The Evolution of FDI in Mozambique: Policy and Economic Effects

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Abstract

During the past few decades, the competition for foreign direct investments (FDI) has increased around the world. Taking a closer look at Mozambique, this paper examines policies used to attract FDI and some of the effects FDI has had on the Mozambican economy over the period 1960 - 2007, both from theoretical and empirical point of view. Data from International Financial Statistics Year Book and the World Development Indicators of the World Bank were used to estimate an OLS regression model explaining determinants of FDI in the country. It is found that market size, export orientation (Openness) and Liberalization have a significant positive impact on FDI while macroeconomic instability and low level physical infrastructure have a negative impact on FDI. These findings imply that liberalization of the trade and regulatory regimes, stable macroeconomic and political environment, and major improvements in infrastructure is required to improve the level of private and FDI to Mozambique.

Key words: Foreign Direct Investment, Mozambique.

JEL Classification: F21, O55, C22

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1 Introduction

One of the notable features of economic globalization is the increased flows of Foreign Direct Investment (FDI) around the world. Over the last decades, FDI flows have grown twice as fast as trade. The rapid growth in FDI over the last few decades has spurred a large body of empirical literature to examine the determinants and the growth enhancing effects of FDI.

FDI is often seen as an engine for economic growth and development. It is particularly important for developing countries since it provides access to resources that would otherwise be unavailable to these countries. Its contribution to economic development and therefore poverty reduction comes through its role as conduit for:

- Transferring advanced technology and managerial and organizational knowhow to the host country;
- Helping to create a more competitive business environment;
- Triggering technological and other spillover to domestically owned enterprises;
- Contributing to international trade integration; and
- Assisting human capital formation.

As result of these benefits of FDI, many developing countries, including Mozambique, are now actively seeking foreign investments by taking measures that include economic and political reforms designed to improve their investment environment in order to attract investments from multinational corporations (MNCs).¹ The favorable treatment towards foreign companies is motivated by the belief that the presence of MNCs will not only attract foreign capital to the host country, but also increase employment, exports and competition and thereafter economic growth although, as noted by Asiedu (2006), that increased FDI does not necessarily imply higher economic growth. Indeed, the empirical

¹(UNCTAD, 1999).

relationship between FDI and growth is unclear.² Some studies have found a positive relationship between FDI and growth (De Gregorio, 1992; Oliva and Rivera-Batiz, 2002). Other studies conclude that FDI enhances growth only under certain condition - when the host country's education exceeds a certain threshold (Borenzstein et al, 1998); when domestic and foreign capital are complements (De Mello, 1997); when the country has achieved a certain level of income (Blomstrom et al, 1994); when the country is open (Balasubramanyan et al, 1996) and when the host country has a well developed financial sector (Alfaro et al, 2004). In contrast, Carvokic and Levine (2002) conclude that the relationship between FDI and growth is not robust. These studies seem to suggest that for countries in SSA,³ reaping the benefits that accrue from FDI, if any, may be more difficult than attracting FDI. Asiedu states, however, that there is room for optimism. The policies that promote FDI to Africa also have a direct impact on long term economic growth. As a consequence, African countries cannot go wrong implementing such polices (Asiedu, 2006). Following this belief, in recent years, Mozambique has started encouraging the inflow of FDI by improving the investment climate and by providing different incentive packages. The challenge for the Mozambican policy-makers is to direct economic policy to attract increased FDI which will support the resurgence of the country's economy.

The objective of this study is twofold: Highlight some of the policies used by the Mozambican government thought to be essential for attracting FDI to the country. The second objective of this study is to examine the impact of the presence of foreign companies on the Mozambican economy. The effect on employment, production, productivity and exports will be looked at more closely.

The first contribution made by this study is that the literature on the empirical determinants of FDI flows in Mozambique is scarce. The second contribution

²See De Gregorio (2003) and Durham (2000) for a review of the literature on the effect of FDI on growth.

³Sub Saharan Africa - is a term used to describe the area of the African continent which lies south of the Sahara, or those African countries which are fully or partially located south of the Sahara.

is the empirical estimation of the selected variables that could influence on the host country for attracting FDI. An investigation on FDI in Mozambique applying econometric methods to estimate seems to be the first. The existing few works on this matter has not directly and fully addressed the question of FDI-bias against Mozambique using econometric techniques.

The paper proceeds as follows. Section 2 gives the broad overview of the recent theoretical and empirical literature on FDI. Section 3 outlines the recent FDI performances and policies in Mozambique. Section 4 provides an exposition of the data used in the empirical estimation, as well as a discussion of the econometric techniques being employed. In Section 5 empirical models specification is presented. In Section 6 discussion of estimation results and findings is provided. Main conclusions and policy implications can be found in Section 7. The complementary material are presented in the Appendices.

2 Literature review

As noted in the introduction, the crucial role of FDI in terms of capital formation, spillover effects on trade and technological progress has led to the development of theoretical and empirical literatures which have focused on identifying the possible determinants of FDI. This section provides a survey of theoretical and empirical literature on FDI regarding the impact of it on the recipient economy.

2.1 Theoretical explanations of FDI

The theory of the determinants of private investment, irrespective of whether it originates domestically or from abroad, is relevant for an understanding of what drives FDI. The theoretical explanations of FDI largely stem from traditional theories of international trade that are based on the theory of comparative advantage and differences in factors endowments between countries. MNCs are usually attracted to a particular country by the comparative advantage that the country or region offers. For instance, MNCs may establish foreign subsidiaries in one country to take advantage so its lower labour costs or its large market size. Nonetheless, the traditional trade theories do not provide full answers as to why MNCs prefer to operate in a foreign country rather than engaging in exporting or licensing, which are alternatives to FDI. This has led to the development of alternative explanations of FDI.

The theory of portfolio investment (the neoclassical financial theory of portfolio flows) is one of the earliest explanations of FDI. The basis of this explanation lies in interest rate differentials between countries. According to this theory, capital moves in response to changes in interest rate differentials between countries/regions and MNCs are simply viewed as arbitrageur of capital from countries where its return is low to countries where it is high. This explanation, however, fails to account for the cross movements of capital between/across countries. In practice, capital moves in both directions between countries. In addition, that capital is only a complementary factor in direct investment and that this theory does not explain why firms go abroad contribute to the criticism of the neoclassical theory of investment (Harrisson et al, 2000).

Another explanation of FDI worthy of some discussion is the Vernon's product life cycle theory. This theory focuses on the role of innovation and economies of scale in determining trade patterns. It states that FDI is a stage in the life cycle of a new product from its invention to maturity. A new product is first manufactured in the home market. When the home market is saturated, the product is exported to other countries. At later stage, when the new product reaches maturity and loses its uniqueness, competition from similar rival products becomes more intense. At this stage producers would then look for lower cost foreign locations. This theory shows how market seeking and cost reduction motives of companies lead to FDI. It also explains the behaviors of MNCs and how they take advantage of different countries that are at different levels of development. Additionally, it has been noted that Vernon's theory, perceives FDI as a defensive strategy by firms to protect their existing market position (Dunning 1993).

Knickerbocker (1973), following Vernon's theory argues that firms go abroad because of oligopolistic reaction which is "an interactive kind of corporate behavior by which rivals in industries composed of a few large firms counter one another's moves by making similar moves themselves". However this theory does not explain why FDI is more efficient than exporting or licensing for expanding abroad.

Hymer (1976) pioneering study on MNCs draws attention to the role of MNCs as global industrial organization. His major contribution was to shift attention away from neoclassical financial theory. He argued that the need to exercise control over operation is the main motive of FDI rather than the mere flow of capital. Capital is used to facilitate the establishment of FDI rather than the end in itself. He states that for firms to engage in cross border activities, they must possess some kind of monopolistic advantages. The advantages result from a foreign company's ownership of patents, know-how, managerial skills and so on and these advantages are unavailable to local companies. His argument lies on the existence of market imperfections, such as difficulty of marketing and pricing know-how, or in some cases markets may not exist for such products, or if they exist, they may involve huge transactions costs or time-lags. In such cases it would be more efficient for the company to engage in direct investment than exporting or licensing.

An early attempt to explain the patterns and strategic behavior of MNCs is the so called electic paradigm or OLI⁴ theory developed by John Dunning(see Dunning 1977, 1981). By incorporating Hymer's explanations and various other theories of FDI, Dunning's electic theory provides a general explanation for the determinants of FDI. According to the OLI theory, the ownership and internalization advantages are firm specific features whilst the location advantages are country specific characteristics which the host country can influence directly. Therefore, countries that have location advantages can attract more FDI. But

⁴The "O" stands for *ownership* and refers to competitive advantages. The "L" stands for *location* advantage regarding any characteristics of the host country that makes it more profitable for the MNC to produce there rather than to produce at home and export to the foreign market. The "I" stands for *internalization*, which regards the fact that the MNC will make a direct investment in a foreign market only if the gains are larger in doing so rather than reaching the foreign market through licensing, or exporting.

firms do not undertake FDI only for the presence of location specific advantages in the host country. Their location choice decisions consider the profitability with which the ownership and internalization advantage can be combined with the location ones. From these three advantages if only one is met, then firms will rely on exports, licensing or the sale of patent, to service foreign markets. Economic theory also provides an extension of the OLI paradigm, where different types of FDI are identified depending on the reasons for the firm to invest abroad. Dunning (1993) identifies four possible motives for FDI:

- *Market-seeking FDI* takes place when the investment aims at penetrating new markets or maintaining already existing ones. The purpose of this kind of investment is serving local and regional markets. Host countries' characteristics that can attract market-seeking FDI include market size of the host country, per capita income and growth (potential) of the market.
- *Resource-seeking FDI* the objective of the investor is to secure access to low-cost (skilled and unskilled) labour or natural resources and raw materials. In some cases the aim of the multinational is to acquire these factors of production at a lower cost than in its country of origin and sometimes they are not available at all in the home country. This is often the case with inward FDI to developing countries, where the foreign firm is frequently seeking national resources or low-cost labour.
- *Efficiency-seeking FDI* investors seeks to reconstruct existing production through taking advantage of lower cost structure (such as endowments and government incentives)in the host economy or economies of scale in the production. Finally,
- Strategic-asset seeking FDI refers to investment that enables the MNCs to protect or develop its ownership specific advantage in order to maintain and enhance the firm international position with less concern about the particular advantages of specific host country.

These above four motives of FDI are categorized under economic determinants of FDI.

2.2 Empirical evidence on the determinants of FDI

Since the study attempts to analyze policy and economic effects of FDI in Mozambique, the review of the empirical literature is made to focus largely on FDI in developing countries in general and Africa in particular. On the determinants of FDI in Africa, most studies argue that FDI inflows is attracted largely by natural resource endowments. According to UNCTAD (2008), a large proportion of the FDI projects launched in the region in 2007, for instance were linked to the extraction of natural resources. Basu and Srinivasan (2002), argued that almost 40 percent of FDI in Africa has been in the primary sector, particularly oil and mineral extraction business. Countries like Angola, Botswana, Namibia, R.D.Congo, and Nigeria have received foreign investment targeted at the oil and mineral sectors of their economy. Morisset (2000) reports that, on the survey conducted on 29 African countries, there is a high correlation between FDI inflows and total value of natural resources in each country. Though natural resource abundance is a common factor explaining much of the FDI inflows. the few successful African countries have also put particular attention to the creation of favorable economic, social and political environment for FDI. Other countries, such as Mauritius and Seychelles have managed to attract FDI by tailoring their FDI policies through liberalization, export orientation, tax and other investment incentives.

Empirically, Root and Ahmed (1979) analyzed the determinants of nonextractive direct investment inflows for 70 developing countries over the period 1966-70. Their analysis focuses on testing the significance of the economic, social and political variables in explaining the determinants of FDI. They conclude that developing countries that have attracted the most non-extractive FDI are those that have substantial urbanization, a relatively advanced infrastructure, comparatively high growth rates in per capita GDP, and political stability. Asiedu (2002) has also expressed a similar view analyzing the impact of natural resources, infrastructure and openness to trade on FDI flows to Sub-Saharan Africa. Her findings indicate that FDI in Africa is not solely determined by availability of natural resources and that governments can play an important role in directing FDI through trade reform, macroeconomic and political stability, efficient institutions and improvement in infrastructure.

Several other studies find that countries that have a higher degree of openness⁵ attract more FDI. Singh and Jun (1995) find export orientation (export as percentage of GDP) to be the strongest factor explaining why a country attracts FDI. Chakrabarti (2001) finds openness to trade being positively correlated with FDI. Morisset (2000) finds a positive correlation between trade openness and the investment climate for 29 African countries. Studying factors that significantly influence the long-run investment decision-making process of investors in 19 Sub-Sahara African countries, Bende-Nabende (2002) finds market growth, exportorientation policy and liberalization as the most dominant long-run determinants of FDI. Salisu (2003) finds openness to trade having positive and significant effect on FDI in Nigeria while Tsikata et al (2000) find export-orientation as a significant fDI inflows to Gana. Asiedu (2002), using exports and imports as a percentage of GDP to proxy openness comes to a similar conclusion for Sub-Sahara African host countries.

As mentioned earlier, market size which is usually measured by real per capita income, plays an important role in attracting FDI, especially market seeking FDI. However, the empirical evidence for market size as a determinant of FDI has mixed results. Obwona (2001) finds market size to be a significant determinant of FDI in Uganda. Agodo (1975), Schneider and Frey (1985), Morisset (2000), Lemi and Asefa (2001), Chakrabarti (2001), and Lee (2003) are some of the other studies with evidence in support of the hypothesis that large market size encourages FDI.

Some other studies argued that macroeconomic stability, government policies and political variables are more important determinants of FDI in Africa than the market variables. Schneider and Frey (1985) used politico-economic model which simultaneously includes economic and political determinants of FDI in explaining the flow of FDI in 80 less developed countries. They find that the

⁵In most studies openness is measured by the ratio of exports (exports plus imports divided by GDP).

most important determinant of FDI is a country's level of development, measured by real per capita GNP and balance of payments. The higher the per capita income and the lower the balance of payments deficit, the higher the amount of FDI attracted. Regarding the political determinants of FDI, Schneider and Frey (1985) conclude that political instability significantly reduces the inflow of FDI. Lemi and Asefa (2001) also arrive at similar conclusions.

Moreover economic factors such as labour, trade connection, size of the export sector, external debt, and market size of the countries are found to be significant determinants of FDI flows to African countries. These conclusions are in line with the findings of Agodo (1975) who finds that the U.S. private investors' corporate decisions to undertake manufacturing investment in Africa are essentially determined by the expected rates of return on investment, political stability and favorable investment climate, the size of domestic market, the presence of needed raw materials and infrastructure. Lee (2003) draws particular attention to the effectiveness of government policies towards FDI activity. His findings indicate that while a country's market size and openness to trade are crucial factors for foreign investment flows, government policies play an important role to FDI inflows. Corruption is also another key concern of foreign investors on top of political and policy instability. The WIR (1999) reports that factors most frequently mentioned by foreign investors in Africa as having a negative influence on investment are bribery, high administrative cost of doing business and access to capital. Salisu (2003) analyses the impact of corruption in Nigeria and finds corruption having a significant detrimental effect on FDI.

Human capital, both in terms of quantity and quality, is another important factor in promoting labour intensive and export oriented FDI in particular. Noorbakhsh et al (2001), using secondary school enrollment ratio and the number of accumulated years of secondary and tertiary education in the working age population as proxy to human capital, find human capital to be a significant determinant of FDI inflows from 36 developing countries. Nunnenkanp (2002) has analyzed globalization-induced changes in the relative importance of FDI in developing countries and finds that traditional market-related determinants are still dominant factors but the availability of local skills has become a relevant pull factor of FDI in the process of globalization. Salisu (2003) also finds low level of human capital, as measured by the illiteracy rate having a discouraging effect on FDI in Nigeria.

3 Mozambican's recent economic and FDI performance and policies

3.1 Historical overview notes of the country

Mozambique gained its independence from Portugal in 1975. The independence movement, FRELIMO, introduced a socialist system and very ambitious development objectives shortly thereafter. A ten-year perspective plan was introduced in 1977 with the objective to end underdevelopment. The proposed policy measures were rapid industrialization based on the agricultural surplus that would emerge from rapid modernization. The state would allocate resources and coordinate the modernization process (Abrahamsen and Nilsson 1995). Initially the program was met with considerable success as far as social indicators were concerned and modest success in economic development; achieving strong export growth and moderate economic growth.⁶

However, the country was soon plunged into a devastating civil war that was fulled by both local conflicts and the cold war. The war lasted for about two decades and left the country the poorest in the world when the war came to an end in 1992. Social, economic and physical infrastructure was devastated and the economy had largely resorted to subsistence production and barter trade. In spite of the war, Mozambique introduced an Economic Recovery Program (ERP) supported by the IMF in 1987. The basic elements of the program were stabilization of the economy and reforms, notably liberalization of external and internal trade and privatization.

 $^{^{6}}$ The annual average growth rate was about 2.8 % during the period 1977-81, while exports grew by 15 % annually during the same period. The number of teachers doubled, the illiteracy rate declined from 93% to 70 % and health indicators improved substantially.

The first free elections were held in 1994, and the newly elected president and government soon embarked on a comprehensive recovery program, which can be seen as a continuation of the 1987 ERP. The program contained market liberalization, trade liberalization, public sector reform, investments in infrastructure rehabilitation and social sector programs focused on primary education and primary health care; and privatization of state-owned enterprises. It has been remarkably successful and the country has seen an annual average economic growth rate of about 8 percent since 1994, substantial improvements in social indicators and an investment boom involving both local and foreign investors. The ERP is even seen as a model for post-war rehabilitation and economic reform. For instance, Mozambique entered the new millennium as the fastest growing country in the world (EIU, 2000).⁷ This has brought visible improvements to the performance of the economy and to social indicators, which in turn contribute to investor confidence and maintain the momentum for growth and investment.⁸

3.2 The development of Mozambican's investment framework

The Mozambican economic and FDI performance over the study can be reviewed on the basis of two regimes that have been in place in the country. The first period, 1975 - 1985 (the pre-1985 period) relates to the period when policies that were in place were more or less in the line with the command system of economic management. The second period, the post-1985 period, signify some move away from the command system and commenced with the stabilization and adjustment programs (SAP) of the World Bank (WB) and the International Monetary Fund (IMF). In the section that follows some of the major features of the two periods in terms of economic performance and the FDI policy framework in Mozambique will be reviewed.

⁷The Economist Intelligence Unit's forecast for the year 2000 at the beginning of the year. ⁸The country experienced a serious setback in early 2000 due to devasting floods and tropical storms.

3.2.1 The pre-1985 period

Before independence, financing for development projects in Mozambique came mainly from the Portuguese government, which was the colonial authority. When the country became independent in 1975, the government had to look for alternative sources of funding including FDI and aid for their development programs. At independence, the government adopted a centralized economy system where the state was a major investor in the economy. This period is predominantly marked by strong state intervention in the economic activities.

Immediately after independence, socialist policies were introduced in the country. These policies favored State Enterprises (SE's), characterized by heavy investments in it and total control of the rest of the economy. In short, the State nearly owned all the basic means of production, and the commercial sub-sector witnessed very little or no activity during this period. The period was accompanied by the devastating civil war, and policy makers were faced with defense strategies, provision of food to the growing migrant population in the cities. It is against this background that innovative solutions and programs have to be tailored to invert the prevailing trend. This requires the government commitment in promoting private sector development through the promotion of foreign and domestic investment.

3.2.2 The post-1985 period

The Mozambican government has encouraged foreign investment since 1985 when the first law on foreign investment was introduced. It was replaced in 1993 by a new law that applies to local and foreign investment alike and ensures national and equal treatment of local and foreign investors in most areas. In addition, the investment law grants foreign investors protection of property rights and repatriation of profits. Mozambique is a member of MIGA, OPIC, and ICSID.⁹ Finally, a one-stop agency, the Investment Promotion Center, has

⁹MIGA: Multilateral Investment Guarantee Agency; OPIC: Insurers against non-commercial risk International Convention, and ICSID: International Convention for the Settlement of Investment Disputes.

been established in order to undertake timely assistance and authorization of investment projects (GoM, 2000).

A number of investment incentives have been introduced. Among them are tax holidays; duty free imports of intermediates (or significant rebates on duties); a liberal regime related to repatriation of profits and employment of expatriates. Expenses on training of local employees can be deducted from profits before tax. Fiscal incentives are more favorable in remote regions in order to compensate investors for higher costs in areas with inadequate infrastructure and supply chains. Finally, mentioned above, the government introduced export processing zones (Industrial Free Zones, IFZ) in relation to three development corridors. Inside these zones there are full exemption from customs duties, consumption and circulation taxes and customs handling fees for investment and intermediate goods, and only a very small tax on income (GoM 2000).

To qualify for IFZ status, a company must export at least 85 percent of its output and a minimum investment of USD 50 000 is required. An additional advantage for foreign investors exporting products manufactured in Mozambique to third countries is that Mozambique is eligible for duty-free export quotas to the European Union, the US and other developed countries under the General System of Preferences (GSP). Mozambique also enjoys preferential low-duty export quotas to the Eastern and Southern African markets under COMESA, and has a special trade agreement with South Africa.

3.3 Investment institutions and regulatory framework

In order to encourage, promote and expand private investment in the country, the Government of Mozambique (GoM) has set out some private development initiatives. Some of the important factors mentioned as a basis for competitiveness include conducive investment climate, which focuses on macro-economic stability, sound policy and regulatory framework for the private investment sector and strong institutions that run and support the system. It highlights both the direct and indirect policy interventions, including tax incentives and investment protection written into law as an integral part of the regulatory institutions.



Figure 1: Trends of FDI inflows to Mozambique (1986-2008)

Source: Own calculation based on WIR database, UNCTAD (2008).

Economic uncertainty reduces the bargaining power of the government of the host country. Stable macroeconomic policies provide investors with a measure of predictability. The main macro-economic indicators include economic growth (GDP), reduced or low inflation (CPI and PPI)¹⁰ and reduced or low debts and deficits. Since the implementation of the ERP in 1987 the surveillance and maintenance of macro-economic policies in Mozambique is a consequence of agreements with the IMF and the World Bank (UNCTAD 2001). The figure 1 displays the FDI trends in Mozambique at a global level in the period from 1986 to 2008. The FDI inflows reached \$ 587 million in 2008, surpassing the previous record level of \$ 381 million in 1999. Several factors explain this upward trend in the recent years. First, regulatory frameworks for FDI are becoming more relaxed in the country. Second, the business climate has improved and economic growth has been robust.

3.3.1 The FDI institution framework

The Investment Promotion Centre¹¹, Central Bank and the customs officials are among the more important institutions (example laws, customs, taxes, etc.) and

¹⁰Consumer Price Index and Purchasing Price Index

¹¹Under the supervision of the Minister of Planning and Finance, the Investment Promotion Centre (CPI) is responsible for the promotion of investment and provides advisory service to Government bodies on investment matters.

organizations responsible for facilitating domestic and foreign investments. The quality of these institutions is reflected by competent personnel and efficient institutions capable of delivering services of high quality in as short a time as possible. Currently the GoM policy interventions aims to reduce bureaucratic procedures and develop bureaucrats' capacity to negotiate, and improve service delivery to investors as well as meet the demands of the global economy (UNC-TAD 2001).

The following Table 1 displays foreign direct investment approved by the CPI in Mozambique over the period 1990 - 2007. Most of the investment has been in the south of the country, in and around the capital city, Maputo. From January 1, 1990 through December 31, 2007 CPI approved a total of 2,434 projects (both foreign and national), involving over USD 5.5 billion in foreign direct investment in 2007 alone. Some of these approved projects turned out to be smaller than planned or not implemented at all, however. Approved projects do not represent the actual FDI for any given year for this reason.

| Year | Projects | FDI (\$ mil) |
|------|----------|--------------|
| 1990 | 31 | 20 |
| 1991 | 25 | 21 |
| 1992 | 27 | 77 |
| 1993 | 29 | 46 |
| 1994 | 123 | 136 |
| 1995 | 166 | 60 |
| 1996 | 270 | 97 |
| 1997 | 184 | 558 |
| 1998 | 209 | 209 |
| 1999 | 235 | 101 |
| 2000 | 179 | 230 |
| 2001 | 129 | 528 |
| 2002 | 128 | 559 |
| 2003 | 112 | 122 |
| 2004 | 105 | 122 |
| 2005 | 139 | 165 |
| 2006 | 157 | 162 |
| 2007 | 186 | 550 |

Table 1: FDI Projects in Mozambique, December 2007

Source: UNCTAD, 2008.

Under the tutelage of international agencies like the World Bank and the IFC¹², which provide financial support, the GoM has introduced reforms of its investment laws and has reduced bureaucratic red-tape to make it easier to do business in Mozambique. The time and money required to start a new business are indicators of the bureaucratic burden of the country's investment climate. The IFC (2010) estimated that the median time to register a company in Mozambique is 26 days and the country is ranked 135 out of 183 economies.¹³ Singapore is the top ranked economy in the Ease of Doing Business. Other government departments that are involved in the attraction of FDI to Mozambique include: The Ministry of Trade and Industry, the Ministry of Foreign Affairs, the ministries and agencies associated with specific sectors such as mining, energy and tourism.

Table 2: FDI by sector in 2007

| Sector | N° . of Projects | FDI (\$ mill) | Percentage |
|-----------------------------|---------------------------|---------------|------------|
| Industry | 64 | 192.7 | 34.4% |
| Mining / Energy | 5 | 5017.0 | 2.7% |
| Agriculture & Agro-Industry | 16 | 52 | 8.6% |
| Banking & Insurance | 3 | 1.0 | 1.6% |
| Tourism / Hotels | 46 | 138.0 | 24.7% |
| Transport & Communication | 3 | 25.6 | 1.6% |
| Construction | 3 | 11.4 | 1.6% |
| Aquaculture & Fishing | 4 | 9.7 | 2.2% |
| Others | 42 | 53.6 | 22.6% |
| Total | 186 | 5501.8 | 100% |

Source: UNCTAD, 2008.

In the Table 2 the breakdown of all projects approved in 2007 (foreign and national) by sector is provided. FDI amounted to just over USD 5 billion (for five projects). The majority of investment is in the extractive industries and agriculture. It is estimated that these approved projects, along with locally sourced direct investment projects, will create over 19,633 jobs.

 $^{^{12} \}mathrm{International}$ Finance Corporation

 $^{^{13}\}mathrm{see}$ World Bank report on "Doing Business 2010 - Mozambique.

3.3.2 The FDI regulatory framework

The two laws that directly regulate national and foreign private investment into Mozambique are the Law on Investment,¹⁴ approved on 24 June 1993 and the Regulation of Investment Law (No 14/93), approved on 21 July 1993 (hereafter the Regulation of Investment Law) with changes approved by Decree No 36/95. Article 7 of the Law on Investment No 3/93 outlines the GoM's objectives for establishing laws and attracting investments as the:

- Development, rehabilitation, modernization or expansion of economic infrastructure;
- Expansion and improvement of national production capacity or capacity to render services;
- Training, expansion, and development of national entrepreneurs and Mozambican business partners;
- Creation of jobs for national workers and the raising of professional skill levels of the Mozambican labour force.
- Technological development and the improvement of entrepreneurial productivity and efficient;
- Increased diversification of exports;
- Generation of foreign currency;
- Reduction and substitution of imports;
- Improvement of the supply of domestic markets; and
- Direct or indirect contribution towards improving the balance of payments and government budget revenue.

The Law on Investment makes provision for framework where national and foreign private investments qualify for the guarantee and incentives schemes

 $^{^{14}}$ Replacing Law No 4/84 (18 August 1984) and Law No 5/87 (January 1987). It does not apply to investments made in the areas of prospecting, research and production of petroleum.

offered by the GoM. The law deals with non-discrimination between foreign and domestic investors and the protection and guarantee of investments. Foreign investors, employers and workers are subject to the same duties and obligations applicable to nationals. Companies involved in FDI entitled to access domestic borrowing on the same terms and conditions applicable to Mozambican companies.

Furthermore, the GoM guarantees the concession of tax and customs incentives granted in the Code of Fiscal Benefits for investors complying with the law. In the event of a dispute between the GoM and foreign investors concerning existing investment projects in Mozambique, the ICSID will arbitrage the matter.

The Regulations on Investment Law and Decree No. 36/95 of 8 August deals with the Council of Ministers (CoM) which comprises the Minister of Planning and Finance, the Minister of Industry and Commerce, the Minister of Tourism, the Minister of Public Works and Housing, the Minister of Agriculture and Fishing and the Minister of Environmental Coordination. The CoM determines the minimum value of direct national and foreign investment. It is also the responsible for the IFZ regime and has the final say on granting IFZ status. The coordination and operations of the IFZ are managed by the IFZ Council (established on 21 September 1999) with the CPI being responsible for issuing certificates to companies that intend to operate in the IFZ.

4 Discussion on dataset and empirical method

4.1 Data sources

This section presents a general discussion on dataset description of the variables used in this study. Data where drown from a number of data sources, including the World Bank Development Indicators (WB), International Financial Statistics (IMF) and United Nations Conference on Trade and Development (UNCTAD). The Sample period is from 1960 to 2007 but a number of time-series datasets are incomplete for this time span especially data for Mozambique.

4.2 Description of the variables

Variables are chosen according to the theories n FDI discussed in section 2.1 and the empirical studies in section 2.2. Macro-data and proxies are used rather than firm specific data, although the foundation of some of the theories and the functional forms are based on micro foundations. There is a number of FDI variables included in World Development Indicators dataset: net FDI; BOP in current UDS; net inflows as percentage of gross capital formation; net inflows BOP in current USD and net FDI inflows as percentage of GDP.

4.2.1 Dependent variable

The dependent variable in most studies is some measure of the ratio of FDI to GDP, but the definition of FDI and the data sources differ. Asiedu (2002) uses the ratio of FDI flows to GDP "as is the standard in the literature" from World Bank data sources. This net flow is also employed by Chakrabarti (2001) while Schneider and Frey (1985) use net foreign investment per capita in US dollar and obtained this data from *United Nations Statistical* yearbook and from the *World Development Report*. In line with the approach used in the FDI literature, the dependent variable used in this study is the net FDI inflows as % of GDP measured in US dollar terms.

4.2.2 Independent variables

Market size: The market size hypothesis states that multinational firms are attracted to a large market in order to utilize resources efficiently and exploit economies of scale (Chakrabarti, 2001). Market size has been represented by real GDP per capita. Real GDP per capita is included in the regression as measure of market attractiveness and FDI is expected to be positively related to this variable.

Macroeconomic stability: There is a widespread perception that macroeconomic stability shows the strength of an economy and provides a degree of certainty of being able to operate profitably (Balasubramanyam, 2001). Exchange rates are used as proxy variable for macro-economic stability. A strong exchange rate is often interpreted in the empirical literature as an indicator of greater "competitiveness" of the host country. Stable exchange rates are expected to have positive impact on FDI.

Infrastructure: Infrastructure covers many dimensions ranging from roads, ports, railways and telecommunication systems to the level of institutional development. The availability of well-developed infrastructure will reduce the cost of doing business for foreign investors and enable them to maximize the rate of return on investment (Morisset, 2000). Therefore countries with good infrastructures are expected to attract more FDI. It is a standard practice to measure infrastructure by the number of telephone lines per 1000 people in a country. Asiedu (2004) argues that this measure does not include mobile phones. Moreover, it only captures existing infrastructure and fails to take into account potential infrastructure. This variable is expected to be positively correlated with FDI.

Openness: Mixed evidence exists in the literature supporting the significance of openness, which is normally measured by the ratio of trade (imports+exports divided by GDP). This measures the openness of an economy and also often interpreted as a measure of trade restrictions. Asiedu (2001) argued that the impact of openness on FDI depends on the type of investment and a distinction is made between investments that are market seeking and investments that are resource seeking (export-oriented). This variable is expected to have a significant effect.

Liberalization: Liberalization of trade and FDI regimes are assumed to have a positive influence on the inflow of FDI since they facilitate a freer trade and investment in conjunction with the repatriation of dividends and profits to home countries (Bende-Nabende, 2002). As explained in section three, Mozambique has been introducing some liberalization measures since 1985 and a dummy variable is used to capture the effect of the change in policy environment on FDI. The dummy variable assumes a value of 0 for the pre-liberalization period (i.e. up to 1984), and 1 for the post liberalization period (from 1985 onwards). The dummy variable is expected to have a positive sign.

4.2.3 Data availability

As in all empirical studies, when choosing independent variables and estimating FDI determinants empirically, data availability and data quality is very important. The choice of independent variables for this study is constrained by the data availability, as is mostly the case with time-series data in developing countries. Asiedu (2002) for example states that time-series data on important factors such as real wage, tariff rates, trade taxes are not readily available for most developing countries. Mozambique is not an exception of the problem whereas data on real wages, for instance, are not available over the (entire) study period.

4.3 Descriptive statistics

Table 3 highlights the summary statistics of the variables used in the OLS regression analysis (n = 48).

| Variables | FDI | RGDPC | OPEN | XRATE | TEL | LIB |
|--------------------|------|-------|------|-------|------|------|
| Maximum | 39 | 48 | 47 | 24 | 7.7 | 1 |
| Minumum | 1 | 1 | 1 | 1 | 0.12 | 0 |
| Mean | 19.2 | 24.5 | 23.8 | 7.4 | 0.67 | 0.48 |
| Std. Deviation | 10.5 | 14 | 13.6 | 7.1 | 1.24 | 0.50 |
| Coef. of Variation | 0.55 | 0.57 | 0.57 | 0.98 | 1.85 | 1.05 |
| Skewness | 0.17 | 0.03 | 0.37 | 1.02 | 4.35 | 0.08 |
| Kurtosis | 5.1 | 1.8 | 1.8 | 2.6 | 23.4 | 1.01 |

Table 3: Summary Statistics for the Sample Period 1960 - 2007

Table 4 shows the pairwise correlation for dependent variable and the explanatory variables. The regressors seems to be highly correlated with FDI inflows, lending support to the postulated model. There is no evidence of collinearity between explanatory variables.

Table 4: Estimated Correlation Matrix of Variables

| | FDI | RGDPC | OPEN | XRATE | TEL | LIB |
|-------|------|-------|------|-------|------|-----|
| FDI | 1 | | | | | |
| RGDPC | 0.14 | 1 | | | | |
| OPEN | 0.68 | 0.11 | 1 | | | |
| XRATE | 0.73 | 0.14 | 0.75 | 1 | | |
| TEL | 0.28 | 0.45 | 0.46 | 0.47 | 1 | |
| LIB | 0.76 | -0.14 | 0.87 | 0.77 | 0.37 | 1 |

4.3.1 Econometric methodology

Since this study covers the period 1960-2007 and the variables discussed in the previous section constitute time-series information of one country, the appropriate modelling strategy is one involving time-series analysis through OLS regression model. OLS econometric techniques are used to estimate the significance of a number of determinants of FDI. Some technical discussion of tests for series stationarity and series co-integration are shown in Appendix A.

Variables used in the time-series are determined according to data availability. It is desirable to use as many variables as possible for as many series as possible. However, not all data series are available. Model specification is done according to theoretical and empirical guidelines. Theories used are presented in Section 2 and the models tested empirically and variables are shown in the Section 5.

5 Model specification

The general form of the model estimated has the following form:

$$FDI = f(RGDPC, OPEN, XRATE, TEL, LIB)$$
(1)

Where: FDI = Foreign Direct Investment as percentage of GDP RGDPC = Real Gross Domestic Product per capita OPEN = Openness (imports+exports by GDP) XRATE = Annual rate of exchange TEL = Telephone lines per 1000 people LIB = Measure of liberalization (dummy variable) The model employed can be given by:

$$FDI_t = \alpha + \beta_1 RGDPC + \beta_2 OPEN + \beta_3 XRATE + \beta_4 TEL + + \beta_5 LIB + \epsilon_t$$
(2)

An important consideration to be made in relation to estimating the model given in equation (2) is to do with the existence of spurious regression. Granger and Newbold (1974) have shown that results based on models such as the given in equation (2) may give rise to "spurious regression". Spurious regressions occur when results from the model show promising diagnostic test statistics even where the regression analysis has no meaning (Gujarat, 2003). Because of this problem, the first step in any time-series analysis is to test for the stationarity of the variables. As can be seen in the appendix, appropriate tests of stationarity and co-integration have been conducted to rule out "spurious regression" in the study.

The stationarity and co-integration tests suggest that the model given in equation (2) should be estimated using the differenced variables. The final short run model estimated therefore has the following form:

$$\Delta FDI_t = \alpha + \beta_1 \Delta rgdpc + \beta_2 \Delta open + \beta_3 \Delta xrate + \beta_4 \Delta tel + + \beta_5 \Delta lib + \epsilon_t$$
(3)

Based on this short run model, four regressions have been curried out to examine the determinants of FDI. The next section analyses the results from the four regressions.

6 Results and Discussion

This section presents the regression parameters estimated from the sample data, and discusses the findings.

6.1 Estimation results

The results of the OLS regression analysis are presented in Table 5. As can be seen from the table, the estimated coefficient of the market size variable (RGDPC) has the expected positive sign and significant coefficient in four regressions. This finding is in line with the hypothesis that a growing economy attracts more FDI.

| Variables | Specification | | | | | |
|-------------|---------------|---------------|---------------|---------------|--|--|
| | Model 1 | Model 2 | Model 3 | Model 4 | | |
| RGDPC | 0.129 | 0.771^{**} | 0.784^{**} | 0.261^{**} | | |
| | (0.1294) | (0.0151) | (0.0124) | (0.0031) | | |
| OPEN | 3.997^{***} | 4.040^{***} | 3.999^{***} | 4.397^{***} | | |
| | (0.0051) | (0.0045) | (0.0059) | (0.0002) | | |
| XRATE | -0.756^{**} | -0.774^{**} | -0.753^{**} | -0.836^{*} | | |
| | (0.0334) | (0.0119) | (0.0039) | (0.0116) | | |
| TELEPHONE | | | -2.046^{*} | -2.217^{*} | | |
| | | | (0.0328) | (0.0072) | | |
| LIB DUMMY | 2.252^{**} | 2.301^{**} | 2.183^{**} | 2.275^{**} | | |
| | (0.0026) | (0.0190) | (0.0039) | (0.0003) | | |
| Constant | 5.673 | 5.810^{**} | 5.885^{**} | 6.134^{*} | | |
| | (0.191) | (0.019) | (0.008) | (0.0177) | | |
| Ν | 48 | 48 | 48 | 48 | | |
| \bar{R}^2 | 0.55 | 0.57 | 0.59 | 0.67 | | |
| RMSE | 0.619 | 0.617 | 0.621 | 0.624 | | |

Table 5: OLS Estimation (1960-2007). Dependent Variable: FDI Inflows

Note: Figures in parenthesis denote p-values. ***, **, * indicates statistical significant at 1 %, 5% and 10% levels of probability respectively. RMSE denotes the Root Mean Square Error (the standard error of the regression).

An important finding is the positive and significant effect of export orientation, i.e., openness measured by the ratio of trade (imports + exports/GDP). It is significant at 1 % level of significance in all regressions. This finding suggests that FDI in Mozambique is of the vertical type¹⁵ which is normally export oriented and tends to be unaffected by the market size of the host economy. This therefore, explains the strong positive effect of export orientation on FDI. Similarly, the liberalisation dummy is found to be a significant determinant of FDI, with the estimated coefficient possessing the expected sign in all regressions.

¹⁵FDI in search of low cost inputs is called vertical FDI. The low cost inputs can be primary commodities or raw material (Lim, 2001).

The infrastructure indicator, telephone lines per 1000 people, is found to yield a negative and significant coefficient (regression 4). This result may be explained by the poor telecommunication facility which is detrimental to FDI inflow into the country. UNCTAD (2008), pointed out that one of the specific economic challenges and constrains identified by private investors in Mozambique is the poor infrastructure facilities, in particular in the area of telecommunications, transport and power supply.

7 Conclusion and Policy Implications

As discussed in the previous sections, the issue of rapid growth in FDI over the last few decades has spurred a large body of empirical literature to examine the determinants and the growth enhancing effects of FDI. This paper intended to explore some of these theoretical and empirical literature pertaining to the determinants of FDI in the context of developing and developed countries. From the empirical analysis conducted on FDI for Mozambican economy and its findings show that market size, export orientation (openness) and liberalization have a significant positive impact on FDI, while macroeconomic instability and low level physical infrastructure have a negative impact on the same. I conclude summarizing this findings as follows:

- The positive and significant effect of market size on FDI emphasizes the crucial role of growing economy in stimulating investment by foreign as well as domestic investors. Keeping up the growth momentum and ascertaining its sustainability is a key to attracting more FDI. In this regard, furthering the growth of market size is some of the important measures essential to attract FDI.
- The positive and significant export orientation coefficient signifies the importance of implementing a more outward looking growth strategy.
- The significant positive effect of liberalization on FDI indicates that an efficient environment that comes with liberalized economy is likely to

attract foreign investors. To induce more FDI to Mozambique, the government needs to focus on improving the investment climate through further measures of liberalization as well as creating efficient bureaucracy that facilitates speedy and operation of foreign investors. Further measures aimed at promotion of domestic investment too is essential for the inflow of FDI given that foreign investment may depend to degree on how the domestic private sector is treated.

- The negative and significant exchange rate coefficient signifies the importance of a more focused macroeconomic policy environment that strengthens the economy and builds confidence for potential investors. Necessary steps have to be taken to stabilize exchange rate through the adoption of sound fiscal and monetary policies.
- The significantly negative coefficient of the infrastructure variable (telephone lines per 1000 people) highlights the need for big investment in infrastructural development, which is essential for the creation of a productive business environment. These should be concerted effort to upgrade the country's poor infrastructure particularly in relation to transportation, power and communication.

A Appendix on statistical tests

A.1 Test for stationarity

Stationary time-series is said to exist if the mean and variance are constants over time while the value of the covariance between two periods depends only on the gap or lag between the two periods and not the actual time at which the covariance is computed (Gujarati, 2003). If the time-series is not stationary, the mean, variance or covariance will not be constant and one is likely to end up with spurious regression where statistical inference on the basis of the classical regression model will be invalid.

For the purpose of testing the stationarity of the time-series used in this study, Dicky-Fuller (DF) and Augmented Dicky-Fuller (ADF) tests have been conducted. The null hypothesis in these tests is that the underlying process which generated the time-series is non-stationary. This will be tested against the alternative hypothesis that the time-series information of interest is stationary. If the null hypothesis is rejected, it means that the series is stationary, i.e. it is integrated to order zero. If on the other hand, the series is non-stationary, it is integrated to higher order and must be differenced till it becomes stationary.¹⁶

As can be seen from the results given in Table 6 below, all the variables used in the model, except OPEN, are not stationary in. This implies that the null hypothesis cannot be rejected and that time-series has to be differenced. I then conduct the same tests on the first difference of the time-series. As can be seen from the test results on the first difference in Table 6 below, the null hypothesis has been rejected for all variables indicating that all variables become stationary at their first difference.

A.2 Test for co-integration

Having tested the series for stationary, the next step of time-series analysis is testing for co-integration which amounts to checking whether the linear

¹⁶The order of integration of a time-series data set shows the number of times the series has to be differenced before it becomes stationary (Gujarati, 2003).

| | Levels | | | First Difference | | | | |
|-----------|---------|---------|---------|------------------|---------|---------|---------|---------|
| | D | F | ADF(1) | | DF | | ADF(1) | |
| Variables | Without | With | Without | With | Without | With | Without | With |
| | Trend | Trend | Trend | Trend | Trend | Trend | Trend | Trend |
| FDI | -1.74 | -2.70 | -4.50 | -2.10 | -8.47 | -8.40 | -5.28 | -5.30 |
| | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.94) | (-3.52) |
| RGDPC | -1.66 | -1.71 | -1.79 | -1.80 | -6.66 | -6.58 | -5.15 | -5.10 |
| | (-2.94) | (-3.51) | (-2.94) | (-3.16) | (-2.94) | (-3.51) | (-2.94) | (-3.52) |
| OPEN | -2.13 | -5.13 | -1.68 | -4.56 | -8.93 | -8.83 | -8.17 | -8.09 |
| | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.41) | (-3.51) | (-2.94) | (-3.52) |
| XRATE | -0.76 | -2.45 | -1.04 | -2.95 | -5.90 | -5.90 | -4.48 | -4.50 |
| | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.40) | (-3.51) | (-2.94) | (-3.52) |
| TEL | -3.44 | -4.19 | -2.49 | -3.17 | -9.55 | -9.44 | -5.56 | -5.80 |
| | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.94) | (-3.51) | (-2.94) | (-3.52) |

Table 6: Unit-Root Tests on Variables

95% critical value in parenthesis.

combination of the variables is (also) stationary or not. It requires that the variables of interest have the same order that a linear relationship among them can be expected. Variables are said to be co-integrated if a long run equilibrium relationship exists among them. Engle and Granger (1987) argue that for such relationships to exist, the error terms of the model should be stationary.

Table 7: Unit-Root Test results on Residuals

| | DF | ADF (1) |
|---------------|-------------------|-------------------|
| Without trend | -4.8074 (-5.3798) | -4.5972 (-5.3798) |
| With trend | -4.8140 (-5.7933) | -4.5901 (-5.7933) |

95% critical value in parenthesis.

I have applied the Engle-Granger procedure to test for co-integration. The first stage of the co-integration test involves estimating equation (2) (given in section 4.2) and saving the error terms. Then the DF and ADF tests are applied on the error terms. If the error terms are found to be stationary, the variables are said to be co-integrated and this necessitates the estimation on an Error Correction Model (ECM) involving long run relationships. If on the other hand, the variables are not co-integrated then the modelling should proceed with the differenced time-series.

Table 7 above reports the test statistics from the unit root tests. As can be seen from the table, reported test results are lower, in absolute terms, than the critical values both with and without trend. This suggests that the variables in equation (2) are not co-integrated. In other words, an Error Correction Model (ECM) is not required.

B Appendix about Mozambique

B.1 Land geography and climate



Figure 2: Mozambique: Geographical location

Mozambique lies on the east coast of Southern Africa. Measuring a total of some 799,380 sq km in area and population of 22.4 inhabitants¹⁷. The country has borders with the United Republic of Tanzania, Zambia, Malawi, Zimbabwe, South Africa and Swaziland. The extensive coastline stretches 2,515 km. Two of

 $^{^{17}\}mathrm{last}$ population census in 2007.

Africa's major rivers - the Zambezi and Limpopo - flow through Mozambique to the Indian Ocean. The climate varies from subtropical to tropical (south to north) and is influenced by the monsoons of the Indian Ocean and by the warm current of the Mozambique Channel. Temperatures range from 13 to 24 degrees Celsius during the dry season which is May to September, and from 22 to 31 degrees Celsius during the wet season, namely October to April. The official and business language is Portuguese. English is widely spoken in business and academic circles. The local languages include Emakua, Shangane, Bitanga, Xitswa, Chope, Ronga, Elomwe, Chuabo, Sena, Shona, Ndau, Nyandja, Kimwani and Chimakonde.

B.2 Economic overview

The Mozambique government has moved away from its initial post-independence centrally-planned economy through the introduction of free market reforms. The country's exchange rate is now determined by market forces, as are interest rates and prices. Government subsidies and restrictions on imports have been lifted in a bid to open up the economy, along with the reduction and simplification of import tariffs and the liberalisation of crop marketing. Other economic reforms include the introduction of a privatisation programme which involves the entire banking sector as well as various State owned manufacturing operations.

| | 2008 | 2009 | 2010 | 2011 |
|--------------------------|---------|---------|---------|---------|
| Real GDP growth | 6.8 | 5.4 | 5.8 | 6.1 |
| RGDP per capita | 10.0 | 11.0 | 12.9 | 14.6 |
| CPI Inflation | 10.3 | 3.4 | 9.2 | 4.4 |
| Budget balance % of GDP | -2.5 | -5.7 | -3.3 | -2.2 |
| Current account % of GDP | -12.2 | -14.2 | -12.3 | -9.5 |
| Exchange rate | 23985.3 | 25975.6 | 26728.7 | 26725.7 |

Table 8: Macroeconomic indicators (2008 - 2011)

Source: African Economic Outlook, 2010 - Mozambique. Figures for 2009 are estimates; for 2010 and later are projections. Mozambique weathered the global financial crisis relatively well, maintaining strong, if lower growth than in 2008 while inflation was subdued. The limited exposure of the country's banking system to international financial markets minimised the direct impact of the global crisis. Supportive government measures, such as fuel subsidies, helped sustain growth together with an increase in agricultural output. As can be noted in Table 8, Gross domestic product (GDP) growth fell to 5.4% in 2009 from 6.8% in 2008, which was better than IMF estimates for around 4.5% but below the government's target of 6.7%. Growth continued to be driven mainly by large foreign investment in mineral resources and services while the agro-industry, energy and construction sectors benefited from strong donor support. Growth is expected to pick up to 5.8% in 2010 and 6.1% in 2011, strong but still below trend because of the impact of the global financial crisis on exports and commodity prices.

B.3 Human development context

Poverty levels in Mozambique remain high in spite of the sustained strong GDP growth over most of the past decade. The last Human Development Index (HDI) reading for Mozambique ranked the country 172 out of 182. There has been some progress in education, with student numbers from primary school to university jumping to 6 million by 2008 from 4 million in 2005. Primary school enrollment alone rose to 4.2 million from 3.7 million in that period. There are 1 000 new teachers per year in training.

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