goals? If the interplay between aid and investment undermines aid effectiveness as it increases transaction costs, would the leverage gains be sufficient to make up for the loss of effectiveness?

First, the efficiency gains from untying aid may be offset by the increase in transaction costs in the process of attracting private investment in the otherwise not-so-attractive projects. In the infrastructure sector where private investments are desperately needed, political risk is particularly high given its vulnerability to obsolescing bargaining (Vernon 1971). The willingness of private investors to finance infrastructure projects in developing countries is heavily influenced by the perceptions of the country's investment climate and the broad suite of policy settings and institutions that underpin a country's economy and political processes.

Because of the highly political nature of infrastructure investing, governments play a pivotal role to help facilitate the flow of institutional capital into infrastructure assets. In many developing countries, however, governments are unable to create an investment climate conducive to foreign capital. When private investors face a substantial regulatory burden, providing aid may create a positive effect to attract private investment (Harms and Lutz 2006). The positive effect from aid to investment may be transmitted through several channels. First, aid can help investors gather information about the local investment environment. Second, aid can enable recipient countries to get familiar with donor countries' business rules and practices. Third, aid can be used to build up trust between donor and recipient countries and thus reduce investment risks.

Second, tied aid may create an incentive that induces recipient governments to be more accountable for their own spending. A common criticism of tied aid is that it undermines recipient countries' administrative capacity and reduces aid effectiveness. So OECD donors would impose policy conditionality on recipient countries, hoping that a well-governed government will be more likely to successfully implement aid contracts and increase aid effectiveness. But Collier and Dollar (2002) challenge this assumption, noting that donors have no influence whatsoever on recipients' policies, so imposing policy conditionality on recipient governments is unlikely to induce policy change and hold recipient government accountable. Because it is usually the case that the recipient country exports energy or raw materials and the donor exports more technologically advanced commodities, tied aid can ensure recipient countries to receive upfront subsidies to defray their losses from trade, so they are motivated to commit to the arrangement.

Third, tying aid is more likely to create vested interests of aid in the donor countries, winning greater domestic support for aid policy. Tying implies export promotion for domestic exporters wishing to access markets and sectors which are otherwise not accessible to them under market-based conditions. Therefore, tied aid can advance the trade interests of domestic exporters, which will motivate them to be enthusiastic about foreign aid. With the support of the export group, donors are motivated to make a positive contribution to the long-term economic and social development of recipients. For example, Japan's aid to Africa has always been tied with purchase of Japanese products and services as supported by a mixed coalition of domestic interests, such as the demand for Africa's resources and the need to open new markets (Raposo 2014).

In short, the aid effectiveness argument for untying aid emphasizes the altruistic interests of donors, but it fails to consider the various motivations donors and recipients need to form “partnership” and “ownership”. Aid programs should be attractive not only to the recipient country, but also to the donor country. A partnership is feasible when both the donor and recipient countries share interests and assume responsibility to achieve a common development goal.

From China’s perspective, promoting the integration of aid, investment, and trade is an instrument to achieve its own goals, particularly in terms of its export promotion policy. While the Angola model was only a small-scale experiment of Chinese approach of development cooperation, China’s new initiatives such as the AIIB, the NDB, and the OBOR, driven by the desire to export excess capacity and boost political support, are a sign of China’s increasing assertiveness in the development arena. These initiatives have a feature of mercantilism with goals of securing a higher rate of return on its foreign assets, export excess capacity, and leveraging its success in becoming the global manufacturing hub (Aizeman et al. 2015).

These initiatives look similar to what Japan did in promoting regional integration in the 1980-1990s when Japan faced the similar pressures of economic slowdown and industrial overcapacity. Having focused on the expansion of its regional production network in Southeast Asia, Japan failed to engage in African countries by expanding trade and investment relationships even though Africa became a main destination of Japanese ODA. This was because risk-averse Japanese firms have been reluctant to relocate production to a politically risky continent (Nissanke and Söderberg 2011). Although many African countries still haven’t created an environment conducive to conventional investment projects, China’s expansion of business in Africa has been accompanied by a great deal of human work (e.g., sending agricultural experts and workers) in which Chinese firms and workers have adapted much better than Japanese to local conditions.[6] Yet there is also a danger that, just as what China has experienced in Venezuela, political instability in recipient countries could make this integration extremely costly.

The Japan-led regional production network helped Japan export its products to other countries rather than helping developing countries use Japan as the destination for their exports, which enlarged the trade imbalance between Japan and developing countries. Given its production capacity and market size, China's demand for expanding production networks is much larger than Japan's. Rather than replicate the Japanese experience, Chinese firms should aim to relocate their production network beyond Asia, and build a production cycle that not only treats other developing countries as the destination for Chinese products and capital, but also regards them as an integrated part of the production chain with China being the primary market for the final products. The challenge China now faces is to find a better balance between expanding the international market for its products and boosting domestic demand to absorb more imports. In order to generate the positive effects of economic integration, China should use these new initiatives not just to transfer excess capacity, but also to promote foreign products made through Chinese investment to be re-exported to China. Investing Chinese capital abroad should contribute to a more balanced trade relationship as other countries may benefit from a more integrated regional market.

Conclusion

While the OECD DAC has urged donors to untie aid since the 1990s, China's integration of aid, investment and trade represents a reversal to the historical precedent of linkage between

[6] For a list of Chinese contracts and workers in Africa, see China Africa Research Initiative, available at http://www.sais-cari.org/.

aid and FDI (Kaplinsky and Morris 2009). China's promotion of this trinity has sparked debate on views on development and development strategies based on the orthodox ODA model. We argue that the expansion of Chinese aid and investment in Africa was driven not by a coordinated policy instrument to advance China's political objectives. Rather, it is Chinese companies, state-owned or private, that use aid schemes to advance their commercial interests. While the OECD DAC's aid architecture has served as an important benchmark for China to engage with traditional donors, China aims at developing a more coherent strategy for international development cooperation, which may fit well with the missing parts of the traditional ODA norm. An effective development partnership requires the donor to play multiple roles: as an investor, a lender, and a market for the recipient country.

With the rising presence of emerging donors, tied aid, as one of the most controversial assistance approaches, may gain more prominence rather than fade away. Moreover, China seems gradually to have come to realize that the large infrastructure projects, suffering from high political risk in recipient countries, have become extremely costly and inefficient. It is China's interest to eventually pay more attention to the domestic politics of recipient countries, which may lead to a more flexible application of the "no-strings-attached" principle. The convergences between the traditional and emerging donors on aid conditionality may lead them toward a middle ground that is more inclusive and development-oriented.

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Table 1: Geographical distribution of Chinese aid and investment projects in Africa

No.	Country	ODA-like project	Country	FDI project	Country	FDI flows (2003-2014)
1	Zimbabwe	5.6%	Nigeria	10.7%	South Africa	20.5%
2	Tanzania	4.3%	South Africa	7.7%	Nigeria	8.4%
3	Ghana	4.1%	Zambia	7.2%	Algeria	8.3%
4	Liberia	4.0%	Tanzania	5.9%	Zambia	8.0%
5	Uganda	3.7%	Ethiopia	5.8%	Sudan	6.5%
6	Zambia	3.6%	Ghana	4.9%	Zimbabwe	5.8%
7	Ethiopia	3.6%	Angola	4.1%	Congo Dem. Rep.	5.4%
8	Kenya	3.4%	Kenya	4.1%	Kenya	3.4%
9	Namibia	3.2%	Egypt	3.7%	Mauritius	2.9%
10	Congo Rep.	3.0%	Congo Dem. Rep.	3.5%	Egypt	2.6%
11	Rwanda	3.0%	Mozambique	3.5%	Ethiopia	2.5%
12	Sudan	2.8%	Zimbabwe	3.3%	Ghana	2.4%
13	Mauritius	2.6%	Uganda	2.8%	Tanzania	2.3%
14	Niger	2.6%	Sudan	2.5%	Congo Pep.	2.3%
15	Mozambique	2.5%	Mauritius	2.1%	Mozambique	2.3%
Total		52.1%		71.7%		83.4%

Source: Information of FDI projects is from MOFCOM. Information of ODA-like projects is from AidData.

Table 2: Sectoral distribution of Chinese aid and FDI in Africa

No	Sector	ODA-like	**Sector**	FDI
1	Health	25.0%	Manufacturing	26.8%
2	Unallocated / unspecified	13.0%	Construction	18.0%
3	Government and civil society	12.1%	Wholesale and retail trade	17.1%
4	Education	10.0%	Mining and quarrying	12.0%
5	Agriculture, forestry and fishing	6.5%	Professional, scientific and technical activities	7.7%
6	Transport and storage	5.1%	Agriculture, forestry and fishing	6.6%
7	Emergency response	4.3%	Real estate activities	3.0%
8	Other social infrastructure and services	4.0%	Electricity, gas, steam and air conditioning supply	2.0%
9	Action relating to debt	3.6%	Administrative and support service activities	1.7%
10	Communications	3.6%	Transportation and storage	1.6%

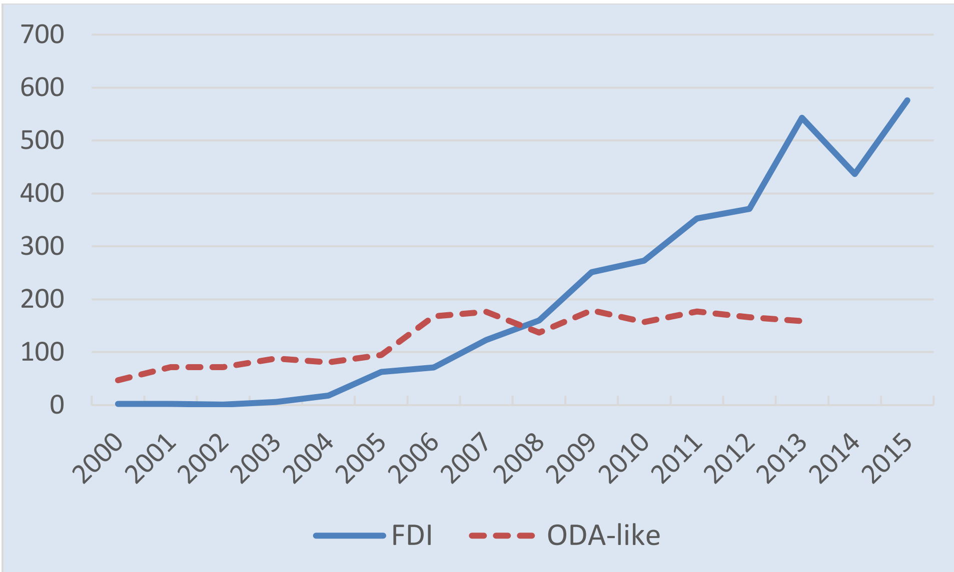
Source: Information of FDI projects is from MOFCOM. Information of ODA-like projects is from AidData.

Table 3: Sectoral distribution of FDI projects by types of firms

	Central SOEs		Others	
Sector	Cases	Percentage	Cases	Percentage
Manufacturing	172	34.0%	646	25.4%
Wholesale and retail trade	88	17.4%	433	17.0%
Construction	76	15.0%	474	18.6%
Mining and quarrying	56	11.1%	311	12.2%
Others	114	22.5%	682	26.2%

Source: Information of FDI projects is from MOFCOM. Information of ODA-like projects is from AidData.

Figure 1: China's aid and investment projects in Africa



Source: Information of FDI projects is from MOFCOM. Information of ODA-like projects is from AidData.

Appendix: Different estimates of the amount of Chinese aid

Source	Period	Amount	Region	Method
MOFCOM (2011, 2014)	1950-2009 2010-2012	$41.4 billion (1950-2009) $13.7 billion (2010-2012)	World	Including grants, interest-free loans, and concessional loans
OECD DAC (2016)	2010-2012	$8.5 billion	World	Annual fiscal yearbooks
AidData (Strange et al. 2015)	2000-2011	$73 billion	Africa	Projects based on ODA-like, OOF-like, and vague official finance categories
JICA (Kitano and Harada 2015)	2010-2012	$14.2 billion	World	Including bilateral and multilateral aid
CRS and NYU Wagner School (2009)	2002-2007	$74.7 billion	Africa, Southeast Asia, and Latin America	Foreign aid and government-sponsored investment activities (FAGIA)
Rand (Wolf et al. 2009)	2001-2011	$671.1 billion (from $1.7 billion in 2001 to $189.3 billion in 2011)	Africa, Latin America, the Middle East, South Asia, Central Asia, and East Asia	Foreign aid and government-sponsored investment activities (FAGIA)
Bräutigam (2009)	2007	$3 billion	Africa	Aggregate foreign aid expenditures, debt relief, and gross disbursement of concessional loans by China Eximbank