The Effects of Foreign Direct Investment on the Mexican Economy, 1982 – 2010

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Abstract

This paper assesses the impact of foreign direct investment (FDI) on the Mexican economy during the period 1982-2010. After highlighting the scope of the research, the first section provides a description of the Mexico’s macroeconomic performance after changing economic strategy from being inward oriented to an export-led strategy. The second section reviews two broad generations of development economists approaching the liaison between FDI and economic growth. The third section is devoted to the development of a model in order to estimate such effects. Conclusions and policy responses to be drawn from this work are presented in the fourth section.

Keywords: FDI, Financial Liberalization, Growth and Development Economic.

Introduction

This research examines the effects of foreign capital flows on the Mexican economy between 1982 and 2010. The choice of this period is made on purpose as it turns out to be instrumental to the fulfilment of two main objectives: on the one hand, to provide a general description on how Mexico made a sudden veering off its overall strategy of economic policy in 1982, from being State-directed towards a market force-led economy under which the participation of the private sector, both national and foreign, in economic activity would be gradually enhanced from then onwards. In fact, 1982 constitutes a paradigmatic year in many respects with economic disarrays that ended in Mexico declaring a three month moratorium on payment of its principal on its external debt, the unfolding of the so-called world-wide debt crisis, the government nationalisation of the banking system, and a new round of capital flight. This year also marked a change in the political leadership in Mexico. Increased State intervention in economic activities was seen by the new government sworn in during December 1982 as one of the causes of the economic crisis that had taken place that year. On the other hand, the approximate three decades under study allows us to evaluate completely the neoliberal phase that the Mexican economy has gone through since the economic model changed from being inward oriented, based on import substitution strategy, towards an outward oriented export-led strategy (1983).

Within that overall period, 1982-2010, however, two sub-periods must be distinguished as far as the economic policy is concerned. Firstly, the sub-period 1982-1988 named that of Adjustment and Structural Change, in which the process of increasing domestic savings prevails and the financial
sector was seen as playing a prominent role. The need to increase domestic and non-inflationary sources of finance arose when foreign financing abruptly fell in 1982, marking the beginning of the debt crisis and bringing to an end more than two decades of fluid net capital inflows but, in the process, it brought the growth of product to a halt. Secondly, the sub-period starting 1989 onwards, which is known as that of Global Economic Integration when Mexico without having reached the macroeconomic goals proposed by the structural change policy in the first place, ‘threw in the towel’ [in the words of Palma (2010)], and gave up the balancing act of convening a sort of hybrid mix of import substitution industrialization (ISI) strategy and export-led economic model in the 1980s.

Under the heights commands of the so-called Washington Consensus agenda (1987), however, Mexico made an even faster turnabout towards an even wider open economy.

Owing to during the process of economic integration to the external sector, Latin America debated *ad nauseam* questions such as: Does foreign capital play a helpful, benign, or malign role in economic growth? Are developing countries’ governments misallocating scarce resources in an attempt to attract foreign direct investment (FDI) when domestic investment plays a more substantial role in explaining growth? Does FDI really have much claimed spillover effects to domestic firms or are they just exploiting the comparative advantages of host countries in terms of large domestic or neighboring markets, resource bases, and cheap labor and tax regulations, as argued by pessimists?, we found good reasons to investigate whether FDI inflows conveyed growth-enhancing effects onto hosting countries like Mexico.

Harnessing FDI flows as a catalyst for economic growth, however, could be a conundrum for LDCs due to several reasons:

a) Contrary to neoclassical stance, globalization has diverted a huge amount of foreign capital flows into financial investment which is prone to volatility and speculation;

b) The argued role of FDI as an engine of economic growth is a counter-factual matter as some countries addicted to FDI flows grow at a lesser rate than others accepting fewer inflows;

c) The emulation of past Asian successful experiences of growth have led to LDCs in Latin America to meet similar needs to those faced in that region in the 1970s - developing new comparative advantages for the established industries, and new competitive advantages for their emerging ones, requires efficient governments, but after the so-called ‘the locusts era’, paraphrasing Dornbusch (2002), they themselves scrapped important productive and institutional State capabilities; and

d) The tragedy that even tackling aggressive-structural reform programs in LDCs by opening to foreign trade and investment, achieving fiscal discipline, and privatizing State owned enterprises, none guarantee the attraction of FDI nor a sustained higher rate of economic growth (see Gordon, 2010).

The remainder of this investigation consists of four sections. The first section sets out a portrait of the Mexican economy from 1982 to 2010, highlighting its main features and shortcomings. It specially focuses on both the evolution of financial variables and the orientation of the financial policies. The second section surveys the theoretical and empirical literature of the impact of FDI on
economic growth. With this in view, the third section outlines both the past and present debate on the expected effects of the of the FDI flows on economic growth. This section also analyses empirically such effects, bringing forward some econometric models, which are specified and estimated for the Mexican economy. The fourth section, on its own, presents the main findings of the research report and looks into their implications.

The Mexican Economy and its Financial System

Introduction

After the so-called ‘Stabilizing Development’ policy (1959-1970) in which Mexico’s economy was characterized by domestic financial stability and external equilibrium, and the economic growth was mainly financed with domestic non-inflationary resources, over the span of just a decade, (1971-1981), it converted into a sort of mirror image. The economy began to rely increasingly on foreign capital inflows as a source of finance and the consequent accumulation of external debt. In general, the main feature of the 1970’s was the implementation of expansionary fiscal and monetary policies that turned out to be a cause of high rates of economic growth but also that of inflation.

It is during the period of public sector expansion that the exchange rate, which had been fixed since 1954, was devalued in 1976 after the current account deficit of the balance of payments (BOP) became unsustainable. This crisis gave rise to the establishment of contrary policies which were implemented in the following two years upon the signature of an ‘intention letter’ agreed with the International Monetary Fund (IMF). However, over a span of just two years, the discovery of massive hydrocarbon reserves and the rise in the international price of the barrel of crude oil virtually eliminated the external constraint to growth, and marked the beginning of the period known as the ‘Oil Boom’. This period lasted until mid 1982 when the external debt crisis began. Afterwards, and up to 1995, the economy had to adjust to the lack of foreign financing.

At the end of the period of public sector expansion, (1981), the combination of high inflation and overvalued exchange rate, the differential in yields between domestic and foreign financial assets, and the expectations of future devaluation, provoked massive capital outflows in 1981. The events that happened in 1982, particularly the nationalization of private banks and the cessation of dollar dominated deposits¹, eroded the private sector’s confidence in the government and the financial sector².

The Period of Adjustment and Structural Change (1982-1988)

¹ Deposits were made payable only in domestic currency at a rate that implied a loss to savers.
² Albeit with the aim of reviving the private sector the new government administration (beginning in 1983) negotiated the resale of a third of the bank’s assets and invited the recently dispossessed members of the private banking sector to operate the brokerage houses on unregulated basis.

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In the period 1982 - 1988, the Mexican economy experienced low, and even negative, rates of growth in some years. Both domestic and external factors explained such a performance. Among the former were the contrary fiscal and monetary policies imposed since late 1982, whilst concerning the latter, two factors explain the crisis: the abrupt end of exogenous financing, and the fall in the price of oil on which economic growth had become so dependant.  

Actually, 1982 marked a turning point for Mexican economic policy. The ISI strategy was put aside and the economic model changed to outward orientation. Exports were expected to undertake a leading role and legal and administrative requirements were relaxed in order to attract foreign private investment. One of the economic policies was to allow market forces to allocate resources in order ‘to increase the general efficiency of the economy’ (see Banco de Mexico, 1990). Major parts of the public sector’s firms were to be sold to the private and foreign sectors. The structural change implied that the rules of engagement derived from protectionism and state interventionism in the economy were to be replaced by deregulation, privatization and liberalization.

As far as the public sector’s fiscal deficit is concerned, despite the fact that its reduction stood at the core of the adjustment policies, high levels of public deficit persisted until 1988. Real interest payments on the public debt increased sharply between 1983 and 1990. Interests paid on the public sector domestic debt became larger than the interests paid on the external debt. The lack of external financing forced the government to rely increasingly on internal sources to finance its deficit. The sources of internal finance of the public sector’s deficit required exceptionally high interest rates; hence, the high level of internal interests payments, and the further growth of the public sector’s domestic debt. Meanwhile, the share of public investment in total public expenditure was continually decreasing. Total investment declined in real terms throughout the period 1983 - 1988. The drastic fall in public investment damaged economic growth since the economy’s growth strategy had relied heavily on public investment and expenditure for more than two decades.

Thus, until 1987, the contrary economic policy aiming at reducing both the external and the internal deficits and to control inflation, proved to be successful only as far as the current account deficit is concerned, mainly due to the fall in imports. The fiscal deficit and inflation were not abated. So, by the end of 1987, a new disinflation program was introduced. Its main target was to diminish the public sector’s financial deficit and to abate inflation, for which stricter monetary and fiscal policies were set up.

Towards the end of 1988, a general freeze was placed on the prices of a wide range of goods and services. Moreover, the main instrument to control inflation was the establishment of a fixed exchange rate from April to December 1988 (and then, a controlled depreciation from 1989 until 1996 was implemented). In addition, trade liberalization was speeded up with the purpose of ‘allowing internal prices to be governed by external prices and, in this way, to reduce inflation’ (Ghigliazza, 1990). It must be mentioned that the conjunction of a fixed exchange rate (which implied a revaluation of the real exchange rate) and the progressive elimination of the trade barriers [Mexico

3 The adjustment of the economy to these events meant years of recession that deeply damaged the standard of living of the majority of the population.
joined the General Agreement on Tariff and Trade (GATT) in 1986], caused imports to grow and subsequent deficit on the current account of the BOP.

As stated earlier, the relative lack of external resources from 1983 forced Mexico to rely on domestic resources to finance economic growth. Therefore, the economic policy was oriented to increase both public and private internal savings and to encourage a major participation of the private sector in all economic activities. In spite of the efforts made to retain financial savings in the domestic market and despite the growth of non-domestic financial assets in the hands of the public, total financial resources collected from the public (M3) contracted in real terms from 1983 and did not rise above the level reached in 1981 until 1989 (see Graph 1).

**Graph 1: Mexico, Non-Monetary Financial Assets 1985-2009**

(Billions of US Dollars at Constant 1994 Prices)

![Graph showing non-monetary financial assets](image)


At the end of 1987 a major devaluation of the exchange rate took place and a new disinflation program was established, the so called Pact for Economic Solidarity (PES)\(^4\). The most important measures adopted, as far as the monetary and financial policies are concerned, were: the elimination of the Central Bank’s financing of the public sector’s fiscal deficit; a ceiling to commercial bank’s financing of the private sector, and an increase in the interest rates. These measures reinforced the role of open market operations. Moreover, they left the central bank only with the mission of regulating the money market but not as a source of finance of the government’s fiscal policies. Further measures were assembled to strengthen the links between internal and external prices and to improve the effectiveness of the exchange rate as a nominal anchor in the process of economic stability.

\(^4\) As Lopez-Portillo, J.R. (1994) put it forward, the PES was really a heterodox public policy intended to control the main macroeconomic relative prices such as wage, interest rate, exchange rate and those of physical goods and services alike.
stabilization.⁵

The Period of Global Economic Integration (1989-2010)

In reality there is no clear-cut separation between the sub-period left behind and the present one⁶. It is analytically useful, however, to split the post-1982 reform period because even though the basic economic policy orientation was kept, of the outward-looking strategy view, during the period 1989-2010, the government undertook further steps so to embed the neo-liberal economic model embraced in the 1980s.

From the Mexican government’s judgment, the first round of structural reforms set into motion since 1983 had restored the confidence of the private and foreign sectors in the country’s future at the end of the 1980s and the remarkable reduction of previously existing barriers had brought the resumption of capital inflows. So, it was believed that despite the fact Mexico had suffered a ‘lost decade’ of falling incomes in the 1980s, the outward-looking economic model seemed to be working out well, so the government favored the naïve idea that it would be simply a matter of time until the economy would take-off and converge with its main trading partners.

In the early 1990s, the rate of return on export activities increased compared to the rate of return on the production of goods and services for consumption on the domestic market. In addition, improved access by producers to intermediate inputs and raw materials and international process had played out an important role: the share in the total import value of temporary imports had grown significantly. The size of Mexico’s external sector had also increased substantially. In this period, there had also been a sizeable increase in imports and exports of non-oil manufactured products, a decrease in the share of foreign exchange earnings from oil sales abroad, and a sharp rise in the share of private sector transactions in total external transactions as well.

Basking in the impressive growth rate of productivity of the so-called new economy in the second half of the 1990s, particularly that of the United States of America (US), the Mexican economic policymakers missed the point and paid attention only to the size value scored by the economic and financial indicators but not to how they had been reached. In fact, the growth rate of product in Mexico stemmed from:

a) The boost provided by the enactment of the North-American Free Trade Agreement (NAFTA) which helped Mexico to rebound from devaluation and recession after the 1995 financial crisis;

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⁵ These measures included a 50 percent reduction in tariff protection and a further simplification of tariff rates to five (0, 5, 10, 15 and 20 percent). Thus, the mean rate was reduced from close to 20 percent to close to 10 percent by the end of 1988.

⁶ This difficulty observes not only the very nature of the economic processes involved but also the fact that the financial sector had been managed with a relative autonomy in relation to other fields of the Mexican’s public sector during the overall period (see Lopez-Portillo, J.R. 1994)
b) Deflating wages; and
c) Paradoxically, the deployment of massive economies of scale built up at the end of the ISI strategy phase.

Actually, there were some early signals regarding model flaws since then. For instance, although with the signature of the GATT (1986) protocol, reality had revealed that the opening up of trade had attracted mostly speculative portfolio investment\(^7\) and that this overtime had shown its volatility wrapped in flows of capital flight. This meant it was evident that an effort to ensure long-term FDI\(^8\) should be made. Notwithstanding, the Mexican government ratified in 1993 the NAFTA with the US and Canada that had been negotiated in 1991, believing that full economic integration to the external market was its first best option policy to be picked at the time (see Palma, 2010b). Yet, despite the rise and diversification of exports, the current account of the BOP persisted at tilting levels, though still within manageable levels.

In a nutshell, instead of taking a breathing space to review the economic strategy followed so far, especially the performance of the manufacturing sector, the government judged that it was too soon to evaluate the new policies’ outcomes so opted for even tighter contractive fiscal and monetary policies to slow down economic activity, and thus lowering the growth of imports. What was needed, the Mexican government said to itself, was yet ‘more of the same’ economic-neoliberal recipes.

By April 1989, the monetary authorities decided to engage in a major liberalization program, providing free determination of interest rates on all types of bank liabilities, and eliminating reserve requirement. Afterwards, only 30 percent of total bank deposits had to be allocated freely between government bonds and deposits at the Central bank at a positive rate of interest. Moreover, directed credit controls and bank obligations to grant subsidized credit to preferential sectors were abolished. In this year also, restrictions on foreign portfolio inflows were substantially liberalized. In 1990, as aforementioned, the commercial bank system was re-privatized, in 1994 an autonomous framework was granted to the central Bank, and in 1997 a flexible exchange rate regime was adopted. The above mentioned factors explain the positive trend and increasing level of the broadest monetary aggregate, M3, as the financial reform was taking place in Mexico and the other Latin-American countries (see Table 1)\(^9\) during the 1980s and well into the 1990s.

\(^7\) ‘(It) comprises capital flows used for acquiring financial assets in the domestic market, such as bonds, commercial paper and certificates of deposits, plus equity-related investment including international equity placements through American Depository Receipts (ADRs) and Global Depository Receipts (GDRs), holdings in country and regional equity mutual funds, and direct purchases of shares in local stock exchange by residents outside of the concerned country’ (Banco de Mexico, 1993).

\(^8\) FDI includes capital inflows for acquiring plant, equipment, land sites and services in any country, and capital increases from the foreign parent company to its national subsidiary.

\(^9\) While some argue that a high degree of liquidity of the financial system embodies a threat to the stability of prices (Brothers and Solis, 1986), other argue that the rise in demand for interest bearing assets acts as a restraint on inflation since the public gradually demands...
Table 1: Financial Intermediation Ratio (*), 1985-2009

<table>
<thead>
<tr>
<th>Year</th>
<th>Mexico</th>
<th>Colombia</th>
<th>Chile</th>
<th>Brazil</th>
<th>Argentina</th>
<th>Peru</th>
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<td>27.3</td>
<td>61.0</td>
<td>19.9</td>
<td>19.5</td>
<td>61.0</td>
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<td>33.1</td>
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<td>50.1</td>
<td>22.5</td>
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<td>31.0</td>
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<td>44.9</td>
<td>25.6</td>
<td>32.8</td>
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<td>24.8</td>
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Note: (*) Any up-trend of the M3/GDP ratio (Average balances as a share of GDP) is basically the result of increased domestic financial savings. The M3/GDP ratio is calculated by considering the nominal values of M3 and GDP. Ecuador is not included because the information is not available. (***) In the case of Mexico, the 1980-1984 M3/GDP - ratio estimates are: 31.3; 33.9; 37.2; 34.1 and 35.3, respectively. (Warman and Thirlwall, 1994). Source: WDI, World Bank and International Financial Statistics, IMF.

more long term financial assets, which are less liquid, instead of increasing their monetary balances (Thompson, 1979).
The increasing trend of the monetary aggregate – a gross indicator of the degree of financial intermediation, reflected the financial policy and the business environment of the period, as the rise in the level of financial savings was of paramount importance for the monetary authorities. ‘In contrast to what occurred in the late 1970s and the early 1980s, when the greater part of the external financing was obtained through syndicated bank credits, from mid-1989 onward FDI has increased significantly and Mexican borrowers have been able to obtain substantial amount of external resources by means of a wide variety of negotiable instruments, which, in turn, has developed different types of markets’, the Banco de Mexico (1993) pointed out in self-satisfied mood.

The increased liquidity of the financial system remained just as a threat in the Stabilizing Development period. During the period of public expansion period (1971-1981) the M3/GDP ratio decreased given the rise in the level of inflation and the expectations derived from it, but that problem confined only in a shift in monetary demand from long term (with a redemption period of over one year) to short term assets. However, after 1982 the combination of high inflation, an overvalued exchange rate, the differentials in yields between domestic and external financial assets and the expectations of future devaluation, caused massive capital outflows and exposed how vulnerable the Mexican Financial system was becoming given the portfolio investment which was mainly attracted by higher interest rate than in the US financial market.

In present-day Mexico, the collapse in 2008 was comparable to the ‘death moment’ experienced in 1995. When Mexico suffered in 1995 its first slump in the neoliberal era, it turned its eyes to its trading partners, particularly to the US, who organised a $50bn bailout. This fact, together with the spin-off provided by the enactment of the NAFTA shortly before, helped Mexico to rebound from the 1995 devaluation and recession as mentioned earlier. Today, however, the impact of the recession triggered by the bursting out of the US’ housing bubble has been more severe for Mexico, than for those countries, like Canada or the Dominican Republic, whose economies have similarly close links to the US economy. To make matters worse Mexico lacks of an internal engine of growth given its reluctance to having an industrial policy of its own.  

The current economic recession has exposed additional structural weaknesses in Mexico’s economy, as the crux of these new problems. NAFTA certainly brought a massive US investment as manufacturers set up plants south of the border to take advantage of the lower labour costs. This influx into the in-bond industry (maquiladora) brought modernization and new technology, and a spin-off of rapid economic growth in the late-1990s. However, NAFTA has left Mexico highly dependent on the health of the US economy and on a few lines of cross-border businesses in particular. These include car manufacturing, the construction industry, and tourism (which, incidentally, have been among the hardest hit by the current recession). In passing, some authors (Hanson, 2010, for example) have identified as one possible external factor of Mexico’s failure to reach sustained higher rates of economic growth, the fact that the country has been exporting

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10 That is explained by the cul-the-sac syndrome that Palma (2010) has perceived as an average attitude in Latin-America region at the end of the last century.
manufacturing goods that China already sells.

The so-called credit crunch has caused US’s consumers to delay as many purchases as possible, particularly those of the more valuable, including those that Mexico produces. Mired with the plummeting exports, unemployment has leapt into record figures. Had the decline been confined to the manufacturing sub-sector, the effect on the economy as a whole would have been modest. However, many services, such as transport and logistics, are tied to cross-border trade flows. Unlike Canada, Mexico’s banking system is largely foreign-owned; credit was squeezed in 2008 when headquarters ordered their subsidiaries abroad to retrench. As a result of all this, it was not surprising that output of services dropped by 6 percent in 2009.

Trade Policy

From the 1950s to the 1980s Mexico’s economy was highly protected as a result of high tariff and non-tariff barriers and had little exposure to international competition. As part of its development strategy, the government had implemented an ISI policy that included the use of substantial non-tariff barriers. As a result of increasing protection to domestic producers, the share of the value of imports-licensing requirements rose from 35 percent in the 1950s to 78 percent in the late 1970s.

After the 1982 financial crisis erupted, however, the strategy for renewed growth that the Mexican economy adopted it was one that contemplated moving towards an open export-oriented economy. To this end, the government adopted an ambitious trade liberalization policy, introduced new legislation on the treatment of foreign investment, and promoted greater exposure to international competition.

Over a very short period of time, Mexico drastically reduced its degree of protection from the very high level attained in the wake of the 1982 BOP crisis. Commitment to this policy was expressed in Mexico’s accession to the GATT (1986). Trade liberalization, in addition to being one of the most important structural reforms introduced in trying to enhance the economy’s efficiency, also played a key role in the stabilization effort that brought inflation rates down from 159.2 percent in 1986 to 19.7 percent in 1989.

Foreign investment regulations were modified and legislation on intellectual property rights was also revised to bring them into line with international standards. As a result, Mexico has had an outwardly oriented economy since, and its growth strategy is based on increased participation in the international economy.

Given that integration into the world economy required not only the opening of the economy, but

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11 According to the Banco de Mexico (2009) such retrenchment orders responded not only to a precautionary motive from their headquarters abroad but also to requirements of cash transfers made by them to underpin the capitalization measures that they had set up to comply with social capital standards.
also agreements with Mexico’s main trading partners (the US\textsuperscript{12} and Canadian economies)\textsuperscript{13}, foreign trade policy included the following objectives: the sustained growth of non-oil exports; security of access to external markets; export diversification; improved treatment for its exports; uniformity in effective protection; and the elimination of distortions caused by non-tariff barriers (see Banco de Mexico, 1991).

The Economics of Foreign Investment

Introduction

There are two economic approaches to the relationship between financial development and overall economic growth and development: the prior-saving approach proposed by McKinnon (1973) and Shaw (1973) and the investment-led approach. While the former argues that financial development encourages economic growth by increasing the amount of lendable funds, increasing credit, and thus increasing investment\textsuperscript{14}, the latter holds that investment is not supply determined but, on the contrary, the level of investment is what determines savings via the income multiplier effect, a basic argument of the post-Keynesian authors [such as Burkett and Dutt (1991), Davidson (1986) and Dutt (1991)] concerning the financial liberalization model. They also argue that high real interest rates negatively affect the growth of output by discouraging both aggregate consumption and investment, then reducing the level of aggregate demand.

Although the discussion of the causality between financial development and economic growth was, and still remains as such, unresolved at the time (see Patrick 1966, and McKinnon 1988), most LDCs undertook a financial liberalization process in the 1980s and even in the early 1990s under the prior-saving approach (see World Bank, 1989).

The LDCs were motivated first and foremost by the need to increase the internal and non-inflationary sources of finance. However, because indebtedness and weak public finance, the aim was also to widen the role of the private sector in the economy. The larger the reliance of the economy on the private sector, the greater the need for an efficient financial sector, the underlying assumption postulated. The implications of this shift of economic policy were clear and straightforward enough: the LDCs had to direct their economic policy towards the liberalization of their financial sector in order to restrict the regulation imposed by the government on the financial system, encourage the participation of the private sector, and allow the free operation of the market forces. Incidentally, such economic policy was not set up due to Latin America’s own volition but under the pressure caused by its sovereign debt crisis in the 1980s which almost brought the US

\textsuperscript{12} Since the 1960s the US usually accounts for more than two thirds of imports and exports with Mexico.

\textsuperscript{13} Apart NAFTA, Mexico is currently holding additional trade agreements with Brazil, Japan, Israel, Chile, European Union, Panama, Nicaragua, Colombia, Ecuador, etc. in a move seemingly to accrue by a means others than those from where competitiveness come out.

\textsuperscript{14} ‘It stresses the importance and the need for policies to raise the level of savings which would automatically find investment outlets’ (Thirlwall, 1989, p.266).
financial system to its knees.\textsuperscript{15}

With hindsight, it is clear that both debtors and creditors are to be blamed for such a problem. On the one hand, the 1980s was a defining decade for Latin America because it saw many profligate countries that shut out of the international markets and default after they took on an unsustainable amount of debt. On the other hand, the debt crisis followed a sustained period of easy credit. In the late 1970s, abundant petrodollars were recycled by Western banks into ‘general purposes’ Latin-America countries’ loans\textsuperscript{16} that had so few conditions that the US banks quite often did not know what they were irresponsibly lending to. Furthermore, it becomes evident that neither the debtors nor the creditors were prepared to manage the crisis that generated a ‘lost decade’ of falling incomes in the region during the 1980s through the turmoil that followed in the Organization for Economic and Cooperation Development’s (OECD) country members, and international multilateral-financial institutions trying to overcome public failures.

On the one hand, the loan syndication, -sometimes as many as 500 banks were involved, was meant to reduce risk, but it did not do this. In addition, the Federal Reserve chairman Paul Volker at the time raised US interest rates to 20 percent. A year later, Mexico announced it had nearly run out of reserves and could no longer service $80bn of foreign debt after the lenders refused to rollover short-term loans except at exorbitant rates.\textsuperscript{17} On the other hand, in 1982, the initial answer to the Latin American debt crisis was deemed to be economic growth, which would eventually allow countries to settle down overdue debt. It was considered that all they needed was a little breathing space to do so, and that triggered a series of official-emergency bail-out packages. It took several years to realise that deflating wages and shrinking economies were inconsistent with being able to fully settle down debts. What at first sight appeared to be a liquidity problem was an issue of solvency as became clear in 1987 when Brazil said it would stop paying interest (see Agenor and Montiel, 1997).

The answer, therefore, was debt write-offs. But this did not come until 1989 under the Brady plan, which was designed to lessen these risks by gradual trimming allowing creditors to absorb the losses and recapitalise. In return for debt relief, bank debt was turned into tradable ‘Brady bonds’\textsuperscript{18} backed by US Treasury as collateral, which reassured investors that the re-structured debt had real value.

Meanwhile, debtor countries committed to a series of economic reforms prescribed for the so-called

\textsuperscript{15} In 1982 loans to LDCs mostly from Latin America accounted for more than twice the capital base of US banks. Such fact was close to producing a systemic US financial crisis.

\textsuperscript{16} Almost overnight, the recycling of petrodollars saddled weak economies with vast amounts of funds, which they were unable to put to sustainable use. The burden of debt brought those economies near to collapse, with the consequent ‘system risk’ to the lenders.

\textsuperscript{17} Mexico then requested a moratorium and asked for government and IMF support.

\textsuperscript{18} There were two broad types of Brady bonds: The first, ‘par bonds’, had the same face value as the original debt but longer maturities and lower interest rates. The second type, ‘discount bonds’ had smaller face values but also shorter maturities and higher interest rates.
Washington consensus.¹⁹

From the Washington consensus’ perspective, financial repression²⁰ was understood as a situation in which government and Central Bank regulations tend to distort financial markets. These regulations, the argument went on, mainly refer to: reserve requirements²¹ on commercial banks, interest rates ceilings, and compulsory credit allocations with, or without, subsidised interest rates. It was argued that the consequences of financial repression constrain the growth of savings, investment and growth. Financial repression caused the flow of lendable funds to decrease in the formal financial sector, forcing potential investors to rely more on self finance. It distorted credit allocation and causes inefficiencies in the productive sector. It encouraged wealth holders to acquire physical assets instead of financial assets. It induced capital flight. In addition, the process of self-finance is itself impaired. If the real yield of deposits is not attractive, firms cannot accumulate liquid assets to undertake investment.

Based on mantra referred, the de-repression of the financial sector in LDCs (Singh 2011) was heralded as a major breakthrough in economic policy. The financial liberalization reform was as a substantial reduction of government intervention in setting interest rates and allocating credit either by doing away entirely with the interventionist regime. The theory of financial liberalization considered the reduction of the public sector’s deficit and the public sector’s borrowing requirement, as one of the conditions to achieve macroeconomic stability, which in turn was judged by its theorists as a necessary condition for successful liberalization of the financial system. The goals of financial liberalization were mainly to raise both the total level of savings and financial savings, with the aim of making this saving available for productive investment purposes. Market forces were supposed to maximise the availability of savings for investment as well as it’s allocate efficiency, a prescription which, as argued by Fitzgerald (1993), is a ‘logical consequence’ of the neoclassical assumption that ‘the market devise is the best instrument for an efficient allocation of resources’ (p.9).

¹⁹ Obviously the problem did not stop with the Brady plan, but that goes beyond scope of this report. However, it is worth mentioning that the Brady plan was followed by hyperinflation first, then by draconian measures to stop it (like dollarization or currency boards) and by the neoliberal reforms. Those measures opened again the gates to Western funds, only to lead 10 years later to an even more serious crisis and catastrophic defaults. The upshot of the story is that Latin America finally resumed growth by exporting commodities to the rising and industrializing East, essentially decoupling from a decaying and over-financialised west (see Palma, 2010a).
²⁰ The ‘financial repression’ scheme that followed the Breton Woods agreement (1944) was still in place in the 1970s advising governments to intervene heavily in finance. The result, among other things, was to keep financial sectors small (making the ‘repression’ term ad hoc), though coupled with real economy.
²¹ The reserve requirement was the basic instrument of control for the amount of credit. It was established as a legal obligation for commercial banks to keep reserves in the central bank in cash and securities equal to a specific percentage of their deposits and other selected liabilities.
In the process of financial liberalization, one of the elements that became central to tackle the deregulation process further and which, eventually, turned out to be the main source of risk for financial market was that of the Financial Deepening Hypothesis (FDH) which argues that the accumulation of financial assets at a pace faster than the accumulation of non-financial wealth will increase real savings. ‘Measures to raise the real rate of return on financial assets, to reduce the variance of returns, and to improve the financial technology, along with allied non-financial areas, extend the saver’s time horizons over both space and time’ (Shaw, 1973, p.72). A positive and significant link between the size of the financial sector, measured by the ratio M3 to GDP, and the domestic rate of saving, would be expected.

In passing, policies inspired by the FDH were so intensively carried out in Latin America that, eventually, led either to a premature ‘financialization’ (see Graph 2) and the setting up of a monetarist scaffold that finding the way out of them will require all over systemic adjustment, and not only in the financial system scope (see Palma 2010a).

**Graph 2: Mexico, Coefficient of Financialization and Investment Coefficient 1985-2009**

![Graph showing the Coefficient of Financialization and Investment Coefficient](source)

**Empirical Findings of Foreign Capital Inflows on the Economic Growth**

The theory of foreign capital inflows can be divided into two broad approaches. First, the so called Orthodox Model, in which two features stand out: a) foreign savings are a supplement to domestic

22 ‘Financialization’ is the rise in size and dominance of the financial sector relative to the non-financial sector, as well as the diversification towards financial activities in non-financial corporations.

23 The graphic for the countries in the sample it is shown at the statistical appendix.
resources (Chenery and Strout, 1966, for instance)\textsuperscript{24} and, b) all foreign capital inflows are devoted to investment. In contrast, the second view, named ‘Savings Debate’, considers that foreign savings substitute domestic savings by encouraging domestic consumption, i.e. foreign savings can be used either for consumption or for investment (Griffin, 1970 and 1978, Weisskopf, 1982, for example).

Although foreign capital inflows may make possible additional investment in the recipient country, its effects on growth is not clearly defined in the literature given the uncertain effect of capital inflows on domestic savings and the productivity of investment.\textsuperscript{25} In this section, pre-1990 literature written on the topic will be analyzed. The net result coming from that research is that even though foreign capital inflows may partially substitute domestic savings, the effect on growth is positive.

Somehow explained by the state of econometric techniques at the time, it was argued that single equation models that estimate the rate of growth as a function of the ratio of foreign capital inflows among other variables overestimate the effect of capital inflows on growth because they do not take into account the possible negative impact on domestic savings, which would cause growth to decrease.

As the international trade and the cross-border investment boomed in the 1980s and then gathered momentum onto the 1990s, globalization\textsuperscript{26} speeded up the so-called process of the international financial integration (IFI). The LDCs lured into IFI process by the multilateral financial institutions, which presented it down the line as the first best policy to be opted up if they really were committed to development. As aforementioned, nations like Mexico seeing that globalization prospered around as it was shown by a robust economic growth experienced in the world’s major powers and living just beside the hub of world finance and commerce, the US, galvanized into action, the country ‘bought’ the neoliberal package\textsuperscript{27} and went further into an new form of capitalism, that of complete integration to the external market.\textsuperscript{28}

\textsuperscript{24} Based on a type Harrod-Domar model of growth, Chenery and Strout (1966) included the supplementary role of foreign savings to the Dual-Gap Analysis. According to them, foreign capital can make possible a fuller use of domestic resources than national investment and thus accelerate economic growth by relieving the savings constraint and/or the foreign exchange constraint alike.

\textsuperscript{25} Based on Harrod-Domar model, foreign capital inflows have a positive effect on economic growth as long as the domestic savings ratio and productivity of capital do not decrease, but the other way around.

\textsuperscript{26} In general, globalization involves the erosion of national barriers to the free flow of goods, capital and people. In the case of Mexico, however, such a process restricted the flow of persons among the NAFTA’s subscribers.

\textsuperscript{27} Quoting Chang (2010) ‘a free market package, often known as the neoliberal policy package, emphasizes lower inflation, greater capital mobility and greater job insecurity (euphemistically called greater labor flexibility), essentially because it is mainly geared towards the interests of the holders of financial assets.’ (p.60)

\textsuperscript{28} Although in the case of Mexico, a partial trade agreement with Canada and the US was negotiated as labor force is not allowed to move freely. On the contrary, capital does.
One of the new features wrapped into the IFI process is that other components of capital flows made a greater presence than before. Notably portfolio or financial investment and remittances across borders relative to those coming from external debt and FDI, for instance. Due to that, the empirical research tackling the relationship between foreign capital and economic growth since the 1990s appealed to an aggregate measure of IFI: the foreign reserves movements in central banks and current-account of the balance-of-payments position and, at the same time, yielding space enough to derive some inferences on each of its components above referred.

Surprisingly, the incentives to do new research of the relationship above mentioned came out from within the own mainstream economics. As is known, the neoclassical point of view predicts that capital flows from rich countries with relatively high capital-labor ratios to poor countries with relatively low ratios. However, as long as a further controversy has rose in terms that capital, not only it is not flowing from developed countries to LDCs in the quantities foreseen by the standard neoclassical model, a paradox highlighted by Robert Lucas (1990), but that in the last few years it has been flowing the way around, from LDCs to developed countries and, even more, from the so-called emergent economies to the stagnant LDCs.

Spurred by this intellectual stimulation, the link between foreign capital inflows and economic growth has been revisited and no consensus regarding its purported positive nature has been found despite the variety of econometric techniques used, the different measures of financial integration undertaken or the number of countries entering into the samples surveyed.

For instance, Prasad, Rajan and Subramanian (2006, pp.9-26) exercising panel data econometric techniques and using cross-industrial data for the 1980s and the 1990s, analyze the impact of capital flows on a sample of 101 countries both developed and LDCs. Their estimates suggest that economies that are less dependent from foreign savings used to grow faster. This is to say that there is a positive relationship between, on the one hand, a lower deficit levels and/or higher capital account surplus of the BOP and, on the other hand, the rate of economic growth. Likewise, the results showed that countries that get less out of foreign capital are those having either limited absorption capacity of capital inflows, weak financial development or lack of competitiveness due to their economies were prematurely exposed to currency appreciation which was induced by accelerated capital inflows.

Rodrik (1998, pp.1-11) applied a cross-section data ordinary-least square (OLS) method to a sample of 95 countries, including some developing economies from Asia, Africa and Latin America in the period 1975-1989 and his findings showed that liberalization of the capital account of the BOP neither promote higher levels of economic growth nor lower inflation rates.

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29 Palma (2010) identifies models as that of ‘the second generation of main stream of economics’ whose propensity is to blame exogenous factors to the financial market when its performance is not right.
30 This situation is clearly depicted in the cases of China and Brazil which are heavy receivers of FDI flows but, in turn, they are active foreign investors.
Edison, Levine, Ricci and Slok (2002) worked out a sample of 57 countries including both developed countries and LDCs for the 1980-2000 period performed different econometric techniques such as OLS, OLS with instrumental variables (OLS-IV) and Dynamic Panel Arellano-Bond (DP-AB) via the Momentum Generalised Method (MGM) with five observations along the period referred. The results revealed that only in exceptional situations the null hypothesis can be rejected, i.e. to hold that the IFI does not accelerate the growth of product. Furthermore, they found no a strong relationship between different indicators of IFI and the economic growth despite the matching between the expected and actual signs. Among the IFI indicators, only that of capital flow was significant.

Edison et al. (2002) concluded that the interplay among IFI indicators and macroeconomic and institutional conditions signals that even under high levels of income and working force education levels, the IFI did not have a significant influence on the economic growth on nations with high levels of financial development. Likewise, Edison et al. (2002) argued that IFI did not also have significant effects on high quality institutional settings (for instance, law and order enforcement and negligible levels of corruption) as the institutional frame had already positive effects by itself on the rate of growth of product. Last but not less, Edison el al. (2002) held the IFI induced positive effects, although certainly not so robust ones, under proper macroeconomic stability environs, it meant, low levels of inflation and sound public finance.

Bussiere and Fratzscher (2004, pp.14-29), analyzed as the short as long-term impact from the opening of the capital account of the BOP and its effects on economic growth to a sample of 45 LDCs from the regions of America and the East and Central part of Europe, during the 1980 -2002 period.

31 This statement holds even when the IFI might be controlled for some macroeconomic.
Using five observations for each country and exercising the DP-AB method, they reached three relevant outcomes:

Firstly, the worse LDCs—in per-capita income terms, used to grow faster than the developed countries in the immediate period after the liberalization of the capital account of the BOP has happened;

Secondly, investment was positively correlated to economic growth only in the first years following the liberalization of the current account of BOP, but such an association was not significant neither in the medium term nor in the long term.

Thirdly, the portfolio flow boosted economic growth in the short term, but this is not the case in the long-term range. By contrary, countries showed propensity to benefit from FDI flows only in the medium term, not on short-term basis. The impact of financial flows on growth is stronger than that from FDI and such fact seemed to be corroborated by the size and importance of the portfolio coefficient and the FDI inflows in the period immediately after the liberalization process had taken place.

The Effects of Foreign Direct Investment on Economic Growth

Introduction

Guided by the so-called prior saving neoclassical approach and pressed by the main multilateral financial institutions LDCs countries like México opted up for the financial globalization looking for exogenous impulses to reactivate its stagnant industrial and agricultural sectors and the restructuring of their economies as a whole. Among the policies to increase the role of the external sector in the economy in the 1980s, those corresponding to foreign investment, outstretched.

Under these circumstances, our main hypothesis is that the lack of an endogenous and mastered-planned policy to deliberately accumulate new strategic growth inputs, namely human capital, R&D infrastructure and social capital in general terms, the impact of the FDI inflows on the economic growth of product is deflected and, in balance and given certain circumstances, such flows might cause more costs than benefits to the host countries at the end of the day.

So, apart from the estimation of the effects of FDI inflows on the Mexican economy, the applied methodology is expected to retrieve empirical findings to validate how plausible our hypothesis is. This means, whether failure of the FDI to deliver responds to some of, or all, the following elements:

(a) The risk-adjusted returns to capital investment may not be as high in Latin-American countries as their low capital-labor ratios suggest;

(b) The existence of weak institutions avoids getting the most out FDI; and

(c) That physical capital is costly.
This section analyses the impact of FDI on economic growth. The model developed for this analysis is derived from the model proposed by Edison, H. et al. (2002) presented above in section II.2.2. The sources of data used in this section to run the numbers for the Mexican economy are the World Development Indicators of the World Bank, the International Financial Statistics (IFS) of the International Monetary Fund, the FDI database of the United Nations Conference for Trade and Development (UNCTAD), and those provided by Beck and Levine (2002).

**Methodology**

**Ordinary Less Square (OLS)**

Using time-series annual data for the 1979-2008 period, the regression equation is specified as follows:

\[
G = \beta_0 + \beta_1 FDI + \beta_2 X + \varepsilon_i
\]

Where \( G \) = per capita Gross Domestic Product; \( FDI \) = flows and stocks of Foreign Direct Investment and \( X \) = control variable matrix. The greater the \( FDI \) flows are the stronger the positive nexus to economic growth is. So it is expected that \( \beta > 0 \). Then a small variant is introduced onto equation (1) to investigate whether \( FDI \) flows have an impact on economic growth only under certain economic and institutional circumstances rather that merely by itself. The regresión ecuación es specified as follows:

\[
G = \beta_0 + \beta_1 FDI + \beta_2 (FDI^*x) + \beta_3 X + \varepsilon_i
\]

Where \( x \) is a variable added in the control variable matrix \( X \) which includes per capita income, education, financial development, inflation and budget balance, *inter alia*. Variable \( x \) as a *proxy* for financial development allow us to assess whether \( FDI \) flows have any differentiated influence on countries with higher financial-system ranking, i.e. the aim is to differentiate equation (2) with respect to the financial institutions to obtain:

\[
\frac{\partial G}{\partial FDI} = \beta_0 + \beta_2 x
\]

If \( \delta > 0 \) implies that greater FDI amounts have a larger positive effect on the LDCs’ economic growth exhibiting higher levels of financial modernization, \( \chi \).

**Two-Stages Ordinary Less Square with Instrumental Variables (2SOLS-IV)**

The 2SOLS-IV technique keeps control on the problem of simultaneity bias and allows us to get rid of heterocedasticity errors. The same structural features of the last before model [equation (2)] were kept. However, one of the main disadvantages is that the 2SOLS-IV technique provides better result: as estimators and standard errors get larger, the statistical tests become relatively smaller.
Dynamic Panel-Arellano-Bond (DP-AB)

The rationale underlying the use of DP-AB approach is that it presents some relevant advantages over the OLS and the 2SOLS-IV methods in surveying the link between FDI inflows and the economic growth: firstly, it allows us to explore the nature of time series data in such relationship; secondly, applying instrumental variables among countries provides valuable insights about the non-observed facts within each country. This, in turn, is consolidated in the error term, thus reducing inter-estimates bias and it controls the ad hoc effects for each country; and thirdly, the panel estimator selected allows controlling for endogeneity of predictors variables and, in doing so, reducing the bias induced by adding the initial level of income per capita onto the regression. Therefore, the estimator of the DP-AB is exempted of some bias ingrained in the own data regarding international financial institutions and economic growth.

In particular, the Generalised Moments Method (GMM) is used for the dynamic estimators of data panel such as they were applied by Arellano and Bond (1991) and Arellano and Bover (1995). The panel is integrated with data of the countries in the sample during the 1979-2008 period. The subscript $t$ stands for the number of years. Therefore, the following regression equation is considered:

$$ y_{it} - y_{it-1} = (a - 1)y_{it-1} + \beta^* X_{it} + \eta_i + \varepsilon_{it} $$

Where $y$ = real per capita Gross Domestic Product in logarithms, $X$ = explicative variable set (apart from the lagged GDP), $\eta$ = non-observed effect on each country, $\varepsilon$ = error term and the subscripts $i$ and $t$ = represent countries and years, respectively. In short, $X$ includes an indicator and other determinants of growth. Owing to that, equation (4) may be re-written as:

$$ y_{it} = ax_{it-1} + \beta^* X_{it} + \eta_i + \varepsilon_{it} $$

To eliminate specific effects within countries, first differences are taken out from equation (5):

$$ y_{it} - y_{i,t-1} = a(y_{i,t} - y_{i,t-2} + \beta^*(X_{it} - X_{i,t-1}) + \varepsilon_{it} - \varepsilon_{i,t-1}) $$

The application of instrumental variables becomes necessary to overcome: 1) the property of endogeneity on explicative variables and, 2) the natural problem arising from the new error term, $\varepsilon_{i,t}$ - $\varepsilon_{i,t-1}$, which might be correlated to the lagged-dependent variable, $y_{i,t}$ - $y_{i,t-2}$. Bearing in mind the hypothesis that: a) the error term is not auto-correlated and that b) the explicative variables are weakly exogenous (i.e. they are correlated with future values of the error term), the GMM of panel data uses the following moment conditions:

$$ E [y_{i,t-2}(\varepsilon_{i,t} - \varepsilon_{i,t-1})] = 0, \quad \text{to } s \geq t = 2, ..., T $$

$$ E [X_{i,t-2}(\varepsilon_{i,t} - \varepsilon_{i,t-1})] = 0, \quad \text{to } s \geq t = 2, ..., T $$

$^{32}$ The GMM estimator based on such conditions is called estimator of difference.
In order to minimize possible inconsistencies coming out the estimators in differences, a new estimator is used, which combines a system of regressions in differences with the regression in levels (Arellano and Bover, 1995 and Blundell and Bond, 1998). The instruments to perform such regression in levels are the lagged variables in differences. These instruments are rights under one additional assumptions which states that even when it is possible a correlation between the levels of the right-hand side of the equation and a specific effect of a country, if any, in equation (5), there in not a correlation problem between the differences of these variables and the particular country effect in case. These additional conditions can be formalised as follows:

\[(9) \quad E [y_{i,t+p} \cdot \eta_i] = E [y_{i,t-q} \cdot \eta_i] \]
\[(10) \quad E [X_{i,t+p} \cdot \eta_i] = E [X_{i,t+q} \cdot \eta_i] \quad \text{... to all } p \text{ and } q \]

The additional conditions for the moments of the second part of the system, it meant the regression in levels, are written as follow:

\[(11) \quad E (y_{i,t-s} - y_{i,t-s-1}) \cdot (\eta_i + \varepsilon_{i,t}) = 0 \quad \text{to } s = 1 \]
\[(12) \quad E (X_{i,t-s} - X_{i,t-s-1}) \cdot (\eta_i + \varepsilon_{i,t}) = 0 \quad \text{to } s = 1 \]

Therefore, it used as the conditions stated in the moment equations (7), (8), (9), (10), (11) and (12), as some two-period-lagged instruments (t-2) and the use of one GMM procedure to generate an effective and coherent estimator. The consistency of the estimator of the GMM hinges on the own instruments validity. Furthermore, to tackle the inconsistency and biasness problems two specifications tests are considered (Arellano and Bond (1991), Arellano and Bover (1995) and Blundell and Bond (1998)). Firstly, the Sargan test (over-identification restriction) is run to test the overall validity of the instruments and, secondly, a test is run to examine the hypothesis that the error term, \(\varepsilon_{i,t} \), is not serially correlated.

The regression in differences and the system of regressions as in differences as in variable levels, it is then tested with the aim of determining whether the differentiated error term has a second order serial correlations (by construction, the differentiated error term faces the probability of having a first order serial correlation, even when the original error term would not be).

**Description of Variables**

To undertake the evaluation of the relationship between FDI inflows and economic growth, the model requires as control variables as measurement variables. The former intended to reflect the determinants of economic growth while the latter try to gauge the FDI inflows toward each country in the sample:

\( G \): Real rate of growth of per capita GDP\(^{33} \), a conventional indicator to reflect TFP differentials among countries (Gourinchas and Jeanne, 2008). Source: IFS-IMF;

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\(^{33}\) Broadly speaking, the ultimate source of higher living standards is growth in productivity.
YL: Per capita income Level, which prevail at the beginning of the estimation period (1980, in this study)\textsuperscript{34}. The data are transformed by taking the natural logarithms. The expected sign may be either negative or positive, i.e. showing that the economies in the sample are catching up or otherwise, respectively. Source: Penn World Tables, Ver.6.3;

LESC: Average schooling degree in logs for population above 15 years age at the beginning of the period (1980, in this case in point) whose sign should be positive as there a long established correlation between education and economic growth: World Development Indicators (WDI), 2009;

BANKCRED: Private credit assigned by the banking sector as a share of GDP and it is assumed as a proxy of the financial development in each country in the sample. The expected sign of this variable should also be positive as banking credit use to enhance consumption and investment functions. Source: Beck and Levine (2002);\textsuperscript{35}

SMTV: Total value of the stock market as a fraction of GDP and it is used as liquidity and performance indicator of the stock market of the countries in the sample. As long as this variable might be used as a source of finance the expected sign only may assume a positive sign. Source: Beck and Levine (2002);

I: Investment coefficient (I/GDP) intended to measure the effect of the external capital flows on domestic savings, investment and, therefore, on economic growth. The expected sign should be positive. Source: WDI, 2009;

DLP: Inflation, it is expressed in logarithms of the first differences on the rate of inflation on annual basis. Higher rates of inflation than that conceived to be at manageable levels, are negative for economic growth so the sign, whilst the latter have a positive effect on growth as do not distort the other macroeconomic-relative prices. Source: IFS-IMF;

BB: Budget balance, either deficit or surplus, as a share of GDP. An acceptable level of budget deficit is expected to have a positive impact on economic growth, whereas a situation of surplus means the opposite picture and will be signalised by a positive sign. Source: IFS-IMF;

FDIS: Stock of Foreign Direct Investment, accumulated FDI inflows as that at the end of each year during the study period. Source: IFS – IMF;

FDIF: Net Inflows of Foreign Direct Investment, new investment inflows less disinvestment as at the

\textsuperscript{34} LY variable also allow us to determine whether there is has been a convergence, or a divergence, among the countries clustered in the sample, depending on the (–) sign and (+) sign, respectively, appearing in the estimated equation regressions.

\textsuperscript{35} The BANKCRED and SMTV variables are included at the extent the degree of the local financial sector development is pondered as alternative financial sources by the multinational companies. Particularly, the stock market enables collection of small savings for big projects. Thus, they are part of their strategically financing function (Kusinsky, 2010).
end of each year during the study period. Source: IFS - IMF.

The Empirical Evidence for Mexico

This part of section III analyses the effects of FDI flows on economic growth in Mexico during the 1982-2010 period. Further inquiring into the effects of FDI on economic growth the former is disaggregated into FDI stocks (FDIS) and FDI flows (FDIF) so as to separate their effects. In the light of the literature reviewed, some years the flows of new FDI might to be short with respect the amount needed so they can be partially offset by the resources coming out from FDI stocks. Regression analysis is done using OLS and 2SOLS-IV methods along the same lines that those in section II.2.2.

The Effect of FDI on Economic Growth

Table 1 summarizes the main results obtained by the array of techniques above referred matching each of the set of control variables. According to the results obtained it is shown that FDI inflows, both stock and flow, does not impact on economic growth. This can easily be grasped from the values assumed either OLS or 2SOLS techniques on FDIS and FDIF alike.

Table 1: FDI and Economic Growth

<table>
<thead>
<tr>
<th>Per-capita Real Rate of Economic Growth</th>
<th>OLS</th>
<th>2SOLS-IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>YL</td>
<td>0.09170968(1.21)</td>
<td>0.1274532(2.06)*</td>
</tr>
<tr>
<td>SCHOOLL</td>
<td>0.01807963(0.35)</td>
<td>0.09692586(1.58)</td>
</tr>
<tr>
<td>BB</td>
<td>0.07458391(0.51)</td>
<td>-0.02221371(-0.19)</td>
</tr>
<tr>
<td>INF</td>
<td>-0.02222618(-3.36)*</td>
<td>-0.02464689(-4.5)*</td>
</tr>
<tr>
<td>SMVT</td>
<td>0.29715431(1.79)**</td>
<td>0.22509251(1.7)**</td>
</tr>
<tr>
<td>BANKCRED</td>
<td>-0.23556186(-1.7)</td>
<td>-0.23635409(-2.55)**</td>
</tr>
<tr>
<td>I</td>
<td>1.0397526(4.95)*</td>
<td>0.94934414(4.92)*</td>
</tr>
<tr>
<td>FDIS</td>
<td>-0.1904509(-1.23)</td>
<td>-0.37403774(-2.46)*</td>
</tr>
<tr>
<td>FDIF</td>
<td>-0.14565483(-0.28)</td>
<td>-0.32858722(-0.85)</td>
</tr>
</tbody>
</table>
In contrast, the rate of growth of product seems to strongly be determined by savings, proxied by the investment coefficient (I/GDP), as expected from the Harrod-Domar growth model. The figures of 4.95 percent and 4.92 percent given by both methods OLS and 2SOLS-VI, respectively, reveal that the growth of the Mexican economy depended more from internal than external factors.

**FDI, Economic Growth and Economic Policy**

Based on key indicators of macroeconomic performance and the type of economic policies followed by the Mexican economy during the period 1979-2008, the 2SOLS-IV is redo using the same data. Table 2 shows the estimation result considering the impact of stock FDI and flow FDI both on economic growth weighted by the per capita income levels prevailing in Mexico. The interaction variable FDI*YL seems not having any positive influence on it whatsoever, indicating that the impact of FDI on economic growth has nothing to do with the level of per capita income.

### Table 2: FDI and Per capita Income Level

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>FDI Coefficients</th>
<th>FDI Net Stock (FDIS)</th>
<th>FDI Net Inflows (FDIF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>-3.179099</td>
<td>(-1.73)</td>
<td>-1.857334</td>
</tr>
<tr>
<td>FDI</td>
<td>6.264483</td>
<td>(0.59)</td>
<td>-2.207146</td>
</tr>
<tr>
<td>FDI*YL</td>
<td>-0.6984101</td>
<td>(-0.6)</td>
<td>0.1083543</td>
</tr>
<tr>
<td>YL</td>
<td>0.3518362</td>
<td>(1.74)</td>
<td>0.2075674</td>
</tr>
<tr>
<td>R²</td>
<td>0.2065</td>
<td></td>
<td>0.2156</td>
</tr>
</tbody>
</table>
Table 3: FDI and Schooling

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>FDI Coefficients</th>
<th>FDI Net Inflows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FDI Net Stock (FDIS)</td>
<td>FDI Net Inflows (FDIF)</td>
</tr>
<tr>
<td>α</td>
<td>0.0350857 (1.14)</td>
<td>0.0569705 (1.04)</td>
</tr>
<tr>
<td>FDI</td>
<td>-0.4424082 (-0.84)</td>
<td>-4.263521 (-1.04)</td>
</tr>
<tr>
<td>FDI*SCHOOLL</td>
<td>0.4675297 (1.01)</td>
<td>4.54926 (0.88)</td>
</tr>
<tr>
<td>SCHOOLL</td>
<td>-0.0149979 (-0.25)</td>
<td>-0.0372462 (-0.45)</td>
</tr>
<tr>
<td>R²</td>
<td>0.0479</td>
<td>0.0614</td>
</tr>
<tr>
<td>F</td>
<td>0.42</td>
<td>0.57</td>
</tr>
<tr>
<td>N</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

Note: the numbers in brackets are t-values; (*) (***) significance at 5% 10%, respectively; n=8 for the 1979-2008 period; OLS estimator.

Concerning the effect of the terms of interaction of FDI-Banking credit, the table 4 shows the estimation result. Not one of the interaction coefficients associated to the different measures of FDI either stock and flow, it seems to have a direct impact on economic growth. By contrast, the coefficients suggest the possibility of a reversal effect on economic growth on the aggregate.

Table 4: FDI and Banking Credit
Table 5 shows the estimation result evaluating the impact of FDI on economic growth when bringing in stock market as a potential source of financial resources for the foreign companies in Mexico. Neither FDI stock nor FDI inflow seem to affect economic growth when putting other source of finance at the foreign direct investors disposal.

Note: the numbers in brackets are t-values; (*) (**) significance at 5% 10%, respectively; n=8 for the 1979-2008 period; OLS estimator.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>FDI Coefficients</th>
<th>FDI Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(FDIS)</td>
<td>(FDIF)</td>
</tr>
<tr>
<td>α</td>
<td>-0.0443316 (-0.9)</td>
<td>-0.0600084 (-1.21)</td>
</tr>
<tr>
<td>FDI</td>
<td>0.3757291 (0.89)</td>
<td>2.708121 (1.19)</td>
</tr>
<tr>
<td>FDI*BANKCRED</td>
<td>-1.869705 (-0.81)</td>
<td>-16.22806 (-1.379)</td>
</tr>
<tr>
<td>BANKCRED</td>
<td>0.2883839 (1.09)</td>
<td>0.4395258 (1.64)</td>
</tr>
<tr>
<td>R²</td>
<td>0.0606 (1.09)</td>
<td>0.099 (1.09)</td>
</tr>
<tr>
<td>F</td>
<td>0.54</td>
<td>0.95</td>
</tr>
<tr>
<td>N</td>
<td>29</td>
<td>30</td>
</tr>
</tbody>
</table>
Note: the numbers in brackets are t-values; (*) (***) significance at 5%
10%, respectively; n=8 for the 1979-2008 period; OLS estimator.

Table 6 shows the estimation result for the FDI-(I/Y) interaction. It can be seen that FDI either stock or flow, show no evidence of any noticeable effect on economic growth. Notwithstanding, I coefficient by itself shows the expected sign and it is statistically significant. Once again, it may be argued that the internal determinants of growth are more important than those coming from external sources.

Table 6: FDI and Saving-Investment

<table>
<thead>
<tr>
<th>explanatory variables</th>
<th>FDI Coefficients</th>
<th>Net FDI Stock</th>
<th>Net FDI Inflows</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(FDIS)</td>
<td>(FDIF)</td>
</tr>
<tr>
<td>\alpha</td>
<td>-0.2717956</td>
<td>-0.1616073</td>
<td>(-3.6)*</td>
</tr>
<tr>
<td>FDI</td>
<td>0.0553032</td>
<td>-4.866855</td>
<td>(0.1)</td>
</tr>
<tr>
<td>FDI*I</td>
<td>-0.299867</td>
<td>20.88003</td>
<td>(-0.13)</td>
</tr>
<tr>
<td>I</td>
<td>1.251866</td>
<td>0.7648537</td>
<td>(3.92)*</td>
</tr>
<tr>
<td>R²</td>
<td>0.6365</td>
<td>0.6358</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>14.59</td>
<td>15.13</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>28</td>
<td>28</td>
<td></td>
</tr>
</tbody>
</table>

Note: the numbers in brackets are t-values; (*) (***) significance at 5%

10%, respectively; n=8 for the 1979-2008 period; OLS estimator.

Regarding the prevailing type of economic policy in process, Table 7 shows the estimation results for FDI-economic growth relationship having the fiscal policy as a background and which is proxied by the budget balance any year across the study period. Sticking to empirical results, the potential contribution of FDI to the growth of product, under any of the forms considered, seems to be correlated with fiscal policy. Perhaps in the case of Mexico this is not a deterrent factor for FDI flows as stock and flow alike due to a sizeable fraction of production is shipped away for sale and if the deficit brings about pressure on the national currency, any effect will eventually be defused by monetary policy.
Table 7: FDI and Fiscal Policy

<table>
<thead>
<tr>
<th>Real rate of Growth of GDP per capita</th>
<th>FDI Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables</td>
<td>Net FDI Stock (FDIS)</td>
<td>FDI Net Inflows (FDIF)</td>
</tr>
<tr>
<td><strong>α</strong></td>
<td>0.0259965 (1.26)</td>
<td>0.0348814 (1.78)</td>
</tr>
<tr>
<td>FDI</td>
<td>-0.0335318 (-0.27)</td>
<td>-0.4043113 (-0.48)</td>
</tr>
<tr>
<td>FDI*BB</td>
<td>-1.726787 (-0.33)</td>
<td>26.48783 (0.66)</td>
</tr>
<tr>
<td>BB</td>
<td>0.4377377 (0.94)</td>
<td>0.0507849 (0.1)</td>
</tr>
<tr>
<td>R²</td>
<td>0.1537</td>
<td>0.2072</td>
</tr>
<tr>
<td>F</td>
<td>1.45</td>
<td>2.18</td>
</tr>
<tr>
<td>N</td>
<td>28</td>
<td>28</td>
</tr>
</tbody>
</table>

Note: the numbers in brackets are t-values; (*) (***) significance at 5% 10%, respectively; n=8 for the 1979-2008 period; OLS estimator.

Further inquiring into the kind of economic policy put in motion along the period under study, table 8 shows the estimation result for the FDI-Inflation relationship. Given the negative sign assumed for both FDIS and FDIF and the statistical significance shown by both of them, it can be argued that low levels of inflation and the credibility on the monetary authorities determine a virtuous nexus between FDI and economic growth.

Table 8: FDI and Monetary Policy

<table>
<thead>
<tr>
<th>Real rate of Growth of GDP per capita</th>
<th>FDI Coefficients</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variables</td>
<td>Net FDI Stock (FDIS)</td>
<td>FDI Net Inflows (FDIF)</td>
</tr>
<tr>
<td><strong>α</strong></td>
<td>0.010306 (0.87)</td>
<td>0.0198338 (1.54)</td>
</tr>
<tr>
<td>FDI</td>
<td>0.0089034 (0.13)</td>
<td>-0.3474615 (-0.62)</td>
</tr>
<tr>
<td>FDI*INF</td>
<td>-0.0742067 (-0.27)</td>
<td>-1.507685 (-1.52)</td>
</tr>
</tbody>
</table>
Conclusion

The empirical evidences provided by the whole methodological array –OLS, 2SOLS and DP-AB, show the lack of a robust relationship between FDI inflows and the economic growth of the Mexican economy. There is no sufficient elements, however, to elucidate that FDI has not also nothing to do with economic growth neither. Perhaps such inconclusive situation takes some analysts (as Rodrik and Subramanian, 2008, for instance) ‘to think that one should look the gains not in the common ways but in indirect benefits that are hard to detect with macroeconomic data and technologies’ (p.3).

Notwithstanding, taking as a whole the journey made in this section and pondering FDI inflows either as stock as flow it seems that possibilities that a greater positive impact lays wherever better economic and public policies are rooted.

For instance, where economies exhibit a dynamic rate of economic growth of per capita GDP, inflows of FDI might help to improve their operations and therefore their performance. In the same fashion, as more bases of a modern financial systems are set up, the greater the probabilities of getting the most out from FDI flows showing not only the capabilities of allocating then onto the best productive uses. Likewise, the prevailing of a solid institutional framework – rule of law, property rights enforcement, amongst other elements, it is also important. It is not fortuitous that the FDI flows use to target countries where basic macroeconomic equilibrium both internal and external is in place. Particularly FDI flows pay attention those indicators related to inflation and budget balance. The inverse is true. The surplus exporters use to punish economies in tatters. The prevalence of either deteriorated economic fundamentals or unsound economic policies are innocuous in the effort to attract more and good quality of FDI amounts.

Concluding Remarks

The heavy reliance on foreign capital inflows as a source of finance was self-evident in Mexico when the availability of foreign exchange expanded during the 1970’s and spread to the beginning of the 1980’s as a result of both the rise in the price of oil and the increased supply of foreign loans. By 1982, however, circumstances suddenly changed when the international price of oil fell and the global interest rates rose, harming the economy. It was then, at first, thought by the Mexican
government, and also by the international financial community, that the price of oil would rise again and that the debt problem of Mexico was a temporary one. By mid of 1982, however, it became clear that the debt crisis was not transitory, and the availability of easy foreign finance had ceased in 1982.

When the binding constraint for economic growth is foreign exchange, however, the only way to earn foreign exchange and relax the foreign exchange gap in the very short run is in depressing the domestic levels of consumption, in both the public and the private sectors. So, domestic economic policy rapidly changed trying to enhance the economy’s ability to pour foreign exchange to meet with servicing the external debt. At the point where the debt burden became an obstacle to economic growth, its reduction became one of the main goals of the government’s economic policy of the day.

The accommodation of such adjustments, inter alia, demanded a new economic policy. So from the same old-corporatist and authoritarian government managing the Mexican economy under a inward-looking model for so long, there was gradually set into motion an outward-looking model to enable the implementation of the neoliberal creed.

At the outset, the neoliberal economic policy in Mexico (1983) was aimed at reducing the levels of domestic consumption in order to increase savings, increase exports, reduce imports and generate a trade surplus. In parallel, the government embraced the Mackinnon-Shaw approach in which financial liberalization was considered a necessary condition for economic development in so far as it was based on the classical assumption that prior saving is necessary for financing investment and economic growth. Thus, starting with a string of legal and institutional reforms to increase both the total level of savings with the objective of making this saving available for productive investment purposes through the market forces, this led to decoupling the Mexican financial sector from political intervention.

As is known, however, if a country generates a trade surplus it becomes a net exporter of resources (negative net transfers). The deterioration in the terms of trade explained by the drop of the price of oil, and the fall in the supply of foreign loans, led Mexico to become a net exporter of capital in order to service the external debt. The costs of doing so, as pointed out by Bacha (1992), is that ‘investment rates have to contract, thus lowering output growth rates’ (p.185). In Mexico, net transfers of resources became negative after 1982. The fall in foreign capital inflows and the effect of contrary policies were soon felt on the level of investment and on the rate of economic growth. Therefore, Mexico was ready to exemplify by itself the so-called ‘lost decade’ of growth which plagued almost all Latin-American countries in the 1980s.

Despite the failure of the short-term economic growth models proposed by the World Bank and the IMF, - the Revised Minimum Standard Model and the Financial Programming Model, respectively,
which intended to harmonize honoring external-debt service with small but positive rates of growth in Latin-America economies along the 1980s, in the wake of the 1990s most of them went into deeper commercial and financial reforms to anchor the continuation of a market-forces led economy as they considered the effort made so far was not enough to build up the pillars of the a new industrialized economy that they were, in formal terms, aiming at.

As far as Mexican economic policy is concerned, it stuck to the fundamentalist part of the MacKinnon-Shaw argument which postulates that, in a financially repressed economy, investment is constrained by the shortage of savings and that the only way to eliminate it is through financial deepening –the process of increasing the size of the financial sector relative to the rest of the economy. So that, apart from the negotiation of NAFTA, in the financial sector the government of the day undertook the following measures to allegedly restore a lack of confidence in both domestic private investors and foreign creditors: re-privatization of the banking system; financial integration; independence to central bank; allowance of full foreign investment in banking assets; and furthermore, deliberately downgrading the development banking segment in favor of private commercial banking. It resulted on full capital account openness.

One of the main hypotheses of financial liberalization is that a rise in the real interest rate to its equilibrium level will not only increase the total level of savings and investment, but will also improve the productivity of total investment so promoting a business scenario able to attract significant financial and FDI flows. In this way, it underpins the expansion of the Mexican economy. Since 1984, Mexico progressively reduced existing impediments to FDI flows as part of the liberalization policies by opening areas of the domestic economy to investors from abroad and by removing all restrictions to technology licensing. The substantial structural changes and the liberalization of trade and finance undertaken, led to a remarkable increase in the inflows of FDI over the last two decades.

Unlike the 1970s and early 1980s when the major part of foreign capital inflows was used to finance the deficit of the public sector, the period after 1982 was characterized by a search for capital inflows mainly in the form of FDI. However, at the end of 1980s and early 1990s, FDI gravitated towards the short-term speculative money market. For example, from 1989 to 1992, the ratio of portfolio investment to total private investment rose from 14.0 percent to 71.6 percent. The huge increase of short-term inflows, which were mainly being invested in short-term government bonds, reflected the high interest rates offered in Mexico at the time relative to interest rates offered in foreign markets, basically those in the US financial markets. Notwithstanding, FDI has became a growing part of the Mexican economy and its potential benefits continue being expected.

Regarding the specific effects of FDI inflows on the rate of growth of output, the results for Mexico show that such impact is weak on empirical grounds: the evidence provided by the methodological scheme exercised –OLS, 2SOLS and DP-AB, reveals the lack of a robust relationship between FDI inflows and the economic growth. Notwithstanding, there are not sufficient elements to support that FDI has nothing to do with economic growth either. The most interesting finding in this research report, though, is that FDI inflows either as stock as flow it seems possible that a greater positive impact may arise when better economic and public policies are assembled.
Up to this point, such empirical evidence does not depart much from that gathered by many other studies for other countries. However, the growth model developed in the third section has found that, on average, FDI inflows have had a greater positive effect on the rate of growth in Mexico during the pre-financial reform period (1982-1989) than in the period of unrestricted integration to the external sector.

The point in this case is that foreign capital inflows seem to allow them to grow at a faster pace than the rate of growth achievable with only domestic savings as a source of finance in the former period. In Mexico’s case, for instance, the contributory effect of the foreign capital inflows that took place in late 1970s on output growth holds, even when in the 1980s the impact was partially offset both by the much lower FDI flows available and the fact that they were linked more often than not with servicing the external debt than with investment projects.

The only plausible explanation for such dichotomic effect between the two periods aforementioned is that as the neoliberal policies were installed in Latin-America region during the second one, i.e. the period of international-economic integration, just when governments were gradually losing the power and the ability necessary to direct the FDI inflows to the strategic areas. So, FDI flows would flee either into the traditional, volatile and poorly integrated in-bond (maquiladora) industry, or to the short-term profitable areas in the service sector and, most importantly, they used to acquire old fixed assets, rather than building up new infrastructure.

As a typical pattern, NAFTA brought financial and capital market liberalization too, just the very policies that contributed to the spread of the deepest global economic crisis since the 1930s due to financialization –the ratio of the stock of non-monetary financial assets to the stocks of productive capital. Given this fact, and adding that the elicited, over-optimistic trust on liberalization policies in Mexico as, in Latin-America region as a whole, has almost vanished to date, government should get rid of neoliberal fundamentalisms and ensure an industrial policy for the attraction of long-term-productive FDI inflows to fill the more challenging technological gaps and create clusters, and likewise set up right measures to control speculative portfolio investment which can be intrinsically volatile.

However, such desirable FDI policy confronts now additional new risks. The commercial fight coming from the fast growing developing economies –China, India and Gulf states, into Latin America mostly to secure resources and land rather than looking for profitable investment in the industry, for instance. This explains why in Mexico and elsewhere in our region there is a sense of unease about state-backed investment’s transparency as it uses to funnel money through the private sector to bypass local regulations and their acute appetite of natural resources just when water scarcity limiting food supplies as the global population continues to grow.

Mexico, and Latin America as a whole, should learn from past lessons: without driving away foreign investment it is necessary to remind us ourselves the need of commodities to feed our population and to find a way to translate their wealth into economic development. In a nutshell, it is in line of the national interest to resort to selective protectionist policies to direct investment to specific areas.
of the economy.

**Bibliography**


