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Abstract

Foreign assistance to developing countries including Kenya has risen in the recent past. However, poverty levels in these countries have not fallen commensurately. This study uses difference-in-difference to evaluate the impact of Oversees Development Assistance (ODA) on poverty. It also reviews the status and bottlenecks to the implementation of the 2005 Paris Declaration on aid effectiveness and the impact of its implementation on poverty in Kenya. Using data from 69 districts in Kenya, the results generally show that ODA has significantly reduced poverty in Kenya. The results however, show that ODA disbursements have had stronger impacts on the poorest of the poor more than those who are less poor. This may be a pointer to the fact that donors may have, in the past, put too much emphasis on the poorest of the poor regions and ignored those who are just below the poverty line. This calls for a review of donor funding allocations among the poor regions in order for the impact of ODA to be felt more uniformly. In addition, the results show that the implementation of the 2005 Paris declaration has been felt only by the poorest of the poor and not those who are less poor again calling for emphasis of pro-poor projects in all poor regions. The findings also show strong spillover effects of ODA beyond the month of disbursement underscoring the long-term impacts of the projects.

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1. Introduction

Given the high levels of poverty in most developing countries, foreign aid from several development agencies has become a big source of funds for bridging the gap between government expenditures and the low tax revenues in most of these countries. The major objective of foreign aid is the promotion of economic growth and poverty reduction. However, after decades of receipt of foreign aid by many developing countries, most of the recipient countries have had nothing to show from the receipts in terms of a consistent increase in income growth, consistent rise in employment and/or reduced poverty levels. In fact, as foreign assistance increases in most of these countries, the impact indicators including unemployment and poverty levels have continued to rise. This therefore puts into question the effectiveness of foreign assistance on its intended objectives of improving income growth, employment creation and poverty reduction. This concern underscores the importance of not just the volume of aid, but also its effectiveness as critical elements in achieving the Millennium Development Goals (MDGs).

Recognizing the importance of aid effectiveness, the international community through the first and second High Level Forum on Aid Effectiveness in Rome (2003) and Paris (2005) respectively, produced the 2005 Paris Declaration on key principles to enhance aid effectiveness. These principles are ownership, alignment, harmonization, managing for results, and mutual accountability. The Third High Level Forum met in Accra in September 2008 and came up with measures that are needed to further the aid effectiveness agenda. Kenya is among the many countries that have endorsed this framework of commitments and targets and is currently implementing these principles to enhance aid effectiveness. The 2005 Paris declaration identified 12 (twelve) indicators of aid effectiveness and has set targets on 11 (eleven) indicators, to be achieved by 2010. However, the 2008 monitoring survey by the OECD-DAC Working Party on Aid Effectiveness revealed that a half of the indicators were off-track. The report concluded that "without further reform and faster action, we will not meet the 2010 targets for improving the quality of aid (OECD 2008). In Kenya, the implementation of the Paris Declaration on Aid effectiveness has encountered several drawbacks, putting the achievement of the Declaration's goals by 2010 in doubt.

Against the background of increasing donor assistance, increasing poverty levels and the bottlenecks to the implementation of the Paris Declaration in Kenya, it is important to evaluate first, how Overseas Development Assistance (ODA) in general has impacted on poverty reduction and secondly review the implementation status of the 2005 Paris Declaration in Kenya and how the implementation of the Declaration has impacted on poverty and therefore aid effectiveness. The results from this study will be important in understanding the country's policy reform agenda in enhancing aid effectiveness within the framework of commitment and targets of 2005 Paris Declaration by providing empirical evidence on the inter-relationships between foreign aid and poverty levels in Kenya. In this way, the paper contributes to the understanding of the challenges and measures that a developing country government like Kenya need to take in order to improve aid effectiveness.

Using difference-in-difference estimation technique and data from July 2003 to December 2008 obtained from 69 districts in Kenya, the results generally show that ODA has significantly reduced poverty in Kenya. However, its impact is more pronounced for the poorest among the poor indicating that more of the pro-poor donor-funded projects have been implemented in the poorest of the poor districts and probably ignoring those who are just below the poverty line. The findings also show (against expectations) that the impact of ODA disbursements are higher than the impact of ODA expenditures; a result which is indicative of poor quality of project expenditure data. This has serious implications for project monitoring and evaluation. With poor quality data on project expenditures, it is very difficult to monitor and evaluate the impact of the projects. The results further show that the impact of the ODA projects on poverty (expectedly) spills over beyond the months of project implementation underscoring the long-term nature of the projects. The implementation of the Paris Declaration is found to have impacted only the poorest of the poor and not those just below the poverty line. Further, on the implementation of 2005 Paris Declaration, several factors continue to undermine aid predictability and effectiveness including, aid conditionalities, tied aid and continued use

of parallel systems by donors despite improvements in the domestic public finance management.

The rest of this paper is organised as follows; the remainder of section one gives background information on foreign aid and poverty trends in Kenya, section two gives an overview of literature review, section three discusses the empirical strategy adopted, choice of treated and control districts and data used. Section four gives the empirical results while section five provides the summary, conclusions and recommendations.

1.1. Trends in foreign aid and poverty

Kenya experienced a dramatic build-up in nominal aid inflows during the 1970s and 1980s, with a slackening of donor support in the mid 1990s (Figure 1 in the Appendix B). Total Net ODA disbursements increased from an annual average of $ 144.2 million in the 1970s to $ 544 million in the 1980s and to $688 million in the 1990s. During the 1970's, foreign aid averaged about 5 percent of GDP, increasing to about 8 percent in 1980's and 1990's. Donor support however reached a peak of $1.2 billion in 1990, generally declining thereafter as the government reneged on its commitment to donors. At its peak, Kenya's share of total aid in Africa stood at about 6 percent. Kenya has benefited from the fact that the terms of its ODA softened over the period. Kenya's external debt management policy advocates for a bias towards concessionary borrowing and this is reflected in the high grant component averaging about 75 percent over the period 1970-2007.

ODA takes many forms. It can be distinguished by terms (concessional loans and grants), by origin (multilateral or bilateral), by purpose (programme, project, technical assistance) and further still by whether it is in cash or kind, tied or untied. Kenya, for example, received roughly more than three-quarters of its total aid from bilateral donors in 1970's and 1980's, with a general trend toward greater reliance on either multilateral aid in the 1990's and 2000's. The share of multilateral aid increased moderately in the 1980s, primarily due to the disbursement of the World Bank adjustment lending. The principal source of multilateral loans has been the World Bank group. Kenya has also benefited

from debt relief estimated at about US $ 866 million between 1990 and 2007. Even with this increasing trend in aid flows, overall poverty has increased over the years from a low of 40.25 percent in 1994 to 52.32 per cent in 1997 before easing to 46 per cent in 2005 as shown in the Table 6 in the Appendix A. Poverty trends in Kenya are shown in Table 1 below.

1.2 Implementation of the Paris Declaration on aid effectiveness in Kenya

Kenya as a signatory to the Paris Declaration has since 2005 embarked on implementing resolutions agreed at the High Level meetings aimed at enhancing aid effectiveness. The dialogue between the Government and Development Partners has gained substantial momentum through participation in the budget process as well as the Kenya Consultative Group (KCG), which normally meets quarterly, and the GoK/Donor Joint Technical Working Group (JTWG). A number of consultative meetings have been held enhancing the relationships among the donors and the government. In line with the Paris Declaration, the government is undertaking measures to strengthen its systems of public financial management. The government has also been enhancing the timely preparation of a Medium Terms Expenditure Framework (MTEF) Budget and has undertaken various legal reforms to strengthen the legal framework for public expenditure management. The Budget Outlook Paper, Budget Strategy Paper (BSP) and Public Expenditure Review (PER) continue to be used in the preparation of annual budgets since they help translate core Government policy statements into coherent medium-term expenditure plans, complete with sector ceilings and budget allocations. As part of reforms to enhance ownership and leadership in aid management, the government has prepared the Kenya External Resources Policy (KERP), which is hoped will articulate the Government's policy on mobilization of external financing within the framework of an evolving aid architecture.

The Government however faces a number of challenges in the course of implementing the Paris Declaration. Some of these challenges are listed in the next sub-section.

1.3 Bottlenecks to the implementation of the Paris Declaration and ODA effectiveness of ODA

Several bottlenecks have been cited as possible drawbacks to the full implementation of the 2005 Paris Declaration and hence the effectiveness of ODA as a means of reducing poverty in Kenya. These include;

1.3.1 Conditionalities without consultation

Most donors have in the past tied their finances to policy reforms which were proposed to the recipient governments without any consultations with the governments. The governments have been told to accept the reform proposals or do without the external financing. The recipient governments have in these circumstances accepted the conditions with the sole intention of getting the money but no serious intention of implementing the reform proposals. This has brought tensions between the governments and the donors that have in the past resulted in the suspension or cutting of donor aid. Kenya has not been spared from the these conditionalities.

1.3.2 Bureaucratic procurements procedures

One of the major impediments to the absorption of external funds in the long process of procuring goods and services in the line ministries. As a results Kenya's aid absorption capacity stands at between 30-40 per cent compared to around 80 per cent for Uganda and Tanzania. This is a major impediment to the realization of the benefits that would accrue from the donor funds.

1.3.3 Weak linkage between different governments donor-fund management bodies

The External Resources Department (ERD) within the Ministry of Finance is supposed to manage and audit donor funds. However some donor programs are managed outside of the ERD. For instance, the national Aids Coordination Council (NACC) manages the implementation of HIV/Aids programs. There is no proper linkage of such initiatives to the central ERD framework. This makes accounting and auditing of external aid received

by such management organs difficult. The linkage between the ministry of Finance and other line ministries is also weak and because of this weakness harmonisation continues to be hampered between ministries and across ministries.

1.3.4 Lack of timely accounting for the funds

Lack of timely accounting for the already disbursed and utilized funds by the line ministries leads to delay of the next tranche of funds. This delays the benefits from the projects hampering poverty reduction efforts.

1.3.5 Low project completion rates

The project completion rates in Kenya stands at around 3% per annum. Low completion rates are attributed to several different reasons including procurement procedures, delay in accounting for funds which lead to delay in receipt of the next tranche of funds among other reasons. Delay of completion of the projects on the other hand delays the benefits that are meant to accrue from the external finances.

1.3.6 Diverting external finances

In some cases, donor aid meant for particular projects are diverted to other projects and hence the objectives for which the funds are obtained are not achieved. This is more serious in the case where the diversion is from capital expenditure to recurrent expenditures.

The External Loans and Credit Act of Kenya, CAP 422 of 1967 section 3(1), provides some restriction on the use of the borrowed funds. It states that '*all sums borrowed under this Act shall be expended only upon the purposes for which provision is made in the estimates of expenditure approved by parliament*'. The practice in Kenya is that, the Minister for Finance submits expenditure estimates to parliament without specifying whether the funds for a specific expenditure item will come from internally generated revenue or external credit. This has made it legal to divert the external resources from the initial projects to other projects, provided the project where the funds are diverted to was provided for in the expenditure estimates and approved by parliament.

1.3.7 Borrowing to repay

With dwindling domestic resources, the government borrowing of external resources increases. With the external repayment obligations, the government uses the received external aid to finance the repayments. Debt repayment reduces the amounts of donor funds available for the intended projects. Kenya has had a problem with debt repayment as reflected by the accumulating payment arrears. By mid 1993, the arrears on external debt stood at $650 million, 63% of them being interest arrears and accounting for 15 per cent of outstanding stock of official debt.

1.3.8 Restricting Legal framework

The External Loans and Credits Act of Kenya, CAP 422 of the laws of Kenya specify a limit of the country's total indebtedness. It states "*the total indebtedness for the time being outstanding in respect of the principle amounts of moneys borrowed or credit obtained shall not exceed the equivalent of the sum of six hundred and fifty million pounds calculated at rates of exchange prevailing for the time being or such higher sum as the National Assembly may by resolution approved*". For optimum absorption and sustainability of these loans, it would be more appropriate to limit the indebtedness as a proportion of GDP instead of limiting the indebtedness in terms of absolute amounts.

1.3.9 Lack of monitoring, evaluation and impact assessment agency

Kenya relies mainly on the donors mid and final project impact assessment and supervision reports for the assessment and evaluation of its donor-funded projects. This makes the assessment of the impact of different sources of financing difficult. One of the main reasons why monitoring and evaluation of the projects is difficult has been the incapacity of the ERD to deal with the administrative as well as the technical aspects projects under it due to capacity constraints.

1.3.10 Lack of aid harmonization of donor policies

Donor policies and practices differ from one donor to the other each with different priorities. The differences which feed into the recipient country policies make project implementation in the recipient countries very difficult when donor priorities conflict.

1.3.11 Capacity constraints

There is a general lack of capacity within the ministry of Finance to carry out a comprehensive financial risk analysis of the total debt portfolio. With the current policy to borrow on concessional terms, it is likely that Kenya would be exposed to currency and exchange rates risks due to fluctuations in the creditor countries' currencies.

1.3.12 Lack of programs to maintain and sustain the funded projects

Most donor-funded projects collapse almost immediately they are completed. For instance, World Bank (2008) notes that, donors poured a colossal $20 billion into building roads in Tanzania over a 20 year period. But due to lack of maintenance, roads deteriorated faster than they could be built. This is exactly the same case with Kenya.

1.3.13 Weak institutions

Weak institutions including the law enforcement agencies and the judiciary increase the incidence of corruption and the likelihood of misuse of donor funds. When people for instance know that the punishment they will get when they misuse public resources is not severe, or that they can buy their way out of accusations of misuse of the funds, it is likely that they will misuse the resources including donor funds without thinking seriously about the consequences.

1.3.14 Disharmony among donor's programmes and procedures

Many donors have found it difficult to match their programmes to the MTEF budget. It has proved equally hard to get all the Development Partners to agree on common procedures because of different timing of disbursing funds due to different budgeting cycles. These contribute to low absorption capacity which on one hand has been

complicated by several sets of conditionalities and Tied Aid. The use of Parallel systems (such as Financial Management Agents (FMAs) and Project Implementation Units (PIUs)) by the Development Partners continues to create disharmony in project implementation and makes aid more unpredictable.

1.3.15 Lack of transmission of knowledge and capacity

External aid should be a catalyst for the generation and transmission of knowledge and local capacity that will be important in improving public service delivery. The use of many technocrats in the externally funded projects does not help to built local capacity.

2. Overview of literature

Empirical studies reveal that ODA has had varied impacts in different countries. For instance, Devarajan, Dollar, and Holmgren (2000) conclude that aid had been somehow successful in Ghana and Uganda leading to growth and reduction in poverty. However, in a study covering the period 1980-1998 for Kenya, O'Brien and Ryan (1999) conclude that the volume of donor aid was less important in promoting reforms than government ownership and political will. Using cross-country analysis, Burnside and Dollar (2000), argue that aid is more effective on growth in good policy environments while the growth impact was found to be negligible in bad policy environment. However, some literature contradicts these findings. For instance, Dalgaard, Hansen and Tarp (2004), showed that aid can have a positive impact on growth in a bad policy environment, and more recently Easterly, Levine and Roodman (2004) argue that the results reported by Burnside and Dollar (2000) were not robust. In a different cross-country analysis, Knack (2000) find evidence that higher levels of aid can potentially undermine institutional quality by encouraging corruption and rent-seeking. These empirical studies reveal that there is no consensus but there exists a considerable degree of agreement that effective leadership and mutual accountability that underpin the Paris Declaration are critical in enhancing aid effectiveness.

In the next section, we interrogate this literature by evaluating the impact of ODA on poverty in Kenya.

3. Empirical strategy

To evaluate the impact of ODA on poverty, the following counterfactual question come to mind; "What would have been the poverty levels in the districts had the ODA-funded projects not been initiated in the districts?" Of particular interest would be answers to the following questions:

1.What is the impact of ODA on poverty

2.Has ODA been more effective in Kenya after the start of the implementation of the 2005 Paris Declaration?

To answer these questions, we use difference-in-difference methodology. We choose districts with ODA funded projects as treated and districts without ODA funded projects as controls. The key assumption underlying the difference-in-difference methodology is that any selective differences between the treated and the control districts are constant over time. In the following sub-section, we briefly lay down the empirical framework that we follow to calculate the counterfactual outcome in order to determine the effect of projects (treatment) on the treated districts.

3.1 Empirical model - Difference-in-difference

The difference in difference (D-in-D) (or "double difference") estimator is defined as the difference in average outcome in the treatment group before and after treatment minus the difference in average outcome in the control group before and after treatment: Following notations from evaluation literature let $S = 1$ if a district is treated (district has an ODA-funded projects) and $S = 0$ if the district is a control (district has no ODA-funded project) so that;

$$S = \begin{cases} 1 & \textit{treated district} \\ 0 & \textit{control district} \end{cases}$$

Let us also define the average outcome (poverty levels) in the treated district as Y_1 and the average outcome (poverty levels) in the control district as Y_0. For the treated district,

we have the observed mean outcome under the condition of intervention $\mathrm{E}\left(\mathrm{Y}_1 \middle| S=1\right)$ and unobserved mean outcome under the condition of control $E\left(Y_0 \middle| S=1\right)$. Similarly, for the control district we have both unobserved mean under the condition of intervention $E\left(Y_1 \middle| S=0\right)$ and the observed mean under the condition of control $E\left(Y_0 \middle| S=0\right)$. Our main objective is to estimate the counterfactual given as $\mathrm{E}\left(\mathrm{Y}_0 \middle| S=1\right)$. To achieve this we follow the methodology in by Heckman and Smith (1995) given as:

$$ATET = E(Y_1 - Y_0 | X, S=1) - E(Y_1 - Y_0 | X, S=0) \qquad (3.1)$$

where $ATET$ is the average treatment effect on the treated, $E\left(Y_1 - Y_0 \middle| X, S=1\right)$ is the treated district before-after difference and $E\left(Y_1 - Y_0 \middle| X, S=0\right)$ is the control district before-after difference and X is a vector of the conditioning variables.

3.2 Choice of treated and control districts

This study evaluates the impact of ODA flows in 69 districts in Kenya. Kenya is divided into 8 administrative provinces. Each province is then divided into districts. The unit of analysis in this study is therefore the district. As at 2003, which is the beginning our sample, there were 69 districts in Kenya. We are therefore using all the districts; some as treated and the rest as controls. A treated district in this case is one with an ODA-funded project specifically identifiable to poverty reduction objective. A control district is one with no ODA-funded project. We identify 35 treated districts with ODA-funded projects and 34 districts without the ODA-funded projects as control districts identifiable to poverty reduction objective.

3.3 Data

This impact evaluation employs secondary monthly data set from July 2003 to December 2008. The period is chosen due to data unavailability before July 2003. Data on ODA flows identifiable to specific anti-poverty projects in the districts are obtained from the Department of Public Debt Management and the External Resources Department, Ministry of Finance, Kenya. Data on the outcome variables (district poverty levels) are

computed using the Foster, Greer and Thorbecke (1984) measure as given in section 3.4. District population data are obtained from the Kenya National Bureau of Statistics (KNBS) while district incomes which is one of the other factors that affect poverty in the districts and from which district income per capita income is calculated, is obtained from the Kenya Revenue Authority (KRA)'s monthly regional revenue data.

3.4 Calculating Poverty Gap Index

Given that poverty data is not available on a monthly basis, an indicator monthly index is computed and used instead. The starting point in computing this index is the Foster, Greer and Thorbecke (1984) measure of poverty given as;

$$P_\alpha = \frac{1}{N}\sum_{i}^{M}\left(\frac{z - y_i}{z}\right)^\alpha \qquad (3.2)$$

where; z is the national poverty line and y_i is the income per capita of district i. M is the total number of districts and N is the national population. When $\alpha = 1$, then the Foster, Greer and Thorbecke equation above becomes;

$P_\alpha = \frac{M}{N} * \frac{z - y_i}{z}$ and for district i, we have;

$$P_i = \frac{z - y_i}{z} \qquad (3.3)$$

Equation (3.3) above is called the Poverty Gap Index (PGI) for district i. The PGI is an indicator of the minimum cost of eliminating poverty. To compute equation (3.3), we need data on national poverty line and the respective district income per capita. The Kenya National Bureau of Statistics (KNBS) derives a monetary poverty line which represents the cost of a basket of basic goods. This poverty line is determined and based on the expenditure required to purchase a food basket that allows minimum nutritional requirements to be met (set at 2250 calories per adult equivalent per day) in addition top meeting the costs of non-food needs. In Kenya this poverty line was estimated to be about Kshs 1239 and Kshs 2648 for rural and urban household respectively (GoK, 2005). These are the poverty lines that we use to calculate the PGI for the districts.

When α in the above equation (3.3) is equal to two, then $P_2 = \frac{1}{N}\sum_{i}^{M}\left(\frac{z - y_i}{z}\right)^2$. This is the poverty severity (intensity) measure. It measures the gap between the poor's standard of living and the poverty line. The index provides a good ranking among the districts as it takes into account the variations in the distribution of welfare amongst the poor and gives more weight to the poorest of the poor. It is therefore a good indicator of how interventions would affect the poorest of the poor. We therefore use both the PGI and the intensity of poverty in the estimations for comparison.

4. Empirical Results

This section gives the empirical results from the estimations of the difference-in-difference models.

4.1 Descriptive statistics

The descriptive statistics are given in the Table 1 in the Appendix A. The descriptive statistics show that the average ODA disbursed stood at 3229698 Kenya shilling in the districts under study. The average income in the districts stood at 11584 Kenya Shillings while the average ODA expenditure in the districts is 578211 Kenya Shillings and average district population of 484116 people. In the next sub-sections, we present the results of different models from the estimations.

4.2 When impact is felt only in the month of disbursement

This model assumes that ODA would only have an impact in the month the disbursements are made and will not spill over to the months after. In the months without any disbursements, the impact is assumed to be zero. The model to be estimated in this sub-section is given as;

$$poverty_{it} = \beta_{10} + \beta_{11}X_{it} + \beta_{12}(T_1)_{it} + \varepsilon_{1t} \qquad (4.1)$$

where T_1 is a treatment dummy and equals one for the months when ODA funds were disbursed and zero otherwise. X_{it} is a vector of other factors that affect poverty. The results from this estimation with PGI as the dependent variable are given in Table 2 Column 2 in the Appendix A. The results show a statistically significant impact of ODA disbursements on poverty. An increase in disbursements by one shilling reduces poverty by around 0.1179803 (around 0.12) cases. An increase in disbursements by 100 shillings therefore (around USD 1.42) will remove around 12 people from poverty. ODA expenditures have a similarly significant impact on poverty. A one shilling increase in ODA expenditures reduces poverty by around 0.000000012 cases, implying that removing 12 people out of poverty would require around 1,000,000,000 Kenya shillings in ODA expenditures (around USD 14285714.29). This implies that the amount of ODA disbursed have a higher impact on poverty than ODA expenditures. This is against the expectation that expenditures will have a higher impact than disbursements since all the funds that are spent have been disbursed but not all the funds that are disbursed are necessarily spent. The unexpected result here could be attributed to the poor accountability of project spending so that funds are spent on projects but are not accounted for properly leading to poor quality of ODA expenditure data. This has serious implications for monitoring and evaluation of the projects as it becomes difficult to monitor and evaluate the projects without proper data on project expenditures. The findings further expectedly show that district income significantly reduces poverty. An increase in district income by one Kenya Shilling, reduces poverty by 0.00079 cases. This means that an additional income of 100,000 Kenya shillings (around USD 1428) will remove 79 people from poverty. In addition the findings show that ODA disbursements and expenditures both have statistically significant impacts on the intensity of poverty (Table 2 Column 3 in the Appendix A), implying that they both improve the welfare of the poorest of the poor (It is important to remember here that the intensity of poverty is the square of the PGI and therefore gives more weight to the poorest of the poor). An increase in ODA disbursements by one shilling reduces the intensity of poverty by around 75 cases. This is a much higher impact than the reduction of 12 cases obtained as the impact of disbursements on the PGI. This is a strong indication that ODA disbursements have stronger impact on the poorest of the poor than those who are less

poor (those whose income and consumption are just around the poverty line). It is probable that anti-poverty interventions have focused more on the poorest of the poor and ignored the "just poor" – those who are just below the poverty line - and hence the stronger impact of ODA on the poorest of the poor.

4.3 When impact is felt in the month of disbursement and thereafter

In this sub-section, we assume that the impact of the project is felt in the month that the disbursements and the expenditures are made and thereafter. This hypothesis recognizes the fact that the impact of the projects may come with a lag as the project benefits accrue with its implementation. The model to be estimated in this sub-section is given as;

$$poverty_{it} = \beta_{20} + \beta_{21} X_{it} + \beta_{22}(T_2) + \varepsilon_{2t} \qquad (4.2)$$

where T_2 is an interaction dummy between the condition of treatment dummy *treat* denoted by one if the district has a project funded by ODA and zero otherwise and a time dummy *time* denoting the time the project was initiated i.e. $T_2 = treat * time$. In this case, the time a district gets the first funding is considered as the time of treatment. The condition of treatment is whether a district has an ODA funded project or not. For districts with ODA-funded projects, the T_2 dummy therefore equals to zero for the months before the project is initiated and ones from the month of the project launch onwards. X_{it} is a vector of other factors that affect poverty including district income. The results from this estimation with PGI as the dependent variable are given in Table 3 column 2 in the Appendix A. The results show that, ODA disbursements significantly reduce poverty by around 0.1206717 cases for every shilling of ODA disbursed or by 12 people for every 100 Kenya shillings disbursed (around USD 1.42). This impact is slightly stronger than the impact obtained when it is assumed that ODA will impact on poverty only in the month of disbursement and not thereafter. This shows strong spillover effects of ODA on poverty beyond the month of disbursement. The impact of income on poverty remains as expected and not substantially any different in magnitude. The results using the intensity of poverty as the dependent variable reported in the Table

3 column 3 in the Appendix A also show that the impact of ODA is significantly different from Zero. A one shilling increase in ODA disbursements reduces the intensity of poverty by 198.31 cases. This is higher than the reduction of 75.77 obtained when it is assumed that the impact is only felt in the month of disbursement. This reinforces the result that ODA disbursements have significant spillover effects beyond the month of disbursements.

4.5 Impact of ODA after the 2005 Paris Declaration

In this section we analyze whether the implementation of the Paris Declaration has had any impact on aid effectiveness. The model to be estimated is given as;

$$poverty_{it} = \beta_{40} + \beta_{41} X_{it} + \beta_{42}(T_2) + \beta_{43} P_t + \varepsilon_{it} \qquad (4.3)$$

where P_t is a dummy variable denoting the implementation of the 2005 Paris Declaration with zero before 2005 and ones thereafter. It is expected that after the start of the implementation of the Paris Declaration, the impact of foreign aid on poverty would improve. The results from this estimation using the PGI as the dependent variable are given in Table 4 column 2 in the Appendix A. The results show that the implementation of the Paris Declaration has had no significant impact on poverty. This implies that the implementation of the declaration has not improved the effectiveness of ODA. More effort therefore needs to be put in place to increase the pace of the implementation of the declaration to improve the effectiveness of ODA. However on the impact of the Paris declaration on the intensity of poverty given in Table 4 column 3 in the Appendix A, the results show that the implementation of the declaration has significantly reduced the number of the poorest poor by around 88 people since its implementation. This implies that the poorest of the poor could have so far benefited from the implementation and not those who are closer to the poverty line.

4.6 False Experiment

In this sub-section, we code a false treatment variable FT that equals one (for districts with a ODA funded project) in the three months prior to the first month in which the

project was started and zero in all other months and also zero for districts without the ODA funded projects. This is done to separate the impact of the ODA-funded projects from the impact of the other factors before the projects were initiated. It is possible from this model to determine whether the impact on poverty of other factors was after all higher before the project launch, in which case, the impacts after the launch would be substantially insignificant. The model that we estimate in this sub-section is given as:

$$poverty_{it} = \beta_{10} + \beta_{11} X_{it} + \beta_{12}(FT) + \beta_{13} T_2 + \varepsilon_{it} \qquad (4.4)$$

The results from this estimation using the PGI as the dependent variable are given in Table 5 column 2 in the Appendix A. the results show that, before the projects initiation, the impact of the false variable was statistically significant but the magnitude was smaller than the magnitude of ODA disbursements. The magnitude of the false variable is 0.12 compared to the impact of ODA disbursements of 0.14 (the coefficient of T_2 in the same column). This result implies that even though other factors other than ODA disbursements significantly reduced poverty before the projects were launched, the disbursement of ODA funds increased the impact on poverty. The results with the intensity of poverty as the dependent variable given in Table 5 column 3 in the Appendix A confirm the finding that the impact of ODA disbursements was higher than the impact of other factors than influenced poverty before the projects were initiated. Before the projects, other factors reduced poverty by around 183 cases. But after the ODA-funded projects were launched, the reduction in poverty in the districts increased to around 220 cases. Our results would have been questionable had we found that the impact before the projects were initiated in the districts was greater than after the introduction of the projects. This would have cast doubt on the whole impact analysis.

3. Conclusions and Policy Recommendations

This study evaluates the impacts of ODA on poverty reduction in Kenya and reviews the status and bottlenecks to the implementation of the 2005 Paris Declaration and the impact of its implementation on aid effectiveness in Kenya. Using difference in difference methodology and data from 69 districts in Kenya from July 2003 to December 2008, the

results generally show that ODA has significantly reduced poverty in the district with the ODA-funded projects. The impacts of ODA disbursements on poverty are found to be higher than the impact of ODA expenditures. This is indicative of the poor quality of project expenditure data since it is expected that the impact of ODA expenditures would be higher than the impact of ODA disbursements. This unexpected result can be attributed to poor accountability of project spending so that funds are spent on projects but are not accounted for properly leading to poor quality of ODA expenditure data. The main implication of poor records on project expenditures is the difficulty to carry out monitoring and evaluation of the projects. It is therefore important that measures be put in place to capture all the necessary data including data on project expenditures and this data recorded in a retrievable manner for project monitoring and evaluation.

The results further show that ODA disbursements have stronger impact on the intensity of poverty than on the PGI, implying that the ODA-funded projects have impacted the poorest of the poor more than those who are less poor. This finding could be indicative of the fact that more emphasis of ODA funds could have been put on the poorest of the poor and ignored the less poor with most donors initiating anti-poverty projects only in the poorest of the poor areas. The results also show a stronger impact on poverty if the ODA-funded projects are assumed to reduce poverty beyond the month of project implementation. This shows strong spillover effects of ODA on poverty beyond the month of disbursement. In addition, the results show that the implementation of the 2005 Paris declaration has not significantly reduced poverty as measured by PGI, but the impact of the declaration was significant on the intensity of poverty implying that the declaration's implementation has been felt only by the poorest of the poor.

From the review of the status of the implementation of the 2005 Paris Declaration, several bottlenecks to the implementation are identified. Several issues that may need policy attention are clear from the review. These include;

- The need to streamline procurement process (legislate dire penalties on government officials for flouting procurement rules)

- Need to institute strong and timely systems of accounting for the funds (streamline procurement procedures, thorough audit of external funds use, legislate dire penalties for misuse of funds and delay in accounting for the funds)
- Need to ensure external aid goes to the intended projects (avoid using external aid to repay other loans or divert to other projects probably through legislation, legislate dire penalty for diversions)
- Ensure projects are completed in time (increase project completion rates, legislate dire penalties on contractors and government officials for delays in project completion)
- Ensure project quality (put in place a system of evaluating quality of the projects delivered, legislate dire penalties for contractors and government officials who fail deliver quality projects as per the specifications of the contracts)
- Put in place a system of maintaining the funded projects (a strong monitoring, evaluation and impact assessment regime, a strategy for maintenance of projects)
- Harmonize all aid management agencies under one umbrella body to oversee accounting, coordination, audit, implementation and impact evaluation of the projects

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Appendix A: Tables

Table 1. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
id	2970	23	12.98936	1	45
time	2970	554.5	19.05358	522	587
odadisburs~s	2962	3229698	3.51e+07	0	1.49e+09
odaexpendi~s	2958	578211.2	6523286	0	1.86e+08
districtin~e	2970	5.32e+09	7.22e+09	4.00e+07	4.04e+10
districtpo~n	2970	484116.4	348829.1	100861	2143254
povertyline	2970	1364.244	401.0454	1239	2648
districtin~a	2970	11584.58	15751.71	44.11875	84198.44
vrpgi	2970	-10220.34	15803.78	-82959	2402
rpgi	2970	-8.118182	12.77469	-67	1
vvrpgi	2970	9.133528	12.75481	.0356084	67.95677
pgi	2970	-8.133528	12.75481	-66.95677	.9643916
treat1	2970	.0680135	.2518114	0	1
pgintensity	2970	228.7846	531.3053	4.53e-07	4483.209
treat2	2970	.3215488	.4671495	0	1
paris	2970	.7272727	.4454368	0	1
false	2970	.0380471	.1913423	0	1

Table 2: Impact of ODA if impact is felt only in the month of disbursement

Variable	PGI	Intensity
T1	-0.12 (-2.42)	-75.78 (-2.26)
T2	-	-
Paris	-	-
False	-	-
odaexpenditure	0.000000012 (6.24)	-0.0000029 (-2.48)
income	-0.00079 (-634.52)	0.091(116.47)
population	(dropped)	-
_cons	1.20	-667.24 (-67.70)

Note: The figures in parenthesis are the t-statistics

Table 3: Impact of ODA if impact is felt only in the month of disbursement

Variable	PGI	Intensity
T1	-	-
T2	-0.12067 (-3.55)	-198.31(-9.32)
Paris	-	-
False	-	-
odaexpenditure	0.000000012(6.30)	0.0000025(-2.14)
income	-0.00079(-624.77)	0.09(117.16)
population	-	-
_cons	1.21(75.74)	-646.93(-64.46)

Note: The figures in parenthesis are the t-statistics

Table 4: Effect of Paris Declaration

Variable	PGI	Intensity
T2 Paris	0.28(0.99)	-215.61 (-12.14)
False odaexpenditure	0.000000017(6.26)	0.00000202 (-1.75)
income	-0.00079(-617.2)	0.094(119.26)
population		
_cons	1.21(68.87)	-593.81(-54.88)

Note: The figures in parenthesis are the t-statistics

Table 5: False Experiment

Variable	PGI	Intensity
T2 Paris	-0.14 (-3.90)	-220.65(-10.15)
False odaexpenditure	-0.12(-1.97)	-183.69(-4.78)
income	-0.00000012(6.35)	-0.0000024(-2.03)
population	-0.00079(-622.76)	0.093(117.41)
_cons	-1.22(75.57)	-642.07(-63.78)

Note: The figures in parenthesis are the t-statistics

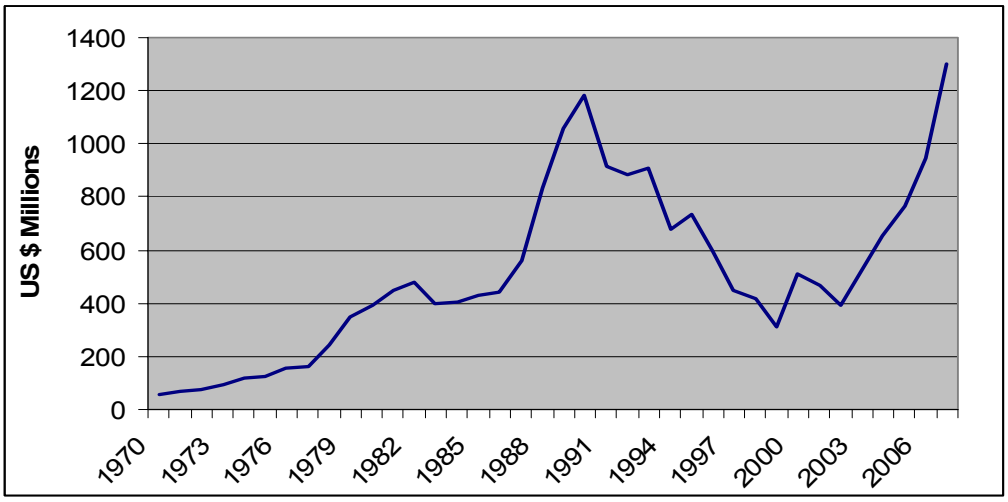
Table 6: Poverty trends in Kenya

	% of overall poverty 1992	% of overall poverty 1994	% of overall poverty 1997	**% of overall poverty 2005/06**
Overall Poverty	44.78	40.25	52.32	46
Central Province	35.8	31.9	31.4	30.4
Coast Province	43.5	55.6	62.1	69.7
Eastern Province	42.2	57.8	58.6	50.9
North Eastern	n.a	58.0	65.5	73.9
Nyanza Province	47.4	42.2	63.1	47.6
Rift Valley Province	51.5	42.9	50.1	49.0
Western Province	54.8	53.8	58.7	52.2

Source: Basic Report on Well Being in Kenya KIHBS 2005/06 and Welfare Monitoring 1997.

Appendix B

Figure 1: Total Net ODA Disbursements 1970-2007, Millions of US dollars



Data Source: OECD, www.oecd.org/dac/stats/