

Cross-border bank lending versus FDI in Africa's growth story

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Abstract

For most of the large African economies that have undertaken financial sector reforms since the early 1980s, the two main types of private capital inflows are FDI and cross-border bank lending. This paper seeks to investigate the relative long run impact of each of these inflows on economic growth in African countries. In addition to controlling for some factors (e.g. financial sector reforms and trade openness), the paper seeks to investigate the outcomes for four groups of economies, namely: (i) all the African economies; (ii) all the African economies except the SANE (South Africa, Algeria, Nigeria and Egypt) countries, which are considered the dynamos of growth in Africa; (iii) natural resource countries, which includes some of the SANE; and (iv) countries without a sizeable hydrocarbon endowment. Our estimates suggest that both FDI and cross-border bank lending exert a significant and positive impact on African countries as a whole. However, the effect of cross-border bank lending becomes negative once the sample is restricted to oil countries alone. Moreover, financial sector reforms appear to have a positive impact on economic growth in non-oil countries, while they have no growth effect on oil-countries. The importance of trade openness as a key driver of economic growth is confirmed with respect to all African countries.

1. Introduction

The global financial crisis has recently raised the concern among policy makers and economists on the issue of the dramatic reduction of private capital inflows to developing countries and its impact on economic growth. FDI inflows to developing countries in 2008 grew at a much slower rate (7.2%) than in the previous year (20%), and in 2009 are expected to fall for the first time in a decade by 30% (UNCTAD, 2009a). On the other hand, total foreign claims on developing countries held by banks reporting to the Bank for International Settlements (BIS) dropped of \$500 billion to \$3 trillion in the second half of 2008, and this trend is expected to continue over 2009. The effects on growth in the long-run might be significant depending on the potential growth impact of each of the different categories of private capital flows.

Over the past years, in the literature there has been an increasing attention to the impact on growth of different types of private capital inflows. Reisen and Soto (2001) measure the independent growth effect of FDI, bond flows, portfolio equity flows, official flows as well as short-term and long-term bank lending on a sample of 44 developing countries around the world over the period 1986-1997. FDI and portfolio equity flows are found to exert a significant impact on growth; bonds and official flows do not have any significant effect on growth, while short- and long-term bank lending is found to negatively affect economic growth except when local banks are sufficiently capitalized. On the other hand, Durham (2003), using a sample of 88 countries from 1977 through 2000, examines the impact on growth of bond foreign portfolio investment (BFPI) as well as total foreign portfolio investment (FPI) and other foreign investment (OFI), which includes cross-border bank lending. The results suggest that FPI, BFPI and OFI have no effect on economic growth, even though there is some evidence that OFI may have a negative impact on economic growth depending on the level of financial and legal development of the recipient country. More recently, de Vita and Kyaw (2009) examine the impact of FDI and portfolio investment flows on economic growth of a sample of 126 developing countries for the period 1985-2002. According to their findings, only developing countries that have reached a minimum level of economic development and absorptive capacity are able to capture the growth-enhancing effects of both forms of investment inflows.

From a geographical perspective, very little of the recent research interest on the relationship between different types of private capital flows and economic growth has been directed at Africa. To our knowledge, only Brambila Macias and Massa (2009) have examined the long-run relationship between economic growth and four different types of private capital inflows (cross-border bank lending, FDI, bonds flows and portfolio equity flows) on a sample of 28 selected sub-Saharan African (SSA) countries over the period 1980-2007. In this study, we will try to fill this gap by analysing the relationship between private capital flows and economic growth in a larger sample of 43 countries spread in the entire African continent. Brambila Macias and Massa (2009) found that FDI and cross-border bank lending are the only two drivers of economic growth in SSA among all the different types of private capital flows. Therefore, we will extend further their study by investigating the relative importance for economic growth of these two categories of capital inflows in four different groups of countries: (i) all African countries; (ii) all African countries except the SANE countries (South Africa, Algeria, Nigeria, Egypt), which are considered the dynamos of growth in Africa; (iii) the oil producer countries, which also include some of the SANE; and (iv) the non-oil countries. Such distinction stems from the observation that FDI and cross-border bank lending are distributed in a very heterogeneous way within the African region. Indeed, SANE and oil producer economies account for the highest share of the region's bulk of total FDI, and also attract most of the banks' international claims.

To better understand the role that country specific characteristics may play in the relationship between FDI, cross-border bank lending and economic growth, in addition to traditional regressors encountered in the literature (government consumption, inflation, labour force) we also focus on whether two additional factors are of particular relevance in our context.

First, we are interested in the effects of trade openness on growth. Africa as a whole has recently increased its degree of trade openness. However, there are still huge differences within the region - in part due to countries' dependency on very different commodities - that might lead one to expect that different degrees of trade openness affect differently economic growth among countries.

Second, financial sector reforms have been introduced in a very heterogeneous way in the African region and through very different paths over time. Murinde (2009) highlights that, among the SANE economies, South Africa has gradually restructured its banking sector, while Nigeria has implemented a shock-treatment type of banking sector reforms. Moreover, a few African countries have abolished restrictions on foreign investors while others are still not liberalized at all. Therefore, one might expect financial sector reforms to play a very different role among African countries.

The remainder of the paper is structured as follows. Section 2 presents the methodology and data used to conduct our panel regression for economic growth. Section 3 presents our main results. We pay particular attention to the distinction between all African economies and all African economies except the SANE countries, as well as to the distinction between oil countries and non-oil countries. Section 4 offers some conclusions and policy recommendations.

2. Methodology and Data

In our analysis we use panel data techniques. More specifically, to take into account joint endogeneity issues and country specific effects we opted to use the generalized method of moments (GMM) estimator introduced by Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1997). The GMM joins in a single system the regression equations in differences and levels, each one with its set of instrumental variables (usually lags of each variable are used as instruments) which allow us to deal with the potential endogeneity of our explanatory variables. So, the model we employed to study the relationship between private capital flows – namely, FDI and cross-border bank lending – and economic growth is the following:

$$y_{it} = y_{it-1}\gamma + FDI_{it}\eta + crossbank_{it}\mu + X_{it}\beta + u_i + \varepsilon_{it} \quad (1)$$

where the dependent variable y_{it} is real *per capita* income growth rate, while the main explanatory variables we are interested in are Foreign Direct Investment inflows (FDI) and cross-border bank lending ($crossbank$). We also include a matrix X_{it} of control variables: trade openness, government consumption, inflation rate and a proxy for financial sector reforms. FDI, cross-border bank lending, trade openness, and government consumption are normalized by GDP.

In order to get rid of the country specific effects we first difference equation (1) and get:

$$\Delta y_{it} = \Delta y_{it-1}\gamma + \Delta FDI_{it}\eta + \Delta crossbank_{it}\mu + \Delta X_{it}\beta + \Delta \rho_{it} \quad (2)$$

where $\Delta\rho_{it} = \Delta u_i + \Delta\varepsilon_{it} = (u_i - u_i) + (\varepsilon_{it} - \varepsilon_{it-1}) = \varepsilon_{it} - \varepsilon_{it-1} = \Delta\varepsilon_{it}$. Assuming that ε_{it} is *iid* over i and t , Δy_{it-2} could be a valid instrument for Δy_{it-1} , and so the GMM uses the following moment conditions:

$$E[y_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0 \quad \text{for } s \geq 2 \quad \text{and } t = 3, \dots, T \quad (3)$$

$$E[X_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0 \quad \text{for } s \geq 2 \quad \text{and } t = 3, \dots, T \quad (4)$$

The data used in our panel regression stem from different sources. International bank lending data are sourced from the BIS Consolidated Banking Statistics, while FDI data stem from the UNCTAD's FDI On-line Database. Data related to the other macroeconomic variables are collected from the World Bank's World Development Indicators as well as from the IMF's International Financial Statistics. Reforms data stem from the Heritage Foundation.

Foreign direct investment plays an important role in African countries, where it has become a key source of external financing next to remittances and other private capital flows such as international bank lending and portfolio flows. FDI inflows to Africa reached an historical high of \$53 billion in 2007 (UNCTAD, 2008) and, despite the financial crisis, rose to another record level of \$88 billion in 2008 (UNCTAD, 2009). However, the distribution of FDI within the African region has not been homogeneous. SANE countries as well as resource-intensive countries (which include some of the SANE as well) have been the main FDI recipients in the past years. Indeed, SANE countries were the four largest net FDI recipients from DAC donors over the period 1998-2005 (Kasekende et al., 2007); South Africa and Nigeria were the top two FDI recipient countries in 2006 accounting for 37% of the African region's bulk of total FDI (UNCTAD, 2008b); and Nigeria was the largest FDI recipient in Africa in both 2007 and 2008 (UNCTAD, 2009). Moreover, the African largest natural resource producers (i.e. Angola, Libya, Algeria, Mozambique, Nigeria and South Africa) accounted for more than three quarters of the region's FDI inflows in 2006 (UNCTAD, 2008b). In the literature, there appears to be a consensus that FDI may promote growth by increasing the size of the capital stock and by promoting more efficient use of existing resources through, for example, the transfer of technological know-how. Moreover, Brambila Macias and Massa (2009) have recently showed that FDI inflows exert a positive and significant impact on per capita income growth in sub-Saharan Africa recipient economies. For these reasons, we include FDI inflows as a share of GDP as an explanatory variable of economic growth.

Cross-border bank lending has expanded significantly in Africa over the past years and in particular since 2004. Indeed, total foreign claims on African economies held by banks reporting to the BIS increased by about 80% between 2004 and 2007. The expansion of international banking activity in Africa is also reflected by the significant increase in foreign bank penetration into the region. In sub-Saharan Africa, for example, the share of banking assets owned by foreign banks in 2005 was among the highest of all developing regions: about 55% versus less than 15% in the Middle East, South Asia and the Pacific (World Bank, 2008). However, as in the case of FDI, even the distribution of foreign bank lending within the region has not been homogeneous. In 2007, for example, more than 45% of banks' total international claims on African countries have been directed to the SANE countries, and almost 60% to the African Petroleum Producers' Association (APPA) countries. In general, international banking activity may have both positive and negative effects on growth. Indeed, on one hand, cross-border activities allow banks to improve resource allocation and risk management and to increase their profitability, and this has a

consequent positive impact on economic growth.¹ On the other hand, international banking activities could also make the banking system more vulnerable to crises by opening up additional transmission channels of systemic risk across borders. With respect to Africa, cross-border bank lending has been found to have a positive growth impact in a sample of selected sub-Saharan African countries (Brambila Macias and Massa, 2009). In the panel, we use total international claims over GDP as a proxy for cross-border bank lending.

The vector X_{it} in equation (1) includes the following additional regressors commonly encountered in the literature:²

- *government consumption* is used as a proxy for government size. In the literature, there seems to be consensus that an increase in government consumption will have a negative impact on output. This is due to the fact that an increase in government spending is associated to a number of costs including displacement cost, financing cost, behavioral subsidy cost as well as behavioral penalty cost that tend to outweigh the benefits that may stem from government consumption. We measure this variable as the value of government consumption over GDP.
- *inflation* is commonly included as a measure of macroeconomic stability. In general, low inflation levels represent higher macroeconomic stability. In the literature, there appears to be some agreement that inflation is negatively associated with economic growth. Inflation is measured as the first difference of the CPI level.

We also include two explanatory variables that are often overlooked in those studies investigating the effects of different types of private capital inflows on growth: trade openness and reforms. *Trade openness* in theory has been often referred as an engine for growth, since it enables a country to specialize using its comparative advantage and benefit from the international exchange of goods. However, the empirical evidence is mixed. With respect to Africa, Mbabazi et al. (2008), using cross-section and panel econometric techniques, found consistent evidence that trade openness have a positive effect on growth. On the other hand, by means of cointegration and causality analysis, Gries et al. (2008) found limited evidence that trade openness enhance growth through its impact on financial development in 16 SSA countries. We measure trade openness as the sum of exports and imports of goods and services over GDP.

Reforms, that can be interpreted as one component of institutional quality (North, 2001), are believed to be fundamental to the goal of achieving economic growth. To measure financial sector reforms we create a composite index that aggregates with equal weights three out of ten components of the Heritage Foundation's Index of Economic Freedom, edition 2009 (Heritage Foundation, 2009): financial freedom, investment freedom, and fiscal freedom. The financial freedom component captures those reforms aimed, for example, at privatizing the banking system, easing the opening and operation of financial services firms, as well as increasing banks' competitiveness. On the other hand, the investment freedom component proxies policies that aims to improve the investment climate by, for example, encouraging a fair and equitable treatment of foreign investors, eliminating restrictions on capital transactions, and abolishing boundaries on access to foreign exchange. Finally, the fiscal freedom component captures those reforms that improve the taxation system by cutting for example the tax rates on corporate income. Overall, the constructed composite index can be considered a proxy for the set of rules and norms that

¹ Numerous studies have provided evidence for the close link between more integrated and efficient financial markets and enhanced economic performance. See, among others, Levine (1997).

² See, e.g., Choong et al. (2009) and Vo (2009).

have been launched in Africa over time in order to regulate capital flows and foreign investment, as well as the banking and finance sectors. The index assigns a score in the range of 0-100, and higher scores correspond to a higher level of effectiveness of reforms.

Given that African countries are characterized by huge heterogeneity, and in order to gain a better understanding of the possible effects that the above variables may have on economic growth, we split our whole sample into three sub-samples. One that includes all African countries with the exception of the SANE economies (South Africa, Algeria, Nigeria, and Egypt); another sub-sample that includes only members of the African Petroleum Producers' Association (APPA); and the last sub-sample which encloses all African countries outside the APPA.

Table 1 reports some descriptive statistics for selected variables over the sample period 1995-2007, highlighting differences among each sub-sample. As expected, output (*Y*) is stronger in APPA countries (APPA countries not only include Africa's main oil exporters, but they also account for the whole set of SANE countries, which altogether account for more than half of Africa's total GDP.). Foreign direct investment follows a similar trend: APPA member countries on average account for almost double the average rate for non-APPA members, which is equal to 2.9 percentage points of GDP.

Cross-border bank lending in the whole sample accounts for 15.6% of GDP. The amount increases slightly for non-APPA countries with an average of 17.9% of GDP. On the other hand, if we look to the APPA countries alone, we can see that cross-border bank lending represents on average 11.5% of GDP.

Table 1. Descriptive Statistics for Regression Variables, 1995-2007

	All African Countries				Africa without SANE countries				Non-APPA members				APPA members			
	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max	Mean	S.D.	Min	Max
<i>Y</i> 1/	2.2	5.1	-17.6	58.5	2.2	5.3	-17.6	58.5	2.0	3.6	-17.6	15.0	2.6	7.1	-10.9	58.5
<i>FDI</i> 2/	3.6	6.1	-8.8	54.1	3.7	6.4	-8.8	54.1	2.9	2.8	-3.4	14.0	4.8	9.4	-8.8	54.1
<i>crossbank</i> 3/	15.6	44.8	0.1	375.8	16.3	47.2	0.1	375.8	17.9	55.1	0.1	375.8	11.5	10.9	0.2	64.3
<i>Trade</i> 4/	74.3	35.5	14.8	209.4	76.0	36.9	14.8	209.4	72.9	34.6	23.5	209.4	76.9	37.1	14.8	193.3
<i>Reforms</i> 5/	52.4	11.0	17.4	74.1	52.1	11.5	17.4	74.1	54.9	9.9	27.0	74.1	48.0	11.7	17.4	72.7
<i>Gov</i> 6/	13.6	5.7	2.7	31.2	13.7	5.8	2.7	31.2	14.6	5.6	2.7	31.2	11.8	5.6	2.9	30.1
<i>Inflation</i> 7/	28.8	231.4	-9.9	4145.1	31.3	245.2	-9.9	4145.1	9.0	10.9	-9.6	83.3	63.0	380.2	-9.9	4145.1

Sources: World Banks' World Development Indicators, International Monetary Fund's International Financial Statistics, BIS Consolidated Banking Statistics, UNCTAD's FDI On-line Database, Heritage Foundation.

1/ Real per capita output.

2/ Foreign Direct Investment inflows over GDP.

3/ Cross border bank lending over GDP.

4/ Trade openness, exports plus imports over GDP.

5/ Reforms; proxied by using the Heritage Foundation Index, 2009. Includes investment freedom, financial freedom and fiscal freedom.

6/ Government consumption normalized by GDP.

7/ Inflation, consumer price index (2000=100) growth rate.

If we have a look at trade openness, we can see that Africa as a whole has an average of 74.3 percent of its total output. The average increases if we focus solely on APPA members (76.9), and decreases modestly (72.9) when dealing with non-APPA members, reflecting the importance that trade has for all African countries. On the other hand, if we focus on government consumption we can see that non-APPA members tend to spend on average 14.6 of their GDP, while APPA members spend a bit less with just 11.8 of their GDP.

Moving to inflation, we can see that Africa has suffered high levels of inflation during the past decades, averaging 28.8 percent throughout the continent. However, once we split the sample, it appears that the APPA countries average an astonishing 63.0 percent, while non-APPA countries stay on average below the two digits, with only 9 percent. Finally, the proxy that we use for reforms highlights that non-APPA countries score higher in terms of financial sector reforms with 54.9, while APPA members stay below with only 48 points. This could be due to the reliance that APPA countries have on oil revenues, while non-APPA countries need to increase their competitive advantage by implementing more reforms.

3. Results and interpretations

In Table 2 (below) we present the results of the panel regressions. Columns (1) through (3) depict the outcomes from the entire sample. Columns (4) through (6) cover all African countries excluding the four SANE economies, while the remaining columns present the outcomes from splitting the sample into non-APPA and APPA member countries.

The first thing to notice is that foreign direct investment (*FDI*) is highly significant throughout most of the specifications, gaining magnitude within the APPA sample. Indeed, the APPA sample's coefficients are almost three times in terms of magnitude than those of the non-APPA sample. This is not surprising given that the APPA sample accounts for all the SANE countries, which as a group in 2005 attracted more foreign direct investment than Brazil or Russia (see Kasekende et al., 2007). This confirms the importance of FDI flows for African economies and the crucial role that these flows play in fostering economic growth in the region.

Cross border bank lending (*crossbank*) seems to play a positive role on the continent as a whole. However, intriguingly things revert for APPA members, where banks' international flows appear to be negative and significant, see columns (10) through (12). This result is consistent with previous findings by, for example, Reisen and Soto (2001). A possible explanation might be the fact that oil producer countries are characterized by relatively weak institutions (resource curse) and have less incentive to invest in financial sector reforms than non oil countries to manage risks prudently. In the long-run these factors might expose resource rich countries to the risks associated to international banking activities that are recognized as a potential additional transmission channel of systemic risk across countries and so are likely to have a negative impact on economic growth.

On the other hand, inflation (*INFLA*) and trade openness (*TRADE*) have the expected signs and are significant. Inflation definitely captures the macroeconomic instability that has characterized most African countries during the past 12 years. The high inflation rates uncover the weaknesses of some countries' fundamentals, leaving scope for government intervention through stabilization

policies. The different specifications also give evidence of the importance that trade openness had for African economies in the past years. Africa, being rich in natural resources and with an extensive agricultural sector, relies on external demand for its products, while local markets are in need for technology and manufactured goods produced overseas. Although coefficients are slightly higher in magnitude in columns (10) and (11), the variance throughout all specifications are modest showing that trade openness is equally important for all African economies.

Government consumption (*GOV*) presents mixed evidence. In column (1), it is significant and negative; however, it changes signs from columns (2) through (6). A clearer cut can be observed when splitting the sample between oil and non-oil producers. In non-APPA members - columns (7) through (9), government consumption, which can be interpreted as a proxy for government size and efficiency exerts a negative and significant impact on economic growth. On the other hand, government consumption within APPA countries, columns (10)—(12), seems to play a positive role in the economy. This is certainly puzzling, although government consumption within APPA countries could be linked to the oil industry explaining the positive effect.

A similar thing happens with respect to reforms (*REFORMS*). If we look at the specifications of the complete sample, and those of the sample excluding the SANE countries, columns (1) through (6), we can see that reforms seem not to play a major role in fostering economic growth. However, once we split the sample between oil and non-oil countries, reforms gain significance in the non-oil sample, column (7). As we already hinted, this could be strictly due to the endowments of the countries in each sample. Non-oil countries, lacking the natural competitive advantage of their rich oil counterparts, might feel the need to invest more on improving regulation and red tape as a way of balancing the attractiveness of their economies in relation to the APPA members.

Table 2. Dynamic Panel (GMM) Results, 1995 - 2007

Variables	Africa			Africa without SANE Countries			Non-APPA members			APPA-members		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<i>Y_{t-1}</i>	0.059 ***	0.108 ***	0.124 ***	0.05 ***	0.098 ***	0.121 ***	0.014	0.111 ***	0.093 ***	0.007	0.078 ***	0.089 ***
<i>FDI</i>	0.321 ***	0.364 ***	0.432 ***	0.334 ***	0.377 ***	0.444 ***	0.043	0.076 **	0.112 ***	0.268 ***	0.344 ***	0.422 ***
<i>CrossBank</i>	0.008	0.027 ***	0.033 ***	-0.006	0.018 **	0.027 ***	-0.001	0.003	0.005 **	-0.347 ***	-0.176 ***	-0.155 ***
<i>TRADE</i>	0.103 ***	0.082 ***		0.104 ***	0.068 ***		0.044 **	0.043 ***		0.056 ***	0.085 ***	
<i>REFORMS</i>	0.008			-0.001			0.059 **			-0.043		
<i>GOV</i>	-0.113 ***	0.103 ***	0.048 ***	-0.183 ***	0.044	0.038 ***	-0.106 **	-0.086 **	-0.009	0.338 **	0.487 ***	0.329 ***
<i>INFLA</i>	-0.013 ***			-0.016 ***			-0.075 ***			-0.003		
<i>Observations</i>	406	435	435	358	387	387	266	290	290	140	145	145
<i>Countries</i>	42	43	43	38	39	39	27	28	28	15	15	15
<i>AB test1</i>	-3.048	-2.962	-2.95	-2.996	-2.899	-2.95	-2.346	-2.909	-2.789	-2.044	-1.878	-1.812
<i>AB test2</i>	-1.398	-1.244	-1.224	-1.405	-1.225	-1.195	0.006	0.475	0.379	-1.381	-1.381	-1.377
<i>X²</i>	38.262	38.34	38.825	29.99	32.916	35.052	18.46	23.099	23.227	4.625	7.172	9.579

Notes: The dependent variable is real GDP per capita growth. The regressions performed correspond to the system dynamic panel-data estimation.

* denotes significance at 10 percent,
 **denotes significance at 5 percent,
 *** denotes significance at 1 percent.

4. Conclusions and policy implications

In this paper we analyze the possible effects that foreign direct investment (FDI) and cross-border bank lending might have on Africa's long-run economic growth. Our results point to a strong positive growth effect of FDI throughout the whole continent, and especially in African SANE and oil producer countries. On the other hand, cross-border bank lending exerts a significant positive effect on economic growth of the whole African region, but its impact becomes negative once the sample is restricted to oil countries alone.

Interestingly, financial sector reforms and government consumption appear to have different effects depending on the sub-sample of countries under analysis. For non-oil producers, having a slim and efficient government as well as launching financial sector reforms seem to foster economic growth. In the case of oil rich countries, instead, increased government spending appears to enhance economic growth, while financial sector reforms have no impact on it.

Finally, consistent with the existing literature, trade openness and inflation are found to have respectively a positive and negative impact on all African countries' economic growth.

From a policy perspective, African countries overall should continue their effort in creating a proper investment environment in order to continue to attract direct foreign investment that appears to have the potential to help Africa to overcome the current growth impasse caused by the global financial crisis. Moreover, there is a need for African non-oil countries to make an effort to undertake more financial sector reforms, especially in order to offset in the long-run the potential negative effects that cross-border bank lending might have on economic growth. Adequate fiscal and monetary policies should also continue to be the rule rather than the exception in order to keep inflation at healthy levels.

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