

**THE IMPACT OF PROJECT COST ON THE DISBURSEMENT DELAY:
THE CASE OF THE AFRICAN DEVELOPMENT BANK***

Gaston GOHOU, 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, Ph.D.

Associate Professor
Managing Director, Laboratory for Financial Engineering
Department of Finance, Insurance and Real Estate
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: March 2010

* The views expressed in this paper are not those of the African Development Bank. We thank S. Chinien and R. N'Guessan for lengthy discussions on the topic at early stages of this paper and H. Hmadi and A. Zarroug for research assistance. We also thank seminar participants at the 2009 African Economic Conference in Addis Ababa (Ethiopia) for their helpful comments and suggestions. We wish to acknowledge the financial support received from the "Fonds Québécois de la Recherche sur la Société et la Culture" (FQRSC), the "Institut de Finance Mathématique de Montréal" (IFM2), and the "Social Sciences and Humanities Research Council of Canada" (SSHRC). All errors and omissions are the authors' sole responsibility.

THE IMPACT OF PROJECT COST ON THE DISBURSEMENT DELAY: THE CASE OF THE AFRICAN DEVELOPMENT BANK

Abstract

International aid effectiveness has recently been significantly questioned in the development literature with regard to the large amount of aid received by developing countries to finance development projects and the mixed results achieved. However, assessments of development projects are not an easy task due to the lack of appropriate measurement tools. Several factors impact project implementation including the delay between the donors pledge to provide aid to a country and the effective first disbursement. This indicator is a rough proxy of project performance. Nevertheless, the literature is almost silent on the evaluation of these delays, mainly due to lack of data. This paper is the first attempt to assess these delays for an international multilateral bank, the African Development Bank (AfDB). We use an exhaustive dataset of 2,195 AfDB-financed investment projects implemented between 1967 and 2008 and worth US\$ 143.7 billion. Four main findings are drawn from the study. First, we find that every US\$1 invested by the AfDB seems to attract US\$2 more. Secondly, delay to the first disbursement is linked to the beneficiary country's economic development. Third, large projects experience shorter delays than small projects, contrary to what is observed for private sector financed projects. Finally, pro-poor sectors seem to experience more delays and may explain the aid ineffectiveness observed in many countries.

JEL classification code:

Keywords: Aid ineffectiveness, Development project, investment project, project delay, project performance, African Development Bank.

I. INTRODUCTION

The repercussions of the recent financial crisis on developing countries, especially African countries, can be seen from at least two different angles: the short term impact and the medium and long term effects. In the short run, the impact on the African countries' financial markets has been minimal due to their "disconnection" from the global market. However, in the medium and long term, the impact may become stronger for developing countries given possible reduction in Official Development Aid (ODA) (te Velde; 2008) and other foreign direct investments. Thus, it becomes necessary from the onset for these countries to make the most optimal use of the reduced resources available for implementing development projects.

In order to reduce poverty and achieve the Millennium Development Goals (MDGs), developing countries have to focus on improving the successful implementation rate of development projects. Several studies have analyzed the performance of development projects from the impact of project supervision during implementation phase (e.g. Kilby (1995) and Kayizzi-Mugerwa et al. (2000)) or from the game theory perspective (e.g., Chauvet, Collier and Fuster; 2007). However, an important aspect of a project's successful implementation that has drawn little attention is the delay 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 to begin. Availability of data is one of the possible causes of the weak discussion of this issue.

The literature is almost silent on the question of disbursement delay of projects. Bulir and Lane (2002), Leurs (2005) and Niang (2006) 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 pledge by a donor or international development agency to give aid to a country and the time the country receives the money. Aid disbursements, for development projects, appear to be less predictable than tax revenues 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 that the one of tax revenues. Niang (2006) uses data on projects available on the International Finance Corporation (IFC - the private arm of the World Bank) website and find the project delay to first disbursement to be positively

related to its cost.¹

Regarding the African Development Bank Group (AfDB) development projects, Kayizzi-Mugerwa et al. (2000) is one of the few papers that analyze the determinants of AfDB project success using a sample 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 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, etc.).

In this paper, we analyse projects performance from the perspective of their delay from the approval by the AfDB Board (pledge of the donor) to the first disbursement (effective release of the first tranche of aid). Indeed, a delay to the first disbursement may be an important determinant and a good proxy of a project successful implementation and can also impact negatively on the project performance in several ways.² First, a delay in the planned operational commencement of a project may increase its financial cost since the unit price of the items the project was planning to purchase may increase.³ Second, qualified staffs who were supposed to work on the project may find jobs elsewhere while waiting for the project to begin. Finally, change in needs and priorities of the project beneficiaries may render original project objectives irrelevant. Hence, the analysis of the disbursement delay is of a crucial importance, especially for development projects aimed to improve populations' living. Indeed, in its December 2007 report on its project portfolio review assessment to its Board of Director, the AfDB estimates that the delay between Board approval of an investment project and the first disbursement is around 720 days.

This paper aims to analyse the characteristics of development projects portfolio and the delays between approval and the first disbursement on the projects, especially in the case of the AfDB. Our objectives are twofold. First, we analyse the AfDB projects portfolio in terms of its financial characteristics (concessional and non-concessional loans) and its sector and region distributions. Second, we study the impact of the project cost on the delay to the first

¹ Although, Project finance (PF) is one important mean to finance development projects, especially given the current status of developing countries' financial markets, there are many investment vehicles used to finance development projects. PF is defined as the creation of a legally independent project company that is financed in part with equity from one or more sponsoring partners, and which has non- or limited recourse debt for the purpose of investing in a capital asset (Esty; 2004). PF reduces information (asymmetry) costs, agency costs, financial distress cost, debt restructuring cost, risk, and also improves corporate organization and managerial compensation (Finnerty (2007), Gatti (2008), Kleimeier and Megginson (2000) and Subramanian et al. (2007)). A 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. The AfDB portfolio considered is mainly financed by loans and/or grant.

² Note that many other factors, beside the delay to the first disbursement, can affect project performance. However, a large delay to the first disbursement reduces significantly the success chances of a project.

³ For instance, for infrastructure projects, prices are volatile and projects' costs are very high. A delay to begin a road project for example, may have significant impact on the project total cost if the unit cost of the main inputs increases.

disbursement. In this second part, the impacts of the sector and geographical location of projects are also assessed. The efficiency and effectiveness of a development project can be better attained with a timely implementation.

To achieve our objectives, we build a comprehensive database of 2,195 AfDB financed projects implemented from 1967 to 2008, worth US\$143.7 billion of which the AfDB financed a total of US\$54.4 billion. We use simple OLS regression techniques on various model specifications to assess the impact of various variables on the delay from AfDB Board approval of a project to the first disbursement.

From our analysis results, we draw three main conclusions. Firstly, every \$1 invested by the AfDB in its regional member countries (RMC) attracts \$2 more; and the average size of projects financed in Africa middle income countries is two times larger than the size of those financed in Africa low income countries. Secondly, the delay to the first disbursement does seem to be linked to the level of economic development of the implementing country, in the sense that, more developed countries experience lower delay to first disbursement relative to less advanced economies. Lastly, large projects, in term of project cost, experience shorter delays than small projects, contrary to what is observed for private sector financed projects. In addition, regarding the financing instrument, 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. Our study findings raise several policy issues for the AfDB and other multilateral development banks in order to improve the effectiveness and performance of their development projects.

The rest of the paper is organized as follow. Section II presents an overview of the AfDB operations and analyses the characteristics of the AfDB projects' database in terms of its geographical location and sector distributions and financing instruments. Section III presents univariate and multivariate analyses of the delay between approval by the AfDB Board and the first disbursement. Concluding remarks and recommendations are presented in section IV.

II. CHARACTERISTICS OF THE AfDB-FINANCED DEVELOPMENT PROJECTS

2.1. Overview on the African Development Bank Group (AfDB) operations

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)⁵ through concessional loans and grants. The resources of the ADF are provided by 26 donor countries⁶ and are replenished every three years. The NTF was created in 1976 and aims to support the development of RMC 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 RMC. To achieve this objective, the AfDB finances investment projects, sector and structural adjustment programs, and provides advisory services to its RMC. The AfDB has 53 RMC and 24 non RMC.⁷

The AfDB carries out development projects in its RMC by providing either loans (concessional or not) or grants and supervises their implementations. 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 are discussed and agreed with the Government. Thereafter, if the project is deemed to be appropriate, the AfDB, through an appraisal phase, fine-tunes its design and submits it to its Board of directors for approval. Once approved, the implementation phase of the project begins and is done by the Government. The AfDB will finance the project in tranches based on project performance and implementation rates. 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

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

⁵ Low income countries are countries with GDP per capita below US\$ 1,095 as of 2008.

⁶ Those 26 donor countries include in addition to the 24 non RMCs, the United Arab Emirates (UAE) and South Africa.

⁷ Regional member countries (RMC) eligible to ADB funds include Algeria, Botswana, Egypt, Equatorial Guinea, Gabon, Mauritius, Morocco, Namibia, Seychelles, Tunisia, Swaziland and South Africa. The remaining RMC are eligible for ADF resources. Since the end of year 2008, only Nigeria and Zimbabwe are blend countries, i.e., eligible to both ADB and ADF funds. All the remaining RMC are eligible for the ADF fund only.

release that is critical for the launching of project activities.

2.2. Characteristics of the AfDB development projects

In this paper, we use a comprehensive database of the AfDB development projects, which contains detailed historical data on all the operations implemented in the RMC 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 remainder of the paper, both operations will be called “projects” for simplicity. Abandoned⁸ and terminated⁹ projects have also been removed from our dataset. In addition, we will consider only projects that have been approved between January 1st, 1967 and December 31st, 2008. Based on these criteria, we obtain a final 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 and NTF windows).¹⁰ To the best of our knowledge, this database is the first one of its kind that included detailed project data for an international development agency.

The first objective of this paper is to analyse the characteristics of the AfDB projects portfolio in terms of sector, region and financing instrument. Tables 1 to 3 present the characteristics of the project population financed by the AfDB between 1967 and 2008. Each table is presented within three subgroups: two main financing instruments of the Bank (ADB window and the ADF window¹¹) 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 project in US\$¹², the percentage value of this total cost, the total cost financed by the AfDB window in US\$ and its percentage value.

Overall, the AfDB is financing one-third of the total cost of the whole project population. Indeed, every dollar invested by the AfDB in a development project in Africa brings two more dollars in the country or region. These 2,195 projects are worth US\$143.7 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 low income countries (ADF countries) and 34.4 percent to middle income

⁸ An abandoned project is a project for which the project cycle begins but that has not been approved by the AfDB Board.

⁹ A terminated project is a project that has been approved by the AfDB Board and cancelled before the AfDB and the country sign the loan agreement or before first disbursement.

¹⁰ For the most recent years, many projects approved by the Board have not been disbursed yet (31% in 2007 and 66% in 2008). This may create a bias when we will estimate the disbursement delay. We will come back later to this issue when we discuss the delay to the first disbursement.

¹¹ We pool together the NTF window and the ADF window and call the aggregate “*ADF window*” for simplicity and also because both finance low income countries with concessional loans or grants.

¹² 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 sometimes, other donors co-finance projects with the Bank.

countries (ADB countries).

Table 1 describes also 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 (measured by its cost). Middle income countries (ADB-financed projects) implemented more projects in the power and banking sectors, while low income countries (ADF-financed projects) had relatively 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 total project cost financed by the ADF window. On the other hand, middle income countries projects, financed through the ADB window, are concentrated mainly in transport, power and banking sectors, representing 51.5 percent of the ADB window total project cost.

INSERT TABLE 1 HERE

Table 2 presents the characteristics of the projects portfolio by regions. We consider the five African 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 of the AfDB funding shows expected trend in terms 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 the AfDB funding (23.2 percent).

INSERT TABLE 2 HERE

Table 3 presents the project portfolio by financing instrument, i.e., loan and/or grant. Here the difference is clear between ADB-financed projects and ADF-financed projects. Almost 20 percent of the ADF-financed projects are done through combined concessional loans and grants or grants only instruments, while for the ADB-financed projects, about 98 percent of the projects are financed by non-concessional loans only. On average, the projects are financed mainly with loans, 87.3 percent on average, 6.67 percent are financed by combination of loan and grant, and only about 6.04 percent are financed by grants only to mainly low income countries.

INSERT TABLE 3 HERE

Table 4 presents the average project size (in US\$) measured by the total cost divided by the number of projects. Although from Table 1, total project cost finance by ADF is almost twice the total of ADB, average ADB financed project (US\$ 46.3 million) is more than twice the average ADF financed project size (US\$ 19.9 million).¹³ This observation holds both for the total average projects cost and the average AfDB financing amounts. The largest average project size financed in the ADB window are in the multi-sector (US\$ 84.7 million), the infrastructure sector (US\$ 51.7 million) and the financial sector (US\$ 50.6 million). In the ADF window, the largest average project sizes are in the multi-sector (US\$ 29.5 million), the industry, mining and quarrying sector (US\$ 29.6 million), and the infrastructure sector (US\$ 21.4 million). In both financing windows, the pro-poor sectors receive relatively less financing by project.

Comparing the average size of the total project cost of the AfDB projects and the “private sector” projects in Kleimeier and Megginson (2000), one notes that the total average cost of the AfDB financed projects (US\$ 72 million) is almost two times lower than the one of the private sector projects (US\$ 128.0 million). However, when we look at projects by financing window, the average total project cost from ADB window (US\$ 126.2 million) is about the same size of the one of the private sector given in Kleimeier and Megginson (2000).

INSERT TABLE 4 HERE

In summary, the descriptive statistics of the 2,195 projects financed by the AfDB show many interesting features. First, every dollar invested by the AfDB in Africa seems to attract two more dollars. Thus, the AfDB financing seems to have a snow ball effect on investment in the continent. Second, regarding the sector distribution, ADB window (or middle income countries) finances more projects in the power and banking sectors, while ADF window (or low income countries) focuses more in pro-poor sectors (agriculture, transport, water supply and sanitation, education and health), although the average financing are lower in agriculture and social sectors. Finally, ADB countries project size is more than twice the average size of ADF financed project.

¹³ Since ADF window 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 projects.

III. DETERMINANTS OF THE PROJECT DELAY: MODEL AND RESULTS

The second objective of this paper is to assess the impact of the project cost, its sector and geographical location, and the financing instrument on the delay to the first disbursement. To address this part of the analysis, we first conduct a univariate analysis on the observed delays in terms of sector, region and financing instrument used. Then, we conduct a multivariate analysis on the delay to the first disbursement.

3.1. Definition of the delay

There is no consensus on how to define the delay from the Board approval to the first disbursement (Leurs; 2005). 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 annual trends in the delays or reforms that may be implemented by the Bank to improve project performance. For instance, a 10 year hold project that is still active and that had a long first disbursement delay, will still impact the average delay in 2007 or 2008.

To capture yearly improvement of the AfDB in its project implementation, we have chosen to measure the delay differently. To define the delay, we follow and adapt Leurs (2005)'s definition. For any given year, we define the delay to first disbursement as the timing, 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 tranche of its financing (reception of the money by the country). This definition will allow us to estimate the impact of any reform implemented by the AfDB to reduce the delay.¹⁴

3.2. 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 analysis results. The average delay is about 613 days for ADB financed projects and 623 days for ADF-financed projects. This result is quite surprising since the ADB-financed projects are non-concessional loans with interest rates closed to

¹⁴ Notice that the delay from 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 defined above.

market rates, while the ADF-financed projects are concessional loans or grants with very low or no interest rates. One would then have expected the readiness of an ADB project to be better than an ADF one and then having a shorter delay.

Table 5 exhibits the distribution of the delay by industrial sector. In both ADB and ADF windows, the highest delay is observed in sectors that can be categorized as priority or pro-poor sectors. This is also quite surprising and counterintuitive to AfDB mission. For the ADB-financed projects, the highest delays are in education, agriculture and water supply and sanitation sectors, and in the ADF window, they are in the communication, education and health sectors. Overall, pro-poor sectors (education, health and agriculture) are the ones with the highest delay to first disbursement. As expected, multi-sectors (structural adjustment grant, budget support, Balance of payments support,...) have the lowest delay.

These delays in pro-poor sectors raise the questions of aid effectiveness. Even if the assessment of aid effectiveness is a difficult task, one can argue that there is positive correlation between aid effectiveness and project performances. Thus, as disbursement delay is used as rough proxy for project performance, a large delay in the implementation of a project in a pro-poor sector may be an indication of low performance of development projects and hence, inefficiency and inefficacy of the intent primary objective of aid. Regarding multi-sector projects, since projects in this categories impact directly on the government budget, even a small delay can have severe consequences on the macroeconomic fundamentals than in any other given sector and hence result in aid ineffectiveness.

INSERT TABLE 5 HERE

Table 6 shows the distribution of the delay by region. The South region has the highest delay whilst 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.

INSERT TABLE 6 HERE

Finally, Table 7 presents the delay to the first disbursement by financing instruments (loan, grant and combination of loan and grant). Projects financed with grants only have the lowest delay. Projects financed by a combination of loan and grant have the highest delay in ADB window, while it is projects financed by loans only that have the highest delay in ADF window.

INSERT TABLE 7 HERE

In summary, it seems that the delay to the first disbursement is not linked to the level of income distribution (low versus middle income) the implementing country. We found ADB financed project to experience only 10 days less delay than ADF financed projects. In addition, the largest delays are observed in pro-poor sectors (agriculture, education and health), while multi-sector projects experience low delays. In terms of regional distribution, multinational projects experience the lowest delay and the South region the highest delay. This raises the question of aid effectiveness in these countries. Empirical evidences show that development occurs in Africa low income countries at a slower pace than one should have expected regarding the large amount of aid received. The long delays may be one part of the answer.

3.3 Multivariate analysis of the project disbursement delay

In this section, we assess the impact of the project cost, sector, geographical location and the financing instruments on the delay using an Ordinary Least Squares (OLS) regression analysis with the delay as dependant variable. Although several authors have analyzed the performance of development projects (e.g., Chauvet et al. (2007), Kilby (1995), Leurs (2005), and Kayizzi-Mugerwa (2000)), the academic literature is relatively silent on the estimation of the delay to the first disbursement of development projects. One of the main constraints of this research is data availability (Leurs; 2005). Niang (2006) is one of the few that estimates these delays using publicly available portfolio of project finances of the International Finance Corporation (IFC), the private arm of the World Bank, but has also important data constraints, since she relies only on data available on the IFC external website.

The causes of delays are numerous and involve both the international development agencies and the country. When a project is approved by the AfDB Board of Governors, there are at least three (3) steps to fulfill before the first disbursement can be released: (i) the country and the AfDB have to sign a loan/grant agreement; (ii) the country (the parliament in most countries) needs to ratify the loan agreement; and (iii) finally, the country needs to fulfill general and specific conditions tied to the first tranche to allow for its release. At each of these steps, disbursement can be delayed because of various causes in the country including the quality of its administration and/or institutions and its development level (economic and human).

Nevertheless, the main research question addressed in this paper is to what extent the total cost of a development project impacts the delay to the first disbursement. Indeed, the size of the project, measured by its cost, can be seen as a good incentive for a country to implement as rapidly as possible a project, and that because a large project (in terms of its dollar value) has

large impact on a specific part of the country's population. In addition, it may also give some visibility to the Government if it is seeking re-election. And finally, failure of a large project may have such a huge negative impact on a large part of the population that it may also impact the political scene.

Therefore, we will test the impact of the project size on the delay to the first disbursement. For that purpose, we use the following regression model:

$$DELAY = \alpha_0 + \alpha_1 * COST + \sum(\beta_i * SECTOR) + \sum(\delta_j * REGION) + \sum(\gamma_k * FINANCIAL) + \lambda * GDPPPOP, \quad (1)$$

where DELAY is the timing from AfDB Board approval of a project to the first disbursement (in days) and is measured as defined above. COST is the total project cost financed by the AfDB. We also use an alternative measure of project size, the total project cost. To control for sector, region and financing instrument effects, we use respectively, SECTOR, REGION and FINANCIAL dummy variables defined as follows:

REGION is the geographical location of the project and includes the five main regions defined by the AfDB as of 2008. It is composed of five (5) dummy variables: West (16 countries), East (12 countries), North (6 countries), Central (7 countries), and South (12 countries). In addition to these regions, we also have "Multinational" to account for projects that are implemented in more than one country region, but we don't include a dummy for this particular region to avoid the dummy trap. Each dummy takes a value of one 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 a dummy variable taking the value of one if the project is in the particular industrial sector and zero otherwise.

FINANCIAL captures the type of financing instrument used by the AfDB to finance the project: loan or grant or blend. There are basically dummy variables for loan and for grant.

Finally, GDPPPOP is the GDP per capita and is used to measure the country's level of development.

Table 8 presents the results using various model specifications. Model 1 uses only the variable COST with no control variables, while the other columns control for the sector, the region and the financing instrument effects. In all these regressions, the cost of the project impacts negatively the delay to the first disbursement and the coefficient is significant at the 1%

significance level. Roughly, a one percent increase in the AfDB financing reduces the project's disbursement delay by two days on average. Hence, all else being equal, 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, all things 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 same as for a larger project (for example costing US\$ 200 million) because the steps followed by the staffs are exactly the same from project identification to Board approval. In ADF financing, the donor extracts no net benefit from these projects (whether small or large), since ADF funds are designed to be free for the beneficiary country, and even if the country pays smaller fees, these fees are only to cover the processing and managerial costs. However, when lending to an ADB country, there may be a positive gain from a large project than from a smaller one, because the AfDB will be collecting more revenues from interest payments. Therefore, from the donor's viewpoint, it can be beneficial to reduce the delay between project approval by its Board and the first disbursement for ADB loans.

From the country's viewpoint, large projects should in theory have more impact on the population of the country than the smaller ones. Hence, there should be a strong incentive from the government perspective to reduce the delay to the first disbursement, which is mostly caused most of the time by its own administrative bottle necks. There is thus more incentive overall to reduce the delay from both donor and Government viewpoints when the project is large.¹⁵ Another important finding that can be drawn from the difference of delay between large and small projects is that the delay is mainly a question of incentive. When the government has the right incentive, as it is the case for large projects, the delay is short. This is good news that shows that the delay can be reduced if the right incentive is provided for all AfDB projects.

With respect to the financing instruments, the regression results show that the delay increases significantly with loan financing and decreases with grant financing (see models 2 and 3 of Table 8).

¹⁵ This result is opposite to the one of private sector projects of the IFC (Niang, 2006). For these private sector projects, the delay to the first disbursement increases 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 projects, lenders take more time to lend when the project cost is high.

Another aspect is whether the industrial sector is a key determinant in the delay to first disbursement observed. Models 4 to 6 of table 8 present the regression results when industrial sectors dummies are introduced. Except the communication sector, which has a positive coefficient with a 10% significant level in model 4, the coefficients of all other industrial sectors are not significant. However, all sectors display positive coefficients except the multi-sector and in some extent industry, mining and quarrying. The negative sign for the multi-sector supports the idea of quick disbursement in Policy Based Lending (PBL).

In terms of the regional effect, models 7 to 9 of Table 8 present the results of the regression of the delay to the first disbursement on the project cost and the geographical regions dummies. In model 7 where only the region dummies are used along with the project cost, all the regions coefficients are positive and significant at 5% level. This result seems to imply that coordination for a project implemented in more than one country (multinational project) is better than a project implemented in only a single country. However, when the financing instruments dummies and/or the development level of the country variable are controlled for, none of the region dummies is significant, except the South region which is significant at only 10% confidence level. Hence, the impact of the regional dummies, except the South, on the delay to disbursement is positive but not robust to various model specifications.

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 for 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 coefficient being negative and significant 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. Tables 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 its cost.

INSERT TABLE 9 HERE

INSERT TABLE 10 HERE

However, when we control for the financing instruments, the results are different. For the ADF-financed projects, the delay to the first disbursement is still decreasing when the project is financed by grant and increasing when the financing is done with loan. For ADB-financed projects, unlike in the ADF and the entire portfolio case, the signs of the two financing instruments coefficients are negative, but the coefficient of loan is relatively higher than that of

grant. Thus, although the delay decreases with both instruments, it decreases more with grant financing. Therefore, the increasing impact of the loan financing instrument is mainly coming from the ADF financed projects portfolio behaviour. These results again underscore the differences between ADF and ADB windows already noticed above. As in for the whole projects portfolio, the delay decreases with the size of the GDP per capita, but the coefficient is not significant for ADF window.

For the impact of the industrial sector depending on the financing window, the results are almost the same for the ADF window as for the whole portfolio. But for the ADB window, more sectors coefficients become significant at the 5% level. Agriculture, social and water supply and sanitation sectors all impact positively and significantly the delay to first disbursement with different degree of impact.

For the effect of the region, for the ADF window, all regions have significant coefficients when regional dummies are used along with COST only, but when the other control variables are introduced, only the East and South regions coefficients remain positive and significant. For the ADB window, only the South region dummy is sometimes positive and significant.

3.4 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 regression (1). Tables 11 to 13 display the results of these regressions, respectively for the entire portfolio, ADF window and ADB window. The main results remain the same as previously, i.e., for all regressions, the delay decreases when the project size increases. Also all the other results remain the same. Loan financing increases the delay while grant financing reduces it. Regarding the sectors' impact, their coefficients are not significant. Finally, for the region, the South region seems to impact positively and significantly the delay.

INSERT TABLE 11, TABLE 12, TABLE 13 HERE

In summary, multivariate analysis shows that large projects are expected to have less delay relative to smaller ones and a one percent increase in the AfDB financing share of the project reduces the project disbursement delay by two days on average. Regarding the financing instrument, 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 industrial sectors seem to have no significant impact in the ADF window, but in the ADB window, agriculture, social and water supply and sanitation sectors seem to have positive significant impact on the delay. In all regressions, the South region has a positive significant

coefficient. Finally, the coefficient of the GDP per capita is negative and significant. In these estimations, the GDP per capita is considered to be a broad proxy for 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 coefficient being negative and significant corroborates the efficiency of countries with higher GDP per capita to have smaller delay than countries with lower GDP per capita.

IV. CONCLUDING REMARKS

This paper analyses the characteristics and the delay, from the African Development Bank's Board approval to first disbursement, of the public development projects financed by the African Development Bank Group (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.

Our objectives were twofold. The first one was to analyse the characteristics of the AfDB development projects portfolio. From this analysis, 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 middle income countries focus their investment projects in power and banking sectors, low income countries invest more in agriculture and social sectors; (iii) the average cost of middle income project is twice as large as that from low income countries.

The second objective of the paper was to analyse the delay to first disbursement in terms of project cost, regional and sector distribution and financing instruments. 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). On the one hand, the univariate analysis shows that the delay to first disbursement for ADB countries is on average 10 days lower than for ADF countries. By industrial sectors, the delay to first disbursement is the highest in pro-poor sectors such as education, health and agriculture. This raises the question of aid effectiveness. If delay is large, chances of a successful implementation of a development project shrink significantly. At the regional level, the delays are the lowest for multinational projects. On the other hand, from the multivariate analysis, we found that the project cost impacts negatively and significantly its delay. The higher is the project cost, the lower is its delay to disbursement. We also found that 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 of large projects,¹⁶ whenever possible. Large projects reduce the transaction costs for the AfDB, in terms of disbursement delay and have more chances to have an impact on the beneficiaries in the country. The second recommendation concerns the industrial sector of the AfDB. Projects on the pro-poor sectors seem to have the longest delay to first disbursement; AfDB should then put in place measures to increase the efficiency of its first disbursement in these sectors since these sectors concern population basic needs. This paper shows that Policy Based Lending (PBL) has the shortest delays. It may be then more efficient to invest more in PBL projects to deliver quickly the money to the countries and increase the chances of success of AfDB operations.

This paper is a first attempt to analyse public sector projects financed by an international agency. Several other studies are possible for future researches including the estimation of the cost to these delays, the analysis of the project performance and the impact of the supervision on the project performance.

¹⁶ This means that if the AfDB wants to finance US\$ 100 million in one country, instead of designing 10 small projects, worth on average US\$ 10 million, the AfDB should favor the design of one or two projects worth in total US\$ 100 million.

REFERENCES

- African Development Bank Group, 2006-2009. Annual Portfolio Performance Review (APPR), various annual reports 2006 to 2009.
- African Development Bank Group, 2006-2009. Compendium of Statistics on Bank Group Operations, Vol. 29 to 32 (years 2006 to 2009).
- Ang, J. B., 2008. *A survey of Recent Developments in the Literature of Finance and Growth*, Journal of Economic Surveys 22(3), 536-576.
- Bulir, A, Lane T, 2002. *Managing the Fiscal Impact of Aid*, Finance and Development 39(4), 1-5.
- Chauvet, L., Collier, P., Fuster, A., 2007. *Supervision and Project Performance: A Principal-Agent Approach*, Working Paper, Department of Economics, Oxford University.
- Claessens, S., Dooley, M., Warner, A., 1995. *Portfolio Capital Flows: Hot or Cold?* World Bank Economic Review 9, 153-174.
- Doucouliaagos, H., Paldam, M., 2007. *The Aid Effectiveness Literature: The Sad Results of 40 Years of Research*, Working Paper #2007-15, Department of Economics, University of Aarhus.
- Esty, B.C., 2004. *Modern Project Finance*, Wiley.
- Esty, B. C., 2007. *An Overview of Project Finance and Infrastructure Finance - 2006 Update*, HBS Publishing Case No.: 207-107. Available at SSRN.
- Esty, B.C., Lysy, F.J., Ferman, C., 2003. *An Economic Framework for Assessing Development Impact*, Boston: Harvard Business School Publishing.
- Esty, B.C., Megginson, W.L, 2003. *Creditor Rights, Enforcement, and Debt Ownership Structure: Evidence from the Global Syndicated Loan Market*, Journal of Quantitative and Financial Analysis 38, 37-59.
- Finnerty, J. D., 2007. *Project Financing: Asset-Based Financial Engineering*, Second Edition, Wiley.
- Gatti, S., 2008. *Project Finance in Theory and Practice: Designing, Structuring and Financing Private and Public Projects*, Academic Press.
- Hainz, C., Kleimeier, S., 2006. *Project Finance as a Risk-Management Tool in International Syndicated Lending*, Discussion Paper No. 183, Governance and the Efficiency of Economic Systems (GESY).
- Hausmann, R., Fernández-Arias, E., 2000. *Foreign Direct Investment: Good Cholesterol?*, Working Paper, Inter-American Development Bank, Research Department.
- Isham, J., Kaufmann, D., 1999. *The Forgotten Rationale for Policy Reform: The Productivity of Investment Projects*, Quarterly Journal of Economics 114(1), 149-184.
- Kayizzi-Mugerwa, S., Mubila, M. M., Lufumpa, C. L., 2000. *A Statistical Analysis of Determinants of Project Success: Examples from the African Development Bank*, African Development Bank Group, Economic Research Paper No. 56.
- Kerr, J., 2001. *Watershed Project Performance in India: Conservation, Productivity, and Equity*, American Journal of Agricultural Economics 83(5), 1223-1230.
- Kilby, C., 1995. *Supervision and Performance: The Case of the World Bank Projects*, Discussion Paper, Tilburg University, Center for Economic Research.
- Kleimeier, S., Megginson, W. L., 2000. *Are Project Finance Loans Different From Other Syndicated Credits?*, Journal of Applied Corporate Finance 13(1), 75-87.
- Kleimeier, S., Versteeg, R., 2009. *Project Finance as a Driver of Economic Growth in Low-Income Countries*, Working Paper RM/09/011, Maastricht University.
- Leurs, R., 2005. *Aid Disbursement Delays: Measures, Causes, Solutions*, Public Administration and Development 25(5), 379-387.

- McNamara, G. M.; Luce, R. A., Tompson, G. H., 2002. *Examining the Effect of Complexity in Strategic Group Knowledge Structures on Firm Performance*, Strategic Management Journal 23(2), 153-170.
- Niang, N. R., 2006. Étude des Stratégies d'Investissement de la Société Financière Internationale (IFC) dans un Cadre de Financement par Projet, Master Thesis, Faculty of Business Administration, Laval University, Quebec, Canada.
- Ravallion, M., 2000. *Monitoring Targeting Performance When Decentralized Allocations to the Poor Are Unobserved*, The World Bank Economic Review 14(2), 331-45.
- Subramanian, K., Tung, F., Wang, X., 2007. *Project Finance versus Corporate Finance*, Working Paper, <http://ssrn.com/abstract=972415>.
- te Velde, D. W., 2008. *The Global Financial Crisis and Developing Countries*, Overseas Development Institute (ODI) Background Note.

ANNEXES

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 Group (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 and Nigeria Trust Fund windows (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, policy based lending, ...)

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	143.7	100.0	54.4	100.0

Source: Authors, based on AfDB project database.

Table 2: AfDB project distribution by region, 1967-2008

This table displays the main characteristics, by region, of the 2,195 projects financed or co-financed by the African Development Bank Group (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 and Nigeria Trust Fund windows (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 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
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, and Sierra Leone.

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

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

Central region includes 7 countries: Cameroon, Central African Republic, Chad, Congo, Dem Rep Congo, Gabon, and Equatorial Guinea.

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

Table 3: AfDB 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 Group (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 and Nigeria Trust Fund windows (ADF). For each window, the table presents, by financial instrument, the number of projects, the total cost of the projects (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 is 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 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
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	51.0	100.0	18.7	100.0	1791	92.6	100.0	35.7	100.0	2195	143.6	100.0	54.4	100.0

Source: Authors, based on AfDB project database.

Table 4: AfDB-financed project cost by sector, 1967-2008

This table displays the average size of projects (in US\$ million), by industrial sector, of the 2,195 projects financed or co-financed by the African Development Bank Group (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 and Nigeria Trust Fund windows (ADF). 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, policy based lending, ...)

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	156.2	42.0	65.3	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 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 African Development Bank Group (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 first two panels are the average delay by window of financing: African Development Bank window (ADB) and African Development Fund and Nigeria Trust Fund windows (ADF). The third panel is the total of all AfDB-financed 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, policy based lending, ...)

Sector	ADB (Number of days)	ADF (Number of days)	ALL (Number of days)
Agriculture	763	678	689
Infrastructure	668	692	685
<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 region, 1967-2008

This table displays the average delay of projects, in number of days and by region, financed or co-financed by the African Development Bank Group (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 first two panels are the average delay by window of financing: African Development Bank window (ADB) and African Development Fund and Nigeria Trust Fund windows (ADF). The third panel is the total of all AfDB financed 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 (Number of days)	ADF (Number of days)	ALL (Number of days)
North	603	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, and Sierra Leone.

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

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

Central region includes 7 countries: Cameroon, Central African Republic, Chad, Congo, Dem Rep Congo, Gabon, and Equatorial Guinea.

South region includes 12 countries: Botswana, Lesotho, Namibia, South Africa, Swaziland, Zimbabwe, Angola, Madagascar, Malawi, Mauritius, Mozambique and 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 Group (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 first two panels are the average delay by window of financing: African Development Bank window (ADB) and African Development Fund and Nigeria Trust Fund windows (ADF). The third panel is the total of all AfDB financed projects. The financial instruments are (i) loan (if the project is financed by a loan only); (ii) grant (if the project is 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 (Number of days)	ADF (Number of days)	ALL (Number of days)
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), regions 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, mining,				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), regions 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), regions 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, regions 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, regions and industrial sectors on the delay to first disbursement, ADF projects

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

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Project total cost	-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