

THE IMPACT OF PROJECT COST ON AID DISBURSEMENT DELAY:

THE CASE OF THE AFRICAN DEVELOPMENT BANK *

Gaston GOHOU, ISE, M.A., Ph.D.

Principal Economist

Results and Quality Assurance Department (ORQR)

African Development Bank

B.P. 323 - 1002 Tunis Belvédère -Tunisia

Ph: (216) 7110 2609, Fax: +216 71 10 37 72

email: g.gohou@afdb.org

and

Issouf SOUMARÉ, ISE, M.Sc., Ph.D., FRM, PRM

Associate Professor

Managing Director, Laboratory for Financial Engineering

Department of Finance and Insurance, Faculty of Business Administration

Laval University, Quebec (Quebec), Canada G1V 0A6

Tel: (1) 418-656-2131 Fax: (1) 418-656-2624

Email: issouf.soumare@fsa.ulaval.ca

This version: October 2009

**PRELIMINARY, PLEASE DO NOT QUOTE WITHOUT THE AUTHORS'
PERMISSION**

* We thank S. Chinien for lengthy discussions on the topic at early stage of this paper.

THE IMPACT OF PROJECT COST ON AID DISBURSEMENT DELAY:

THE CASE OF THE AFRICAN DEVELOPMENT BANK

Abstract

In the December 2007 African Development Bank (AfDB) Report on its project portfolio to the Board of Directors, it is shown that the average delay between the Board approval of an investment project and the first disbursement is around 24 months. The literature is almost silent on the analysis of the delay to the first disbursement for international development agencies because mainly of data availability. This paper focus on the African Development Bank and its objectives are twofold. We first provide some descriptive analysis of the 2 195 development projects, approved by the AfDB Board between 1967 and 2008, and worth US\$158.0 billion of which the AfDB financed a total of US\$54.4 billion. The second objective of our paper is to analyse the impact of the project cost on the delay to the first disbursement of these projects.

We find several interesting findings. First, every \$1 invested by the AfDB in Africa seems to attract to \$2 more. Secondly, regarding the sector distribution, ADB countries implement more projects in the power and banking sectors while low income countries focus more in agriculture and social sectors. Finally, ADB countries project size is two time larger than ADF countries. Univariate analysis of the delay shows that there is almost no difference of delay between ADB and ADF projects. In addition, regarding the sectors, the highest delay is observed in the pro-poor sectors (education and health) while multi-sector projects experience the lowest delay. Finally, multinational projects experience the lowest delay and the South region has the highest delay. Multivariate analysis shows that large projects are expected to have less delay relative to smaller ones. Regarding the financing tool, a loan seems to increase the delay to the first disbursement by nearly 80 days while the delay decreases by more than 152 days when the project is financed by a grant.

JEL classification code:

Keywords: project finance, aid disbursement delay, project cost, AfDB.

I. INTRODUCTION

The recent repercussions of the financial crisis on developing countries, especially African countries, can be seen from at least two different levels. In the short term, the impact on the African countries' financial market has been minimal due to their "disconnection" to the global market. However, in the medium term, the impact may become stronger for developing countries given possible reduction in Official Development Aid (OAD). Thus, it becomes necessary from the onset for these countries to make the most optimal use of the reduced resources available.

Project finance (PF) is one important means to finance development projects, especially given the current status of developing countries' financial markets. PF is defined as the creation of a legally independent project company that is financed with equity from one or more sponsoring firms, and which has non- or limited recourse debt for the purpose of investing in a capital asset (Esty 2004). PF reduces information (asymmetries) costs, incentives' conflicts, financial distress cost, increase debt restructuring, reduce risk, improve corporate organization and management compensation (e.g., Finnerty (2007), Gatti (2008) and Subramanian et al. (2007)). The main difference between PF in the private sector and development project is the limited immediate financial return of the latter. The government is then always the lender and is responsible for paying back the loan. Hence, we can consider development project as fitting perfectly in the PF concept, as we will do in this paper.

In order to reduce poverty and achieve the Millennium Development Goals (MDGs), developing countries have to focus on improving the successful implementation rate of projects. Several studies have comprehensively analyzed the performance of development projects from the impact of project supervision during implementation phase (Kilby 1995, Kayizzi-Mugerwa 2000) or from the agent incentive (Collier 2007). However, an important aspect of a project's successful implementation that has drawn little attention is the delay of disbursement between approval of the project by the international development agency Board of Directors and the first disbursement, i.e. when the money is released to the recipient country for implementation of a project to begin.

Indeed, a delay at the beginning of the project may impact adversely on its performance in several ways including its high final financial cost, the low quality staffs that accept to work on the delayed project, and the needs of the population that may change. Hence, an important determinant of project performance is the delay between its approval to the first disbursement.

To our knowledge, few papers have studied the first disbursement delays at the beginning of

the projects financed by international development agencies, especially those financed by the African Development Bank Group (AfDB). This paper seeks to contribute to the literature in this direction by studying the causes of these delays. Its objectives are twofold. First, we provide some descriptive analysis of the development projects financed by the AfDB group since 1967. For this, we use a comprehensive database of 2,195 projects, worth US\$54.4 billion. We compare the financial characteristics (concessional and non concessional loans), the sectors and geographic distributions of the entire population of projects financed.

The second objective of our paper is to analyse the impact of the project cost on the delay to the first disbursement of these projects. The impact of the industrial and geographic distributions of projects is also assessed. The efficiency and effectiveness of a development project can be better attained with a timely implementation. A delay in the first disbursement, may seriously jeopardize the success of a project. Hence, the analysis of the disbursement delay is of a crucial importance, especially for development project rather than for the private sector projects. We use simple OLS regression techniques on various specification models to assess the impact of various variables on the delay from AfDB board approval of a project to the first disbursement.

The rest of the paper is organized as follow. Section II reviews the literature on PF with special emphasis on development PF. Section III presents the AfDB projects' database and describes the geographic and sector distribution of the development projects. Section IV displays the empirical analysis that assesses the causes of the delay between approval by the AfDB Board and the first disbursement. We mainly carry out OLS regressions to gauge the impact of the project cost on these delays.

II. LITERATURE REVIEW

The recent financial crisis has impacted on developing countries on at least two different levels. The first level impact, which is the financial market contagion, has been less significant, especially for African countries, since they are “disconnected” to the global financial market.¹ However, the second level impact, which results from a slowdown in advanced economies, will affect developing countries in two steps. Firstly, the amount of Foreign Direct Investment (FDI), equity investment and remittances to developing countries will be under pressure. Even if FDI levels were at a record level in 2007, these effects are likely to be felt strongly in 2010. Secondly, Official Development Aid (ODA) from developed

¹ The financial crisis is impacting significantly on emerging markets (for instance, India, Russia)

countries is likely to experience significant reductions due to debt problems and weak fiscal positions. (te Velde 2008).

However, more than ever, developing countries need external aid to finance their development agendas. Infrastructure and social (education and health) sectors are two key sectors in need of such resources. Several possibilities exist to finance the development needs including Portfolio Equity Investment (PEI), FDI, and PF. However, due to the weak financial market structures of developing countries, some of these instruments are better suited than others. PEI has several advantages as a financial tool since it reduces the capital cost for domestic firms, mitigates risk and improves corporate governance (Claessens et al., 1995). However, PEI flows best in a country with a well developed stock market, which is an important constraint for most developing countries. FDI, on the other side, does not rely on a well developed stock market (Hausmann and Fernández, 2000), but allows for a direct control of operations, and reduces risks as a result of lesser information asymmetries. However, the quality of the institutions of the FDI host countries is instrumental for a successful use of FDI. Indeed, the quality, more than the quantity of FDI, matters (Asiedu, 2004).

Project finance (PF) is defined as “the creation of a legally independent project company financed with nonrecourse debt (and equity from one or more sponsors) for the purpose of financing a single purpose or industrial asset” (Esty, 2004).² This financing technique/method is used for projects where there are asymmetry of information and large risks. The objective of using PF is mainly to reduce the net cost of financial market imperfections. PF reduces information costs, incentives conflicts, the cost of financial distress, corporate taxes and increases transaction costs (Esty, 1999). In addition, PF allows for the allocation of project risks to the participants who can best manage them. Hence, the unique properties of the third instrument, project finance (PF), make it suitable to substitute for the financial market failures that constrain PEI and FDI (Kleimeier and Versteeg 2009).

Development projects are slightly different from the core PF of the private sector. Since development project has a social aim and limited immediate financial return, the lender is the government that is also responsible for paying back the loan. Nevertheless, development projects are also non-recourse project since these projects are self-sustainable and have a single purpose to finance a single social outcome. Hence, development project can be finance using PF theoretical and empirical background.

² This definition includes three key decisions: (i) the investment decision; (ii) organizational decision (PF is then a form of off-balance sheet finance in the sense that project liabilities do not appear in the sponsor balance sheet); and (iii) the financing decision that implies the nonrecourse debt (since the project is legally independent) (esty 2004).

Early studies on PF focus only on private sector PF or at most on Public-Private Partnerships (PPP) projects. Kleimeier and Megginson (2000) compare the characteristics of PF loans and other syndicated credits. They analyze a database of 4,956 PF (worth \$634 billion) and 90,784 syndicated loans (worth \$13.2 trillion) booked on international capital markets since 1980. They found that PF loans have a longer average maturity, are more likely to have third-party guarantees, and are far more likely to be extended to non-US borrowers and to borrowers in riskier countries. PF credits also involve more participating banks, have fewer loan covenants, are more likely to use fixed-rate rather than floating-rate loan pricing, and are more likely to be extended to borrowers in tangible-asset-rich industries.

Recently, some authors have started to analyze the link between PF and economic developments in developing countries. Preliminary results show that PF indeed fosters economic growth and this effect is strongest in low-income countries, where financial development and governance are weak (Kleimeier and Versteeg 2009).

The literature is almost silent on the question of disbursement delays of PF. Leurs (2005) and Bulir and Lane (2002) are among the few that discuss this issue. While aid disbursement delays are a significant problem for donors and partner governments around the world, there appears to be no agreed definitions or measurement criteria, very little data and hardly any coverage in the literature on development aid (Leurs 2005). Delays are defined as the timing between the pledges by a donor or international development agency to give aid to a country and the time the country receives the money³. Aid disbursements, for development projects, appear to be less predictable than tax revenue because of these delays. Indeed, in a study of 77 countries between 1975 and 1997, Bulir and Lane (2002) found that the variance of aid receipt was almost nearly five time greater than the one of tax revenues.

Few papers have analysed project financing for international developing agencies, especially those from the AfDB. Kayizzi-Mugerwa et al (2000) is one of the few papers that analyzes the determinants of AfDB project success using a sample of data of 149 projects completed by 1995. They look at the link between the economic rates of return at appraisal and at completion for 56 projects where such data were available. They find that the rates of return at the project design level are at best weak indicators of project performance. In addition, a good policy environment (economic growth, inflation and the country's level of development) is as important for project success as are the project specific characteristics (size of project, sector of activity).

³ For instance while delays for budget support may be lower than for investment project, their negative consequences may be greater in terms of macroeconomic imbalances created in the country (Leurs 2005)

It should be noted that a delay to the first disbursement may be an important determinant of a project successful implementation. In fact, a first disbursement delay may impact negatively on the project performance in several ways. First, a delay in the planned operational commencement of a project may result in higher financial costs since the unit price of the items the project was planning to purchase may increase. In infrastructure sector, prices are volatile and project cost is very high. A delay to beginning a road project may have significant impact on the project total cost if the unit cost the main inputs increases. Second, qualified staffs who were supposed to work on the project may find jobs elsewhere while waiting for the project to begin. Finally, the population needs may change or the capacity assessed in terms of delivery of services may now be insufficient. It is then crucial to start a project in a timely manner i.e. as planned in the project design.

III. The AfDB-financed development projects

The African development bank Group (AfDB): The African Development Bank group (AfDB thereafter) comprises three institutions, including: (i) the African Development Bank (ADB); (ii) the African Development Fund (ADF); and (iii) the Nigeria Trust Fund (NTF). The ADB was established in 1964⁴ and its capital has been opened to non-African countries (or non regional member countries) since 1982. The ADF was set up in 1973 to provide financial and technical assistance to low income Regional Member Countries (RMC) through concessional loans and grants. The resources of the ADF are provided by 26 non RMC and are replenished every three years. The NTF was created in 1976 and aims to support the development of RMCs of the AfDB, especially the low-income ones. Resources of this Fund are provided by the Government of Nigeria. The main objective of the AfDB is to promote economic and social development of its RMCs. To achieve this objective, the AfDB finances investment projects, sector and structural adjustment programs, and provides advisory services to its RMCs. The AfDB has 53 RMCs and 24 non RMC.⁵

The AfDB carries out development projects in its RMCs by providing either loans (concessional or not) or grants and supervises its implementation. The provision of loans/grants requires several steps. First, a request from a Government *identifies* a potential project to be financed by the AfDB. On the basis of this request, the AfDB undertakes a *preparation* mission during which the content and design of the project is discussed and agreed

⁴ The creation act was signed in August 4th 1963 and became effective in September 10th 1964.

⁵ Countries eligible to ADB funds include Algeria, Botswana, Egypt, Equatorial Guinea, Gabon, Mauritius, Morocco, Namibia, Seychelles, Tunisia, Swaziland, South Africa. The remaining RMCs are eligible for ADF resources. As at end 2008, only Nigeria and Zimbabwe are blend countries i.e. eligible to both ADB and ADF funds. All the remaining RMC countries are eligible for the ADF fund only.

with the Government. Thereafter, if the project is deemed to be appropriate, the AfDB, through an *appraisal phase*, fine-tunes the project design and submits it to its Board for approval. Once approved, the *implementation phase* of the project begins, which is done by the Government. The AfDB will finance the project in tranches based on project performance and implementation rates (conditions precedent to tranche release). These tranche releases should be done in a timely manner to ensure project success. It is then important for the country to satisfy the release conditions to meet the project's financial needs. A delay in the release of one tranche may have important consequences on the final outcome of the project, especially with regards to the first tranche release that is critical for the launching of project activities.

In this paper, we use a comprehensive database of AfDB project portfolio. The AfDB database contains detailed historical data on all the operations implemented in its RMCs since 1967. The operations of the AfDB are diverse and include development investment projects, policy based lending (PBL), project preparation funding (PPF), emergency projects, and studies. In this paper, we focus only on investment projects and PBL for which most of the data are available. In the remaining part of the paper, both operations will be called "projects" to allow for simplicity. Abandoned⁶ and terminated⁷ projects have also been removed from our dataset. In addition, we will consider projects that have been approved between January 1st 1967 and December 31st 2008. Based on these criteria, we obtained a database of 2,195 projects, including 404 projects implemented in Middle Income Countries (ADB window) and 1,791 projects implemented in low income countries (ADF window).⁸

Regional and sector distribution of development projects. Tables 1 to 4 present the characteristics of the project population financed by the AfDB between 1967 and 2008. Each table is presented within three sub groups: two main financing instruments of the Bank (ADB window and the ADF window⁹) and the AfDb as a whole, representing the total financing of the AfDB. For each table subgroup, we present the number of projects, the total cost of the projects in US\$ billion¹⁰, the percentage value of this total cost, the total cost financed by the AfDB window in US\$ billion and its percentage value.

Overall, the AfDB is financing one-third of the total cost of the whole project population. Indeed, for every dollar the AfDB invests in a development project in Africa brings \$2 more in

⁶ An abandoned project is a project for which the project cycle begins but that has not been approved by the AfDB Board

⁷ A terminated project if a project that has been approved by the AfDB Board and cancelled before the AfDB and the country signs the loan agreement or before first disbursement.

⁸ It has to be noted that in most recent years, a large number of the projects approved by the Board have not disbursed yet (31% in 2007 and 66% in 2008). This may create a bias when we will estimate the disbursement delay.

⁹ The NTF window is not represented here but included in the ADF for simplification.

¹⁰ It is to be noted that the total cost of the project is higher than the cost financed by the AfDB since the Bank requires that the government financed around 10 percent of the project cost and most of the time, the Bank participates to co-finance project with other donors.

the country or region. The total cost of these 2 195 projects is worth US\$158.0 billion of which the AfDB financed a total of US\$54.4 billion. Out of the total amount financed by the AfDB, 65.6 percent went to ADF countries (low income countries) and 34.4 percent to ADB countries (middle income countries).

Table 1 describes the industrial sector distribution of the project population. There are two main differences between ADB-financed projects and ADF-financed ones in terms of sector of concentration and project size. Middle income countries implemented more projects in power and banking sectors while low income countries had projects mostly in agriculture and social sectors. Low income countries' projects are basically concentrated in agriculture, transport, water and sanitation and social (education and health) sectors. These sectors represent 50.6 percent of the project cost financed by the AfDB. On the other hand, middle income countries projects financed by the AfDB are concentrated mainly in transport, power and banking sector, which represents 51.5 percent of the AfDB project cost.

INSERT TABLE 1 HERE

Regarding the project average size (in US\$) of the projects financed, the ADB projects (US\$ 46.3 million) are two times larger than ADF projects (US\$ 19.9 million).¹¹ This observation holds if we look at the total average size of the project or only the average amount financed by the AfDB. It is to be noted that the highest average project size financed by the AfDB is in the power (US\$ 72.4 million) sector for the ADB countries while it is in the transport sector (US\$ 24.2 million) for the ADF countries. Comparing the average size of the total project cost of the AfDB projects and the “private sector” projects (Kleimeier and Megginson 2000), one notes that the average size of total AfDB project cost financed (US\$ 72 million) is almost two times lower than the ones of the private sector (US\$ 128.0 million). However, when we look at the project by financing window, the average size of the total project cost for ADB countries (US\$ 126.2 million) is about the same size of the one of the private sector.

INSERT TABLE 2 HERE

Table 3 presents the characteristics of the projects portfolio by regions. We consider five regions depending on the geographical location of the recipient country: Central, East, North, South and West. Projects implemented in more than one country will be classified as “multinational”. Project financed through ADB window are concentrated in the North region since this region includes most of the largest ADB countries. However, the overall distribution

¹¹ Since the ADF provides concessional loans or grants and these allocations are based on a Performance Based Allocation (PBA), resources available are less than for the ADB window. However, this is not enough to explain the large average size difference between ADF and ADB project.

of the AfDB funding shows expected trend in term of country capacity to borrow (greater for ADB countries) and country classification. The northern region, which has four (4) Middle Income Countries, received the highest share of the AfDB funding (28.8 percent) while the western region, with 16 mostly low income countries, received the second highest share of AfDB funding (23.2 percent).

INSERT TABLE 3 HERE

Table 4 presents the project portfolio by financing instrument. Here the difference is clear between ADB-financed project and ADF-financed project. Almost 20 percent of the ADF-financed project are done through concessional loans and grant or grants only instruments while for the ADB-financed projects, about 98 percent of the projects are financed by non-concessional loans. On average, all AfDB-financed projects are done with loans to RMCs (87.3 percent and about 6 percent by grants to mainly low income countries).

INSERT TABLE 4 HERE

In summary, the descriptive statistics of the 2 195 projects financed by the AfDB shows some interesting features. First, every \$ invested by the AfDB in Africa seems to attract to \$2 more. The AfDB seems to then have to snow ball effect on investment in the continent. Secondly, regarding the sector distribution, ADB countries implement more projects in the power and banking sectors while low income countries focus more in agriculture and social sectors. Finally, ADB countries project size is two time larger than ADF countries.

IV. DETERMINANTS OF THE PROJECT DELAY: MODEL AND RESULTS

The second objective of this paper is to assess the impact of the project cost, the industrial and geographic distribution on the delays to the first disbursement. To address this issue, we first conduct a univariate analysis on the observed delays in terms of projects industrial sector distribution, geographical location and financing instruments used. Secondly, we will conduct a multivariate analysis of the disbursement delay. As discussed above, the literature is relatively silent on this question. We will begin this section by defining the disbursement delay.

Definition of the delay. There is no consensus on how to define the delay from the Board approval to the first disbursement. The AfDB defines, in its Annual Project Performance Review (APPR), the delay from Board approval to first disbursement as the average delay for

all active (or on- going) projects in any given year. Hence, the delay for 2008 will take into consideration all the ongoing projects (more than 680 projects) and calculate the average delay for these projects. This methodology has the advantage to estimate the average delay for all active projects. However, it does not capture efficiently trends in the delays¹². Then, if a 10 year-old project is still active, it may be the case that this project may increase the average delay if its delay was large.

To capture yearly improvement of the AfDB in its project implementation, we have chosen to measure the delay differently. To define the delay, we will follow and adapt Leurs's (2005) definition that is commonly accepted by the donors' community. For any given year, we define the delay to first disbursement as the lag, in number of days, between the approval date of the project by the Board (international development agency pledge) and the date of satisfaction of all the conditions by the country such that the AfDB can release the first disbursement (reception of the money by the country). The definition will allow us to estimate the impact of any reform implemented by the AfDB to reduce the delay.¹³

Univariate analysis. Based on the above definition, we estimate the delay to the first disbursement for all projects. Table 5 to 7 present the univariate characteristics of the delay. It is to be noted that on average, the difference of delay between ADB and ADF financed projects is not large (about 10 days). The average delay is about 20.4 months for ADB financed projects and 20.8 months for ADF-financed projects. This observation is quite surprising since the ADB-financed projects are non-concessional loans and the interest is at a rate close to the market one while the ADF-financed projects are concessional with low or no interest rate. One would have expected the readiness of an ADB project to be better than an ADF one and then having a shorter delay.

Table 5 describes the delay by industrial sectors. This table shows some surprising results. In both cases (ADB and ADF), the highest delay is observed in sectors that can be categorized as priority or pro-poor sectors. For the ADB-financed projects, the highest delay is in the education and agriculture sectors while it is the communication and education sectors for the ADF-financed projects. A large delay in the implementation of the projects in these sectors may be a good proxy of low performance and hence, inefficiency and inefficacy of the intent primary objective. Overall, education and health are two sectors with the highest delay to first disbursement. As expected, multi-sectors (structural adjustment grant, budget support, Balance

¹² Also, recent reforms implemented by the AfDB to reduce the delay will not show its impact well.

¹³ Notice that the delay the date of the satisfaction of the first disbursement release may not be the same as the effective date at which the country received the money, due to administrative procedure in the host country. However, since this delay is in general small, we will focus on the delay as define above.

of payments support,...) have the lowest delay. However, since the projects in this sector impact directly on the government budget, a small delay can have more important consequences on the macroeconomic fundamentals than any one given sector.

INSERT TABLE 5 HERE

Table 6 shows the distribution of delay by region. The South region has the highest delay whilst the multinational projects have the smallest delay. This is also surprising since one may expect that due to the coordination need amongst several countries for multinational projects, the delay in fulfilling conditions for the first disbursement will be higher. Finally, table 7 presents the delay to the first disbursement by financing instruments. For the ADB and ADF-financed projects, projects with a grant have the lowest delay. Projects financed by a combination of a loan and a grant have the highest delay while it is the projects financed only by a loan that have the highest delay for the ADF- financed project.

INSERT TABLE 6 HERE

INSERT TABLE 7 HERE

In summary, we found almost no difference of delay between ADB and ADF project. In addition, regarding the sectors, the highest delay is observed in the pro-poor sector (education and health) while multi-sector projects experience the lowest delay. Finally, multinational project experience the lowest delay and the South region has the highest delay.

Multivariate analysis. In this section, we assess the impact of the project cost on the delay using an Ordinary Least Square (OLS) regression analysis with the delay as dependant variable. The academic literature is relatively silent on the estimation of disbursement delay of the development projects. Several authors analyse the performance of development projects (Chauvet et a 2007; Kilby, 1995, Leur, 2005, Kayizzi-Mugerwa, 2000). One of the main constraints of this research is data availability. Niang (2006) is one of the few papers that estimate these delays for the International Finance Corporation (IFC), the private arm of the World Bank, but has also important data constraints.

The causes of delays are numerous and involve both the international development agencies and the country. When a project is approved by the AfDB, there are at least three (3) steps to accomplish before the first disbursement can be released. First, after Board approval, the country and the AfDB have to sign a loan/grant agreement. Next, the country's parliament (in

most countries) needs to ratify the loan agreement. Finally, the country needs to fulfill specific conditions tied to the first tranche to allow for tranche release. At each of these steps, disbursement may be delayed because of various causes including in the country the quality of the country administration, the quality of the institutions, the level of development (economic).

In order to identify the variables to be used in our regression, we ask the following question: what could be the main incentives for a Government to reduce the delay of first disbursement? We assume that the size of the project is a good incentive for a country to implement as rapidly as possible a project. Indeed, a large project (in terms of its dollar value) has large impact on a specific part of the country population. In addition, it may also give some visibility to the Government if it is seeking re-election. Finally, a failure of large project may have such a negative impact on a large part of the population that it may also impact the political scene. We will then test the impact of the project size on the delay to the first disbursement. Hence, the main research question is to what extent the size of a development project impacts the delay to the first disbursement.

We estimate the determinants of the delay to the first disbursement using variations of the following equation:

$$\text{DELAY} = \alpha_1 * \text{COST} + \alpha_2 * \text{TYPE} + \sum(\beta_i * \text{SECTOR}) + \sum(\delta_j * \text{REGION}) + \sum(\gamma_j * \text{FINANCIAL}) + \lambda_j * \text{GDPPOP} \quad (1)$$

The variable DELAY is the timing from AfDB Board approval of a project to the first disbursement (in days) and is measured as defined earlier. COST is the share of the total cost of the project financed by AfDB and we also use an alternative measure of project size, the total project cost, which is the exact measure of the project size. To control for industrial sectors and regional differences, we also use a SECTOR and REGION variables. REGION is the geographical location of the project and includes the five main regions and the multinational (as defined above) defined by the AfDB as of 2008. It is composed of six (6) dummy variables: including West (16 countries), East (12 countries), North (6 countries), Central (7 countries), and South (12 countries). In addition to these regions, we add “Multinational” to account for projects that are implemented in more than one country region. Each dummy takes a value of one (1) if the project is implemented in a country of the region and zero otherwise.

SECTOR is the industrial sector of the project: Agriculture; Communications; Finance; Industry, Mining and Quarrying; Power; Social; Transport; Water Supply and Sanitation. In addition to these sectors, we add “Multisector” to account for structural adjustment programs

and budget supports. Each of these variables is dummy variables taking the value of one (1) if the project is mainly in the particular industrial sector and zero otherwise. FINANCIAL measures the type of financing instrument used (loan or grant, or blend) and is used to capture the type of financial instrument used by the AfDB to finance the project. There are basically dummy variables for Loan or Grant. Finally, GDPPPOP is the GDP per capita and is used to measure the country's level of development.

Impact of the project size on the disbursement delay. The impact of the project size on the delay to the first disbursement is assessed by doing an OLS regression of the delay on the cost of the project financed by the AfDB. Table 8 presents the results using various model specifications. Column 1 uses only the share of the total cost financed by AfDB with no control variable. Columns 2 and 3 use the same specification for the project size but control for the mode of financing and in column 3 for the country's development level. The cost of the project seems to impact negatively the delay to the first disbursement. The coefficient of proportion of the cost financed by AfDB is negative and significant at 1% significance level in the three regressions. A 1 percent increase of the AfDB financing share of the project reduces the project disbursement by two (2) days on average. Hence, large projects are expected to have less delay relative to smaller ones.

INSERT TABLE 8 HERE

This finding is important in the sense that, using the delay as a project performance indicator, it shows that large projects have more chances of success than smaller ones. In fact, from the donor's viewpoint, everything else being equal, the processing cost of a smaller project (for example a US\$ 5 million project) from its approval by the board to the first disbursement is the same¹⁴ as for a larger project (for example costing US\$ 200 million). The benefits for these projects is also the same¹⁵ since the donor's staffs that design and supervise the implementation of the project are not among the beneficiaries. However, when lending to an ADB, there may be a gain from a large project than from a small project benefit since the AfDB will be collecting more interests. Therefore, from the donor viewpoint, it can be beneficial to reduce the delay between project approval by its board and the first disbursement for ADB loan. From the country viewpoint, while the transaction costs for the design of small

¹⁴ The steps followed by the staffs are exactly the same from the project identification to the board approval.

¹⁵ ie none, a part from the satisfaction to have design an operation and the noral satisfaction to help make the difference in a country.

and large projects (US\$ 5 million and US\$ 200 million) are almost the same, the benefits are relatively different. The large project will have larger impacts on the population of the country than the smaller one. Hence, there is a strong incentive from the government perspective to reduce the delay to first disbursement, which is mostly caused by its own administrative bottle necks. There is thus more incentive overall to reduce the delay from the donor and Government viewpoint when the project is large.¹⁶

From columns 2 and 3 of table 8, when the project is financed through a loan, the delay to the first disbursement seems to increase by nearly 80 days while the delay decreases by more than 152 days when the project is financed by a grant. The coefficients of both variables are significant, positive for the loan and negative for the grant. Hence, a project financed by a grant will have smaller delay than the one financed by a loan. It may be the case since a grant is considered to be “free”¹⁷ money received by the country and internal country administrative procedures are different in the sense that the grant ratification by the country might be faster. A loan from the AfDB to a country is a contract between the country and the AfDB regardless of whichever Government is in place when the loan is contracted. It is then necessary that the country’s parliament ratify the agreement before it can be disbursed.

Finally, the coefficient of the GDP per capita is also negative and significant. In these estimations, the GDP per capita is considered to be a broad proxy of the country’s economic and institutional development. A country with a higher GDP per capita is supposed to have a more efficient administration than the one with a lower GDP per capita. The negative and significant coefficient corroborates the efficiency of countries with higher GDP per capita to have smaller delay than countries with lower GDP per capita.

We conduct the same regressions with respectively ADF and ADB only financed projects. Columns 1 to 3 of table 9 and 10 present the regression results, respectively, for the ADF-financed projects and ADB-financed projects. In both cases, the project’s delay decreases with the cost of the project. However, for the financing instrument control variables, the results are different. For the ADF-financed projects (table 9), the delay to the first disbursement decreases when the project is financed by grant and increases when the financing is done with loan. As in for the whole projects portfolio, the delay decreases with higher GDP per capita. For ADB

¹⁶ This result is opposite to the one of the private sector projects of the IFC (Niang, 2006). For these private sector projects, the delay to the first disbursement increase with the cost of the project. For public sector projects, we find an opposite relationship. Indeed, for public sector projects, the government has an incentive to speed the fulfillment of conditions such that the release of the first disbursement is done as soon as possible while in the case of private sector project, lenders take more time to lend when the project cost is high.

¹⁷ In general, these grant come with specific conditions of implementation for the government, so it is not completely free.

financed projects, unlike in the ADF and the entire portfolio case, the signs of the two financing instruments coefficients are negative. Thus, the positive impact of the loan financed projects is mainly driven ADF projects portfolio behaviour. These results confirm the important differences between ADF and ADB countries already noticed above. ADB countries seem to be more efficient in terms of disbursement delay.

INSERT TABLE 9 HERE

INSERT TABLE 10 HERE

Impact of the industrial sector distribution. Another question of interest is whether the industrial sector has an impact on the delay to the first disbursement. Columns 4 to 6 of table 8 present the results of the regression of the delay on the project cost and the industrial sectors dummies for the whole projects portfolio. In columns 5 and 6, we control for the financing instruments and the country development level. Except the communication sector, the coefficients of all the other industrial sectors are not significant. Their signs are all positive aside from for the multi-sector. The negative sign for the multi sector supports the idea of the quick disbursement of Policy Based Lending (PBL). Similarly, the impacts of the financing tools are the same as previously. The use of loan seems to increase the delay while grant financed project has a lower delay.

As above, we disaggregate the project population into ADF and ADB financed projects. For the ADF and ADB financed projects, the results still stand. The industrial sectors coefficients are not significant but have mostly positive signs except again for multi-sectors projects. Regarding the financing tools used to finance these projects, the results are the same as previously. While the delay seems to increase if the financing is a loan for the ADF countries, it decreases for ADB countries.

Impact of the regions. Lastly, we would like to gauge the impact of the regions on the delay to the first disbursement. Column 7 to 9 of table 8 presents the results of the regression of the delay to the first disbursement on the project cost and the geographical regions dummies. In columns 8 and 9, we control for the financing tools used and for the country's development level. Since all regional variables are dummy ones, we use the "multinational region" as a buffer to avoid the dummy trap. Once again, the impact of the project cost on the delay is negative. The coefficients for all regional dummies are positive with some being significant. This result seems to imply that coordination for project implemented in more than one country

(multinational project) is better than project implemented in only a single country. When we consider the financing tools used, the sign of the regional coefficients remain positive but most of them are no more significant.

As previously, we observe the same pattern when we disaggregate the project population between ADF and ADB financed projects. Even if the signs of the coefficients are the same, they are no more significant for the ADF countries. Hence, the impact of the regional dummies on the delay to disbursement is positive but not robust to various model specifications.

Robustness of the results. To check the robustness of our results, we use another cost measure to see if our results still hold. For this purpose, we use the total project cost, instead of the portion financed by the AfDB. We run the same regressions as before. Tables 11 to 13 display the results of these regressions. The main results remain the same as previously, i.e., for all regressions, the delay decreases when the project size increases. And, in general, loan financing seems to increase the delay while grant financing seems to reduce it. Regarding the sector impact, their coefficients are not significant. Finally, the geographical location seems to impact the delay.

INSERT TABLE 11 HERE

INSERT TABLE 12 HERE

INSERT TABLE 13 HERE

In summary, multivariate analysis shows that large projects are expected to have less delay relative to smaller ones and a 1 percent increase of the AfDB financing share of the project reduces the project disbursement by two (2) days on average. Regarding the financing tool, a loan seems to increase the delay to the first disbursement by nearly 80 days while the delay decreases by more than 152 days when the project is financed by a grant. The coefficients for industrial sectors and regions are not significant but positive.

V. CONCLUDING REMARKS

This paper describes the characteristics of the public development projects financed by the African Development Bank (AfDB) between 1967 and 2008. Our database is composed of 2,195 projects, worth US\$ 158 billion, of which the AfDB finances US\$54.4 billion. From the descriptive statistics, we find that: (i) for every US\$ 1 invested by the AfDB in a country, US\$

2 more are invested by the government and/or other donors; (ii) while ADB countries focus their investments projects in power and banking sectors, ADF countries invest more in agriculture and social sectors; (iii) the average cost of ADB project is twice as large as that from ADF countries.

The second objective of this paper was to assess the impact of the project size on the delay to the first disbursement. The delay is defined, for each project and any given year, as the timing, in number of days, between the AfDB board approval date of the project (international development agency pledge) and the date of satisfaction of all the conditions by the country such that the Bank can release the first disbursement (reception of the money by the country). First, from the univariate analysis, we found that the delay to the first disbursement is not statistically different if we compare ADB and ADF countries. By industrial sector, the delay to first disbursement is the highest in social sectors such as education, health and agriculture. Finally, when you look the regional distribution, the delays are the lowest for multinational projects.

As for the impact of the project cost on the delay, we found that the project cost impacts negatively and significantly its delay. The highest is the project cost, lower is its delay to disbursement. We also found a loan financing instrument increases the delay while a grant financing seems to reduce the delay to first disbursement.

In light of these findings and with the financial crisis that reduce resources available for developing countries, we make two main recommendations, First, for efficiency and effectiveness, the AfDB should favour the design large projects, relatively to the size of the country. Large projects reduce the transaction costs for the AfDB, in term of disbursement delay and have more chance to have an impact of the beneficiaries in the country. The second recommendation concerns the industrial sector of the AfDB. This paper shows that Policy Based Lending (PBL) has the shortest delays. It may be then more efficient to invest more in PBL operations to deliver quickly the money to the countries and increase the chances of success of AfDB operations.

REFERENCES

- African Development Bank Group (2006); *Annual Portfolio Performance Review (APPR)* report, various years 2006-2009)
- African Development Bank Group (various years); *Compendium of Statistics on Bank Group Operations, 2006 to 2009*, volume XXIX to XXXII
- Ang, James B. (2008), *A survey of recent developments in the literature of finance and growth*, Journal of Economic Surveys (2008) Vol. 22, No. 3, pp. 536–576
- Bulir A, Lane T. 2002. “*Managing the Fiscal Impact of Aid*”, Finance and Development”. 39(4): 1–5
- Chauvet, Lisa ; Collier, Paul ; Fuster, Andreas (2007) : ”Supervision and project performance: a principal-agent approach” working paper, department of economics, oxford university
- Claessens, S., M. Dooley and A. Warner. (1995) *Portfolio capital flows: hot or cold?* World Bank Economic Review, 9, 153-174.
- Doucouliaqos, Hristos and Paldam, Martin (2007): “*The aid effectiveness literature: The sad results of 40 years of research*” mimeo
- Esty, Benjamin (1999), “*Petrozuata: A Case Study of the Effective Use of Project Finance*” Journal of Applied Corporate Finance, fall 1999, vol. 12-3
- Esty, B.C. and W.L. Megginson. (2003) Creditor rights, enforcement, and debt ownership structure: Evidence from the global syndicated loan market. Journal of Quantitative and Financial Analysis, 38, 37-59.
- Esty, B.C., (2007). An Overview of Project Finance & Infrastructure Finance –2006 Update. Boston: Harvard Business School Publishing.
- Esty, B.C., F.J. Lysy and C. Ferman, (2003). An Economic Framework for Assessing Development Impact. Boston: Harvard Business School Publishing.
- Esty, Benjamin C. (2007), “*An Overview of Project Finance and Infrastructure Finance - 2006 Update*”. HBS Publishing Case No.: 207-107. Available at SSRN
- Hainz, Christa and Kleimeier, Stefanie (2006): “Project Finance as a Risk-Management Tool in International Syndicated Lending” Discussion Paper No. 183
- Hausmann, R. and E. Fernández-Arias. (2000) *Foreign direct investment: good cholesterol?* Working Paper.
- Isham, Jonathan, and Daniel Kaufmann (1999), “The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects”, Quarterly Journal of Economics 114 (1): 149-184.
- Kayizzi-Mugerwa, Steve, Mubila, Maurice M. ; Lufumpa, Charles Leyeka (2000), “*A Statistical Analysis of Determinants of Project Success: Examples from the African Development Bank*” African Development Bank, 2000, Economic research Papers No 56”
- Kerr, John (2001): “*Watershed Project Performance in India: Conservation, Productivity, and Equity*”, American Journal of Agricultural Economics, Vol. 83, No. 5, Dec., 2001, pp. 1223-1230
- Kleimeier, Stefanie and Megginson, William L. (2000): “Are Project Finance Loans Different From Other Syndicated Credits?” Journal of Applied Corporate Finance, spring 2000 volume 13 number 1
- Kleimeier, Stefanie and Roald Versteeg (2009): “*Project Finance as a Driver of Economic Growth in Low-Income Countries*, working paper, METEOR, RM/09/011
- Kilby, Christopher (1995); Supervision and performance: the case of the World Bank projects” working paper
- Leurs, Robert (2005), *Aid disbursement delays: measures, causes, solutions, public administration and development*. 25, 379–387 (2005)

- McNamara, Gerry M; Luce, Rebecca A., and Tompson, George H. (2002) ;“Examining the Effect of Complexity in Strategic Group Knowledge Structures on Firm Performance” Strategic Management Journal, Vol. 23, No. 2 (Feb., 2002), pp. 153-170
- NIANG, N. Rokhaya (2006) ; Étude des stratégies d’investissement de la Société Financière Internationale (IFC) dans un cadre de Financement par projet, Memoire de MBA Finance, Faculté des Sciences de l’Administration, Département de Finance et Assurance, Université Laval
- Ravallion, Martin(2000): “*Monitoring Targeting Performance When Decentralized Allocations to the Poor Are Unobserved*” The World Bank Economic Review, vol. 14, No. 2: 331-45, (May, 2000).
- te Velde, Dirk Willem (2008); “*The global financial crisis and developing countries*” ODI Background Note, October 2008.

Annex 1: Sector classification of AFDB operations

(source: Compendium of Statistics on Bank Group Operations, 2008, volume XXXI)

Agriculture and Rural Development: Food crops, irrigation and drainage, cash crops, agro-industry, livestock, fisheries, and forestry.

Communications: Includes telephone, radio, telegram, postal services and satellite.

Education: Refers to support for educational infrastructure; general primary, secondary and higher education; technical and professional education, adult literacy.

Environment: Includes stand-alone operations that address environmental conservation and management issues such as reforestation to curb soil erosion, clean-up of water bodies, treatment and disposal of waste material, etc.

Finance: Refers to development banking, commercial banking and non bank financial operations.

Gender: Refers to interventions that address the specific potentials and needs of men and women, thus leading to equitable and sustainable development with the optimal participation of both sexes in development

Health: Refers to support for medical infrastructure, teaching of medical professionals and technicians, provision of medical equipment and care, production of pharmaceuticals, primary health care, and disease control.

Infrastructure: comprises: Transport, water supply and sanitation, power supply and communication.

Industry, Mining and Quarrying: Refers to operations in manufacturing, tourism, mining, and quarrying and small and medium-size industrial enterprises.

Multi-sector: Includes public sector management (including structural adjustment loans), private sector development, industrial import, export promotion, etc ...

Other Social Sector: Refers to operations covering more than one social sub-sector.

Population and Nutrition: Includes fertility and family planning issues; mortality, with a special emphasis on the emerging issue of HIV/ AIDS; migration; refugees and displaced persons; and family structures.

Poverty Alleviation: Operations aimed at targeting benefits to the poor.

Power Supply: Production, transportation and distribution of electricity, gas, solar, coal, petroleum and other reusable energy sources.

Social: Includes: Education, Health, stand alone poverty alleviation, gender, population and nutrition, and other.

Transport: Includes road, air, water and rail transport, pipe transport, feeder roads.

Urban Development: Projects related to strategic urban planning activities.

Water Supply and Sanitation: Production, treatment, transportation and distribution of potable water; and development of sewerage systems.

Table 1: AfDB-financed projects distribution by industrial sector, 1967-2008

This table displays the main characteristics, by industrial sector, of the 2,195 projects financed or co-financed by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The project population includes only investment project and policy based lending (PBL) operations. The data are presented by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). For each window, the table presents, by industrial sector, the number of projects, the total cost of the project (US\$ million), the percentage value of this cost, the project cost financed by the AfDB (US\$ million) and the percentage value of the AfDB cost. The sectors are (i) agriculture; (ii) infrastructure (that includes transport, communication, water and sanitation and power supply); (iii) industry, mining and quarrying; (iv) finance (including the banking sector); (v) social (that includes education, health, poverty alleviation, gender, population and nutrition program); (vi) environment; and (vii) multi-sectors (that include structural adjustment loans/grants, PBL,...)

Sector name	ADB					ADF					ALL				
	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADF (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the AfDB (US\$ billion)	Percent of total value
Agriculture	70	8.6	16.8	2.2	12.0	487	13.7	14.8	7.5	21.0	557	22.3	14.1	9.7	17.9
Infrastructure	153	23.9	46.8	7.9	42.3	598	25.1	27.1	12.8	35.9	751	49.0	31.0	20.7	38.1
<i>of which</i>															
<i>Transport</i>	68	8.7	17.0	3.2	17.1	274.0	10.8	11.7	6.6	18.6	342.0	19.5	12.4	9.8	18.1
<i>Communications</i>	13	1.3	2.5	0.4	2.1	45.0	1.3	1.4	0.7	1.9	58.0	2.6	1.6	1.1	2.0
<i>Water Sup/Sanit</i>	25	1.6	3.1	0.9	4.9	180.0	5.0	5.4	3.2	8.9	205.0	6.5	4.1	4.1	7.5
<i>Power</i>	47	12.4	24.2	3.4	18.2	99.0	8.0	8.7	2.3	6.5	146.0	20.4	12.9	5.7	10.5
Industry Mining and Quarrying	11	0.6	1.1	0.4	2.2	63	18.4	19.8	1.9	5.2	74	18.9	12.0	2.3	4.2
Finance	88	8.9	17.4	4.4	23.8	120	3.6	3.9	1.8	5.1	208	12.5	7.9	6.3	11.5
<i>of which</i>															
<i>Bank</i>	62	6.7	13.2	3.0	16.2	102.0	3.3	3.5	1.6	4.4	164.0	10.0	6.3	4.6	8.5
Social	56	5.5	10.8	1.5	7.9	278	6.6	7.2	4.6	12.9	334	12.2	7.7	6.1	11.2
<i>of which</i>															
<i>Education</i>	29	4.5	8.8	1.0	5.1	130.0	3.1	3.3	2.3	6.3	159.0	7.6	4.8	3.2	5.9
<i>Health</i>	23	0.9	1.8	0.4	2.3	97.0	2.4	2.6	1.7	4.7	120.0	3.3	2.1	2.1	3.9
Environment			0.0		0.0	8	0.2	0.2	0.1	0.3	8	0.2	0.1	0.1	0.2
Multi-Sector	26	3.6	7.0	2.2	11.8	237	25.0	27.0	7.0	19.6	263	28.5	18.1	9.2	16.9
Total	404	51.0	100.0	18.7	100.0	1791	92.6	100.0	35.7	100.0	2195	158.0	100.0	54.4	100.0

Source: Authors, based on AfDB project database.

Table 2: AfDB-financed project size by sector

This table displays the average size of projects, in US\$ million and by industrial sector, financed or co-financed by the AfDB by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The average size is obtained by dividing the total cost of the set of projects from one sector by the number of projects in that sector. The table presents two main panels: the average size based on the total cost of the project and the average project size based on the part of the total cost financed by the AfDB. Each panel presents the data by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). For each window, the table presents, by industrial sector, the number of projects, the total cost of the project (US\$ million), the percentage value of this cost, the project cost financed by the AfDB (US\$ million) and the percentage value of the AfDB cost. The sectors are (i) agriculture; (ii) infrastructure (that includes transport, communication, water and sanitation and power supply); (iii) industry, mining and quarrying; (iv) finance (including the banking sector); (v) social (that includes education, health, poverty alleviation, gender, population and nutrition program); (vi) environment; and (vii) multi-sectors (that include structural adjustment loans/grants, PBL,...)

Sector name	Average total project cost (US\$ million)			Average project cost financed by the AfDB (US\$ million)		
	ADB	ADF	ALL	ADB	ADF	ALL
Agriculture	122.7	28.1	40.0	32.1	15.3	17.4
Infrastructure				51.7	21.4	27.6
<i>Of which</i>						
<i>Transport</i>	127.8	39.5	57.1	47.1	24.2	28.7
<i>Communications</i>	97.8	29.3	44.7	30.1	15.3	18.6
<i>Water Sup/Sanit</i>	62.9	27.6	31.9	36.7	17.6	20.0
<i>Power</i>	263.0	81.0	139.6	72.4	23.3	39.1
Industry Mining and Quarrying	51.3	291.4	255.7	37.6	29.6	30.8
Finance	100.6	30.4	60.1	50.6	15.1	30.1
<i>Of which</i>						
<i>Bank</i>	108.6	32.0	61.0	48.7	15.5	28.0
Social	98.8	23.8	36.4	26.3	16.6	18.2
<i>Of which</i>						
<i>Education</i>	155.2	23.8	47.8	32.9	17.4	20.2
<i>Health</i>	38.9	24.6	27.4	18.5	17.3	17.5
Environment		23.7	23.7		14.2	14.2
Multi-Sector	137.1	105.3	108.5	84.7	29.5	35.0
Total	126.2	51.7	72.0	46.3	19.9	24.8

Source: Authors, based on AfDB project database.

Table 3: AfDB Group project distribution by regions, 1967-2008

This table displays the main characteristics, by regions, of the 2,195 projects financed or co-financed by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The project population includes only investment project and policy based lending (PBL) operations. The data are presented by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). For each window, the table presents, by region, the number of projects, the total cost of the project (US\$ million), the percentage value of this cost, the project cost financed by the AfDB (US\$ million) and the percentage value of the AfDB cost. The regions are (i) West (16 countries); (ii) East (12 countries); (iii) North (6 countries); (iv) Central (7 countries); and (v) South (12 countries). In addition to these physical regions, we add a “Multinational” region that includes projects that are implemented in more than one country.

Region	ADB					ADF					ALL				
	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value
Central	37	2.6	5.1	1.1	6.0	180	12.4	13.3	3.9	11.1	217	15.0	10.4	5.1	9.3
East	13	0.1	0.2	0.1	0.5	405	20.2	21.8	9.4	26.3	418	20.3	14.1	9.5	17.4
North	254	40.1	78.6	15.1	80.5	47	1.4	1.5	0.6	1.7	301	41.5	28.9	15.7	28.8
South	100	8.2	16.1	2.4	13.0	312	20.2	21.8	6.4	18.0	412	28.3	19.7	8.9	16.3
West						626	31.1	33.5	12.6	35.3	626	31.1	21.6	12.6	23.2
Multinational						221	7.5	8.1	2.7	7.6	221	7.5	5.3	2.7	5.0
Total	404	51.0	100.0	18.7	100.0	1791	92.7	100.0	35.7	100.0	2195	143.7	100.0	54.4	100.0

Source: Authors, based on AfDB project database.

West region includes 16 countries Benin Burkina Faso Cote D'Ivoire, Ghana Niger Togo, Nigeria, Cape Verde, Gambia, Guinea, Guinea-Bissau, Liberia, Mali, Sao Tome & Principe, Senegal, Sierra Leone

East region includes 12 countries Burundi, Kenya, Rwanda, Seychelles, Tanzania, Uganda Sudan, Somalia, Comoros, Djibouti, Eritrea, Ethiopia

North region includes 6 countries Tunisia, Egypt, Libya Algeria, Morocco, Mauritania

Central region includes 7 countries Cameroon, Centrafrique, Chad, Congo CG, Dem Rep Congo, Gabon, Eq Guinea

South region includes 12 countries Botswana, Lesotho, Namibia, South Africa, Swaziland, Zimbabwe Angola, Madagascar Malawi Mauritius Mozambique Zambia

Table 4: AfDB Group project distribution by financing instrument, 1967-2008

This table displays the main characteristics, by financial instrument used, of the 2,195 projects financed or co-financed by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The project population includes only investment project and policy based lending (PBL) operations. The data are presented by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). For each window, the table presents, by financial instrument, the number of projects, the total cost of the project (US\$ million), the percentage value of this cost, the project cost financed by the AfDB (US\$ million) and the percentage value of the AfDB cost. The financial instruments are (i) loan (if the project is financed by a loan only); (ii) Grant (if the project financed by a grant only); and (iii) Loan and Grant (if the project is financed by a combination of a loan and a grant).

Financial instrument	ADB						ADF					ALL			
	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value	Number of Projects	Total project cost (US \$ billion)	Percent of total value	Project cost financed by the ADB (US\$ billion)	Percent of total value
Loan only	373	50.28	98.55	18.39	98.39	1254	75.12	81.1	28.25	79.2	1627	125.40	87.30	46.64	85.81
Grant only	20	0.02	0.04	0.02	0.10	352	8.65	9.3	2.28	6.4	372	8.67	6.04	2.30	4.23
Loan and grant	11	0.72	1.41	0.28	1.52	185	8.86	9.6	5.13	14.4	196	9.58	6.67	5.41	9.96
Total	404	51.02	100.00	18.69	100.00	1791	92.63	100.0	35.67	100.0	2195	143.65	100.00	54.36	100.00

Source: Authors, based on AfDB project database.

Table 5: AfDB average delay to first disbursement by sector, 1967 – 2008

This table displays the average delay of projects, in number of days and by industrial sectors, financed or co-financed by the AfDB by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The delay is defined, for any given year, as the timing, in number of days, between the approval date of the project by the AfDB board (international development agency pledge) and the date of satisfaction of all conditions by the country such that the Bank can release the first disbursement (reception of the money by the country). The table presents three main panels: the average delay by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). The third panel is the total of all AfDB projects. The sectors are (i) agriculture; (ii) infrastructure (that includes transport, communication, water and sanitation and power supply); (iii) industry, mining and quarrying; (iv) finance (including the banking sector); (v) social (that includes education, health, poverty alleviation, gender, population and nutrition program); (vi) environment; and (vii) multi-sectors (that include structural adjustment loans/grants, PBL,...)

Sector	ADB	ADF (Number of days)	ALL
Agriculture and Rural development	763	678	689
Infrastructure			
<i>Of which</i>			
<i>Transport</i>	630	695	682
<i>Communications</i>	687	804	777
<i>Water Supply and Sanitation</i>	734	651	661
<i>Power</i>	619	620	620
Industry Mining and Quarrying	470	519	511
Finance	427	588	518
<i>Of which</i>			
<i>Banks</i>	425	594	528
Social	810	713	728
<i>Of which</i>			
<i>Education</i>	865	747	768
<i>Health</i>	691	736	736
Environment		447	447
Multi-Sector	290	321	319
Average	613	623	621

Source: Authors, based on AfDB project database.

Table 6: AfDB average delay to first disbursement by regions, 1967 - 2008

This table displays the average delay of projects, in number of days and by regions, financed or co-financed by the AfDB by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The project population includes only investment project and policy based lending (PBL) operations. The delay is defined, for any given year, as the timing, in number of days, between the approval date of the project by the AfDB board (international development agency pledge) and the date of satisfaction of all conditions by the country such that the Bank can release the first disbursement (reception of the money by the country). The table presents three main panels: the average delay by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). The third panel is the total of all AfDB projects. The regions are (i) West (16 countries); (ii) East (12 countries); (iii) North (6 countries); (iv) Central (7 countries); and (v) South (12 countries). In addition to these physical regions, we add a “Multinational” region that includes projects that are implemented in more than one country.

Region	ADB	ADF (Number of days)	ALL
North	6023	682	615
West		618	618
Central	519	609	595
East	489	660	655
South	691	677	680
Multinational		485	485
Average	613	623	621

Source: Authors, based on AfDB project database.

West region includes 16 countries Benin Burkina Faso Cote D'Ivoire, Ghana Niger Togo, Nigeria, Cape Verde, Gambia, Guinea, Guinea-Bissau, Liberia, Mali, Sao Tome & Principe, Senegal, Sierra Leone

East region includes 12 countries Burundi, Kenya, Rwanda, Seychelles, Tanzania, Uganda Sudan, Somalia, Comoros, Djibouti, Eritrea, Ethiopia

North region includes 6 countries Tunisia, Egypt, Libya Algeria, Morocco, Mauritania

Central region includes 7 countries Cameroon, Centrafrique, Chad, Congo CG, Dem Rep Congo, Gabon, Eq Guinea

South region includes 12 countries Botswana, Lesotho, Namibia, South Africa, Swaziland, Zimbabwe Angola, Madagascar Malawi Mauritius Mozambique Zambia

Table 7: AfDB average delay to first disbursement by financial instrument, 1967 - 2008

This table displays the average delay of projects, in number of days and by financial instrument used, financed or co-financed by the AfDB by the African Development Bank (AfDB) and implemented in its Regional Member Countries (RMC) between 1967 and 2008. The project population includes only investment project and policy based lending (PBL) operations. The delay is defined, for any given year, as the timing, in number of days, between the approval date of the project by the AfDB board (international development agency pledge) and the date of satisfaction of all conditions by the country such that the Bank can release the first disbursement (reception of the money by the country). The table presents three main panels: the average delay by window of financing: African development Bank window (ADB) and African Development Fund window (ADF). The third panel is the total of all AfDB projects. The financial instruments are (i) loan (if the project is financed by a loan only); (ii) Grant (if the project financed by a grant only); and (iii) Loan and Grant (if the project is financed by a combination of a loan and a grant).

Financial instrument	ADB	ADF (Number of days)	ALL
Loan only	605.4	682.2	664.8
Grant only	510.7	431.2	434.6
Loan and grant	990.0	566.2	591.1
Average	613.0	623.1	621.2

Source: Authors, based on AfDB project database.

Table 8: Regression results of the impact of project cost (financed by the AfDB), region and industrial sectors on the delay to first disbursement, all AfDB projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AfDB project cost	-1.413*** (0.337)	-2.119*** (0.338)	-1.950*** (0.374)	-0.788** (0.332)	1.390*** (0.336)	-1.208*** (0.370)	-1.681*** (0.352)	-2.150*** (0.351)	-1.969*** (0.386)	-1.261*** (0.382)
Agriculture				245.5 (173.4)	153.2 (171.4)	241.8 (208.0)				242.9 (207.8)
Communications				334.4* (182.7)	215.0 (180.9)	229.3 (222.0)				213.0 (221.9)
Finance				83.70 (175.4)	-42.62 (173.7)	23.96 (210.7)				13.32 (210.8)
Industry				75.43 (180.9)	-50.28 (179.1)	-47.68 (216.9)				-58.67 (216.9)
Multi sector				-112.3 (174.8)	-157.3 (172.6)	-134.1 (208.8)				-127.0 (208.6)
Power				189.8 (176.9)	77.47 (175.1)	154.4 (212.9)				148.8 (212.8)
Social				285.0 (174.2)	201.2 (171.9)	227.2 (208.2)				230.4 (208.1)
Transport				244.9 (174.2)	123.9 (172.4)	223.0 (209.3)				219.1 (209.1)
Water Supply and Sanitation				219.3 (175.3)	144.0 (173.1)	213.2 (209.9)				210.2 (209.7)
Central							128.3*** (46.58)	13.93 (47.92)	-44.47 (49.17)	-41.78 (48.54)
East							187.2*** (40.82)	82.01* (42.18)	7.655 (43.33)	-22.71 (42.54)
South							211.2*** (40.83)	92.25** (42.78)	39.90 (41.99)	21.93 (41.04)
West							147.3*** (38.35)	28.57 (40.41)	-53.79 (40.54)	-63.97 (39.95)
North							187.7*** (44.85)	55.06 (46.99)		
Loan		79.28** (35.75)	81.03** (39.81)		114.0*** (35.65)	112.6*** (39.52)		80.02** (36.00)	84.71** (39.93)	117.1*** (39.64)
Grant		-190.4*** (42.51)	-152.2*** (49.74)		117.2*** (42.21)	-52.24 (49.24)		-173.6*** (43.58)	-146.9*** (49.80)	-47.19 (49.33)
Gdppop			-0.0340*** (0.0124)			0.0363*** (0.0120)			-0.0371*** (0.0130)	-0.0413*** (0.0126)
Constant	649.8*** (12.37)	635.2*** (34.51)	654.2*** (37.98)	454.4*** (172.3)	494.0*** (171.1)	456.9** (207.7)	498.8*** (33.27)	582.5*** (48.02)	664.5*** (53.39)	482.9** (211.1)
Observations	2088	2088	1582	2088	2088	1582	2088	2088	1582	1582
R-squared	0.008	0.050	0.041	0.078	0.107	0.117	0.023	0.054	0.047	0.121

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9: Regression results of the impact of project cost (financed by the AfDB), region and industrial sectors on the delay to first disbursement, ADF projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
AfDB project cost	-1.716*** (0.515)	-2.847*** (0.517)	-2.891*** (0.569)	-0.841* (0.508)	-1.820*** (0.519)	-1.800*** (0.567)	-2.062*** (0.517)	-2.919*** (0.519)	-2.945*** (0.570)	-1.841*** (0.568)	
Agriculture				233.9 (175.7)	136.9 (173.1)	221.0 (210.9)				229.0 (210.7)	
Communications				359.5* (188.0)	234.6 (185.5)	197.2 (228.7)				188.6 (228.6)	
Finance				144.6 (179.8)	8.283 (177.5)	69.28 (217.2)				79.62 (217.1)	
Industry				82.81 (184.7)	-53.62 (182.4)	-46.92 (222.1)				-41.29 (222.1)	
Multi sector				-112.5 (177.2)	-155.9 (174.4)	-133.0 (211.6)				-120.3 (211.5)	
Power				181.2 (181.2)	62.53 (178.7)	122.9 (218.5)				126.4 (218.4)	
Social				269.1 (176.6)	184.2 (173.7)	196.3 (211.1)				210.0 (211.1)	
Transport				255.5 (176.8)	127.4 (174.4)	224.6 (212.6)				227.7 (212.4)	
Water Supply Sanitation				208.0 (177.9)	133.4 (175.1)	205.2 (212.9)				211.9 (212.8)	
Central							144.8*** (49.35)	28.69 (50.21)	114.2 (91.15)	108.2 (88.67)	
East							197.2*** (41.66)	88.15** (42.75)	176.7** (86.85)	140.3* (84.57)	
South							210.6*** (43.41)	91.59** (44.90)	187.5** (87.15)	164.6* (84.71)	
West							150.5*** (38.87)	24.39 (40.80)	111.7 (84.47)	93.31 (82.10)	
North							203.1** (78.85)	63.62 (78.86)			
Loan		110.0*** (37.46)	103.0** (41.69)		136.5*** (37.47)	123.9*** (41.60)			112.5*** (37.62)	113.0*** (41.77)	134.7*** (41.78)
Grant		-179.9*** (44.29)	-142.8*** (51.95)		-104.6** (44.32)	-44.64 (51.92)			-162.8*** (45.41)	-137.7*** (52.04)	-38.75 (52.07)
GDP per capita			-0.0825* (0.0480)			-0.0458 (0.0468)				-0.0490 (0.0497)	-0.0220 (0.0484)
Constant	651.1*** (14.28)	625.3*** (36.60)	662.2*** (44.30)	454.9*** (174.4)	489.3*** (172.9)	462.0** (211.7)	502.0*** (33.75)	572.4*** (49.54)	500.4*** (94.94)	316.6 (227.6)	
Observations	1708	1708	1259	1708	1708	1259	1708	1708	1259	1259	
R-squared	0.006	0.059	0.044	0.074	0.110	0.112	0.023	0.064	0.051	0.117	

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 10: Regression results of the impact of project cost (financed by the AfDB), region and industrial sectors on the delay to first disbursement, ADB projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
AfDB project cost	-1.284*** (0.458)	-1.294*** (0.460)	-1.399*** (0.492)	-0.663 (0.456)	-0.746 (0.458)	-0.878* (0.491)	-1.312*** (0.476)	-1.304*** (0.476)	-1.109** (0.513)	-0.651 (0.525)
Agriculture				290.4** (139.5)	276.6** (138.8)	404.2*** (148.4)				400.6*** (148.7)
Communications				212.5 (175.5)	195.4 (174.8)	369.8* (212.0)				341.0 (212.8)
Finance				-36.36 (137.3)	-55.13 (136.9)	27.59 (145.1)				23.93 (145.2)
Multi sector				-148.5 (158.5)	-145.3 (157.6)	-47.13 (164.5)				-43.08 (165.6)
Power				164.8 (144.8)	154.3 (144.0)	244.1 (157.6)				241.3 (157.7)
Social				334.1** (142.9)	299.6** (143.0)	395.9*** (151.7)				383.5** (152.5)
Transport				164.1 (139.6)	142.8 (139.1)	269.5* (148.6)				246.4 (149.6)
Water Supply Sanitation				262.4* (155.9)	253.3 (155.1)	335.6** (169.9)				345.7** (170.6)
Loan		-360.9*** (136.4)	-347.3** (146.8)		-261.5* (134.0)	-224.2 (143.2)		-354.3*** (136.2)	-349.0** (146.5)	-231.9 (143.4)
Grant		-506.1*** (179.4)	-435.6** (191.0)		-443.2** (173.9)	-343.4* (183.8)		-498.6*** (179.4)	-439.8** (190.8)	-357.5* (184.4)
central							55.19 (150.5)	41.08 (149.3)	90.20 (104.4)	38.99 (108.1)
south							219.1 (137.5)	204.9 (136.4)	126.3** (63.89)	106.9 (64.87)
north							169.1 (133.8)	149.4 (132.9)		
east										37.12 (157.3)
GDP per capita			-0.0597*** (0.0163)			-0.0676*** (0.0157)			-0.0713*** (0.0187)	-0.0756*** (0.0199)
Constant	661.6*** (28.82)	1018*** (134.4)	1139*** (145.5)	490.8*** (129.9)	771.4*** (185.8)	789.4*** (197.3)	497.0*** (129.2)	863.3*** (186.8)	1113*** (145.6)	780.2*** (197.7)
Observations	380	380	323	380	380	323	380	380	323	323
R-squared	0.020	0.042	0.091	0.126	0.141	0.207	0.033	0.055	0.102	0.214

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 11: Regression results of the impact of project total cost, region and industrial sectors on the delay to first disbursement, all AfDB projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Project total cost	-0.248*** (0.0653)	-0.298*** (0.0644)	-0.299*** (0.0722)	-0.145** (0.0639)	-0.192*** (0.0634)	-0.173** (0.0708)	-0.268*** (0.0657)	-0.297*** (0.0650)	-0.309*** (0.0728)	-0.188*** (0.0714)
Agriculture				244.2 (173.4)	153.9 (171.7)	241.2 (208.3)				242.3 (208.1)
Communications				332.1* (182.7)	215.5 (181.2)	225.2 (222.4)				207.6 (222.2)
Finance				76.33 (175.4)	-50.92 (174.0)	17.06 (211.0)				10.35 (211.1)
Industry				78.79 (180.9)	-44.28 (179.5)	-43.16 (217.3)				-52.51 (217.2)
MultiSector				-117.1 (174.7)	-170.0 (172.8)	-143.8 (209.0)				-135.7 (208.8)
Power				184.9 (176.9)	69.93 (175.4)	143.4 (213.2)				141.3 (213.1)
Social				282.8 (174.2)	201.3 (172.2)	229.5 (208.5)				233.3 (208.4)
Transport				238.7 (174.2)	118.1 (172.7)	217.3 (209.6)				213.1 (209.3)
WaterSupSanit				215.4 (175.3)	139.5 (173.4)	207.1 (210.2)				204.9 (210.0)
central							117.4** (46.53)	9.591 (48.09)	-21.60 (48.76)	-26.21 (48.06)
east							174.1*** (40.74)	74.60* (42.33)	29.98 (42.90)	-7.768 (42.08)
south							204.5*** (40.82)	93.73** (42.96)	76.23* (41.01)	45.22 (40.08)
west							135.2*** (38.30)	23.83 (40.57)	-29.09 (39.92)	-47.88 (39.31)
north							151.9*** (43.60)	18.43 (46.46)		
loan		79.76** (35.92)	78.48** (39.94)		115.2*** (35.72)	112.4*** (39.59)		85.15** (36.15)	85.75** (40.05)	119.0*** (39.71)
grant		-161.8*** (42.36)	-123.5** (49.55)		-96.69** (41.85)	-31.75 (48.76)		-145.3*** (43.44)	-116.9** (49.55)	-25.54 (48.80)
gdppop			-0.0420*** (0.0122)			-0.0413*** (0.0119)			-0.0433*** (0.0129)	-0.0454*** (0.0125)
Constant	633.5*** (10.82)	602.1*** (34.01)	627.5*** (37.57)	449.2*** (172.3)	474.8*** (171.4)	441.9** (207.9)	491.2*** (33.23)	553.2*** (47.85)	610.7*** (51.49)	449.2** (210.9)
Observations	2088	2088	1582	2088	2088	1582	2088	2088	1582	1582
R-squared	0.007	0.041	0.035	0.078	0.104	0.114	0.020	0.047	0.042	0.119

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 12: Regression results of the impact of project total cost, region and industrial sectors on the delay to first disbursement, ADF projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
pcost	-0.339*** (0.0781)	-0.382*** (0.0765)	-0.422*** (0.0875)	-0.204*** (0.0772)	-0.247*** (0.0761)	-0.252*** (0.0870)	-0.359*** (0.0778)	-0.392*** (0.0765)	-0.441*** (0.0875)	-0.269*** (0.0872)
Agriculture				232.8 (175.4)	135.7 (173.1)	219.5 (211.0)				226.6 (210.8)
Communications				357.3* (187.8)	233.0 (185.6)	193.1 (228.9)				182.0 (228.7)
Finance				143.9 (179.6)	9.748 (177.6)	70.62 (217.4)				79.81 (217.2)
Industry				95.42 (184.6)	-43.32 (182.6)	-35.05 (222.4)				-30.45 (222.3)
MultiSector				-110.4 (176.9)	-166.9 (174.4)	-140.9 (211.6)				-127.8 (211.5)
Power				183.7 (181.0)	62.97 (178.8)	122.1 (218.7)				125.5 (218.4)
Social				266.6 (176.4)	181.8 (173.8)	197.2 (211.3)				210.2 (211.1)
Transport				250.7 (176.5)	119.8 (174.5)	217.1 (212.7)				219.6 (212.5)
WaterSupSanit				205.2 (177.7)	127.5 (175.1)	197.1 (213.0)				202.3 (212.8)
central							134.4*** (49.05)	23.95 (50.26)	91.24 (91.04)	94.98 (88.56)
east							181.0*** (41.24)	75.95* (42.74)	159.5* (86.75)	130.8 (84.47)
south							203.1*** (43.16)	91.88** (44.97)	187.2** (87.19)	164.9* (84.76)
west							135.9*** (38.57)	16.57 (40.85)	96.80 (84.44)	84.66 (82.05)
north							197.9** (78.71)	69.25 (78.97)		
loan		119.0*** (37.50)	104.4** (41.75)		141.7*** (37.47)	124.6*** (41.64)		122.5*** (37.67)	115.3*** (41.81)	136.1*** (41.81)
grant		-141.0*** (43.62)	-102.5** (51.38)		-78.72* (43.38)	-17.83 (50.99)		-123.9*** (44.82)	-95.01* (51.42)	-10.58 (51.09)
gdppop			-0.0667 (0.0480)			-0.0356 (0.0467)			-0.0310 (0.0498)	-0.0103 (0.0484)
Constant	636.1*** (11.89)	579.8*** (35.15)	610.2*** (42.71)	450.0*** (174.2)	464.1*** (172.7)	432.0** (211.5)	493.4*** (33.47)	531.2*** (48.79)	459.1*** (94.67)	293.0 (227.6)
Observations	1708	1708	1259	1708	1708	1259	1708	1708	1259	1259
R-squared	0.011	0.056	0.043	0.077	0.109	0.111	0.026	0.061	0.050	0.116

Standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1

Table 13: Regression results of the impact of project total cost, region and industrial sectors on the delay to first disbursement, ADB projects

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
pcost	-0.0132 (0.121)	-0.00933 (0.120)	-0.0599 (0.127)	-0.00991 (0.116)	-0.0171 (0.116)	-0.0817 (0.122)	-0.0141 (0.122)	-0.00889 (0.121)	-0.00431 (0.128)	-0.0526 (0.124)
Agriculture				293.9** (140.1)	281.6** (139.4)	414.8*** (149.2)				405.1*** (149.4)
Communications				217.0 (176.0)	203.2 (175.4)	371.5* (213.2)				335.9 (213.5)
Finance				-42.64 (137.7)	-59.59 (137.4)	26.04 (145.8)				22.52 (145.6)
MultiSector				-179.4 (157.8)	-179.4 (156.9)	-77.65 (164.2)				-65.99 (164.8)
Power				150.3 (145.4)	140.6 (144.8)	224.0 (158.5)				226.0 (158.3)
Social				340.6** (143.4)	306.8** (143.6)	411.3*** (152.4)				388.4** (153.2)
Transport				160.9 (140.2)	141.4 (139.7)	270.9* (149.5)				241.5 (150.1)
WaterSupSanit				264.0* (156.4)	256.4 (155.7)	337.6** (170.7)				347.4** (170.9)
loan		-384.1*** (137.7)	-374.4** (148.4)		-267.3** (134.5)	-226.1 (144.0)		-377.9*** (137.4)	-370.4** (147.2)	-235.1 (143.8)
grant		-479.8*** (181.2)	-402.2** (193.0)		-422.3** (174.2)	-313.8* (183.7)		-482.8*** (181.2)	-414.5** (191.8)	-338.3* (184.1)
gdppop			-0.0627*** (0.0165)			-0.0704*** (0.0158)			-0.0874*** (0.0202)	-0.0814*** (0.0193)
central							30.13 (151.9)	16.17 (150.7)	164.9 (107.9)	65.39 (106.1)
south							202.3 (138.9)	187.7 (137.8)	180.2*** (63.78)	127.6** (62.51)
north							115.1 (134.3)	97.04 (133.4)		
east									200.9 (161.4)	73.82 (154.5)
Constant	614.3*** (26.12)	990.5*** (135.6)	1115*** (147.2)	470.4*** (129.6)	752.1*** (186.0)	766.5*** (197.7)	489.4*** (130.5)	876.1*** (188.7)	1091*** (146.3)	765.9*** (197.8)
Observations	380	380	323	380	380	323	380	380	323	323
R-squared	0.000	0.022	0.068	0.121	0.135	0.200	0.014	0.036	0.093	0.211

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1