

# Do foreign aid incumbent donors react to growing Chinese involvement in Africa?

Dzifa Kpetigo✱

✱*Doctorant à l'École des Hautes Études en Sciences Sociales (EHESS)*

*Centre d'Études sur la Chine Moderne et Contemporaine (CECMC), UMR 8173, 190-198 Avenue de France  
75244 Paris France. @: [dzifa.kpetigo@ehess.fr](mailto:dzifa.kpetigo@ehess.fr)*

Paper presented at 60<sup>th</sup> Congress of the French Economic Association (AFSE) – 8-9<sup>th</sup> September  
2011 Université Paris-Ouest Nanterre La Defense

---

## Abstract

Performing an extension of [Dudley and Montmarquette \(1976\)](#) seminal theoretical model of foreign aid allocation, and taking advantage of consumers theory of bandwagon effect, we highlight theoretical evidence of aid competition between incumbent donors and a newcomer (China). Our model excludes altruistic objectives on foreign aid allocation and considers uniquely donors strategic and economic objectives. Analyzing fifty two African recipient countries over 2003-2009, we did not find robust empirical evidence supporting the theoretical result of aid competition, except for United Kingdom (UK). UK increases its foreign aid in its ex-colonies when Chinese influence, measured by exports toward African countries, is growing. France surprisingly, as Germany, Japan and United States, did not exhibits an increasing aid function of reaction relative to Chinese breakthrough in Africa. First, these results confirm current disengagement from Africa announcement by Frenchs authorities, and quiet proactive reaction of United Kingdom to China involvement in Africa. Second, the African recipient countries which gain from China aid involvement are british ex-colonies. The African countries of french “précaré” did not draw any additional benefit from China aid involvement, China may be considered as an alternative financier.

*Keywords:* Tied foreign aid, Bandwagon effect, Trade, China-Africa  
*JEL Codes:* F35, F5, F1

---

## 1. Introduction

Donors non-altruistic motivations when they disburse official development assistance (ODA) were highlighted in the seminal theoretical models of [Dudley and Montmarquette \(1976\)](#), [Wall and Trumbull \(1994\)](#) and [Wall \(1995\)](#). Most of donors involvement is led by some expectations: first, decision makers in the donor country may expect that the recipient nation will behave more favorably toward their country, lending its diplomatic support to their national political interests;<sup>1</sup> second, they may expect that the recipient country will confer economic benefits to their country, especially by buying more of the products they export;<sup>2</sup> third marginal altruistic considerations like satisfaction to help to increase well-being in less developed countries. The main idea of this kind of modeling is that donors and recipient countries are both consumers of ODA disbursements. Recipients are consumers of ODA amounts whereas donors are consumers of ODA's impacts (imports from donors, political support). There is some evidence that the allocation of foreign aid is dictated by donors political, economic and strategic considerations ([McKinley and Little, 1977, 1978a,b, 1979](#); [Alesina and Dollar, 2000](#)). In a recent paper, [Rajan and Subramanian \(2008\)](#) reaffirmed that, most of the donors are likely to allocate aid for at least two reasons: history and influence.<sup>3</sup> In fact, donor's aid motives combine self-interested and altruistic objectives in various degrees; in line with this idea, [Berthélemy \(2006\)](#) compare degrees of altruism of a set of donors countries. Its results show that, France, Japan, United States, United Kingdom and Germany are among the most egoistic donors, in the top ten. So we focus here on this set of egoistic countries and on the second motivation of donors, namely economic benefits through exportations market seeking.

We extend the model of [Dudley and Montmarquette \(1976\)](#) by adding the idea that the impact of a given donor in a recipient country depends also of the existing impact of other donors in this country. The results of this extension highlights that aid allocation depends of the impact obtained by other donors. This dynamic can be compared to the psychological "bandwagon effect" present in the consumer theory ([Leibenstein, 1950](#)). But first of all, let us explain the "bandwagon effect"; the bandwagon was the caravan in a circus that carried the band, and usually took the

---

<sup>1</sup>Note that these diplomatic links established, it may serve as channel to promote trade links. [Rose \(2007\)](#) argued that one base motivation leads countries to spend so many resources on embassies, consulates and the foreign service is that they promote and maintain exports markets.

<sup>2</sup>If the opposite effect is obtained, increase of imports from recipient to donor, the latter reduces its aid disbursement, says [Breunig et al. \(2007\)](#) analyzing Organization for Economic Co-operation and Development's (OECD) countries. In fact, aid is generally positively associated with recipient-donor exports together; aid increases bilateral trade flows in both directions ([Pettersson and Johansson, 2009](#)).

<sup>3</sup>Unlike bilateral aid, multilateral aid seems to could be better explained by recipient need, so by altruistic consideration([Maizels and Nissanke, 1984](#)).

lead in a procession. A “bandwagon effect” is the label given by social scientists to a situation where the information about majority opinion itself causes some people to adopt the majority view for whatever reason. The studies on this effect indicate that one powerful influence on an individuals attitude is the perception he has of the dynamic of public opinion in a specific area of interest (March, 1985). In the case of organizations (or countries), any technological or strategic innovation with ambiguous returns (like foreign aid impact for donors) can diffuse in a bandwagon manner (Abrahamson and Rosenkopf, 1993). Therefore, at country level, in the ODA field, each donor country should rise its level of ODA if its perception is that other donors are giving more. As non-altruistic impacts are an increasing function of ODA amounts, the unique way to obtain more impact is by increasing disbursed amounts. So, each donor has a reaction function relative to others. If it is mainly obtaining influence which matters in aid allocation, the bandwagon effect results not purely in an ODA race, but rather in an ODAs impact race. We test empirically this effect for five incumbent donors by analyzing their behaviors of aid allocation when the Chinese involvement in Africa increases.

The China breakthrough in Africa reveals antagonist views : On African countries side, this involvement is broadly well seen because its mean more funding through aid and financing to assess huge African financing needs. It also mean an opportunity to discard “*Washington Consensus*” and its conditionalities relative to economical and political governance, and make a shift to “*Beijing Consensus*” less restrictive. On traditional donors side, China growing involvement is not a good news for Africa, because it leads new debt risks,<sup>4</sup> especially after Heavily Indebted Poor Countries initiative (*HIPC*) and Multilateral Debt Relief Initiative (*MDRI*). There is many arguments range from governance matters to raw materials and naturals resources seeking by China (Kaplinsky et al., 2006; Asche and Schüller, 2008), which mean China maintains Africa under primary specialization for the latter exports. But, rarely, traditionals donors make mention of what kind of threat China in Africa represented for themselves, and what mitigation strategies they are using to restrain China growing influence. Some questions rise : China in Africa, what threat for traditional incumbent donors interests?, What mitigation strategies (raising their aid disbursed?)?, and What potential gain and implication for Africa managing it different donors relative to their behavior in aid competition?. The rest of the paper is organized as follow. First, we present Dudley and Montmarquette (1976) theoretical model of the supply of foreign aid. Second, an extension of the seminal model is performed. Third, the econometrical strategy is

---

<sup>4</sup>see Rocher (2007)

described. Fourth, results are presented and finally, we conclude.

## 2. Dudley and Montmarquettes theoretical model of the supply of foreign aid

In the model, the donor country is considered as a consumer agent with only one good other than foreign aid impact in his consumption basket. Decision makers of the donor country have the following utility function:

$$U = F(I, X) \quad (1)$$

where  $I$  represents the consumption of the subjectively measured impact of foreign aid disbursed by the donor. The foreign aid impact of a country is a private good because it is exclusive.  $X$  is the total consumption of the other good, which is considered as a public good. For a donor,  $I$  is the sum of the impacts of its aid on  $j$  receiving countries:

$$I = \sum_{j=1}^m H_j = \sum_{j=1}^m H(a_j, y_j, n_j) \quad (2)$$

$H_j$  is the impact on beneficiary  $j$ ,  $a_j$  is the level of aid per capita received by  $j$ ,  $y_j$  is the gross national product per capita ( $GNP$ ) of  $j$  and  $n_j$  is the population of  $j$ . Impact may be considered as an increasing function of population (more population induces more consumers and more goods to export from donor to recipient), but it may also be considered as a decreasing function of population because of diseconomies of scale.<sup>5</sup> Impact is an increasing function of aid per capita and a decreasing function of  $GNP$ . Instead of only  $GNP$ , it is possible to use a generic well-being formulation as in Wall (1995). Well-being can include the level of income, some human rights indexes or poverty measures...With this formulation, the impact of foreign aid could be an increasing function of well-being (if aid is viewed as complementary to the measure of well-being) or a decreasing function (if aid is viewed as a substitute for low levels of well-being). The impact function takes the following form:

$$H_j = n_j^\alpha \left( \frac{a_j}{y_j} \right)^\gamma \quad 0 \leq \alpha \leq 1 \quad 0 \leq \gamma < 1 \quad (3)$$

It expresses the relative impact of aid on the beneficiary economy weighted by countrys population.  $\alpha$  is the distortion in the donors perception of the impact of its aid, relative to "country size effect".  $\gamma$  represents the decreasing return in the production of the impact. With  $Y$  gross national product,

---

<sup>5</sup>In Dudley and Montmarquette (1976) impact is increasing function in population, but Wall (1995) propose a decreasing function.

the donor country budget constraint is:

$$Y = X + \sum_{j=1}^m a_j n_j \quad (4)$$

The maximization of the utility function subject to the constraint yields:

$$\frac{U_{m_{H_j}}}{U_{m_X}} = \frac{y_j^\gamma n_j^{1-\alpha}}{\gamma a_j^{\gamma-1}} = k \rightarrow a_j = \left( \frac{\gamma k}{y_j^\gamma n_j^{1-\alpha}} \right)^{\frac{1}{1-\gamma}} \quad (5)$$

$U_m$  is the marginal utility of goods consumption, then  $k$  is the marginal rate of substitution between aid impact and the other good. For each recipient, donor disburses a positive amount of foreign aid. However, the seminal theoretical model does not take into account donor country behavior, when the foreign aid impact market becomes more and more competitive.

### 3. A model of donor countrys demand of foreign aid impact: the bandwagon effect

Our goal is to introduce the impact obtained by in the incumbent country behavior function, to analyze if we have an increasing or a decreasing function, or even perhaps no reaction of incumbents. If a donor wants to increase its impact obtained, he needs to disburse more foreign aid, in the limit of its budget. The economic (or political) impact obtained in return by each donor country can be assessed with a measure of recipients importations from this donor (proxy of political support like vote at United Nations assembly resolutions). Our analysis will focus on the Chinese dynamism in African countries; general opinion is that China gives increasing amounts of foreign aid to Africa. The Chinese foreign aid is however difficult to measure with exactness, the consequences could thus be a bandwagon behavior of incumbents, who could increase their foreign aid in response of Chinese "huge" aid perception. This increasing of incumbent aid is the only way to increase their consumption of aid impact, as they feel that China increased its consumption of aid impact in Africa.

We include a new argument into the impact function for an incumbent donor. We obtain this form:

$$H_j^{Incumbent} = n_j^\alpha \left( \frac{a_j}{y_j} \right)^\gamma (H_j^{China})^\phi \quad (6)$$

In this case, the impact of the incumbent foreign aid is a function of the impact obtained by the newcomer donor (China). Then, the level of foreign aid disbursed by an incumbent would be

function of the impact obtained by China:

$$a_j^{Incumbent} = \left( \frac{\gamma k (H_j^{China})^\phi}{y_j^\gamma n_j^{1-\alpha}} \right)^{\frac{1}{1-\gamma}} \quad (7)$$

From (7), the derivative function with respect to newcomer impact takes the following form:

$$\frac{\partial a_j^{Incumbent}}{\partial H_j^{Newcomer}} = \frac{1}{1-\gamma} \cdot \left[ \frac{\gamma k (H_j^{Newcomer})^\phi}{y_j^\gamma n_j^{1-\alpha}} \right]^{\frac{\gamma}{1-\gamma}} \cdot \left[ \frac{\phi \gamma k (H_j^{Newcomer})^{\phi-1}}{y_j^\gamma n_j^{1-\alpha}} \right] \quad (8)$$

$$\frac{\partial a_j^{Incumbent}}{\partial H_j^{Newcomer}} = \frac{\phi \gamma k}{(1-\gamma) y_j^\gamma n_j^{1-\alpha}} \cdot (H_j^{Newcomer})^{\frac{\gamma+\phi-1}{1-\gamma}} \cdot \left[ \frac{\gamma k}{y_j^\gamma n_j^{1-\alpha}} \right]^{\gamma^{1-\gamma}} \quad (9)$$

$$\frac{\partial a_j^{Incumbent}}{\partial H_j^{Newcomer}} = \frac{\phi k^{\frac{1}{1-\gamma}} \gamma^{\frac{1}{1-\gamma}} n_j^{\frac{\alpha-1}{1-\gamma}} y_j^{\frac{-\gamma}{1-\gamma}}}{1-\gamma} \cdot (H_j^{Newcomer})^{\frac{\gamma+\phi-1}{1-\gamma}} \quad (10)$$

$$\text{let } \frac{\gamma+\phi-1}{1-\gamma} = \Psi; \quad \frac{1}{1-\gamma} = \tau \text{ and } k^{\frac{1}{1-\gamma}} n_j^{\frac{\alpha-1}{1-\gamma}} y_j^{\frac{-\gamma}{1-\gamma}} = V$$

$$\frac{\partial a_j^{Incumbent}}{\partial H_j^{Newcomer}} = \frac{\phi \gamma^{\frac{1}{1-\gamma}}}{1-\gamma} \cdot V \cdot (H_j^{Newcomer})^\Psi \quad (11)$$

$V > 0$ ; let us analyze the composite coefficient's  $\frac{\phi \gamma^{\frac{1}{1-\gamma}}}{1-\gamma}$  sign.

$$0 \leq \gamma < 1 \rightarrow 0 \geq -\gamma > -1 \rightarrow 1 \geq 1-\gamma > 0 \rightarrow 1-\gamma > 0 \text{ with } \gamma^\tau \geq 0; 1 \geq \phi \geq 0 \rightarrow \frac{\phi \gamma^\tau}{1-\gamma} \geq 0:$$

$$\frac{\phi \gamma^\tau}{1-\gamma} = 0: \text{ no reaction function; } \frac{\phi \gamma^\tau}{1-\gamma} > 0: \text{ Bandwagon effect}$$

Remind that  $H_j^{Incumbent} = n_j^\alpha \left( \frac{a_j}{y_j} \right)^\gamma (H_j^{China})^\phi$ , and let us explode this composite coefficient:

$\frac{\phi \gamma^\tau}{1-\gamma} = 0 \leftrightarrow \phi = 0 \rightarrow (H_j^{Newcomer})^\phi = 1$ , is a neutral argument of incumbent's reaction function. Perhaps the latter does not consider the newcomer as a "danger" for obtaining good results on the "foreign aid market".  $\gamma = 0$  imply that incumbent does not use (or does not consider) foreign aid as a factor which helps to improve its own economic performance or reinforce its political positions.<sup>6</sup>

---

<sup>6</sup>This last case is outside of your model, so we do not take it into account.

$\frac{\phi\gamma^\tau}{1-\gamma} > 0 \quad \leftrightarrow \phi > 0 \text{ and } \gamma > 0 \quad \rightarrow (H_j^{Newcomer})^\phi$  is a non neutral argument of incumbent reaction function, as he considers foreign aid as an economical and political instrument. This consideration seems more realistic and induces bandwagon effect (aid competition between donors).

#### 4. Econometrical framework

Using imports from China ( $M_j^{Newcomer}$ ) in equation (8) as proxy of the impact obtained by China, yields this expression:

$$a_j^{Incumbent} = \left[ \frac{\gamma k (M_j^{Newcomer})^\phi}{y_j^\gamma n_j^{1-\alpha}} \right]^{\frac{1}{1-\gamma}} \quad (12)$$

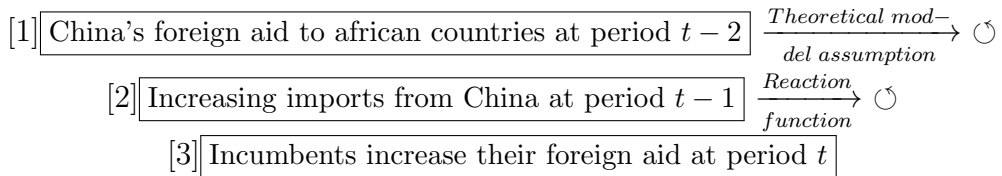
Taking the logarithms of both sides of expression (12) and adding at the end an error term and control variables vector yields the following generic estimated equation (14):

$$\ln(a_j^{Incumbent}) = \frac{1}{1-\gamma} \cdot [\ln(\gamma k) + \phi \ln(M_j^{Newcomer}) - \gamma \ln(y_j) - (1-\alpha) \ln(n_j)] + \Phi X + \epsilon \quad (13)$$

$$\ln(a_j^{Incumbent}) = \beta_0 + \beta_1 \ln(M_j^{Newcomer}) + \beta_2 \ln(Y_j) + \beta_3 \ln(n_j) + \Phi X + \epsilon \quad (14)$$

$$\beta_0 = \frac{\ln(\gamma k)}{1-\gamma}; \quad \beta_1 = \frac{\phi}{1-\gamma}; \quad \beta_2 = \frac{-\gamma}{1-\gamma}; \quad \beta_3 = \frac{\alpha-1}{1-\gamma}$$

To avoid simultaneity bias and well reflect our theoretical model logic<sup>7</sup>, imports from newcomer expressed in percentage of recipient GDP, is lagged. We argue that aid received at time “ $t$ ” can not reasonably influenced the level of the imports at time “ $t - 1$ ”, unless the countries make anticipations on aid flows intended to compensate for their last expenditure. But like aid is volatile, it is not rational for recipient to consider such an assumption.<sup>8</sup> So, using lagged imports makes it possible to control for the risk of endogeneity.



<sup>7</sup>Core assumption of our theoretical model is that recipients imports from a donor “ $i$ ” is an increasing function of foreign aid received from the same donor “ $i$ ”.

<sup>8</sup>Bulir and Hamann (2003) found that aid is more volatile than fiscal revenues in highly dependent aid countries particularly; the uncertainty about aid disbursement is large and the information content of commitments made by donors is either very small or statistically insignificant. Moreover, using three alternative measure of aid instability (relative volatility *vis-à-vis* fiscal revenue, unpredictability of aid disbursement relative to commitments, and failure of aid to smooth fluctuations in aggregate income), Bulir and Hamann (2008) found that volatility of aid flows is still much greater than that of domestic revenue and that this difference is not decreasing. This high volatility of inflows make s the macroeconomy hard to manage. The influence of aid has been pro-cyclical and not counter-cyclical : aid has failed to act either as stabilizing force or as an insurance mechanism. Note that Chauvet and Guillaumont (2007) previously argue that even aid is volatile, is not clearly as pro-cyclical, and even pro-cyclical, is not necessarily destabilizing.

$$\ln(a_{j,t}^{Incumbent}) = \beta_0 + \beta_1 \ln(M_{j,t-1}^{Newcomer}) + \beta_2 \ln(Y_{j,t}) + \beta_3 \ln(n_{j,t}) + \Phi X + \epsilon \quad (15)$$

Our expectation, in line with the theoretical model (if foreign aid is considered as a purely economic and strategic instrument), is that expression (15) exhibits a positive value for  $\beta_1$  ( $\beta_1 > 0$ ).  $X$  may contain interactive and quadratic variables, relatives to models core variables (geography, colonial history). We use African countries imports from China as reflecting the success in return of newcomer aid dynamism. Well-known constraints are difficulties to retrieve Chinese data on foreign aid. A widespread view is that China decides by itself to hide aid amounts disbursed, for unknown strategic objectives. Perhaps it is true, but it is also pragmatic to think about China statistical system inefficiency to collect its own data, even inside China. That is one source of China foreign aid data scar-city, but it is less evoked by researchers community. We need to find a pertinent tangible proxy to test the incumbent reaction following newcomer dynamism on “foreign aid market”.<sup>9</sup> As previously noticed, our choice is African countries imports from China, one of the three impacts in return of theoretical model of aid allocation. Considering donors self-interest, trade often has a strong and significantly positive impact on aid allocation ([Berthélemy and Tichit, 2002](#)). Moreover, it might be logical that incumbent looks at newcomer exportations towards aid recipient as a signal of newcomer success (more impact in return) on “foreign aid market”.

Chinese aid is also tied as others, even though [Hairong and Sautman \(2007\)](#) argues it is less tied.<sup>10</sup> However, we agree with [Hairong and Sautman \(2007\)](#) when he talks about “indirect conditionalities” introduced by China to unformely (tied) his aid.<sup>11</sup> In fact, China aid is intimately tied to commercial expansion of China and often comes in the form of credits from the Exim bank of China ([Waldron, 2008](#)). This aid shifted from political objectives (spread of communism ideology, break out of its own international isolation and promotion of Tawan isolation) to economical objectives. The launching of the Forum for China-Africa Cooperation (*FOCA* in Beijing in 2000 ushered in a new area of relations between China and Africa, driven mostly by commercial and economical interests rather than political ideology as in the past ([Brown and Chun, 2009](#); [Rotberg, 2008](#)). The triad which manages China foreign aid system is constituted

---

<sup>9</sup>[Mosley \(1985\)](#) first, analyzed aid field as market with a supply and a demand.

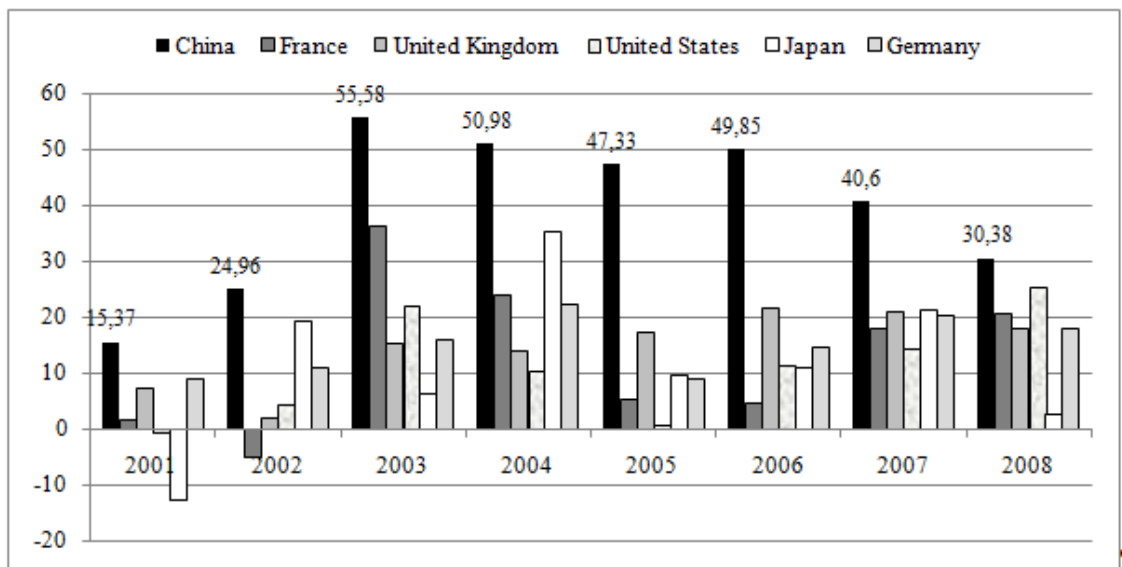
<sup>10</sup>About 80 percent of United States grants and contracts to developing countries is tied and must be used to buy goods and services from United States firms and Non Governmental Organization (NGOs), 60-65 percent of Germany, France and Japan aid is tied to purchases goods and services from those states; aid from China differ from other aid programs in a number of ways, including whether the recipient chooses the projects on which aid monies will be spent, said [Hairong and Sautman \(2007\)](#).

<sup>11</sup>Indirect conditionalities means that China manages to secure a portion of projects financed by him.



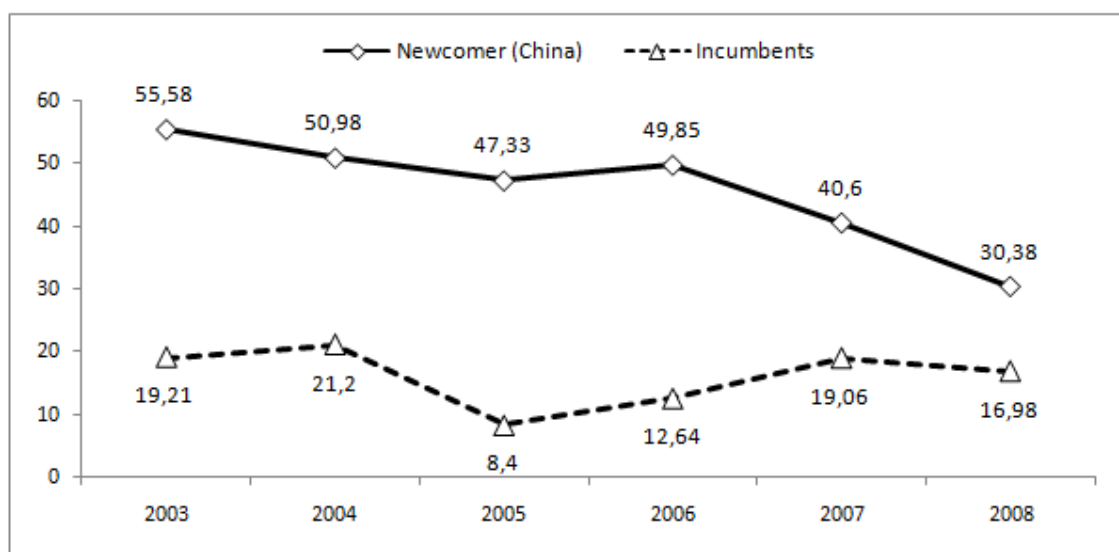
by the ministry of trade (*MOFCOM*), the ministry of foreign affairs (*MOF*) and the Exim bank of China. Analyzing structure and relations between and within this system highlights the level of chinese foreign aid linkage: China foreign aid department is a sub-department of *MOFCOM*!, Why include aid department in trade super department? It seems evident, aid is disburse to promote China commercial interests. Here we have a chinese specificity, not american motto “trade, not aid”, or european “no more tied aid”, but a third and not so old paradigm “aid for donor’s exports promoting”. Annual aid budget is drawn up by the ministry of finance in consultation with *MOFCOM* department of foreign aid. Within the *MOFCOM*, the two units involved in aid delivery are the department of foreign aid (*DFA*) and the executive bureau for international economic cooperation which coordinates with the Exim bank exports buyers credits.

*Overview of African countries imports annual growth from China and incumbents donors*



Source: Department of trade, International Monetary Fund and author calculations.

Figure 1: Annual growth (per cent) by main donors countries



Source: Department of trade, International Monetary Fund and author calculations.

Figure 2: Annual growth (per cent) incumbents pool vs newcomer

From 2003 to 2005, African countries imports from China experimented a slight decrease. Moreover, from 2006 growth value of 49.85%, they plummeted to reach 30.38% in 2008. Incumbents figures (pooling) show a significant rise, which began in 2005 from 8.4% and rose to 19.06% in 2007, with a slight decrease in 2008 (see figure 2). We have an intuitive conviction that there are a shift in results (demand of impact) between newcomer and incumbents. The latter improved more than the previous. The incumbents profit from newcomer losses. But the question is what explains the best results of incumbents relative to the newcomer at the end? Do they disburse more aid to feed the gap they think they have relative to newcomer? Remember, foreign aid is the main argument of the theoretical model of demand of foreign aid impact and impact obtained by donors is an increasing function of foreign aid disbursed.

## 5. Results

Historical relationships through colonial links often impacts western donors strategies and influence in Africa. We capture these simply by colonials dummies that takes a value of 1 if foreign aid recipient was ever a colony of donor, and 0 otherwise. Geo-strategical objectives are proxied by countries geographical characteristics as landlocked or coastal dummies (a value of 1 if recipient is a coastal/landlocked country and 0 otherwise). Influence is captured through the relative size of donor and recipient. The bigger the donor is relative to the recipient, the more the influence the do-nor is likely to have. Moreover, a donor will be particularly influent relative to other donors if it is relatively large and has close colonials links with the recipient. So interactives variables between relative size and colonial dummies are introduced. To capture threshold effects relatives

to population and gross domestic product (*GDP*), quadratic forms are introduced. Data of trade is provided by *DOT IMF* (*Department of Trade Statistics, International Monetary Fund*), data of *GDP* and population is provided by *WDI WB* (*World Development Indicators, World Bank*). Data of colonial statutory is provided by *QOG* (*Quality of Government dataset, University of Gothenburg*).

We started estimations with donors countries without colonial history; these category of donors is less likely to worry about Chinese growing activities and successful results in Africa because they are not historical keys players in Africa. In a first round of our estimations, each donor versus China, all of these incumbents countries exhibit increasing function of reaction relative to Chinese exports towards Africa (table 1). However, a more realistic situation implies for each donor to monitor all others, not only China newcomer. We test table 1 results robustness by including in estimations, in addition to China exports towards aid recipients, all other donors exports towards the same aid recipients. It appears that United States, Germany and Japan do not target especially Chinese success to increase their foreign aid (table 4). These results, perhaps, are intimately linked to the three donors low implication in Africa, relatively to France or United Kingdom.

Finally we analyze United Kingdom and Frances foreign aid functions of reaction relative to China. These two countries were the most important western colonial powers and still have robust political and economical relationships with their ex-colonies. These two countries are most likely to lose their keys players position with Chinas growing aid dynamism in Africa. So, the hypothesis tested is that United Kingdom and France should exhibit increasing functions of their foreign aid relatives to Chinas exports towards African recipients countries, especially in their own ex-colonies. First surprising remark, United Kingdom does not seem to exhibit a significant increasing function of reaction (table 3, United Kingdom). We introduce next an interactive specification of foreign aid function of reaction using United Kingdom ex-colony dummy and recipients imports from China. Considering the increasing value of Chinas exports towards African United Kingdom ex-colonies, we find at last that United Kingdom have a significant function of reaction. It appears a global reduction of foreign aid disbursed by United Kingdom and a shift from general to focused aid in particular on it ex-colonies (table 3, United Kingdom (focus on ex-colonies)). United Kingdom presents therefore an increasing function of reaction in this case. Clearly, United Kingdom objective is to maintain its advantage in its area of influence. We test the robustness of this conclusion by including exports of all donors (as we already did for United

States, Germany and Japan) and the results stayed robust (table 3, last column).

The same estimation strategy is used to test the significance of Frances function of reaction (table 2), using a dummy for CFA franc Zone (currency union where France seems always to have an influence in Africa). Surprisingly, we do not find, as we expected, an increasing foreign aid reaction function for France (table 2, France). Moreover it does not particularly increase significantly its foreign aid when we focus solely on its ex-colonies of *CFA franc* Zone (table 2, France (focus on *FCAF* Zone)). At first view, this result can be seen as contradictory, but it is a pertinent re-flet of France progressive political disengagement of its ex-colonies (with economical consequences).

Interesting question arise from your results: through aid's prism and its bandwagon effect, Who gains from China involvement and who did not ?. Our analysis highlighted the fact that the countries which have had colonial links with the United Kingdom are those which gain the most from Chinese implication in aid disbursement in Africa. The gain is the increasing dual aid flows from incumbent and newcomer donors. Bandwagon effect is observed in their case: United Kingdom increases its official development assistance in reaction to Chinese growing aid to African countries. For the African countries of french's "précarré", the bandwagon effect seems not effective. These latter countries do not draw any additional advantage, expressed as increasing of official development assistance from incumbent donors, of the Chinese breakthrough. At most, these countries benefit from China existence as new and interesting alternative financier.

## 6. Conclusion

China foreign aid to African countries is definitely seen like a myth (an "exaggerated/underestimated" or "idealized/diabolized" conception) because it is difficult to assess it. If points of view on Chinese "growing" aid are so documented and so divergent, it is simply because foreign aid is a powerful economic and strategic instrument of donors countries. Of course, we do not completely deny foreign aid utility for recipient countries (it is another great debate, with foreign aid partisans and foreign aid opponents). Exit altruistic views of foreign aid, we developed a theoretical model of supply of incumbent donor foreign aid in presence of newcomer, an extension of [Dudley and Montmarquette \(1976\)](#) seminal model. Clearly, our theoretical model found donors adaptable competition in the allocation of foreign aid. The model predicts at least an increasing function of foreign aid disbursed by incumbent relatives to newcomer success, proxied by its exports towards African countries. This seems like bandwagon effects of consumer theory, since the model considers that donors consume their own aid, through its impact on recipient (political support, imports

from donor). Empirical tests confirm our expectations only for United Kingdom, and allowed us to categorize incumbents donors. Especially, among ex-western main colonial powers, United Kingdom reduced in mean its foreign aid with the objective to consolidate its influent position in its ex-colonies where it increase foreign aid disbursed. France surprisingly, as Germany, Japan and United States does not exhibit an increasing reaction function to Chinese success. One question remains, why only United Kingdom is apparently so reactive to chinese involvement in Africa ? as far as we know, United Kingdom often was quiet about Africa affairs (relatively to France and United States). It is difficult to exhibit precisely importance of particular reasons which motive United Kingdom, but some evidence prove it activism to manage China breakthrough in Africa : First, from 23rd to 25th June 2009, Department for International Development (*DFID*) organized a event at University of Stellenbosch, Centre for Chinese Studies (*CCS*), to focus on the mutual benefits of the United Kingdom and China's increasing their engagement in Africa. China's perception of Africa as commercial opportunity was highlighted. Note that the participants were drawn from African offices of the United Kingdom Department for International Development, British embassies and High commissions.<sup>12</sup>Second, from 25th to 26th March 2010, *DFID* financially supported an international seminar held in Tunis and host by African Development Bank (*AfDB*). The seminar is aimed at generating policy-oriented research on the impact of the rising strategic and economic role of China on Africa's development prospects and its economic and political governance.

---

<sup>12</sup>This event had three declared objectives (see [DFID CCS \(2009\)](#) for more details). Objective one : enhance interaction between London and Beijing toward greater dialogue in their developmental efforts in Africa; Objective two : provide a forum for ideas and knowledge to be shared to enable United Kingdom government participants to engage with Chinese actors in Africa; Objective three : enhance relationships of trust between Britain and China to contribute to new areas of joint collaboration in Africa.

Ordinary Least Square estimations of variation in the non-altruistic allocation of foreign aid by donors across recipients. The dependent variable is "net foreign aid/recipient GDP".

Table 1: United States of America, Germany and Japan as donors respectively

	United States	Germany	Japan
Logarithm of recipient import from China (lagged)	0.267*** (2.66)	0.127* (1.87)	0.305*** (2.83)
Logarithm of recipient current GDP	2.163*** (3.41)	2.645*** (6.10)	3.423*** (4.74)
Logarithm of recipient current GDP (square)	-0.187*** (5.27)	-0.208*** (8.60)	-0.248*** (6.15)
Logarithm of total population of recipient	5.788 (0.82)	-43.498 (1.20)	-475.908 (0.98)
Logarithm of total population of recipient (square)	0.098** (2.22)	0.096*** (2.98)	0.186*** (3.84)
Dummy coastal country	1.154** (2.54)	0.887*** (2.71)	0.858* (1.71)
Dummy landlocked country	1.718*** (3.35)	0.425 (1.18)	0.813 (1.39)
Dummy for country that ever had a colonial relationship with France	1.203 (0.95)	1.228** (2.11)	3.296*** (2.96)
Dummy for country that ever had a colonial relationship with UK	3.042*** (2.85)	0.487 (1.03)	2.090** (2.25)
Dummy for country that ever had a colonial relationship with Portugal	-0.286 (0.21)	-1.923 (2.86)	-0.174 (0.43)
Dummy for country that ever had a colonial relationship with Belgium	-0.444 (0.30)	-1.672 (2.48)	1.909 (1.47)
Ratio of logarithm of population of donor relative to recipient	8.419 (1.23)	-41.313 (1.14)	-470.469 (0.97)
Ratio of logarithm of population of donor relative to recipient x France colony dummy	-0.644* (1.85)	-0.635*** (2.63)	-0.754* (1.84)
Ratio of logarithm of population of donor relative to recipient x UK colony dummy	-0.990*** (3.13)	-0.266 (1.20)	-0.312 (0.83)
Ratio of logarithm of population of donor relative to recipient x Belgium colony dummy	0.081 (0.18)	0.743** (2.42)	-0.029 (0.06)
Ratio of logarithm of population of donor relative to recipient x Portugal colony dummy	0.026 (0.08)	0.428* (1.78)	-0.174 (0.43)
Regional dummies	yes	yes	yes
Observations	242	231	238
$R^2$ adjusted	0.71	0.73	0.55

Absolute value of the t-statistics reported in parentheses; \*\*\*, \*\*, \* denote significance at 1%, 5% and 10% respectively.

Ordinary Least Square estimations of variation in the non-altruistic allocation of foreign aid by donors across recipients. The dependent variable is "net foreign aid/recipient GDP".

Table 2: France as donor

	Overall	Focus on CFAF Zone
Logarithm of recipient import from China (lagged)	0.110 (1.33)	0.114 (0.95)
Logarithm of recipient import from China (lagged) x CFA franc Zone dummy		-0.148 (1.02)
Logarithm of recipient current GDP	0.208 (0.41)	0.279 (0.50)
Logarithm of recipient current GDP (square)	-0.048* (1.68)	-0.051 (1.65)
Logarithm of total population of recipient	-12.529* (1.74)	-10.093 (1.33)
Logarithm of total population of recipient (square)	0.100*** (2.87)	0.057 (1.65)
Dummy FCFA Zone		-0.458 (0.78)
Dummy coastal country	-0.709** (1.97)	-1.098*** (3.03)
Dummy landlocked country	-0.866** (2.07)	-1.550*** (3.84)
Dummy for country that ever had a colonial relationship with France	2.595*** (4.22)	
Dummy for country that ever had a colonial relationship with United Kingdom	0.381 (0.74)	-1.441*** (4.70)
Dummy for country that ever had a colonial relationship with Portugal	0.392 (0.52)	-1.501** (2.28)
Dummy for country that ever had a colonial relationship with Belgium	1.376** (1.88)	-0.124 (0.19)
Ratio of logarithm of population of donor relative to recipient	-9.812 (1.33)	-9.530 (1.27)
Ratio of logarithm of population of donor relative to recipient x France colony dummy	0.161 (0.58)	1.085*** (3.08)
Ratio of logarithm of population of donor relative to recipient x UK colony dummy	-0.100 (0.39)	0.735*** (3.90)
Ratio of logarithm of population of donor relative to recipient x Belgium colony dummy	0.362 (0.98)	-0.108 (0.44)
Ratio of logarithm of population of donor relative to recipient x Portugal colony dummy	0.222 (0.78)	0.970*** (3.67)
Regional dummies	yes	yes
Observations	246	246
$R^2$ adjusted	0.70	0.68

Absolute value of the t-statistics reported in parentheses; \*\*\*, \*\*, \* denote significance at 1%, 5% and 10% respectively.

Ordinary Least Square estimations of variation in the non-altruistic allocation of foreign aid by donors across recipients. The dependent variable is "net foreign aid/recipient GDP".

Table 3: United Kingdom as donor

	Overall	Ex-colonies	Robustness
Logarithm of recipient import from China (lagged)	-0.124 (0.94)	-0.266* (1.78)	-0.792*** (4.09)
Logarithm of recipient import from China (lagged) x UK colony dummy		0.438** (2.02)	0.674** (2.60)
Logarithm of recipient import from France (lagged)			-0.313 (0.92)
Logarithm of recipient import from France (lagged) x UK colony dummy			0.158 (0.45)
Logarithm of recipient import from Japan (lagged)			0.260 (1.15)
Logarithm of recipient import from Japan (lagged) x UK colony dummy			0.053 (0.16)
Logarithm of recipient import from Germany (lagged)			0.958*** (3.56)
Logarithm of recipient import from Germany (lagged) x UK colony dummy			-0.651* (1.67)
Logarithm of recipient import from USA (lagged)			-0.181 (0.70)
Logarithm of recipient import from USA (lagged) x UK colony dummy			-0.647* (1.80)
Logarithm of recipient current GDP	2.053** (2.41)	2.337*** (2.73)	1.663 (1.57)
Logarithm of recipient current GDP (square)	-0.216*** (4.58)	-0.231*** (4.87)	-0.202*** (3.61)
Logarithm of total population of recipient	14.105 (1.16)	11.328 (0.93)	35.760*** (2.77)
Logarithm of total population of recipient (square)	0.061 (1.21)	0.095* (1.78)	0.045 (0.79)
Dummy coastal country	-1.386** (2.22)	-1.159* (1.84)	-1.267* (1.71)
Dummy landlocked country	-1.835** (2.57)	-1.619** (2.26)	-2.585*** (2.69)
Dummy for country that ever had a colonial relationship with France	-2.561*** (2.69)	-2.381** (2.51)	-3.025** (2.44)
Dummy for country that ever had a colonial relationship with UK	0.795 (1.17)	2.638** (2.32)	-2.087 (-0.98)
Dummy for country that ever had a colonial relationship with Portugal	-0.698 (0.70)	-0.596 (0.60)	-1.101 (1.02)
Dummy for country that ever had a colonial relationship with Belgium	-2.781*** (2.76)	-2.563** (2.55)	-3.568*** (3.01)
Ratio of logarithm of population of donor relative to recipient	14.409 (1.20)	12.987 (1.09)	34.381*** (2.76)
Ratio of logarithm of population of donor relative to recipient x France colony dummy	-0.344 (0.77)	-0.512 (1.13)	0.931* (1.70)
Ratio of logarithm of population of donor relative to recipient x UK colony dummy	-0.467 (1.35)	-0.752** (2.03)	0.648 (1.37)
Ratio of logarithm of population of donor relative to recipient x Belgium colony dummy	0.604 (1.25)	0.424 (0.87)	1.235** (2.32)
Ratio of logarithm of population of donor relative to recipient x Portugal colony dummy	-0.579 (1.47)	-0.799* (1.96)	0.288 (0.52)
Regional dummies	yes	yes	yes
Observations	202	202	193
$R^2$ adjusted	0.74	0.74	0.77

Absolute value of the t-statistics reported in parentheses; \*\*\*, \*\*, \* denote significance at 1%, 5% and 10% respectively.



Ordinary Least Square estimations of variation in the non-altruistic allocation of foreign aid by donors across recipients. The dependent variable is "net foreign aid/recipient GDP".

Table 4: United States of America, Germany and Japan as donors respectively (robustness)

	United States	Germany	Japan
Logarithm of recipient import from China (lagged)	0.118 (0.95)	0.013 (0.16)	0.061 (0.54)
Logarithm of recipient import from France (lagged)	-0.093 (0.64)	-0.076 (0.68)	-0.194 (1.24)
Logarithm of recipient import from UK (lagged)	0.138 (0.93)	0.098 (0.86)	-0.020 (0.13)
Logarithm of recipient import from Japan (lagged)	0.190 (1.52)	0.084 (0.90)	
Logarithm of recipient import from Germany (lagged)	0.246 (1.49)		0.518*** (2.87)
Logarithm of recipient import from United States (lagged)		0.148* (1.95)	0.395*** (3.45)
Logarithm of recipient current GDP	2.215*** (3.25)	2.607*** (5.32)	3.532*** (4.88)
Logarithm of recipient current GDP (square)	-0.187*** (5.01)	-0.204*** (7.68)	-0.251*** (6.24)
Logarithm of total population of recipient	13.978* (1.89)	-67.573* (1.70)	-529.307 (1.12)
Logarithm of total population of recipient (square)	0.072 (1.55)	0.070** (1.98)	0.145*** (3.10)
Dummy for country that ever had a colonial relationship with France	0.935 (0.72)	1.437** (2.23)	3.365*** (3.03)
Dummy for country that ever had a colonial relationship with UK	2.433** (2.21)	0.431 (0.87)	2.338*** (2.65)
Dummy for country that ever had a colonial relationship with Portugal	-0.584 (0.40)	-1.888** (2.60)	2.833*** (2.37)
Dummy for country that ever had a colonial relationship with Belgium	-0.718 (0.49)	-1.409** (2.00)	2.348* (1.85)
Dummy coastal country	0.759 (1.54)	0.593 (1.63)	0.011 (0.02)
Dummy landlocked country	1.740*** (3.10)	0.314 (0.78)	0.254 (0.41)
Ratio of logarithm of population of donor relative to recipient	15.467** (2.20)	-66.206* (1.67)	-525.143 (1.11)
Ratio of logarithm of population of donor relative to recipient x France colony dummy	-0.294 (0.76)	-0.604** (2.16)	-0.583 (1.44)
Ratio of logarithm of population of donor relative to recipient x UK colony dummy	-0.667* (1.85)	-0.210 (0.78)	-0.367 (1.02)
Ratio of logarithm of population of donor relative to recipient x Belgium colony dummy	0.225 (0.50)	0.677** (2.08)	-0.165 (0.33)
Ratio of logarithm of population of donor relative to recipient x Portugal colony dummy	0.375 (0.93)	0.476 (1.58)	-0.285 (0.72)
Regional dummies	yes	yes	yes
Observations	233	221	237
$R^2$ adjusted	0.74	0.74	0.60

Absolute value of the t-statistics reported in parentheses; \*\*\*, \*\*, \* denote significance at 1%, 5% and 10% respectively.

SOUTH AFRICA	CHAD	MAURITIUS	MALAWI
NIGERIA	TOGO	NIGER	RWANDA
EGYPT ARAB REPUBLIC	TANZANIA	GUINEA	SIERRA LEONE
ALGERIA	TUNISIA	NAMIBIA	LESOTHO
ANGOLA	COTE D'IVOIRE	MAURITANIA	BURKINA FASO
MOROCCO	CAMEROON	UGANDA	ERITREA
LIBYA	SENEGAL	GAMBIA	CAP VERDE
BENIN	MADAGASCAR	MALI	BURUNDI
LIBERIA	REPUBLIC OF CONGO	BOTSWANA	GUINEA BISSAU
SUDAN	EQUATORIAL GUINEA	GABON	SWAZILAND
GHANA	MOZAMBIQUE	ZIMBABWE	SEYCHELLES
KENYA	DEMOCRATIC REPUBLIC OF CONGO	ZAMBIA	CENTRAL AFRICAN REPUBLIC
ETHIOPIA	DJIBOUTI	SOMALIA	COMOROS

## Bibliography

- Abrahamson, E., Rosenkopf, L., 1993. Institutional and competitive bandwagons: using mathematical modeling as a tool to explore innovation diffusion. *The Academy of Management Review* 18 (3), 487–517.
- Alesina, A., Dollar, D., 2000. Who gives foreign aid to whom and why? *Journal of Economic Growth* 5, 33–63.
- Asche, H., Schüller, M., 2008. Chiba's engagement in africa - opportunities and risks for development. *Deutsche Gesellschaft für Technische Zusammenarbeit Eschborn*.
- Berthélemy, J.-C., 2006. Bilateral donor's interest vs. recipients' development motives in aid allocation: Do all donors behave the same ? *Review of Development Economics* 10 (2), 179–194.
- Berthélemy, J.-C., Tichit, A., 2002. Bilateral donors' aid allocation decisions: a three-dimensional panel analysis. *World Institute for Development Economics Research (WIDER) (Discussion paper N°123)*.
- Breunig, C., Lundsgaarde, E., Prakash, A., 2007. Trade versus aid : Donor generosity in an area of globalization. *Policy Sciences* 40 (2), 157–179.
- Brown, K., Chun, Z., 2009. China in africa. In: *South-South cooperation: Africa and the new forms of development partnership*. Chatham House.
- Bulir, A., Hamann, J. A., 2003. Aid volatility : An empirical assessment. *IMF Staff papers* 50 (1).
- Bulir, A., Hamann, J. A., 2008. Volatility of development aid : From the frying pan into the fire? *World Development* 36 (10), 2048–2066.
- Chauvet, L., Guillaumont, P., 2007. Aid, volatility and growth again : When aid volatility matters and when it does not. *CERDI, Etudes et Documents E 2007*.
- DFID CCS, ., 23rd-25th June 2009. How the united kingdom can build relationships with china in africa ? In: *Understanding China's engagement with Africa*. Department for International Development (DFID), Centre for Chinese Studies (CCS)/University of Stellenbosch, DFID, CCS.
- Dudley, L., Montmarquette, C., 1976. A model of the supply of bilateral foreign aid. *The American Economic Review* 66 (1), 132–142.
- Hairong, Y., Sautman, B., 2007. China's distinctive links with africa. *African Studies Review* 50 (3), 75–114.
- Kaplinisky, R., McCormick, D., Morris, M., 2006. The impact of China on Sub-Saharan Africa. *Institute of Development Studies*. Brighton : University of Sussex.
- Leibenstein, H., 1950. Bandwagon, snob and veblen effects in the theory of consumer's demand. *The Quarterly Journal of Economics* 64 (2), 183–207.
- Maizels, A., Nissanke, M., 1984. Motivations for aid to developing countries. *World Development* 12 (9), 2–3.
- March, C., 1985. Back on the bandwagon : the effect of opinion polls on public opinion. *British Journal of Political Science* 15 (1), 51–74.

- McKinley, R. D., Little, R., 1977. A foreign policy model of us bilateral aid allocation. *World Politics* 30 (1), 58–86.
- McKinley, R. D., Little, R., 1978a. A foreign policy model of the distribution british bilateral aid, 1960-70. *British Journal of Political Science* 8 (3), 313–332.
- McKinley, R. D., Little, R., 1978b. The french aid relationship : A foreign policy model of the distribution of french bilateral aid, 1964-70. *Development and Change* 9, 459–478.
- McKinley, R. D., Little, R., 1979. The us aid relationship : A test of the recipient need and donor interest models. *Political Studies* 27 (2), 236–250.
- Mosley, P., 1985. political economy of foreign aid: a model of the market for a public good. *Economic Development and Cultural Change* 33 (2), 373–393.
- Pettersson, J., Johansson, L. M., 2009. Tied aid, trade-facilitating aid or trade-diverting aid? Uppsala University, Department of Economics, Working paper (2009:5).
- Rajan, G. R., Subramanian, A., 2008. Aid and growth : what does the cross-country evidence really show? *The Review of Economics and Statistics* 90 (4), 643–665.
- Rocher, E., 2007. Les risques de ré-endettement des pays en développement après les annulations de dettes. *Bulletin de la Banque de France* (157).
- Rose, K. A., 2007. The foreign service and foreign trade : Embassies as export promotion. *The World Economy* 30 (1), 22–38.
- Rotberg, R., 2008. China into Africa trade, aid and influence. Brooking institution press.
- Teorell, J., Charron, N., Samanni, M., Holmberg, S., Rothstein, B., 2009. The quality of government dataset, version 17 june 09, university of Gothenburg : The Quality of Government Institute.
- Waldron, D. A., 2008. China in Africa. Jamestown Foundation.
- Wall, J. H., 1995. The allocation of official development assistance. *Journal of Policy Modelling* 17 (3), 307–314.
- Wall, J. H., Trumbull, N. W., 1994. Estimating aid allocation criteria with panel data. *The Economic Journal* 104 (425), 876–882.

# Do foreign aid incumbent donors react to growing Chinese involvement in Africa?

~ V. Dzifa Kpetigo ~

# Outline



- 1 RESEARCH QUESTION
- 2 THREAT FOR DONORS
- 3 MITIGATION STRATEGY | REACTIVE TO CHINA?
- 4 RESULTS
- 5 KNOWLEDGE | DISCUSSION

## Snapshot of main views relative to China breakthrough in Africa

On African countries side, China involvement in Africa is broadly well seen. Why ?

- More funding through aid or debt, it is well know that financing needs are huge in Africa;
- An occasion to discard “Washington Consensus” and its conditionalities relative to economical and political governance; shift to “Beijing Consensus”

According to traditional donors, China growing involvement is not good news for Africa. Why ?

- Debt risks matter, especially post-HIPC (Heavily Indebted Poor Countries) and MDRI (Multilateral Debt Relief Initiative) initiatives (Rocher, 2007);
- Governance regressive state;
- Raw materials and natural resources seeking by China (Kaplinsky & al. 2006; Asche & Schüller, 2008), which risks to maintaining Africa under primary specialization for exports

Traditional donors make no mention of what kind of threat China in Africa is for themselves, and what mitigation strategies they are using

- China in Africa : What threat for traditional donors interests ?
- What mitigation strategies (raising aid) ? and what potential gain for Africa ?

## Non altruistic aid ?

### Aid allocation, Mains motivations

(Dudley & Montmarquette, 1976; | McKinley & Little 1977, 1978a, 1978b, 1979; | Wall, 1995; | Alesina & Dollar, 2000; | Subramanian, 2008)

- The donor country may expect that recipients countries will behave more favorably toward their country, lending diplomatic support to donor's national political interests;
- The donor may expect that recipients countries will confer economic benefits to their country, especially by buying more of the products they export (tied aid);
- Third, marginal altruistic considerations like donor satisfaction to help to increase well-being in less developed countries (poverty, governance and so on considerations...)



## Why exit altruistic considerations and which donors to be considered for aid competition ?

### Donors measurable gain matter in aid competition

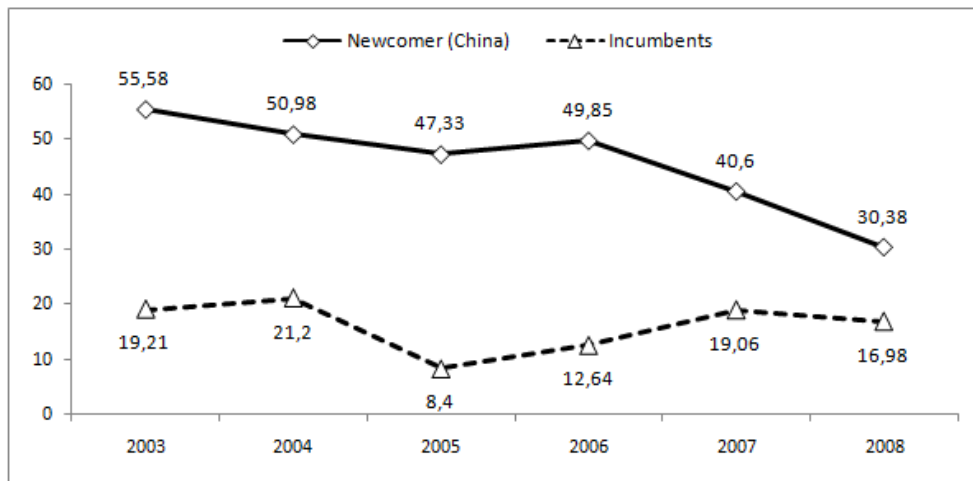
- Donor measurable gain : trade, diplomatic et strategic support.
- Recipient measurable gain : reduction of some privation (poverty...)
- As donor's moral satisfaction (altruism) is not measurable, aid competition between donors must be focused on measurable objectives (donors gain), mean trade (here, our choice)

### Which donors are the most remarkable protagonists ?

- Berthélemey (2006) compared levels of aid altruism for a large set of donors, and highlighted the fact that : Japan, France, United Kingdom, United States are among the less altruistic donors. Donors self-interest is main objective.
- As a newcomer breakthrough is a threat for incumbent objectives, these donors countries, previously named, will be used to check whether there is aid competition with China.

## Annual growth of exports from donors to african aid recipients countries

Incumbent donors seems more and more successful in their exports towards aid recipients (African countries)...while China results know a slight decrease : which mean existence of reaction function to China breakthrough ?



Source: Department of trade, International Monetary Fund and author calculations.

The donor consumes the impact  $I$  (private goods) of aid disbursed and another goods  $X$  (public)

$$U = F(I, X) \quad (1)$$

$I$  is the sum of impacts obtain by delivering aid to  $j$  recipients countries;  $Y$  is donor budget

$$I = \sum_{j=1}^m H_j = \sum_{j=1}^m H(a_j, y_j, n_j) \quad ; \quad Y = X + \sum_{j=1}^m a_j n_j \quad (2)$$

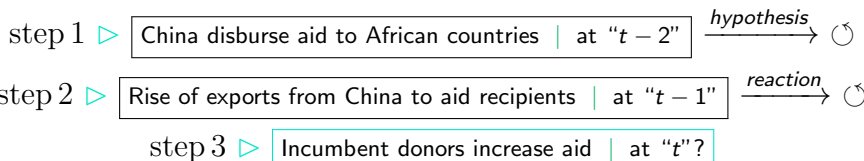
Relative impact  $H$  is function of population ( $n$ ), level of development ( $y$ ), aid amount ( $a$ ) disbursed by a donor and impact obtained by another donor ( $H_j^{Newcomer}$ )

$$H_j^{Incumbent} = n_j^\alpha \left( \frac{a_j}{y_j} \right)^\gamma (H_j^{Newcomer})^\phi \quad ; \quad 0 \leq \alpha \leq 1 \quad ; \quad 0 \leq \gamma(\phi) < 1 \quad (3)$$

Maximizing utility under constraints yields

$$a_j^{Incumbent} = \left( \frac{\gamma k (H_j^{Newcomer})^\phi}{y_j^\gamma n_j^{1-\alpha}} \right)^{\frac{1}{1-\gamma}} = \left( \frac{\gamma k (IMPORTS_j^{Newcomer})^\phi}{y_j^\gamma n_j^{1-\alpha}} \right)^{\frac{1}{1-\gamma}} \quad (4)$$

## The Story Line of Aid Competition



## Estimation and checking of reaction function

$$\ln(a_{j,t}^{Incumbent}) = \beta_0 + \beta_1 \ln(M_{j,t-1}^{Newcomer}) + \beta_2 \ln(y_{j,t}) + \beta_3 \ln(n_{j,t}) + \Phi W + \epsilon \quad (5)$$

## Data

Countries : 52 African countries | Period : years from 2003 to 2009

Statistical sources : *DOTS IMF (Department of Trade Statistics, International Monetary Fund)*; *WDI WB (World Development Indicators, World Bank)*; *QOG (Quality of Government dataset, University of Gothenburg)*.

## United States, Germany, Japan as incumbent donors respectively, and considering all recipients

Table 1 (imports lagged)	United States	Germany	Japan
Recipient imports from China	0.118 (0.95)	0.013 (0.16)	0.061 (0.54)
Recipient imports from France	-0.093 (0.64)	-0.076 (0.68)	-0.194 (1.24)
Recipient imports from UK	0.138 (0.93)	0.098 (0.86)	-0.020 (0.13)
Recipient imports from Japan	0.190 (1.52)	0.084 (0.90)	
Recipient imports from Germany	0.246 (1.49)		0.518*** (2.87)
Recipient imports from USA		0.148* (1.95)	0.395*** (3.45)
Controls	yes	yes	yes
Observations	233	221	237
$R^2$ adjusted	0.74	0.74	0.60

### Controls : History and Influence

Historical links captured by colonial dummies. | Influence captured by Population of donor relative to population of recipient ("big country notion"). | Influence is deeper if historical links exist and donor is a "big country" relative to recipient (interactive variables)

## UK as incumbent donor, considering all recipients first, then focus on influence area

Table 2 (imports lagged)	All recipients	Ex-colonies	Robustness
Recipient imports from China	-0.124 (0.94)	-0.266* (1.78)	-0.792*** (4.09)
Recipient imports from China x UK col.		0.438** (2.02)	0.674** (2.60)
Recipient imports from France			-0.313 (0.92)
Recipient imports from France x UK col.			0.158 (0.45)
Recipient imports from Japan			0.260 (1.15)
Recipient imports from Japan x UK col.			0.053 (0.16)
Recipient imports from Germany			0.958*** (3.56)
Recipient imports from Germany x UK col.			-0.651* (1.67)
Recipient imports from USA			-0.181 (0.70)
Recipient imports from USA x UK col.			-0.647* (1.80)
Colonial relationship with UK	0.795 (1.17)	2.638** (2.32)	-2.087 (-0.98)
Controls (as in table 1)	yes	yes	yes
Observations	202	202	193
$R^2$ adjusted	0.74	0.74	0.77

## France as incumbent donor, considering all recipients first, then focus on influence area

Table 3 (imports lagged)	All recipients	Focus on FCFA Zone
Recipient imports from China	0.110 (1.33)	0.114 (0.95)
Recipient imports from China x FCFA Zone dummy		-0.148 (1.02)
Dummy FCFA Zone		-0.458 (0.78)
Controls (as in table 1)	yes	yes
Observations	246	246
$R^2$ adjusted	0.70	0.68

No reaction function, no need to check robustness relative to other incumbent donors.

France seems no to be pro-reactive to China breakthrough

Moreover in FCFA Zone, which is a surprise...but reflects perhaps current disengagement from the “African french's precarre” announced by French authorities...

In case where France do not really exhibits any reaction function, What interest for African countries ?

China remains an alternative financier...Here, the cost for african countries to shift from France cooperation to China one is more high



## At least, two Proofs of British activism to manage China breakthrough in Africa

- From 23<sup>rd</sup> to 25<sup>th</sup> June 2009, Department For International Development (DFID) organized a event at University of Stellenbosch, Centre for Chinese Studies (CCS), to focus on the mutual benefits of the UK and Chinas increasing their engagement in Africa.
- Chinas perception of Africa as commercial opportunity was highlighted. | Participants : drawn from African offices of the DFID, British embassies and High commissions
- Three declared objectives : ☒ Enhance interaction between London and Beijing toward greater dialogue in their developmental efforts in Africa; | ☒ Provide a forum for ideas/knowledge to be shared to enable UK government participants to engage with China in Africa; | ☒ Enhance relationships of trust between UK & China to contribute to new areas of joint collaboration in Africa.

## Another Proof...

- From 25<sup>rd</sup> to 26<sup>th</sup> March 2010, Department For International Development (DFID), once again, organized a event held in Tunis, host by African Development Bank (AfDB).
- Objective : 📌 The seminar is aimed at generating policy-oriented research on the impact of the rising strategic and economic role of China on Africa's development prospects and its economic and political governance.

United Kingdom exhibits a reaction function, What interest for African countries ?

China may be considered as an additional financier...

THANK YOU FOR YOUR ATTENTION

