

RP 135

MARCH 2004

**THE IMPACT OF FOREIGN AID
ON PUBLIC EXPENDITURE:
THE CASE OF KENYA**

James Njeru

**AERC
CREA**

AFRICAN ECONOMIC RESEARCH CONSORTIUM

CONSORTIUM POUR LA RECHERCHE ECONOMIQUE EN AFRIQUE

**The impact of foreign
aid on public expenditure:
The case of Kenya**

By

James Njeru
Moi University

AERC Research Paper 135
African Economic Research Consortium, Nairobi
November 2003

IDS



047333

© 2003, African Economic Research Consortium.

Published by: The African Economic Research Consortium
P.O. Box 62882
Nairobi, Kenya

Printed by: The Regal Press Kenya Ltd.
P.O. Box 46166 - 00100 GPO
Nairobi, Kenya

ISBN 9966-944-23-0

Table of Contents

List of tables

List of figures

Acknowledgements

Abstract

1.	Introduction	1
	The role of foreign aid	1
	Research issue	2
2.	Review of the public expenditure process in Kenya	4
	The budget process	4
	The composition of government expenditures	5
	The public expenditure and external assistance	9
3.	Literature review	15
4.	The model	17
5.	Empirical results	19
	Data source and description	19
	The results	19
6.	Conclusion and policy implications	25
7.	Suggestions for further research	27
	Notes	28
	References	29

List of tables

1. The composition of government expenditures	6
2. A comparison of budgetary revenues and expenditures in Kenya, 1970–1999 (in million Kenya pounds)	8
3. Summary statistics (as percentage of GDP)	20
4. Results of unit root and cointegration tests	21
5. Regression results: Total government expenditure on foreign aid flow	22
6. Regression results: Government expenditure and foreign aid flow	24

List of figures

1. Changes in aid flow as percentage of GDP	10
2. The composition of major aid donors to Kenya, 1970–1999	11
3. Government response to IMF aid freeze	13

Abstract

Foreign aid represents an important source of finance in most countries in sub-Saharan Africa (SSA), where it supplements low savings, narrow export earnings and thin tax bases. In recent years the donor community has become more stringent about fiscal discipline and good policies, which has led to freezing of donor funds to governments that do not conform with aid conditionalities. The Kenyan government has experienced such aid cuts in the past and this paper uses a welfare utility maximization function to explore how government expenditure responds to fluctuations in aid flows. The empirical results indicate that the flow of foreign aid does influence government spending patterns. There is a positive and statistically significant relationship between the share of government expenditure in gross domestic product (GDP) and the share of net disbursement of overseas development assistance (ODA). While the study finds relatively little evidence that aid leads to tax relief, there are strong indications that the government renders aid fungible by financing recurrent expenditures. The effects of an aid freeze are strong in the short term as the Treasury embarks on stringent fiscal measures to counteract the negative effects.

Key words: Foreign aid, public expenditure; aid fungibility; Kenya; sub-Saharan Africa (SSA).

Acknowledgements

I would like to sincerely thank the African Economic Research Consortium for funding and providing the technical support for this study. I am greatly indebted to Mohsin Khan, Shanta Devarajan and John Randa for their insights and guidance during my attachment at the IMF research division where the proposal was developed, and to Stephen O'Connell, Njuguna Ndung'u and other resource persons for their technical advice. I also thank Prof. Ibi Ajayi for his intellectual and fatherly guidance. Any errors and omissions remaining in the publication are my responsibility.

1. Introduction

In this era of liberalization, fiscal discipline remains a major key to economic growth for many economies world over. In the past, developing countries received huge external aid flows from the donor community aimed at promoting economic growth and reducing poverty.¹

Although several externally financed projects and programmes were initiated, economic growth and poverty reduction rates have been disappointing. The high flow of aid monies during the cold war era led to a dependency syndrome portrayed by many developing countries. Today external resources constitute an integral part of development expenditure in the developing countries. These countries sometimes face major budgetary constraints and use aid inflows (based on the previous aid disbursements and current commitments) to cover any deficits within the exchequer (Levy, 1987; Mosley et al., 1987; Devarajan, et al., 1998; Ali et al., 1999). Unfortunately, with fiscal problems and the change in political focus by the donor community, the foreign aid taps seem to be running dry (Feyzioglu et al., 1999). This will have serious ramifications for the budget process of highly aid-dependent countries.

The role of foreign aid

Though foreign aid has continued to play an important role in developing countries, especially sub-Saharan Africa, it is interesting to note that after half a century of channelling resources to the Third World, little development has taken place. In almost all of sub-Saharan Africa there is a high degree of indebtedness, high unemployment, absolute poverty and poor economic performance. The average per capita income in the region has fallen since 1970 despite the high aid flows. This scenario has prompted aid donor agencies and experts to revisit the earlier discussions on the effectiveness of foreign aid (Lancaster, 1999).

Developing countries like Kenya, having become highly dependent on foreign aid, face huge foreign debts and cry out for debt relief—and more aid. Between 1970 and 1999, the flow of donor funds to Kenya averaged about 9% of GDP, accounting for about 20% of the annual government budget and financing slightly over 80% of development expenditures. Though aid flow to Kenya significantly increased over time (from an annual average of US\$205 million in 1970s to slightly over US\$1 billion in the 1990s before the standoffs with the donor community) the flow has not been smooth.²

Kenya has experienced two major donor aid freezes, in 1992 and 1997, and a minor aid suspension in 1982. It is interesting to find out how the government responded to

these fluctuations in aid flows. This can be analysed by (a) examining the relationship between the donor funds and public expenditures by the recipient countries and (b) assessing the question of aid fungibility.

Studies on impacts of foreign aid on savings and growth in developing countries, besides having made a good case for increased flow of foreign aid, raise questions on the utilization of these funds on their designated projects (White, 1992). The donor community has become increasingly concerned that part of the development assistance intended for crucial projects finances projects other than those earmarked for funding. For example, a study by Uganda Debt Relief Network (2000) revealed that only 35% of the external funds reaches the designated targets, underscoring the notion that aid to developing countries is fungible. Whereas the question of fungibility is important, empirical analysis of the linkage between aid and total expenditure is necessary when assessing the impact of aid in developing countries. Several studies on the question of fungibility—among them Heller (1975); Khilji and Zampelli (1991, 1994); Pack and Pack (1993)—conclude that aid to developing countries is fungible. Others, like Levy (1987), McGuire (1978, 1987), Gang and Khan (1990), Pack and Pack (1990), and Nathi and Sobhee (1999), using time series data in individual countries, found no significant diversion of funds, and all concur with the argument that foreign aid funds are spent on the designated purposes. Further, recent studies by Feyzioglu et al. (1998) and Devarajan et al. (1998) that have combined both aggregated and disaggregated data found aid to be non-fungible at national levels but fungible across sectors.

This paper focuses on the case of Kenya, a country that has experienced two major donor-aid freezes. The paper uses both aggregated and disaggregated data to develop the linkage between foreign aid and government expenditure and to estimate the impact of changes in the flow of foreign aid on public expenditures. The rest of the paper is organized as follows: In the next subsection, we formulate the research problem, and follow this with a detailed review of the public expenditure process in Kenya in Section 2. This review discusses the budgetary process used by the government and reveals the linkage between foreign aid and public expenditure. Section 3 presents highlights of the related literature, which enables us to develop the model presented in Section 4. In the final sections we discuss the characteristics of the time series data and provide empirical results, conclusions and suggestions for areas of future research.

Research issue

Kenya, like other developing countries, faces huge external debts and is crying out for debt relief. Most countries argue that given their current poverty levels, the repayment and servicing costs of external debts are too high and unmanageable. These claims have led to the reconsideration of issues related to the effectiveness of aid in developing countries. Earlier the aid-savings debate focused on the two-gap model developed by Chenery and Strout (1966) that set foreign aid as an engine of growth. Critics of this model have argued that foreign aid substitutes domestic resources through declined savings, reduced government tax revenue and increased government

consumption. With the renewal of the debate, the question remains as to whether external assistance complements or substitutes available domestic resources. In Kenya, the answer to this question is complicated by the fact that aid flow has not been consistent. Given Kenya's high dependence on foreign aid, coupled with major aid freeze episodes, there is need to analyse the impact of aid flows on the budget process by establishing the link between aid and public expenditure. A stronger association of aid with higher government consumption rather than with public investment would suggest both a "flypaper effect" and fungibility. This may imply that aid recipient governments view foreign aid like any other source of revenue and consequently use it for increased consumption, tax reductions or reduced fiscal deficits (future tax obligations). An interesting question would be what proportion of increased spending resulting from increased donor funds goes to either recurrent or development expenditures. The answer can shed some light on the implications of an aid freeze to recipient countries, and highlight how the Kenyan government responds to resultant fiscal deficits.

2. Public expenditure review process in Kenya

This section reviews the trends in growth and the composition of government expenditures in Kenya. It illuminates the budget process by considering how ministries and government departments arrive at their expenditure patterns, and further explores linkages between foreign aid and government spending.

The budget process

The budget process involves the preparation of three principal sets of documents outlining government expenditure plans: the programme review and three-year forward budget; the annual budget; and the revised/supplementary estimates. Currently the Treasury is using a new approach to planning and budgeting—the medium-term expenditure framework (MTEF)—implemented by most developing countries. The MTEF defines a three-year rolling macroeconomic framework that outlines the overall resource envelope and forms the basis of setting national priorities and expenditure prioritization. The fundamental principles are similar to forward budgeting. The concept of the forward budget dates back to 1971, and it was formally institutionalized and published as a budget in 1985 under the Budget Rationalization Programme (BRP). It is a three-year rolling planning exercise that establishes clear priorities for the allocation of recurrent and development resources, whose estimates are prepared by all the ministries in consultation with their district heads and the district development Committees (DDCs). The first year of the three-year budget forms the basis for that year's annual budget; in principle, only those projects included in the forward budget get funding for implementation. The development estimates of the forward budget are prepared in line with the Public Investment Programme (PIP) document produced by the Ministry of Planning and National Development. The PIP document classifies projects according to the priority ranking: "core", "high priority" and "others", and the forward budget is supposed to guarantee full funding allocations to "core" projects.

The annual budget outlines the broad economic policies of the government and estimates of revenues and expenditures, and is presented to Parliament for consideration and approval in June each year. It involves three types of estimates: the estimates of revenue presented through the Finance Bill and approved in the Finance Act, and the recurrent expenditure and development estimates both approved in the Appropriation Act. All government ministries prepare these estimates in line with the ceilings for total central government expenditure (determined on the basis of revenue, foreign aid forecasts

and deficit target) issued by the Treasury. The Treasury further provides common guidelines for the allocation of available resources including the appropriation-in-aid, which embraces user charges not included in the estimates of revenue and project specific external financing.

Finally, the revised/supplementary estimates include all the proposed reallocations within the budget for the year already approved, any new items of expenditure proposed to be included in the ministerial spending, and proposed increases or decreases for different items already approved in the annual budget. It is during the preparation of these estimates that the Treasury reviews its revenue estimates vis-à-vis expenditures. If the planned expenditure turns out to be higher than the expected revenues owing to unforeseen circumstances, the Treasury makes the decision to either cut the proposed expenditures or put in place new revenue measures, or a combination of both. This normally affects the implementation of the third and fourth quarters of the budget (ministries are expected to submit their returns to the Treasury every three months—one quarter—as they seek for more funds in their votes).

The budget process in Kenya runs throughout the fiscal year (which starts in the beginning of July and ends at the end of June in the following year). Each fiscal/financial year starts with the preparation of the forward budget, an exercise that lasts until the end of October the same year, when it is presented to the Cabinet for approval. In mid-September, before the forward budget is finished, the revision of the annual (printed) estimates begins. This lasts until March of the next (calendar) year when the revised estimates are presented to Parliament. The preparation the new annual estimates based on the forward budget begins in January of each year and ends in June of the same year. This marks the beginning of another fiscal year and yet another cycle of the budgetary process in Kenya. The accounting officer in each government spending agent (ministries/departments) is allowed to spend up to half of the agency's gross expenditure ceiling allocated in the printed estimates, pending approval by Parliament. The Treasury can issue circulars giving new rules and guidelines on expenditure ceilings should the need arise. Such changes in the expenditure ceilings are usually implemented from the preceding quarter.

The composition of government expenditures

During the study period, 1970–1999, the mean total government expenditure as a proportion of GDP was 33.2%. The total budgetary expenditure comprises three main components: recurrent expenditures, development expenditures (together referred as ministerial expenditures), and payments for Consolidated Fund Services (CFS) and the recurrent expenditures by the Treasury. The recurrent expenditure contains primarily the current expenditures by the ministries covering day-to-day normal services by the ministry, wages and salaries (labour costs), and operation and maintenance (along with minor capital expenditures such as purchase of equipment). During the study period, recurrent expenditure accounted on average for about 80% of the total ministerial expenditures and 30.7% of the total government expenditure, as seen in Table I. Following

the implementation of the budget rationalization programme in the mid 1980s, the share of recurrent expenditure has been on the decline.

Table 1: The composition of government expenditures (percentage)

Year	1970–79	1980–89	1990–99	1970–99
Recurrent expenditure	48.3	40.5	28.0	30.7
Development expenditure	19.1	13.4	10.3	11.1
Consolidated Fund Services	32.6	46.1	61.7	58.2
Total government expenditure	100.0	100.0	100.0	100.0

Source: Republic of Kenya Economic Survey 1970–2002 and Statistical Abstracts 1970–2002.

Development expenditure comprises the total of expenditures from all the development projects and activities (sometimes referred to as public or government investments) undertaken by ministries. This accounts for slightly over 10% of total government expenditure and is the most vulnerable to budget reductions. All donor funding for the projects, whether current or capital expenditures, is channelled through the development vote of the budget. The development budget has become increasingly reliant on donor funding. According to printed estimates, the expected donor support to the development budget increased from about 40% in the 1980s to about 70% in the 1990s.

Since 1993, with the help of the civil service reform programme, expenditures have been reoriented, with more resources being allocated to non-wage recurrent outlays and development expenditures. The government through several budget speeches has continued to express commitment to the reduction of the share of government expenditure to the GDP ratio (whose average is over 30%, which is a high proportion given the low income levels), while at the same time ensuring expenditure is targeted to national development and reduction of domestic debt. Progress in controlling expenditure has been slow, however, and some ministries continue to spend beyond authorized limits (GOK, 1996).

Consolidated Fund Services are payments incurred by the Treasury and include debt service (for both domestic and external payments of interest and principal amounts); pensions; salaries for certain constitutional offices; and subscriptions to international bodies. This is part of the recurrent expenditure by the ministries but is incurred directly by the Treasury. A review of the composition of expenditures in the 1990s reveals that while spending on most of the items in recurrent and development expenditures has not changed much, the CFS has experienced a tremendous growth, with debt servicing registering a 40% rise during the 1998/99 fiscal year, at a time when most other items experienced expenditure cutbacks.

At the ministerial level, the Treasury controls gross expenditure levels by issuing expenditure ceilings. Each accounting officer (Permanent Secretary) at the individual ministries makes expenditure commitments up to the gross ceiling, which is the sum of total expenditures expected to be financed by the Treasury and the budgeted appropriations in-aid (both in recurrent and development votes). Every ministry has an account under

the Paymaster General (PMG) account maintained by the government at the Central Bank of Kenya; the accounting officers can draw from this account upon the approval of the Exchequer and the Controller and Auditor General.

Though the Exchequer controls the release of these funds, ministries have on many occasions committed all their gross expenditure ceiling (and sometimes surpassed the ceiling) during the first two quarters of the fiscal year, making it difficult for the Treasury to cut expenditures and leading to increases in pending bills in times of anticipated shortfall in revenue. Further, any salient features of government fiscal response to anticipated shortfall in revenue are muted by the operations of the supplementary/revised budget estimates. Some accounting officers deliberately overspend in some votes with ceilings and request the Treasury to provide extra funding through reallocation from undrawn votes in the same ministry, or from other ministries. This is made possible when during the budgetary process more funds are allocated to dormant votes (e.g., stalled or "ghost" projects).

A look at the fiscal operations of the government during the study period, as shown in Table 2, shows that expenditures have persistently exceeded the revenues and both have maintained consistent growth patterns.

The budget deficit persists even though the fiscal target has been to achieve a balanced budget; at the same time, the domestic debt has assumed an increasing trend. The rise in domestic debt has been attributed to, among other reasons, overreliance on domestic borrowing to finance the fiscal gap resulting from the November 1991 suspension of quick disbursing programme loans by the IMF. In the event of donor aid withdrawals, a recipient country has several options for covering any anticipated budget deficits. These include raising taxes, increasing domestic borrowing, cutting expenditure and printing money, all of which have serious ramifications for the economy: Increasing taxes discourages private sector investments; domestic borrowing crowds out investment and adds to the domestic debt (whose servicing becomes a major component of government expenditure); cutting expenditure slows economic activities and leads to stalled projects and increased pending bills; and printing money brings inflationary pressures.

On its part, the Kenya government responds by freezing ministerial spending below the approved levels of the annual budget. A review of the supplementary estimates reveals that typically all expenditures except those for salaries and essential services by ministries are either stopped or drastically reduced during the second half of each fiscal year. The reallocations mainly affect the development votes of the budget. For example, in the 1999/00 fiscal year, the supplementary estimates reveal a downward adjustment of expenditures to offset an estimated 9.4% fall in revenue below the target. As a result, total expenditure declined by an estimated 5.42%, out of which 0.82% was a decline in recurrent expenditure and 4.6% was decline in development expenditure. At the same time, the CFS payments increased by about 5.2% of the printed estimates (Budget speech 2001; Economic Survey, 2001).

Table 2: A comparison of budgetary revenues and expenditures in Kenya, 1970–1999 (in million Kenya pounds)

Year	1970/9	1980/9	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Revenue	308.8	1,320.2	2,628.6	3,083.9	3,895.1	5,497.5	6,759.3	7,432.9	7,564.4	8,620.9	9,256.3	9,636.1
Expenditure	390.3	1,810.9	3,986.1	3,290.4	4,362.9	6,504.2	6,594.7	7,631.4	7,803.5	9,069.8	9,016.5	10,198.9
Deficit	-81.4	-490.7	-1357	-206.5	-467.8	-1,006.7	164.6	-198.5	-229.1	-448.9	239.7	-562.8
GDP	1,231.4	4,978.3	9,477	11,062	12,807	16,681	20,036	23,264	26,331	31,047	34,948	37,446
% Rev/GDP	24.7	26.5	27.7	27.9	30.4	32.9	33.7	32.0	28.7	29.9	26.4	25.7
% Exp/GDP	31.3	36.4	42.1	29.7	34.1	39.0	32.9	32.8	29.64	28.7	25.5	27.2
% Def/GDP	-6.6	-9.9	-14.3	-1.9	-3.7	-6.0	0.8	-0.9	-0.8	1.4	0.6	-1.5

Source: Economic Survey and budget speeches, various issues.

The public expenditure and external assistance

The government has continued to rely on external assistance to finance some of its public expenditures. On average, between 1970 and 1999 Kenya received aid from all the foreign sources amounting to about 8.6% of GDP, with a range from 1.4 to 19.6%. All the donor assistance, regardless of the source, enters the government budget process via the development estimates of the annual budget. Donor assistance comes in two forms: grants (recorded as revenue) and loans (recorded as expenditure). Donors have two broad options of disbursing their funds, as appropriations-in-aid (A-in-A) or as revenue.

A-in-A is the most popular form of aid with the donor community since it gives them direct control of funds. This format allows the donor direct liaison with the ministerial/project coordinator who has the responsibility for purchasing goods and services directly for the project and for submitting valid documentation to the government for recording. Under A-in-A, however, the donors may spend more funds than recorded at the Treasury, making it difficult to know the actual amount of the donor contribution to public expenditure. The Treasury not only loses control over the ministerial/project expenditures, but also if these are politically connected, the projects may end up being "white elephants".

Under the revenue disbursement system, donors disbursed funds directly to the Treasury through special accounts at the Central Bank of Kenya (either in advance or on reimbursement basis). This system has been open to abuse because of weak accounting systems at the Treasury resulting in corruption and misappropriation of donor funds. In response, the donors have insisted on better documentation and accounting systems before any new disbursements or reimbursements are released. The result of this has been the accumulation of donor funds in the special accounts. An estimated half of the committed programme funds are disbursed, but most of the external assistance facilities lapse before they are fully drawn. As early as 1975, for example, out of the SDR67.2 million IMF Extended Facility, only SDR7.7 million was withdrawn before it lapsed. In the case of project aid, the government mainly draws funds to start the first phase of the project and usually runs into trouble with the financiers over the release of funds for the implementation of subsequent phases. In most cases, this leads to prolonged delays—or complete stalling—in the completion of the projects, and sometimes calls for re-negotiations of new terms of disbursement.

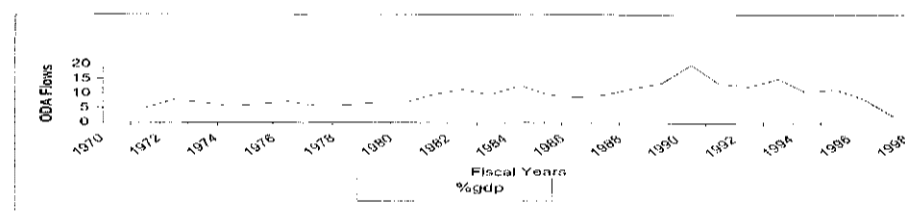
External sources of finance

Since independence, foreign aid, measured in terms of official development assistance (ODA) as defined by the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD), has been an integral part of the

budgeting process in Kenya. It was fundamental during the post-independence period when the British government provided funds for land settlement schemes (to finance transfer of land from minority white farmers to majority indigenous blacks) and for major recovery from the pre-independence recession. The first decade of independence experienced a remarkable growth rate, about 6.5% annually, attributed to both high flows of foreign investment and technical assistance.

During the first two decades after independence, both bilateral and multilateral aid sources were large and increasing. Gross ODA inflows increased from an annual average of US\$205 million in the 1970s to US\$630 million in the 1980s and slightly over US\$1 billion in the 1990s (see O'Brien and Ryan, 1999). Figure 1 shows the changes in aid flow as a proportion of GDP. The proportion has increased over time and led to increased dependence on aid, which peaked in 1990, just before the aid freeze. Thereafter, the flow of aid assumed a declining trend due to the persistent aid cuts in the 1990s. The flow as a ratio of GDP approached almost zero towards the end of the decade.

Figure 1: Changes in aid flow as percentage of GDP



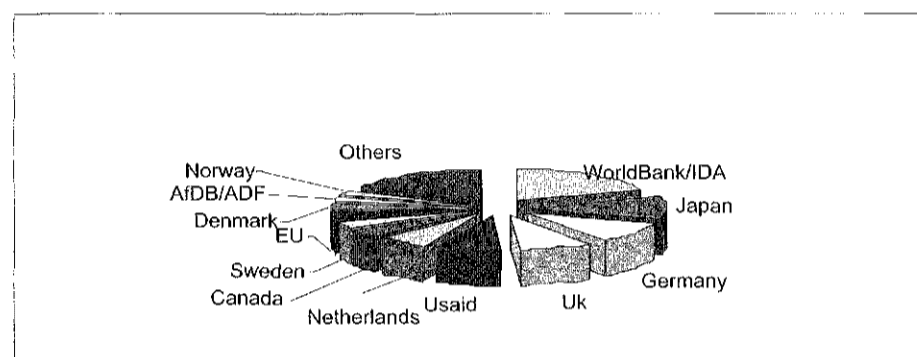
Source: *Economic survey—various issues*

The upward trend experienced in the 1970s and 1980s increased the resources available to Kenya in terms of both foreign exchange and technical support in the form of training and skilled personnel. Foreign aid inflows stimulated the investment of domestic resources as evidenced by huge public sector activities in transport and communication networks, land settlement schemes, education and health programmes, etc. The huge investments associated with donor funding of the 1960s and 1970s were not matched with increased government revenue sources. Instead, the government implemented market intervention policies, such as price and exchange rate controls, formation of state corporations, interest rate controls, etc., which led to a further increase in government expenditure. Attempts to restore the growth trends achieved in the 1960s and early 1970s, and reduce the financial gap of the late 1970s and early 1980s, led to increased external borrowing especially from the multilateral donors under the structural adjustment programme (SAP) loan facility. Kenya was, in fact, the first SSA country to receive structural adjustment funding from the World Bank.

In current prices, aid to Kenya has increased steadily since the 1960s, with bilateral donors being the key sources of funding (mainly project aid and technical assistance) in the 1960s and 1970s. The UK was the major source of foreign aid to Kenya until the 1980s, when Germany, the Netherlands, Sweden, Denmark, Japan and others significantly

increased their contribution. Japan has since become a major bilateral donor to Kenya. Since the 1980s, however, multilateral sources have increased in importance with a shift of emphasis from project aid to programme aid. The major donors now include the World Bank, the International Monetary Fund (IMF), European Economic Community (EEC), OECD/DAC, among other multilateral sources. The government's attempts to finance fiscal deficit rely heavily on the budgetary support programme and other loan facilities offered by the multilateral agencies.

Figure 2: The composition of major aid donors to Kenya, 1970-1999



Source: Authors computation

The foreign aid freeze

Despite being among the first African countries to receive structural adjustment funding from the World Bank and later the Enhanced Structural Adjustment Facility (ESAF) loan from the IMF, Kenya has experienced major standoffs with the donor community, which has sometimes led to aid freezes. The disbursement of most foreign aid funds has been short-lived as the donors often find themselves dissatisfied with the way the government implements aid conditionalities. As early as July 1982, the World Bank withheld the release of the second tranche of US\$50 million, citing laxity in policy reforms; the Bank did not resume funding until 1984 when new agreements were drawn. The renewal of disbursements was partly attributable to the humanitarian gesture of providing large volumes of food aid in response to the devastating drought that year.

The flow of aid continues to increase as the World Bank and IMF support the reform programmes outlined in Sessional Paper No. 1 of 1986 on Economic Management for Renewed Growth. The continued flow of aid reached a record high of over Ksh1 billion in fiscal year 1989/90. The aid inflows exceeded the total receipts from all other foreign exchange earners and at the same time Kenya was ranked the eighth largest aid recipient in the world (aid amounted to over 11.5% of GDP). In addition, the government further

benefited from re-scheduling and cancelling of debt. This trend was short-lived, however; in fiscal year 1990/91 the Consultative Group of the donor community, while focusing their attention on corruption, good governance and democratization, found Kenya's performance wanting and resolved to withhold any committed but yet undisbursed funds. The Consultative Group meeting further declined to commit any new adjustment support until "substantial" progress on the political and economic reform agenda had taken place. The withholding of funds coupled with increased expenditure to finance the first multi-party elections in 1992 affected the Kenya government's budgetary position immensely and led to an increased budget deficit. The government resorted to domestic borrowing from the banking sector, which increased by 59% during the 1990/91 financial year (Budget speech, 1991/92).

It is worthy noting that although major donors withheld their funds to Kenya after November 1991, aid for ongoing projects, technical assistance and emergency relief (humanitarian aid) from other donor agencies continued to flow as before (except the Norway Development Agency, which froze all aid). The flow of foreign aid resumed in late 1993 after a series of meetings with the donor community and serious lobbying with ambassadors of bilateral development partners. The flow never reached the high proportions of the late 1980s, however (see Figure 1).

After three years of successful implementation of donor conditions, which led to more donor funds being released, the economy registered tremendous economic recovery. Unfortunately, the government backtracked again on its reform agenda at the end of the fiscal year 1996/97 and a new standoff with the donor community loomed. As a result, at a Consultative Group meeting between officials from the government of Kenya and the IMF/World Bank held in July 1997, the IMF suspended the ESAF programme amounting to about US\$200 million. The World Bank and the African Development Bank also withheld their budget support programme loans. This negatively affected the government's fiscal performance of 1997/98. The interest rates on Treasury Bills drastically increased, from about 18% to around 27%, as the government increased its domestic borrowing, which resulted in interest payments increasing by 45% compared with the budget estimates. The government implemented fiscal control measures in March 1998 that led to increased revenue receipts from the Kenya Revenue Authority and reduced expenditures on the development estimates. Though development expenditure was reduced by 24.5%, the recurrent expenditure increased by 16% as a result of the El Nino phenomenon, unplanned salary increases for teachers and increased domestic interest rates.

Attempts to end the stalemate between the government and the donor community opened another era of intensive lobbying. With the help of the World Bank, a team of experts from the private sector and international organizations (popularly known as the Economic Recovery Team or the "Dream Team") was recruited into the civil service to initiate the economic recovery and ensure economic reforms and good governance at the Treasury.

In response, at the Consultative Group meeting of July 2000, the IMF and the World Bank agreed to release the funds they had frozen in 1997 and 1998, respectively. The flow of these funds was short-lived—the IMF withheld the disbursement of the second tranche of a US\$198 million facility after only six months—and in December 2000, the

government backtracked on the agreed conditions again. In addition, other lending institutions (the World Bank, the European Union, the African Development Bank, and the Department for International Development of the United Kingdom) withheld about US\$ 300 million in budgetary support. The government further lost some US\$366 million as savings, which could have made a big difference in the budget following debt rescheduling by the Paris Club during the financial year 2000/2001. To counter the anticipated negative budgetary effects, as seen in Figure 3, the government ordered budgetary cuts on operations and maintenance across the board. This affected all spending agents including the strategic departments like the police, health, judiciary and department of defence, which were previously spared the usual budget cuts.

Figure 3: Government response to IMF aid freeze

Kenya's budgetary process has continued to rely on external sources of financing. This can be evidenced by the fact that about 42% of the budget for the year 2001 was financed using external related sources of funds in the form of loans and grants on a committal basis, budgetary support, and savings from debt rescheduling. The disbursements of such funds are conditioned to the fulfilment of certain conditions on the part of the Kenyan government, failure to which may result in a total withdrawal of donor funds.

The IMF has already withheld disbursement of the second tranche of a US\$198 million facility that it approved in July 2000 and had been included in the current year's budget. Since the donor community relies on the IMF for signals on a recipient's commitment to aid conditionality, the government risks a huge shortfall of about US\$700 million in its budget if the Fund is not impressed with the current developments in the economy—Ksh60 billion or about 28% of this year's budget. This comprises about US\$300 million in budgetary support from other lending agencies and some US\$366 million in savings that the government expected to make in the budget this year following debt rescheduling by the Paris Club.

The government is aware that it cannot keep public expenditure in line with the public revenues and has ordered a 50% expenditure freeze on operation and maintenance spending by all ministries. The ministries will be restricted to processing of salary payments alone. The success of this move remains to be seen now that some ministries have already spent most of their allocations for operations and maintenance, e.g., according to the December returns on expenditure by ministries to the Treasury, the Ministry of Roads and Public Works had already spent Ksh1.5 billion of the Ksh1.6 billion (about 95%) allocated for operations and maintenance.

Since it will not be able to increase the already high tax rates, nor will the cut in expenditure bear much fruit, the government may resort to the 1993 option, increased borrowing from the domestic markets. The only difference is that this time the economy has been experiencing its worst performance for four consecutive years. It will be difficult to continue government's intentions of keeping domestic borrowing down and interest rates at a range of 15–20%, while maintaining manageable inflation rates.

3. Literature review

Much of the literature on foreign aid and its impact on development in the recipient countries focuses on the relationship between aid and economic growth and uses international cross-section statistical investigations rather than individual country case studies (Riddell, 1987; Mosley et al., 1987). The results of cross-section studies depend on the countries and periods of study chosen. Such studies face numerous problems of measurement and interpretation and often ignore the stylized structural features of individual countries. For example, though foreign aid was once associated with reduced domestic savings, comprehensive surveys on individual recipient countries have proved otherwise. Foreign aid can influence, either positively or negatively, the expenditure patterns of recipient countries.

The aid—saving debate has been the central focus of discussions of the fiscal response to foreign capital inflows to the recipient countries. The debate relies on the initial work by Griffin (1970), which suggested different avenues through which aid may lead to a decline in saving. This is mainly through its effects on government expenditure patterns and revenue generation. The debate further benefited from Heller's (1975) utility maximization model and the later extension by Mosley et al. (1987). Heller concluded that foreign loans do not fully increase total expenditure, but reduce borrowing and taxation while increasing government consumption and decreasing government investment.

Fiscal analysts, including the donor community, are convinced that the aid process is undermined by the ability of the recipient governments to alter their spending patterns to subvert the sectoral distribution of expenditure for designated projects. Empirical literature on the impact of foreign aid and government expenditure is also inconclusive. A few studies (Heller, 1975; Khilji and Zampelli, 1991, 1994; Pack and Pack, 1993) have supported the theoretical proposition that developing countries have been rendering foreign aid fungible by transferring resources from the donor-aided sectors to non-donor aided sectors.

According to the World Bank's 1998 report, *Assessing Aid*, countries with good monetary, fiscal and trade policies (i.e., good policy environment) registered high positive effects of aid. Such good policy environments depend on the donor or recipient country, however. Of great importance is whether recipient countries spend donor funds on intended purposes. Studies using time series data in individual countries (Levy, 1987; McGuire, 1978, 1987; Gang and Khan, 1990; Pack and Pack, 1990; Nathi and Sobhee,

1999) found no significant diversion and all agree that countries spend foreign aid funds on the designated purposes. These results are interesting. Pack and Pack (1990) in their analysis of Indonesia, for example, rejected the idea of aid fungibility, but in 1993 on the basis of data from the Dominican Republic confirmed that foreign aid is fungible. This may imply that the true situation is only revealed in country specific studies. Such studies also highlight the differences in the flow and management of foreign aid among countries. Further, donors give foreign aid to different countries for different reasons: economic, social, cultural, commercial and political. These reasons influence the impact of aid on the recipient expenditure pattern.

A recent study by Feyzioglu et al. (1998) using cross country data from 14 developing countries found that aid is not fungible at aggregate levels in smaller samples, but that increasing the number of countries makes aid fungible. At sectoral levels, the study found that aid is fungible on earmarked concessional loans for agriculture, education and energy, but not for transport and communication sectors. Aid money increased government expenditures on a roughly one to one basis for the smaller samples. Increasing the sample to 37 countries changed the results; a dollar's worth of aid led to significantly less than a dollar's worth of government expenditure (a weaker flypaper effect). These results contrast with those of Cashel-Cardo and Graig (1990) and Pillai (1982) who found that categorical grants (bilateral loans) are least fungible with flypaper effects. On the other hand, Pack and Pack (1990, 1993) concur with Feyzioglu et al. (in the case of Indonesia and Sri Lanka) that strong flypaper effects do occur on concessional loans (but results differ with data on the Dominican Republic). The evidence that aid money increases government expenditure means that the recipient governments do use the increased resources as they choose—to increase spending, cut taxes or reduce fiscal deficits.

Devarajan et al. (1998), in the study "What does aid to Africa finance?", found that most aid (90%) boosted government expenditure with no significant evidence of tax relief. About half the aid was used to finance external debt service payments; one quarter financed investments and the other quarter offset current account deficits. At sectoral level, aid was highly fungible in health, industry and agriculture. Aid to the energy, transport and communication sectors was partially fungible, while that to education was the least fungible. On the other hand, Swaroop et al. (2000), focusing on the effects of foreign aid on expenditure decisions of the central government of India, found that foreign aid merely substitutes for already earmarked government spending; the central government spends funds freed by aid on non-development activities. This implies that government expenditure choices are unaffected by external sources of finance. Aid merely softens the government's budget constraints.

In their analysis of Kenya's fiscal response to temporary trade shocks, Bevan et al. (1993) concluded that the coffee boom of 1977/78 induced massive increases in public expenditure in excess of the increase in public revenue associated with the boom. The government spent much of the boom revenue on consumption rather than investment (it affected investment negatively). The relative irreversibility of the rise in public spending made it difficult for the Treasury to cut expenditure as some ministries refused to reduce their spending and instead requested supplementary reallocations of resources. The results compare well with those of Heller (1975) that governments may treat drastic changes in

foreign aid flow as temporary shocks.

Empirical literature using both panel and time series data supports the notion that aid increases government expenditure. The main question is, If an aid increase leads to increased government spending, what happens during periods of declines in the flow of aid? Recent work by Corden (1984), Killick (1991), Nyoni (1997), and Cassen et al. (1986) has confirmed that huge receipts of foreign aid by developing countries do have effects on growth similar to those of the discovery of natural resources (and therefore may cause Dutch disease). According to Bevan et al. (1993), however, the effect of increased financial resources depends on the type of expenditures the boom finances. Overdependence on aid can bring about disruptive effects on the domestic economy, especially if the flow of aid is not smooth. The almost inevitable result is increased domestic borrowing in times of reduced flow, and appreciation of the real exchange rate in times of heavy flow, which leads to a contraction of the traded exports sector and inflation in the non-traded sectors. If the economy is able to deal with the increase in aid in a manner that stirs economic growth, then we need not worry, but considering the imperfect nature of capital markets in Kenya, reversal in relative prices associated with the reduction in aid flows hampers the optimal shift of resources back to the traded goods sector. This would imply a total reduction in economic growth similar to a recession after a boom. This boils down to our question of interest, Is there any significant degree of correlation between an aid freeze and budgetary expenditures? This study uses a utility maximization approach to assess the Kenyan scenario.

4. The model

This section discusses the methodology used for analysing the government's response to aid flow fluctuations resulting from aid freezes. The approach used to determine the effects of foreign aid on government expenditure follows Heller's (1975) utility model, which assumes that the recipient country intends to maximize the social welfare of its own citizens in the face of budgetary constraints and uses aid flows from overseas as an instrument in pursuit of the objective. Variants of this model include McGuire (1978); Pack and Pack (1990, 1993); and Feyzioglu et al. (1998).

Assume that the government's objective is to maximize the welfare utility function subject to the prevailing budget constraint. To achieve the objective, policy makers formulate targeted levels of expenditure based on projected economic growth and social development objectives. For simplicity, assume that the government purchases some minimum quantities of two types of public good—non-development (G_{nd}) and development (G_d)—for the citizens. Supposing the welfare utility function is multiplicative and is specified as:

$$\text{Maximize } U(G_{nd}, G_d) = G_{nd}^{\alpha} G_d^{1-\alpha} \quad (1)$$

where the α 's are the respective elasticities. Maximizing the function (1) gives rise to the standard optimal solutions. The government can finance the provision of goods and services through domestic and/or external resources. External resources comprise both programme aid (balance of payments and budgetary supports) and project aid (earmarked aid). Whereas programme aid is fully fungible, other forms of earmarked aid could be rendered fungible if recipient countries switch spending priorities once aid has been disbursed (Devarajan et al., 1998). Setting the portion of earmarked aid that is rendered fungible as ϕ , then the budget constraint faced by the government is:

$$R + BS + \phi(BODA) = P_1 G_{nd} + P_2 G_d \quad (2)$$

where G_t is the total government spending on development activities; G_d is the actual government expenditure on development; and G_{nd} is the actual government spending on recurrent expenditures. R is total domestic resources from both taxation and domestic borrowing. BS is the programme aid; $BODA$ is the project aid (other ODA disbursements) and ϕ is the portion of aid that is fungible.

Maximizing Equation 1 with respect to the resource constraint Equation 2, if the

solutions exist and are interior maximums, generates a system of linear expenditure equations that enables us to specify our estimable equations, linking foreign aid and government expenditures as follows:

$$G_t = \delta_0 + \delta_1 R_t + \delta_2 BS_t + [\delta_2 \phi + 1 - \phi] BODA_t + \varepsilon_t \quad (3)$$

$$G_{tEj} = \delta_0 + \delta_1 R_t + \delta_2 BS_t + [\delta_2 \phi + 1 - \phi] BODA_t + \xi_t \quad (4)$$

where G_{tEj} ($j=1,2$) are the recurrent and development expenditures.

The portion of aid that is fungible, ϕ , can be computed from the coefficients of project aid. Letting β be the coefficient of earmarked aid, then $\beta = \delta_2 \phi + (1 - \phi)$. Therefore, the portion of earmarked project aid rendered fungible is given by:

$$\phi = (\beta - 1) / (\delta_2 - 1)$$

Given that the government always factors donor funds into the annual budgets on committal basis, aid freezing has had serious ramifications for the implementation of the budgets. To capture the effects of an aid freeze on public expenditure, we introduce an interactive term to measure the aid intensity. To define the interactive term, we assume that during the budgetary process, policy makers factor into the budget only programme aid and new donor commitments; freezing aid then leads to zero flow in the era of aid cut, and total flow upon resumption. Therefore, the interactive term (*AFDUMMY*) is computed as a dummy for aid freezing (with 1 for continuous flow and 0 for aid freeze) multiplied by total programme aid.³

This term captures the fiscal crisis resulting from aid freeze and may have an inverse relationship with government expenditures. The estimable equation becomes:

$$G_t = \delta_0 + \delta_1 R_t + \delta_2 BS_t + [\delta_2 \phi + 1 - \phi] BODA_t + \delta_3 AFDUMMY_t + \varepsilon_t \quad (5)$$

$$G_{tEj} = \delta_0 + \delta_1 R_t + \delta_2 BS_t + [\delta_2 \phi + 1 - \phi] BODA_t + \delta_3 AFDUMMY_t + \xi_t \quad (6)$$

All the variables will be expressed as a ratio of real GDP and are in 1990 constant prices.

5. Empirical results

Data source and description

The study uses time series data for the period 1970 to 1999. The choice of the period of study is based on data availability, taking into consideration the two main aid-freeze periods. The budgetary data were collected from the Economic Surveys, annual recurrent and development expenditure estimates, the annual budget reports and other government publications on public finance. Other sources included Central Bank of Kenya publications, World Debt Tables, OECD publications on Geographical Distribution of Financial Flows to Developing Countries, World Bank reports and International Financial Statistics Year Books.

Data on foreign aid consist of total disbursement of external assistance, and concessionary loans and grants transferred from both bilateral and multilateral sources. Data on foreign aid were adopted from the data set provided in O'Brien and Ryan (1999) and supplemented by the OECD/DAC annual reports, and World Debt Reporting system. The data obtained from sources other than the government publications conflict with figures reported by the government. In such instances, we computed an average between the DAC data and those recorded in government publications.⁴

Government expenditure and revenue consist of development and recurrent estimates by the central government (hence no activities of the local authorities). We obtained data from the annual development and recurrent estimates published by the government for all the ministries, Economic Surveys and statistical abstracts. The generation of these data sets was not free of problems; in some cases, different series had different figures reported for the same fiscal year and once again we computed the averages.

Table 3 reports the summary statistics for the sample. Our results show that the budgetary outturns were capricious during the 1990s (an era associated with both political and economic reforms), with virtually all the expenditure categories recording sharp deviations between the budgeted and actual levels. The mean total government expenditure as a share of GDP was 36.6% over the period 1970–1999 and 41.3% during the last decade 1990–1999. The mean shares of foreign aid flow were 8.8% and 9.5% of GDP, respectively. The decline in government spending at a time when the aid flow was on the decline suggests a direct relationship between the two.

Table 3: Summary statistics (as percentage of GDP)

Variable	1970–99	1990–99
Total government expenditure	36.6	41.3
Foreign aid flow	8.8	9.5
Recurrent expenditure	25.1	27.5
Development expenditure	11.2	13.8
Domestic resources	24.6	22.8
Expenditure on education	4.0	3.3
Deviations between actual & budgeted expenditure	1.7	2.2

Note: The table reports the average values. The decade of the 1990s is presented to highlight the effects of reforms on government spending.

Source: Economic Survey, various issues.

Before carrying out empirical estimations, we tested the data in order to eliminate any possibility of spurious regressions and erroneous inferences. This involved determining the order of integration of the time series through unit root tests. We used the augmented Dickey–Fuller (ADF) unit root test for this. Establishing the status of stationarity alone is not enough to avoid spurious regressions; we need to determine whether there exists a cointegrating relationship in the series. That is, Is there a linear long-run economic relationship among the variables? The presence of cointegration permits the combination of both long-run and short-run information in the same model. This overcomes some of the drawbacks associated with the loss of information that occurs from other attempts to address non-stationarity through differencing.

The results for stationarity tests, presented in Table 4, indicate that all variables have a unit root or are integrated of order one and are thus non-stationary in levels but integrated of order zero after first differencing (i.e., stationary). This suggests that in order to eliminate the possibility of spurious regressions and erroneous inferences, we should use the first differences of the relevant variables in the estimation process. The cointegration results reveal that the variables in the estimable models are cointegrated and hence estimations are carried out in first differences with an inclusion of an ECM term.

On the basis of these findings, we re-specify our estimable equations for the ECM model as:

$$\Delta G_t = \delta_0 + \delta_1 \Delta R_t + \delta_2 \Delta BS_t + [\delta_2 \phi + 1 - \phi] \Delta BODA_t + \delta_3 \Delta AFDUMMY_t + ECM_{-1} + \varepsilon_t \quad (5a)$$

$$\Delta G_{(E)} = \delta_0 + \delta_1 \Delta R_t + \delta_2 \Delta BS_t + [\delta_2 \phi + 1 - \phi] \Delta BODA_t + \delta_3 \Delta AFDUMMY_t + ECM_{-1} + \zeta_t \quad (6a)$$

Table 4: Results of unit root* and cointegration tests

Variable	ADF – Levels	ADF – Differences (D)*
<i>Unit root test results</i>		
Recurrent expenditure	-0.9251	-5.4166 **
Development expenditure	-3.0632	-7.8076 **
Total revenue	-3.0720	-5.0670 **
Total govt expenditure	-1.9226	-6.9076 **
Foreign aid	-0.6292	-6.4810 **
BOP support	-2.2175	-6.8312 **
Project aid	-1.3516	-7.6548 **
Interactive term	-2.8450	-6.3699 **
<i>Cointegration test results</i>		
ResTGE (-1)	-5.5178**	
ResRGE (-1)	-4.8530**	
ResDGE (-1)	-5.1473**	

Key: ** Variables stationary at 1%; * The unit root test included a constant and a trend. ResTGE, ResRGE, and ResDGE are the residuals or error correction terms obtained after regressing the preferred model for total government expenditure, recurrent expenditure and development expenditure, respectively. The variables will be expressed as a ratio of real GDP and are in 1990 constant prices.

The results

Here we present the empirical results from the equations developed in Section 4. The central government expenditure is composed mainly of two components: recurrent expenditure, which finances day-to-day activities of the government, and capital expenditure, which finances the development activities of the government. To assess how changes in aid flow affect the budget process, this section first discusses the linkage between total government expenditure and foreign aid, and then decomposes government expenditure into recurrent and development expenditures. The aid variable—the total ODA disbursement—is decomposed into programme aid from multilateral sources and project aid from bilateral sources.

Total public expenditure equation

To analyse how foreign aid affects the level of government expenditure we estimate equations 5 and 5a. During the study period (1970–1999), the average total government expenditure as a percentage of the country's total resources (GDP) was about 33.2% of GDP. At the same time, the government received foreign aid averaging about 8.6% of GDP, with a range of 1.4 to 19.6% of GDP. In budgetary terms, ODA financed roughly

22.9% of the annual budget as compared with 71.8% financed by domestic sources of revenue. Since most of ODA is recorded in the development vote, it accounted for an average of 80.1% of the total development expenditure in the budget. This suggests that the flow of foreign aid is an important ingredient in the budget process in Kenya.

Table 5 presents the empirical results of equations 5 and 6 as regressions 5.1(a) and 5. (b) for the preferred static models and 5.2(a) and 5.2(b) the ECM models, respectively.

Table 5: Regression results: Total government expenditure on foreign aid flow Preferred model

Dependent variable	Static model (5.1)		ECM model (5.2) in 1st diff	
	Total government expenditure		Total government expenditure	
	(a)	(b)	(a)	(b)
Constant	0.4885 (0.074)	-0.5160 (-0.080)	0.021 (0.033)	0.0079 (0.012)
Total ODA disbursements	0.8762 (3.681)*		1.187 (4.197)*	
Project aid		0.9793 (2.715)*		1.4103 (4.169)*
Programme aid		0.3756 (1.043)		0.3463 (1.301)
Domestic resources	1.1189 (4.142)*	1.151 (4.360)*	1.001 (2.924)*	1.059 (3.115)*
Fiscal crisis interactive term	-0.6879 (-2.441)*	-0.690 (-2.188)	-0.8480 (-3.132)*	-0.8036 (-2.993)*
ECM (-1)			-1.122 (-5.605)*	-1.153 (-5.653)*
R-squared	70.3%	71.7%	68.8%	70.8%
D-W statistic	2.16	2.20	1.98	1.97
F-statistic	F(3,26) = 20.56	F(4,25) = 15.84	F(4,24) = 13.225	F(5,23) = 11
Normality X ² (2)	18.525	17.863	17.02	13.398

Notes: All the variables are expressed as shares of real GDP and are in 1990 constant prices. The variables in the ECM model are in their first differences. The t-values are presented in parentheses.
* Statistically significant at 1%

The static equation shows a strong and positive significant relationship between total government expenditure and foreign aid. A shilling increase in ODA leads to 88 cents increase in government spending. This supports the evidence from SSA that little, if any, aid money is used for tax relief. The dummy variable for the aid freeze intensity was statistically significant and affected total government spending negatively. This shows the intensity of foreign aid dependence in the budgetary process and concurs with the government response to aid freeze of cutting down on budgeted expenditure. Domestic resources capture the changes in total expenditure as a result of changes in all the available country's resources net of ODA. The positive and significant coefficient of domestic

resources indicates that an additional resource unit increases expenditure by 1.12 points. Regression 5.1(b) shows that whereas the project aid significantly stimulates government expenditure on almost 1:1 basis, the effects of programme aid were insignificant. Based on the coefficients of project aid, the government renders 3.31% of aid fungible.

The ECM model shows the short-run effects of changes in aid flow on total government expenditure and compares well with the long-run one. Once again, both total ODA disbursement and project aid significantly stimulate government spending and, this time, by more than the increase in aid. The aid freeze dummy that captures the intensity of the fiscal crisis resulting from aid freezing was negative and stronger suggesting that aid freeze affects government expenditure more seriously in the short run. The policy makers faced with financial shortfalls revise their budgets downwards. The Treasury reviews budget estimates and supplementary estimates issued to counteract any possible fiscal crisis that may occur. Domestic resources affected the level of government expenditure on almost 1:1 basis, as compared to a unit increase in project aid that leads to about one and half units increase in government expenditure. This indicates that though domestic resources are important, policy makers rely more on external resources to finance expenditures, rendering 62.7% of aid money fungible.

Recurrent and development expenditure equations

In this section we look at how changes in aid flow affect the level and composition of government expenditure. The results presented in table 6 below show both the short and long-run results for the preferred model. Model (5.3) shows the estimates of the recurrent expenditures equation in first difference with an ECM term and captures both the long-run and short-run effects of foreign aid. Recurrent government spending increases with the increase in current levels of foreign aid (especially project aid), implying that the government uses foreign aid to finance its current expenditure, or that there is a money illusion syndrome whereby policy makers perceive new commitments as increases in government revenue. A shilling increase in total ODA leads to a 56-cent increase in recurrent expenditure, the same with project aid as opposed to a 25-cent increase accruing from programme aid. This is despite the fact that all aid money is recorded in the development vote. The domestic resources have a direct and statistically significant relationship with recurrent expenditure. Aid freezing negatively affects the recurrent expenditure. This is because of the nature of items financed under the recurrent vote and the fact that increase in aid stimulates spending; any decrease leaves it intact and supports the proposition that aid is fungible in Kenya. That is to say that aid money finances some projects that the government could have undertaken anyway. The government renders 59.23% of aid fungible.

Table 6: Regression results: Government expenditure and foreign aid flow Preferred ECM Model

Dependent variable	(5.3)		(5.4)	
	Recurrent expend		Development expend	
	(a)	(b)	(a)	(b)
Constant	0.0322 (0.119)	0.0254 (0.093)	-0.0356 (-0.063)	-0.0398 (-0.070)
Total ODA	0.5606 (4.775)*		0.5724 (2.341)	
Project aid		0.5576 (3.935)*		0.8163 (2.754)*
Programme aid		0.2567 (2.211)		0.0222 (0.095)
Domestic resources	0.6550 (4.590)*	0.6892 (4.806)*	0.3789 (1.274)	0.3745 (1.256)
Fiscal crisis interactive term	-0.1905 (-1.679)	-0.2193 (-1.941)	-0.7287 (-3.068)*	-0.6119 (-2.599)*
ECM (-1)	-0.6013 (-3.293)*	-0.6865 (-3.563)*	-1.066 (-5.25)*	-1.0857 (-5.213)*
R-squared	67.7%	68.8%	59.4%	61.2%
D-W statistic	1.71	1.68	1.94	1.97
F-statistic	F(4,24) = 12.6	F(5,23) = 10.18	F(4,24) = 8.78	F(5,23) = 7.26
Normality $X^2(2)$	3.884	1.5007	16.84	15.57
Aid fungibility		59.23%		18.79%

Notes: All the variables except the ECM are in their first differences. The t-values are presented in parentheses. * statistically significant at 1% level.

Model 5.4 shows the estimates of the development expenditure equation. There is a direct and significant relationship between development expenditures and both total foreign aid flow and project aid, suggesting a strong influence on the budgetary process. This is not surprising, given that as stated in many government publications, all loans and grants are recorded in the development account of the budget estimates and, on average, foreign aid flow as a proportion of development expenditure remained high throughout the study period. In the short run, a shilling increase in project aid leads to about an 82-cent increase in development spending, against a mere a 2-cent increase from programme aid. The fiscal crisis dummy had the expected negative effect, supporting the argument that the government responds to an aid freeze by cutting development expenditure.

6. Conclusion and policy implications

The empirical results indicate that the flow of foreign aid does influence government spending patterns. On average, an increase in foreign aid stimulates development spending by a higher proportion than does an increase in domestic resources. At the aggregate level, a shilling increase of aid leads to about 88 cents in additional spending, as opposed to a shilling increase in domestic resources, which leads to an increase of one shilling and 1.11 cents in the long run (but in the short run this changes to 1.12:1.0) in government spending, suggesting a money illusion syndrome by policy makers. These results do concur with the finding by other country specific studies that on the aggregate, foreign aid leads to increased government spending. Disaggregating expenditure into current and development, as reported in budget estimates, shows that ODA leads to increased government spending for both categories of expenditures. Aid also significantly affects the current expenditures even though all loans and grants to the Treasury are recorded on the development expenditure vote.

The linkage between foreign aid flow and recurrent expenditure may indicate that at the margin, not all aid flow is spent for development purposes. Policy makers may perceive aid commitments as increases in government revenue and after the budget approvals they switch budgetary resources from one vote to another to finance any extra recurrent expenditure. This explains why the government is able to pay salaries and allowances for civil servants immediately upon entering into new contracts on aid disbursement. A visit at the government offices at a district headquarters revealed that in times of financial shortfalls, most officers relied on the project funds to finance their recurrent expenditures. For example, when officers were involved in monitoring and evaluation of funded projects, they drew their allowances for transport and accommodation from the project vote and not from the budgeted recurrent expenditure vote from their ministry.

In some instances, project implementing agents do not follow the clear distinction between recurrent and development expenditure modes of financing during the budgetary process as set by the Treasury. This results in switching of the spending portfolios as may be necessary and yields high levels of aid fungibility in Kenya. At the aggregate level, foreign aid is more fungible in the short run at about 62% as opposed to 3.3% in the long-run period. Disaggregating expenditures into recurrent and development reveals that aid is more fungible, in the recurrent expenditure at about 59% as opposed to 19% in development expenditure. The finding concurs with most studies on aid fungibility, which argue that foreign aid finances general government spending and not the targeted development activities (see among others Pack and Pack, 1993; Feyzioglu et al., 1998; Devarajan et al., 1998).

The fiscal crisis attributed to aid freezing more evidently influenced government spending in the short run than in the long run. Whereas an aid freeze drastically reduces development expenditure, the reduction in the recurrent expenditure is not only minimal but statistically insignificant. Several reasons can be offered for the weak influence in the long-run period: (a) the government treats the aid cuts as temporary and cuts down on wasteful expenditures by instituting tough measures to be adhered to during the freeze periods as it lobbies for aid release; (b) aid freezing affects only the newly committed foreign aid and especially from multilateral sources and does not involve either emergency aid or project aid earlier contracted; (c) actual development expenditure has always fallen short of the budgeted estimates while current expenditure has been increasing, implying that any effects of an aid freeze will be muted by the increases in current expenditure; (d) government spending agents always surpass the ceilings set by the Treasury and accumulate pending bills; and (e) in most cases, the government, as a result of poor accounting and documentations and other rigidities, does not draw all the contracted amounts of aid; a majority of loan facilities lapse after drawing only once.

7. Suggestions for further research

This study focused on aggregated data to assess the fiscal response by the government to changes in aid flow. A more detailed breakdown of the sources of revenue and expenditure use by the public sector at sectoral level—e.g., transport and communications networks, education, health, agriculture, defence, etc.—would shed more light on the understanding of how policy makers in the aid recipient country make their public sector decisions. It may be interesting to assess whether a distinction between bilateral and multilateral aid influences the budgetary process.

Notes

1. In the late 1940s and early 1950s, development economists argued that foreign aid would be the engine of growth for third world countries.
2. By the end of the 1980s, Kenya had succeeded in attracting aid from most members of the donor community. In 1990 constant prices, the aid flow increased from US\$452.2 million in 1970 to US\$1,234 million in 1980 and US\$1,615 million in 1990. Unfortunately, the trend has been on the decline since the 1991 aid freeze, with the flow falling to a mere US\$370.2 million in 1994, less than the flow in 1970.
3. The argument here is to allow the dummy to follow a step-wise approach in order to capture the stop-go behaviour of the government.
4. The conflict in figures occurred because of the difference in reporting periods—calendar year reporting by DAC and fiscal year reporting by the government. Further, figures for the most recent years were lacking in the government statistics, or were significantly low when compared with those in DAC reporting. This was attributed to the inconsistency in aid disbursement procedures. For example, in the case of technical assistance and project aid, the donor could channel resources directly to offshore goods and service providers on behalf of the government, only to account for the same at a later date. To avoid double entry, an average was computed.

References

- Ali, A.A.G., C. Malwanda and Y. Sliman. 1999. "Official development assistance to Africa: An overview". *Journal of African Economies*, vol. 8, no. 4: 504–27.
- Bevan, D. P. Collier and J.M. Gunning. 1993. "Anatomy of temporary trade shocks: The Kenya coffee boom of 1976–9". *Journal of African Economies*, vol. 1, no. 2: 271–305.
- Cashel Cardo and S.G. Graig. 1990. "The public sector impact of internal resource transfers". *Journal of Development Economics*, vol. 32: 17–42.
- Chenery. H. and A.M. Strout. 1966. "Foreign assistance and economic growth". *American Economic Review*, LVI (September), Vol 56:679–733.
- Cassen, R. et al. 1994. *Does Aid Work?* Clarendon Press, Oxford University Press.
- Corden, W.L. 1984. "Booming sector and Dutch disease economics: Survey and consolidation". *Oxford University Papers*, vol. 36: 360–80.
- Devarajan S. A.S. Rajkumar and V. Swaroop. 1998. "What does aid to Africa finance?" AERC/ODC project on Managing a Smooth Transition from Aid Dependence in Africa, Washington, D.C.
- Devarajan, S., V. Swaroop and Heng-fu Zou (1996), "The composition of Public expenditure and economic growth", *Journal of Monetary Economics* 37 (2) pp 313-44
- Dickey, D.A. and W.A. Fuller. 1979. "Distribution of the estimators for autoregressive time series with unit root". *Journal of the American Statistical Association*, vol. 74: 427–31.
- Engle, R.F and C.W.J. Granger. 1987. "Cointegration and error correction: Representation, estimation and testing". *Econometrica*, vol. 55: 251–76.
- Feyzioglu, T., V. Swaroop and Min Zhu. 1998. "A panel data analysis of the fungibility of foreign aid". *World Bank Economic Review*, vol. 65: 429–45.
- Gang, I.N. and H.A Khan. 1990. "Some determinants of foreign aid to India, 1960–85". *World Development*, 18(3): 431–42.
- Griffin, K. 1970. "Foreign capital, domestic savings and economic development". *Oxford Bulletin of Economics and Statistics*, vol. 55: 99–112.
- Heller, S.P. 1975. "A model of public fiscal behavior in developing countries: Aid, investment and taxation". *American Economic Review*, vol. 65, no. 3 (June): 429–45.
- Khilji, N.M. and E.M. Zampelli. 1991. "The fungibility of U.S. assistance to developing countries and the impact on recipient expenditures: A case study of Pakistan". *World Development*, vol.19: 1095–1105.

- Khilji, N.M. and E.M. Zampelli. 1994. "The fungibility of U.S. military and non-military assistance and the impacts on expenditures of major aid recipients". *Journal of Development Economics*, vol. 43: 345-62.
- Killick, T. 1991. "The developmental effectiveness of aid to Africa". World Bank WPS 646.
- Lancaster, C. 1999. *Aid to Africa*. Chicago: University of Chicago Press.
- Lancaster, C. 1999. "Aid effectiveness in Africa: The unfinished agenda". *Journal of African Economies*, vol. 8, no. 4: 487-503.
- Levy, V. 1987. "Anticipated development assistance, temporary relief aid, and consumption behaviour of low-income countries". *Economic Journal*, vol. 97, no. 6: 446-58.
- McGuire, M.C. 1978. "A method for estimating the effect of a subsidy on the receiver's resource constraint: With an application to the U.S. local governments, 1964-1971". *Journal of Public Economics*, vol.10, no. 10: 355-69.
- McGuire, M.C. 1987. "Foreign assistance, investment and Defence: A methodological study with an application to Israel, 1960-79". *Economic Development and Cultural Change*, July: 847-73.
- Mosley, P., J. Hundson and S. Horrell. 1987. "Aid, the public sector and the market in less developed countries". *The Economic Journal*, vol. 97, no. 9: 616-41.
- Nyoni, T.S. 1997. *Foreign Aid and Economic Performance in Tanzania*. AERC Research Paper No. 61. African Economic Research Consortium, Nairobi.
- O'Brien, F.S and T.C.I. Ryan. 1999. "Aid and reform in Africa: Kenya case study". World Bank project on Aid and Reform in Africa. Washington, D.C.
- O'Connell, S.A. and C.C. Soludo. 1998. "Aid intensity in Africa". Centre for the Study of African Economies. WPS (99-3): 1-30
- Pack, H. and J.R. Pack. 1990. "Is foreign aid fungible? The case of Indonesia". *Economic Journal*, vol. 100 no. 3: 188-94.
- Pack, H. and J.R. Pack. 1993. "Foreign aid and the Question of fungibility". *Review of Economics and Statistics*, vol. 75, 2: 258-65.
- Papanek, G. 1972. "The effect of aid and other resource transfers on savings and growth in less developed countries". *Economic Journal*, vol. 82, no. 9: 934-50.
- Riddell, R.C. 1987. *Foreign Aid Reconsidered*. Baltimore: The Johns Hopkins University Press.
- Swaroop, V., Jha Shikha and A.S. Rajkumar. 2000. "Fiscal effects of foreign aid in federal system of governance: The case of India". *Journal of Public Economics*, vol. 77, no. 2000: 307-30.
- White, H. 1992. "The macroeconomic impact of development aid: A critical survey". *Journal of Development Studies*, vol. 28: 163-240.
- White, H. and J. Littuk. 1994. "The countrywide effects of aid". Policy Research Working Paper 1337. The World Bank, Washington, D.C.
- World Bank. 1998. *Assessing Aid: What Works, What Doesn't, and Why?* New York: Oxford University Press.

Other recent publications in the AERC Research Papers Series:

- The Behaviour of Income Velocity in Tanzania 1967–1994*, by Michael O.A. Ndanshau, Research Paper 50.
- Consequences and Limitations of Recent Fiscal Policy in Côte d'Ivoire*, by Kouassy Oussou and Bohoun Bouabre, Research Paper 51.
- Effects of Inflation on Ivorian Fiscal Variables: An Econometric Investigation*, by Eugene Kouassi, Research Paper 52.
- European Economic Integration and the Franc Zone: The Future of the CFA Franc after 1999, Part II*, by Allechi M'Bet and Niamkey A. Madeleine, Research Paper 53.
- Exchange Rate Policy and Economic Reform in Ethiopia*, by Asmerom Kidane, Research Paper 54.
- The Nigerian Foreign Exchange Market: Possibilities For Convergence in Exchange Rates*, by P. Kassey Garba, Research Paper 55.
- Mobilizing Domestic Resources for Economic Development in Nigeria: The Role of the Capital Market*, by Fidelis O. Ogwumike and Davidson A. Omole, Research Paper 56.
- Policy Modelling in Agriculture: Testing the Response of Agriculture to Adjustment Policies in Nigeria*, by Mike Kwanashie, Abdul-Ganiyu Garba and Isaac Ajilima, Research Paper 57.
- Price and Exchange Rate Dynamics in Kenya: An Empirical Investigation (1970–1993)*, by Njuguna S. Ndung'u, Research Paper 58.
- Exchange Rate Policy and Inflation: The case of Uganda*, by Barbara Mbire, Research Paper 59.
- Institutional, Traditional and Asset Pricing Characteristics of African Emerging Capital Markets*, by Ino L. Inanga and Chidozie Emenuga, Research Paper 60.
- Foreign Aid and Economic Performance in Tanzania*, by Timothy S. Nyoni, Research Paper 61.
- Public Spending, Taxation and Deficits: What is the Tanzanian Evidence?* by Nehemiah Osoro, Research Paper 62.
- Adjustment Programmes and Agricultural Incentives in Sudan: A Comparative Study*, by Nasredin A. Hag Elamin and Elsheikh M. El Mak, Research Paper 63.
- Intra-industry Trade between Members of the PTIA/COMESA Regional Trading Arrangement*, by Flora Mndeme Musonda, Research Paper 64.
- Fiscal Operations, Money Supply and Inflation in Tanzania*, by A.A.L. Kilindo, Research Paper 65.
- Growth and Foreign Debt: The Ugandan Experience*, by Barbara Mbire, Research Paper 66.
- Productivity of the Nigerian Tax System: 1970–1990*, by Ademola Ariyo, Research Paper 67.
- Potentials for Diversifying Nigeria's Non-oil Exports to Non-Traditional Markets*, by A. Osuntogun, C.C. Edordu and B.O. Oramah, Research Paper 68.
- Empirical Studies of Nigeria's Foreign Exchange Parallel Market II: Speculative Efficiency and Noisy Trading*, by Melvin Ayogu, Research Paper 69.
- Effects of Budget Deficits on the Current Account Balance in Nigeria: A Simulation Exercise*, by Festus O. Egwaikhide, Research Paper 70.
- Bank Performance and Supervision in Nigeria: Analysing the Transition to a Deregulated Economy*, by O.O. Sobodu and P.O. Akiode, Research Paper 71.
- Financial Sector Reforms and Interest Rate Liberalization: The Kenya Experience* by R.W. Ngugi and J.W. Kabubo, Research Paper 72.
- Local Government Fiscal Operations in Nigeria*, by Akpan H. Ekpo and John E.U. Ndebbio, Research Paper 73.
- Tax Reform and Revenue Productivity in Ghana*, by Newman Kwadwo Kusi, Research Paper 74.
- Fiscal and Monetary Burden of Tanzania's Corporate Bodies: The Case of Public Enterprises*, by H.P.B. Moshi, Research Paper 75.
- Analysis of Factors Affecting the Development of an Emerging Capital Market: The Case of the Ghana Stock Market*, by Kofi A. Osei, Research Paper 76.
- Ghana: Monetary Targeting and Economic Development*, by Cletus K. Dordunoo and Alex Donkor, Research Paper 77.

- The Nigerian Economy: Response of Agriculture to Adjustment Policies*, by Mike Kwanashie, Isaac Ajilima and Abdul-Ganiyu Garba, Research Paper 78.
- Agricultural Credit Under Economic Liberalization and Islamization in Sudan*, by Adam B. Elhiraika and Sayed A. Ahmed, Research Paper 79.
- Study of Data Collection Procedures*, by Ademola Ariyo and Adebisi Adeniran, Research Paper 80.
- Tax Reform and Tax Yield in Malawi*, by C. Chipeta, Research Paper 81.
- Real Exchange Rate Movements and Export Growth: Nigeria, 1960–1990*, by Oluremi Ogun, Research Paper 82.
- Macroeconomic Implications of Demographic Changes in Kenya*, by Gabriel N. Kirori and Jamshed Ali, Research Paper 83.
- An Empirical Evaluation of Trade Potential in the Economic Community of West African States*, by E. Olawale Ogunkola, Research Paper 84.
- Cameroon's Fiscal Policy and Economic Growth*, by Aloysius Ajab Amin, Research Paper 85.
- Economic Liberalization and Privatization of Agricultural Marketing and Input Supply in Tanzania: A Case Study of Cashewnuts*, by Ngila Mwase, Research Paper 86.
- Price, Exchange Rate Volatility and Nigeria's Agricultural Trade Flows: A Dynamic Analysis*, by A.A. Adubi and F. Okunmadewa, Research Paper 87.
- The Impact of Interest Rate Liberalization on the Corporate Financing Strategies of Quoted Companies in Nigeria*, by Davidson A. Omole and Gabriel O. Falokun, Research Paper 88.
- The Impact of Government Policy on Macroeconomic Variables*, by H.P.B. Moshi and A.A.L. Kilindo, Research Paper 89.
- External Debt and Economic Growth in Sub-Saharan African Countries: An Econometric Study*, by Milton A. Iyoha, Research Paper 90.
- Determinants of Imports in Nigeria: A Dynamic Specification*, by Festus O. Egwaikhide, Research Paper 91.
- Macroeconomic Effects of VAT in Nigeria: A Computable General Equilibrium Analysis*, by Prof. D. Olu Ajakaiye, Research Paper 92.
- Exchange Rate Policy and Price Determination in Botswana*, by Jacob K. Atta, Keith R. Jefferis, Ita Mannathoko and Pelani Siwawa-Ndai, Research Paper 93.
- Monetary and Exchange Rate Policy in Kenya*, by Njuguna S. Ndung'u, Research Paper 94.
- Health Seeking Behaviour in the Reform Process for Rural Households: The Case of Mwea Division, Kirinyaga District, Kenya*, by Rose Ngugi, Research Paper 95.
- Trade Liberalization and Economic Performance of Cameroon and Gabon*, by Ernest Bamou, Research Paper 97.
- Quality Jobs or Mass Employment*, by Kwabia Boateng, Research Paper 98.
- Real Exchange Rate Price and Agricultural Supply Response in Ethiopia: The Case of Perennial Crops*, by Asmerom Kidane, Research Paper 99.
- Determinants of Private Investment Behaviour in Ghana*, by Yaw Asante, Research Paper 100.
- An Analysis of the Implementation and Stability of Nigerian Agricultural Policies, 1970–1993*, by P. Kassey Garba, Research Paper 101.
- An Analysis of the Implementation and Stability of Nigerian Agricultural Policies, 1970–1993*, by P. Kassey Garba, Research Paper 101.
- Poverty, Growth and Inequality in Nigeria: A Case Study*, by Ben E. Aigbokhan, Research Paper 102.
- Effect of Export Earnings Fluctuations on Capital Formation*, by Godwin Akpokodje, Research Paper 103.
- Nigeria: Towards an Optimal Macroeconomic Management of Public Capital*, by Melvin D. Ayogu, Research Paper 104.
- International Stock Market Linkages in South Africa*, by K.R. Jefferies, C.C. Okeahalam, and T.T. Matome, Research Paper 105.
- An Empirical Analysis of Interest Rate Spread in Kenya*, by Rose W. Ngugi, Research Paper 106.
- The Parallel Foreign Exchange Market and Macroeconomic Performance in Ethiopia*, by Derrese Degefa, Research Paper 107.

- Market Structure, Liberalization and Performance in the Malawi Banking Industry*, by Ephraim W. Chirwa, Research Paper 108.
- Liberalization of the Foreign Exchange Market in Kenya and the Short-term Capital Flows Problem*, by Njuguna S. Ndung'u, Research Paper 109.
- External Aid Inflows and the Real Exchange Rate in Ghana*, by Harry A. Sackey, Research Paper 110.
- Formal and Informal Institutions' Lending Policies and Access to Credit by Small-Scale Enterprises in Kenya: An Empirical Assessment*, by Rosemary Atieno, Research Paper 111.
- Financial Sector Reform Macroeconomic Instability and the Order of Economic Liberalization: The Evidence from Nigeria*, by Sylvanus I. Ikhinda and Abayomi A. Alawode, Research Paper 112.
- The Second Economy and Tax Yield in Malawi*, by C. Chipeta, Research Paper 113.
- Promoting Export Diversification in Cameroon: Toward Which Products?* by Lydie T. Bamou, Research Paper 114.
- Asset Pricing and Information Efficiency of the Ghana Stock Market*, by Kofi A. Osei, Research Paper 115.
- An Examination of the Sources of Economic Growth In Cameroon*, by Aloysius Ajab Amin, Research Paper 116.
- Trade Liberalization and Technology Acquisition in the Manufacturing Sector: Evidence from Nigeria*, by Ayonrinde Folasade, Research Paper 117.
- Total Factor Productivity in Kenya: The Links with Trade Policy*, by Joseph Onjala, Research Paper 118.
- Kenya Airways: A Case Study of Privatization*, by Samuel Oyieke, Research Paper 119.
- Determinants of Agricultural Exports: The Case of Cameroon*, by Daniel Gbetnkon and Sunday A. Khan, Research Paper 120.
- Determinants of Regional Poverty in Uganda*, by Francis Okurut, Jonathan Odwee, Asaf Adebua, Research Paper 122.
- Exchange Rate Policy and the Parallel Market for Foreign Currency in Burundi*, by Janvier D Nkurunziza, Research Paper 123.
- Structural Adjustment, Poverty and Economic Growth: An Analysis for Kenya*, by Jane Kabubo- Mariara and Tabitha W. Kiriti, Research Paper 124.
- Liberalization and Implicit Government Finances in Sierra Leone*, by Victor A.B. Davis, Research Paper 125.
- Productivity, Market Structure and Trade Liberalization in Nigeria*, by Adeola F. Adenikinju and Louis N. Chete, Research Paper 126.
- Productivity Growth in Nigerian Manufacturing and Its Correlation to Trade Policy Regimes/Indexes (1962–1985)*, by Louis N. Chete and Adeola F. Adenikinju, Research Paper 127.
- Financial Liberalization and its Implications for the Domestic Financial System: The Case of Uganda*, by Louis A. Kasekende and Michael Atingi-Ego, Research Paper 128.
- Public Enterprise Reform in Nigeria: Evidence from the Telecommunications Industry*, by Afeikhena Jerome, Research Paper 129.
- Food Security and Child Nutrition Status among Urban Poor Households in Uganda: Implications for Poverty Alleviation*, by Sarah Nakabo-Sswanyana, Research Paper 130.
- Tax Reforms and Revenue Mobilization in Kenya*, by Moses Kinyanjui Muriithi and Eliud Dismas Moyi, Research Paper 131.
- Wage Determination and the Gender Wage Gap in Kenya: Any Evidence of Gender Discrimination?* by Jane Kabubo-Mariara, Research Paper 132.
- Trade Reform and Efficiency in Cameroon's Manufacturing Industries*, by Ousmanou Njika, Research Paper 133.
- Efficiency of Micro-Enterprises in the Nigerian Economy*, by Igbekele A. Ajibefun and Adebiyi G. Daramola, Research Paper 134.

AFRICAN ECONOMIC RESEARCH CONSORTIUM



P.O. BOX 62882 - 00200
NAIROBI, KENYA

TELEPHONE (254-20) 2734150
2734153 2734157 2734163
2734166 2734179

FAX (254-20) 2734170 2734173

E-MAIL:
communications@aercafrica.org

WEB SITE:
<http://www.aercafrica.org>

The principal objective of the African Economic Research Consortium (AERC), established in August 1988, is to strengthen local capacity for conducting independent, rigorous inquiry into problems pertinent to the management of economies in sub-Saharan Africa.

In response to special needs of the region, AERC has adopted a flexible approach to improve the technical skills of local researchers, allow for regional determination of research priorities, strengthen national institutions concerned with economic policy research, and facilitate closer ties between researchers and policy makers.

Since its establishment, AERC has been supported by private foundations, bilateral aid agencies and international organizations.

SPECIAL PAPERS contain the findings of commissioned studies in furtherance of AERC's programmes for research, training and capacity building.

RESEARCH PAPERS contain the edited and externally reviewed results of research financed by the AERC.

It is AERC's policy that authors of Special and Research papers are free to use material contained therein in other publications. Views expressed in such papers are those of the authors alone and should not be attributed to the AERC's sponsoring Members, Programme Committee, or Secretariat.

Further information concerning the AERC, and additional copies of Special and Research Papers, can be obtained by writing to: African Economic Research Consortium, P.O. Box 62882 - 00200, Nairobi, Kenya.

ISBN 9966-944-23-0

This work is licensed under a
Creative Commons
Attribution – NonCommercial - NoDerivs 3.0 Licence.

To view a copy of the licence please see:
<http://creativecommons.org/licenses/by-nc-nd/3.0/>