Foreign Direct Investment and Poverty Reduction: India in Regional Context

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Abstract: It is widely proclaimed that capital account liberalisation would immensely benefit developing economies because once capital controls are lifted capital would flow from the capital abundant rich countries to the capital scarce developing countries. This free movement of capital could possibly increase growth thereby lifting millions out of poverty. India has been gradually liberalising since the 1980s and throughout more capital inflows were observed compared to outflows. Also, the composition of capital flows has been changing since the 1980s – with foreign direct investment (FDI) inflows rising steadily post 1991compared to portfolio and debt flows. However, since 2000, FDI outflows from India have also been witnessed. In this discussion paper, we empirically test the impact of FDI flows on poverty in India for the period 1980-2011. To provide a perspective to India's performance we also analyse the link between FDI flows and poverty for SAARC countries. For a better understanding of how FDI flows impact poverty, we analyse the outflows and inflows separately. Interestingly, we find that in India FDI inflows contribute to increases in poverty whereas for other SAARC countries they significantly reduce poverty. The impact of FDI outflows in India too is in complete contrast with other SAARC countries. While FDI outflows significantly reduce poverty in India, they turn out to be insignificant for other regional countries.

1. Introduction

Capital account liberalisation (CAL) broadly means relaxing capital controls. Once controls are relaxed an economy creates potential for inward and outward movement of capital. These flows usually take the following forms – portfolio investments, foreign direct investment, equity and debt flows. It is often advocated that these flows of capital are advantageous

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for developing economies due to their potential to promote economic growth. Higher growth is expected to come through improved resource allocation, exploiting economies of scale, easing credit constraints, diffusion of information, technology transfers and knowledge spill-over effects, etc. And these higher levels of growth, in turn, are likely to help in poverty reduction.

According to the Millennium Development Goals Report (2013), the majority of world's poor reside in developing regions of the world. In developing regions, the proportion of people living on less than US$ 1.25 a day[1] fell from 47 per cent in 1990 to 22 per cent in 2010. Poverty rates have been halved and 700 million fewer people lived in the conditions of extreme poverty in 2010 compared to 1990. In spite of this impressive achievement, 1.2 billion people are still known to live in poverty. The World Bank projects that by 2015 about 970 million people will still be living on less than US$ 1.25 a day in economies classified as low or middle-income in 1990. A higher growth level would immensely benefit these regions in poverty alleviation. Hence, the proposed higher growth benefit of CAL is more relevant for developing economies.

Against this backdrop, it would be interesting to analyse the linkage between liberalisation and poverty reduction in the developing world. Among the many types of capital flows we focus on foreign direct investment (FDI) as it is likely to have the maximum impact on poverty. In this discussion paper, we examine the impact of FDI on poverty for a particular developing country, namely, India.

Over the last two decades India has been gradually dismantling capital controls as part of its broader financial liberalisation strategy. However, to what extent openness is beneficial for India remains a matter of debate. It would be immensely fruitful to investigate whether there are any benefits that openness generates for the poor. This brings us to the poverty scenario in the country. While poverty levels have come down substantially in the world to meet the Millennium Development Goal

(MDG) of halving the poverty level between 1990 and 2015, the pace of poverty reduction in India has been very slow (Figure 1).

In fact, the slow poverty reduction has resulted in increase in India's share of the world's extremely poor population (Figure 2). India had 429 million poor people in 1981, which came down to 400 million in the last 30 years. Translated into world's share of poor this means – 22 per cent of the world's poor population used to live in India in 1981 and in 2010 the share was 33 per cent.

## Figure 1: Number of Poor by Region (million)
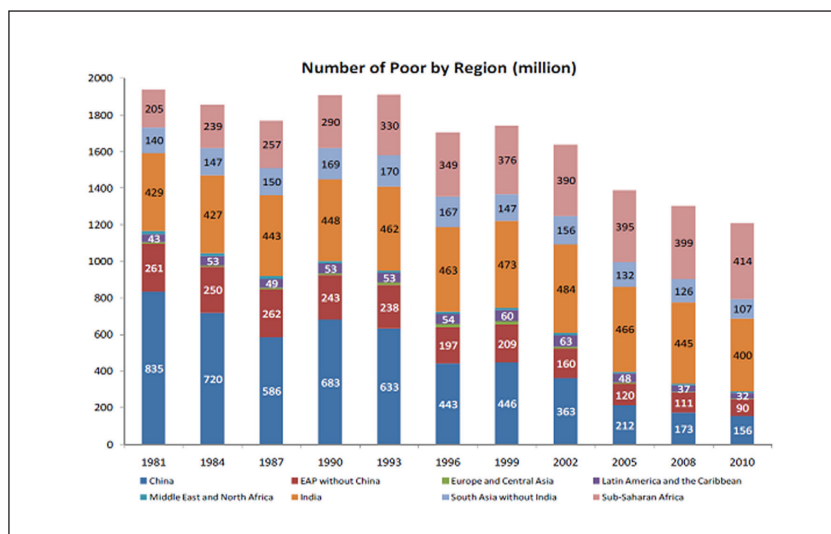
Source: World Bank Poverty Reduction and Equity Department Report, 2013.

Nevertheless, it is important to scrutinise the openness-poverty link for India in the regional context. To get a better understanding, we analyse India performance vis-a-vis other countries in the region, viz. SAARC countries. That is, how and how far FDI flows impact poverty in India in comparison with other countries in the region? In this context, it is worth looking into questions such as: Has opening up financially led to poverty reduction for India? Which SAARC countries have reaped the

maximum benefit of FDI flows in terms of poverty reduction? In Section 2, we present the literature review on poverty and CAL linkages. Section 3, discusses the regional context regarding capital flows, FDI and poverty. Section 4, elaborates the CAL in India. Section 5 deals with research hypothesis, data and econometric methods. Section 6 presents our estimation results, while Section 7 concludes.

Figure 2: Regional Share of the World's Extremely Poor Population
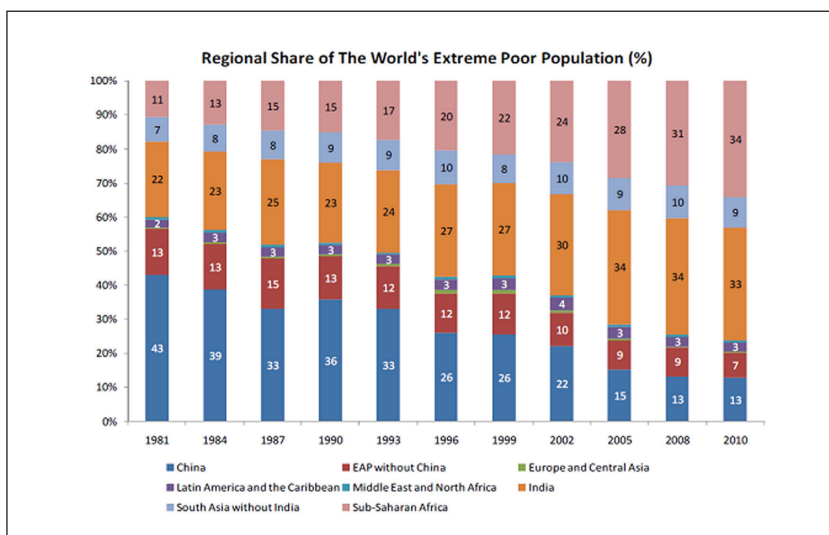
Source: World Bank Poverty Reduction and Equity Department Report, 2013.

2. Literature Review

The literature survey encompasses both the theory of the effects of capital increase within the context of theory models that assume full employment and more eclectic discussions. The effects of trade liberalisation are well established. The Stolper-Samuelson states that trade liberalisation increases the return to the abundant factor which in the case of developing countries would be labour. So trade liberalisation would increase the wage rate and this would be expected to reduce poverty. The effect of CAL is more ambiguous. According to the Rybczynski

theorem, at constant relative goods prices a rise in the endowment of capital following CAL would lead to a more than proportional expansion of the capital intensive goods and an absolute decrease in the output of the other labour intensive goods. At constant commodity prices equal to given international prices for a small economy, factor prices would remain the same. So with constant wage rates and constant employment there would be no effect on poverty.

Both the Stolper-Samuelson and Rybczynski theorems are based on the assumption of full-employment. It is more problematic to analyse the effect under conditions of unemployment. It is likely that the poverty reduction effect of the Samuelson-Stolper theorem would be magnified if we start from a situation of less than full employment as the trade liberalisation would result in increased production of the labour intensive goods.

In the case of capital inflow the effect would depend on the industries towards which the capital inflow is directed. The expectation usually is, as discussed below, that the capital would be directed towards the labour intensive sectors. This would tend to counter the initial effect of the decrease in the output of the labour intensive good. The net effect of these two effects is ambiguous.

CAL and Poverty – The Debate

The pro-CAL view claims that openness can pull millions of people out of poverty as financial liberalisation leads to faster economic growth that helps alleviate poverty faster.

The anti-CAL view in contrast believes that opening up would further push the poor into abject poverty as the poor would be marginalised. First, flow of FDI in selected sectors might lead to diminished demand for less-skilled or unskilled labour worsening their position. Unemployment of less-skilled or unskilled labour may increase leading to worsening income inequality within the economy as well.

Second, the increase in cross-border flow of capital could increase the entry of trans-national corporations (TNCs) which might increase competition with small and medium enterprises, compelling some of them to shut down. In this case, there will be an increase in unemployment, further depressing the incomes of workers without many skills.

Also, almost the entire debate views the poor as a homogenous group, i.e. a set of people living below the poverty line. However, seeing them as heterogeneous opens up interesting possibilities for analysis.[2] For instance, Bardhan (2005) categorises the poor according to whether the poor are workers, consumers or users of common property resources or recipients of public services.

Financial liberalisation may throw small/micro enterprises out of business. Additionally, financial liberalisation makes capital more mobile compared to labour so that if wage earners are not able to move from shrinking to expanding sector then they are likely to lose their jobs and fall further into poverty trap. So the poor as workers would suffer.

In the next category – the poor as consumers – there are gainers and losers. After opening up, the relative prices in goods markets might change primarily because of changes in relative factor prices after movement of capital is allowed across borders. Whether poor consumers gain or lose depends on whether they are net buyers or net sellers of the commodities whose prices change.

In the third and last category the poor are viewed as users of common property resources or recipients of public services. It is generally believed that the poor are not able to exploit the benefits of high growth due to lack or inadequate levels of health, education, access to infrastructure, etc., and hence, public spending/government spending matters more for the poor. Thus, altering government finances as a consequence of CAL is extremely critical for the poor as they are more often than not the largest users of public services (WDR, 2000/01).

However, the extent and kind of impact that the public spending has on the poor would differ across economies depending on the effectiveness and efficiency of public spending and policies of government in general. Also, the cuts in budgets to reduce fiscal deficit often come as part of macroeconomic stabilisation programmes which might negatively impact provision of public services or public works. Again the impact of this would differ greatly for different economies. These issues have been analysed in a number of papers (Roberts 2003, Bidani and Ravallion 1995, Rao 2001, Cornia and Court 2004 and Charlton and Stiglitz 2004).

Additionally, the poor might also lose as users of common property resources. FDI in the host economy by multi-national corporations (MNCs) might indulge in overexploitation of fragile environment resources like forestry, fishery, surface and ground water levels, grazing lands, etc., leading to a decline in the level of common property resources. This would also adversely impact the poor as their daily livelihoods depend crucially on these common property resources.

Various Channels in CAL and Poverty Linkage

Financial liberalisation which includes CAL can affect poverty through many channels (Nissanke and Thorbecke, 2005).

- **Economic Growth via Improved Financial Intermediation**

The most prominent channel of influence from CAL to poverty is believed to be through economic growth. Although GDP growth is not a sufficient condition for improvements in human welfare, it seems to be a necessary condition (Srinivasan, 2002). Liberalisation in China and India has discernibly benefited the poor. In India, the growth rate of real GDP accelerated to almost 6 per cent when liberalisation began compared to the previous 3.5 per cent till the 1980s.and the poverty ratio also dropped from about 50 per cent during the 1950-80 period to 25 per cent in 2000.

It is proposed that CAL would facilitate growth through improved financial intermediation and financial sector development has a strong

positive effect on economic growth (King and Levine 1993, Levine 1997, Levine *et al.* 2000). Furthermore, Jalilian and Kirkpatrick (2001), Honohan (2004), Beck *et al.* (2004, 2007) find financial intermediary development to be pro-poor, i.e. as financial intermediaries become more developed income distribution is improved by '*disproportionately*' increasing the incomes of the poor. On the other hand, Prasad *et al.* (2003) argue that it is difficult to establish a strong positive relationship between CAL and economic growth. Similarly, Eatwell (1998) raises a number of doubts about the efficacy of financial liberalisation in raising the growth rate.

The extent of poverty reduction due to a higher economic growth will depend crucially on the way growth interacts with income inequality. The link between growth and inequality can be interpreted in either direction giving rise to two contradictory theories. The classical approach claims that greater inequality would lead to higher growth rates because the rich have a higher marginal propensity to save so a more unequal income would raise the amounts available for investment. Contrary to this are the new political economy theories linking greater inequality to reduced growth. They claim that higher inequality would lead to lower growth through the following channels: (i) unproductive rent-seeking activities that reduce the security of property; (ii) the diffusion of political and social instability leading to greater uncertainty and lower investment; (iii) redistributive policies encouraged by income inequality that impose disincentives on the rich to invest and accumulate resources; (iv) imperfect credit markets resulting in underinvestment by the poor, particularly in human capital; and (v) a relatively small income share accruing to the middle class—implying greater inequality—has a strong positive effect on fertility, and this, in turn, has a significant and negative impact on growth (Nissanke and Thorbecke, 2005).

The new political economy theories have strong negative implications for the Kuznets hypothesis which has conventionally been used to explain the inequality-growth link. Inequality of income implies that

economic growth benefits for the poor in the early stage are less than 'one-to-one' whereas, more than 'one-to-one' in the later stages (Kanbur and Squire, 1999). However, these negative implications of political theory are not supported by a number of empirical studies that have rejected the Kuznets hypothesis. Bruno *et al.* (1996), for instance, find that growth is seemingly 'uncorrelated' with changes in income distribution. In such a case, growth is likely to reduce absolute levels of poverty. Deininger and Squire (1997), too find no evidence that growth has systematic negative effects on income distribution.

There are others who assert that inequality does matter for poverty reduction. Heltberg (2002) argues that income inequality strongly affects growth elasticity of poverty and the lower the inequality, the higher will be the poverty reduction at any given rate of growth. Cornia and Court (2004) concludes that the widespread increase in inequality has been detrimental to the objective of poverty reduction, because large rises in inequality have stifled growth, and because poverty, at any given growth rate of GDP, falls less rapidly in the case of a more unequal distribution than in the case of a more equitable one.

Fosu (2011) too provides a case for the point that income inequality matters for poverty reduction. He finds that growth affected poverty differently across 80 economies (from mid-1990s to 2005) depending on the performance of income inequality. For economies like Azerbaijan, Brazil, China, Indonesia, Kenya, Poland, etc., increased GDP growth seems to have resulted in substantial poverty reduction. In several other countries, however, strong GDP growth was accompanied by only modest poverty reduction because inequality prevented the trickle down process. A few such economies are – Albania, Georgia, India, Iran, Kyrgyz Republic, Mongolia, and Yemen.

The contrary set of views claims that income inequality does not matter for poverty reduction. A number of studies in the literature find that changes over time in the extent of income inequality at the economy level are uncorrelated with the rates of economic growth. This is to say

that growth is basically 'distribution neutral' on an average. In a prominent paper, Dollar and Kraay (2002) examine the relationship between the growth in average income of the poor and growth in overall income. The authors find that the relationship between growth in average income of the poor and growth in overall income is linear and positive, i.e. an overall increase in incomes increases average income of the poor equi-proportionately. This argument is also substantiated by Ravallion (2001), Ravallion (2004), Deininger and Squire (1997).

Besides influencing growth, CAL may relax credit constraints. Lack of credit severely limits the potential of poor households to exercise their entrepreneurial abilities to escape poverty (World Bank Policy Research Report, 2001). For instance, SMEs or household-based businesses tend to predominate in developing economies and they usually lack funds as well as access to credit.[3] Therefore, providing resources and allowing greater credit access to such enterprises can help alleviate poverty. In a seminal paper, Banerjee and Newman (1993) drew attention to the possibility that lack of credit doesn't let the poor come out of the poverty trap. These credit constraints further tighten in case of an ill-developed financial sector where transaction and information costs are even higher. Jeanneney and Kpodar (2008) find that financial sector development in terms of better access to savings or credit opportunities is likely to reduce poverty. Beck *et al.* (2009) also note that micro and small entrepreneurs are usually credit constrained and providing better access of credit facility to those usually has a favourable impact on poor. Credit constraints are vital for the poor at an individual level also as noted by Holden and Prokopenko (2001), Kendell *et al.* (2010), etc. However, Mosley (1999), on the other hand finds no evidence that financial liberalisation increases access to credit.

As noted above, a number of authors have questioned the growth enhancing effect of CAL. Another possible ill-effect of CAL developed mainly by Myrdal (1957) is that post CAL capital would flow from *'developing to developed economies'*. This would happen as financial

markets in the poor economies are less developed than those in the more developed countries, so lenders in those poorer economies get better returns from investing in rich economies and capital flies out of the poor to rich economies.[4] Hence, such economists advocated that poor economies must impose capital controls to restrict capital outflows (Kunieda, 2008).

There is also the issue of what has become known as the "Lucas Paradox".[5] The author shows that according to the neo-classical growth model the marginal product of capital in India should be 58 times that of the US leading to much greater returns to capital in India. In the presence of such huge interest rate differentials, there should have been massive capital flows from the US to India. Yet such capital flows were not witnessed.

Differential Cross-border Factor Mobility

Financial openness makes capital more mobile as compared to labour. Post-CAL, factor mobility might become further taxing for the poor as capital can relocate more easily than labour. After opening up there could be huge capital outflows forcing the developing economies to face rising inequalities in factor returns that further increases levels of poverty.

Volatility and Vulnerability

Once an economy liberalises it becomes more vulnerable to financial crises and economic shocks. Apart from vulnerability not being good for the economy as a whole, it tends to adversely, more severely and disproportionately impact the poor. This is so because people in poor segments of the economy typically have low levels of skills, very basic (or no) education, no access to credit facilities and financial safety nets and limited assets to tide in periods of depression. During periods of crisis there tend to be massive capital outflows which are likely to be followed by tight monetary and fiscal policies, wide currency fluctuations. This in turn, reduces levels of output and employment. The post crisis period of slow growth hence becomes particularly harsh on poor households shoving them into deeper poverty.

Various Institutions in Developed and Developing Countries

The impact of CAL on poverty – either good or bad – depends critically on the domestic institutions namely – infrastructure, role of state, legal environment, bureaucratic efficiency. In fact, economists believe that institutions play a dual role. Proper and well-functioning institutions can act as a catalyst to promote the positive effects of CAL and as a filter to weaken/moderate the harmful effects for the poor segments of the economy.

Institutions may be defined as sets of property rights as well as devices aimed at the protection of these property rights. They are also defined as devices reducing transaction costs, instruments allowing stable anticipations, strengthening incentives, channelling resources, flexible responses to uncertainty, and so on. Institutions may also be equated to a type of infrastructure – other than physical infrastructure (Sindzingre, 2005). The nature, functions and relevance of these institutions would usually tend to differ across economies. This difference is sharper when we compare developed with developing economies. Thus, there definitely exists a difference across economies in the way institutions modify the impact of financial liberalisation on the poor.

### **FDI and Poverty Linkage**

Financial liberalisation may increase FDI that by changing factor prices could impact poverty, as discussed above. Furthermore, FDI can bring along with it more productive technologies and also lead to faster technological diffusion. Milanovic (2002) argues that increased financial integration through FDI raised the demand for semi-skilled labour but not for unskilled labour, as a minimum skill level is required for production. Hence, it is the skilled or semi-skilled labour that benefited from liberalisation, while unskilled labour was increasingly marginalised by it. This would also mean further increasing poverty levels among unskilled labour as they would be working at lowest/subsistence wage level.

3. Openness, FDI and Poverty in Regional Context

The CAL-poverty debate, however, remains inconclusive. We examine empirically the effect of CAL on poverty in India. The relevance of financial openness for poverty in India can be better understood by looking at this impact in a regional context. In this study the regional context for India is provided by the SAARC countries, viz. Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka. The extent of impact of CAL, especially FDI, on poverty in India needs to be assessed against the performance of other similar countries in the region. In order to put things in perspective, we present the trends in FDI inflows and outflows for SAARC countries.

For all the countries of the region FDI outflows have been very low or almost negligible (Figures 3-9). FDI outflows have been zero in Afghanistan, Bhutan and Maldives whereas they have been extremely low in Bangladesh, Pakistan and Sri Lanka. However, all these countries have experienced FDI inflows through 1981-2011. Bangladesh alone experienced a long decline in inflows of FDI which reached a rock bottom during the 1997-98 East Asian crisis before recovering. All other countries experienced a decline during the recent financial crisis of 2007-09.

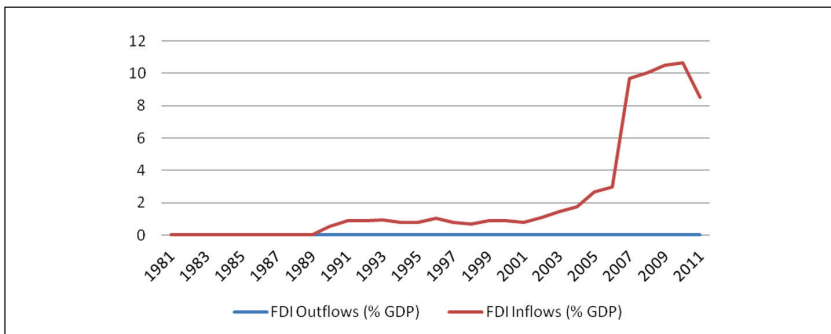**Figure 3: FDI Flows in Afghanistan**
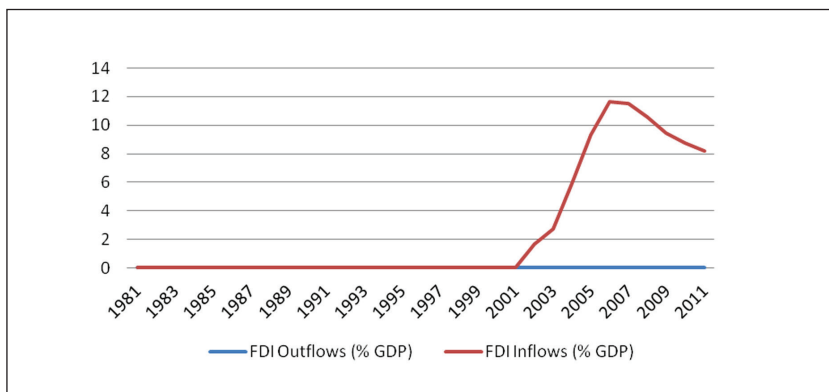
Source: Lane and Milesi-Ferretti (2007).
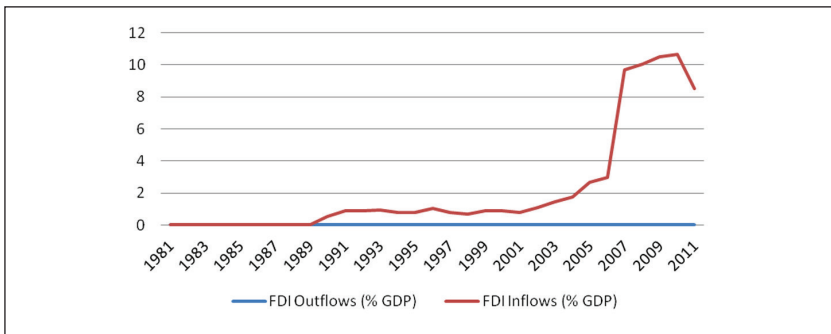
Figure 4: FDI Flows in Bangladesh
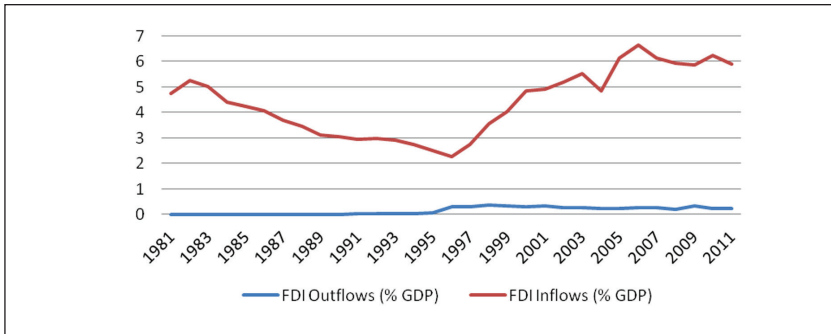
Figure 5: FDI Flows in Bhutan

Figure 6: FDI Flows in Maldives

Figure 7: FDI Flows in Nepal
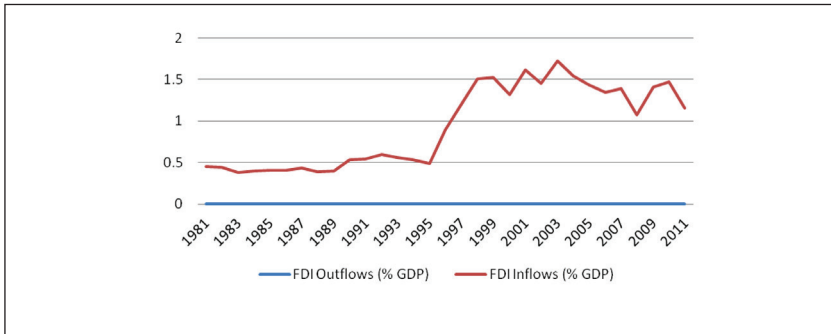
Figure 8: FDI Flows in Pakistan
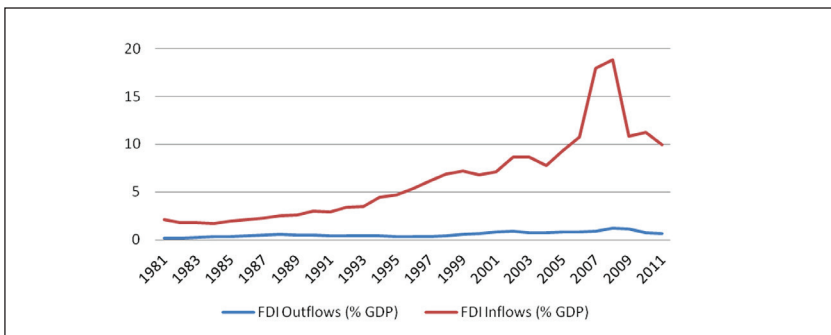
Figure 9: FDI Flows in Sri Lanka
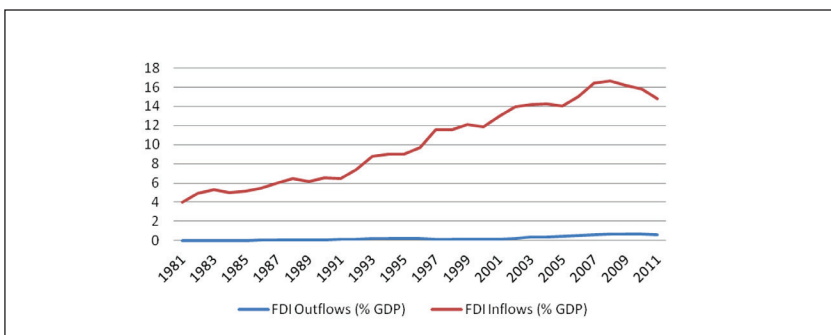
4. CAL and FDI Flows: The Indian Case

Historical Background

The economic policies of the Indian government in the first few decades after independence were characterised by planning, control and regulation. Until the 1980s, India's development strategy was focused on self-reliance and import substitution. There were periodic attempts at market-oriented reform, usually following balance of payments pressures, which induced policy responses that combined exchange rate depreciation and an easing of restrictions on foreign capital inflows. However, these controls were relatively narrow in scope and had little impact on actual inflows, which remained small. The situation changed dramatically with the onset of the reform programme introduced since 1991 in the aftermath of the balance of payments crisis of 1991. Broadly speaking, India's approach towards external capital flows can be divided into three main phases. In the first phase, starting at the time of independence and spanning up to the early 1980s, India's reliance on external flows was mainly restricted to multilateral and bilateral concessional finance. Subsequently, however, in the context of a widening current account deficit during the 1980s, India supplemented this with recourse to external commercial loans, including short-term borrowings and deposits from non-resident Indians (NRIs). As a result, the proportion of short-term debt in India's total external debt increased significantly by the late 1980s. The third phase was marked by the balance of payments crisis of 1991 and the initiation of the reform process (Mohan, 2008).

Trend, Magnitude and Composition

Cross-border capital flows in India have increased gradually since the 1980s (Figure 10). The pace of capital flows increased after the liberalisation process started in 1991. Very interestingly, capital outflow increased at a greater pace than capital inflow in the post- liberalisation era for a capital scarce developing country like India. For the period 1995 through 2005 the gap between percentage share of capital inflow to GDP and

capital outflow to GDP declined rapidly. Post-2005 capital inflows have increased suddenly but with great fluctuations after the global financial crisis in 2008.

When theory suggests the benefits of CAL in reducing poverty of a developing country, it mainly talks about the benefit of capital inflow to a labour-abundant-capital-scarce developing country. Given the considerable outflows we include these in our study of the effects of CAL on poverty reduction of India.

Figure 10: FDI Flows in India
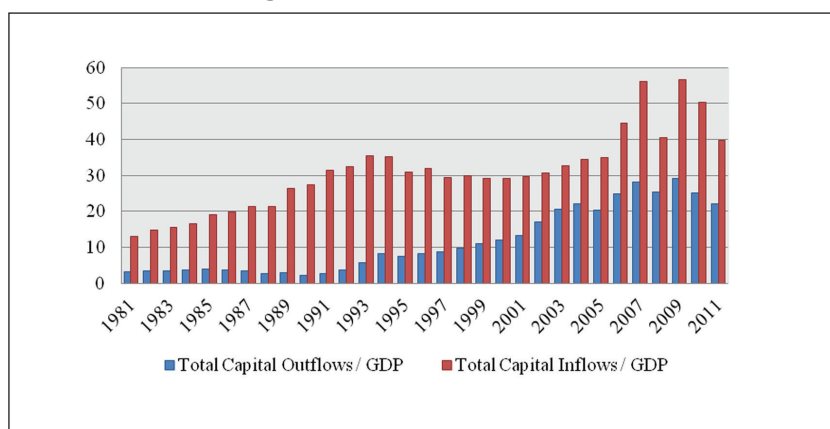
Source: Lane and Milesi-Ferretti (2007).

Regarding the composition of capital flows, the thrust of the policy reform in India in the face of the balance of payments crisis was to encourage non-debt-creating flows and discourage short-term debt flows. Consequently, the composition of capital inflows to India clearly reflects a shift towards non-debt-creating flows in the post-1991 era (Figure 11).

It is clearly visible from Figure 11 that debt has decreased in the post-liberalisation period, whereas FDI and Portfolio investment have increased. Interestingly, the increase in capital inflow in the post 2005 as seen in Figure 10 is mainly in the form of Portfolio investment rather than FDI. Portfolio investment reached its historical peak in 2007 just

before the financial crisis. In the post-financial crisis period Portfolio investment has witnessed massive fluctuations. If we look at a recent year 2011, both FDI and Portfolio investment are just above 10 per cent of GDP whereas debt to GDP ratio is around 18 per cent. Post-1997, India has witnessed FDI inflows as well as outflows. But, FDI inflows have been substantially higher than outflows (Figure 12).

Figure 11: Composition of Capital Inflow
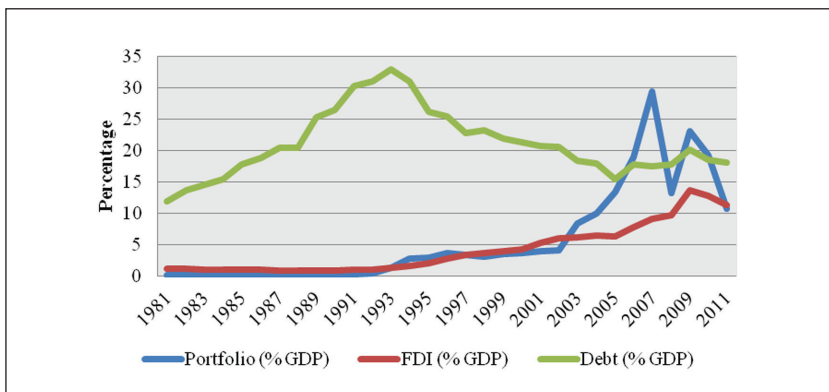
Source: Lane and Milesi-Ferretti (2007).

Figure 12: FDI Flows in India
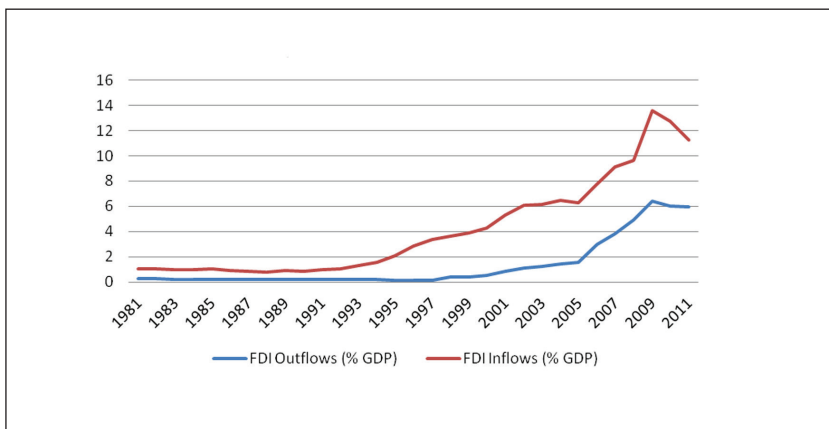
Source: Lane and Milesi-Ferretti (2007).

5. Data and Methodology

In this study we investigate the link between FDI and poverty using time series data spanning from 1981-2011 for India. To provide a context to India's performance we also investigate the FDI-poverty link in SAARC countries. Our dependent variable is poverty. A number of variables have been used in the literature to measure poverty like headcount ratio, poverty gap ratio, income shares of the bottom 20 per cent of the population, average monthly income/consumption expenditure of the people below poverty line, etc. We use two indicators to measure poverty, viz. – Head Count Ratio (HCR) and Poverty Gap Index (PGI). HCR is defined as the percentage of people living in households with consumption or income per person below the poverty line. PGI is defined as the mean shortfall of the total population from the poverty line (counting non-poor as having zero shortfall), expressed as a percentage of poverty line. Both HCR and PGI are measured using the international poverty line of $1.25/day given by the World Bank. We use HCR as it is simply constructed, easy to interpret and provides a good insight into the incidence of poverty. However, HCR is a very basic index and it does not capture the extent of poverty. We, therefore, use an additional measure – PGI – in order to capture the "intensity" of poverty.

A substantial part of empirical studies measure capital account liberalisation using *de-jure*[6] indicators which capture the financial openness in terms of the regulatory restrictions on CAL like limiting the transactions on current account or other systems such as multiple exchange rates and requirements to surrender the export proceeds. We, however, choose to measure capital account liberalisation in the *'de-facto'* sense. This is so because the actual capital flows in an economy are more likely to affect the poverty than the mere changes in official restrictions on capital account.

Our main explanatory variable is FDI flows. But FDI inflows could have a very different impact on poverty as compared to FDI outflows. So, it would be fruitful to separately include FDI inflows (total liabilities)

as well as FDI outflows (total assets). Usually FDI inflows are directed from developed economies to the developing ones. Often the primary driver for FDI to flow into developing economies is the abundant supply of cheap labour (as developing countries are usually labour abundant economies). Other factors determining FDI inflows would be rate of growth of host economy, country's solvency, trade openness, host market size, corruption, inflation, level of industrial development, fiscal deficit, exchange rate regime and barriers to investment and bureaucracy. The possible benefit of FDI inflows could arise from increase in economic growth via capital accumulation. Also, depending on the domestic environment FDI inflows can also cause spill-over investment effects as well as technology diffusion. Hence, it is often proposed that one of the ways FDI inflows would help in poverty reduction is by promoting higher levels of economic growth (Bhaskaran *et al.,* 2010).

As opposed to inflows, the pull and push factors for FDI outflows from developing countries are completely different. There are not many cases of FDI outflows from developing to developed economies and majority of such outflows are towards other countries with similar or lower levels of development. Also, labour costs among these economies are at comparable levels. So, access to cheap labour cannot be a possible determinant for FDI outflows from these regions. The main reasons for FDI outflows then are market-related factors, better access to international channels of distribution, access to natural resources abroad and escape from a restrictive bureaucratic environment in terms of government regulations at home. And since labour cost differential is low or negligible among developing countries, so investments are made mostly in non-tradable sectors like services. These outflows also have the potential to reduce poverty through employment creation at home. This is so because of the following reasons. One, service firms demonstrate strong employment effects as because of the non-tradable nature of services the production in foreign affiliates cannot substitute for home country production. Two, after FDI investments abroad extra jobs need to be created at home in order to serve the investments (Masso *et al.,* 2007).

Against this backdrop we formulate the following equation with FDI flows along with the set of explanatory variables. The equation is given below:–

$$pov_t = \alpha_0 + \alpha_1 fdiinflow_t + \alpha_2 fdioutflows_t + \alpha_3 fert_t + \alpha_4 logsch_t + \alpha_5 gengovt_t + \alpha_6$$

….(1)

Where,

Pov: Poverty

Fdiinflow: FDI Inflows (% GDP)

Fdioutflow: FDI Outflows (% GDP)

Fert: Total Fertility Rate

Logsch: Log of School Enrolment (% gross)

Gengovt: General Government Final Consumption Expenditure (% of GDP)

Agri: Agricultural growth rate

non-agri: Non-Agricultural growth rate

ε_{it} : Error term

Data Sources

We source the data for FDI inflows and outflows from Lane Milesi-Ferretti (2007) (hereafter referred as LMF). The data for dependent variables (HCR and PGI) is sourced from Povcalnet – World Development Indicators, 2012 (hereafter referred to as WDI). The data for the other explanatory variables is also obtained from WDI 2012.

Variables – Definition/Measurement

Apart from FDI flows and poverty, we use additional control variables. Fertility is known to be a significant determinant of poverty. We use total

fertility rate defined as number of births per woman. It is expected to have a positive sign since larger households are expected to be poorer. To control for human development we use the school enrolment rate (per cent gross). It is expected to have a negative sign as higher level of education/human development should reduce the level of poverty. Poor individuals/households are proportionately more dependent on public goods and services provided by the government. To control for the role of government we use – general government final consumption expenditure (per cent gross). It is expected to have an ambiguous sign. The reason for this is that a higher share of government expenditure might or might not reduce poverty depending on how the additional government expenditure is allocated among different income groups in the economy. Apart from these variables we use agricultural as well as non-agricultural growth rates to explain changes in poverty levels. Both the growth rates are expected to have a negative signs as higher rates of growth are likely to reduce poverty – in absolute sense as well as its intensity.

Method

Ordinary Least Squares (OLS) technique gives consistent, efficient and unbiased coefficient estimates if and only if the following assumptions of the CLRM are satisfied – explanatory variables are strictly exogenous, linearly independent, errors are homoscedastic and they are serially uncorrelated. In case these assumptions (all or any one of them) are not fulfilled the OLS estimation technique can no longer provide consistent, efficient and unbiased estimates.

In order to find out whether OLS is an appropriate technique or not for our model we test the data – relevant variables – for the afore-mentioned assumptions. Preliminary tests confirm the presence of autocorrelation and heteroskedasticity. Errors are heteroskedastic, implying that the error terms do not have a constant variance. In this case, OLS estimates are inconsistent and weighted least squares (WLS) give better estimates. The most common WLS method used is Generalised Least Squares (GLS). GLS resolves the issue of heteroskedasticity by

giving less weight to the observations with higher error variance. This is opposed to OLS which gives equal weight to all observations as it is based on assumption that error terms have a constant variance. Since it is not always possible or easy to calculate weights required for GLS so estimated weights are used. This estimation technique – with estimated weights – is referred to as Feasible Generalised Least Squares (FGLS). Also, there is presence of autocorrelation implying that the error terms are serially correlated. It basically means that explained variable in a particular year are likely to be related not only to errors of that year but also to errors of previous years. Again, the presence of autocorrelation can be corrected by using GLS.

6. Results

In this section we present the regression results for our estimable equation. Table 1 and Table 2 present results for India. In Table 1, poverty is measured as the headcount ratio while in Table 2 poverty is measured as the poverty gap index. Similarly, Table 3 and 4 present the results for SAARC countries for the headcount ratio and the poverty gap index, respectively.

Most of the variables have the expected sign and are significant. The results regarding capital flows are puzzling. FDI inflows do not significantly affect the headcount ratio, but, significantly raise the poverty gap index. Outflows, on the other hand, significantly reduce both the poverty ratio and the poverty gap index. The expectation was that inflows would raise growth, employment and so reduce the poverty measures whereas outflows would have the opposite effect.

What seems to be happening is that India is attracting FDI inflows which are generating employment only for higher skilled workers. Furthermore, they are displacing local production that uses very low skilled labour thereby significantly increasing the poverty gap index. However, other SAARC countries are getting FDI inflows which are generating employment for low skilled labour. So employment creation in SAARC

nations is getting reflected in poverty reduction. Hence, we witness a dissimilar poverty reduction effect of FDI inflows in India compared to other regional nations.

Table 1: Results for India - Dependent Variable: Headcount Ratio

FDI Inflows (% GDP)	-0.190
	(-1.020)
FDI Outflows (% GDP)	-0.495*
	(-1.657)
Fertility Rate	4.647***
	(3.736)
Log of School Enrolment (% gross)	-13.237***
	(-4.178)
General Government Final Consumption Expenditure (% GDP)	-0.442***
	(-3.112)
Agricultural Growth Rate	-2.882*
	(-1.950)
Non-Agricultural Growth Rate	-6.675
	(-1.583)
Constant	88.544***
	(5.205)
Observations	30

Note: * and *** denote significance at 5 and 1 per cent levels, respectively.

It can be seen from Tables 1 and 2 that FDI outflows are negative as well as significant both for headcount ratio as well as poverty gap index. FDI outflows contribute to poverty reduction in India, both the headcount ratio and the gap. Expansion of output in the foreign Indian enterprises provides an outlet for goods produced in India; the cheaper inputs are presumably produced in India. Another possible channel could be that the demand generated by increased employment in India is spent on goods using low skilled low wage labour.

As expected, fertility rate is positive and significant. So, we can say an increase in fertility actually not only increases headcount but also increases the intensity of poverty. The effect of human capital captured

by the level of school enrolment is found to be negative and significant, i.e. with increases in education levels poverty declines. Higher levels of school enrolment reduce number as well as intensity of poverty. Our next explanatory variable – general government final consumption expenditure – turns out to be negative and significant in both Tables 1 and 2 so that higher government expenditure is pro-poor and reduces both poverty in numbers and its intensity. Our results support the belief that state/government does play a noteworthy role in poverty alleviation.

Table 2: Results for India - Dependent Variable: Poverty Gap Index

FDI Inflows (% GDP)	0.123^{*}
	(1.802)
FDI Outflows (% GDP)	-0.223^{**}
	(-2.050)
Fertility Rate	3.730^{***}
	(6.697)
Log of School Enrolment (% gross)	-4.699^{***}
	(-3.465)
General Government Final Consumption Expenditure (% GDP)	-0.261^{***}
	(-4.651)
Agricultural Growth Rate	-0.772
	(-1.431)
Non-Agricultural Growth Rate	-2.880^{*}
	(-1.888)
Time Dummy (considered time period: 1999-2008)	0.339^{***}
	(2.739)
Constant	20.914^{***}
	(2.796)
Observations	30

Also agricultural growth rate significantly reduces headcount poverty but not the intensity of poverty. This is clearly seen in Table 2, where agricultural growth rate is not significant. Interestingly, we find that results for non-agricultural growth rates in India are in complete contrast with agricultural growth rates. As can be seen from Table 1 and 2, non-agricultural growth rates are found not significant in case of headcount ratio while they are found to be negative and significant when poverty

is measured as poverty gap index. Thus, we find that agricultural growth rates seem to be more relevant for headcount ratio whereas poverty gap index is affected more by non-agricultural growth rates. The time dummy for the period 1999-2008 has an insignificant effect on the poverty ratio but increases the poverty gap in the second period (Table 2).

Table 3: Results for SAARC Countries - Dependent Variable: Headcount Ratio

FDI Inflows (% GDP)	-0.747***
	(-11.042)
FDI Outflows (% GDP)	1.468
	(0.679)
Fertility Rate	14.063***
	(19.406)
Log of School Enrolment (% gross)	4.660
	(1.444)
General Government Final Consumption Expenditure (% GDP)	-0.194***
	(-3.017)
Agricultural Growth Rate	1.715
	(0.635)
Non-Agricultural Growth Rate	-4.426**
	(-2.240)
Time Dummy (considered time period: 1999-2008)	1.085**
	(2.286)
Constant	-35.327**
	(-2.133)
Observations	145
Number of Countries	6

We next examine the Indian performance in a regional standpoint. We estimate the equations for headcount ratio and poverty gap index for the SAARC countries. The results are presented in Tables 3 and 4. We find significant differences in the behaviour of the SAARC countries as a whole, and therefore necessarily of the other SAARC countries, than

India. For the SAARC as a whole FDI inflows have the expected signs, having a significantly negative effect on both the poverty ratio and the poverty gap. In contrast, the effects of FDI outflows are not found to be significant.

Table 4: Results for SAARC Countries - Dependent Variable: Poverty Gap Index

FDI Inflows (% GDP)	-0.057[*]
	(-1.959)
FDI Outflows (% GDP)	-0.891
	(-1.070)
Fertility Rate	6.291[***]
	(19.413)
Log of School Enrolment (% gross)	-0.458
	(-0.342)
General Government Final Consumption Expenditure (% GDP)	-0.044[*]
	(-1.735)
Agricultural Growth Rate	0.908
	(1.015)
Non-Agricultural Growth Rate	-2.203[**]
	(-2.542)
Constant	-9.784
	(-1.414)
Observations	145
Number of Countries	6

The other variables have the expected signs except that school enrolment surprisingly is not significant. The government final consumption expenditure turns out to be significant for both the poverty ratio and the gap, but seems more important in reduction of headcount than the poverty gap. Growth rates, however, have a different effect for the whole of SAARC than for India in that while the coefficient for non- agricultural growth rate is negative and significant, growth of agricultural output is not significant.

The SAARC countries dummy is 1 for India and 0 for all the other countries. The positive coefficient of the dummy variable means

that poverty impact of CAL is greater in India than the other SAARC countries for the same set of values for the other parameters (Table 5).

Table 5. Results with SAARC Dummy - Dependent Variable: Headcount Ratio

FDI Inflows (% GDP)	-0.501***
	(-7.455)
FDI Outflows (% GDP)	0.625**
	(2.564)
Fertility Rate	11.451***
	(19.151)
Log of School Enrolment (% gross)	-6.242**
	(-2.418)
General Government Final Consumption Expenditure (% GDP)	-0.130**
	(-2.209)
Agricultural Growth Rate	0.569
	(0.364)
Non-Agricultural Growth Rate	-6.604***
	(-5.027)
SAARC Dummy	18.580***
	(17.995)
Constant	20.432
	(1.590)
Observations	175
Number of Countries	7

Assessing India's Performance in SAARC Countries' Perspective

To put India's performance in a relevant perspective we analysed the experience of SAARC countries with respect to FDI flows and poverty. India's experience of FDI flows and impact on poverty is found to be quite different compared to SAARC countries.

FDI inflows have contributed significantly to poverty reduction in SAARC countries both in terms of headcount and poverty gap index. In contrast, for India, we find that FDI inflows do not significantly affect headcount but they actually increase the poverty gap index. FDI out-

flows, however, are not significant for SAARC countries whereas they are significant for India. FDI outflows tend to be negatively related to poverty in India. Interestingly, fertility rate and government consumption expenditure both exhibit same behaviour for India and SAARC countries. The higher the fertility, the higher is poverty levels and seemingly government expenditure is pro-poor across all economies.

The results are somewhat contrasting when we compare agricultural and non-agricultural growth rates for India and SARRC countries. In case of India, agricultural growth reduces headcount poverty but does not affect the poverty gap index whereas, in the case of SAARC countries, the agricultural growth rate does not seem to matter for poverty. For non-agricultural growth rates, SAARC countries exhibit a negative relationship with poverty (headcount and poverty gap index) while in India, it is negative for the poverty gap index and not relevant for the headcount ratio.

Furthermore, India has performed differently than other SAARC countries. To substantiate this point further we have calculated elasticities of poverty with respect to the independent variables. Table 6 presents elasticities for India and Table 7 presents elasticities for the SAARC countries.

Table 6: India Elasticities (absolute values) of Poverty Reduction with respect to Independent Variables

Independent Variables	Headcount Ratio	Poverty Gap Index
FDI Inflows (% GDP)	0.02	0.04
FDI Outflows (% GDP)	0.01	0.02
Fertility Rate	0.34	0.97
Log of School Enrolment	0.01	0.013
General Government Final Consumption Expenditure (% GDP)	0.11	0.23
Agricultural Growth Rate	0.002	0.002
Non-Agricultural Growth Rate	0.01	0.02

In case of FDI inflows, elasticity of poverty reduction in India is lower for the headcount ratio than SAARC nations whereas it is higher for the poverty gap index. In the case of FDI outflows, India and regional countries display almost similar elasticities. Elasticity of poverty reduction with respect to fertility rate is higher for SAARC countries as compared to India. While in India the elasticity of poverty gap with respect to fertility rate is 0.97, the same is 1.97 for SAARC nations. On the other hand, the elasticity of reduction with respect to government expenditure is much higher in India compared to SAARC nations. Government expenditure seems more effective in reducing poverty in India than in any other regional country.

Table 7: SAARC Countries Elasticities (absolute values) of Poverty Reduction with respect to Independent Variables

Independent Variables	Headcount Ratio	Poverty Gap Index
FDI Inflows (% GDP)	0.14	0.03
FDI Outflows (% GDP)	0.01	0.01
Fertility Rate	1.55	1.97
Log of School Enrolment	0.01	0.001
General Government Final Consumption Expenditure (% GDP)	0.05	0.03
Agricultural Growth Rate	0.001	0.002
Non-Agricultural Growth Rate	0.007	0.01

7. Conclusion

On the basis of theory, it is widely proclaimed that capital account liberalisation would immensely benefit developing economies. The underlying premise for this is that once capital controls are lifted, capital is likely to flow to developing economies (which are labour abundant and capital scare). Hence, a greater amount of capital would increase returns to labour lifting millions out of poverty. India has gradually moved on the path of financial liberalisation since the 1980s and received capital inflows. However, post-liberalisation in 1991, India observed a faster increase in capital outflows compared to inflows. Given high levels of poverty

combined with higher capital outflows after liberalisation, India presents a case worth investigating. Hence, we empirically explore the Indian case of financial openness (FDI flows) in the SAARC countries context.

India's experience is in contrast with other SAARC countries. We find that for India FDI inflows do not have the desired effect of poverty reduction which can be witnessed for other SAARC nations. This is possibly due to differences in employment creation for different levels of skills among labour. FDI outflows, too, present a very dissimilar picture. They are not significant for SAARC countries but in case of India FDI outflows do significantly impact poverty reduction. One of the likely reasons for this is that outward FDI is able to create employment at home for servicing the investments abroad. All other explanatory variables except fertility and government expenditure present somewhat divergent picture. Fertility rate and government expenditure have similar effects in SAARC countries, including India. Agricultural growth rates play a significant role only in India in case of headcount ratio. But, non-agricultural growth rates are found to be significant for all cases except headcount ratio in India.

Against the backdrop of SAARC countries regarding FDI flows and poverty, India presents a starkly different picture. Therefore, we can say that impact of financial openness/FDI flows does differ across countries depending on their domestic environment.

Endnotes

[1]   World Bank uses an international poverty line of US$ 1.25 a day for 2005, which is the mean of the lines found in the poorest 15 countries in terms of consumption per capita.

[2]   For details see Das (2005).

[3]   For details see Zhuang *et al.* (2009).

[4]   For details see Matsuyama (2004).

[5]   For an empirical investigation of "Lucas Paradox" refer to Alfaro *et al.* (2006).

[6]   Refer to Chinn and Ito (2002).

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