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The Role of Foreign Direct Investments in the Development of Brazil and India: A Comparative Analysis

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I. INTRODUCTION

The relationship between institutions and economic development has been at the center of development economics since the times of Adam Smith. Recently there has been a resurgence of interest in this area. North (1991, p. 97) defines institutions as 'humanly devised constraints that structure political, economic and social interaction. They consist of both informal constraints (sanctions, taboos, customs, traditions and codes of conduct), and formal rules (constitutions, laws, property rights)'. Given the inherent uncertainty and complexity of modern economies, appropriate economic institutions make markets more efficient. This is also the case of foreign direct investment (FDI), as has been stressed in the literature (Dunning 1998, Görg 2005, Busse and Hefeker 2007, Meon and Sekkat 2007, Seyoum 2011).

For those who believe that "institutions matter", two questions emerge: How do alternative institutional arrangements affect the quality and pace of economic development? How do such institutions emerge in the first place? The answer to the first question may be obtained by comparing alternative experiences. The answer to the second question requires a historical perspective. It is within this framework that we present a comparative analysis of Brazil and India's past and recent experiences with FDI.

Acemoglu, Johnson and Robinson (2001, 2002, 2005) investigate the impact of colonialism on institutional and economic development of nations. They argue that the biggest impact of colonialism was on economic institutions. In settler colonies, the colonizing nations established institutions that protected property rights for broad masses. This resulted in an egalitarian distribution of political power. By doing so, basic ingredients for development were put in place. In other colonies, where European settlements where restricted, the colonizing power established "extractive"

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institutions that were inimical to progress. These political and economic structures once established persisted even after the colonies became independent, resulting in divergent patterns of growth.

In this paper we concentrate on FDI and argue that the contrasting FDI policies in Brazil and India can be traced back to differences in the respective colonial (or semi-colonial) experiences of the two nations during the 19th century. However our analysis differs from the "colonialism-institutions hypothesis" in several ways. Colonialism in Brazil and India lead to two divergent processes: On the one hand, regressive political and economic institutions (slavery, regressive land tenure systems, lopsided distribution of political power etc.) emerged. On the other hand, colonial exploitation led to another set of consequences: disenfranchisement amongst the masses and sections of the elite (especially the industrial elite) who sought to break from the international division of labour that had restricted their economies into exporters of primary commodities. One therefore finds that after independence*, though a number of colonial institutions remained, a number of others were dismantled.*

The emergence of a proactive state and the initiation of import substituting industrialization were the biggest institutional changes that were introduced in the 20th century. However, the specific differences in historical experiences led these countries to adopt different sets of policies even within a state lead ISI framework. In Brazil, the state and domestic class interests aligned themselves in such a way so as to provide space for FDI in the industrialization process. In contrast, in India the post-colonial society established institutions that restricted FDI in the economy until the neo-liberal era. The basic scheme of our argument can thus be explained as follows:

> 19th century historical factors → Institutional persistence and institutional rupture → role of FDI in the economy → Industrial growth

In the first two sections of this article we shall briefly review the function of foreign investments both prior to and during the process of import substituting industrialization (ISI) in each country. The following section we analyze the changing role of FDI in the neo-liberal era, when ISI was abandoned. Following this, we then analyze the contemporary role of FDI in the respective economies, and then examine the advantages and disadvantages the different policies towards foreign capital have had on the development process of each country.

II. FDI IN HISTORICAL PERSPECTIVE

1. Brazil

In the early years after independence (from 1822 to the 1850s) foreign investments (mostly of British origin) were mainly concentrated in finance and trade.

The production of export products (coffee and sugar) was dominated by local residents, while the shipping and the financing of trade was in the hands of foreigners. In the second half of the 19th century the Brazilian government encouraged foreign capital to build the country's infrastructure – railroads, ports, and urban public utilities. Much of these investments were designed to better integrate Brazil into the world's trading network as a supplier of primary goods. In 1880 the total stock of foreign investments were estimated at US$ 190 million; this expanded to US$ 1.9 billion by 1914 and to US$ 2.6 billion by 1930. Prior to 1930 Britain was the dominant foreign investor; it still accounted for 50% of foreign investment in that year, though the United States share was rapidly increasing, already accounting for 25% of total foreign investments.

Although foreign investments contributed resources and technology to Brazil in the years prior to 1930, many observers had misgivings about the type of growth it helped to foster and its often overlooked costs to the country. Railroads and ports were built to integrate more effectively the agricultural sectors of the interior into the international economy. By doing this, however, the resulting national transportation system did not link together various geographical regions and thus did not create a large internal market.

It was the Brazilian government (at both the central and state levels) who took the initiative in getting foreign groups to invest in the country by offering various types of incentives. In the case of railroads, for example, foreign companies were granted guaranteed rates of return on their investments.[1] The early construction of electricity generation plants and distribution systems were dominated by foreign firms, which were attracted by the government's willingness to allow high electricity tariffs.

By the 1930s, however, the Brazilian government changed its attitude towards foreign investors in public utilities. Tariffs on electricity, telephone services and public transportation were more tightly controlled and were not readjusted to the likings of the foreign concession owners[2]. After World War II, until the 1990s, most public utilities were taken over by either the federal or state governments. The public sector also took over most of the exploitation of natural resources.

With the adoption of Import Substitution Industrialization (ISI) as the country's main strategy of economic development, FDI was given a central role for creating new manufacturing sectors behind protective walls.

1. The burden of guaranteeing a minimum rate of return to foreign-owned railways became so onerous that the government began to borrow money abroad after the turn of the century to gradually buy them. By 1929 almost half were in government hands and by 1953 94 percent had been nationalized. See Villela and Suzigan, (1973, p. 397–399).
2. In the case of Brazil foreign investments in public utilities -like railroads and electricity generation and/or distribution – was allowed under a regime of concession contracts, which granted temporary monopolies to provide services.

2. India

Foreign investment in India in the 19th and 20th centuries was dominated by British investment. British capital was mainly invested in export oriented sectors such as jute, tea and coal. It also had the major role in the construction of railways and had a substantial presence in trade and finance. While exact data regarding foreign investments in India during the colonial era is not available, in a rigorous reconstruction of Indian balance of payments, Banerji (1963) puts foreign investment in India at US $ 61 million for the year 1921 and US$ 83 million in 1938[3]. The Reserve Bank of India (Central bank of India) analyzed foreign capital in India for the year 1948 and estimated it to be between US$ 46 and 64 million (Tomlinson 1978). In view of the above estimates, it would be safe to conclude that foreign investment in India during the 19th and early 20th century was negligible and that it did show signs of increasing during the early decades of the 20th century (Tomlinson 1978).

The first half of the 20th century witnessed two important changes in the structure of foreign investment in India. First, foreign investments in the pre-1920 period were essentially in the form of portfolio capital. Moreover it was heavily concentrated in the primary sector and in utilities and transport sectors. By the 1930's there seems to be evidence suggesting that FDI, as opposed to portfolio investment, had started to dominate total private foreign investment (Tomlinson 1978). Second, the favorable terms of trade in the pre-World-War I era, followed by the economic depression of the 1930's, allowed Indian firms to gain access to sectors that were previously dominated by foreign firms. In 1914, 70% of banking deposits were under the control of foreign firms, but by 1947 this was reduced to 17% (Mukherjee and Mukherjee 1988). Similarly Indian companies had started to dominate the insurance sector (Mukherjee and Mukherjee 1988).

The crucial feature of 20th century India was the rise of an industrial elite, who viewed colonialism as the biggest obstacle to their advancement. The history of industrial development in India had convinced the ruling classes of the importance of state protection in providing stimulus to industrial growth. As a result, they favored extensive state regulation of the economy.

III. FDI IN THE IMPORT SUBSTITUTION ERA

1. Brazil

With the adoption of ISI as Brazil's main development strategy, foreign investments shifted to the manufacturing sector (rising from 23.7% in 1929 to 74.6%

3. As quoted in Tomlinson (1978). The British shares were 80% and 73% respectively.

in 1998), while its share in public utilities declined from 50% in 1929 to 2.4% in 1992). This was due to various types of incentives given to foreign investors, as policymakers felt that rapid ISI was possible only with a substantial contribution of foreign finance and technical know-how. The decline of FDI in public utilities was due to both government regulations that made investments in that sector unattractive and the fear of nationalist reactions to the foreign control of strategic sectors.

Reliance on FDI in promoting ISI was due to the government's pragmatism. The availability of domestic entrepreneurs with the financial and technical capacity to create new production facilities was limited, and the perception was that leaving things to domestic "trial and error" would waste resources and require too much time.

Within the manufacturing sector foreign investment was especially strong in chemicals, transport equipment, food and beverages, and machinery.

In the initial phase of ISI the dominant source of FDI was the U.S., which accounted for 44% in 1951, followed by Canada (30%) and the U.K. (12.1%). Since that time there has been a substantial diversification of sources. In 2005 the U.S. accounted for only 21.6% of FDI, Canada 6.7%, the U.K. for 1.5%, while Japan had grown from almost nothing to 15.5%.

2. India

The arguments favoring state-led industrialization were fuelled by the belief that the Indian economy should be treated as if it were an "infant economy" (Patnaik 1979). Rather than depending on the international economy, domestic consumer demand and heavy public investment were to provide the necessary stimulus for industrialization. Even in cases where foreign investment were necessary, it was the states' duty to protect the interests of domestic entrepreneurs.

The initial policy stance of the Indian government was to be wary of foreign investments. The industrial policy statements of 1948 and other legal measures like The Capital Issues Control Act were aimed at restricting foreign investment. Despite the restrictions on foreign investments, FDI stock increased from USD 114 million to USD 185 million, between 1964 and 1974 (Kumar 1995). In the 1970's, increased regulation on foreign capital resulted in a stagnation of FDI inflows[4]. The stock of FDI increased from USD 185 million in 1974 to USD 189 million in 1980. The share of total FDI in manufacturing increased from 20% in 1948 to 86.9% in 1980 (Kumar 1995). The data shows that British FDI declined

4. For example, in 1973, the Foreign Exchange Regulation Act (FERA) was promulgated with a view to reduce the role of foreign capital in the domestic market. FERA put a ceiling of 40% on foreign equity participation.

from over 75% of all foreign investments in the 1960's to around 50% by 1987, while shares of Germany, Japan and US steadily increased.

India's ISI policy was riddled with contradictions. The assumption that domestic consumer demand and heavy public investment could support industrial growth was clearly misplaced. In reality, a skewed income distribution and negligence of agricultural development in the early planning process meant that domestic consumption could never play an important role. Moreover, the resources for massive public investment were raised by deficit financing and indirect taxation (Patnaik 1979). As a result, public investment was inflationary and unsustainable in the long-run. Thus, by the late 1970's, the planning process was already showing signs of breaking down. The 1980's witnessed a worsening trade balance owing to growing oil imports and a slowdown of exports. By 1990–91 the Indian government took the decision to liberalize its economy and undertake structural adjustment programs. An important part of this liberalization process was a much greater emphasis on attracting FDI.

IV. FDI IN THE NEO-LIBERAL ERA

1. Brazil

After the debt-crisis of the 1980s, Brazil was persuaded to adopt neo-liberal policies. These consisted of drastic reductions in protective tariffs, privatization of state enterprises and the opening of many sectors for private foreign investments. These policies resulted in a notable re-appearance of FDI in public utilities and in the exploitation of natural resources. Foreign firms were allowed to participate in auctions for concession contracts in various fields of public utilities. Thus, public utilities which had accounted for 50% of the stock of FDI in 1929 and had dropped to 2.4% in 1992, rose to 25% in 2000 and then declined again to about 10% in 2010.

2. India

The 1990's marked a major shift in India's FDI policy. After having followed a restrictive policy towards foreign investment for four decades, India undertook major reforms in its economic policy. The new industrial policy of 1991 abolished industrial licensing requirements and eased restrictions on foreign equity participation.

As a result of these policies, FDI inflows increased steadily during the 1990's and reached $ 3.6 billion in 1997. After a brief stagnation following the Asian crisis, FDI inflows picked up steam from 2003 onwards. During this period the share of manufacturing in total FDI stock declined from 85% in 1990 to 48% in 1997 (Kumar 1995, 2005). This trend continued even during the 2000–2010 period, with the share of manufacturing in total FDI inflows declining from 41% in 2005 to 20 % in 2008 (Rao and Dhar 2011) . At the same time infrastructure and services (banking and financial services, software and telecommunications) have increasingly attracted FDI inflows (Nagaraj 2003, Kumar 2005).

V. FDI: A COMPARATIVE ANALYSIS

Both Brazil and India adopted an industrial development strategy based on import substitution. However, the policies towards foreign investment and FDI in particular have been very different. In the following section we compare and evaluate the impact of the two approaches.

1. Political economy of ISI in Brazil and India.

A comparative political economy of FDI policies of Brazil and India has not been adequately analyzed in economic literature. In order to study the two countries one has to highlight the role of political and social institutions in molding public policy. To do this, we return to the historical experiences of the two countries before World War II.

Brazil gained its independence in 1822. Britain acted as a guarantor of its independence in return for which it obtained privileged access to its markets and was influential in shaping various types of policies. Many observers have therefore referred to this period as a "semi-colonial" one. At that time the main source of wealth was export earnings from primary production (mainly coffee). As a result, both the agrarian elites and the urban elites preferred an open economy with limited state intervention. Even the industrial growth which began by the late 19th century was influenced by international factors: the incomes generated via coffee exports provided necessary resources to support early industrial growth (Kohli 2004, Baer 2008, p. 29). At the same time, immigrant labor brought with it entrepreneurial and organizational skills that were crucial for the establishment of industrial enterprises (Kohli 2004, Baer 2008, ch. 2 and 3). By the 1930's, the weakening of the international economy and rising nationalist sentiments drove the Brazilian leadership to adopt defensive policies which were of an early import-substituting nature. Although Brazil gradually restricted activities of foreign investors in some of the sectors where they made an early appearance (mainly public utilities), it never treated them with the same suspicion as did India and the ISI policies left considerable room for foreign investment in new sectors, especially manufacturing.

In the case of India, the British colonial experience lasted for over two centuries. By the late 19th century, a major anti-colonial struggle had begun. Repatriation of profits, guaranteed returns to investments in railways, discriminatory tariffs against Indian textiles and the inadequate development of infrastructure had convinced Indian nationalists about the dangers of integrating a "infant economy" in the world trading system. The rise of a "national industrial bourgeoisie" during the 20th century, which bitterly opposed colonialism, strengthened nationalist sentiment in India. The aversion to foreign rule translated into an aversion for foreign investment (Naoroji 1901).

Thus for large sections of the society, independence meant freedom from foreign domination, not just in the political and social arenas but even in the economic sphere. The post-colonial state that emerged in 1947 was a product of this anti-colonial sentiment.

The difference in perceptions of various groups in both countries regarding foreign capital should not come as a surprise. Britain did extract special trading privileges from Brazil. However, as it was an independent state, it enjoyed certain – albeit limited – flexibility regarding economic policies (Topik 1979, Kohli 2004). The state protected coffee plantations through a price support scheme known as *valorization* and was instrumental in setting up banks and schools (Kohli 2004). Even in the construction of railways, while the Brazilian state might have provided concessions to private investors, it was still able to exercise considerable control over its development (Topik 1979). Moreover, once these concessions started to become burdensome, Brazil's government borrowed funds from foreign countries to nationalize most of the railroad system.

In the case of India, a classic colony by all definitions, the use of monopoly power by Britain was much more explicit. Britain restricted access by Indians to finance, land and labor by legal and extra-economic methods. In the case of the Indian railways, Indian entrepreneurs were not allowed to invest in them (Bagchi 2002). Further, despite public outrage, guaranteed returns were not abolished[5]. Thus, in India foreign domination left little room for domestic classes to bargain with British interests, which, in turn, generated animosity towards foreign presence in the economy. In Brazil, in contrast, a sovereign state protected domestic interests (at least for the domestic elites) creating a conducive and accommodating atmosphere for foreign capital.

It is thus evident that historically, the evolution of political and social institutions followed different paths in the two countries. These differences translated into two distinct FDI policies. By the 1980's both nations were confronted by severe macro-economic imbalances. In Brazil there was a growing sentiment

5. Kohli (2004) also notes this distinction between the Brazilian and Indian experiences with railway development.

Table 1

FDI Flows and Stocks for Selected Years (Inward, Millions of Dollars)

		1970	1980	1990	2000	2010
FDI Inflows	Brazil	391.7	1910.2	988.8	32799.2	48438
	India	45.5	79.2	236.7	3588.0	24639.2
FDI Stock	Brazil	NA	17480.3	37143.4	122250.3	472578.5
	India	NA	451.8	1656.8	16339.0	197939

Source: UNCTAD

against the state both within the middle class and the business elites (Amann and Baer 2002). Similar changes were taking place in India. Big business houses, which were once opposed to foreign investments, had by now matured and strengthened their positions in the economy (Kohli 1989). A sum of all these changes resulted in the adoption of neo-liberal policies starting in the 1990's.

2. FDI: trends and patterns

FDI inflows are shown in Table 1. The data indicate that Brazil has been much more successful than India in attracting FDI between 1970 and 2010. While the differences between FDI inflows to the two countries have declined in the neo-liberal era, India continues to lag behind Brazil in terms of FDI inflows. As a percentage of GDP, FDI inflows to Brazil stood at 3.3% in 2002 and 2.3% in 2010. In case of India FDI inflows were 1.1% of the GDP in 2002 and reached 1.5% by 2010.

In the case of Brazil, the US had been the largest contributor to FDI throughout most of the 20th century. In 1951 the share of the United States in Brazil's FDI stock was 43.9%, gradually declining to 24% in 2000 and to 17% in 2005. By the latter year the share of many other countries became significant, including Germany, Japan, the U.K., France and Spain. In the case of India, Europe, especially Britain has always been a major source of FDI. However, in the neo-liberal era, FDI sources have diversified. USA and Singapore have become important sources of FDI. Tax havens like Mauritius, which accounted for 50% of FDI inflows in 2005–2009, have become substantial sources of FDI (Rao and Dhar 2011).

A striking feature of the neo-liberal era is the phenomenal increase in FDI outflows from both India and Brazil (Amann and Baer 2010). FDI outflows from Brazil increased from USD 0.7 billion in 1994 to USD 11.5 billion in 2010. For India the figures were USD 82 million in 1994 and USD 14.6 billion in 2010.

What explains these tremendous differences in FDI inflows in the neo-liberal era? Economic and location factors such as market size and literacy rates are crucial determinants of FDI (Wheeler and Mody 1992, Zhang 2000, Chakrabarti 2001). With a bigger GDP and a more developed industrial base, Brazil was bound to be a more attractive destination for investors[6].

Apart from purely economic factors, the institutional framework of a nation is also an important determinant of FDI flows. This seems to be true for Brazil and India where the institutions and perceptions developed during the ISI era have persisted even in the neo-liberal period. Indian policy making is still marked by export pessimism and gradualism that characterized its ISI strategy (Ahluwalia 2002, Balasubramanyam and Mahambare 2003). Unlike Brazil, India never undertook massive privatization programs. Its tariff rates remained higher than Brazilian ones until the first decade of the 21st century. Taxes on international trade (import duties, export duties, exchange profits, etc.) in Brazil accounted for 4% of total revenue in 2000 and 2% in 2009. For India, the figures were 19% in 2000 and 11% in 2009 (World Development Indicators). According to UNCTAD's inward FDI potential index covering 141 countries, for the period 2000–2002, Brazil was ranked 68 while India was placed at 89. The greater extent of liberalization has been an important factor attracting more foreign investment into Brazil than into India.

3. Quality of FDI inflows

One of the important functions of FDI is to serve as a tool of financing development. However, FDI cannot be treated as a homogenous concept. The extent to which FDI flows contribute to development depends largely on its quality. By quality, some economists (Kumar 2002, 2005) refer to the positive impact of FDI on productivity, employment and output. Two important measures of quality are the mode of entry (Greenfield or M&A) and the sectoral composition of foreign investments[7].

Greenfield FDI adds to real resources of an economy by augmenting domestic capital formation and is associated with strong productivity spillovers. FDI flows in the form of M & A's, however, have a smaller impact on productive capacity of an economy since they usually involve only a change in ownership (Mencinger, 2003).

Sectoral composition of FDI is an equally important indicator of FDI quality. It is generally accepted that FDI directed towards sectors with extensive backward linkages is more likely to produce sustained growth. The growth and employment generating potential of FDI in the primary sector tends to be limited

6. In 1991 Brazil's and India's GDP was approximately USD 768 billion and 356 billion respectively. And by 2010 the GDP had reached USD 2.1 trillion and 1.7 trillion respectively for Brazil and India.
7. UNCTAD (2000) defines M&A as "acquiring or merging with an existing local firm" and Greenfield investments refer to the setting up of new firms. See UNCTAD (2000) for a description of M&A related FDI.

Table 2

Value of Cross-Border M&A Sales for Selected Years (Millions of dollars)

	1990	1996	2000	2005	2010
Brazil	–32 (n)	2987 (27.67%)	17274 (52.69%)	2993 (19.86%)	8874 (18.32%)
India	5 (2.10%)	141 (5.50%)	1064 (29.65%)	526 (6.90%)	5537 (22.47%)

Source: UNCTAD; (Terms in the brackets refer to M&A sales as a percentage of FDI inflows.)

due to lack of linkages with the local economy. On the other hand, FDI in the manufacturing sector tends to create extensive positive externalities for the local economy. The impact of service sector FDI, on total aggregate GDP growth rates is ambiguous (Alfaro 2003, Chakraborty and Nunnenkamp 2008).

Table 2 shows the ratio of M &A sales to total FDI inflows in Brazil and India[8]. The figures indicate a predominance of M&As in FDI. In 2000, M&A related sales were more than 50% of FDI flows to Brazil and were 30% of FDI flows to India. It should be noted, however, that one quarter of all FDI inflows into Brazil during 1996–2000 were related to privatizations, which were concentrated in that period.

In terms of sectoral composition there have been major structural shifts for both India and Brazil. During the early 20th century, FDI was mainly in the extractive and natural resource sectors and in public utilities. In the ISI period, both India and Brazil were able to direct foreign investment into manufacturing, especially into technology intensive sectors. The neo-liberal era has seen a re-emergence of FDI flows in services and public utilities[9]. The share of FDI stock in the manufacturing sector has declined steeply.

4. FDI performance: productivity and industrial growth

The relationship between productivity, growth and FDI is an ambiguous one. While there are numerous instances of countries that have successfully used FDI to develop their industrial base (United States and Australia during the late 19th century), the history of Korea, which minimized reliance on foreign investments, should convince us that FDI is a necessary but not a sufficient condition for successful industrialization (Mardon 1990).

In the ISI period industrial growth of Brazil outpaced that of India. Even in terms of GDP, Brazil grew at a much faster pace (see Table 3 a) and b)). The

8. These ratios are not an accurate reflection of the quality of FDI since M&As need not always result in FDI inflows.
9. This is in complete contrast with the East-Asian experience, where bulk of the FDI was directed towards export oriented manufacturing sectors.

Table 3

a) Macroeconomic Indicators of Brazil

	1970–1980	1981–1990	1991–2000	2001–2010
GDP (% annual growth)	8.5	1.6	2.6	3.6
Gross fixed capital formation (% of GDP)	21.8	20.8	17.9	16.9
Industrial value added (% of GDP)	39.7	44.6	31.5	27.7
Manufacturing value added (% of GDP)	30.3	32.6	20.0	17.0
Manufactures exports (% of merchandise exports)	24.8	45.8	55.4	48.5
Services value added (% of GDP)	47.7	45.8	61.8	66.1
High-tech exports (% of manufactured exports)	NA	NA	7.9	13.2

Source: World bank

b) Macroeconomic Indicators of India

	1970–1980	1981–1990	1991–2000	2001–2010
GDP (% annual growth)	3.3	5.6	5.5	7.8
Gross fixed capital formation (% of GDP)	15.9	20.6	22.7	28.8
Industrial value added (% of GDP)	22.8	26.2	26.4	27.3
Manufacturing value added (% of GDP)	15.8	16.6	16.2	15.3
Manufactures exports (% of merchandise exports)	54.1	61.3	74.9	69.5
Services value added (% of GDP)	38.6	42.50	46.6	53.3
High-tech exports (% of manufactured exports)	NA	NA	5.5	6.6

Source: World Bank

extent to which differences in the FDI policies explain the divergence in economic performance in the two countries is difficult to quantify. In certain sectors, however, FDI seems to have played a major role.

The case of the automobile sector is one such example where FDI did have an important role[10]. The Indian government, unlike that of Brazil, severely restricted FDI and kept strict control over technology transfer. By 1980, Brazilian car production was 20 times that of India's (Humphrey et al. 1998). The Brazilian strategy had another added advantage. Specifically, competition from MNCs and transfer of technology helped develop an efficient automobile component producing sector. In India, these spillover effects were limited because of restrictions imposed on foreign investments, resulting in less efficient component manufacturers (Humphrey et al. 1998). Even in the electronics goods industry, Brazilian pragmatism benefitted industrial growth[11].

After the economic reforms of the 1990's, GDP growth rates in Brazil and India have been increasing steadily (especially after 2003).The service sector has

10. It might be argued that the automobile industry did not have a large enough internal market in India and thus would not have had a substantial impact on the economy anyway. The possibility of exploiting external markets however, weakens this argument.
11. While both India and Brazil restricted MNC's in this sector, the Brazilian approach was marked by pragmatism and caution. India, on the other hand, was much harsher on MNC's so much so that in 1976 IBM was forced to withdraw from its Indian operations. See Sridharan (1996).

been the biggest contributor to GDP. Until 2003, industrial growth was disappointing. In Brazil manufacturing value added grew at an average of 1.5% during 1990–2003 and 3% from 2003–2010. In India manufacturing value added grew at 5.7 % in the 1990–2003 (which was slower than the 1981–1990 growth rates)[12] and at 9% during 2003–2010. Tables 3 a) and b) show the trends.

What explains the slow growth of the industrial sector in 1990–2003? To a large extent, industrial performance can be explained by the changes in the institutional structure of these economies. Historically, industrial growth was financed by public investment in India and a combination of public and foreign investment in the case of Brazil. In a liberalized economy, however, public spending is constrained: an increase in fiscal deficits leads to inflation which, in turn, causes depreciation of the currency. Faced with the prospect of weakening currencies, foreign investors are less likely to invest. The case of Brazil and India has been no different as public investment declined during this period (Mohan 2008, Afonso, Araújo and Júnior 2005).

In such a scenario, foreign investment becomes crucial to finance industrial growth. In reality, not only has the share of FDI in manufacturing declined (in addition to the growing proportion of M&As in total FDI), even the volume of inflows have been relatively small. For instance, in 1995 FDI inflows to Brazil and India were 1.2% and 0.6% of world FDI inflows compared to China's 11%. By 2005 the shares were 1.5%, 7.3% and 0.8% for Brazil, China and India respectively. These trends, coupled with declining public investments are a big factor behind the lackluster performance of industries during the first decade of reforms[13]. It is no surprise therefore that increases in manufacturing growth rates after 2003 have coincided with increases in public investments in India. Even in Brazil aggressive government spending in crucial sectors like infrastructure have played an important role in stimulating industries. Public investment in infrastructure was the main thrust of the PAC ("growth acceleration program") program in Brazil (OECD 2011, p. 27).

Industrial productivity in both economies has improved in the last two decades (Bonelli 2002, Ferreira and Rossi 2003, Unel 2003). MNC's have played an important role in this regard. There are two channels through which, in theory, FDI could contribute towards industrial productivity. First, in the presence of MNC's, local firms could be forced to invest in R&D in order to remain competitive. As a result, firms might take part in innovative activities. FDI could thus provide a stimulus to the economy to modernize many of its leading sectors (Amann and Baer 2010, Kumar 2005). Second, MNC's might play an important role in R&D in both countries. For example, TNC's like Motorola, General

12. Manufacturing value added grew at an average rate of 6.2% in that period.
13. Doytch and Uctum (2011) find evidence suggesting that a decline in the share of manufacturing in total FDI (especially if this decline entails a shift towards non-financial services) could be detrimental to the manufacturing sector, and could even result in de-industrialization.

Table 4

R&D: A Comparative View[a]

	Patent Applications	R&D Expenditure (% of GDP)
Brazil	4023	1.10
China	153,060	1.40
France	14,722	2.10
Germany	47,853	2.50
India	6296	0.80
Korea	128,701	3.20
United States	241,347	2.70

Source: World Bank
a: For the year 2007

Motors in Brazil and Novartis GlaxoSmithKline and Microsoft in India, have set up R&D facilities. In fact, in Brazil, of the total patents granted to residents by the USPTO, 42% were on account of foreign affiliates in 2001–2003. In the same period in India, 40% of patents granted by the USPTO were associated with foreign affiliates (UNCTAD 2005, p. 135).

Despite the increasing importance of foreign investments in the economy, the levels of R&D have been modest. R&D as a percentage of GDP amounted to 1.1% of GDP in Brazil and 0.8% in India, compared to 2.7% in the U.S. The impact of the modest amount of R&D in both country means that dependence on foreign technology by them will continue to be substantial. This can be measured by examining the patent applications of Brazil and India, compared to industrial countries. It will be noted in Table 4 that whereas in 2007 patent applications of China amounted to 153,060 and of the U.S. 241,347, the total amount for Brazil in that year was 4,023 and for India 6296.

VI. CONCLUSION

Our comparative analysis of FDI in Brazil and India shows the importance of historical and institutional awareness in gaining an understanding of the manner in which each society perceived the role of foreign investments in their societies. By doing this, we gained an understanding of the reasons these countries adopted different attitudes and policies towards foreign capital.

We have shown how historical experiences of both countries shaped both, formal (laws and regulations) and informal institutions (perceptions regarding foreign investment) in the post-independence era. During the ISI era, FDI came to play an important role in the industrial development of Brazil. In the case of India the colonial experiences, in addition to political and social restrictions, prevented it from fully exploiting the advantages of FDI.

In the neo-liberal era, though both countries have opened their doors to foreign investments, the institutions established during the ISI era have persisted. In comparison with Brazil, the Indian liberalization policy continues to be marked by export pessimism and gradualism. As a result, Brazil has been far more successful at attracting FDI than has India: in 2010 FDI stocks in Brazil were more than twice the FDI stocks in India.

Though FDI is an important ingredient of development, the extent to which FDI contributes to economic development depends not only on the quantity of inflows but also on its structural composition and its spillover effects on the domestic economy, or what has been come to be known as FDI quality. By analyzing two key determinants of FDI quality- the sector wise distribution of FDI and its mode of entry- we find that the structure of FDI has undergone tremendous changes in the neo-liberal era. First, there has been a shift of FDI away from manufacturing sector towards public utilities and services. Second, M&A related FDI inflows have become predominant in Brazil and to a lesser extent in India.

FDI may have contributed in part to the high industrial growth rates of India and of Brazil's recovery from its slow growth rates in the last decades of the 20th century. Yet as we have noted, that a strong presence of the state can also influence the effectiveness of foreign investments by increasing public spending in infrastructure and other key sectors of the economy. From a policy perspective our analysis makes it clear that an effective FDI policy is one in which state intervention and foreign investments complement each other, thereby maximizing the potential for industrial growth and development.

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SUMMARY

In this paper we concentrate on FDI and argue that the contrasting FDI policies in Brazil and India can be traced back to differences in the respective colonial (or semi-colonial) experiences of the two nations during the 19th century. Our comparative analysis of FDI in Brazil and India shows the importance of historical and institutional awareness in gaining an understanding of the manner in which each society perceived the role of foreign investments in their societies. By doing this, we gain an understanding of the reasons these countries adopted different attitudes and policies towards foreign capital.

