

Five Decades of Development Aid to Nigeria: The Impact on Human Development

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Abstract

The purpose of this study is to provide a long-term perspective on development aid and human development in Nigeria. This study employs two-stage least squares estimation to analyzing data from 1960 to 2010, the result shows that there is a negative relationship between development aid and human development, implying that aid tends to worsen human development in Nigeria. As such Nigerian government should put in place an appropriate policy measures that would monitor the maximum and effective utilization of foreign aid. Government should sustain the current reforms in the various sectors of the economy to encourage the inflow of foreign aid. Donors should provide information on future aid disbursements in order to reduce the uncertainty associated with aid flows and improve fiscal planning.

Key words: Development aid, ODA, Human Development

1.0 Introduction

Developing countries face massive poverty, slow GDP growth, high mortality rates, and low levels of education. In the year 1999, 1.2 billion people lived on less than \$1 (in PPP US\$) a day, and another 2.8 billion people lived on less than \$2 a day (World Bank, 2003). The majority of the people in the least developed countries cannot read or write. Over 854 million adults in this world are illiterate, and 543 million of them are women (Human Development Report, 2000). Similarly, many people in developing countries do not have access to health treatment. According to the United Nations Children's Fund (UNICEF), more than 10 million children under five years of age die each year from preventable diseases in these countries. At the end of the year 2000, 34 million people were living with HIV/AIDS (Human Development Report, 1998). These statistics reflect the extent of low human development in developing countries. A low level of human development means miserable, sub-standard living for the country's poor. One way intended to promote better living standards has been through development aid. In most scholarly and policy discussions, the terms aid, development aid and foreign aid refer to Official Development Assistance (ODA), data about which are collected and published by the Development Assistance Committee (DAC) of the OECD. According to the Committee's criteria, financial assistance is classified under ODA if it is disbursed by official agencies, has the promotion of economic development and welfare as its main objective, and involves grants or concessional loans with at least a 25 percent grant element (Cassen et al., 1994). Based on the identity of the immediate donor, ODA can be classified as bilateral or multilateral. Bilateral assistance is administered by agencies of donor governments, whereas multilateral aid is funded by wealthy countries and allocated by international financial institutions, such as the World Bank, the Regional Banks, or the United Nations Development Programme.

Nigeria, which was one of the richest 50 countries in the early 1970s, has retrogressed to become one of the 25 poorest countries at the threshold of the twenty first century. It is ironic that Nigeria is the sixth largest exporter of oil and at the same time host the third largest number of poor people after China and India (Igbuzor, 2006). Recent years have seen a surge in calls for more ODA to developing countries including Nigeria, in order to eliminate poverty. Developed countries, international organizations and other Philanthropists have all made renewed pleas for a massive infusion of development aid to Nigeria. Experts who argued in favour of more aid are of the view that injecting more foreign aid would materially benefit

the people of the recipient country. For the purpose of this analysis, ODA will be presented as lump sum as provided by Development Assistance Committee (DAC) of the OECD. The primary objective of this paper is an empirical analysis of the effectiveness of ODA on human development in Nigeria. This study proceeds as follows. Section II reviews previous literature on the impact of foreign aid on developing countries. Section III gives an overview of human development in Nigeria and inflows of ODA. Section IV develops an empirical model for analyzing the effect of development aid on human development and describes the data utilized in this study. Section V presents and discusses the results of the empirical model, and Section VI provides conclusion and policy recommendations.

2. Literature Review

The effectiveness of foreign aid is the subject of much debate in development economics. Some economists argue that aid does not significantly increase economic growth rates or improve human development indicators (e.g., Boone, 1996). Others, on the contrary, believe it does, especially when the recipient country implements appropriate policies (e.g., Burnside and Dollar, 2000). Still others would argue, for example, that the effects of bilateral and multilateral aid are markedly different – while one type may promote growth and development, the other one may not (Ram, 2003; Cassen, 1994; Sender, 1999). In a study of ODA data from 1971 to 1990, Boone (1996) found that most foreign aid had no significant impact on basic development measures such as infant mortality or primary schooling ratios, although some particular programs (immunization and research, for instance) could be effective. His results imply that most foreign aid is consumed rather than invested, and that aid receipts increase the size of government without influencing health indicators. These discouraging findings constitute, in Boone's opinion, strong evidence of government failure, whose incentives to improve human development indicators are insufficient, aid inflows notwithstanding.

In a widely cited study, Burnside and Dollar (2000) find that aid has a positive impact on economic growth in developing countries with good fiscal, monetary and trade policies, but is rather ineffective when policies are poor. They interpret foreign aid as an income transfer, which can be invested to produce growth, or dissipated in unproductive government expenditure. Their findings indicate that one way to increase the effectiveness of aid would be to make it more systematically conditional on the quality of the recipient countries' policies.

Ram (2003) criticizes their methodology and argues against constraining the regression coefficients of bilateral and multilateral aid to be equal, as Burnside and Dollar have done. He finds that, if the coefficients for the effects of bilateral and multilateral aid on economic growth rates are separate and unconstrained, the estimated parameters change significantly. The bilateral aid parameters are estimated to be positive, whereas the estimated effect of an increase in multilateral aid is negative. Both parameters are sizeable, suggesting that there is a dramatic difference between the effects of the two aid components on growth rates. These unequal effects of bilateral and multilateral development assistance could not have been picked up by Burnside and Dollar (2000), as their regression equation assumed that the effects of aid did not differ across the two categories.

Ram suggests that the positive effects of bilateral aid on growth derive from a better understanding by the donors of the recipients' needs. He refers to Cassen (1994) who argues that specific technical skills, linguistic and personal affinities, similar institutional structures, long-standing commercial interaction, and the ability to render.

3. Overview of Human Development and ODA Inflows to Nigeria

The overall goal of economic development is improvement in human well-being. Nigeria possesses a stark dichotomy of wealth and poverty. Although the country is rich in natural resources, its economy cannot yet meet the basic needs of the people. Such disparity between the growth of the GDP and the increasing poverty is indicative of a skewed distribution of Nigeria's wealth. Given the nation's history of wide income disparity, which has manifested in large-scale poverty, unemployment and poor access to healthcare,

the disconnect between the country's economic growth and human development has to be addressed to increase the well-being of its people. Nigeria ranked 158 out of 177 economies on the Human Development Index (HDR 2008), despite her rich cultural endowment and abundant human and natural resources. Human Development Index (HDI) 2010 ranks Nigeria 142nd position out of 169th listed low human development. This position underscores not only the limited choices of Nigerians, but also defines the critical development challenges being faced by government. A majority of Nigeria's 140 million (2006 census) citizens live below the poverty line and have limited or no access to basic amenities, such as potable water, good housing, reliable transportation system, affordable healthcare facilities, basic education, sound infrastructure, security and sustainable sources of livelihood. See Table 1 for comparison of selected Human Development Indicators of Nigeria with other countries.

Aid flows in the form of official development assistance (ODA) could play important role as complement to domestic financing for development in the Nigerian economy (Aremu, 2002: 45). ODA can be critical in enhancing the business environment for the private-sector and indeed quickening growth and development. Aremu (2002) states that ODA is also a crucial instrument for supporting education, health, public infrastructure development, agriculture and rural development and food security. See Table 2a for net ODA received by Nigeria. In the same vein, Table 2b highlights the major sources of total net aid flows to Nigeria compared with two other West African countries and the total for Africa between 1999 to 2004. Also, Table 2b shows a breakdown of the major sources of official development assistance (ODA) from all donors, from development assistance committee (DAC) countries and from the multilateral. The total net aid flows from all donors that Nigeria received was US\$ 152 million in 1999. In 2000, aid flows increased slightly to \$185 million and by 2004, it reached \$573 million. However, these amounts are far below the receipts in Burkinal Faso, Ghana and the Africa's total within this period. Furthermore, aid from DAC countries mostly favoured Burkina Faso and Ghana than Nigeria. Similarly, the multilateral total net aid showed the same unfavourable trend for Nigeria especially for 1990 and 2001. Although the net aid flows to Nigeria from the multilateral source in 2000 and 2004 measured up favourably with those for Burkinal Faso. In 2005, Nigeria's own Economic and Financial Crimes Commission revealed that military dictators had stolen or squandered US \$500 billion, the equivalent of all Western aid to Africa during the previous 40 years (Ayodele, et al. 2005). In a related report covering the period 1999- 2007, Nigeria received a total of \$6billion (about N696bn) as development aid from 1999 to 2007. Out of this amount, grants constituted about \$3.2billion (about N371.bn) while credit was about \$2.8billion (about N324bn) with the rest coming from international Non-governmental organisation (NGOs) (Abdulhamid (2008).

4. Empirical Model

Although this study focuses on aid effectiveness, it will be enlightening to first, examine what motivates rich countries to provide assistance to a developing country like Nigeria. There are differences in donors' motivations. A large body of economic research indicates that bilateral aid is more likely to be influenced by the donors' self-interest considerations than multilateral assistance. Bilateral aid promotes exports from and employment in the donor country (Ruttan,1989). Maizels and Nissanke (1984) analyzed aid flows from DAC donors and found that the recipient need model, in which aid is granted to compensate for a shortfall in the recipient's domestic resources, provides a reasonable explanation for the distribution of multilateral aid but fails to explain bilateral aid inflows. Bilateral aid allocation is, according to their study, better explained by the donor interest model, in which countries provide assistance to safeguard their trade, investment, political and security interests. Following from related earlier studies (Alesina and Dollar, 2000; Ridell,1999; Wall,1995; Bandyopadhyay and Wall, 2006) This study examines the effects of several determinants, such as human development, per capita GDP, trade openness and political regime, on the aid inflows to Nigeria as follows:

$$ODA = \alpha_0 + \alpha_1 HMD + \alpha_2 OPEN + \alpha_3 GDPC + \alpha_4 POLR + \mu_t \dots\dots\dots(1)$$

$$\alpha_1, \alpha_2, \alpha_3, \alpha_4 > 0$$

where ODA is Overseas Development Assistance (proxy for foreign aid); HMD is human development (proxied by Human Development Index);GDPC is Per Capita GDP (proxy for economic growth); POLR is

political regime (a dummy variable for regime shift in favour of democracy. The dummy is a binary 0, 1 variable. 1 for post civil rule periods and 0 for military rule); OPEN is trade openness; and μ_t is an error term.

Following from related earlier studies (Michaelowa and Weber, 2006; Gupta et al, 1999; Bhalotra, 2007; Mishra and Newhouse, 2007; Kabwena and Asiedu, 2008), but departing somewhat from the now too familiar studies based on the Harrod-Domar growth model developed by Chenery and Strout (1966) as well as the standard Barro (1991) type cross-country growth model, the reduced form equations for the effectiveness of development aid (ODA) is estimated using the human development index as outcome measure. As used by Kabwena and Asiedu, (2008) and Akinkugbe and Yinusa (2009), the general form of this equation is given as:

$$HDI_{it} = \alpha_0 + \alpha_1 TCG_{it} + x\beta + \gamma policy_{it} + \epsilon + \delta t + \mu_t \dots \dots \dots (2)$$

where HDI_{it} is Human Development Index, i stands for the countries in the sample and t denotes years ($t = 1990 \dots 2007$). As discussed, this is a preferred choice of development outcome since it tends to capture development in terms of command over commodities (decent standard of living—per capita income), educational attainment (potential to unlock human capabilities for state institutional capacity enhancement), and longevity (long and healthy lives). The term TCG_{it} measures ratio of technical assistance flows to gross national income; x is a vector of regressors that influence development (growth) outcome in a country; $policy$ is the policy environment in a country, α , β , γ are coefficients to be estimated, ϵ , δ , μ_t and are country specific, temporal, and idiosyncratic error terms respectively. Variables contained in the vector are variables that have been used in the literature to explain development, human and social capital outcomes. In this study, attention is focused on Nigeria and as such variables of interest are included that could have an effect on economic and human development. Thus human development equation is as follows:

$$HMD = \gamma_0 + \gamma_1 ODA + \gamma_2 GFCE + \gamma_3 DIN + \gamma_4 LEX + \gamma_5 IFM + \mu_t \dots \dots \dots (3)$$

$\gamma_1, \gamma_2, \gamma_4 > 0 < \gamma_3, \gamma_5$.

where: ODA is Overseas Development Assistance (proxy for development aid); HMD is Human Development (proxied by Human Development Index); GFCE is Gross fixed capital formation; DIN is Discomfort Index (inflation + unemployment); LEX is Life expectancy; and IFM is Infant Mortality Rate

Similarly, economic growth equation is presented as follows:

$$GDPC = \beta_0 + \beta_1 HFCE + \beta_2 GFCE + \beta_3 GDOS + \beta_4 NEXP + \beta_5 EXCH + \beta_6 ODA + \epsilon_t \dots \dots \dots (4)$$

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6 > 0$

where GDPC is per capita gross domestic product (proxy for economic growth), GFCE is general government final consumption expenditure, GDOS is gross domestic savings, NEX represents net exports, EXCH is exchange rate, ODA is overseas development assistance (a proxy for foreign aid), HFCE is household final consumption expenditure and ϵ_t is an error term. In this study, the relationship between ODA and GDP per capita is examined because GDP per capita plays an instrumental role in human development. If the income level of individuals in a country is high, these people can be expected to have a higher standard of living. Invariably, an increase in GDP per capita lowers poverty and increases public expenditure on health and education. Equation 1, 3 and 4 make up the simultaneous model of this study. The model is overidentified, as such; the Two-Stage Least Squares (2SLS) systems technique is applied to all the equations of the model at the same time and gives estimates of all the parameters simultaneously. In addition, all variables are entered as natural logarithms except for the POLR variable (a dummy is a binary 0, 1 variable. 1 for civil rule period and 0 for military rule). This allows the coefficients to be interpreted as elasticities, meaning that the coefficients represent the percentage change in the dependent variable when the independent variable increases by one percent.

4.1 Data Source and Description of Variables

The study focuses on development aid and human development in Nigerian. Time series secondary data spanning the period 1960 to 2010 were used for the analysis. The secondary data were obtained from such publications as World Bank Digest of Statistics, Central Bank of Nigeria statistical bulletin and International Financial Statistics. Data were also obtained from website, Journals and Newspapers.

The data include (ODA) which is the total annual gross disbursement of Official Development Assistance by all bilateral and multilateral sources, reported in a foreign development assistance publication of the Organisation of Economic Co-operation and Development (OECD). The human development (HMD) is proxied by human development index (HDI) which is an index used to rank countries by level of human development. The exchange rate variable (EXCH) represents the average exchange rate of the national currency (Naira) to US dollar. HFCE represents Household final consumption expenditure which is the market value of all goods and services, including durable products purchased by households. GDP per capita is used to capture the level of economic performance because it gives an indication on the proportion of income per citizen, which should increase when the economy performs better. Gross fixed capital formation (GFCF) is used as a proxy for investment. Infant mortality rate (IFM) is the number of infant deaths in a given year divided by the number of live births in the same year. Discomfort Index (DIN) is an index of overall economic performance, taking account of both unemployment and inflation. POLR is a dummy variable representing a political regime or the form of government had in Nigeria over the years. 0 is assigned for military rule and 1 for civilian rule (democracy). The measure of trade openness (OPEN) employed is the typical or commonly employed measure of openness. It is simply the value of total trade (exports plus imports) to GDP. General government final consumption expenditure (GFCE) includes all government current expenditures for purchases of goods and services. Net exports (NEXP) are the value of a nation's exports minus the value of its imports. Gross domestic savings (GDOS) is calculated as GDP less final consumption expenditure (total consumption). Life expectancy (LEXP) represents the average life span of a newborn and is an indicator of the overall health of a country.

5. Empirical Result and Discussion

Table 3 shows the basic descriptive statistics for the analysis. This was to describe the basic features of the data in the study in order to provide simple summaries about the samples and the measures. With the exception of the dummy variable (POLR), all other variables were transformed into natural logarithms to reduce variations in them and thereby allow their coefficients to be explained as elasticities.

In Table 4 shows the 2SLS regression results, the first equation represents the determinants of foreign development assistance in Nigeria. The estimates from the 2SLS regressions all have the expected positive coefficients but with high standard error and low t-statistics with the exception of POLR variable. The implication is that the bases for development aid allocation to Nigeria is on political regime. Of the 50 years of independence, 28 years have seen military regime ruling and 22 civilian regime. Each regime that came to power had its own economic policies but it is believed that during civilian regime that good governance and democracy was achieved, as a result Nigeria tended to get more aid when in civilian government than when it was under military rule. Furthermore, in equation 2 of the estimated model, ODA was expected to improve on human development, instead a negative but significant coefficient was revealed. The estimate is about -0.033 and it is significant at 5%. It means that a 1% increase in ODA will result to a decrease in human development (HUD) by 3%. This is not consistent with economic theory. Another key point that emerged from that equation of the estimated model is that the coefficient of GFCF is not significantly different from zero even though it carries the expected positive sign. The log of Discomfort Index (DI) shows significance at 5%. Nonetheless, the sign on \ln DIN is contrary to expectation. Inflation has unrelentingly been moving upward in Nigeria because of years of neglect of the social infrastructures and general mismanagement of the economy. The economy has since been riddled with a combination of high inflation and unemployment (stagflation). The result is increased discomfort suffered by many Nigerians and the development index over the years has steadily been below 0.5 indicating low human development. The coefficient of \ln LEXP is 2.563 and is significant at 1% level. The sign is positive as expected. It shows that improvement in the life expectancy has had a positive impact on human

development in Nigeria. Life expectancy in Nigeria has increased progressively from about 39.5 years in the 1960s to about 50 years in the 1980s. Since 1990 it has stagnated, even at that it lags seriously behind that of people in developed countries, which in some is as high as 80 years. Finally, in the human development equation, the coefficient of Infant Mortality (*lnIFM*) rate is not significantly different from zero, implying that it should not be included in the model despite the fact that it carries the expected positive sign. Actually, since the 1960s infant mortality rate has been progressively decreasing in Nigeria, but in the early 1990s it increased due to the resurgence of some childhood killer diseases. The infant mortality rate in Nigeria of about 74/1,000 in 2001-05 remains high compared to USA and UK infant mortality of about 7/1,000 in 2001-05 due to poor sanitation, nutrition, maternal health and medical care. These are symptoms and incontrovertible evidence of the low human development status of Nigeria.

Looking at the third equation (GDP per capita) in the estimated model, the 2SLS estimate of *lnHCE* variable is about 0.960 and its significance is certified at 1% level. Other variables that are statistically significant in the equation are *lnNEXP* and *lnGFCE*. On the other hand, a positively insignificant impact on GDP per capita is reported concerning *lnGDOS*, neither is the coefficient on *lnEXC* significant despite the expected sign. Finally, The coefficient on *lnODA* (-0.005) in equation 3 does not exhibit the expected sign. The coefficient is found to be statistically insignificant and small in magnitude, suggesting that *lnODA* has a very small effect, i.e., negative effect on GDP per capita. The negative coefficient sign on *lnODA* is somewhat against the conventional wisdom. One argument is that because of its “fungibility” development aid has been misused (unproductive activities) in ways that have a directly negative impact on economic development prospects in Nigeria. Better still, this result illustrates how foreign development aid has been wasted or simply misappropriated in Nigeria. Hence, the negative coefficient on *lnODA* should not be interpreted in the sense that development aid harms economic development in general as there are evidence from other countries where it has promoted development (Chenery and Strout, 1966).

6. Conclusion and Policy Recommendations

Bearing in mind the evidence of aid ineffectiveness in developing countries, this paper sought to critically assess the impact of ODA on human development in Nigeria. Along the line it also attempts to empirically examine the macroeconomic implications of ODA flows on GDP per capita. This is because GDP per capita plays an instrumental role in human development. Furthermore, it investigates the various factors that influence development aid allocation to Nigeria. Using 2SLS, the result shows that the bases for development aid allocation to Nigeria is on political regime, especially in favour of democracy and good governance. The results also demonstrated a negative and significant relationship between development aid and human development in Nigeria and a similar negative impact was depicted on GDP per capita. The results suggest that development aid was not effectively utilized in Nigeria to promote human development. In a simple term the impact of ODA is not felt in Nigeria.

Despite all the criticisms leveled at ODA, the international community keeps insisting on the necessity of maintaining or increasing the volume of development aid. They recognize that results fall short of expectations and that there is a very real need to improve the yield and effectiveness of aid. As such, this study recommends that:

- ODA must be coordinated or harmonized in Nigeria through administrative framework that has clearly identifiable focal point. In this regard, one coordinating body and one monitoring and evaluation system at the highest level of government cannot be overemphasized. This is consistent with the ownership and leadership principles contained in the Paris Declaration.
- Nigerian government should sustain the current reforms in the various sectors of the economy to encourage the inflow of foreign aid. The reforms are based on the need to encourage rapid growth and development, and to reverse the negative effects of foreign aid.
- Donors should improve aid predictability by using a multi-year framework for future aid commitments and providing information to Nigeria and other recipient countries on the future path of aid disbursements. Such transparency will reduce the uncertainty associated with aid flows and improve fiscal planning.

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Appendix

Table 1. Selected Human Development Indicators: Nigeria vs. Other Selected Countries

HDI Rank	Country	Life expectancy at birth (years) 2005	*Under-five mortality rate (per 1,000 births) 2005	*Population under-nourished (% of total population) 2002/2004	Combined Gross Enrolment Ratio for primary, secondary and tertiary education (%) 2005	*Population below income poverty line (%)	
						\$1 a day	\$2 a day
81	China	72.5	27	12	69.1	9.9	34.9
107	Indonesia	69.7	36	6	68.2	7.5	52.4
158	Nigeria	46.5	194	9	56.2	70.8	92.4
159	Tanzania	51.0	122	44	50.4	57.8	89.9

Source: Human Development Index Report 2007/2008

*MDG Indicator, ** na: not applicable

Table 2a. Net ODA received (% of GNI) by Nigeria

Year	Value	Year	Value	Year	Value	Year	Value	Year	Value
1960	0.78	1970	0.89	1980	0.06	1990	1.00	2000	0.43
1961	0.68	1971	1.26	1981	0.07	1991	1.04	2001	0.40
1962	0.64	1972	0.73	1982	0.07	1992	0.87	2002	0.57
1963	0.41	1973	0.54	1983	0.14	1993	1.52	2003	0.51
1964	0.83	1974	0.30	1984	0.12	1994	0.89	2004	0.74
1965	1.33	1975	0.30	1985	0.12	1995	0.81	2005	6.48
1966	1.12	1976	0.15	1986	0.31	1996	0.57	2006	8.09
1967	1.42	1977	0.12	1987	0.32	1997	0.59	2007	1.27
1968	1.36	1978	0.11	1988	0.53	1998	0.69	2008	0.66
1969	1.33	1979	0.05	1989	1.58	1999	0.46	2009	1.02

Source: Index Mundi (2011)

Table 2b. Aid flows to Nigeria, Burkina Faso and Ghana 1999 -2004 US\$ million

ODA net total, all donors				
year	Nigeria	Burkina Faso	Ghana	Africa Total
1990	152	398	609	16074
2000	185	336	600	15717
2001	185	392	644	16681
2002	314	473	650	21540
2003	318	507	950	26781
2004	573	610	1358	29080
ODA net total, DAC countries				
year	Nigeria	Burkina Faso	Ghana	Africa Total
1990	53	232	356	10340
2000	84	228	376	10373
2001	108	221	387	10159
2002	215	230	406	13362
2003	200	266	479	19158
2004	314	331	897	19301
ODA net total, Multilateral				
year	Nigeria	Burkina Faso	Ghana	Africa Total
1990	96	157	250	5485
2000	100	104	222	5045
2001	79	158	254	6244
2002	101	198	238	7478
2003	118	238	462	7380
2004	260	278	451	9594

Source: OECD-ADB 2006 pp. 566-567

Table 3. Descriptive Statistics for the entire Model

	<i>lnODA</i>	<i>lnHMD</i>	<i>lnGDPC</i>	POLR	<i>lnOPEN</i>
Mean	4.809793	-1.092061	5.686085	0.448980	-0.027971
Median	4.421247	-0.941609	5.669674	0.000000	-1.309333
Maximum	11.64693	-0.693147	6.837333	1.000000	5.197004
Minimum	2.895912	-1.714798	4.626051	0.000000	-3.912023
Std. Dev.	1.475147	0.336345	0.645524	0.502545	3.120910
Skewness	2.389220	-0.651147	-0.012442	0.205152	0.280704
Kurtosis	11.25443	1.816672	2.116018	1.042088	1.670788
Jarque-Bera	185.7287	6.321479	1.596671	8.170283	4.250716
Probability	0.000000	0.042394	0.450078	0.016821	0.119390
Sum	235.6799	-53.51099	278.6182	22.00000	-1.370589
Sum Sq. Dev.	104.4509	5.430138	20.00164	12.12245	467.5237
Observations	51	51	51	51	51

	<i>lnHMD</i>	<i>lnODA</i>	<i>lnGFCF</i>	<i>lnDIN</i>	<i>lnLEX</i>	<i>lnIFM</i>
Mean	-1.092061	4.809793	-1.302107	2.830518	3.873011	4.691995
Median	-0.941609	4.421247	-1.431292	2.809403	3.906005	4.700480
Maximum	-0.693147	11.64693	-0.150823	4.314818	4.060443	4.927254
Minimum	-1.714798	2.895912	-2.343407	1.704748	3.676301	4.304065
Std. Dev.	0.336345	1.475147	0.550132	0.670650	0.127076	0.189699
Skewness	-0.651147	2.389220	0.667784	0.190673	-0.312453	-0.913718
Kurtosis	1.816672	11.25443	2.578794	2.597182	1.895273	2.806347
Jarque-Bera	6.321479	185.7287	4.004033	0.628194	3.288979	6.894758
Probability	0.042394	0.000000	0.135063	0.730448	0.193111	0.031829
Sum	-53.51099	235.6799	-63.80322	138.6954	189.7776	229.9077
Sum Sq. Dev.	5.430138	104.4509	14.52697	21.58900	0.775122	1.727317
Observations	51	51	51	51	51	51

Table 3c: Descriptive Statistics for Equation 3

	<i>ln</i> GDPC	<i>ln</i> HFCE	<i>ln</i> GFCE	<i>ln</i> GDOS	<i>ln</i> NEXP	<i>ln</i> EXCH	<i>ln</i> ODA
Mean	5.686085	5.271694	-2.093591	22.18192	13.89822	1.415792	4.809793
Median	5.669674	5.251226	-2.040221	22.51899	15.22963	-0.274437	4.421247
Maximum	6.837333	6.359539	-1.309333	24.80351	17.55368	4.981893	11.64693
Minimum	4.626051	4.490769	-2.813411	18.80210	0.000000	-0.597837	2.895912
Std. Dev.	0.645524	0.475422	0.440450	1.526914	4.801022	2.141292	1.475147
Skewness	-0.012442	0.259086	-0.021799	-0.566619	-2.490350	0.575476	2.389220
Kurtosis	2.116018	2.535061	2.077437	2.531804	7.503132	1.672353	11.25443
Jarque-Bera	1.596671	0.989535	1.741588	3.069515	92.04969	6.303317	185.7287
Probability	0.450078	0.609713	0.418619	0.215508	0.000000	0.042781	0.000000
Sum	278.6182	258.3130	-102.5860	1086.914	681.0130	69.37379	235.6799
Sum Sq. Dev.	20.00164	10.84924	9.311823	111.9104	1106.391	220.0862	104.4509
Observations	51	51	51	51	51	51	51

Source: Computed by author using Eview 4.1

Note: *ln* stands for natural log

TABLE 4. TWO-STAGE LEAST SQUARE (2SLS)

<i>ln</i> ODA	3.806	0.648 <i>ln</i> HMD	0.174 <i>ln</i> OPEN	0.281 <i>ln</i> GDPC	0.534POLR		
	(4.026)	(1.678)	(0.155)	(0.462)	(0.216)		
	0.946	0.386	1.123	0.609	2.285***		
<i>ln</i> HMD	- 10.889	-0.033 <i>ln</i> ODA	0.003 <i>ln</i> GFCF	0.064 <i>ln</i> DIN	2.563 <i>ln</i> LEX	- 0.033 <i>ln</i> IFM	
	(2.105)	(0.016)	(0.049)	(0.027)	(0.366)	0.188	
	- 5.172*	- 2.091**	0.058	2.338**	7.000*	- 0.175	
<i>ln</i> GDPC	- 2.405	0.960 <i>ln</i> HFCE	0.167 <i>ln</i> GFCE	0.090 <i>ln</i> GDOS	0.089 <i>ln</i> NEXP	0.014 <i>ln</i> EXCH	-0.005 <i>ln</i> ODA
	(0.691)	(0.143)	(0.082)	(0.058)	(0.029)	(0.025)	(0.019)
	-3.479*	6.710*	2.051**	1.563	3.031*	0.538	-0.599

Notes: standard errors in parentheses; t-Statistics follows below; * denotes significance at the 1 percent level; ** denotes significance at the 5 percent level; *** denotes significance at the 10 percent level; and no indication for estimates that do not fall in any of the conventional levels.

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