DOES THE WORLDWIDE SHIFT OF FDI FROM MANUFACTURING TO SERVICES ACCELERATE ECONOMIC GROWTH- A GMM ESTIMATION STUDY.

by

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A dissertation submitted to the Graduate Faculty in Economics in partial fulfillment of the requirements for the degree of Doctor of Philosophy, The City University of New York

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Abstract

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Nadejda K. Doytch

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This study is a GMM-estimation of the sectoral FDI effects on growth in host countries. After controlling for the traditional determinants of growth, I examine the manufacturing and service FDI effects on their own sector growth and their spillovers to the other sectors and the overall economy. I break down service sector FDI and inspect separately the growth effects of financial and non-financial service FDI on manufacturing, services, and the aggregate economy. I classify the data by regions, income distribution and relative sector shares (manufacturing-based and services-based economies) and conduct the sectoral analysis in each category. The most important findings are:

Aggregate growth is increased by manufacturing FDI in "Latin America and the Caribbean" (LAC), by financial FDI in "South and East Asia and Pacific" (SEAP), and by both in "Europe and Central Asia" (ECA). While manufacturing FDI is growth-enhancing at all income levels, the effect of financial FDI on growth increases and the effect of non-financial service FDI decreases with the income level. The growth effect of manufacturing FDI decreases with the share of

manufacturing in the economies. Financial FDI boosts and non-financial FDI hurts growth in both manufacturing-based and services-based economies.

Manufacturing growth is increased by manufacturing FDI in all regions except for SEAP, where it increases due to financial FDI. The lower the income level, the more likely it is that manufacturing growth increases due to all three-manufacturing, financial and non-financial service FDI. In manufacturing-based economies, manufacturing FDI does not play part in the growth of manufacturing sector. In contrast, in services-based economies both manufacturing FDI and financial FDI boost growth in the manufacturing sector.

Services growth is increased by financial FDI in SEAP, and by manufacturing FDI and non-financial service FDI in LAC. The higher the income level, the higher is the impact of financial FDI and the lower is the effect of both manufacturing and non-financial service FDI. The higher the services share in the economy, the smaller is the spillover from manufacturing FDI and the higher is the effect of financial FDI on service growth.

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our daughters Inanna and Estella,

and my parents Kostadinka and Kiril.

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Chapter 1

Capital flows and growth: a survey of the empirical evidence.

Introduction

Since the beginning of the 1980's, when developing countries started opening up to international capital flows, cross-border capital flows have sharply increased. Two main topics have caught the interest of the researchers: the factors that attract in capital inflows and the effects of private capital flows on growth, which is the topic of the current survey.

Since previous studies showed that all private flows -- foreign direct investment (FDI), portfolio flows (both equity and bond), and bank lending have growth effects that depend on other factors (recipient's level of income, degree of financial integration, degree of trade integration, and country-specific absorptive capacity) to examine the growth effects in detail the paper focuses on each of these factors separately. The paper pays a special attention to the absorptive capacity – the level of human capital, financial market depth, quality of governance, and macroeconomic policies as interactive with capital flows factors.

The paper also distinguishes between investment and productivity effects, where such have been discovered. Whereas the growth effects of portfolio flows and bank loans are attributed to augmentation of domestic investment, lowering the cost of capital, and improving risk sharing between capital importers and exporters, FDI is considered, together with the investment effect, to have a second

– productivity effect, due to a direct transfer of technological and management know-how.

4. Capital flows and the level of development.

Differences in the growth effects of capital flows between industrialized and developing countries constitute a very important policy question. Are these differences explained with underdevelopment of the financial and regulatory institutions? Is lower investment in human capital in developing countries partially to blame for the emerging capital markets crises in the 1990s? A number of studies (World Bank, 2001; Eichengreen, 2000) reached the conclusion that a minimum level of development is required for total capital flows to have a positive effect on growth. A study that focuses specifically on the effects of FDI on growth is Blomstrom, Lipsey and Zejan (1992), who find that income levels partially determine the effects of FDI on growth. The authors find support for such FDI effect only for the developed countries.

The authors also look for evidence supporting the hypothesis of "convergence club" among the higher income developing countries. They also examine the influence of changes in the world price structure and imports of machinery and transport equipment. Although there is no evidence for pure or "gross" convergence to US levels, either for the 78 developing countries, or for the whole sample of 101 countries, the authors do find strong evidence in favor of "conditional" convergence. Moreover, all of the variables studied (secondary education; income changes due to price structure changes; the share of fixed

capital formation in GDP; the change in the labor force participation rate; and the catch-up of real income variable) have significant growth effects both for the subset of developing and the full sample. These results are similar to the Mankiw, Romer, and Weil (1992) results, based on 98 countries. While imports of machinery and transport equipment were found not to have a significant relationship with growth, FDI was causally related to growth.

5. Capital flows and degree of financial integration.

It is important to note the difference between capital inflows on growth and the impact of international financial integration on growth. While there is evidence that capital flows promote growth, the evidence about financial integration tends to find no effect on growth Edwards (2000). It is not difficult to see why if we recall that financial integration comprises both inflows and outflows (Edison, Levine, Ricci, and Sløk, 2002). Thus, the greater the degree of world financial integration, the more capital inflows and outflows offset each other, and the least the potential impact on investment and growth Feldstein (1994). In a world of perfect capital mobility, foreign capital inflows (foreign saving) should not have any impact on domestic investment, just like domestic saving should not have an impact on domestic investment in well financially integrated countries (Feldstein and Horioka, 1980). According to Feldstein (1994), we can judge about the degree of financial integration from the correlation between foreign capital and domestic investment -- a big correlation implies a

small degree of integration and a low correlation implies that capital inflows and outflows counterbalance each other better.

The latest evidence suggests that indeed, regionally this correlation is bigger in less financially integrated world areas (Sub-Saharan Africa, Summers, 2000). Time-wise -- it decreased in the 1990s (Summers, 2000), whereas for the same period financial integration is increasing (Kose, Prasad, Rogoff, and Wei, 2003). However, we should be careful about how we interpret this evidence, since many less financially integrated world areas, such as Sub-Saharan Africa, have received a different capital flow mix, one mostly skewed towards types of flows with weaker impact on domestic investment, such as portfolio flows and since this decreasing correlation between capital flows and investment over the 1990s reflects not only growing world financial integration, but also a diversion of larger shares of foreign capital to reserves (Mody and Murshid, 2005).

However, Feldstein's proposition that in well integrated economies capital flows should have no effect on investment, does not rule out an effect of flows on growth altogether. Flows can still affect productivity and growth in general through the transfers of technology. In addition, there is evidence that financial integration is neither a necessary, nor a sufficient condition for high growth, since there are examples of relatively financially closed countries that grew (China and India) and relatively open countries (Jordan and Peru) that did not grow (Kose, Prasad, Rogoff, and Wei, 2003).

3. Capital flows and trade openness.

Another factor, whose effect on growth is often considered separately from capital inflows, is the openness to trade. Researchers now agree that growth effects of trade integration (liberalization of the current account) and financial integration (liberalization of the capital account) are different[1] (Berg and Krueger, 2002).

Again, based on the definition of financial integration, it is not hard to see why. While trade openness takes into account the sum of exports and imports, both of which contribute to the economy's specialization and therefore can potentially contribute to growth, financial openness is mostly associated with a counterbalance of capital inflows with outflows. Nevertheless, there is still evidence of complementarity between some types of inflows and trade openness.

Using the trade regime classification by Bhagwati (1978) and the World Bank (1987), Balasubramayam, Salisu, and Sapsford (1996) and Kawai (1994) find evidence that FDI's growth contribution is significantly greater in countries with outward-oriented or neutral trade regimes, than in those pursuing import-substituting strategies. This view echoes an earlier more general argument, by Balassa (1978) and Krueger (1980) that outward-oriented policies lower real exchange rates to levels that encourage exports and foster the development of the tradable sectors (as in Asia in the 1970s), whereas inward-oriented policies overvalue the real exchange rate and encourage growth of the nontradable sectors (as in Latin America and Africa in the 1970s). Moreover, outward oriented

[1] To cite a single study, Berg and Krueger (2002) conclude that "[v]aried evidence supports the view that trade openness contributes greatly to growth." Furthermore, "[c]ross-country regressions of the level of income on various determinants generally show that (trade) openness is the most important policy variable."

countries can use external capital for development with fewer problems of servicing the corresponding debt, whereas inward oriented countries more often experience debt crises (Dollar, 1992).

Openness to trade is also taken into account by studies that aim at measuring technological diffusion (Caselli and Coleman, 2001; Choudhri and Hakura, 2000) or the rate of change of domestic technology (Jaumotte, 1999). Caselli and Coleman, who measure technological diffusion by imports of computers – a measure, sensible for countries that do not have significant exports of computers, and Jaumotte find that technological diffusion gets spurred by increases in imports of manufacturing goods from developed countries. Choudhri and Hakura extend this analysis by applying Krugman's "technological gap" model (Krugman, 1985) to compare the import growth effects across three types of industries within the manufacturing sector – with a low-, medium- and high growth potentials, find that only increases in the traditional manufacturing imports, i.e. with medium growth potential matter for growth.

4. Capital flows and absorptive capacity.

The absorptive capacity, sometimes referred to as domestic investment climate, includes four main elements (most of which are relevant when growth effects of FDI are studied): level of domestic human capital, depth of financial market, quality of governance, and macroeconomic policy. Quality of governance itself refers to several distinct elements: rule of law**,** assessed by the degree of transparency, control of corruption, and protection of creditor and shareholder

rights; accountability, assessed by financial sector supervision; regulatory burden, assessed by taxation policies, uncertainty of the administrative practices, etc.; as well as political stability and civil rights.

From a policy prospective the elements of the domestic absorptive capacity are probably the most important factors that influence the magnitude of capital flows growth effects, since governments can control them. Institutions, political risk, macroeconomic policy, etc., together with the trade policy, are often blamed for difficulties in elimination of technological gaps between leader and follower economies (De Mello, 1999). Elements of the absorptive capacity are equally interesting as determinants of capital flows; i.e. as "pull-in factors". Studies have produced results in favor of many local factors as "pull-in" factors. Important for the volume of the total flows are: macroeconomic policy (Montiel, 1996), creditworthiness (Fernandez-Arias and Montiel, 1996), location (Calvo and Reinhart, 1996); capital controls (Montiel and Reinhart, 1999), cost of financing, which depends on the return to capital (Chen and Khan, 1997), growth rate and political stability (Hernández and Rudolph, 1997; and Corbo and Hernández, 2001) etc. The next section provides a closer look at absorptive capacity as an interaction factor with capital flows for producing growth.

4.1. Capital flows and human capital:

4.1.1. The investment effect.

One of the most robust results in the capital flows literature is about the relationship between FDI and domestic investment. There is a strong evidence for

positive one-for-one relationship between FDI and domestic investment, both with and without the influence of any absorptive capacity factors.

Bosworth and Collins (1999) perform an analysis of capital flows effects, focusing on variations within countries in the 1979-95 period, rather than on variations across countries. After removing the country means, the authors regress investment and savings shares on various types of capital inflows relative to GDP. The authors confirm the near one-to-one relationship between FDI and domestic investment. In addition, the authors find the effects of bank loans and portfolio flows on investment to be respectively small and insignificant. They cannot establish any complementarity between different types of flows either across countries or over time. In particular, they find that increases in portfolio capital or bank loans are not associated with simultaneous increases in FDI.

Bosworth and Collins examine also the distribution of capital inflows to flows that augment investment or consumption and flows that are used for increasing foreign exchange reserves or outflows. They find that between 53% and 69% represent resource transfers and that they augment almost completely investment and very little consumption. The remainder of the inflows, the authors find, is distributed almost completely towards foreign exchange reserves and very small part become outflows.

Borensztein, De Gregorio and Lee (1998) focus on the effects of FDI on growth through domestic investment and productivity. They find a positive more than one-to-one relationship between FDI and investment. This result is later confirmed by a World Bank GDF (2000) with a different sample of countries and

a longer time period. Borensztein, De Gregorio and Lee derive their result without consideration of any interactive with FDI factors. However, when they include human capital and a threshold of human capital (defined as one year of secondary education) is met, the authors find that FDI is more efficient than domestic investment, i.e. has a bigger growth contribution than domestic investment.

This result is consistent with the argument of Graham and Krugman (1991) that if a firm decides to enter foreign market, it must be more efficient than domestic firms. Given there are no protectionist trade policies, (since then FDI may be the only way to gain access to domestic markets), and no special incentives to foreign investors, (since then FDI may reflect higher profit opportunities rather than higher efficiency), it can be expected that foreign firms would invest only where they have lower costs and higher productivity than the domestic competitors.

In this regard, the beneficial effects of FDI are also determined by the size of the technological gap between domestic and foreign firms and by the type of sector FDI is invested. FDI enhances growth when it is a relatively close substitute for domestic investment, as in the more advanced economies (De Mello, 1999). In this case even if initially FDI crowds-out domestic investent, over time domestic firms can regain market share by absorbing spillovers of technology and skills[2]. When FDI is not a substitute for domestic investment, it can hinder growth, if the domestic firms lose substantial market shares to their foreign competitors (Kokko, Tansini, and Zejan, 1996; Kathuria, 1998). Likewise,

[2] For example in a study on 55 poor countries for the 1980–99 period, Kumar and Pradhan (2001) find that a 1% increase in FDI/GDP reduces domestic investment/GDP by 0.8% in the current period and increases domestic investment/GDP by 0.7% in the subsequent period.

FDI in the primary sector, which is usually explained by cheap resources and is common in the poorest developing countries, is less likely to create vertical linkages in the chain of production, than FDI in the secondary and tertiary sectors (Ozawa, 1992; Porter, 1990).

4.1.2. The productivity effect.

When it comes to the second channel influencing growth – total factor productivity, the evidence depends almost completely on the inclusion of absorptive capacity factors. Theoretically, the idea of "catching-up" or convergence, first introduced in the Solow growth model (Solow, 1956), is based on the assumption about technology transfers from industrial to developing countries. These technology transfers due to movements of workers and financial resources tend to spill over and filter through the entire economy. However, the ability to exploit the potential created by the international gap in ideas depends on the absorptive capacity of the developing economies (Caves, 1999). The standards for absorptive capacity have grown over time together with the potential for increases in productivity. A special emphasis, in this respect is placed on human capital (Nelson and Phelps, 1966), since its greater availability reduces the costs of adoption of new techniques and therefore raises the return to adoption. And since the association between capital flows and growth has been increasing over decades, while the relationship between investment and growth has been weakening (World Bank GDF, 2001), we know that productivity effects of capital flows have been growing in time.

The most influential part of the Borensztein, De Gregorio and Lee (1998) study is their estimation of the FDI productivity effect. After estimating a positive relationship of FDI and growth, the authors find that this relationship is primarily due to a productivity effect and not to the investment effect discussed in the previous section. The magnitude of this productivity effect, unlike magnitude of the investment effect, depends on the level of human capital -- for very low levels of human capital the productivity effect of FDI is negative.

This strong complementarity between FDI and human capital, which is the most robust result Borenstein, et al, parallels the result of Cohen (1993) - a positive correlation between human capital level and access to foreign financing by developing countries. It also reminds of the result of Romer (1993) about a positive effect of secondary school enrolment and imports of machinery, taken interactively, on growth. Some other variables that Borensztein, De Gregorio and Lee find to have significant effects on growth are a black market premium, African and Latin American dummies, and institutional quality. Non-significant factors are political instability, financial development, and inflation.

The authors point out endogeneity of FDI as a potential problem, since FDI may be partially determined by growth or factors that jointly determine FDI and growth. They are also concerned with the underestimation of the size of FDI, since balance of payments statistics do not record the part of FDI financed through debt or equity issues raised on the domestic market. The second problem affects the qualitative results, if the bias is not uniformly distributed across countries and over time.

There is also a lot of country- and industry-specific evidence on the importance of the absorptive capacity and especially of human capital as an interactive factor of FDI. According to the microeconomic studies reviewed by De Mello (1997) and World Bank GDF (2001), when the absorptive capacity of an economy is low, no positive spillovers from FDI are observed to the domestic sector. Technological spillovers depend on the degree of complementarity between domestic and foreign human capital and on the degree of concentration and agglomeration of foreign firms (Guntlach and Nunnemkamp, 1996; Braunerhjelm and Svenson, 1996). That is why Haddad and Harrison (1993) find no faster-than-average productivity growth of domestic firms in Morocco, even in sectors with a relatively large foreign presence, Aitken and Harrison (1999) find that productivity of domestic firms in Venezuela manufacturing industry declines as they come in contract with foreign competition, and Djankov and Hoekman (2000) find a negative "crowding-in" effect on domestic firms' performance in the Czech Republic, due to their "relatively weak capacity to absorb the know-how spillovers".

Meanwhile, when the absorptive capacity of a developing economy is high, FDI provides positive spillovers to domestic firms. Chuang and Lin (1999) find that a 1%-increase in FDI is associated with increase of 1.40--1.88% in domestic productivity in industrial sectors of China and Taiwan. Mody and Wang (1997) find that the benefits of FDI are amplified under conditions of high quality infrastructure and human capital. They also find that these three factors tend to grow together in a mutually reinforcing way. Also for the case of China, Zhao

(1995) finds that there is tendency for a shift from physical capital-intensive to human capital-intensive technological transfers.

4.2. Capital flows and financial market depth.

Financial market development is important for both investment and productivity effects of capital flows on growth. In general, bank systems and stock markets contribute to the efficient allocation of capital by improving information, liquidity, and diversification (Diamond, 1984; Diamond and Verrecchia, 1982) and promote growth (King and Levine, 1993). If human capital is the most important factor for domestic absorption of FDI, the degree of domestic financial development is one of the most important factors influencing the efficiency of portfolio flows and bank lending (World Bank GDF, 2001). However World Bank GDF (2001) also finds that a positive relationship between international capital flows and domestic financial development holds for middle-income emerging market economies, but not for the low-income group.

The relationship in question goes in the opposite direction as well. If it is coordinated with the regulatory frameworks and institutions, foreign capital can contribute to financial development through the introduction of new instruments and better accounting and disclosure practices and through the pressure it puts on domestic financial intermediaries to raise their efficiency. For example, Claessens, Demirgüç-Kunt, and Huzinga (2000) find that foreign entry significantly reduces the overhead cost and profitability of domestic banks.

4.3. Capital flows and quality of governance.

The elements of governance quality -- rule of law, accountability, regulatory burden (bureaucratic quality), and political stability are most often studied as determinants of capital flows i.e. as "pull" factors. Fewer studies examine their interactions with capital flows as determinants of growth. For example, most the important "pull" factor is found to be the rule of law with all of its aspects -- control of corruption, transparency and protection of creditor and shareholder rights. The rule of law, and especially corruption as an aspect of it, is considered complementary to the rest of governance quality elements – failure of accountability, inefficient bureaucracy, excess government intervention and lack of political stability. Moreover, it has been demonstrated that if investigated separately, bureaucratic quality, government intervention and political stability do not attract capital flows, whereas domestic law and order tradition is crucial for FDI (Lambsdorff, 2003).

Lack of transparency, another rule of law aspect, holding financial liquidity, income and some other factors constant, causes a diversion of international equity funds. For example, countries, whose lack of transparency exceeds the sample median in a study by Gelos and Wei (2002), would be weighted 7-39% less than their actual world market portfolio weights in the mutual funds portfolios. In addition, "herding behavior" and sudden stops of "hot money" are also being linked to the lack of transparency.

For comparison, rule of law is a key determinant of domestic investment as well. Among the major governance deterrents of domestic investment are

uncertainty about property rights enforcement (Knack and Keefer, 1995) and corruption (Mauro, 1995; Brunetti and Weder 1998). Other deterrents are political instability (Barro, 1991; Alesina and Perotti, 1996) and inadequate infrastructure (Kisunko and Pfeffermann, 1999).

Another factor examined interactively with capital flows as determinant of growth is corruption (Massoud, 2003). With the help of a 6-point scale, where the number of points reflects control of corruption, Massoud calculates threshold control of corruption levels, at which different types of capital flows start having positive effects on growth. For FDI this threshold is 2.39, for bank loans it is 2.44, for portfolio debt flows it is 3.45, and for portfolio equity flows it is 2.12. Massoud also calculates that approximately 20% of the countries in his samples do not meet these thresholds.

4.4. Capital flows and macroeconomic policies.

Improved macroeconomic policies raise the marginal product of new investments, decrease the risk of holding domestic assets and create environment for technology spillovers. Technology spillovers, together with the new demand for specialized inputs, lead to investment in physical capital where its marginal return is high. Therefore, since financial integration allows agents to optimize their world investment portfolios, countries with better policies have greater success in absorbing foreign capital flows.

In this context, Mody and Murshid (2005), who study the evolution of the capital flows -- domestic investment relationship under different macroeconomic

policies (including trade policies) show that macroeconomic policies, such as monetary policy and removal of capital controls, could be the main vehicle for achieving technology spillovers. In addition, Kaminsky, Reinhart, Veigh (2004) show that net capital inflows are procyclical in both OECD and developing countries and that in developing countries periods of high capital inflows are associated with expansionary macroeconomic policies and periods of high capital outflows -- with contractionary macroeconomic policies.

For comparison, macroeconomic policies have been found to strongly influence domestic investment as well. Among the major policy deterrents of domestic investment are inflation (Kisunko and Pfeffermann, 1999), uncertainty (Alesina and Tabellini, 1989) and real exchange rate volatility (Servén, 1996 and 1998; Servén and Solimano, 1993; Hausmann and Gavin, 1996).

4.5. Capital flow volatility and absorptive capacity.

Generally, investment volatility, which is largely due to domestic financial sector instabilities (Easterly, Islam, and Stiglitz, 1999), has been found to reduce domestic investment (Pindyck, 1991; Bernanke, 1983) and subsequently growth. Developing economies, especially the ones with growth rates lower than the rates implied by their fundamentals, suffer disproportionately from economic volatility (World Bank, World Development Report 2000).

Foreign capital flow volatility has also been driven by domestic economic fluctuations (Bertola and Drazen, 1994) and macroeconomic policies (Kaminsky, Reinhart, and Veigh, 2004; Alfaro, Kalemli-Ozcan, and Volosovych, 2004).

However, there has also been evidence that the causation goes the other way around too; that reversals of capital flows can cause domestic crises (Kaminsky and Reinhart, 1999; Bordo and Eichengreen, 2000). These reversals have been viewed so detrimental to the host economies that prominent economists, such as Bhagwati[3] (1998) have expressed a view that developing countries with high saving rates may be better off without foreign capital altogether.

In addition to the evidence that net capital flows are procyclical (Kaminsky, Reinhart, and Veigh 2004), FDI has been found less volatile than portfolio equity and bond flows and bank lending (World Bank GDF, 1999; Sarno and Taylor, 1999; Morrissey and Lensink, 2001) -- a conclusion independent of country-specific risk factors, such as income level and openness to trade (Fernandez-Arias and Hausmann, 2000). This relatively low volatility of FDI (Lipsey, 1999 and 2001) has been attributed to a great extend to their ability to "provide risk sharing in a world economy where financial contracts are plagued by imperfect enforcement mechanisms" (Albuquerque, 2003, p.354).). Among all flows, FDI is considered to best solve the problem of asymmetric information (Razin, Sadka, and Yuen, 1999).

FDI has been labeled a "long-term" flow as oppose to short-term portfolio debt and bank loans. Short-term flows have been considered to have higher volatility than long-term flows (Kaminsky and Reinhart, 1995), to be attracted mainly by high returns and tend to leave at the first sign of trouble, destabilizing the recipient economy, while long-term capital flows are thought to contribute to

[3] Bhagwati (1998), "The capital myth: The difference between Trade in Widgets and Dollars", Foreign Affairs, 77(3), May-June, 7-12.

the accumulation of physical capital and human capital and thus do not have the same destabilizing effects (Rodrik and Velasco, 1999). And the high responsiveness of short-term flows to macroeconomic policy is clamed to increase substantially the likelihood of financial and exchange rate crises (Morrissey and Lensink, 2001).

However, some of above results about size and the impact of volatility are dependant on the inclusion of portfolio equity flows in short-term flows. Although their high liquidity and low transaction costs make portfolio equity flows highly reversible in well integrated stock markets and this qualifies them as short-term, some studies treat them separately. When considered separately, Claessens, Dooley, and Warner (1995) find no support to the hypothesis that short-term flows are more volatile than long-term flows and Stulz (1999b) finds no evidence that that portfolio equity flows destabilize securities markets. The problems seem to be with volatility of short maturity debt (Adams, Mathieson, Schinasi, Chandha, 1998). Despite the development of global derivative products in the 1990s, unhedged currency and interest rates exposures were key determinants of the crises in Mexico and Asia.

Macroeconomic policies, together with the quality of domestic governance, are also considered to have a direct effect on volatility. Policy instabilities leading to low credibility have been the main reasons for volatility in Latin America (Montiel and Reinhart, 1997). Overvalued exchange rates and an overextended domestic lending boom are often been linked to capital account crises (Frankel and Rose, 1996; Schneider and Tornell, 2001). Transparency of

policies and actions have been a factor causing investor herding behavior (Kose, Prasad, Rogoff, and Wei, 2003) and weak regulation and supervision have been blamed for banking and currency crisis (Kaminsky and Reinhart, 1999, Arteta, Eichengreen, and Wyplosz, 2001). Capital account opening without the necessary supervision often leads to excessive international borrowing, combined with risky investing, maturity and currency mismatches, which, going full circle, further weakens the financial system (Kose, Prasad, Rogoff, and Wei, 2003).

Although the volatility of capital flows has increased in the 1990s, relative to the 1980s (Morrissey, Lensink and Osei, 2002) and the 1990s crises have been enormously costly, there is evidence that countries have managed volatility better in the 1990s than in the past. Caballero (2000) notes the quick recent recoveries, compared to the 1980s and World Bank GDF (2001) points out that on average, a unit of volatility was less harmful to long-run growth in the 1990s than in the past.

Summary

Positive effects of FDI on growth have been identified with and without the inclusion of interactive FDI factors, such as level of development, human capital, quality of governance and macroeconomic policies. Applying a dynamic GMM estimation, Reisen and Soto (2001) find a positive FDI effect, independent of the inclusion of interactive factors. When the host's level of development is considered, Blomstrom, Lipsey and Zejan (1992) find a confirmation of the positive and significant effect on growth for the high income countries. When openness to trade is considered, Balasubramayam, Salisu, and Sapsford (1996)

and Kawai (1994) find evidence that FDI's growth contribution is greater in countries with outward-oriented or neutral trade regimes, than in those pursuing import-substituting strategies. When the elements of quality of governance are discussed, Massoud (2003) finds that high degrees of corruption tend to reduce the positive effects of FDI on growth. Mody and Murshid (2005), who study the capital flows - domestic investment relationship under different macroeconomic policies (including trade policies) show that monetary policy and removal of capital controls, increase technology spillovers.

Finally, the most quoted study in the FDI literature is Borensztein, De Gregorio and Lee (1998), who isolate FDI's investment effect and FDI's productivity effect. They derive a one-to-one relationship between FDI and domestic investment, later confirmed by Bosworth and Collins (1999), World Bank (2000), and World Bank (2001), which is independent of any interactive factors. When human capital is added as an interactive factor in their study and a threshold of human capital - one year of secondary education - is met, the authors find that FDI has a bigger growth effect than domestic investment. These effects of FDI are also limited by the size of the technological gap between domestic and foreign firms. FDI enhances growth if it is a relatively close substitute for domestic investment, as in the more advanced economies (De Mello, 1999) and hinders growth if it is not (Kokko, Tansini, and Zejan, 1996; Kathuria, 1998).

The most influential conclusion of the Borensztein, De Gregorio and Lee's (1998) paper is their estimation of the FDI productivity effect. After finding a positive relationship between FDI and growth, the authors find that this

relationship is primarily due to a productivity effect and not to the investment effect discussed above. The magnitude of the productivity effect, unlike magnitude of the investment effect, does depends on the level of human capital stock - for very low levels of human capital the productivity effect of FDI is negative. Guntlach and Nunnemkamp, (1996) and Braunerhjelm and Svenson (1996) find that the extent of technological spillovers depends on the degree of complementarity between domestic and foreign human capital and on the degree of concentration and agglomeration of foreign firms.

Whereas net total capital flows are procyclical (Kaminsky, Reinhart, and Veigh 2004), FDI is less volatile than portfolio equity, portfolio bond flows and bank lending (Lipsey, 1999 and 2001; World Bank GDF, 1999; Sarno and Taylor, 1999; Morrissey and Lensink, 2001). This conclusion does not depend on country-specific factors, such as income level and openness to trade (Fernandez-Arias and Hausmann, 2000). The relatively low volatility of FDI is attributed to its ability to "provide risk sharing in a world economy where financial contracts are plagued by imperfect enforcement mechanisms" (Albuquerque, 2003, p.354). Among all flows, FDI best solves the problem of asymmetric information (Razin, Sadka, and Yuen, 1999). To a big extent because of this FDI has been labeled a "long-term" flow as oppose to short-term portfolio debt and bank loans.

The only other type of flow found to have a relationship with growth is portfolio equity. The relationship depends on the depth of domestic financial markets (World Bank, 2001). Debt flows (portfolio bond flows and bank loans) are of secondary interest, since their effects on growth are not empirically

significant (Reisen and Soto, 2001). Debt flows have been found to affect growth mostly through their volatility, which are blamed for the Asian and the Mexican crises of the 1990s.

Chapter 2

Does the worldwide shift of FDI from manufacturing to services accelerate economic growth – a GMM estimation study.

Introduction

The interest that foreign direct investment (FDI) attracts among researchers and policy makers is because of its well documented spillovers on economic growth[4]. Productivity spillovers to domestic firms occur as externalities to the transfer of superior technology from foreign to domestic members of multinational enterprises (MNE). FDI has widely been regarded by policy makers as a stable development engine.

The last two decades witnessed a worldwide structural shift of FDI from manufacturing towards services. Despite a voluminous literature on the growth effects of total FDI however, studies on the growth effects of sectoral distribution of FDI by sectors have been nonexistent[5]. Also, despite increasing globalization in the sector of services, the attention has never been focused on service FDI.

Since manufacturing and service FDI differ in the technology that they transfer to the host country, the absorbing sector matters in the analysis of the growth effects of FDI. Manufacturing FDI is considered to transfer predominantly "hard" technology, such as equipment and industrial processes, whereas service

[4] See Lim (2001) and Doytch (2005) and Crespo and Fontoura (2007) for a survey of the literature on the relation between FDI and growth.

[5] Alfaro (2004) examines the effects of sectoral FDI on overall growth only.

FDI – "soft technology", such as technical, management and marketing know-how, expertise, organizational skills and information. Moreover, due to a bigger variation in capital intensity of production, service industries differ more in their "hard-soft" technology mixes than manufacturing industries, which imposes the need for further disaggregation of service FDI.

Previous studies on spillover effects of total FDI usually find a positive relation with growth, if specific conditions, such as skilled labor, high wealth and developed financial markets are met (Borenstein, De Gregorio, Lee, 1998, Blomstrom, Lipsey and Zejan, 1994, Alfaro, Kalemli-Ozcan and Volosovych, 2004). However, at the microeconomic level, where all studies have been conducted within the manufacturing sector, results are less clear-cut- some case studies indicate limited positive spillovers of FDI (Haskel, Pereira and Slaughter, 2002, Blalock and Gertler, 2003), and other find no or negative spillovers (Aitken and Harrison, 1999, Gorg and Strobl, 2001, Lipsey, 2003, 2004). Recently, it has been suggested a need for further industry level research: "….the question shifts from how inward FDI affects every host country and industry to which types of industries and host countries are affected" (Lipsey and Sjoholm, 2005, p.40).

Filling an important gap in the literature, the current study is built in three dimensions. First, it disaggregates total FDI and examines the growth effects of four types of FDI flows- manufacturing, aggregate service, financial and non-financial service FDI, in addition to total FDI. Second, it addresses the question of what kind of sectors are affected by FDI by the growth of manufacturing and service sectors in addition to the growth of aggregate economy. Third, to address

the question of what kind of countries are affected by FDI based on geographical region, level of development and size of their manufacturing and service sectors shares. In such a way, the overall growth effects are linked to sectoral, highlighting the sectoral channels of the impact of each type of FDI flow, and the results based on all countries are linked to the different country sub-samples. The discussion on the net effect of a shift of FDI from manufacturing towards services is based this rich set of results.

The study is original also in its rich data set, involving a long sample- 1990-2004 with a large number of countries- 60, and new statistical techniques- dynamic panel estimators "Arellano-Bond" difference GMM (Arellano and Bond, 1991; Holtz-Eakin et al., 1990) and "Blundell-Bond" system GMM (Arellano and Bover, 1995; Blundell and Bond, 1998). The GMM estimators allow me to exploit both the time series dynamics and the pooled country characteristics of the data (as opposed to the traditional approach of using cross-sectional time-averaging methodology), while controlling for endogeneity and omitted variable biases.

The main results can be summarized as follows:

Aggregate growth benefits most from manufacturing FDI inflows in the region of "Latin America and the Caribbean", financial FDI in "South and East Asia and Pacific", and both types of flows in "Europe and Central Asia". Manufacturing FDI is growth-enhancing at all income levels, but the effect of financial FDI on growth increases and that of non-financial service FDI decreases with income level. The growth effect of manufacturing FDI decreases with the

share of manufacturing in the economies, whereas financial FDI boosts and non-financial FDI hurts growth in both manufacturing-based and services-based economies.

Manufacturing growth benefits from manufacturing FDI in all regions except in "South and East Asia", which shows gains from financial FDI. The lower the development level, the more likely it is that manufacturing growth benefits from all three- manufacturing, financial and non-financial service FDI. In manufacturing-based economies, manufacturing FDI does not play part in the growth of manufacturing sector. In contrast, in services-based economies both manufacturing FDI and financial FDI boost growth in manufacturing sector.

Growth in the service sector benefits from financial FDI in "South and East Asia", and from manufacturing FDI and non-financial service FDI in "Latin America and the Caribbean". The higher the income level, the higher is the impact of financial FDI and the lower is the effect of manufacturing and non-financial service FDI. The higher the services share in the economy, the smaller is the spillover from manufacturing FDI and the higher is the effect of financial FDI on service growth.

I expect the current study to help provide new insights about the growing world service sector and the effects of globalization of both manufacturing and services in general.

1. Stylized Facts

The gap between service and manufacturing FDI started to expand in 1970s, when service FDI accounted for about a quarter of total FDI stock, and this process continues to the present. Service FDI *stock* share increased to 49% by 1990 and to 60% by 2002 – an estimated dollar amount of 4 trillion. At the same time the shares of both agriculture and manufacturing FDI stock have declined, agriculture – from 9 to 6% and manufacturing – from 42 to 34% in the period 1990- 2002 (UNCTC 1989a, p. 8, UNCTAD, WIR 2004)[6].

The shares of the *net inflows* (the difference between purchases and sales of domestic assets by foreigners) of FDI by sectors display very similar patterns. In the period, object of this study – 1990-2004 the share of the service FDI net inflows in the sample of 60 examined countries rose by 11% - from 44 to 55%, while the share of manufacturing FDI net inflows fell by 12% - from 33 to 21% (fig.1)[7]. The two shares respectively peaked and bottomed at the same record-breaking for both total and service FDI year 2000 with shares respectively 64% for FDI in services and 21% for FDI in manufacturing.

In the country sample examined, there are regions and subgroups of countries based on level of development for which the expansion of the gap between the two shares has been even more dramatic (fig.2-7)[8]. For example, the "Latin America & the Caribbean" region started the decade of the 1990s with

[6] UNCTAD's definition of services differs by two industries from the one used by the World Bank, which follows ISIC's classification 3.1. UNCTAD include Gas, Water and Electricity production and Construction, while ISIC's classification does not. Although this study is based on the ISIC's definition of services, for comparison with UNCTAD both time time-series graphs – with and without the inclusion of these two industries, are presented.

[7] Based on the UNCTAD's classification of services.

[8] I have added the time-series based on UNCTAD's definition of services for comparison.

manufacturing FDI share of 21% and a service FDI share of 32.5%. It ended the period (year 2004) with a manufacturing FDI share of 23.5% and service FDI of 56%. Other examples are the "Low income" and "Middle income" country groups (fig.5-6). Meanwhile, the region "South East Asia and the Pacific" (fig.4) is typical for shares of manufacturing and service FDI that after year 1997 move always in opposite directions.

The FDI shift toward services mirrors an important structural shift at the economy level – a decrease in the share of manufacturing and expansion in the share of services in GDP. Shifting away from agriculture through manufacturing towards services is long known phenomenon. For example, Maddison (1989), who examines the structural developments in 16 developed countries in the period 1870-1987, reports an almost ten-fold decrease –from 39 to 4% in the share of agriculture in GDP, a considerable increase in the share of industry[9] - from 26 to 36% with a "peak" share of 41% in 1950; and a even bigger increase in the share of services – from 35 to 60% over the course of this period.

The shares of agriculture and services continued to respectively decrease and increase in the 1990s, except for countries with very low GDP per capita levels, where this trend was reversed (WDR, 1999-2000). These dynamics are explained by differences in income elasticities of demand for products of different sectors, technological progress, which influences different industries differently, differences in the growth of factors of production, and changes in investment and trade policy. From 1990 to 2002 the service sector share increased from 60 to 70% of GDP (World Bank, 2003) and in 2001 the service sector accounted on

[9] Industry consists of manufacturing plus sectors such as mining, construction, and utilities.

average for 72% of GDP in developed countries, 52% in developing and 57% in Central and Eastern Europe (UNCTAD 2003f).

The manufacturing sector of 1980-1998 however, displays an interesting pattern – it shrank worldwide from 25 to 20% in all high income countries except for Japan. This phenomenon is sometimes called "deindustrialization" and is hard to explain. One explanation is that on the supply side manufacturing has increased its productivity much more rapidly than the other sectors, which lead to a faster fall of prices of manufactured goods relative to other products[10] (Van Den Berg, 2001). In compliance with this view, manufacturing is viewed "by its nature, technologically progressive – with a systemic tendency to produce more goods with fewer workers" (Rowthorn and Ramaswamy, 1997).

These statements may seem surprising in the context of the information technology revolution of the second half of the 1990s, which has changed considerably many financial, healthcare and professional services. Indeed, sectoral productivity growth of the most recent ten years has not been well studied. Several sectoral studies (limited to US, Mexico and Brazil and not covering the ten most recent years) suggest that labor productivity grew slower in services than in manufacturing (Triplett and Bosworth, 1999; Mulder, 1999). Other researchers emphasize the role of services for achieving sustainable development and argue for a shift towards an economy where the entire product-

[10] Van Den Berg (2001) claims as well that "if prices of manufactured goods did not fall as they did, but instead rose in line with the output of the rest of the economy, then there would have been no decline in manufacturing at all"

service chain and network are determined by services, not by products (Mont, 1999)[11].

6. Four differences in the nature of manufacturing and service FDI.

The conventional definition of the service sector, used in this study, includes transport, communication, wholesale and retail trade and repairs, hotels and restaurants, transport, storage and communications, finance and insurance, real estate, renting, business services, public administration, defense, education, health, social services, social and personal service activities, and recreational, cultural, and sporting activities[12]. The differences between manufacturing FDI and service FDI are due to the different nature of the technology that they transfer.

2.1. "Hard" vs. "soft" technology industries.

Both manufacturing FDI and service FDI transfer a mix a of "hard" and "soft" technology, however for manufacturing FDI hard technology, such as equipment and industrial processes, tends to dominate the mix, whereas for service FDI soft technology - technical, management and marketing know-how,

[11] Nordhaus (2001b) examines the impact of the "new economy" on the labor productivity growth acceleration in the second half of the 90s (1995-mid-2000). The "new economy" however, includes as many service sectors as manufacturing ones, so the study does not give any sectoral insights. Nevertheless, its results are still interesting: taken together the four "new economy" industries - machinery, electric & electronic equipment, telephone & telegraph and software account for about one half of the labor productivity acceleration and the highest share of this contribution is held by electric & electronic equipment (a part of durable manufacturing) because of the significant improvements in semiconductors production. None of the service sector industries has had such a contribution to the 1.2% rebound in labor productivity of this period. The two service industries with closest to durable goods contribution are wholesale and retail trade.

[12] ISIC revision 3.1.

expertise, organizational skills and information in general, is dominant. For example, insurance FDI transfers risk management skills, such as risk measurement, identification and minimization; banking FDI transfers know-how of new and standard products as well as organizational, managerial and marketing expertise, such as modern planning, budgeting, management information systems and electronic banking techniques; and hotel industry FDI transfers specialized skills about both the pre-operational phase -engineering, architecture, mechanical, interior design, choice of location and market segments, and the operational phase -preparation of rooms and food, laundry, other personal services, as well as skills that improve information processing, such as computerized reservation systems, credit facilities, centralized billing, check-in and check-out, and other front- and back-office operations.

2.2. Service industries are more heterogeneus than manufacturing industries.

Service industries differ more in their production processes than their manufacturing counterparts. Due to bigger variations in capital-intensity of production, service industries tend to differ more in the hard/soft technology mix than manufacturing industries. For example industries such as air and rail transport, communications and broadcasting are much more capital-intensive and in this sense very different from the above mentioned banking, insurance and hotel industries. Some services (R&D, design, logistics, marketing) even become components of manufacturing activities. However, the hard technology used by

the capital-intensive service industries firms is generally likely to be non-proprietary, so it is also available to local providers, who do not need FDI to access it.

2.3. Computer technology revolution has had a bigger impact on services than on manufacturing.

While trade in manufactured goods has generally not faced technological obstacles, services have traditionally been considered nontradable – they had to be produced when and where they were consumed. Thus, the main way of taking services to foreign markets has been through FDI. The progress in information technologies has solved some of the technical problems of non-transportability and non-storability of some services. However, the trade implications of these developments are unclear, since together with the increase of international "outsourcing"- a form of trade, it has also led to an increase of "offshoring"- a form of FDI.

Moreover, whereas service fragmentation, where possible, is easier to perform than manufacturing fragmentation, because of its lower capital intensity and sunk costs and weaker links to local suppliers (Bardhan and Kroll 2003; Mann 2003), for many services it is not possible at all. This is the case with services that require proximity to markets, face-to-face interaction with customers, professional qualifications, high social networking, strict data-security, or are simply not telecommutable, Internet-enabled or separable from related

activities (Bardhan and Kroll, 2003). Thus, for such services FDI is still the only way to access a foreign market.

2.4. Manufacturing and service FDI have different driving forces.

The main driving forces for service FDI have been availability of educated and trained labor in the host counties, since service FDI requires a minimum capacity from employees to absorb the expertise and skills provided by formal training, contacts with experts, international communications or transferred by equipment and operating procedures within the multinational companies. At the same time the main driving force for manufacturing FDI is the availability of cheep labor. The reason for that is that manufacturing FDI allows for splitting up the production chain into tasks requiring different levels of skills and moving less skilled processes to countries with low labor costs - an advantage that service FDI in general is less capable of using. An evidence for this are the salaries at parent firms and affiliates, which should reflect different skill levels. United States data suggest that the average skill levels of employees in parent firms in services are lower than those in manufacturing and that compensation in service affiliates in developing countries was much closer to that of affiliates in developed countries (63%), while the comparable figure in manufacturing was lower (31%) in 2000 (WIR 2004).

In that respect service FDI are much more driven by ownership-specific (possession of and privileged access to proprietary information, tacit knowledge and skills and brand names, which are the most important assets in banking,

finance, business and professional services) and location-specific (home-based or local capabilities to organize activities, acquire knowledge about their customers, create network with other agents etc., which are the most important assets in hotels, fast food, car rentals and retailing) advantages than manufacturing FDI. Meanwhile manufacturing FDI is much more driven by transaction cost concerns than service FDI.

7. What do we learn about the relationship between FDI shares of GDP and growth rates from annual time-series?

3.1. FDI and economic growth rates.

Averaging the observations across countries within each of the studied subgroups and compiling the annual data points allows us to look at the time-series dimension of the data only, with the cross-sectional dimension suppressed. The average annual real GDP per capita growth rates display a familiar pattern of expansions and recessions with a clear picture of the boom of year 2000, which felt throughout all of the studied subgroups, and the bottom of the "Asian crisis", which felt immediately in year1998 in South and East Asia (fig.11) and the group of the "Low income countries" (fig.12) and reached Latin-America and the Caribbean" (fig.9) the "Middle income group" (fig.13) in 1999. The least affected by it, although it coincided with a somewhat less spread "Russian crisis" of 1998, were the countries in "Europe and Central Asia" (fig.10) and the group of the "High income countries" (fig.14).

The manufacturing FDI shares of GDP display an almost "flat" curve at less than 1% per year. This share is a little higher for the "Low" and "Middle" income economies (fig.12-13) and lower for the "High income group" (fig.14), but remains unaffected by the world economic cycles in the studied period 1990-2004. Service FDI shares of GDP[13] display a more interesting pattern. For most of the subgroups service FDI expands in 1995-1996 (fig.8; 10-12; and 14). For all of the groups service FDI expanded throughout the crisis period of 1998-1999 and peaked together with economic growth rates in year 2000. This confirms the theory that FDI is "long-term flow" that displays little reversibility in the short run, even in periods of crises when portfolio flows tend to flee the affected countries, if there are no barriers to exit. For most of the subgroups the peak for service FDI was 2000, after which both service and total FDI started to decrease. An exception is total FDI flows to the "Low income countries", which continued to increase, due to the relatively large share of primary sector FDI.

3.2. Manufacturing FDI and manufacturing sector growth.

If manufacturing FDI shares of GDP display a very "flat" pattern, as we saw in the previous section, do the growth rates in the sector of manufacturing display little volatility? Surprisingly, the growth rates of value added in manufacturing are very volatile, while manufacturing FDI shares of GDP are not (fig.15-21). The volatility of the manufacturing growth rates does not seem to

[13] All service FDI shares of FDI in this section are calculated excluding the two additional industries – Gas, Water and Electricity production and Construction, i.e. following the ISIC's classification of "services". I have added the FDI time-series of services plus the additional industries for comparison with facts reported in other sources, such UNCTAD.

follow the economic cycles' patterns for the respective subgroups. However, in most graphs, we see the boom of year 2000 and the recession of year 1998 (fig.15; 18-21).

3.3. Service FDI and service sector growth.

Is the expansion of FDI in services, which started in 1995-1996 and peaked in year 2000, related the growth rates of services? The "All countries" graph definitely displays the same swing in services value added per capita growth rates for 1998-2004 as FDI in services shares of GDP. This is related to the economic growth rates pattern of the same period. The "All countries" graph however seems to be dominated by "Europe and central Asia" (fig.24) region and the group of the "High income countries" (fig.28), which both had an increase of about 5% (for the high income countries it is even a little higher) in the service FDI shares of GDP for 1995-2000 and a sharp decrease afterwards. The same swing with smaller magnitude (3%) is observed in "South and East Asia" (fig.25). However, it is not characteristic for either "Latin America and the Caribbean" (fig.23), or for any of the 2 income groups with a lower stage of development (fig.26-27).

8. Conceptual framework.

Most empirical growth models using panel data are based on the neoclassical Slow-Swan, Ramsey-Coopmans-Cass theoretical model and assume the hypothesis of conditional convergence, explored by Barro (1991), Barro and Sala-i-Martin (1991), and Barro and Lee (1994a,b). The general empirical model for *cross-sectional analysis* can be written as:

$$g_i = \beta_{conv} log(y_{i,0}) + \beta_1 W_i + \beta_2 X_i + \varepsilon_i \quad (1)$$

where g_i is the growth rate of each country, β_{conv} is the convergence coefficient, measuring the conditional convergence effect of poorer to richer countries, derived from the neoclassical mode; $log(y_{i,0})$ is the log of initial level of output, W_i is a vector containing the "traditional" growth determinants, i.e. the ones suggested by the Solow growth model, such as population growth rate, technological progress rate and depreciation rate, saving rate and saving rate for human capital (Mankiw, Romer, and Weil, 1992) and X_i includes more recently developed determinants, such as FDI and institutional factors.

The general representation of the model estimated using *panel data* (Islam, 1995; Caselli, Esquivel and Lefort, 1996; Durlauf and Quah, 1998; Durlauf, Johnson and Temple, 2004) is essentially a corollary of (1) that adds up a time dimension and a dynamic aspect through a law of motion for output, which changes the first term on the right-hand-side from log fixed initial level of output to log of lagged output:

$$g_{it} = \beta_{conv} log(y_{i,t-1}) + \beta_1 W_{it} + \beta_2 X_{it} + \mu_i + \eta_t + \varepsilon_{it} \quad (2)$$

The two new variables μ_i and η_t represent respectively a country-specific and a time-specific effect represented by year dummies, where the country-specific effect in most studies is a fixed (within-group) effect, since a random effect would require an independent distribution of the explanatory variables from the individual effects, which is violated between $y_{i,t-1}$ and μ_i.

The correlation between the lagged dependent variables and the unobserved residual is the reason why panel data is preferred to cross-sectional when analyzing growth effects. Cross-section estimates produce a bias, due to the correlation between $y_{i,t-1}$ and μ_i and this bias does not disappear with time-averaging. In other words, if such a correlation exists, the true underlying structure has a dynamic nature and there is no way of analyzing it without a bias with the use of time-averaging cross-section techniques. However, as I argue below, the method of fixed effects is not the best available method either, since it does not remove the bias.

5. Data[14].

All variables except for the FDI net inflows, secondary school enrolment ratio and government stability are from WDI CD2005, updated from the World Bank web site with a secondary source the reports of the Economic Intelligence Unit. The secondary school enrolment ratio is compiled from the web site of UNESCO and WDI various years CDs. Government stability series are from the International Country Risk Guide reports. FDI net inflow series come from OECD web site (all OECD countries), UNCTAD country profiles (available from

[14] All data sources are listed in Appendix on p.77. A country list is given on pp.74-76.

UNCTAD) and ASEAN ("Statistics of FDI in ASEAN", 7th ed, 2005) for some non-OECD countries as well as government institutions and investment agencies web sites. For most countries manufacturing FDI, service FDI and financial FDI time-series available are shorter than those of total FDI. To create a balanced sample, the length of the total FDI series was shortened to match the length of manufacturing, service FDI and financial FDI.

The three dependent growth variables - GDP, Manufacturing value added, and Services value added per capita annual growth are variables defined as annual percentage growth rates based on constant local currency. **GDP per capita** is gross domestic product divided by midyear population; **Manufacturing and Services value added per capita** growth rates are calculated by subtracting the population annual growth rate respectively from Manufacturing and Services annual growth rates. Manufacturing refers to industries belonging to International Standard Industrial Classification (ISIC) (revision 3) divisions 15-37. Services correspond to ISIC divisions 50-99. Services include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling.

Gross fixed capital formation (formerly gross domestic fixed investment) **as a share of GDP** includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the

construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings (according to the 1993 SNA, net acquisitions of valuables are also considered capital formation) divided by GDP in current USD.

The real lending interest rate is the difference between the rate charged by banks on loans to prime customers and the annual inflation rate, measured by the GDP deflator. The latter is computed as the ratio of GDP in current local currency to GDP in constant local currency (base year varies by country). **Gross secondary school enrollment ratio** is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. **General government final consumption expenditure** (formerly general government consumption**) as a share of GDP** includes all government current expenditures for purchases of goods and services (including compensation of employees) and most expenditure on national defense and security, excluding government military expenditures that are part of government capital formation divided by GDP in current USD. **Government stability** is a variable compiled by the International Country Risk Guide and it is an index from 0-12. An increase in the index reflects an improvement.

All FDI original series are **net inflows** (accounting for the purchases and sales of domestic assets by foreigners in the corresponding year) and are in current USD[15]. The FDI shares of GDP series are calculated by dividing FDI by

[15] The primary sources for data on FDI by industries are most often specialized investment government boards and agencies and sometimes general statistical agencies or ministries. The choice of which industry data to be compiled and reported is made at local levels. It is very hard to check whether all countries have compiled and included all industries that by classification belong

GDP in current USD as well. The FDI in services series is matched to the Growth of services value added series available from WDI, which excludes the industries of Gas, Water and Electricity production and Construction.

The empirical work is organized in thirteen groups, each consisting of six models and reflecting the thirteen questions of interest: the impact of manufacturing FDI on the growth of the whole economy, manufacturing sector and service sector; the impact of service FDI on the growth of the whole economy, manufacturing sector and service sector; the impact of financial FDI on growth of the whole economy, manufacturing sector and service sector the impact of non-financial service FDI on growth of the whole economy, manufacturing sector and service sector; and the impact of total FDI on the economic growth of the overall economy.

The sub-division of the panels by geographical regions and levels of development is based on the World Bank classifications. Manufacturing-based, services-based and mixed economies are defined as follows: each observation of manufacturing and services value added shares of GDP are compared to the 60-country average for the each year and the economy is defined "manufacturing-based" if it had **both** a share of manufacturing larger than the average for this year **and** share of services smaller than the average one for the year; the economy was defined "services-based" if it had **both** a share of services larger than the average

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to a given sector, since often the reported data is already aggregated at certain level. A search through the primary sources allows for evaluation of the data quality of each of the included in the study countries.

for this year **and** share of manufacturing smaller than the average one for the year; and was defined "mixed" if it did not fall in any of the above two categories.

6. Empirical Methodology

The simplest tool available, which is more suitable for cross-sectional than for panel data analysis, is the *pooled OLS estimation*. This method fails to account for the time-series dimension of data, fails to account for the unobserved country-specific (fixed) effects that cause an omitted variable bias and in this case get picked up by the error term, and as mentioned, fails to control for potential endogeneity- correlation between some of the RHS variables and the now country-specific effects-picking up error term. Again, it is a good tool for analyzing relationships between variables based on their cross-sectional variation, i.e. where time-averaging is conceptually sound.

The method of *fixed effects* is designed to control for the unobserved country-specific time-invariant effects in the data. The way it corrects for the possible correlation between these effects and some of the RHS variables, however, is by essentially conditioning them out by taking deviations from time-averaged sample means. The result of applying such a procedure is that the dependent variable is stripped of its long-run (time-averaged) variation – an approach that may be inappropriate for studying the concept of growth. Growth episodes are much more similar within than across countries. Thus, the within country variation may not be enough to identify growth effects (Pritchett, 2000a). The lost long-run variation is alternatively captured by the "between" estimator.

A technical consequence of the within transformation is that it increases standard errors exacerbating any measurement errors. This is especially problematic in the case of data with a small time dimension. Another technical issue is that the within approach is not informative when we deal with variables with little time variation or ones that are not measured frequently enough. Without an instrument, this approach does not address the problem of endogeneity either and without time dummies, it does not control for the unobserved common among countries temporal effects, which are then wrongfully picked up by a positive cross-sectional correlation.

The most widely used alternative to the within estimation are the methods for dynamic panel estimation. Both dynamic panel GMM estimators- *Arellano-Bond difference and Blundell-Bond system GMM* are specifically designed to capture the joint endogeneity of some explanatory variables through the creation of a matrix of "internal" instruments. Arellano-Bond difference GMM uses lagged level observations as instruments for differenced variables. Examples of studies that apply it are the growth regressions in Caselli, Esquivel and Lefort (1996) and Easterly, Loayza and Montiel (1997). Blundell-Bond system GMM uses both lagged level observations as instruments for differenced variables and lagged differenced observations as instruments for level variables. It has been applied for example by Levine, Loayza and Beck (2000). Both estimators have one set of instruments to deal with endogeneity of regressors and another set to deal with the correlation between lagged dependent variable and the induced MA(1) error term.

This automatic generation of instruments is an advantage of the GMM methods in the context of growth research, since one of the biggest criticisms to growth regressions has been that they do not establish the directions of causation, so statistically robust effects do not provide insight about the determinants of growth. FDI inflows are an obvious example of conceptually endogenously determined variable. The commonly used instruments, proposed (Barro and Lee, 1994); Caselli, Esquivel, and Lefort, 1996) do not always pass the test for validity, i.e. whether it can be plausibly argued that they are uncorrelated with the error term in a growth regression (Durlauf, Johnson and Temple, 2004). For example predetermined in *statistical sense* variables, such as geographical characteristics are mistakenly thought to be good candidates for instruments, since we cannot be sure that they are not direct growth determinants in *economic sense* or that they are uncorrelated with omitted growth determinants. The use of difference and system GMM estimators allows us to avoid the validity of instruments debate.

Meanwhile, there is an ongoing debate on the performance of the different panel estimators (Pooled OSL, fixed effects, between effects, random effects, as well as the newer dynamic panel estimators Arellano-Bond difference and Blundell-Bond system GMM) for capturing the speed of convergence in growth regressions, which is the central hypothesis of the neoclassical growth model. The evidence for that matter suggests that dynamic estimation may not be the most appropriate technique. For example, Hauk and Wacziarg (2004) use Monte Carlo simulations to evaluate the biases of the different estimators under the

assumptions of measurement errors in regressors and correlation between country-specific effects and regressors. They find that the Blundell-Bond system GMM estimator performs well in estimating the speed of convergence, but generates large upward biases in the determinants of steady-state. Since this estimator includes levels in addition to differences, its bias resembles the bias of pooled OLS. For comparison, the authors find that the fixed-effects and the Arellano-Bond difference GMM bias both the speed of convergence (overestimating it) and the steady-state level determinants (underestimating them) and conclude that the between estimator (OLS on a cross-section of variables averaged over time) performs best in minimizing the biases of the estimated coefficients.

A necessary condition for both difference and system GMM is that the error term is not serially correlated, especially of second order (because then the standard errors of the instrument estimates tend to explode). For this reason Arellano and Bond (1991) have developed a second order autocorrelation test (that I report)[16] and also use a Sargan test of over-identifying restrictions for non-robust estimation of the difference GMM and a Hensen test for over-identifying restrictions in estimation of the system GMM estimator.

A potential problem of the Arellano-Bond difference GMM estimator is that in case the dependant variable follows a random walk (so its first lag is a poor instrument for its difference) or the explanatory variables are persistent over time (so their lagged levels are weak instruments for their differences) or the time

[16] By construction, the differenced error term is first-order serially correlated even if the original error term is not.

dimension of the sample is small, the variance of the coefficients rises asymptotically to produce a considerable bias (Alonso-Borrego and Arellano, 1996 and Blundell and Bond, 1998).

An additional necessary condition for the efficiency of the Blundell-Bond system GMM estimator is that even if the unobserved country-specific effect is correlated with the regressors' levels, it is not correlated with their differences. The condition also means that the deviations of the initial values of the independent variables from their long-run values are not systematically related to the country-specific effects.

7. Empirical model.

The basic model that I analyze is:

$$g_{it}^{k} = \beta_0 + \beta_1 log(y_{i,t-1}^{k}) + \beta_2 x_{it} + \beta_3 f_{it}^{j} + \beta_4 D^{t} + \mu_i + \varepsilon_{it} \qquad (3)$$

$\mu_i \sim i.i.d.(0,\sigma_\mu)$, $\varepsilon_{it} \sim i.i.d.(0, \sigma_\varepsilon)$, and $E[\mu_i \varepsilon_{it}] = 0$

g_{it}^{k} is real per capita growth, $log(y_{i,t-1}^{k})$ is log of the lagged initial level of y^{k} per capita, measured in constant year 2000 prices, where the superscripts *k* stand for a *GDP index: k*= GDP, manufacturing value added, and services value added and superscripts *j* stand for *an FDI: index j*= manufacturing FDI, service FDI, financial FDI, and non-financial service FDI, and the subscripts *i= 1,..,60* and *t= 1,..,15* describe the cross-sectional and time dimensions of the panel data respectively. x_{it} is a row vector of the following control variables: m_{it} (investment share of GDP), r_{it} (real lending interest rate), s_{it} (gross secondary school enrolment ratio), c_{it} (government consumption share of GDP) and b_{it} government stability).

D^t is a row vector of 15 year-dummy variables. And f_{it}^j is the FDI net inflows share of GDP[17].

The combinations between GDP indexes k and FDI indexes j produce twelve distinct classes of regressions - GDP per capita growth, manufacturing value added per capita growth and services value added per capita growth are run on manufacturing, service, financial and non-financial service FDI. In addition, we also examine the impact of total FDI on GDP per capita growth in a thirteenth class where k=GDP per capita growth and j=total FDI.

Based on it, I run: 1) a pooled OLS with the assumption that $\mu_i=0$; 2) fixed country effects model, with the assumption that $\mu_i \neq 0$; 3) AB difference GMM with and without external instruments[18] after taking the first difference and satisfying the standard GMM conditions of no second order autocorrelation in the error term:

$E[y_{i,t-s}(\varepsilon_{it}- \varepsilon_{i,t-1})] = 0$ for s≥2 and t=3,….T

$E[x_{i,t-s}(\varepsilon_{it}- \varepsilon_{i,t-1})] = 0$ for s≥2 and t=3,….T

$E[f_{i,t-s}(\varepsilon_{it}- \varepsilon_{i,t-1})] = 0$ for s≥2 and t=3,….T; (4)

and 4) BB system GMM with and without external instruments, if the following conditions are satisfied in addition to conditions (4):

$E[(y_{i,t-s} - y_{i,t-s-1})(\mu_i +\varepsilon_{it})] = 0$ for s=1

$E[(x_{i,t-s} - x_{i,t-s-1})(\mu_i +\varepsilon_{it})] = 0$ for s=1

$E[(f_{i,t-s} - f_{i,t-s-1})(\mu_i +\varepsilon_{it})] = 0$ for s=1 (5)

[17] The choice of the control variables to be included in the basic model is guided by the results of the survey in (Doytch, 2005).

[18] Where for external instruments I use: $log(y_{i,t-1}^k)$, m_{it}, r_{it}, s_{it}, c_{it}, b_{it}.

which can be read as: even if the unobserved country-specific effect is correlated with the regressors' levels, it is not correlated with their differences, i.e. the deviations of the initial values of the independent variables from their long-run values are not systematically related to the country-specific effects. These additional conditions allow using lagged first differences as instruments for levels.

Chapter 3: Empirical Results

Introduction

This section starts with an analysis of the growth effects of the manufacturing and aggregate service FDI on sectoral and overall growth. The results motivate further discussion with an emphasis on breaking down aggregate service FDI into its industrial components to control for its heterogeneity. Here, I find that financial industry FDI has different results than the rest of the service FDI.

Further, the within-service sector differences, combined with the differences across sectors make the analysis of total FDI growth effects opaque and misleading, since many of the growth effects are hidden at this level of generality and revealed only at a sub-sectoral level. This could be the reason why previous studies of spillover effects of **total FDI** find "mixed evidence" and "no universal relationships" (Lipsey, 2004) and that "…studies do not individually find that wage or productivity spillovers do not exist. Mostly they find either positive or negative spillovers" (Lipsey and Sjolholm, 2006).

The thirteen separate questions addressed are: effects of manufacturing FDI on the growth of the whole economy, manufacturing sector and service sector; effects of service FDI on the growth of the whole economy, manufacturing sector and service sector; effects of financial FDI on growth of the whole economy, manufacturing sector and service sector; effects of non-financial service

FDI on growth of the whole economy, manufacturing sector and service sector; and the effect of total FDI on the economic growth of the whole economy[19].

The estimates of the FDI coefficients from the six estimation techniques applied-Pooled OLS (POLS), Fixed effects (FE), Arellano-Bond difference GMM without and with external instruments (DGMM1 & DGMM2), and Blundell-Bond system GMM without and with external instruments (SGMM1 & SGMM2), are presented in thirteen tables (attachment A-7)- each divided into three panels (top, middle and bottom). The emphasis of the study is on the results of the most suitable for the research question technique- SGMM2.

A problem with the difference and system GMM estimator can arise if the instruments are too many. Then they can overfit the model (Roodman, 2006). Unfortunately, there is little guidance in the literature to determine how many instruments are "too many" (Roodman 2006, Ruud 2000). A recommended rule of thumb by Roodman is that instruments should not outnumber individuals (in this case countries).

The results presented below were obtained with the use of maximum number instruments for FDI. The maximum number of instruments is determined from the number of time periods. In case of 1990-2004 data sample it was 13 and in the case of 1998-2004 data sample it was 5. As a robustness test the same

[19] The reported results come from regressions, where the different regions, levels of development and relative sector share types are accounted for by different country sub-samples. The same analysis was conducted with dummies instead of country sub-samples. I prefer to report the results based on country sub-samples, since in this case the panel estimators account for country heterogeneity within sub-groups, i.e. within the same region, income group etc., as well as between sub-groups.

regressions were run decreasing the number of instruments down to a number based on 3 time periods only. The estimates were not significantly affected."

1. The effect of total FDI on real GDP per capita growth.

I start from the most general level of aggregation by looking at the total FDI effects on overall growth. Both the unbalanced (1990-2004) and the balanced (1998-2004) data panels reveal a significant effect of total FDI on overall growth when the country sample of "all countries" is considered. The results from the SGMM2 are confirmed by POLS and FE (Table 1- top panel) in both data panels, with the three methods producing similar estimates.

The question to what regions, development levels and types of economies based on their relative sector shares contribute to the above significant effect is answered in the three panels of Table 1. The strongest evidence of a regional effect of total FDI on overall growth comes from the sub-sample of "Europe and Central Asia", a positive effect however is also detected in "South and East Asia and the Pacific" region. The effect in the former region is supported by all six techniques when applied to the unbalanced data panel, with stable FDI coefficients and close high levels of significance. When applied to the 1998-2004 balanced data panel, POLS, FE and DGMM2 detect it as well. By contrast, in "South and East Asia" the evidence comes from the balanced panel, with SGMM2 and both DGMM methods detecting it. Since both data panels comprise the same 60 countries and the balanced panel includes only the most recent years,

the differences in the results from the two panels are likely due to developments that occurred in the second half of the studied period.

Out of the three income groups, the positive total FDI-overall growth effect can clearly be traced to the group of "High income economies (Table 1-middle panel). In its unbalanced panel all six models estimate a significant positive effect on growth with the two SGMM, POLS and FE producing coefficients with high significance levels. The balanced 1998-2004 panel of this income group yields significant results from all but the two SGMM techniques, which in this case (since these are the only two models not detecting it) could be also due to fewer degrees of freedom.

Decomposing "all countries" into three types according to their relative sector shares yields some surprising evidence. The positive overall effect can be attributed to the "Mixed" economies and not to the "Services-based" economies, which indicate a negative effect (Table 1-bottom panel). The "Mixed" economies' effect is captured by SGMM2 and supported by POLS and some of the DGMM. The negative effects in the sub-sample of "Services-based" countries is confirmed by both SGMMs and represents an unexpected phenomenon, which we will see again when the service sector FDI is decomposed in two and studied in more detail.

In conclusion, based on the six econometric methods, I find a positive effect of total FDI on overall growth that can be traced to "Europe and Central Asia", "South and East Asia", the "High income economies", and the "Mixed

economies". The effect is partially offset by a negative impact observed in the "Services-based economies".

2. The effect of manufacturing FDI on real GDP per capita growth.

I start with investigating manufacturing FDI- real GDP per capita growth relationship and in the next section I continue with examination of manufacturing FDI's impact on its own sector and on service sector growth.

The sample of "all countries" indicates a positive significant effect of manufacturing FDI on overall growth that is supported by POLS, FE, and both DGMM in the unbalanced data panel. The two SGMMs are inconclusive due to second order autocorrelation in the error term. The balanced 1998-2004 panel yields significant results through POLS and FE.

The geographical distribution of the countries reveals the following evidence: positive effects for "Latin America and the Caribbean" and "Europe & Central Asia" regions and no effect in "South and East Asia" (Table 2- top panel). The absence of a positive manufacturing FDI-GDP growth relationship in the latest region is another unexpected result that we will see repeating when manufacturing FDI effects on its own sector and on service sector growth are considered. Jumping ahead, we will find no evidence in support of any relevance of manufacturing FDI in the region of "South and East Asia".

The evidence from "Europe and Central Asia" and "Latin America and the Caribbean" differs in data panel source. The "Europe and Central Asia" results come the 1990-2004 panel, whereas the "Latin America and the Caribbean"

results are based on the 1998-2004 panel. The estimates of the FDI coefficients from the "Latin America and the Caribbean" sub-sample also strike as considerably high- close to "3.0" according to SGMM2 and "1.4" according to POLS, both with high level of significance.

The income level based decomposition of "all countries" sample indicates that "Middle income countries" is the sub-sample with the strongest evidence in support of an impact of manufacturing FDI on GDP per capita growth. The six techniques applied to both data samples all yield highly significant results (Table 2-middle panel). The other two income groups also indicate a positive effect, which for the "High income countries" is based on the 1990-2004 panel and for the "Low income countries" on the 1998-2004 panel. Since the effects of manufacturing FDI on own and opposite sector growth, that we will see later, will be also based on one data panel only, we can argue that the influence in the "Low income group" is strengthening in time, whereas that in the "High income" group is weakening. Overall, considering income group affiliation does not reveal a sharp contrast in results, since manufacturing FDI is beneficial in all groups.

In contrast, when examining the three sub-samples based on relative sector shares in the economies, we discover that only the "Manufacturing-based" group shows positive influence of manufacturing FDI on overall growth. In this sub-group the evidence is supported by all estimation techniques in the 1990-2004 (Table 2- bottom panel). The latest could be suggesting a weakening over time effect.

The most important conclusions of the examination of manufacturing FDI-GDP growth relationship include a total absence of effect in the "South and East Asia" region, a positive effect in all three income groups, and a positive effect in the "Manufacturing-based economies".

3. The effects of manufacturing FDI on manufacturing and services per capita growth.

In this section I study what part of the above overall growth effects occur via manufacturing sector vs. via service sector growth.

Similarly to the previous section, the "all countries" sample's significant effects come from the unbalanced 1990-2004 panel and the geographical breakdown produces evidence in favor of effects in "Latin America and the Caribbean" and "Europe and Central Asia" regions (Table 4- top panel). Unlike before, manufacturing FDI's effect on manufacturing growth in "Latin America and the Caribbean" is robust to all six methods applied, highly significant and with considerably large estimated coefficients. "Europe and Central Asia" effect is based on the unbalanced panel, possibly indicating a weakening in time relationship.

Also similar to the previous section, the countries income groups provide little information about how manufacturing FDI-manufacturing growth effects change with the level of development of the economies, since significant effects are found in all three income groups (Table 4- middle panel). A group with stronger evidence is the "Middle income" group, with all six models revealing

highly significant results. The robust positive effect on overall growth in the "Manufacturing-based economies", which we saw previously, disappears at the level of manufacturing sector (Table 4- bottom panel). Positive effects instead are found in the "Mixed" and "Services-based economies".

Studying the impact of manufacturing FDI on real services value added per capita growth adds little to the evidence about the impact on manufacturing sector. The robust results we have seen about effects on both manufacturing sector and GDP growth at the "all countries" level disappear when service growth is studied, suggesting that at this level of aggregation, the impact on overall growth is mostly due the impact on manufacturing growth seen above (Table 7- top panel). The geographical decomposition does not yield any region-specific significant effects (Table 7- top panel) and the income group decomposition displays an effect of manufacturing FDI on service growth for the "Middle income" economies as before (Table 7- middle panel). Unlike the analysis of the manufacturing sector effects, the services growth of "High income countries" does not benefit from manufacturing FDI.

Further, by studying the service sector impact, we discover that the effect on overall growth in the "Manufacturing-based economies" we have previously seen occurs via service sector growth and not via manufacturing growth (Table 7- bottom panel), indication of which are the positive coefficients estimated by five of the models in the 1990-2004 panel. Thus, in this case a decrease of manufacturing FDI does not mean manufacturing growth slowdown, but services growth slowdown instead (which translates to an overall growth slowdown as

well). However, this cross-sectoral relationship may have decreased in time becoming ambiguous in the more recent years.

4. A summary of the manufacturing FDI effects on growth.

1) At the level of "all countries" there is evidence of positive influence of manufacturing FDI that comes mostly from the unbalanced 1990-2004 data panel. This positive influence is traced back to the effect manufacturing FDI has on its own sector growth.

2) The geographical distribution of the effects suggests that growth for "South and East Asia" does not benefit from any positive impact by manufacturing FDI; "Europe and Central Asia" experiences positive influence in its manufacturing sector, which spills over to overall growth (the evidence being specific to the 1990-2004 data panel); although the "Latin America and the Caribbean" region produces almost no evidence about manufacturing FDI growth effect on GDP per capita growth, both data panels suggest a strong and robust positive effect on manufacturing sector growth. The fact that the latest does not spill over to the economy level could be due to the absence of effect on service sector growth.

3) Manufacturing FDI contributes growth across all three levels of development, with the "Middle income countries" taking advantage of it through both manufacturing sector and service sector growth. "Low income economies" may have started benefiting in the more recent years of the sample studied, whereas for "High income countries" the positive influence could be a decreasing

in time phenomenon, since it is not supported by the 1998-2004 data sample. The effect in the "High income countries" spills over exclusively through manufacturing sector growth.

4) Out of the three economy types, defined on the basis of their relative sector shares, manufacturing FDI has the strongest influence on the "Manufacturing-based economies". The positive influence, however, is due to an impact on their service growth and not on their manufacturing growth and could be weakening in time. The "Mixed" and the "Services-based economies" also show only evidence of positive impact on manufacturing growth, although it is not captured by all six models.

5. The effects of service FDI on real GDP per capita growth.

The first obvious difference between service FDI effects, studied in the next two sections, and the manufacturing FDI effects we have just seen, is the lack of robustness to model specification of the service FDI effects on both overall and sectoral growth. No results are backed by all six estimation techniques. Nevertheless, there are still results that are captured by SGMM2 and supported by some of the other methods and that can therefore be regarded as reliable.

When we study the effect of service FDI on overall growth, a positive effect is found in "South and East Asia", "Middle income economies" and the "Mixed economies" (Table 3). In the "Middle income economies" the effect is based on the 1990-2004 panel, whereas in the other two sub-samples, it is based

on the 1998-2004 panel. The "Mixed economies" result finds support in five models. In the next section we discuss the contribution of the two sectoral growth effects to these results.

6. The effects of service FDI on manufacturing and services per capita growth.

A typical difference between manufacturing FDI and service FDI growth effects is that the later are never robust to all six models. Even more intriguing is the fact that service FDI produces more manufacturing growth effects than services growth effects. Some of these manufacturing growth effects, however, are negative.

Significant positive effects of service FDI on service growth are found in "Latin America and the Caribbean", "South and East Asia", "Middle income economies", the "Mixed economies", as well as when the mix of "all countries" is examined (Table 5). Significant **negative** effects of service FDI on manufacturing growth are seen in "South and East Asia" (Table 6- top panel) and the "High income economies" (Table 6- middle panel) and are evident at the "all countries" level of aggregation. Thus, in a number of country groups an increase of service FDI over time would mean manufacturing growth slowdown and not a service growth slowdown. At the same time, significant **positive** effects of service FDI on manufacturing growth are seen in "Europe and Central Asia" (Table 6- top panel), "Low" and "Middle income" economies (Table 6- middle panel), as well as in "Mixed economies" (Table 6- bottom panel).

7. A summary of the service FDI effects on growth.

1) Although in "all countries" the evidence about an effect of service FDI on overall growth is not strong, when the sectoral impact on the two sectors is studied, a positive influence on service growth is revealed together with some evidence of a negative impact on manufacturing growth.

2) An examination of the three regions reveals a positive service FDI effect on overall growth in "South & East Asia", which occurs via service sector growth and despite of a manufacturing growth slowdown. In addition, there is a positive impact of service FDI on service growth in "Latin America & the Caribbean" that does not translate into overall growth.

3) In the three income groups we observe a positive overall growth effect in the "Middle income countries" that occurs via both service and manufacturing growth. With respect to manufacturing sector growth, the effect in "Low income economies" is positive, whereas in "High income" is negative.

4) Out of the three economic types based on relative sector shares, "Mixed economies" show evidence of a positive effect on overall growth in, which occurs through both service and manufacturing growth.

If we end the analysis here, without disaggregating service FDI into financial and non-financial components, we would conclude that whereas there is strong evidence for the growth benefits of manufacturing FDI, the evidence in favor of service FDI is much weaker, since it produces fewer significant coefficients than manufacturing FDI and they are not stable when the estimation

methods are varied. Moreover, in some country sub-samples we observed a negative relationship of service FDI and manufacturing growth.

8. Total FDI effects- revisited.

After we analyzed manufacturing and service FDI at three different levels- on both manufacturing and services, as well as on the overall growth, we should be able to explain better the impact of total FDI we have seen at the beginning. In this section we link the manufacturing and service FDI effects found so far with the total FDI effects on overall growth.

1) At the "all countries" level the positive impact of FDI on overall growth is explained by positive effects of manufacturing and service FDI on their own sectors and occurs despite of a negative effect of service FDI on manufacturing growth.

2) In "Europe and Central Asia" the positive influence is due to manufacturing and service FDI impacting positively manufacturing growth.

3) In the "High income economies" the positive effect on overall growth is due to a positive effect of manufacturing FDI on own growth that outweighs a negative effect of service FDI on manufacturing growth.

4) In the "Mixed economies" the positive impact happens through manufacturing and service FDI positive influence on their respective sectors growth, as well as through a positive impact of service FDI on manufacturing growth.

5) The **negative** effects in the "Services-based economies" cannot be explained at this level of generality.

Overall, manufacturing FDI has increased growth in three cases- in "Europe and Central Asia", "High income economies", and "Mixed economies" and has not shown any evidence to be hurting growth. Meanwhile, service FDI has shown positive effects also in three cases- in "Europe and Central Asia" and twice in the "Mixed economies" and negative influence once- in the "High income economies". Further, whereas there is no evidence that manufacturing FDI is hurting service growth, the opposite was seen in a number of sub-samples, including the sample of "all countries". These facts and especially the opposite effects service FDI has on the two sectors motivated me to extend the analysis and disaggregate service FDI into two components- financial and non-financial.

9. The effects of financial and non-financial service FDI on service growth.

In this section we will see how the positive effects of service FDI on service growth are accounted for by its financial and the non-financial service FDI components.

Non-financial FDI gives very little evidence of any effects on service growth (Table 11). The two sub-samples that yield evidence are "Latin America and the Caribbean" (Table 11- top panel), where positive effect is captured by SGMM2 and POLS applied to the unbalanced data sample and the "Low income

economies" (Table 11- middle panel), where the effect is captured by both SGMMs and POLS also in the unbalanced sub-sample.

In contrast, the financial component of service FDI demonstrates positive robust to model specification and data samples effects in several sub-samples: "all countries", "South and East Asia", "High income countries", and "Services-based economies" (Table 8). Thus, the effects of aggregate service FDI on service growth, described in Table 5, can be attributed to the following: in "Latin America and the Caribbean"- to non-financial FDI; and in "South and East Asia" and "all countries"- to financial FDI. The effects in the "Middle income" and "Mixed economies" in Table 5 cannot be clearly traced to either service FDI component.

10. The effects of financial and non-financial service FDI on manufacturing growth.

The two service FDI components' effects on service growth, although not very abundant and robust, were not unexpected. Their effects on manufacturing growth are surprising- one component produces highly significant and robust to all six models positive effects in a number of sub-samples. The other component produces equally strong evidence of negative effects in those very same sub-samples. Moreover, these are some of the most significant and robust effects in the whole study.

Financial FDI shows very strong evidence of **positive** influence on manufacturing growth in all of the following sub-samples: "South and East Asia",

"Low income" and "High income" economies, "Services-based economies" and the evidence is seen at the "all countries" level (Table 10). Meanwhile, non-financial service FDI produces highly significant and robust **negative** effects on manufacturing growth in "South and East Asia", "High income economies", and "Services-based economies" (Table 13). At the same time, it has **positive** effects on manufacturing growth in the "Low" and "Middle income economies" and in the "Manufacturing-based" and "Mixed" economies (Table 13).

Some of these manufacturing growth effects were already evident even before breaking down the service FDI. We can now explain some of the negative numbers we have seen in Table 6. The negative estimates of service FDI impact on manufacturing growth in "Latin America and the Caribbean" (Table 6- top panel), we now know, are due to negative influence by non-financial service FDI (Table 13- top panel), which prevails over the positive influence by financial FDI (Table 10- top panel). Recalling that manufacturing FDI has no impact on manufacturing growth in this region (Table 4- top panel), we can conclude that the effect of a shift of FDI from manufacturing towards services **on manufacturing growth** in this region entirely depends on the type of service FDI, financial or non-financial.

Another sub-sample where the effect of aggregate service FDI on manufacturing growth was negative was "High income countries" (Table 6- middle panel). The negative effects that SGMM2 captures can be explained the same way- with a negative influence by non-financial service FDI (Table 13- middle panel), which prevails over the positive influence by financial FDI (Table

10- middle panel). Recalling that the group of the "High income countries" did demonstrate positive impact of manufacturing FDI on manufacturing growth (Table 4- middle panel), in this group an FDI shift from manufacturing into services produces again an ambiguous effect that depends on the type of service FDI increase. If the shift is towards financial FDI, the shift can still be beneficial **for manufacturing growth**, whereas if the shift is towards non-financial service FDI, it would be definitely growth impeding.

Meanwhile, the "Low income countries" positive results (Table 6- middle panel) can be explained by beneficial influence of both financial and non-financial service FDI (Table 10- middle panel and Table 13-middle panel), whereas the positive results of the "Middle income" and "Mixed" economies (Table 6- middle and bottom panels) are due to non-financial service FDI only (Table 13- middle and bottom panels). Recalling the results from Table 4, for "Low income economies" a shift of FDI towards services can potentially be an improvement for manufacturing growth, whereas in the case of "Middle income" and "Mixed" economies, it produces an ambiguous result.

11. Does the shift of FDI from manufacturing towards services accelerate economic growth- an analysis of three flows.

Due to numerous opposite effects of financial and non-financial service FDI on manufacturing growth, which often cancel out at the aggregate service FDI level and leave us with the result that service FDI is irrelevant for manufacturing and in many cases for overall growth, I have decided to study

sectoral distribution of FDI not in the form of two, but three flows- manufacturing, financial and non-financial service FDI. The ten tables described below, which correspond to different sub-samples, summarize the findings with an emphasis on the system GMM with external instruments, which is the most suitable methodology for our research question. Based on these tables, I discuss the impacts of a shift of FDI from manufacturing towards services on overall and sectoral growth.

1) In **"Latin America and the Caribbean" (Table 14)** the impact of manufacturing FDI on overall growth is positive. It works its way through an impact on manufacturing growth and is possibly the most growth enhancing FDI flow in this region. On the service FDI side, non-financial FDI benefits service growth, but the effect does not transfer to the overall economy and the impact of financial FDI on overall growth is negative. In conclusion, the shift of FDI away from manufacturing and into services is not beneficial for overall growth and the type of service FDI increase is irrelevant for this conclusion.
2) In **"Europe and Central Asia" (Table 15)** both manufacturing and financial FDI have a very significant impact on overall growth, manufacturing FDI working through manufacturing growth and financial FDI- through an unclear channel (more likely manufacturing sector again, since the aggregate service FDI impact on manufacturing growth is positive). Non-financial FDI does not demonstrate any effect. Thus, the benefit of a shift of FDI from manufacturing to services depends on the kind of service FDI increasing. However, the effects of the two flows may have one difference- the manufacturing FDI

effect may be declining in time. If true, this implies a beneficial shift of FDI towards financial services.

3) In **"South and East Asia and the Pacific" (Table 16)** manufacturing FDI has no effect at all. Financial and non-financial service FDI have very significant opposite effects on manufacturing growth. However, of these two, only financial FDI has a positive impact on overall growth. Therefore, a shift of FDI towards finance is very beneficial and a shift towards non-financial FDI harms only the manufacturing sector, but not the overall economies.
4) In the **"Low income economies" (Table 17)** manufacturing FDI is beneficial because it increases growth in both sectors; financial FDI is beneficial for the manufacturing sectors growth (possibly a more recent phenomenon), but not for the overall growth; and non-financial FDI is beneficial for both sectors and the economies as a whole. The impact of a switch towards service FDI is hard to estimate. It is unlikely to be beneficial, if it is to finance, and the effect is ambiguous, if the switch is from manufacturing towards non-financial services.
5) In **"Middle income economies" (Table 18)** there is very strong evidence about a positive effect of manufacturing FDI on growth in both sectors, as well as on the whole economies. Financial FDI does not have an effect and non-financial service FDI has a positive effect on overall growth that works its way through manufacturing. Looking at the size of the estimated FDI coefficients, it is unlikely that a shift away from manufacturing towards any kind of services would be beneficial.

6) In the **"High income economies" (Table 19)** the effect of manufacturing FDI on manufacturing sector and on overall economic growth is positive; the effect of financial FDI on both sectors and on overall growth is positive; and the effect of non-financial service FDI on manufacturing and the whole economies is negative. A shift towards non-financial services is surely harmful to economic growth; a shift towards finance has an ambiguous effect because of the strong positive influence of manufacturing FDI.
7) In **"Manufacturing-based economies" (Table 20)** manufacturing FDI has a positive impact on both sectors and on overall growth. Financial FDI is also beneficial for overall growth, whereas non-financial service FDI although beneficial for manufacturing, does not have the same impact on overall growth. Thus, shifting towards services can only be growth contributing, if it is in finance. If the shift is towards non-financial services, it would be hurting the overall growth, since the benefits of manufacturing FDI will be decreased.
8) In **"Mixed economies" (Table 21)** manufacturing FDI contributes to the growth of the manufacturing sector, however, there is not enough evidence that its effect extends to the whole economy. Both financial and non-financial FDI, at the same time produce evidence of positive effects on overall growth that both spill over from the manufacturing sector. Therefore, in this case, we would conclude that any FDI shift towards services is growth enhancing.
9) In **"Services-based economies" (Table 22)** there is no evidence about a manufacturing FDI effect on any sector or overall growth and the two service FDI components affect the economies in opposite ways. Financial FDI

benefits the overall growth through both manufacturing and service growth and non-financial FDI hurts overall growth through impeding manufacturing growth. Therefore, in this group the switch of FDI from manufacturing towards services definitely has an impact. The direction of the impact, however, depends entirely on the type of service FDI increasing- financial or non-financial.

10) Finally, at the level of **"all countries" (Table 23)** we first see a positive effect of manufacturing FDI on overall growth, which is a result of spillovers from the manufacturing sector. Second, we the evidence of financial FDI's positive impacts on both sectors growth and subsequently- on overall growth. Thus, if we examine the country sample as whole without decomposing it into sub-groups, we would conclude that the benefits of a relative increase of service FDI at the expense of manufacturing depend on the type of service FDI increasing. If the financial FDI is being increased- the effect of the shift is ambiguous, since there could be lost some positive influence by manufacturing FDI; if non-financial service FDI increases, then the overall shift effect would be negative for the same reason.

Conclusion

The two most important flows, when the sectoral distribution of FDI is discussed, are manufacturing and financial FDI. In many of the examined sub-samples non-financial and financial service FDI counterbalance each others' effects and make the effects of aggregate service FDI ambiguous. Thus,

answering the initial question about the effects of the shift of FDI from manufacturing towards the service sector did not capture all of the excepted relationships and motivated me to extend the study to a study of three types of flows- manufacturing, financial and non-financial service FDI.

Further, the observed evidence suggested that effects of FDI flows of interest differ widely across countries from different regions, with different levels of development, as well as between "manufacturing-based" and "services-based" economies. This is why I have decided to look at the evidence from these three different perspectives and consider nine different country sub-samples. The results from some of these sub-samples are in sharp contrast.

The main empirical method used in the analysis has been the dynamic panel estimator of system GMM applied with additional (external) instruments. Five other panel estimation techniques, including the two classic static estimators (pooled OLS and fixed effects), and three dynamic ones- two difference GMM and a system GMM estimators) have been used. A number of results have been supported by all six methods.

Presented below are the most important findings about the effects on overall, manufacturing and service growth, as well as conclusions about the effect of a shift of FDI from manufacturing towards services. I start with the effects of FDI on **overall growth**.

(i) Whereas a shift of FDI towards services is not beneficial in "Latin America & the Caribbean", since manufacturing FDI is the most beneficial FDI flow there, it is growth enhancing in "South & East Asia", if the shift is towards

finance, since I do not observe any positive influence of manufacturing FDI in this region. The region of "Europe & Central Asia" "stands in the middle" with positive influence from both manufacturing and financial FDI. Thus, the overall effect of the shift is ambiguous.

(ii) With respect to the three income levels, all economies demonstrate positive influence of manufacturing FDI on overall economic growth. They differ, however, in the influence financial and non-financial service FDI have- with increase of the income level, the positive impact of financial FDI increases, whereas the positive impact of non-financial service FDI decreases, turning negative for the group of the "High income economies".

(iii) With respect to the relevance of relative manufacturing and services sector shares, the smaller the share of manufacturing- the less the positive influence by manufacturing FDI is. Meanwhile both the "Manufacturing-based" and the "Services-based" economies show evidence of positive effects by financial and a negative effect by non-financial service FDI. The later turns negative for the group of the "Services-based economies". The dominating effects of the examined flows are visible at the aggregated level of "all countries" as well. Both manufacturing and financial FDI have positive effects.

With respect to **manufacturing growth**, the regional evidence suggests that:

(i) manufacturing growth in "Latin America & the Caribbean" and "Europe & Central Asia" is due to influence of manufacturing FDI. Meanwhile, in "South & East Asia", where there I do not find such influence, both financial and

non-financial service FDI have effects on manufacturing growth. These effects, however, are opposite.

(ii) The income level-based evidence suggests that all three types of flows- manufacturing, financial and non-financial FDI contribute to manufacturing growth in the "Low" and "Middle" income countries; in the "High income" group, both manufacturing and financial FDI are beneficial, whereas non-financial service FDI has an opposite effect.

(iii) Based on relative sector shares, the evidence about the flows driving manufacturing growth in the group of the "Manufacturing-based" economies is ambiguous. The positive effect of manufacturing FDI on overall growth (above) in this sub-sample is due to an effect on service growth, not manufacturing growth. In the "Mixed economies" all three types of flows contribute to manufacturing growth. In "Services-based economies" both manufacturing and financial FDI increase manufacturing growth, whereas non-financial FDI hinders manufacturing growth. The last three described are dominating effects and are visible at the "all countries" level as well.

The results about **service growth** driving flows include:

(i) While service growth in "Latin America & the Caribbean" benefits from manufacturing and non-financial service FDI, service growth in "South & East Asia and the Pacific" is increased by financial FDI inflows.

(ii) The higher the income level- the less the contributions by manufacturing FDI and non-financial service FDI to the growth of the service sector and the higher the contribution by financial FDI.

(iii) The higher the service share- the smaller the contribution by manufacturing FDI and the higher the contribution by financial FDI to service sector growth. In the sample of "all countries", only financial FDI has a clear impact on service growth.

The results that persist across empirical models include: (i) positive influence of manufacturing FDI on **manufacturing growth** in "Latin America & the Caribbean", "Europe & Central Asia", "Middle income" and "High income" countries and on **service growth** in the "Manufacturing-based economies"; (ii) positive effects of financial FDI on **manufacturing growth** in "South & East Asia" and "High income" and "Services-based economies" and on **service growth** in "High income" economies; (iii) a negative effect of non-financial service FDI on **manufacturing growth** in "South & East Asia" and "High income" and "Services-based economies".

I expect the numerous significant results found here to inspire further research on the sectoral distribution of FDI, with perhaps more detailed industry-level studies and studies on effects on wages and prices.

Country list Appendix
Argentina
Armenia
Australia
Austria
Bangladesh
Bolivia
Brazil
Bulgaria
Canada
Chile
China
Colombia
Costa Rica
Cyprus
Czech Republic
Denmark
Dominican Republic
Ecuador
El Salvador
Estonia
Finland
France
Germany
Honduras
Hong Kong, China
Hungary
Iceland
India
Indonesia
Ireland
Israel
Italy
Japan
Kazakhstan
Korea, Rep.
Malaysia
Mexico
Morocco
Myanmar
Netherlands
Norway
Pakistan
Paraguay
Peru
Philippines
Poland
Portugal
Russian Federation
Singapore
Spain
Sweden
Switzerland
Thailand
Tunisia
Turkey
Uganda
United Kingdom
United States
Venezuela, RB
Vietnam

Countries by regions

Latin America & the Caribbean
Argentina
Bolivia
Brazil
Chile
Colombia
Costa Rica
Dominican Republic
Ecuador
El Salvador
Honduras
Mexico
Paraguay
Peru
Venezuela, RB

Europe & Central Asia
Armenia
Austria
Bulgaria
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Ireland
Italy
Kazakhstan
Netherlands
Norway
Poland
Portugal
Russian Federation
Spain
Sweden
Switzerland
Turkey
United Kingdom

South & East Asia and the Pacific
Australia
Bangladesh
China
Hong Kong, China
Hungary
Iceland
India
Indonesia
Japan
Korea, Rep.
Malaysia
Myanmar
Pakistan
Philippines
Singapore
Thailand
Vietnam

Low Income group
Armenia
Bangladesh
Bolivia
Brazil
Bulgaria
China
Colombia
Dominican Republic
Ecuador
El Salvador
Honduras
India
Indonesia
Kazakhstan
Morocco
Myanmar
Pakistan
Paraguay
Peru
Philippines
Russian Federation
Thailand
Tunisia
Turkey
Uganda
Vietnam
Middle Income group
Argentina
Chile
Costa Rica
Czech Republic
Estonia
Hungary
Malaysia
Mexico
Poland
Venezuela, RB
High Income group
Australia
Austria
Canada
Cyprus
Denmark
Finland
France
Germany
Hong Kong, China
Iceland
Ireland
Israel
Italy
Japan
Korea, Rep.
Netherlands
Norway
Portugal
Singapore
Spain
Switzerland
United Kingdom
United States

Data Source Table

Variable	Comments	Main Source
Real GDP per capita growth	GDP per capita growth (annual %)	WDI CD2005 and web site
Real manufacturing value added per capita growth	The difference of Manufacturing, value added (annual % growth) and Population growth (annual %)	WDI CD2005 and web site
Real services value added per capita growth	The difference of Services value added (annual % growth) and Population growth (annual %)	
GDP per capita level	GDP per capita (constant 2000 US$)	WDI CD2005 and web site
Manufacturing value added per capita level	Manufacturing, value added (constant 2000 US$)	WDI CD2005 and web site
Services value added per capita level	Services, etc., value added (constant 2000 US$)	WDI CD2005 and web site
Gross fixed capital formation share of GDP	Gross fixed capital formation (% of GDP)	WDI CD2005 and web site
Real lending interest rate	The difference of: Lending interest rate (%) and GDP deflator (base year varies by country)	WDI CD2005 and web site
Gross secondary school enrolment ratio	School enrollment, secondary (% gross)	WDI CD various years and UNESCO web site
Government consumption share of GDP	General government final consumption expenditure (% of GDP)	WDI CD2005 and web site
Government stability		International Credit Risk Guide
Total FDI share of GDP	The ratio of total FDI (current USD) and GDP (current US$)	OECD and UNCTAD WDI CD2005 and web site
Manufacturing FDI share of GDP	The ratio of manufacturing FDI (current USD) and GDP (current US$)	OECD and UNCTAD WDI CD2005 and web site
Service FDI share of GDP	The ratio of service FDI (current USD) and GDP (current US$)	OECD and UNCTAD WDI CD2005 and web site
Financial FDI share of GDP	The ratio of financial FDI (current USD) and GDP (current US$)	OECD and UNCTAD WDI CD2005 and web site
Non-financial service FDI	The ratio of the Difference of service FDI and financial FDI and GDP (current US$)	OECD and UNCTAD WDI CD2005 and web site

Table 1: Total FDI and GDP per capita growth.

	Sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	**0.128** *(0.001)*	**0.087** *(0.071)*	**0.105** *(0.050)*	0.086 *(0.116)*	**0.179** *(0.002)*	**0.174** *(0.000)*
	1998-2004	**0.094** *(0.031)*	**0.080** *(0.083)*	0.119 *(0.313)*	0.052 *(0.606)*	0.166 *(0.496)*	**0.146** *(0.053)*
Latin America & the Caribbean	**1990-2004**	0.004 *(0.978)*	-0.047 *(0.798)*	-0.159 *(0.143)*	-0.125 *(0.233)*	-0.036 *(0.855)*	0.044 *(0.779)*
	1998-2004	-0.114 *(0.488)*	-0.229 *(0.227)*	-0.106 *(0.502)*	-0.197 *(0.115)*	-0.554 *(0.553)*	-0.233 *(0.481)*
Europe & Central Asia	**1990-2004**	**0.181** *(0.000)*	**0.111** *(0.004)*	**0.083** *(0.003)*	**0.086** *(0.002)*	**0.162** *(0.000)*	**0.152** *(0.002)*
	1998-2004	**0.145** *(0.000)*	**0.076** *(0.095)*	0.077 *(0.276)*	**0.089** *(0.067)*	0.096 *(0.443)*	0.123 *(0.137)*
South & East Asia and the Pacific	**1990-2004**	0.075 *(0.430)*	-0.045 *(0.779)*	-0.031 *(0.761)*	-0.031 *(0.761)*	0.078 *(0.471)*	0.043 *(0.709)*
	1998-2004	0.074 *(0.389)*	0.074 *(0.537)*	**0.117** *(0.003)*	**0.093** *(0.069)*	0.204 *(0.320)*	**0.163** *(0.004)*
Low income economies	**1990-2004**	0.108 *(0.325)*	-0.111 *(0.535)*	-0.075 *(0.635)*	-0.075 *(0.635)*	-0.129 *(0.439)*	0.027 *(0.853)*
	1998-2004	0.096 *(0.411)*	-0.011 *(0.954)*	**0.340** *(0.016)*	0.145 *(0.378)*	-0.187 *(0.743)*	-0.016 *(0.937)*
Middle income economies	**1990-2004**	0.174 *(0.334)*	0.103 *(0.566)*	**0.232** *(0.011)*	**0.232** *(0.011)*	0.184 *(0.363)*	0.212 *(0.268)*
	1998-2004	0.035 *(0.868)*	0.145 *(0.359)*	0.153 *(0.242)*	0.093 *(0.386)*	-0.392 *(0.455)*	-0.192 *(0.296)*
High income economies	**1990-2004**	**0.114** *(0.005)*	**0.086** *(0.043)*	**0.091** *(0.008)*	**0.081** *(0.009)*	**0.160** *(0.003)*	**0.143** *(0.001)*
	1998-2004	**0.101** *(0.019)*	**0.074** *(0.075)*	**0.109** *(0.003)*	**0.118** *(0.000)*	0.097 *(0.376)*	0.104 *(0.146)*
Manufacturing based economies	**1990-2004**	**0.295** *(0.003)*	0.013 *(0.896)*	-0.015 *(0.864)*	-0.015 *(0.864)*	n/a	n/a
	1998-2004	**0.204** *(0.033)*	0.006 *(0.956)*	0.097 *(0.204)*	0.078 *(0.283)*	0.300 *(0.119)*	0.203 *(0.141)*
Mixed economies	**1990-2004**	**0.129** *(0.017)*	0.103 *(0.229)*	0.046 *(0.340)*	0.045 *(0.376)*	**0.176** *(0.025)*	**0.177** *(0.004)*
	1998-2004	**0.114** *(0.051)*	0.095 *(0.178)*	**0.257** *(0.005)*	**0.165** *(0.078)*	0.132 *(0.176)*	**0.152** *(0.087)*
Services based economies	**1990-2004**	-0.066 *(0.363)*	-0.023 *(0.718)*	-0.007 *(0.840)*	-0.006 *(0.870)*	**-0.213** *(0.027)*	**-0.232** *(0.008)*
	1998-2004	-0.100 *(0.194)*	**-0.117** *(0.085)*	0.023 *(0.677)*	-0.019 *(0.731)*	-0.082 *(0.903)*	**-0.438** *(0.029)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A1-A2. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 2: Manufacturing FDI and GDP per capita growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	**0.252** ***(0.009)***	**0.243** ***(0.001)***	0.161 *(0.017)*	0.163 *(0.020)*	n/a	n/a
	1998-2004	**0.194** ***(0.045)***	**0.182** ***(0.009)***	-0.005 *(0.985)*	0.160 *(0.472)*	0.020 *(0.975)*	0.148 *(0.624)*
Latin America & the Caribbean	**1990-2004**	0.629 *(0.160)*	0.564 *(0.276)*	0.551 *(0.376)*	0.696 *(0.240)*	**1.145** ***(0.056)***	0.583 *(0.165)*
	1998-2004	**1.439** ***(0.027)***	0.245 *(0.754)*	0.023 *(0.971)*	n/a	4.407 *(0.308)*	**2.961** ***(0.010)***
Europe & Central Asia	**1990-2004**	**0.103** ***(0.038)***	**0.138** ***(0.003)***	**0.136** ***(0.001)***	**0.138** ***(0.002)***	0.112 *(0.119)*	**0.099** ***(0.032)***
	1998-2004	0.088 *(0.213)*	**0.131** ***(0.007)***	0.189 *(0.284)*	**0.119** ***(0.086)***	-0.462 *(0.171)*	-0.040 *(0.844)*
South & East Asia and the Pacific	**1990-2004**	0.097 *(0.685)*	0.200 *(0.605)*	0.068 *(0.809)*	0.068 *(0.809)*	0.116 *(0.691)*	-0.034 *(0.883)*
	1998-2004	0.110 *(0.655)*	0.395 *(0.248)*	0.577 *(0.171)*	0.642 *(0.104)*	0.330 *(0.515)*	0.141 *(0.457)*
Low income economies	**1990-2004**	0.376 *(0.383)*	-0.367 *(0.523)*	-0.005 *(0.993)*	-0.005 *(0.993)*	-0.742 *(0.506)*	-0.143 *(0.897)*
	1998-2004	**0.982** ***(0.058)***	0.290 *(0.521)*	0.598 *(0.289)*	0.637 *(0.255)*	1.358 *(0.422)*	**1.907** ***(0.042)***
Middle income economies	**1990-2004**	**0.952** ***(0.037)***	**0.872** ***(0.020)***	**0.934** ***(0.000)***	**0.934** ***(0.000)***	**0.881** ***(0.034)***	**1.071** ***(0.004)***
	1998-2004	**0.823** ***(1.71)***	**0.789** ***(0.019)***	**0.792** ***(0.027)***	**0.642** ***(0.023)***	**1.914** ***(0.066)***	**2.440** ***(0.043)***
High income economies	**1990-2004**	0.111 *(0.130)*	**0.147** ***(0.014)***	**0.112** ***(0.037)***	**0.122** ***(0.032)***	0.055 *(0.164)*	**0.081** ***(0.018)***
	1998-2004	0.063 *(0.414)*	**0.112** ***(0.072)***	n/a	n/a	-0.319 *(0.439)*	0.101 *(0.574)*
Manufacturing based economies	**1990-2004**	**1.696** ***(0.003)***	**0.840** ***(0.088)***	**0.690** ***(0.087)***	**0.690** ***(0.087)***	**1.464** ***(0.021)***	**1.810** ***(0.001)***
	1998-2004	1.058 *(0.147)*	0.504 *(0.385)*	0.506 *(0.228)*	0.502 *(0.194)*	1.891 *(0.301)*	2.022 *(0.105)*
Mixed economies	**1990-2004**	**0.191** ***(0.019)***	0.077 *(0.277)*	0.037 *(0.244)*	0.023 *(0.538)*	0.041 *(0.546)*	0.081 *(0.150)*
	1998-2004	**0.172** ***(0.016)***	0.026 *(0.713)*	-0.133 *(0.468)*	-0.085 *(0.568)*	-0.261 *(0.234)*	-0.235 *(0.283)*
Services based economies	**1990-2004**	-0.169 *(0.524)*	0.287 *(0.242)*	0.251 *(0.156)*	0.251 *(0.156)*	0.083 *(0.797)*	0.045 *(0.812)*
	1998-2004	-0.278 *(0.415)*	0.568 *(0.151)*	**0.866** ***(0.005)***	**0.743** ***(0.014)***	**1.562** ***(0.097)***	-0.193 *(0.630)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A3-A4. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 3: Service FDI and GDP per capita growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	**0.177**	0.083	0.064	0.065	n/a	n/a
		(0.003)	*(0.242)*	*(0.342)*	*(0.322)*		
	1998-2004	**0.150**	0.060	**0.280**	**0.221**	0.218	0.157
		(0.018)	*(0.404)*	***(0.002)***	***(0.009)***	*(0.241)*	*(0.137)*
Latin America & the Caribbean	**1990-2004**	0.389	0.478	n/a	n/a	n/a	n/a
		(0.123)	*(0.108)*				
	1998-2004	0.288	-0.018	-0.130	0.216	0.538	-0.019
		(0.471)	*(0.960)*	*(0.614)*	*(0.408)*	*(0.447)*	*(0.951)*
Europe & Central Asia	**1990-2004**	**0.194**	0.058	-0.001	0.033	0.085	0.094
		(0.021)	*(0.312)*	*(0.229)*	*(0.519)*	*(0.317)*	*(0.248)*
	1998-2004	**0.140**	-0.046	-0.013	-0.005	0.098	-0.126
		(0.086)	*(0.389)*	*(0.887)*	*(0.957)*	*(0.717)*	*(0.704)*
South & East Asia and the Pacific	**1990-2004**	0.091	-0.081	-0.030	-0.030	0.100	0.077
		(0.463)	*(0.677)*	*(0.814)*	*(0.814)*	*(0.409)*	*(0.514)*
	1998-2004	0.100	0.052	**0.118**	**0.102**	0.043	**0.216**
		(0.327)	*(0.703)*	***(0.014)***	***(0.089)***	*(0.720)*	***(0.003)***
Low income economies	**1990-2004**	0.247	-0.103	0.046	0.046	0.254	0.192
		(0.228)	*(0.745)*	*(0.840)*	*(0.840)*	*(0.304)*	*(0.419)*
	1998-2004	0.202	0.348	**0.385**	**0.353**	0.238	-0.117
		(0.367)	*(0.280)*	***(0.022)***	***(0.089)***	*(0.876)*	*(0.716)*
Middle income economies	**1990-2004**	**0.509**	0.175	0.197	0.197	**0.445**	**0.518**
		(0.020)	*(0.419)*	*(0.103)*	*(0.103)*	***(0.035)***	***(0.020)***
	1998-2004	**0.412**	0.004	0.034	-0.040	0.008	0.149
		(0.089)	*(0.980)*	*(0.810)*	*(0.775)*	*(0.976)*	*(0.508)*
High income economies	**1990-2004**	0.089	-0.007	0.000	0.001	0.011	0.040
		(0.150)	*(0.909)*	*(0.993)*	*(0.986)*	*(0.860)*	*(0.550)*
	1998-2004	0.071	-0.012	**0.128**	**0.101**	**0.233**	0.035
		(0.258)	*(0.853)*	***(0.009)***	***(0.045)***	***(0.063)***	*(0.714)*
Manufacturing based economies	**1990-2004**	**0.556**	0.018	-0.035	-0.035	**0.555**	n/a
		(0.002)	*(0.906)*	*(0.842)*	*(0.842)*	***(0.006)***	
	1998-2004	**0.427**	-0.016	0.192	0.191	0.684	0.078
		(0.011)	*(0.903)*	*(0.297)*	*(0.315)*	*(0.212)*	*(0.868)*
Mixed economies	**1990-2004**	**0.167**	0.069	-0.039	-0.016	0.107	0.115
		(0.014)	*(0.619)*	*(0.634)*	*(0.844)*	*(0.357)*	*(0.247)*
	1998-2004	**0.181**	0.168	**0.262**	**0.232**	**0.267**	**0.238**
		(0.004)	*(0.243)*	***(0.001)***	***(0.003)***	***(0.004)***	***(0.001)***
Services based economies	**1990-2004**	0.008	-0.011	-0.029	-0.032	-0.008	-0.011
		(0.912)	*(0.884)*	*(0.591)*	*(0.545)*	*(0.902)*	*(0.879)*
	1998-2004	-0.023	**-0.174**	-0.056	-0.072	-0.490	-0.267
		(0.764)	***(0.008)***	*(0.318)*	*(0.165)*	*(0.651)*	*(0.140)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A5-A6. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 4: Manufacturing FDI and manufacturing growth.

	Sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	1990-2004	**0.611** ***(0.007)***	**0.346** ***(0.021)***	**0.192** ***(0.060)***	**0.173** ***(0.094)***	0.287 *(0.153)*	**0.389** ***(0.019)***
	1998-2004	**0.441** ***(0.030)***	0.198 *(0.190)*	-0.441 *(0.447)*	-0.542 *(0.306)*	-0.323 *(0.716)*	0.073 *(0.896)*
Latin America & the Caribbean	1990-2004	**1.954** ***(0.035)***	**2.267** ***(0.053)***	**2.223** ***(0.006)***	**2.254** ***(0.003)***	**2.799** ***(0.009)***	**2.242** ***(0.001)***
	1998-2004	**3.558** ***(0.027)***	2.147 *(0.332)*	n/a	n/a	**12.815** ***(0.004)***	**6.975** ***(0.003)***
Europe & Central Asia	1990-2004	**0.373** ***(0.007)***	**0.173** ***(0.071)***	**0.209** ***(0.053)***	**0.214** ***(0.056)***	**0.284** ***(0.012)***	**0.375** ***(0.002)***
	1998-2004	0.317 *(0.102)*	0.122 *(0.477)*	0.121 *(0.462)*	0.295 *(0.287)*	**-0.736** ***(0.099)***	-0.305 *(0.466)*
South & East Asia and the Pacific	1990-2004	0.473 *(0.350)*	0.688 *(0.296)*	0.434 *(0.378)*	0.434 *(0.378)*	-0.076 *(0.891)*	0.106 *(0.717)*
	1998-2004	0.169 *(0.769)*	0.658 *(0.252)*	**1.116** ***(0.004)***	**0.852** ***(0.012)***	-0.880 *(0.243)*	0.201 *(0.789)*
Low income economies	1990-2004	0.207 *(0.798)*	0.479 *(0.655)*	1.112 *(0.158)*	1.112 *(0.158)*	1.174 *(0.470)*	0.473 *(0.776)*
	1998-2004	1.047 *(0.272)*	0.972 *(0.267)*	1.436 *(0.152)*	1.400 *(0.101)*	n/a	**4.234** ***(0.000)***
Middle income economies	1990-2004	**2.410** ***(0.006)***	**1.939** ***(0.019)***	**2.215** ***(0.000)***	**2.215** ***(0.000)***	**2.494** ***(0.000)***	**2.464** ***(0.000)***
	1998-2004	**2.779** ***(0.010)***	1.648 *(0.109)*	**2.442** ***(0.016)***	**1.760** ***(0.086)***	1.951 *(0.379)*	3.050 *(0.205)*
High income economies	1990-2004	**0.354** ***(0.070)***	0.124 *(0.202)*	**0.123** ***(0.060)***	**0.128** ***(0.029)***	**0.217** ***(0.044)***	**0.305** ***(0.000)***
	1998-2004	0.097 *(0.650)*	-0.016 *(0.906)*	-0.036 *(0.892)*	-0.285 *(0.449)*	**-1.230** ***(0.045)***	0.347 *(0.319)*
Manufacturing based economies	1990-2004	**3.125** ***(0.007)***	1.550 *(0.195)*	0.948 *(0.406)*	0.948 *(0.406)*	n/a	n/a
	1998-2004	**2.146** ***(0.092)***	-0.262 *(0.853)*	0.719 *(0.587)*	1.015 *(0.402)*	3.844 *(0.286)*	3.542 *(0.192)*
Mixed economies	1990-2004	**0.455** ***(0.020)***	0.133 *(0.185)*	-0.112 *(0.356)*	-0.098 *(0.386)*	0.017 *(0.895)*	**0.188** ***(0.024)***
	1998-2004	**0.228** ***(0.072)***	0.035 *(0.829)*	-0.541 *(0.248)*	-0.427 *(0.252)*	n/a	-0.187 *(0.636)*
Services based economies	1990-2004	0.277 *(0.664)*	-0.048 *(0.945)*	-0.473 *(0.354)*	-0.473 *(0.354)*	0.419 *(0.499)*	0.408 *(0.431)*
	1998-2004	0.326 *(0.699)*	0.312 *(0.788)*	0.287 *(0.734)*	0.187 *(0.803)*	**4.647** ***(0.044)***	**2.260** ***(0.016)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A7-A8. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 5: Service FDI and service growth.

	Sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.080 *(0.220)*	0.076 *(0.291)*	0.030 *(0.774)*	0.018 *(0.855)*	**0.253** ***(0.016)***	**0.199** ***(0.041)***
	1998-2004	0.081 *(0.267)*	0.028 *(0.723)*	**0.302** ***(0.000)***	**0.201** ***(0.061)***	0.241 *(0.351)*	**0.255** ***(0.008)***
Latin America & the Caribbean	**1990-2004**	**0.454** ***(0.044)***	**0.584** ***(0.018)***	n/a	n/a	0.178 *(0.543)*	**0.354** ***(0.068)***
	1998-2004	**0.707** ***(0.065)***	0.380 *(0.332)*	0.043 *(0.888)*	0.448 *(0.182)*	0.663 *(0.304)*	0.177 *(0.583)*
Europe & Central Asia	**1990-2004**	0.065 *(0.353)*	0.053 *(0.398)*	-0.004 *(0.912)*	0.000 *(0.999)*	0.108 *(0.274)*	0.058 *(0.418)*
	1998-2004	0.030 *(0.679)*	-0.024 *(0.795)*	0.022 *(0.745)*	**-0.131** ***(0.020)***	0.024 *(0.940)*	0.074 *(0.464)*
South & East Asia and the Pacific	**1990-2004**	0.075 *(0.592)*	0.038 *(0.835)*	0.100 *(0.496)*	0.100 *(0.496)*	0.053 *(0.772)*	0.137 *(0.418)*
	1998-2004	0.150 *(0.185)*	0.040 *(0.752)*	n/a	0.094 *(0.196)*	0.123 *(0.203)*	**0.279** ***(0.029)***
Low income economies	**1990-2004**	0.104 *(0.596)*	-0.083 *(0.750)*	-0.023 *(0.920)*	-0.023 *(0.920)*	0.269 *(0.208)*	0.228 *(0.329)*
	1998-2004	0.077 *(0.701)*	0.079 *(0.758)*	0.043 *(0.916)*	0.137 *(0.722)*	-0.378 *(0.593)*	-0.157 *(0.649)*
Middle income economies	**1990-2004**	**0.459** ***(0.058)***	-0.042 *(0.827)*	n/a	n/a	**0.489** ***(0.016)***	n/a
	1998-2004	0.361 *(0.231)*	-0.050 *(0.820)*	n/a	n/a	**0.339** ***(0.088)***	**0.401** ***(0.003)***
High income economies	**1990-2004**	0.020 *(0.769)*	0.059 *(0.422)*	0.077 *(0.326)*	0.075 *(0.313)*	0.075 *(0.340)*	0.081 *(0.302)*
	1998-2004	-0.018 *(0.776)*	0.055 *(0.438)*	0.078 *(0.261)*	0.048 *(0.488)*	**0.331** ***(0.015)***	0.018 *(0.792)*
Manufacturing based economies	**1990-2004**	0.031 *(0.924)*	-0.008 *(0.984)*	0.130 *(0.398)*	0.130 *(0.398)*	0.432 *(0.116)*	0.226 *(0.315)*
	1998-2004	-0.220 *(0.562)*	-0.351 *(0.398)*	**0.420** ***(0.063)***	0.131 *(0.407)*	0.029 *(0.906)*	-0.109 *(0.787)*
Mixed economies	**1990-2004**	0.065 *(0.481)*	-0.049 *(0.683)*	-0.064 *(0.448)*	-0.070 *(0.412)*	0.136 *(0.233)*	0.127 *(0.249)*
	1998-2004	0.115 *(0.210)*	-0.057 *(0.488)*	**0.211** ***(0.014)***	**0.181** ***(0.049)***	0.187 *(0.172)*	**0.213** ***(0.028)***
Services based economies	**1990-2004**	0.033 *(0.649)*	0.098 *(0.395)*	0.074 *(0.481)*	0.075 *(0.475)*	0.114 *(0.479)*	0.057 *(0.603)*
	1998-2004	-0.024 *(0.720)*	-0.074 *(0.280)*	-0.059 *(0.395)*	-0.102 *(0.164)*	**-0.719** ***(0.075)***	-0.008 *(0.956)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A9-A10. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 6: Service FDI and manufacturing growth.

	Sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.077	**0.293**	**0.274**	**0.323**	-0.016	-0.058
		(0.566)	***(0.050)***	***(0.068)***	***(0.033)***	*(0.921)*	*(0.779)*
	1998-2004	-0.026	**0.323**	0.237	**0.243**	-0.090	**-0.412**
		(0.843)	***(0.030)***	*(0.102)*	***(0.084)***	*(0.806)*	***(0.004)***
Latin America & the Caribbean	**1990-2004**	0.440	0.394	-0.043	-0.043	0.017	-0.008
		(0.252)	*(0.455)*	*(0.939)*	*(0.939)*	*(0.959)*	*(0.985)*
	1998-2004	0.395	-0.547	-0.660	-0.296	0.491	-0.021
		(0.459)	*(0.357)*	*(0.172)*	*(0.466)*	*(0.570)*	*(0.949)*
Europe & Central Asia	**1990-2004**	0.251	0.315	0.341	0.341	n/a	**0.310**
		(0.199)	*(0.174)*	*(0.105)*	*(0.105)*		***(0.099)***
	1998-2004	0.121	0.221	-0.109	0.036	0.134	-0.753
		(0.488)	*(0.293)*	*(0.712)*	*(0.885)*	*(0.789)*	*(0.115)*
South & East Asia and the Pacific	**1990-2004**	-0.305	0.375	**0.363**	**0.363**	**-0.511**	**-0.472**
		(0.167)	*(0.194)*	***(0.050)***	***(0.050)***	***(0.000)***	***(0.000)***
	1998-2004	**-0.466**	0.096	0.217	0.264	-0.495	**-0.443**
		(0.034)	*(0.748)*	*(0.403)*	*(0.257)*	*(0.241)*	***(0.000)***
Low income economies	**1990-2004**	0.415	0.184	0.424	0.424	0.551	**0.652**
		(0.144)	*(0.683)*	*(0.290)*	*(0.290)*	*(0.123)*	***(0.061)***
	1998-2004	0.327	**0.667**	0.839	0.871	1.543	0.372
		(0.289)	***(0.088)***	*(0.150)*	*(0.104)*	*(0.363)*	*(0.287)*
Middle income economies	**1990-2004**	0.603	0.568	**0.666**	**0.666**	**0.641**	**0.710**
		(0.262)	*(0.306)*	***(0.010)***	***(0.010)***	***(0.070)***	***(0.032)***
	1998-2004	0.947	0.347	0.346	0.341	-0.021	-0.424
		(0.171)	*(0.466)*	*(0.362)*	*(0.307)*	*(0.959)*	*(0.496)*
High income economies	**1990-2004**	-0.104	0.196	0.129	0.130	-0.194	**-0.260**
		(0.506)	*(0.249)*	*(0.336)*	*(0.367)*	*(0.137)*	***(0.043)***
	1998-2004	-0.182	0.081	0.143	0.237	n/a	**-0.552**
		(0.202)	*(0.595)*	*(0.452)*	*(0.115)*		***(0.002)***
Manufacturing based economies	**1990-2004**	**0.919**	-0.025	-0.346	-0.346	n/a	n/a
		(0.083)	*(0.972)*	*(0.365)*	*(0.365)*		
	1998-2004	**1.148**	-0.834	-0.042	0.031	**1.191**	0.225
		(0.058)	*(0.341)*	*(0.916)*	*(0.940)*	***(0.080)***	*(0.744)*
Mixed economies	**1990-2004**	0.189	0.267	0.069	0.124	0.315	0.276
		(0.258)	*(0.198)*	*(0.627)*	*(0.418)*	*(0.141)*	*(0.108)*
	1998-2004	0.175	**0.399**	**0.385**	**0.392**	**0.768**	**0.225**
		(0.276)	***(0.063)***	***(0.061)***	***(0.011)***	***(0.000)***	***(0.099)***
Services based economies	**1990-2004**	-0.121	0.272	0.218	0.218	-0.044	-0.044
		(0.528)	*(0.292)*	*(0.198)*	*(0.198)*	*(0.885)*	*(0.884)*
	1998-2004	**-0.381**	-0.193	0.326	0.219	-1.701	n/a
		(0.059)	*(0.406)*	*(0.303)*	*(0.500)*	*(0.570)*	

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A11-A12. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 7: Manufacturing FDI and service growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.082 *(0.300)*	**0.179** ***(0.012)***	**0.183** ***(0.019)***	**0.153** ***(0.021)***	0.035 *(0.651)*	-0.002 *(0.986)*
	1998-2004	0.094 *(0.209)*	**0.103** ***(0.070)***	-0.167 *(0.553)*	0.211 *(0.392)*	0.048 *(0.909)*	0.029 *(0.901)*
Latin America & the Caribbean	**1990-2004**	0.261 *(0.520)*	0.636 *(0.175)*	0.356 *(0.511)*	0.693 *(0.066)*	0.525 *(0.311)*	-0.013 *(0.974)*
	1998-2004	**1.278** ***(0.008)***	**1.235** ***(0.067)***	0.339 *(0.553)*	0.858 *(0.138)*	2.396 *(0.642)*	n/a
Europe & Central Asia	**1990-2004**	-0.012 *(0.836)*	0.059 *(0.219)*	0.037 *(0.524)*	0.051 *(0.339)*	0.007 *(0.895)*	-0.004 *(0.948)*
	1998-2004	-0.012 *(0.874)*	0.023 *(0.741)*	0.158 *(0.527)*	0.101 *(0.315)*	**-0.472** ***(0.094)***	-0.166 *(0.297)*
South & East Asia and the Pacific	**1990-2004**	-0.167 *(0.514)*	0.001 *(0.998)*	-0.152 *(0.636)*	-0.152 *(0.636)*	-0.481 *(0.248)*	-0.244 *(0.480)*
	1998-2004	0.134 *(0.560)*	0.082 *(0.813)*	n/a	n/a	0.000 *(1.000)*	-0.132 *(0.487)*
Low income economies	**1990-2004**	-0.268 *(0.490)*	-0.308 *(0.580)*	0.136 *(0.781)*	0.136 *(0.781)*	-1.067 *(0.231)*	-0.487 *(0.545)*
	1998-2004	0.525 (0.228)	0.688 (0.208)	0.625 (0.297)	**1.153** **(0.074)**	1.769 (0.246)	**1.099** **(0.097)**
Middle income economies	**1990-2004**	**1.349** ***(0.004)***	**0.901** ***(0.030)***	n/a	n/a	**1.062** ***(0.003)***	**1.384** ***(0.000)***
	1998-2004	**0.961** ***(0.037)***	**0.856** ***(0.033)***	n/a	**0.620** ***(0.044)***	-0.146 *(0.904)*	**1.896** ***(0.053)***
High income economies	**1990-2004**	-0.009 *(0.918)*	0.044 *(0.426)*	0.012 *(0.836)*	0.038 *(0.424)*	-0.020 *(0.608)*	-0.022 *(0.719)*
	1998-2004	-0.035 *(0.633)*	0.018 *(0.733)*	0.174 *(0.449)*	0.031 *(0.803)*	-0.268 *(0.440)*	-0.095 *(0.663)*
Manufacturing based	**1990-2004**	**1.020** ***(0.022)***	0.783 *(0.140)*	**0.859** ***(0.001)***	**0.859** ***(0.001)***	**1.145** ***(0.061)***	**1.401** ***(0.001)***
	1998-2004	0.536 *(0.366)*	0.571 *(0.496)*	0.619 *(0.269)*	0.578 *(0.183)*	2.783 *(0.237)*	1.089 *(0.281)*
Mixed economies	**1990-2004**	0.047 *(0.535)*	0.093 *(0.124)*	0.035 *(0.485)*	0.024 *(0.612)*	-0.009 *(0.915)*	-0.021 *(0.801)*
	1998-2004	**0.131** ***(0.066)***	0.052 *(0.336)*	-0.037 *(0.651)*	0.090 *(0.253)*	-0.221 *(0.280)*	0.054 *(0.836)*
Services based economies	**1990-2004**	-0.210 *(0.472)*	0.130 *(0.718)*	-0.096 *(0.780)*	-0.098 *(0.777)*	-0.379 *(0.322)*	-0.154 *(0.421)*
	1998-2004	-0.199 *(0.442)*	0.186 *(0.486)*	**0.328** ***(0.087)***	0.115 *(0.695)*	1.577 *(0.122)*	-0.221 *(0.572)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A13-A14. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 8: Financial FDI and service growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.163 *(0.169)*	**0.291** ***(0.002)***	**0.227** ***(0.001)***	**0.271** ***(0.000)***	**0.296** ***(0.029)***	**0.339** ***(0.021)***
	1998-2004	**0.205** ***(0.088)***	**0.251** ***(0.003)***	0.226 *(0.135)*	**0.293** ***(0.009)***	n/a	**0.390** ***(0.001)***
Latin America & the Caribbean	**1990-2004**	0.213 *(0.757)*	0.283 *(0.691)*	n/a	n/a	0.165 *(0.819)*	n/a
	1998-2004	0.505 *(0.603)*	-0.932 *(0.233)*	-0.284 *(0.823)*	-0.860 *(0.271)*	-7.875 *(0.134)*	-2.391 *(0.275)*
Europe & Central Asia	**1990-2004**	0.074 *(0.487)*	0.181 *(0.199)*	-0.043 *(0.559)*	-0.006 *(0.931)*	0.014 *(0.894)*	0.088 *(0.366)*
	1998-2004	-0.083 *(0.448)*	0.031 *(0.884)*	0.000 *(0.999)*	-0.125 *(0.459)*	-0.243 *(0.503)*	**-0.279** ***(0.074)***
South & East Asia and the Pacific	**1990-2004**	0.199 *(0.215)*	**0.209** ***(0.028)***	**0.212** ***(0.003)***	**0.212** ***(0.003)***	0.165 *(0.120)*	**0.226** ***(0.032)***
	1998-2004	**0.290** ***(0.003)***	**0.172** ***(0.020)***	n/a	n/a	0.108 *(0.277)*	**0.276** ***(0.001)***
Low income economies	**1990-2004**	-1.022 *(0.416)*	-1.012 *(0.278)*	-0.564 *(0.266)*	-0.564 *(0.266)*	-1.095 *(0.252)*	-0.872 *(0.430)*
	1998-2004	0.361 *(0.453)*	0.279 *(0.549)*	0.522 *(0.467)*	0.419 *(0.526)*	-2.096 *(0.262)*	-0.599 *(0.528)*
Middle income economies	**1990-2004**	0.647 *(0.227)*	-0.066 *(0.873)*	n/a	n/a	n/a	n/a
	1998-2004	0.910 *(0.322)*	-0.216 *(0.827)*	0.194 *(0.828)*	0.076 *(0.928)*	0.857 *(0.487)*	n/a
High income economies	**1990-2004**	0.180 *(0.101)*	**0.286** ***(0.000)***	**0.272** ***(0.000)***	**0.248** ***(0.000)***	**0.289** ***(0.002)***	**0.284** ***(0.019)***
	1998-2004	0.161 *(0.157)*	**0.271** ***(0.001)***	**0.255** ***(0.000)***	**0.313** ***(0.000)***	**0.234** ***(0.090)***	n/a
Manufacturing based economies	**1990-2004**	0.120 *(0.887)*	0.700 *(0.553)*	0.936 *(0.129)*	0.936 *(0.129)*	**1.353** ***(0.048)***	0.738 *(0.314)*
	1998-2004	-0.505 *(0.608)*	0.253 *(0.863)*	0.810 *(0.207)*	0.883 *(0.172)*	**-1.310** ***(0.047)***	-1.468 *(0.191)*
Mixed economies	**1990-2004**	0.076 *(0.701)*	0.150 *(0.525)*	0.099 *(0.374)*	0.112 *(0.342)*	0.384 *(0.161)*	0.316 *(0.296)*
	1998-2004	0.264 *(0.239)*	0.028 *(0.916)*	0.363 *(0.166)*	0.306 *(0.202)*	**0.987** ***(0.004)***	0.615 *(0.112)*
Services based economies	**1990-2004**	0.145 *(0.299)*	**0.191** ***(0.020)***	**0.125** ***(0.014)***	**0.125** ***(0.014)***	0.155 *(0.185)*	0.161 *(0.161)*
	1998-2004	0.102 *(0.456)*	0.092 *(0.239)*	0.076 *(0.346)*	**0.132** ***(0.070)***	**0.457** ***(0.002)***	**0.310** ***(0.000)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A15-A16. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 9: Financial FDI and GDP per capita growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	**0.374** ***(0.000)***	**0.300** ***(0.001)***	n/a	n/a	n/a	n/a
	1998-2004	**0.386** ***(0.000)***	**0.287** ***(0.002)***	**0.302** ***(0.042)***	**0.336** ***(0.020)***	**0.348** ***(0.005)***	**0.311** ***(0.002)***
Latin America & the Caribbean	**1990-2004**	0.040 *(0.955)*	0.283 *(0.725)*	n/a	n/a	-0.584 *(0.372)*	n/a
	1998-2004	-0.087 *(0.929)*	**-1.930** ***(0.076)***	-2.936 *(0.105)*	**-2.072** ***(0.037)***	-8.350 *(0.296)*	**-4.528** ***(0.096)***
Europe & Central Asia	**1990-2004**	**0.384** ***(0.000)***	**0.181** ***(0.017)***	0.098 *(0.304)*	0.108 *(0.228)*	**0.323** ***(0.031)***	**0.337** ***(0.009)***
	1998-2004	**0.333** ***(0.000)***	**0.215** ***(0.093)***	**0.326** ***(0.000)***	**0.329** ***(0.000)***	n/a	0.296 *(0.154)*
South & East Asia and the Pacific	**1990-2004**	**0.363** ***(0.031)***	**0.274** ***(0.027)***	**0.284** ***(0.001)***	**0.284** ***(0.001)***	**0.386** ***(0.000)***	**0.371** ***(0.000)***
	1998-2004	**0.407** ***(0.005)***	**0.335** ***(0.000)***	**0.294** ***(0.000)***	**0.293** ***(0.000)***	**0.381** ***(0.000)***	**0.474** ***(0.000)***
Low income economies	**1990-2004**	-0.953 *(0.496)*	-1.105 *(0.281)*	-0.163 *(0.786)*	-0.163 *(0.786)*	-0.732 *(0.478)*	-0.731 *(0.538)*
	1998-2004	0.474 *(0.435)*	0.662 *(0.168)*	**0.958** ***(0.004)***	n/a	-0.964 *(0.580)*	-0.051 *(0.954)*
Middle income economies	**1990-2004**	0.625 *(0.194)*	0.140 *(0.775)*	0.080 *(0.834)*	0.080 *(0.834)*	0.669 *(0.232)*	0.683 *(0.213)*
	1998-2004	0.809 *(0.339)*	-0.669 *(0.339)*	-0.830 *(0.349)*	-0.685 *(0.327)*	0.270 *(0.823)*	-0.187 *(0.853)*
High income economies	**1990-2004**	**0.339** ***(0.000)***	**0.270** ***(0.000)***	**0.251** ***(0.001)***	**0.275** ***(0.001)***	n/a	n/a
	1998-2004	**0.383** ***(0.000)***	**0.294** ***(0.002)***	**0.345** ***(0.005)***	**0.335** ***(0.003)***	**0.309** ***(0.006)***	**0.349** ***(0.000)***
Manufacturing based economies	**1990-2004**	**0.714** ***(0.001)***	0.303 *(0.202)*	**0.321** ***(0.095)***	**0.321** ***(0.095)***	**0.870** ***(0.000)***	**0.625** ***(0.000)***
	1998-2004	**0.553** ***(0.001)***	0.200 *(0.155)*	**0.368** ***(0.009)***	**0.418** ***(0.002)***	**0.701** ***(0.060)***	**0.473** ***(0.008)***
Mixed economies	**1990-2004**	0.264 *(0.120)*	0.098 *(0.684)*	**0.150** ***(0.093)***	**0.167** ***(0.051)***	0.399 *(0.157)*	**0.491** ***(0.084)***
	1998-2004	**0.373** ***(0.021)***	0.263 *(0.344)*	0.400 *(0.110)*	0.279 *(0.246)*	0.744 *(0.145)*	**0.555** ***(0.081)***
Services based economies	**1990-2004**	0.268 *(0.142)*	**0.244** ***(0.013)***	**0.210** ***(0.011)***	**0.210** ***(0.011)***	0.226 *(0.151)*	**0.281** ***(0.028)***
	1998-2004	0.297 *(0.105)*	**0.232** ***(0.024)***	**0.235** ***(0.007)***	n/a	**0.637** ***(0.000)***	**0.419** ***(0.000)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A17-A18. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 10: Financial FDI and manufacturing growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	**0.694** ***(0.004)***	**0.791** ***(0.000)***	n/a	n/a	**0.788** ***(0.012)***	**0.962** ***(0.001)***
	1998-2004	**0.718** ***(0.013)***	**0.924** ***(0.000)***	**1.136** ***(0.000)***	n/a	**1.196** ***(0.016)***	n/a
Latin America & the Caribbean	**1990-2004**	0.564 *(0.620)*	-0.472 *(0.755)*	-1.387 *(0.115)*	-1.387 *(0.115)*	-0.661 *(0.565)*	-0.744 *(0.465)*
	1998-2004	1.207 *(0.533)*	**-3.291** ***(0.090)***	-3.004 *(0.219)*	**-3.573** ***(0.077)***	**-12.477** ***(0.064)***	-6.296 *(0.124)*
Europe & Central Asia	**1990-2004**	0.503 *(0.118)*	**0.693** ***(0.046)***	**0.698** ***(0.084)***	**0.698** ***(0.084)***	0.158 *(0.721)*	0.270 *(0.568)*
	1998-2004	0.239 *(0.590)*	**1.324** ***(0.078)***	0.090 *(0.877)*	1.170 *(0.156)*	-2.224 *(0.269)*	-1.195 *(0.107)*
South & East Asia and the Pacific	**1990-2004**	**0.843** ***(0.010)***	**1.043** ***(0.000)***	**1.019** ***(0.000)***	**1.019** ***(0.000)***	**0.783** ***(0.010)***	**0.771** ***(0.018)***
	1998-2004	**0.790** ***(0.018)***	**0.969** ***(0.000)***	**1.034** ***(0.000)***	**1.029** ***(0.000)***	**1.098** ***(0.000)***	**0.928** ***(0.000)***
Low income economies	**1990-2004**	0.373 *(0.814)*	-0.398 *(0.779)*	1.547 *(0.208)*	1.547 *(0.208)*	0.632 *(0.616)*	0.605 *(0.705)*
	1998-2004	**2.569** ***(0.002)***	**2.978** ***(0.001)***	**3.611** ***(0.000)***	**3.972** ***(0.000)***	1.997 *(0.590)*	**3.327** ***(0.008)***
Middle income economies	**1990-2004**	0.422 *(0.720)*	0.373 *(0.783)*	0.916 *(0.364)*	0.916 *(0.364)*	0.606 *(0.497)*	0.422 *(0.612)*
	1998-2004	**3.704** ***(0.082)***	-0.192 *(0.897)*	-1.214 *(0.601)*	-0.016 *(0.991)*	-2.765 *(0.401)*	-1.161 *(0.582)*
High income economies	**1990-2004**	**0.678** ***(0.006)***	**0.913** ***(0.000)***	**0.857** ***(0.000)***	**0.888** ***(0.000)***	**0.687** ***(0.023)***	0.610 *(0.109)*
	1998-2004	**0.677** ***(0.043)***	**0.886** ***(0.000)***	**1.036** ***(0.000)***	**1.054** ***(0.000)***	0.479 *(0.288)*	n/a
Manufacturing based economies	**1990-2004**	2.211 *(0.248)*	-1.099 *(0.416)*	-2.251 *(0.212)*	-2.251 *(0.212)*	0.586 *(0.642)*	n/a
	1998-2004	2.597 *(0.191)*	**-4.172** ***(0.054)***	-0.520 *(0.783)*	-0.520 *(0.783)*	0.328 *(0.775)*	1.353 *(0.242)*
Mixed economies	**1990-2004**	0.477 *(0.130)*	0.317 *(0.407)*	0.075 *(0.839)*	0.298 *(0.362)*	-0.578 *(0.256)*	-0.288 *(0.538)*
	1998-2004	**0.629** ***(0.085)***	1.330 *(0.107)*	**1.044** ***(0.021)***	n/a	**3.178** ***(0.017)***	0.424 *(0.384)*
Services based economies	**1990-2004**	**0.763** ***(0.012)***	**0.673** ***(0.003)***	**0.673** ***(0.000)***	**0.673** ***(0.000)***	**0.843** ***(0.013)***	**0.858** ***(0.007)***
	1998-2004	**0.730** ***(0.043)***	**0.834** ***(0.000)***	**0.916** ***(0.000)***	**0.882** ***(0.000)***	**1.284** ***(0.001)***	**1.271** ***(0.000)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A19-A20. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 11: Non-financial service FDI and service growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.044	-0.089	-0.091	-0.097	0.120	0.111
		(0.667)	*(0.248)*	*(0.324)*	*(0.296)*	*(0.483)*	*(0.453)*
	1998-2004	0.050	-0.106	-0.015	-0.118	0.002	0.090
		(0.647)	*(0.209)*	*(0.925)*	*(0.321)*	*(0.994)*	*(0.625)*
Latin America & the Caribbean	**1990-2004**	**0.879**	0.450	0.312	0.312	0.577	**0.650**
		(0.043)	*(0.270)*	*(0.407)*	*(0.407)*	*(0.213)*	***(0.067)***
	1998-2004	1.337	0.785	0.449	0.756	-3.008	0.287
		(0.122)	*(0.275)*	*(0.506)*	*(0.302)*	*(0.287)*	*(0.684)*
Europe & Central Asia	**1990-2004**	0.052	0.001	0.012	0.008	0.096	0.075
		(0.555)	*(0.986)*	*(0.794)*	*(0.868)*	*(0.112)*	*(0.264)*
	1998-2004	0.052	-0.019	0.042	-0.011	-0.039	0.209
		(0.513)	*(0.821)*	*(0.511)*	*(0.813)*	*(0.901)*	*(0.234)*
South & East Asia and the Pacific	**1990-2004**	-0.042	-0.143	-0.110	-0.110	0.066	0.047
		(0.819)	*(0.161)*	*(0.139)*	*(0.139)*	*(0.682)*	*(0.782)*
	1998-2004	-0.064	**-0.144**	n/a	n/a	0.049	0.039
		(0.683)	***(0.080)***			*(0.761)*	*(0.802)*
Low income economies	**1990-2004**	**0.566**	-0.156	-0.131	-0.131	**0.796**	**0.635**
		(0.072)	*(0.592)*	*(0.576)*	*(0.576)*	***(0.026)***	***(0.064)***
	1998-2004	0.476	0.040	0.023	0.113	-0.009	0.317
		(0.155)	*(0.855)*	*(0.920)*	*(0.654)*	*(0.983)*	*(0.262)*
Middle income economies	**1990-2004**	0.547	-0.078	n/a	n/a	n/a	n/a
		(0.128)	*(0.721)*				
	1998-2004	0.318	-0.073	0.068	0.019	0.557	0.209
		(0.437)	*(0.770)*	*(0.448)*	*(0.789)*	*(0.467)*	*(0.328)*
High income economies	**1990-2004**	-0.058	**-0.115**	-0.064	-0.070	-0.041	-0.025
		(0.547)	***(0.090)***	*(0.406)*	*(0.338)*	*(0.668)*	*(0.803)*
	1998-2004	-0.092	-0.099	-0.088	**-0.121**	-0.114	-0.118
		(0.265)	*(0.245)*	*(0.221)*	***(0.064)***	*(0.432)*	*(0.184)*
Manufacturing based economies	**1990-2004**	0.098	-0.104	-0.049	-0.049	0.145	0.299
		(0.841)	*(0.828)*	*(0.733)*	*(0.733)*	*(0.529)*	*(0.503)*
	1998-2004	-0.179	-0.430	-0.060	-0.081	-0.746	0.163
		(0.732)	*(0.349)*	*(0.730)*	*(0.649)*	*(0.296)*	*(0.754)*
Mixed economies	**1990-2004**	0.081	**-0.262**	-0.159	-0.161	0.067	0.061
		(0.542)	***(0.056)***	*(0.147)*	*(0.145)*	*(0.599)*	*(0.612)*
	1998-2004	0.149	-0.145	**0.243**	0.140	**0.350**	0.118
		(0.295)	*(0.106)*	***(0.058)***	*(0.301)*	***(0.059)***	*(0.572)*
Services based economies	**1990-2004**	-0.044	-0.058	-0.053	-0.053	-0.044	-0.090
		(0.691)	*(0.500)*	*(0.490)*	*(0.490)*	*(0.688)*	*(0.403)*
	1998-2004	-0.075	**-0.113**	**-0.095**	**-0.109**	**-0.285**	-0.154
		(0.409)	***(0.005)***	***(0.032)***	***(0.013)***	***(0.009)***	*(0.137)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional table A21-A22. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 12: Non-financial service FDI and GDP per capita growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	0.039 *(0.737)*	-0.088 *(0.394)*	n/a	n/a	n/a	n/a
	1998-2004	0.006 *(0.961)*	-0.110 *(0.343)*	-0.124 *(0.380)*	-0.185 *(0.166)*	-0.169 *(0.509)*	-0.049 *(0.818)*
Latin America & the Caribbean	**1990-2004**	0.698 *(0.163)*	0.606 *(0.210)*	0.279 *(0.487)*	0.279 *(0.487)*	0.355 *(0.451)*	0.492 *(0.223)*
	1998-2004	0.737 *(0.414)*	0.437 *(0.586)*	0.649 *(0.438)*	0.711 *(0.351)*	-2.637 *(0.548)*	0.026 *(0.979)*
Europe & Central Asia	**1990-2004**	-0.078 *(0.305)*	-0.016 *(0.799)*	-0.005 *(0.917)*	-0.013 *(0.758)*	n/a	n/a
	1998-2004	-0.089 *(0.269)*	**-0.107** ***(0.033)***	**-0.269** ***(0.008)***	**-0.147** ***(0.038)***	-0.112 *(0.515)*	0.113 *(0.378)*
South & East Asia and the Pacific	**1990-2004**	-0.095 *(0.645)*	**-0.323** ***(0.001)***	**-0.291** ***(0.004)***	**-0.291** ***(0.004)***	-0.054 *(0.781)*	-0.048 *(0.813)*
	1998-2004	-0.164 *(0.369)*	**-0.280** ***(0.001)***	**-0.213** ***(0.002)***	**-0.228** ***(0.002)***	-0.202 *(0.178)*	n/a
Low income economies	**1990-2004**	**0.661** ***(0.007)***	0.088 *(0.809)*	0.126 *(0.600)*	0.126 *(0.600)*	**0.837** ***(0.001)***	**0.687** ***(0.002)***
	1998-2004	**0.629** ***(0.033)***	0.388 *(0.318)*	0.298 *(0.364)*	0.270 *(0.477)*	**0.800** ***(0.010)***	**0.656** ***(0.011)***
Middle income economies	**1990-2004**	**0.643** **(0.048)**	0.124 (0.689)	0.185 (0.316)	0.185 (0.316)	**0.522** **(0.059)**	**0.577** **(0.032)**
	1998-2004	0.403 *(0.188)*	-0.037 *(0.843)*	0.043 *(0.772)*	-0.038 *(0.771)*	0.233 *(0.530)*	0.214 *(0.541)*
High income economies	**1990-2004**	-0.125 *(0.197)*	**-0.199** ***(0.005)***	**-0.187** ***(0.034)***	**-0.193** ***(0.033)***	-0.151 *(0.155)*	-0.143 *(0.215)*
	1998-2004	**-0.165** ***(0.069)***	**-0.185** ***(0.035)***	**-0.205** ***(0.015)***	**-0.191** ***(0.035)***	-0.218 *(0.182)*	**-0.282** ***(0.015)***
Manufacturing based economies	**1990-2004**	0.551 *(0.198)*	0.114 *(0.562)*	-0.173 *(0.377)*	-0.173 *(0.377)*	0.329 *(0.159)*	0.358 *(0.466)*
	1998-2004	0.303 *(0.496)*	-0.213 *(0.269)*	0.075 *(0.584)*	0.020 *(0.871)*	0.295 *(0.847)*	0.588 *(0.373)*
Mixed economies	**1990-2004**	**0.262** ***(0.007)***	-0.006 *(0.971)*	-0.064 *(0.592)*	-0.061 *(0.613)*		**0.202** ***(0.072)***
	1998-2004	**0.286** ***(0.005)***	0.109 *(0.587)*	**0.287** ***(0.047)***	0.226 *(0.146)*	**0.413** ***(0.015)***	**0.291** ***(0.058)***
Services based economies	**1990-2004**	-0.144 *(0.303)*	**-0.183** ***(0.035)***	**-0.178** ***(0.035)***	**-0.178** ***(0.035)***	n/a	**-0.243** ***(0.044)***
	1998-2004	-0.184 *(0.159)*	**-0.256** ***(0.000)***	**-0.240** ***(0.000)***	**-0.239** ***(0.000)***	**-0.545** ***(0.000)***	**-0.391** ***(0.001)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional tables A23-A24. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 13: Non-financial service FDI and manufacturing growth.

	sample	POLS	FE	DGMM1	DGMM2	SGMM1	SGMM2
All countries	**1990-2004**	-0.165 (0.409)	-0.105 (0.697)	n/a	n/a	-0.379 (0.136)	**-0.468 (0.016)**
	1998-2004	-0.296 (0.131)	-0.182 (0.531)	-0.388 (0.140)	**-0.469 (0.074)**	-0.647 (0.230)	n/a
Latin America & the Caribbean	**1990-2004**	0.678 (0.375)	0.850 (0.319)	0.147 (0.841)	0.147 (0.841)	0.292 (0.692)	0.375 (0.610)
	1998-2004	0.287 (0.794)	-0.350 (0.776)	0.207 (0.871)	0.662 (0.597)	-3.073 (0.577)	-0.013 (0.994)
Europe & Central Asia	**1990-2004**	0.139 (0.536)	0.187 (0.487)	0.225 (0.299)	0.225 (0.299)	0.189 (0.291)	0.137 (0.475)
	1998-2004	0.073 (0.724)	0.117 (0.611)	-0.088 (0.708)	-0.008 (0.967)	0.073 (0.861)	0.162 (0.561)
South & East Asia and the Pacific	**1990-2004**	**-0.871 (0.000)**	**-0.683 (0.021)**	**-0.657 (0.003)**	**-0.657 (0.003)**	**-0.830 (0.000)**	**-0.887 (0.000)**
	1998-2004	**-0.980 (0.000)**	**-0.713 (0.004)**	**-0.788 (0.000)**	**-0.792 (0.000)**	**-0.733 (0.005)**	**-0.834 (0.000)**
Low income economies	**1990-2004**	**0.858 (0.037)**	0.573 (0.246)	**0.765 (0.013)**	**0.765 (0.013)**	**1.115 (0.001)**	**0.998 (0.003)**
	1998-2004	0.508 (0.263)	0.430 (0.244)	**0.454 (0.022)**	0.398 (0.131)	0.731 (0.294)	**0.756 (0.044)**
Middle income economies	**1990-2004**	**1.283 (0.066)**	0.703 (0.299)	**0.730 (0.054)**	**0.730 (0.054)**	**1.174 (0.003)**	**1.283 (0.002)**
	1998-2004	1.198 (0.143)	0.410 (0.486)	0.466 (0.278)	0.520 (0.130)	0.591 (0.226)	0.267 (0.667)
High income economies	**1990-2004**	**-0.476 (0.003)**	-0.376 (0.126)	**-0.435 (0.045)**	**-0.431 (0.056)**	**-0.418 (0.038)**	**-0.534 (0.003)**
	1998-2004	**-0.533 (0.012)**	-0.393 (0.108)	**-0.486 (0.012)**	**-0.460 (0.023)**	**-0.844 (0.000)**	**-0.967 (0.000)**
Manufacturing based economies	**1990-2004**	**1.282 (0.041)**	0.013 (0.988)	-0.148 (0.780)	-0.148 (0.780)	n/a	**1.053 (0.091)**
	1998-2004	**1.453 (0.036)**	-0.389 (0.646)	0.246 (0.507)	0.246 (0.507)	**1.016 (0.093)**	0.627 (0.464)
Mixed economies	**1990-2004**	0.181 (0.390)	0.084 (0.704)	0.066 (0.712)	0.117 (0.492)	**0.586 (0.022)**	**0.538 (0.018)**
	1998-2004	0.107 (0.608)	0.175 (0.470)	**0.491 (0.037)**	0.301 (0.213)	**1.581 (0.000)**	**0.789 (0.007)**
Services based economies	**1990-2004**	**-0.541 (0.035)**	-0.221 (0.451)	-0.249 (0.441)	-0.249 (0.441)	**-0.761 (0.011)**	**-0.759 (0.017)**
	1998-2004	**-0.794 (0.004)**	**-0.618 (0.005)**	n/a	n/a	**-1.210 (0.000)**	**-1.351 (0.000)**

The first entry in each cell is the estimate of the FDI coefficient on growth. The full SGMM2 models are presented in the additional table A25-A-26. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model.
POLS- Pooled OLS.
FE- Fixed Effects.
DGMM1- Arellano-Bond Difference GMM without external instruments.
DGMM2- Arellano-Bond Difference GMM with external instruments.
SGMM1- Blundell-Bond System GMM without external instruments.
SGMM2- Blundell-Bond System GMM with external instruments.

Table 14: Latin America and the Caribbean

Latin America & the Caribbean	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	**1.954** ***(0.035)***	**2.267** ***(0.053)***	**2.242** ***(0.001)***	0.261 *(0.520)*	0.636 *(0.175)*	-0.013 *(0.974)*	0.629 *(0.160)*	0.564 *(0.276)*	0.583 *(0.165)*
	1998-2004	**3.558** ***(0.027)***	2.147 *(0.332)*	**6.975** ***(0.003)***	**1.278** ***(0.008)***	**1.235** ***(0.067)***	n/a	**1.439** ***(0.027)***	0.245 *(0.754)*	**2.961** ***(0.010)***
Aggregate Service FDI	1990-2004	0.440 *(0.252)*	0.394 *(0.455)*	-0.008 *(0.985)*	**0.454** ***(0.044)***	**0.584** ***(0.018)***	**0.354** ***(0.068)***	0.389 *(0.123)*	0.478 *(0.108)*	n/a
	1998-2004	0.395 *(0.459)*	-0.547 *(0.357)*	-0.021 *(0.949)*	**0.707** ***(0.065)***	0.380 *(0.332)*	0.177 *(0.583)*	0.288 *(0.471)*	-0.018 *(0.960)*	-0.019 *(0.951)*
Financial FDI	1990-2004	0.564 *(0.620)*	-0.472 *(0.755)*	-0.744 *(0.465)*	0.213 *(0.757)*	0.283 *(0.691)*	n/a	0.040 *(0.955)*	0.283 *(0.725)*	n/a
	1998-2004	1.207 *(0.533)*	-3.291 *(0.090)*	-6.296 *(0.124)*	0.505 *(0.603)*	-0.932 *(0.233)*	-2.391 *(0.275)*	-0.087 *(0.929)*	**-1.930** ***(0.076)***	**-4.528** ***(0.096)***
Non-financial Service FDI	1990-2004	0.678 *(0.375)*	0.850 *(0.319)*	0.375 *(0.610)*	**0.879** ***(0.043)***	0.450 *(0.270)*	**0.650** ***(0.067)***	0.698 *(0.163)*	0.606 *(0.210)*	0.492 *(0.223)*
	1998-2004	0.287 *(0.794)*	-0.350 *(0.776)*	-0.013 *(0.994)*	1.337 *(0.122)*	0.785 *(0.275)*	0.287 *(0.684)*	0.737 *(0.414)*	0.437 *(0.586)*	0.026 *(0.979)*
Total FDI	1990-2004	---	---	---	---	---	---	0.004 *(0.978)*	-0.047 *(0.798)*	0.044 *(0.779)*
	1998-2004	---	---	---	---	---	---	-0.114 *(0.488)*	-0.229 *(0.227)*	-0.233 *(0.481)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 15: Europe and Central Asia

Europe & Central Asia	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	**0.373** ***(0.007)***	**0.173** ***(0.071)***	**0.375** ***(0.002)***	-0.012 *(0.836)*	0.059 *(0.219)*	-0.004 *(0.948)*	**0.103** ***(0.038)***	**0.138** ***(0.003)***	**0.099** ***(0.032)***
	1998-2004	0.317 *(0.102)*	0.122 *(0.477)*	-0.305 *(0.466)*	-0.012 *(0.874)*	0.023 *(0.741)*	-0.166 *(0.297)*	0.088 *(0.213)*	**0.131** ***(0.007)***	-0.040 *(0.844)*
Aggregate Service FDI	1990-2004	0.251 *(0.199)*	0.315 *(0.174)*	**0.310** ***(0.099)***	0.065 *(0.353)*	0.053 *(0.398)*	0.058 *(0.418)*	**0.194** ***(0.021)***	0.058 *(0.312)*	0.094 *(0.248)*
	1998-2004	0.121 *(0.488)*	0.221 *(0.293)*	-0.753 *(0.115)*	0.030 *(0.679)*	-0.024 *(0.795)*	0.074 *(0.464)*	**0.140** ***(0.086)***	-0.046 *(0.389)*	-0.126 *(0.704)*
Financial FDI	1990-2004	0.503 *(0.118)*	**0.693** ***(0.046)***	0.270 *(0.568)*	0.074 *(0.487)*	0.181 *(0.199)*	0.088 *(0.366)*	**0.384** ***(0.000)***	**0.181** ***(0.017)***	**0.337** ***(0.009)***
	1998-2004	0.239 *(0.590)*	**1.324** ***(0.078)***	-1.195 *(0.107)*	-0.083 *(0.448)*	0.031 *(0.884)*	**-0.279** ***(0.074)***	**0.333** ***(0.000)***	**0.215** ***(0.093)***	0.296 *(0.154)*
Non-financial Service FDI	1990-2004	0.139 *(0.536)*	0.187 *(0.487)*	0.137 *(0.475)*	0.052 *(0.555)*	0.001 *(0.986)*	0.075 *(0.264)*	-0.078 *(0.305)*	-0.016 *(0.799)*	n/a
	1998-2004	0.073 *(0.724)*	0.117 *(0.611)*	0.162 *(0.561)*	0.052 *(0.513)*	-0.019 *(0.821)*	0.209 *(0.234)*	-0.089 *(0.269)*	**-0.107** ***(0.033)***	0.113 *(0.378)*
Total FDI	1990-2004	---	---	---	---	---	---	**0.181** ***(0.000)***	**0.111** ***(0.004)***	**0.152** ***(0.002)***
	1998-2004	---	---	---	---	---	---	**0.145** ***(0.000)***	**0.076** ***(0.095)***	0.123 *(0.137)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 16: South and East Asia and the Pacific

South & East Asia and the Pacific	Sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	0.473 (0.350)	0.688 (0.296)	0.106 (0.717)	-0.167 (0.514)	0.001 (0.998)	-0.244 (0.480)	0.097 (0.685)	0.200 (0.605)	-0.034 (0.883)
	1998-2004	0.169 (0.769)	0.658 (0.252)	0.201 (0.789)	0.134 (0.560)	0.082 (0.813)	-0.132 (0.487)	0.110 (0.655)	0.395 (0.248)	0.141 (0.457)
Aggregate Service FDI	1990-2004	-0.305 (0.167)	0.375 (0.194)	**-0.472 (0.000)**	0.075 (0.592)	0.038 (0.835)	0.137 (0.418)	0.091 (0.463)	-0.081 (0.677)	0.077 (0.514)
	1998-2004	**-0.466 (0.034)**	0.096 (0.748)	**-0.443 (0.000)**	0.150 (0.185)	0.040 (0.752)	**0.279 (0.029)**	0.100 (0.327)	0.052 (0.703)	**0.216 (0.003)**
Financial FDI	1990-2004	**0.843 (0.010)**	**1.043 (0.000)**	**0.771 (0.018)**	0.199 (0.215)	**0.209 (0.028)**	**0.226 (0.032)**	**0.363 (0.031)**	**0.274 (0.027)**	**0.371 (0.000)**
	1998-2004	**0.790 (0.018)**	**0.969 (0.000)**	**0.928 (0.000)**	**0.290 (0.003)**	**0.172 (0.020)**	**0.276 (0.001)**	**0.407 (0.005)**	**0.335 (0.000)**	**0.474 (0.000)**
Non-financial Service FDI	1990-2004	**-0.871 (0.000)**	**-0.683 (0.021)**	**-0.887 (0.000)**	-0.042 (0.819)	-0.143 (0.161)	0.047 (0.782)	-0.095 (0.645)	**-0.323 (0.001)**	-0.048 (0.813)
	1998-2004	**-0.980 (0.000)**	**-0.713 (0.004)**	**-0.834 (0.000)**	-0.064 (0.683)	-0.144 (0.080)	0.039 (0.802)	-0.164 (0.369)	**-0.280 (0.001)**	n/a
Total FDI	1990-2004	---	---	---	---	---	---	0.075 (0.430)	-0.045 (0.779)	0.043 (0.709)
	1998-2004	---	---	---	---	---	---	0.074 (0.389)	0.074 (0.537)	**0.163 (0.004)**

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 17: Low income countries

Low income countries	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	0.207 (0.798)	0.479 (0.655)	0.473 (0.776)	-0.268 (0.490)	-0.308 (0.580)	-0.487 (0.545)	0.376 (0.383)	-0.367 (0.523)	-0.143 (0.897)
	1998-2004	1.047 (0.272)	0.972 (0.267)	**4.234 (0.000)**	0.525 (0.228)	0.688 (0.208)	**1.099 (0.097)**	**0.982 (0.058)**	0.290 (0.521)	**1.907 (0.042)**
Aggregate Service FDI	1990-2004	0.415 (0.144)	0.184 (0.683)	**0.652 (0.061)**	0.104 (0.596)	-0.083 (0.750)	0.228 (0.329)	0.247 (0.228)	-0.103 (0.745)	0.192 (0.419)
	1998-2004	0.327 (0.289)	**0.667 (0.088)**	0.372 (0.287)	0.077 (0.701)	0.079 (0.758)	-0.157 (0.649)	0.202 (0.367)	0.348 (0.280)	-0.117 (0.716)
Financial FDI	1990-2004	0.373 (0.814)	-0.398 (0.779)	0.605 (0.705)	-1.022 (0.416)	-1.012 (0.278)	-0.872 (0.430)	-0.953 (0.496)	-1.105 (0.281)	-0.731 (0.538)
	1998-2004	**2.569 (0.002)**	**2.978 (0.001)**	**3.327 (0.008)**	0.361 (0.453)	0.279 (0.549)	-0.599 (0.528)	0.474 (0.435)	0.662 (0.168)	-0.051 (0.954)
Non-financial Service FDI	1990-2004	**0.858 (0.037)**	0.573 (0.246)	**0.998 (0.003)**	**0.566 (0.072)**	-0.156 (0.592)	**0.635 (0.064)**	**0.661 (0.007)**	0.088 (0.809)	**0.687 (0.002)**
	1998-2004	0.508 (0.263)	0.430 (0.244)	**0.756 (0.044)**	0.476 (0.155)	0.040 (0.855)	0.317 (0.262)	**0.629 (0.033)**	0.388 (0.318)	**0.656 (0.011)**
Total FDI	1990-2004	---	---	---	---	---	---	0.108 (0.325)	-0.111 (0.535)	0.027 (0.853)
	1998-2004	---	---	---	---	---	---	0.096 (0.411)	-0.011 (0.954)	-0.016 (0.937)

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 18: Middle income countries

Middle income countries	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	**2.410** ***(0.006)***	**1.939** ***(0.019)***	**2.464** ***(0.000)***	**1.349** ***(0.004)***	**0.901** ***(0.030)***	**1.384** ***(0.000)***	**0.952** ***(0.037)***	**0.872** ***(0.020)***	**1.071** ***(0.004)***
	1998-2004	**2.779** ***(0.010)***	1.648 *(0.109)*	3.050 *(0.205)*	**0.961** ***(0.037)***	**0.856** ***(0.033)***	**1.896** ***(0.053)***	**0.823** ***( )***	**0.789** ***(0.019)***	**2.440** ***(0.043)***
Aggregate Service FDI	1990-2004	0.603 *(0.262)*	0.568 *(0.306)*	**0.710** ***(0.032)***	**0.459** ***(0.058)***	-0.042 *(0.827)*	n/a	**0.509** ***(0.020)***	0.175 *(0.419)*	**0.518** ***(0.020)***
	1998-2004	0.947 *(0.171)*	0.347 *(0.466)*	-0.424 *(0.496)*	0.361 *(0.231)*	-0.050 *(0.820)*	**0.401** ***(0.003)***	**0.412** ***(0.089)***	0.004 *(0.980)*	0.149 *(0.508)*
Financial FDI	1990-2004	0.422 *(0.720)*	0.373 *(0.783)*	0.422 *(0.612)*	0.647 *(0.227)*	-0.066 *(0.873)*	n/a	0.625 *(0.194)*	0.140 *(0.775)*	0.683 *(0.213)*
	1998-2004	**3.704** ***(0.082)***	-0.192 *(0.897)*	-1.161 *(0.582)*	0.910 *(0.322)*	-0.216 *(0.827)*	n/a	0.809 *(0.339)*	-0.669 *(0.339)*	-0.187 *(0.853)*
Non-financial Service FDI	1990-2004	**1.283** ***(0.066)***	0.703 *(0.299)*	**1.283** ***(0.002)***	0.547 *(0.128)*	-0.078 *(0.721)*	n/a	**0.643** ***(0.048)***	0.124 *(0.689)*	**0.577** ***(0.032)***
	1998-2004	1.198 *(0.143)*	0.410 *(0.486)*	0.267 *(0.667)*	0.318 *(0.437)*	-0.073 *(0.770)*	0.209 *(0.328)*	0.403 *(0.188)*	-0.037 *(0.843)*	0.214 *(0.541)*
Total FDI	1990-2004	---	---	---	---	---	---	0.174 *(0.334)*	0.103 *(0.566)*	0.212 *(0.268)*
	1998-2004	---	---	---	---	---	---	0.035 *(0.868)*	0.145 *(0.359)*	-0.192 *(0.296)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 19: High income countries

High income countries	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
Manufacturing FDI	1990-2004	**0.354** ***(0.070)***	0.124 *(0.202)*	**0.305** ***(0.000)***	-0.009 *(0.918)*	0.044 *(0.426)*	-0.022 *(0.719)*	0.111 *(0.130)*	**0.147** ***(0.014)***	**0.081** ***(0.018)***
	1998-2004	0.097 *(0.650)*	-0.016 *(0.906)*	0.347 *(0.319)*	-0.035 *(0.633)*	0.018 *(0.733)*	-0.095 *(0.663)*	0.063 *(0.414)*	**0.112** ***(0.072)***	0.101 *(0.574)*
Aggregate Service FDI	1990-2004	-0.104 *(0.506)*	0.196 *(0.249)*	**-0.260** ***(0.043)***	0.020 *(0.769)*	0.059 *(0.422)*	0.081 *(0.302)*	0.089 *(0.150)*	-0.007 *(0.909)*	0.040 *(0.550)*
	1998-2004	-0.182 *(0.202)*	0.081 *(0.595)*	**-0.552** ***(0.002)***	-0.018 *(0.776)*	0.055 *(0.438)*	0.018 *(0.792)*	0.071 *(0.258)*	-0.012 *(0.853)*	0.035 *(0.714)*
Financial FDI	1990-2004	**0.678** ***(0.006)***	**0.913** ***(0.000)***	0.610 *(0.109)*	0.180 *(0.101)*	**0.286** ***(0.000)***	**0.284** ***(0.019)***	**0.339** ***(0.000)***	**0.270** ***(0.000)***	n/a
	1998-2004	**0.677** ***(0.043)***	**0.886** ***(0.000)***	n/a	0.161 *(0.157)*	**0.271** ***(0.001)***	n/a	**0.383** ***(0.000)***	**0.294** ***(0.002)***	**0.349** ***(0.000)***
Non-financial Service FDI	1990-2004	**-0.476** ***(0.003)***	-0.376 *(0.126)*	**-0.534** ***(0.003)***	-0.058 *(0.547)*	-0.115 *(0.090)*	-0.025 *(0.803)*	-0.125 *(0.197)*	**-0.199** ***(0.005)***	-0.143 *(0.215)*
	1998-2004	**-0.533** ***(0.012)***	-0.393 *(0.108)*	**-0.967** ***(0.000)***	-0.092 *(0.265)*	-0.099 *(0.245)*	-0.118 *(0.184)*	**-0.165** ***(0.069)***	**-0.185** ***(0.035)***	**-0.282** ***(0.015)***
Total FDI	1990-2004	---	---	---	---	---	---	**0.114** ***(0.005)***	**0.086** ***(0.043)***	**0.143** ***(0.001)***
	1998-2004	---	---	---	---	---	---	**0.101** ***(0.019)***	**0.074** ***(0.075)***	0.104 *(0.146)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 20: Manufacturing based economies

Manufacturing based economies	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
	1990-2004	**3.125** ***(0.007)***	1.550 *(0.195)*	n/a	**1.020** ***(0.022)***	0.783 *(0.140)*	**1.401** ***(0.001)***	**1.696** ***(0.003)***	**0.840** ***(0.088)***	**1.810** ***(0.001)***
Manufacturing FDI	1998-2004	**2.146** ***(0.092)***	-0.262 *(0.853)*	3.542 *(0.192)*	0.536 *(0.366)*	0.571 *(0.496)*	1.089 *(0.281)*	1.058 *(0.147)*	0.504 *(0.385)*	2.022 *(0.105)*
	1990-2004	**0.919** ***(0.083)***	-0.025 *(0.972)*	n/a	0.031 *(0.924)*	-0.008 *(0.984)*	0.226 *(0.315)*	**0.556** ***(0.002)***	0.018 *(0.906)*	n/a
Aggregate Service FDI	1998-2004	**1.148** ***(0.058)***	-0.834 *(0.341)*	0.225 *(0.744)*	-0.220 *(0.562)*	-0.351 *(0.398)*	-0.109 *(0.787)*	**0.427** ***(0.011)***	-0.016 *(0.903)*	0.078 *(0.868)*
	1990-2004	2.211 *(0.248)*	-1.099 *(0.416)*	n/a	0.120 *(0.887)*	0.700 *(0.553)*	0.738 *(0.314)*	**0.714** ***(0.001)***	0.303 *(0.202)*	**0.625** ***(0.000)***
Financial FDI	1998-2004	2.597 *(0.191)*	**-4.172** ***(0.054)***	1.353 *(0.242)*	-0.505 *(0.608)*	0.253 *(0.863)*	-1.468 *(0.191)*	**0.553** ***(0.001)***	0.200 *(0.155)*	**0.473** ***(0.008)***
	1990-2004	**1.282** ***(0.041)***	0.013 *(0.988)*	**1.053** ***(0.091)***	0.098 *(0.841)*	-0.104 *(0.828)*	0.299 *(0.503)*	0.551 *(0.198)*	0.114 *(0.562)*	0.358 *(0.466)*
Non-financial Service FDI	1998-2004	**1.453** ***(0.036)***	-0.389 *(0.646)*	0.627 *(0.464)*	-0.179 *(0.732)*	-0.430 *(0.349)*	0.163 *(0.754)*	0.303 *(0.496)*	-0.213 *(0.269)*	0.588 *(0.373)*
	1990-2004	---	---	---	---	---	---	**0.295** ***(0.003)***	0.013 *(0.896)*	n/a
Total FDI	1998-2004	---	---	---	---	---	---	**0.204** ***(0.033)***	0.006 *(0.956)*	0.203 *(0.141)*

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 21: Mixed economies

Mixed economies	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
	1990-2004	**0.455** ***(0.020)***	0.133 *(0.185)*	**0.188** ***(0.024)***	0.047 *(0.535)*	0.093 *(0.124)*	-0.021 *(0.801)*	**0.191** ***(0.019)***	0.077 *(0.277)*	0.081 *(0.150)*
Manufacturing FDI	1998-2004	**0.228** ***(0.072)***	0.035 *(0.829)*	-0.187 *(0.636)*	**0.131** ***(0.066)***	0.052 *(0.336)*	0.054 *(0.836)*	**0.172** ***(0.016)***	0.026 *(0.713)*	-0.235 *(0.283)*
	1990-2004	0.189 *(0.258)*	0.267 *(0.198)*	0.276 *(0.108)*	0.065 *(0.481)*	-0.049 *(0.683)*	0.127 *(0.249)*	**0.167** ***(0.014)***	0.069 *(0.619)*	0.115 *(0.247)*
Aggregate Service FDI	1998-2004	0.175 *(0.276)*	**0.399** ***(0.063)***	**0.225** ***(0.099)***	0.115 *(0.210)*	-0.057 *(0.488)*	**0.213** ***(0.028)***	**0.181** ***(0.004)***	0.168 *(0.243)*	**0.238** ***(0.001)***
	1990-2004	0.477 *(0.130)*	0.317 *(0.407)*	-0.288 *(0.538)*	0.076 *(0.701)*	0.150 *(0.525)*	0.316 *(0.296)*	0.264 *(0.120)*	0.098 *(0.684)*	**0.491** ***(0.084)***
Financial FDI	1998-2004	**0.629** ***(0.085)***	1.330 *(0.107)*	0.424 *(0.384)*	0.264 *(0.239)*	0.028 *(0.916)*	0.615 *(0.112)*	**0.373** ***(0.021)***	0.263 *(0.344)*	**0.555** ***(0.081)***
	1990-2004	0.181 *(0.390)*	0.084 *(0.704)*	**0.538** ***(0.018)***	0.081 *(0.542)*	**-0.262** ***(0.056)***	0.061 *(0.612)*	**0.262** ***(0.007)***	-0.006 *(0.971)*	**0.202** ***(0.072)***
Non-financial Service FDI	1998-2004	0.107 *(0.608)*	0.175 *(0.470)*	**0.789** ***(0.007)***	0.149 *(0.295)*	-0.145 *(0.106)*	0.118 *(0.572)*	**0.286** ***(0.005)***	0.109 *(0.587)*	**0.291** ***(0.058)***
	1990-2004	---	---	---	---	---	---	**0.129** ***(0.017)***	0.103 *(0.229)*	**0.177** ***(0.004)***
Total FDI	1998-2004	---	---	---	---	---	---	**0.114** ***(0.051)***	0.095 *(0.178)*	**0.152** ***(0.087)***

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 22: Services based economies

Services based economies	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
	1990-2004	0.277 (0.664)	-0.048 (0.945)	0.408 (0.431)	-0.210 (0.472)	0.130 (0.718)	-0.154 (0.421)	-0.169 (0.524)	0.287 (0.242)	0.045 (0.812)
Manufacturing FDI	1998-2004	0.326 (0.699)	0.312 (0.788)	**2.260 (0.016)**	-0.199 (0.442)	0.186 (0.486)	-0.221 (0.572)	-0.278 (0.415)	0.568 (0.151)	-0.193 (0.630)
	1990-2004	-0.121 (0.528)	0.272 (0.292)	-0.044 (0.884)	0.033 (0.649)	0.098 (0.395)	0.057 (0.603)	0.008 (0.912)	-0.011 (0.884)	-0.011 (0.879)
Aggregate Service FDI	1998-2004	**-0.381 (0.059)**	-0.193 (0.406)	n/a	-0.024 (0.720)	-0.074 (0.280)	-0.008 (0.956)	-0.023 (0.764)	**-0.174 (0.008)**	-0.267 (0.140)
	1990-2004	**0.763 (0.012)**	**0.673 (0.003)**	**0.858 (0.007)**	0.145 (0.299)	**0.191 (0.020)**	0.161 (0.161)	0.268 (0.142)	**0.244 (0.013)**	**0.281 (0.028)**
Financial FDI	1998-2004	**0.730 (0.043)**	**0.834 (0.000)**	**1.271 (0.000)**	0.102 (0.456)	0.092 (0.239)	**0.310 (0.000)**	0.297 (0.105)	**0.232 (0.024)**	**0.419 (0.000)**
	1990-2004	**-0.541 (0.035)**	-0.221 (0.451)	**-0.759 (0.017)**	-0.044 (0.691)	-0.058 (0.500)	-0.090 (0.403)	-0.144 (0.303)	**-0.183 (0.035)**	**-0.243 (0.044)**
Non-financial Service FDI	1998-2004	**-0.794 (0.004)**	**-0.618 (0.005)**	**-1.351 (0.000)**	-0.075 (0.409)	-0.113 (0.005)	-0.154 (0.137)	-0.184 (0.159)	**-0.256 (0.000)**	**-0.391 (0.001)**
	1990-2004	---	---	---	---	---	---	-0.066 (0.363)	-0.023 (0.718)	**-0.232 (0.008)**
Total FDI	1998-2004	---	---	---	---	---	---	-0.100 (0.194)	**-0.117 (0.085)**	**-0.438 (0.029)**

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Table 23: All countries

All countries	sample	Manufacturing growth			Service growth			GDP growth		
		POLS	FE	SGMM2	POLS	FE	SGMM2	POLS	FE	SGMM2
	1990-2004	**0.611 (0.007)**	**0.346 (0.021)**	**0.389 (0.019)**	0.082 (0.300)	**0.179 (0.012)**	-0.002 (0.986)	**0.252 (0.009)**	**0.243 (0.001)**	n/a
Manufacturing FDI	1998-2004	**0.441 (0.030)**	0.198 (0.190)	0.073 (0.896)	0.094 (0.209)	**0.103 (0.070)**	0.029 (0.901)	**0.194 (0.045)**	**0.182 (0.009)**	0.148 (0.624)
	1990-2004	0.077 (0.566)	**0.293 (0.050)**	-0.058 (0.779)	0.080 (0.220)	0.076 (0.291)	**0.199 (0.041)**	**0.177 (0.003)**	0.083 (0.242)	n/a
Aggregate Service FDI	1998-2004	-0.026 (0.843)	**0.323 (0.030)**	**-0.412 (0.004)**	0.081 (0.267)	0.028 (0.723)	**0.255 (0.008)**	**0.150 (0.018)**	0.060 (0.404)	0.157 (0.137)
	1990-2004	**0.694 (0.004)**	**0.791 (0.000)**	**0.962 (0.001)**	0.163 (0.169)	**0.291 (0.002)**	**0.339 (0.021)**	**0.374 (0.000)**	**0.300 (0.001)**	n/a
Financial FDI	1998-2004	**0.718 (0.013)**	**0.924 (0.000)**	n/a	**0.205 (0.088)**	**0.251 (0.003)**	**0.390 (0.001)**	**0.386 (0.000)**	**0.287 (0.002)**	**0.311 (0.002)**
	1990-2004	-0.165 (0.409)	-0.105 (0.697)	**-0.468 (0.016)**	0.044 (0.667)	-0.089 (0.248)	0.111 (0.453)	0.039 (0.737)	-0.088 (0.394)	n/a
Non-financial Service FDI	1998-2004	-0.296 (0.131)	-0.182 (0.531)	n/a	0.050 (0.647)	-0.106 (0.209)	0.090 (0.625)	0.006 (0.961)	-0.110 (0.343)	-0.049 (0.818)
	1990-2004	---	---	---	---	---	---	**0.128 (0.001)**	**0.087 (0.071)**	**0.174 (0.000)**
Total FDI	1998-2004	---	---	---	---	---	---	**0.094 (0.031)**	**0.080 (0.083)**	**0.146 (0.053)**

The first entry in each cell is the estimate of the FDI coefficient on growth. The full models are presented in the attachments indicated in the last column. Figures in parentheses are p-values. The "n/a" results are due to second order autocorrelation in the error of the model. POLS- Pooled OLS. FE- Fixed Effects. SGMM2- Blundell-Bond System GMM with external instruments.

Additional tables: Full SGMM2 models

Table A1: Total FDI and real GDP per capita growth: Input to Table 1
Unbalanced 1990-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	-0.012 *(0.000)*	-0.004 *(0.471)*	-0.016 *(0.000)*	-0.012 *(0.000)*	-0.024 *(0.002)*	-0.066 *(0.000)*	-0.015 *(0.004)*	n/a	-0.010 *(0.000)*	0.000 *(0.851)*
Gross fixed capital formation share of GDP	0.173 *(0.000)*	0.304 *(0.001)*	-0.076 *(0.271)*	0.281 *(0.000)*	0.199 *(0.000)*	0.158 *(0.067)*	0.069 *(0.306)*	n/a	0.186 *(0.000)*	0.451 *(0.000)*
Real lending interest rate	-0.024 *(0.149)*	-0.012 *(0.520)*	0.006 *(0.854)*	0.011 *(0.906)*	-0.016 *(0.231)*	0.019 *(0.214)*	-0.052 *(0.510)*	n/a	-0.010 *(0.660)*	-0.044 *(0.002)*
Gross secondary school enrolment ratio	0.042 *(0.000)*	0.028 *(0.270)*	0.022 *(0.010)*	0.024 *(0.015)*	0.068 *(0.003)*	0.040 *(0.003)*	0.012 *(0.136)*	n/a	0.033 *(0.006)*	0.002 *(0.897)*
Government consumption share of GDP	0.000 *(0.314)*	0.000 *(0.814)*	-0.001 *(0.041)*	0.001 *(0.091)*	0.000 *(0.978)*	-0.001 *(0.050)*	-0.001 *(0.222)*	n/a	0.000 *(0.821)*	0.000 *(0.715)*
Government stability	0.004 *(0.055)*	0.007 *(0.020)*	-0.001 *(0.578)*	-0.001 *(0.771)*	0.002 *(0.231)*	0.008 *(0.008)*	-0.001 *(0.456)*	n/a	0.002 *(0.329)*	-0.002 *(0.324)*
Total FDI share of GDP	**0.174** ***(0.000)***	**0.044** ***(0.779)***	**0.152** ***(0.002)***	**0.043** ***(0.709)***	**0.027** ***(0.853)***	**0.212** ***(0.268)***	**0.143** ***(0.001)***	**n/a**	**0.177** ***(0.004)***	**-0.232** ***(0.008)***
Constant term	0.043 *(0.055)*	-0.056 *(0.171)*	0.208 *(0.000)*	0.052 *(0.134)*	0.092 *(0.035)*	0.506 *(0.000)*	0.174 *(0.008)*	n/a	0.023 *(0.490)*	-0.018 *(0.563)*
Wald chi2(20)	370.570	275.920	93643.990	1223.490	#######	9.94E+09	4378.910	n/a	206.900	2379.020
Number of observations	524	143	203	129	167	99	258	n/a	286	143
Number of instruments	111	100	109	98	104	92	108	n/a	111	101
Arellano-Bond test for AR(2) in first differences	(0.192)	(0.141)	(0.233)	(0.512)	(0.512)	(0.219)	(0.817)	(0.058)	(0.584)	(0.287)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A2: Total FDI and real GDP per capita growth: Input to Table 1
Balanced 1998-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	-0.012 *(0.000)*	-0.021 *(0.094)*	-0.018 *(0.000)*	-0.012 *(0.000)*	-0.026 *(0.006)*	-0.091 *(0.004)*	-0.019 *(0.011)*	-0.019 *(0.019)*	-0.010 *(0.002)*	0.001 *(0.750)*
Gross fixed capital formation share of GDP	0.238 *(0.000)*	0.376 *(0.031)*	-0.042 *(0.698)*	0.292 *(0.000)*	0.266 *(0.001)*	0.323 *(0.002)*	-0.037 *(0.679)*	0.183 *(0.058)*	0.305 *(0.002)*	0.603 *(0.001)*
Real lending interest rate	-0.051 *(0.055)*	-0.043 *(0.289)*	-0.086 *(0.201)*	-0.058 *(0.468)*	-0.067 *(0.005)*	-0.071 *(0.270)*	0.090 *(0.263)*	-0.085 *(0.503)*	-0.022 *(0.597)*	-0.059 *(0.172)*
Gross secondary school enrolment ratio	0.043 *(0.003)*	0.048 *(0.345)*	0.023 *(0.113)*	0.031 *(0.175)*	0.086 *(0.002)*	0.087 *(0.147)*	0.023 *(0.031)*	0.104 *(0.119)*	0.035 *(0.025)*	0.007 *(0.818)*
Government consumption share of GDP	0.000 *(0.894)*	0.000 *(0.783)*	-0.002 *(0.035)*	0.001 *(0.004)*	0.001 *(0.417)*	0.000 *(0.547)*	-0.002 *(0.015)*	-0.003 *(0.071)*	0.001 *(0.226)*	0.000 *(0.815)*
Government stability	0.002 *(0.327)*	0.010 *(0.150)*	-0.004 *(0.118)*	-0.009 *(0.001)*	-0.001 *(0.490)*	0.011 *(0.020)*	-0.002 *(0.291)*	0.002 *(0.655)*	0.002 *(0.507)*	-0.003 *(0.264)*
Total FDI share of GDP	**0.146** ***(0.053)***	**-0.233** ***(0.481)***	**0.123** ***(0.137)***	**0.163** ***(0.004)***	**-0.016** ***(0.937)***	**-0.192** ***(0.296)***	**0.104** ***(0.146)***	**0.203** ***(0.141)***	**0.152** ***(0.087)***	**-0.438** ***(0.029)***
Constant term	0.039 *(0.164)*	0.042 *(0.475)*	0.260 *(0.000)*	0.118 *(0.004)*	0.106 *(0.083)*	0.609 *(0.013)*	0.258 *(0.008)*	0.107 *(0.159)*	-0.012 *(0.787)*	-0.045 *(0.063)*
Wald chi2(12)	183.26	727.13	408.31	3060.61	98.33	11102.55	728.14	443.66	56.4	131.45
Number of observations	269	71	95	72	101	57	111	64	131	74
Number of instruments	27	27	27	27	27	27	27	27	27	26
Arellano-Bond test for AR(2) in first differences	(0.556)	(0.257)	(0.754)	(0.191)	(0.248)	(0.197)	(0.246)	(0.130)	(0.107)	(0.755)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A3: Manufacturing FDI and real GDP per capita growth: Input to Table 2
Unbalanced 1990-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	n/a	-0.003 *(0.614)*	-0.018 *(0.000)*	-0.011 *(0.000)*	-0.028 *(0.003)*	-0.053 *(0.000)*	-0.014 *(0.002)*	-0.008 *(0.202)*	-0.010 *(0.000)*	-0.002 *(0.468)*
Gross fixed capital formation share of GDP	n/a	0.322 *(0.004)*	-0.060 *(0.393)*	0.292 *(0.000)*	0.227 *(0.001)*	0.196 *(0.010)*	0.083 *(0.203)*	0.083 *(0.231)*	0.159 *(0.006)*	0.344 *(0.003)*
Real lending interest rate	n/a	-0.023 *(0.191)*	0.043 *(0.258)*	0.021 *(0.783)*	-0.013 *(0.478)*	-0.045 *(0.305)*	-0.024 *(0.773)*	-0.074 *(0.328)*	-0.029 *(0.210)*	-0.048 *(0.001)*
Gross secondary school enrolment ratio	n/a	0.020 *(0.469)*	0.031 *(0.000)*	0.024 *(0.035)*	0.067 *(0.023)*	0.049 *(0.011)*	0.018 *(0.045)*	0.053 *(0.280)*	0.031 *(0.002)*	0.014 *(0.265)*
Government consumption	n/a	0.000 *(0.887)*	-0.001 *(0.035)*	0.001 *(0.045)*	0.001 *(0.504)*	-0.002 *(0.029)*	-0.001 *(0.241)*	-0.004 *(0.005)*	0.000 *(0.991)*	0.000 *(0.398)*
Government stability share of GDP	n/a	0.005 *(0.068)*	-0.002 *(0.255)*	-0.001 *(0.628)*	0.002 *(0.529)*	0.007 *(0.004)*	-0.001 *(0.379)*	0.000 *(0.951)*	0.002 *(0.310)*	-0.004 *(0.044)*
Manufacturing FDI share of GDP	**n/a**	**0.583** ***(0.165)***	**0.099** ***(0.032)***	**-0.034** ***(0.883)***	**-0.143** ***(0.897)***	**1.071** ***(0.004)***	**0.081** ***(0.018)***	**1.810** ***(0.001)***	**0.081** ***(0.150)***	**0.045** ***(0.812)***
Constant term	n/a	-0.063 *(0.087)*	0.221 *(0.000)*	0.048 *(0.080)*	0.117 *(0.010)*	0.381 *(0.009)*	0.164 *(0.002)*	0.099 *(0.055)*	0.057 *(0.051)*	0.004 *(0.875)*
Wald chi2(20)	n/a	233.130	11930.790	#######	11185.170	127.090	4039.550	1173.970	303.520	18510.710
Number of observations	n/a	126	195	128	154	90	250	84	270	140
Number of instruments	n/a	91	107	97	98	86	106	77	111	98
Arellano-Bond test for AR(2) in first differences	(0.033)	(0.176)	(0.310)	(0.805)	(0.335)	(0.678)	(0.313)	(0.271)	(0.492)	(0.321)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A4: Manufacturing FDI and real GDP per capita growth: Input to Table 2
Balanced 1998-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	-0.011 *(0.000)*	-0.018 *(0.040)*	-0.020 *(0.000)*	-0.009 *(0.048)*	-0.011 *(0.206)*	-0.052 *(0.031)*	-0.016 *(0.007)*	-0.006 *(0.348)*	-0.011 *(0.000)*	-0.003 *(0.495)*
Gross fixed capital formation share of GDP	0.226 *(0.000)*	0.457 *(0.000)*	0.008 *(0.924)*	0.327 *(0.000)*	0.102 *(0.311)*	0.230 *(0.002)*	-0.007 *(0.923)*	0.096 *(0.431)*	0.230 *(0.005)*	0.334 *(0.030)*
Real lending interest rate	-0.072 *(0.009)*	-0.073 *(0.033)*	-0.012 *(0.788)*	-0.040 *(0.583)*	-0.056 *(0.042)*	-0.039 *(0.419)*	0.154 *(0.001)*	0.019 *(0.916)*	-0.060 *(0.053)*	-0.081 *(0.043)*
Gross secondary school enrolment ratio	0.033 *(0.013)*	0.027 *(0.606)*	0.030 *(0.043)*	0.025 *(0.381)*	0.037 *(0.159)*	0.083 *(0.067)*	0.029 *(0.016)*	0.081 *(0.289)*	0.039 *(0.003)*	0.020 *(0.234)*
Government consumption	0.000 *(0.811)*	-0.001 *(0.549)*	-0.001 *(0.188)*	0.001 *(0.365)*	-0.002 *(0.206)*	-0.001 *(0.364)*	-0.002 *(0.019)*	-0.004 *(0.138)*	0.000 *(0.463)*	0.000 *(0.983)*
Government stability share of GDP	0.000 *(0.802)*	0.002 *(0.661)*	-0.001 *(0.393)*	-0.011 *(0.014)*	-0.003 *(0.256)*	0.012 *(0.048)*	-0.004 *(0.209)*	0.004 *(0.474)*	-0.001 *(0.537)*	-0.005 *(0.034)*
Manufacturing FDI share of GDP	**0.148** ***(0.624)***	**2.961** ***(0.010)***	**-0.040** ***(0.844)***	**0.141** ***(0.457)***	**1.907** ***(0.042)***	**2.440** ***(0.043)***	**0.101** ***(0.574)***	**2.022** ***(0.105)***	**-0.235** ***(0.283)***	**-0.193** ***(0.630)***
Constant term	0.063 *(0.030)*	0.039 *(0.493)*	0.235 *(0.000)*	0.110 *(0.005)*	0.107 *(0.094)*	0.263 *(0.279)*	0.220 *(0.005)*	0.010 *(0.866)*	0.060 *(0.038)*	0.008 *(0.833)*
Wald chi2(12)	171.72		577.63	1265.14	92.17	544.86	1427.76	142.85	196.77	109.44
Number of observations	246	60	88	71	92	50	104	55	120	71
Number of instruments	27	27	27	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.658)	(0.132)	(0.331)	(0.177)	(0.469)	(0.382)	(0.177)	(0.497)	(0.480)	(0.567)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A5: Aggregate service FDI and real GDP per capita growth: Input to Table 3
Unbalanced 1990-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	n/a	n/a	-0.018 *(0.000)*	-0.013 *(0.000)*	-0.023 *(0.003)*	-0.065 *(0.000)*	-0.014 *(0.006)*	n/a	-0.011 *(0.000)*	-0.004 *(0.221)*
Gross fixed capital formation share of GDP	n/a	n/a	-0.056 *(0.385)*	0.290 *(0.000)*	0.194 *(0.000)*	0.109 *(0.165)*	0.073 *(0.215)*	n/a	0.142 *(0.017)*	0.350 *(0.001)*
Real lending interest rate	n/a	n/a	-0.001 *(0.968)*	0.005 *(0.949)*	-0.023 *(0.110)*	0.009 *(0.645)*	-0.073 *(0.366)*	n/a	-0.024 *(0.152)*	-0.055 *(0.000)*
Gross secondary school enrolment ratio	n/a	n/a	0.037 *(0.010)*	0.027 *(0.013)*	0.063 *(0.012)*	0.039 *(0.000)*	0.017 *(0.091)*	n/a	0.034 *(0.002)*	0.016 *(0.235)*
Government consumption share of GDP	n/a	n/a	-0.002 *(0.040)*	0.002 *(0.015)*	0.000 *(0.903)*	-0.001 *(0.000)*	-0.001 *(0.171)*	n/a	0.000 *(0.584)*	0.000 *(0.383)*
Government stability	n/a	n/a	0.000 *(0.802)*	-0.002 *(0.530)*	0.002 *(0.524)*	0.007 *(0.002)*	0.000 *(0.898)*	n/a	0.003 *(0.210)*	-0.001 *(0.492)*
Service FDI share of GDP	**n/a**	**n/a**	**0.094** ***(0.248)***	**0.077** ***(0.514)***	**0.192** ***(0.419)***	**0.518** ***(0.020)***	**0.040** ***(0.550)***	**n/a**	**0.115** ***(0.247)***	**-0.011** ***(0.879)***
Constant term	n/a	n/a	0.217 *(0.000)*	0.054 *(0.053)*	0.108 *(0.028)*	0.504 *(0.000)*	0.163 *(0.009)*	n/a	0.051 *(0.103)*	0.003 *(0.906)*
Wald chi2(20)	n/a	n/a	1.07E+06	1325.83	24118.63	58.47	10265.97	n/a	348.66	6772.56
Number of observations	n/a	n/a	198	127	158	93	253	n/a	273	140
Number of instruments	n/a	n/a	107	97	99	87	106	n/a	111	98
Arellano-Bond test for AR(2) in first differences	(0.028)	(0.068)	(0.216)	(0.800)	(0.297)	(0.308)	(0.229)	(0.051)	(0.245)	(0.312)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A6: Aggregate service FDI and real GDP per capita growth: Input to Table 3
Balanced 1998-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	-0.012 *(0.000)*	-0.016 *(0.156)*	-0.019 *(0.000)*	-0.014 *(0.000)*	-0.024 *(0.030)*	-0.092 *(0.000)*	-0.017 *(0.017)*	-0.015 *(0.011)*	-0.012 *(0.000)*	-0.001 *(0.800)*
Gross fixed capital formation share of GDP	0.237 *(0.000)*	0.279 *(0.138)*	-0.005 *(0.961)*	0.329 *(0.000)*	0.269 *(0.000)*	0.079 *(0.656)*	-0.003 *(0.971)*	0.262 *(0.000)*	0.218 *(0.013)*	0.429 *(0.005)*
Real lending interest rate	-0.064 *(0.026)*	-0.038 *(0.283)*	-0.034 *(0.511)*	-0.066 *(0.404)*	-0.080 *(0.004)*	-0.149 *(0.135)*	0.076 *(0.435)*	0.023 *(0.859)*	-0.053 *(0.130)*	-0.068 *(0.078)*
Gross secondary school enrolment ratio	0.040 *(0.008)*	0.030 *(0.600)*	0.031 *(0.027)*	0.044 *(0.103)*	0.085 *(0.014)*	0.039 *(0.310)*	0.023 *(0.062)*	0.117 *(0.119)*	0.036 *(0.006)*	0.018 *(0.446)*
Government consumption share of GDP	0.000 *(0.894)*	0.000 *(0.683)*	-0.002 *(0.067)*	0.001 *(0.008)*	0.001 *(0.573)*	0.001 *(0.339)*	-0.002 *(0.039)*	-0.003 *(0.002)*	0.001 *(0.301)*	0.000 *(0.970)*
Government stability	0.001 *(0.602)*	0.007 *(0.213)*	-0.002 *(0.249)*	-0.010 *(0.006)*	-0.003 *(0.177)*	0.009 *(0.014)*	-0.003 *(0.204)*	0.003 *(0.285)*	0.002 *(0.566)*	-0.005 *(0.035)*
Service FDI share of GDP	**0.157** ***(0.137)***	**-0.019** ***(0.951)***	**-0.126** ***(0.704)***	**0.216** ***(0.003)***	**-0.117** ***(0.716)***	**0.149** ***(0.508)***	**0.035** ***(0.714)***	**0.078** ***(0.868)***	**0.238** ***(0.001)***	**-0.267** ***(0.140)***
Constant term	0.052 *(0.062)*	0.029 *(0.668)*	0.241 *(0.000)*	0.122 *(0.003)*	0.112 *(0.128)*	0.707 *(0.000)*	0.227 *(0.010)*	0.033 *(0.539)*	0.031 *(0.434)*	-0.018 *(0.539)*
Wald chi2(12)	168.28	737.68	338.59	1671.13	74.71	18752.47	331.45	708.38	142.7	143.31
Number of observations	253	64	92	70	92	53	108	60	122	71
Number of instruments	27	27	27	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.776)	(0.236)	(0.386)	(0.206)	(0.232)	(0.465)	(0.199)	(0.569)	(0.287)	(0.945)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A7: Manufacturing FDI manufacturing growth: Input to Table 4
Unbalanced 1990-2004 panel

Real manufacturing value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.016 *(0.000)*	-0.009 *(0.168)*	-0.027 *(0.000)*	-0.014 *(0.009)*	-0.020 *(0.082)*	-0.088 *(0.000)*	-0.005 *(0.754)*	n/a	-0.021 *(0.000)*	-0.012 *(0.136)*
Gross fixed capital formation share of GDP	0.265 *(0.001)*	0.123 *(0.207)*	0.036 *(0.833)*	0.422 *(0.000)*	0.425 *(0.000)*	0.290 *(0.009)*	0.246 *(0.182)*	n/a	0.270 *(0.037)*	0.610 *(0.007)*
Real lending interest rate	-0.078 *(0.001)*	-0.036 *(0.227)*	-0.007 *(0.938)*	-0.228 *(0.091)*	-0.010 *(0.751)*	-0.119 *(0.014)*	-0.100 *(0.479)*	n/a	-0.057 *(0.113)*	-0.006 *(0.805)*
Gross secondary school enrolment ratio	0.060 *(0.037)*	0.036 *(0.398)*	0.076 *(0.010)*	0.001 *(0.971)*	0.089 *(0.098)*	0.049 *(0.076)*	-0.005 *(0.886)*	n/a	0.120 *(0.001)*	-0.018 *(0.399)*
Government consumption share of GDP	0.000 *(0.912)*	-0.001 *(0.304)*	-0.001 *(0.227)*	0.002 *(0.310)*	0.000 *(0.967)*	-0.001 *(0.715)*	0.002 *(0.255)*	n/a	0.000 *(0.744)*	0.004 *(0.013)*
Government stability	0.002 *(0.538)*	0.007 *(0.009)*	-0.003 *(0.405)*	0.001 *(0.806)*	0.002 *(0.679)*	0.010 *(0.002)*	0.006 *(0.128)*	n/a	0.005 *(0.306)*	-0.003 *(0.584)*
Manufacturing FDI share of GDP	**0.389** ***(0.019)***	**2.242** ***(0.001)***	**0.375** ***(0.002)***	**0.106** ***(0.717)***	**0.473** ***(0.776)***	**2.464** ***(0.000)***	**0.305** ***(0.000)***	**n/a**	**0.188** ***(0.024)***	**0.408** ***(0.431)***
Constant term	0.028 *(0.495)*	-0.027 *(0.631)*	0.228 *(0.000)*	0.047 *(0.142)*	-0.017 *(0.816)*	0.467 *(0.000)*	0.008 *(0.962)*	n/a	-0.003 *(0.961)*	-0.032 *(0.528)*
Wald chi2(20)	258.61	149.75	1902.03	520.76	1515.03	70.19	13034.41	n/a	192.15	1101.11
Number of observations		126	144	118	142	87	185	n/a	228	114
Number of instruments	111	91	100	91		85	99	n/a	106	96
Arellano-Bond test for AR(2) in first differences	(0.176)	(0.484)	(0.292)	(0.815)	(0.695)	(0.789)	(0.442)	n/a	(0.804)	(0.878)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A8: Manufacturing FDI manufacturing growth: Input to Table 4
Balanced 1998-2004 panel

Real manufacturing value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.016 *(0.000)*	-0.035 *(0.098)*	n/a	-0.018 *(0.036)*	0.010 *(0.326)*	-0.116 *(0.000)*	0.024 *(0.285)*	-0.012 *(0.453)*	-0.016 *(0.000)*	-0.030 *(0.065)*
Gross fixed capital formation share of GDP	0.465 *(0.000)*	0.230 *(0.357)*	n/a	0.559 *(0.000)*	0.253 *(0.057)*	0.597 *(0.026)*	0.437 *(0.058)*	0.556 *(0.131)*	0.643 *(0.000)*	0.171 *(0.634)*
Real lending interest rate	-0.127 *(0.017)*	-0.175 *(0.031)*	n/a	-0.406 *(0.114)*	-0.038 *(0.278)*	-0.016 *(0.925)*	0.179 *(0.475)*	0.048 *(0.895)*	-0.016 *(0.774)*	-0.148 *(0.045)*
Gross secondary school enrolment ratio	0.061 *(0.083)*	0.112 *(0.370)*	n/a	0.085 *(0.237)*	-0.038 *(0.364)*	0.056 *(0.421)*	0.048 *(0.178)*	0.130 *(0.285)*	0.110 *(0.000)*	0.036 *(0.376)*
Government consumption share of GDP	0.000 *(0.942)*	-0.003 *(0.348)*	n/a	0.000 *(0.891)*	-0.003 *(0.045)*	-0.002 *(0.567)*	0.000 *(0.808)*	-0.007 *(0.243)*	0.001 *(0.463)*	0.004 *(0.037)*
Government stability	-0.001 *(0.843)*	0.006 *(0.450)*	n/a	-0.011 *(0.036)*	-0.006 *(0.206)*	0.014 *(0.131)*	0.001 *(0.915)*	0.009 *(0.452)*	-0.004 *(0.327)*	-0.004 *(0.632)*
Manufacturing FDI share of GDP	**0.073** ***(0.896)***	**6.975** ***(0.003)***	**n/a**	**0.201** ***(0.789)***	**4.234** ***(0.000)***	**3.050** ***(0.205)***	**0.347** ***(0.319)***	**3.542** ***(0.192)***	**-0.187** ***(0.636)***	**2.260** ***(0.016)***
Constant term	0.007 *(0.866)*	0.051 *(0.692)*	n/a	0.100 *(0.191)*	0.034 *(0.687)*	0.554 *(0.013)*	-0.272 *(0.234)*	-0.122 *(0.478)*	-0.057 *(0.237)*	0.124 *(0.079)*
Wald chi2(12)	94.15	31.02	n/a	258.83	154.27	1325.65	431.14	40.96	355.53	166.88
Number of observations	211	60	n/a	65	82	50	79	48	27	59
Number of instruments	27	27	n/a	27	27	27	24	27	104	23
Arellano-Bond test for AR(2) in first differences	(0.149)	(0.709)	(0.083)	(0.566)	(0.112)	(0.490)	(0.368)	(0.469)	(0.920)	(0.760)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A9: Aggregate service FDI and services growth: Input to Table 5
Unbalanced 1990-2004 panel

Real services value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value Added per capita level	-0.010 *(0.001)*	-0.005 *(0.252)*	-0.015 *(0.000)*	-0.007 *(0.178)*	-0.024 *(0.007)*	n/a	0.005 *(0.617)*	-0.018 *(0.000)*	-0.007 *(0.065)*	-0.007 *(0.108)*
Gross fixed capital formation share of GDP	0.177 *(0.000)*	0.260 *(0.001)*	-0.061 *(0.459)*	0.190 *(0.001)*	0.202 *(0.000)*	n/a	0.187 *(0.026)*	0.223 *(0.000)*	0.193 *(0.000)*	0.289 *(0.006)*
Real lending interest rate	-0.024 *(0.156)*	-0.013 *(0.503)*	0.013 *(0.875)*	-0.264 *(0.026)*	-0.018 *(0.243)*	n/a	-0.082 *(0.315)*	0.028 *(0.322)*	-0.011 *(0.659)*	-0.039 *(0.000)*
Gross secondary school enrolment ratio	0.038 *(0.001)*	0.042 *(0.161)*	0.032 *(0.000)*	-0.011 *(0.547)*	0.064 *(0.008)*	n/a	0.015 *(0.207)*	0.028 *(0.320)*	0.030 *(0.027)*	0.008 *(0.507)*
Government consumption share of GDP	0.000 *(0.558)*	0.000 *(0.940)*	-0.001 *(0.016)*	0.003 *(0.021)*	0.001 *(0.622)*	n/a	0.000 *(0.688)*	0.000 *(0.749)*	0.000 *(0.682)*	0.000 *(0.450)*
Government stability	0.005 *(0.046)*	0.005 *(0.029)*	-0.001 *(0.479)*	0.000 *(0.973)*	0.003 *(0.283)*	n/a	0.003 *(0.517)*	-0.001 *(0.857)*	0.003 *(0.220)*	0.006 *(0.258)*
Service FDI share of GDP	**0.199** ***(0.041)***	**0.354** ***(0.068)***	**0.058** ***(0.418)***	**0.137** ***(0.418)***	**0.228** ***(0.329)***	**n/a**	**0.081** ***(0.302)***	**0.226** ***(0.315)***	**0.127** ***(0.249)***	**0.057** ***(0.603)***
Constant term	0.009 *(0.761)*	-0.067 *(0.075)*	0.176 *(0.000)*	0.044 *(0.339)*	0.070 *(0.065)*	n/a	-0.086 *(0.406)*	0.095 *(0.062)*	0.007 *(0.852)*	-0.024 *(0.403)*
Wald chi2(20)	230.99	188.64	122422.5	1041.54	25139.57	n/a	1.87E+08	27617.65	189.02	20925.69
Number of observations	487	134	191	126	158	n/a	236	86	268	133
Number of instruments	111	94	107	96	99	n/a	104	79	110	97
Arellano-Bond test for AR(2) in first differences	(0.710)	(0.226)	(0.519)	(0.385)	(0.829)	(0.062)	(0.303)	(0.539)	(0.993)	(0.370)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A10: Aggregate service FDI and services growth: Input to Table 5
Balanced 1998-2004 panel

Real services value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.011 *(0.000)*	-0.011 *(0.279)*	-0.018 *(0.000)*	-0.010 *(0.085)*	-0.021 *(0.053)*	-0.037 *(0.013)*	0.006 *(0.621)*	-0.024 *(0.000)*	-0.007 *(0.024)*	-0.007 *(0.107)*
Gross fixed capital formation share of GDP	0.193 *(0.001)*	0.291 *(0.104)*	-0.064 *(0.444)*	0.301 *(0.001)*	0.234 *(0.005)*	-0.013 *(0.919)*	0.146 *(0.230)*	0.249 *(0.002)*	0.231 *(0.035)*	0.235 *(0.032)*
Real lending interest rate	-0.081 *(0.001)*	-0.059 *(0.088)*	-0.089 *(0.051)*	-0.103 *(0.219)*	-0.116 *(0.000)*	-0.193 *(0.083)*	0.079 *(0.132)*	-0.057 *(0.571)*	-0.087 *(0.009)*	-0.086 *(0.015)*
Gross secondary school enrolment ratio	0.027 *(0.039)*	0.010 *(0.847)*	0.025 *(0.012)*	-0.014 *(0.592)*	0.077 *(0.014)*	0.025 *(0.639)*	0.017 *(0.062)*	0.086 *(0.128)*	0.014 *(0.274)*	0.008 *(0.607)*
Government consumption share of GDP	0.000 *(0.524)*	0.001 *(0.501)*	-0.001 *(0.077)*	0.004 *(0.000)*	0.001 *(0.270)*	0.001 *(0.417)*	-0.001 *(0.273)*	0.000 *(0.923)*	0.001 *(0.343)*	0.001 *(0.068)*
Government stability	0.002 *(0.262)*	0.003 *(0.422)*	0.000 *(0.912)*	-0.012 *(0.000)*	-0.001 *(0.573)*	0.002 *(0.443)*	-0.003 *(0.250)*	-0.003 *(0.384)*	0.001 *(0.566)*	0.000 *(0.881)*
Service FDI share of GDP	**0.255** ***(0.008)***	**0.177** ***(0.583)***	**0.074** ***(0.464)***	**0.279** ***(0.029)***	**-0.157** ***(0.649)***	**0.401** ***(0.003)***	**0.018** ***(0.792)***	**-0.109** ***(0.787)***	**0.213** ***(0.028)***	**-0.008** ***(0.956)***
Constant term	0.040 *(0.154)*	-0.003 *(0.956)*	0.213 *(0.000)*	0.131 *(0.000)*	0.071 *(0.232)*	0.281 *(0.074)*	-0.035 *(0.788)*	0.103 *(0.084)*	0.011 *(0.763)*	0.010 *(0.739)*
Wald chi2(12)	78.74	76.35	1288.07	616.72	126.27	315.38	402.26	106.77	80.9	131.99
Number of observations	241	64	87	69	92	53	96	56	120	65
Number of instruments	27	27	27	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.344)	(0.991)	(0.538)	(0.949)	(0.389)	(0.221)	(0.916)	(0.898)	(0.714)	(0.253)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A11: Aggregate service FDI and manufacturing growth: Input to Table 6
Unbalanced 1990-2004 panel

Real manufacturing value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.019 *(0.000)*	-0.006 *(0.079)*	-0.029 *(0.000)*	-0.010 *(0.084)*	-0.024 *(0.007)*	-0.081 *(0.000)*	-0.007 *(0.566)*	n/a	-0.020 *(0.001)*	-0.011 *(0.122)*
Gross fixed capital formation share of GDP	0.304 *(0.000)*	0.096 *(0.280)*	-0.030 *(0.862)*	0.416 *(0.000)*	0.389 *(0.000)*	0.258 *(0.196)*	0.277 *(0.131)*	n/a	0.259 *(0.043)*	0.648 *(0.026)*
Real lending interest rate	-0.066 *(0.012)*	-0.027 *(0.366)*	-0.042 *(0.635)*	-0.205 *(0.190)*	-0.039 *(0.118)*	0.048 *(0.360)*	-0.159 *(0.335)*	n/a	-0.040 *(0.166)*	-0.027 *(0.157)*
Gross secondary school enrolment ratio	0.078 *(0.020)*	0.050 *(0.158)*	0.074 *(0.057)*	0.000 *(0.992)*	0.132 *(0.001)*	0.059 *(0.153)*	-0.016 *(0.743)*	n/a	0.117 *(0.001)*	-0.017 *(0.555)*
Government consumption share of GDP	0.000 *(0.925)*	0.000 *(0.745)*	-0.001 *(0.324)*	0.000 *(0.895)*	-0.001 *(0.410)*	0.000 *(0.818)*	0.003 *(0.192)*	n/a	0.000 *(0.683)*	0.003 *(0.094)*
Government stability	0.006 *(0.108)*	0.008 *(0.025)*	-0.002 *(0.664)*	0.005 *(0.349)*	0.004 *(0.262)*	0.008 *(0.041)*	0.009 *(0.077)*	n/a	0.004 *(0.338)*	0.001 *(0.894)*
Service FDI share of GDP	**-0.058** ***(0.779)***	**-0.008** ***(0.985)***	**0.310** ***(0.099)***	**-0.472** ***(0.000)***	**0.652** ***(0.061)***	**0.710** ***(0.032)***	**-0.260** ***(0.043)***	n/a	**0.276** ***(0.108)***	**-0.044** ***(0.884)***
Constant term	-0.009 *(0.834)*	-0.058 *(0.303)*	0.243 *(0.000)*	0.015 *(0.707)*	-0.029 *(0.612)*	0.434 *(0.011)*	-0.032 *(0.810)*	n/a	-0.016 *(0.765)*	-0.056 *(0.228)*
Wald chi2(20)	244.88	243.94	627.45	1793.32	1206.74	57.58	3741.86	n/a	348.4	11351.53
Number of observations	419	134	142	117	146	90	183	n/a	231	114
Number of instruments	111	94	100	91	96	87	99	n/a	106	96
Arellano-Bond test for AR(2) in first differences	(0.185)	(0.227)	(0.130)	(0.387)	(0.875)		(0.212)	n/a	(0.468)	(0.722)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A12: Aggregate service FDI and manufacturing growth: Input to Table 6
Balanced 1998-2004 panel

Real manufacturing value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.017 *(0.001)*	-0.016 *(0.074)*	-0.034 *(0.000)*	-0.013 *(0.095)*	-0.015 *(0.050)*	-0.132 *(0.035)*	0.017 *(0.408)*	-0.014 *(0.227)*	-0.018 *(0.000)*	n/a
Gross fixed capital formation share of GDP	0.565 *(0.000)*	0.035 *(0.888)*	0.666 *(0.017)*	0.546 *(0.000)*	0.494 *(0.000)*	0.557 *(0.132)*	0.477 *(0.001)*	0.578 *(0.008)*	0.568 *(0.000)*	n/a
Real lending interest rate	-0.092 *(0.036)*	-0.070 *(0.203)*	-0.039 *(0.820)*	-0.360 *(0.133)*	-0.130 *(0.000)*	-0.146 *(0.253)*	0.270 *(0.188)*	0.113 *(0.645)*	-0.029 *(0.541)*	n/a
Gross secondary school enrolment ratio	0.072 *(0.094)*	0.039 *(0.577)*	0.113 *(0.102)*	0.121 *(0.025)*	0.113 *(0.001)*	0.012 *(0.889)*	0.057 *(0.356)*	0.112 *(0.416)*	0.115 *(0.000)*	n/a
Government consumption share of GDP	0.001 *(0.436)*	-0.001 *(0.716)*	-0.001 *(0.687)*	-0.003 *(0.115)*	0.000 *(0.945)*	0.003 *(0.420)*	0.000 *(0.836)*	-0.001 *(0.724)*	0.001 *(0.366)*	n/a
Government stability	0.001 *(0.728)*	0.008 *(0.322)*	0.000 *(0.986)*	-0.008 *(0.238)*	-0.004 *(0.206)*	0.019 *(0.026)*	0.000 *(0.996)*	0.015 *(0.147)*	0.001 *(0.819)*	n/a
Service FDI share of GDP	**-0.412** ***(0.004)***	**-0.021** ***(0.949)***	**-0.753** ***(0.115)***	**-0.443** ***(0.000)***	**0.372** ***(0.287)***	**-0.424** ***(0.496)***	**-0.552** ***(0.002)***	**0.225** ***(0.744)***	**0.225** ***(0.099)***	**n/a**
Constant term	-0.031 *(0.521)*	0.032 *(0.725)*	0.069 *(0.493)*	0.046 *(0.531)*	-0.024 *(0.668)*	0.684 *(0.185)*	-0.195 *(0.219)*	-0.169 *(0.244)*	-0.085 *(0.116)*	n/a
Wald chi2(12)	83.69	888.21	606.19	234871.3	378.83	93.71	630.46	290.85	185.69	n/a
Number of observations	214	64	69	62	82	53	79	49	106	n/a
Number of instruments	27	27	26	27	27	27	24	27	27	n/a
Arellano-Bond test for AR(2) in first differences	(0.179)	(0.363)	(0.179)	(0.371)	(0.412)	(0.279)	(0.233)	(0.478)	(0.647)	n/a

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A13: Manufacturing FDI and services growth: Input to Table 7
Unbalanced 1990-2004 panel

Real services value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.009 *(0.002)*	-0.003 *(0.465)*	-0.014 *(0.000)*	-0.005 *(0.217)*	-0.029 *(0.001)*	-0.023 *(0.085)*	0.004 *(0.638)*	-0.013 *(0.009)*	-0.007 *(0.079)*	-0.004 *(0.194)*
Gross fixed capital formation share of GDP	0.185 *(0.000)*	0.375 *(0.001)*	-0.048 *(0.587)*	0.200 *(0.001)*	0.251 *(0.000)*	0.118 *(0.386)*	0.223 *(0.014)*	0.162 *(0.025)*	0.210 *(0.000)*	0.357 *(0.000)*
Real lending interest rate	-0.030 *(0.050)*	-0.019 *(0.308)*	0.032 *(0.713)*	-0.224 *(0.048)*	-0.012 *(0.474)*	-0.071 *(0.265)*	-0.007 *(0.933)*	-0.027 *(0.620)*	-0.027 *(0.372)*	-0.039 *(0.001)*
Gross secondary school enrolment ratio	0.030 *(0.011)*	0.013 *(0.632)*	0.024 *(0.004)*	-0.013 *(0.473)*	0.065 *(0.005)*	0.058 *(0.007)*	-0.001 *(0.919)*	0.032 *(0.363)*	0.022 *(0.104)*	-0.001 *(0.962)*
Government consumption share of GDP	0.000 *(0.993)*	0.001 *(0.175)*	-0.001 *(0.093)*	0.002 *(0.028)*	0.002 *(0.109)*	-0.001 *(0.382)*	0.000 *(0.840)*	-0.002 *(0.114)*	0.000 *(0.834)*	0.001 *(0.446)*
Government stability	0.003 *(0.290)*	0.003 *(0.337)*	-0.002 *(0.060)*	0.002 *(0.749)*	0.002 *(0.432)*	0.006 *(0.051)*	-0.001 *(0.744)*	-0.003 *(0.237)*	0.001 *(0.763)*	0.003 *(0.454)*
Manufacturing FDI share of GDP	**-0.002** ***(0.986)***	**-0.013** ***(0.974)***	**-0.004** ***(0.948)***	**-0.244** ***(0.480)***	**-0.487** ***(0.545)***	**1.384** ***(0.000)***	**-0.022** ***(0.719)***	**1.401** ***(0.001)***	**-0.021** ***(0.801)***	**-0.154** ***(0.421)***
Constant term	0.015 *(0.604)*	-0.079 *(0.038)*	0.178 *(0.000)*	0.022 *(0.654)*	0.084 *(0.028)*	0.092 *(0.502)*	-0.049 *(0.595)*	0.118 *(0.018)*	0.025 *(0.409)*	-0.033 *(0.142)*
Wald chi2(20)	199.97	78.54	3.06E+06	3309.81	5242.29	246.28	72301.15	4276.41	239.38	2481.69
Number of observations	481	126	192	127	154	90	237	84	264	133
Number of instruments	111	91	107	96	98	86	104	77	110	97
Arellano-Bond test for AR(2) in first differences	(0.773)	(0.188)	(0.598)	(0.430)	(0.982)	(0.272)	(0.315)	(0.230)	(0.943)	(0.374)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A14: Manufacturing FDI and services growth: Input to Table 7
Balanced 1998-2004 panel

Real services value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.009 *(0.001)*	n/a	-0.019 *(0.000)*	-0.004 *(0.343)*	-0.014 *(0.162)*	-0.015 *(0.583)*	0.008 *(0.370)*	-0.014 *(0.022)*	-0.006 *(0.068)*	-0.005 *(0.158)*
Gross fixed capital formation share of GDP	0.219 *(0.000)*	n/a	-0.060 *(0.506)*	0.325 *(0.002)*	0.131 *(0.140)*	0.248 *(0.162)*	0.137 *(0.205)*	0.124 *(0.242)*	0.252 *(0.013)*	0.255 *(0.020)*
Real lending interest rate	-0.082 *(0.002)*	n/a	-0.106 *(0.039)*	-0.049 *(0.541)*	-0.092 *(0.001)*	-0.078 *(0.448)*	0.058 *(0.398)*	-0.016 *(0.895)*	-0.088 *(0.013)*	-0.090 *(0.012)*
Gross secondary school enrolment ratio	0.021 *(0.101)*	n/a	0.027 *(0.044)*	-0.016 *(0.603)*	0.044 *(0.114)*	0.046 *(0.155)*	0.018 *(0.098)*	0.048 *(0.409)*	0.010 *(0.410)*	0.006 *(0.683)*
Government consumption share of GDP	0.000 *(0.468)*	n/a	-0.001 *(0.110)*	0.002 *(0.002)*	0.000 *(0.890)*	0.000 *(0.723)*	-0.001 *(0.309)*	-0.001 *(0.718)*	0.000 *(0.494)*	0.001 *(0.082)*
Government stability	0.000 *(0.806)*	n/a	0.000 *(0.772)*	-0.010 *(0.019)*	0.000 *(0.944)*	0.006 *(0.324)*	-0.003 *(0.297)*	0.003 *(0.573)*	-0.001 *(0.810)*	0.000 *(0.939)*
Manufacturing FDI share of GDP	**0.029** ***(0.901)***	**n/a**	**-0.166** ***(0.297)***	**-0.132** ***(0.487)***	**1.099** ***(0.097)***	**1.896** ***(0.053)***	**-0.095** ***(0.663)***	**1.089** ***(0.281)***	**0.054** ***(0.836)***	**-0.221** ***(0.572)***
Constant term	0.039 *(0.151)*	n/a	0.224 *(0.000)*	0.082 *(0.059)*	0.063 *(0.265)*	-0.015 *(0.957)*	-0.056 *(0.640)*	0.046 *(0.469)*	0.024 *(0.472)*	0.003 *(0.921)*
Wald chi2(12)	84.09	n/a	991.67	361.51	95.43	124.49	419.54	124.49	68.8	100.22
Number of observations	238	n/a	87	70	92	50	96	55	118	65
Number of instruments	27	n/a	27	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.530)	n/a	(0.594)	(0.598)	(0.785)	(0.741)	(0.755)	(0.741)	(0.990)	(0.275)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A15: Financial FDI and services growth: Input to Table 8
Unbalanced 1990-2004 panel

Real services value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.010 *(0.002)*	n/a	-0.016 *(0.000)*	-0.005 *(0.157)*	-0.026 *(0.011)*	n/a	0.006 *(0.475)*	-0.020 *(0.001)*	-0.008 *(0.088)*	-0.007 *(0.032)*
Gross fixed capital formation share of GDP	0.185 *(0.000)*	n/a	-0.060 *(0.475)*	0.181 *(0.005)*	0.133 *(0.021)*	n/a	0.208 *(0.017)*	0.203 *(0.001)*	0.202 *(0.001)*	0.275 *(0.003)*
Real lending interest rate	-0.027 *(0.263)*	n/a	0.057 *(0.552)*	-0.303 *(0.006)*	-0.028 *(0.105)*	n/a	-0.025 *(0.736)*	0.056 *(0.346)*	-0.014 *(0.694)*	-0.039 *(0.002)*
Gross secondary school enrolment ratio	0.035 *(0.005)*	n/a	0.034 *(0.000)*	-0.023 *(0.151)*	0.064 *(0.013)*	n/a	0.022 *(0.105)*	0.030 *(0.435)*	0.040 *(0.004)*	0.001 *(0.913)*
Government consumption share of GDP	0.000 *(0.626)*	n/a	-0.001 *(0.017)*	0.003 *(0.002)*	0.001 *(0.504)*	n/a	0.000 *(0.631)*	-0.001 *(0.662)*	-0.001 *(0.399)*	0.000 *(0.404)*
Government stability	0.002 *(0.290)*	n/a	-0.001 *(0.701)*	0.000 *(0.953)*	0.001 *(0.548)*	n/a	0.002 *(0.678)*	-0.001 *(0.887)*	0.000 *(0.890)*	0.004 *(0.372)*
Financial FDI share of GDP	**0.339** ***(0.021)***	n/a	**0.088** ***(0.366)***	**0.226** ***(0.032)***	**-0.872** ***(0.430)***	n/a	**0.284** ***(0.019)***	**0.738** ***(0.314)***	**0.316** ***(0.296)***	**0.161** ***(0.161)***
Constant term	0.031 *(0.330)*	n/a	0.181 *(0.000)*	0.050 *(0.299)*	0.117 *(0.061)*	n/a	-0.098 *(0.333)*	0.115 *(0.046)*	0.030 *(0.520)*	-0.004 *(0.859)*
Wald chi2(20)	451.92	n/a	20987.88	3.81E+10	585.96	n/a	2.62E+08	639.55	288.88	24418.17
Number of observations	432	n/a	190	114	111	n/a	236	77	231	124
Number of instruments	111	n/a	107	91	84	n/a	104	69	110	96
Arellano-Bond test for AR(2) in first differences	(0.836)	n/a	(0.543)	(0.477)	(0.405)	n/a	(0.306)	(0.459)	(0.367)	(0.351)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A16: Financial FDI and services growth: Input to Table 8
Balanced 1998-2004 panel

Real services value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.011 *(0.001)*	-0.013 *(0.373)*	-0.019 *(0.000)*	-0.004 *(0.228)*	-0.027 *(0.054)*	n/a	n/a	-0.026 *(0.000)*	-0.008 *(0.048)*	-0.007 *(0.076)*
Gross fixed capital formation share of GDP	0.192 *(0.001)*	0.108 *(0.714)*	-0.008 *(0.937)*	0.326 *(0.000)*	0.108 *(0.366)*	n/a	n/a	0.207 *(0.014)*	0.244 *(0.037)*	0.199 *(0.035)*
Real lending interest rate	-0.057 *(0.043)*	-0.042 *(0.364)*	-0.029 *(0.637)*	-0.056 *(0.636)*	-0.065 *(0.069)*	n/a	n/a	-0.034 *(0.828)*	-0.061 *(0.159)*	-0.072 *(0.014)*
Gross secondary school Enrolment ratio	0.028 *(0.045)*	-0.009 *(0.855)*	0.028 *(0.004)*	-0.042 *(0.118)*	0.077 *(0.021)*	n/a	n/a	0.103 *(0.067)*	0.020 *(0.097)*	-0.003 *(0.825)*
Government consumption share of GDP	0.000 *(0.603)*	0.000 *(0.811)*	-0.001 *(0.048)*	0.003 *(0.001)*	0.001 *(0.458)*	n/a	n/a	0.001 *(0.467)*	0.001 *(0.356)*	0.001 *(0.194)*
Government stability	0.002 *(0.288)*	0.002 *(0.623)*	0.001 *(0.566)*	-0.009 *(0.027)*	0.000 *(0.957)*	n/a	n/a	-0.001 *(0.787)*	0.002 *(0.499)*	-0.001 *(0.757)*
Financial FDI share of GDP	**0.390** ***(0.001)***	**-2.391** ***(0.275)***	**-0.279** ***(0.074)***	**0.276** ***(0.001)***	**-0.599** ***(0.528)***	**n/a**	**n/a**	**-1.468** ***(0.191)***	**0.615** ***(0.112)***	**0.310** ***(0.000)***
Constant term	0.045 *(0.153)*	0.093 *(0.305)*	0.197 *(0.000)*	0.100 *(0.001)*	0.135 *(0.114)*	n/a	n/a	0.084 *(0.085)*	0.011 *(0.827)*	0.037 *(0.180)*
Wald chi2(12)	167.88	82.92	1098.3	24686.41	192.6	n/a	n/a	151.28	133.34	581.38
Number of observations	217	53	86	61	71	n/a	n/a	51	105	61
Number of instruments	27	26	27	27	27	n/a	n/a	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.193)	(0.624)	(0.733)	(0.236)	(0.890)	n/a	(0.095)	(0.919)	(0.740)	(0.275)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A17: Financial FDI and real GDP per capita growth: Input to Table 9
Unbalanced 1990-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged real GDP per capita level	n/a	n/a	-0.020 *(0.000)*	-0.014 *(0.000)*	-0.022 *(0.014)*	-0.070 *(0.000)*	n/a	-0.014 *(0.045)*	-0.012 *(0.000)*	-0.003 *(0.248)*
Gross fixed capital formation share of GDP	n/a	n/a	-0.069 *(0.323)*	0.326 *(0.000)*	0.171 *(0.001)*	0.148 *(0.118)*	n/a	0.157 *(0.009)*	0.163 *(0.023)*	0.308 *(0.004)*
Real lending interest rate	n/a	n/a	0.028 *(0.610)*	0.008 *(0.929)*	-0.028 *(0.168)*	0.021 *(0.243)*	n/a	0.070 *(0.323)*	-0.016 *(0.455)*	-0.051 *(0.000)*
Gross secondary school enrolment ratio	n/a	n/a	0.039 *(0.001)*	0.032 *(0.010)*	0.082 *(0.006)*	0.028 *(0.129)*	n/a	0.038 *(0.459)*	0.045 *(0.000)*	0.011 *(0.331)*
Government consumption share of GDP	n/a	n/a	-0.001 *(0.041)*	0.002 *(0.012)*	0.000 *(0.961)*	-0.001 *(0.114)*	n/a	-0.001 *(0.205)*	0.000 *(0.460)*	-0.001 *(0.204)*
Government stability	n/a	n/a	0.001 *(0.586)*	-0.003 *(0.192)*	0.001 *(0.443)*	0.007 *(0.011)*	n/a	0.003 *(0.182)*	0.001 *(0.703)*	-0.004 *(0.038)*
Financial FDI share of GDP	**n/a**	**n/a**	**0.337** ***(0.009)***	**0.371** ***(0.000)***	**-0.731** ***(0.538)***	**0.683** ***(0.213)***	**n/a**	**0.625** ***(0.000)***	**0.491** ***(0.084)***	**0.281** ***(0.028)***
Constant term	n/a	n/a	0.223 *(0.000)*	0.060 *(0.030)*	0.096 *(0.124)*	0.551 *(0.000)*	n/a	0.082 *(0.143)*	0.067 *(0.054)*	0.027 *(0.354)*
Wald chi2(20)	n/a	n/a	1.20E+06	5401.52	11433.47	204.17	n/a	257181.9	674.12	4149.22
Number of observations	n/a	n/a	198	115	111	85	n/a	83	236	131
Number of instruments	n/a	n/a	107	92	84	84	n/a	69	111	97
Arellano-Bond test for AR(2) in first differences	n/a	n/a	(0.113)	(0.417)	(0.372)	(0.121)	n/a	(0.139)	(0.902)	(0.287)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A18: Financial FDI and real GDP per capita growth: Input to Table 9
Balanced 1998-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged real GDP per capita level	-0.013 *(0.000)*	-0.019 *(0.295)*	-0.020 *(0.000)*	-0.013 *(0.000)*	-0.027 *(0.049)*	-0.075 *(0.004)*	-0.016 *(0.021)*	-0.019 *(0.027)*	-0.012 *(0.000)*	-0.004 *(0.367)*
Gross fixed capital formation share of GDP	0.233 *(0.000)*	0.232 *(0.513)*	0.012 *(0.906)*	0.384 *(0.000)*	0.196 *(0.069)*	0.400 *(0.002)*	0.002 *(0.984)*	0.228 *(0.019)*	0.199 *(0.021)*	0.285 *(0.021)*
Real lending interest rate	-0.037 *(0.217)*	-0.055 *(0.299)*	0.041 *(0.624)*	0.077 *(0.393)*	-0.040 *(0.293)*	-0.055 *(0.240)*	0.137 *(0.041)*	-0.012 *(0.946)*	-0.005 *(0.910)*	-0.045 *(0.041)*
Gross secondary school enrolment ratio	0.044 *(0.005)*	0.023 *(0.738)*	0.040 *(0.017)*	0.046 *(0.080)*	0.088 *(0.008)*	0.023 *(0.654)*	0.027 *(0.018)*	0.097 *(0.257)*	0.047 *(0.001)*	0.013 *(0.317)*
Government consumption share of GDP	0.000 *(0.906)*	0.000 *(0.857)*	-0.002 *(0.093)*	0.001 *(0.108)*	0.000 *(0.891)*	0.000 *(0.708)*	-0.001 *(0.062)*	-0.002 *(0.233)*	0.000 *(0.418)*	0.000 *(0.976)*
Government stability	0.001 *(0.798)*	0.003 *(0.414)*	-0.002 *(0.257)*	-0.009 *(0.003)*	-0.002 *(0.512)*	0.011 *(0.003)*	-0.004 *(0.036)*	0.002 *(0.593)*	0.002 *(0.544)*	-0.005 *(0.129)*
Financial FDI share of GDP	**0.311** ***(0.002)***	**-4.528** ***(0.096)***	**0.296** ***(0.154)***	**0.474** ***(0.000)***	**-0.051** ***(0.954)***	**-0.187** ***(0.853)***	**0.349** ***(0.000)***	**0.473** ***(0.008)***	**0.555** ***(0.081)***	**0.419** ***(0.000)***
Constant term	0.062 *(0.070)*	0.114 *(0.380)*	0.235 *(0.000)*	0.090 *(0.002)*	0.146 *(0.134)*	0.501 *(0.038)*	0.221 *(0.011)*	0.087 *(0.202)*	0.034 *(0.456)*	0.028 *(0.259)*
Wald chi2(12)	343.19	409.59	4873.36	2.19E+08	70.82	13103.46	1032.62	5203.48	247.69	374.43
Number of observations	230	53	92	62	71	50	109	56	107	67
Number of instruments	27	26	27	27	27	27	27	27	27	
Arellano-Bond test for AR(2) in first differences	(0.504)	(0.129)	(0.790)	(0.322)	(0.158)	(0.347)	(0.713)	(0.833)	(0.330)	(0.851)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A19: Financial FDI and manufacturing growth: Input to Table 10
Unbalanced 1990-2004 panel

Real manufacturing value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.021 *(0.000)*	-0.003 *(0.765)*	-0.031 *(0.000)*	-0.020 *(0.001)*	-0.028 *(0.000)*	-0.088 *(0.000)*	-0.001 *(0.932)*	n/a	-0.021 *(0.000)*	-0.013 *(0.086)*
Gross fixed capital formation share of GDP	0.318 *(0.000)*	0.258 *(0.107)*	0.007 *(0.970)*	0.500 *(0.000)*	0.447 *(0.000)*	0.277 *(0.185)*	0.358 *(0.081)*	n/a	0.328 *(0.031)*	0.520 *(0.031)*
Real lending interest rate	-0.052 *(0.141)*	0.006 *(0.875)*	0.011 *(0.930)*	-0.276 *(0.234)*	-0.036 *(0.274)*	0.070 *(0.075)*	-0.098 *(0.527)*	n/a	-0.014 *(0.697)*	-0.027 *(0.127)*
Gross secondary school enrolment ratio	0.057 *(0.088)*	0.044 *(0.445)*	0.091 *(0.010)*	0.015 *(0.623)*	0.093 *(0.026)*	0.055 *(0.304)*	-0.011 *(0.782)*	n/a	0.115 *(0.001)*	-0.012 *(0.578)*
Government consumption share of GDP	0.001 *(0.607)*	-0.001 *(0.195)*	-0.001 *(0.206)*	0.003 *(0.135)*	-0.001 *(0.651)*	0.001 *(0.482)*	0.003 *(0.122)*	n/a	0.000 *(0.789)*	0.002 *(0.100)*
Government stability	0.004 *(0.332)*	0.009 *(0.072)*	-0.003 *(0.678)*	-0.003 *(0.706)*	-0.001 *(0.684)*	0.007 *(0.115)*	0.012 *(0.011)*	n/a	0.000 *(0.966)*	0.000 *(0.991)*
Financial FDI share of GDP	**0.962** ***(0.001)***	**-0.744** ***(0.465)***	**0.270** ***(0.568)***	**0.771** ***(0.018)***	**0.605** ***(0.705)***	**0.422** ***(0.612)***	**0.625** ***(0.130)***	**n/a**	**-0.288** ***(0.538)***	**0.858** ***(0.007)***
Constant term	0.014 *(0.751)*	-0.108 *(0.220)*	0.248 *(0.000)*	0.045 *(0.373)*	0.055 *(0.320)*	0.480 *(0.002)*	-0.190 *(0.206)*	n/a	0.018 *(0.759)*	-0.016 *(0.667)*
Wald chi2(20)	676.78	73.03	2156.36	1318.23	810.9	8507.5	7945.44	n/a	384.4	159.38
Number of observations	367	99	141	106	102	82	178	n/a	196	105
Number of instruments	111	86	100	86		82	98	n/a	105	93
Arellano-Bond test for AR(2) in first differences	(0.148)	(0.247)	(0.129)	(0.729)	(0.955)	(0.261)	(0.215)	n/a	(0.949)	(0.747)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A20: Financial FDI and manufacturing growth: Input to Table 10
Balanced 1998-2004 panel

Real manufacturing value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	n/a	-0.026 *(0.173)*	-0.034 *(0.000)*	-0.027 *(0.007)*	-0.019 *(0.114)*	-0.114 *(0.026)*	n/a	-0.017 *(0.106)*	-0.022 *(0.000)*	-0.016 *(0.124)*
Gross fixed capital formation share of GDP	n/a	0.126 *(0.795)*	0.491 *(0.056)*	0.633 *(0.001)*	0.535 *(0.002)*	0.860 *(0.005)*	n/a	0.501 *(0.046)*	0.632 *(0.000)*	0.522 *(0.069)*
Real lending interest rate	n/a	-0.102 *(0.371)*	-0.054 *(0.819)*	-0.474 *(0.163)*	-0.035 *(0.305)*	0.061 *(0.658)*	n/a	0.076 *(0.816)*	-0.008 *(0.888)*	-0.046 *(0.149)*
Gross secondary school enrolment ratio	n/a	0.025 *(0.818)*	0.099 *(0.164)*	0.125 *(0.071)*	0.026 *(0.460)*	-0.010 *(0.914)*	n/a	0.105 *(0.394)*	0.115 *(0.000)*	-0.002 *(0.955)*
Government consumption share of GDP	n/a	0.000 *(0.894)*	-0.001 *(0.556)*	0.002 *(0.549)*	-0.001 *(0.429)*	0.003 *(0.530)*	n/a	-0.001 *(0.854)*	0.001 *(0.119)*	0.003 *(0.149)*
Government stability	n/a	0.005 *(0.410)*	0.002 *(0.820)*	-0.017 *(0.004)*	-0.006 *(0.099)*	0.021 *(0.011)*	n/a	0.016 *(0.067)*	0.001 *(0.922)*	-0.004 *(0.270)*
Financial FDI share of GDP	**n/a**	**-6.296** ***(0.124)***	**-1.195** ***(0.107)***	**0.928** ***(0.000)***	**3.327** ***(0.008)***	**-1.161** ***(0.582)***	**n/a**	**1.353** ***(0.242)***	**0.424** ***(0.384)***	**1.271** ***(0.000)***
Constant term	n/a	0.125 *(0.440)*	0.120 *(0.262)*	0.118 *(0.151)*	0.080 *(0.388)*	0.483 *(0.286)*	n/a	-0.143 *(0.295)*	-0.098 *(0.096)*	0.006 *(0.889)*
Wald chi2(12)	n/a	3084.61	395.16	16854.53	1062.88	6237.56	n/a	7088.92	143.59	449.75
Number of observations	n/a	53	68	54	63	50	n/a	44	93	55
Number of instruments	n/a	26	26	27	27	27	n/a	27	27	23
Arellano-Bond test for AR(2) in first differences	n/a	(0.328)	(0.228)	(0.263)	(0.224)	(0.402)	n/a	(0.404)	(0.342)	(0.828)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A21: Non-financial service FDI and service growth: Input to Table 11
Unbalanced 1990-2004 panel

Real services value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.010 *(0.003)*	-0.010 *(0.121)*	-0.015 *(0.000)*	-0.005 *(0.234)*	-0.031 *(0.001)*	n/a	0.003 *(0.710)*	-0.020 *(0.000)*	-0.007 *(0.103)*	-0.006 *(0.069)*
Gross fixed capital formation share of GDP	0.176 *(0.000)*	0.260 *(0.011)*	-0.057 *(0.479)*	0.170 *(0.010)*	0.123 *(0.021)*	n/a	0.203 *(0.018)*	0.221 *(0.000)*	0.201 *(0.001)*	0.303 *(0.000)*
Real lending interest rate	-0.028 *(0.194)*	-0.029 *(0.376)*	0.066 *(0.434)*	-0.329 *(0.002)*	-0.022 *(0.221)*	n/a	-0.015 *(0.845)*	0.055 *(0.281)*	-0.024 *(0.480)*	-0.038 *(0.018)*
Gross secondary school enrolment ratio	0.031 *(0.019)*	0.039 *(0.245)*	0.026 *(0.011)*	-0.024 *(0.116)*	0.064 *(0.045)*	n/a	0.007 *(0.643)*	0.025 *(0.524)*	0.032 *(0.013)*	-0.002 *(0.864)*
Government consumption share of GDP	0.000 *(0.871)*	0.000 *(0.688)*	-0.001 *(0.027)*	0.002 *(0.019)*	0.001 *(0.539)*	n/a	0.000 *(0.781)*	0.000 *(0.854)*	0.000 *(0.667)*	0.001 *(0.284)*
Government stability	0.005 *(0.042)*	0.002 *(0.285)*	0.000 *(0.704)*	0.000 *(0.998)*	0.003 *(0.205)*	n/a	0.001 *(0.842)*	-0.003 *(0.442)*	0.004 *(0.126)*	0.004 *(0.387)*
Non-financial service FDI share of GDP	**0.111** ***(0.453)***	**0.650** ***(0.067)***	**0.075** ***(0.264)***	**0.047** ***(0.782)***	**0.635** ***(0.064)***	**n/a**	**-0.025** ***(0.803)***	**0.299** ***(0.503)***	**0.061** ***(0.612)***	**-0.090** ***(0.403)***
Constant term	0.008 *(0.808)*	-0.015 *(0.823)*	0.171 *(0.000)*	0.052 *(0.336)*	0.135 *(0.011)*	n/a	-0.047 *(0.613)*	0.135 *(0.008)*	-0.002 *(0.958)*	-0.012 *(0.421)*
Wald chi2(20)	260.74	392.26	193168	2024.31	5355.24	n/a	510600.5	584.58	146.05	6941.07
Number of observations	432	99	190	114	111	n/a	236	77	231	124
Number of instruments	111	86	107	91		n/a	104	69	110	96
Arellano-Bond test for AR(2) in first differences	(0.668)	(0.405)	(0.499)	(0.517)	(0.732)	n/a	(0.326)	(0.666)	(0.630)	(0.333)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A22: Non-financial service FDI and service growth: Input to Table 11
Balanced 1998-2004 panel

Real services value Added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged services value added per capita level	-0.011 *(0.002)*	-0.010 *(0.415)*	-0.019 *(0.000)*	-0.004 *(0.412)*	-0.026 *(0.060)*	-0.034 *(0.069)*	0.009 *(0.310)*	-0.026 *(0.001)*	-0.007 *(0.097)*	-0.006 *(0.198)*
Gross fixed capital formation share of GDP	0.196 *(0.002)*	0.181 *(0.438)*	-0.090 *(0.129)*	0.325 *(0.001)*	0.134 *(0.254)*	0.056 *(0.699)*	0.185 *(0.043)*	0.194 *(0.062)*	0.206 *(0.090)*	0.267 *(0.017)*
Real lending interest rate	-0.066 *(0.008)*	-0.014 *(0.663)*	-0.054 *(0.367)*	-0.012 *(0.911)*	-0.089 *(0.003)*	-0.223 *(0.051)*	0.117 *(0.023)*	-0.067 *(0.637)*	-0.064 *(0.092)*	-0.076 *(0.030)*
Gross secondary school enrolment ratio	0.031 *(0.039)*	-0.029 *(0.400)*	0.024 *(0.013)*	-0.031 *(0.220)*	0.088 *(0.000)*	0.033 *(0.566)*	0.021 *(0.100)*	0.087 *(0.250)*	0.024 *(0.073)*	-0.006 *(0.673)*
Government consumption share of GDP	0.000 *(0.646)*	0.000 *(0.645)*	-0.001 *(0.026)*	0.002 *(0.001)*	0.000 *(0.669)*	0.001 *(0.369)*	-0.001 *(0.252)*	0.000 *(0.924)*	0.000 *(0.713)*	0.001 *(0.128)*
Government stability	0.001 *(0.427)*	0.001 *(0.917)*	0.001 *(0.462)*	-0.010 *(0.035)*	0.000 *(0.987)*	0.002 *(0.446)*	-0.003 *(0.115)*	0.000 *(0.959)*	0.001 *(0.558)*	-0.001 *(0.694)*
Non-financial service FDI share of GDP	**0.090** ***(0.625)***	**0.287** ***(0.684)***	**0.209** ***(0.234)***	**0.039** ***(0.802)***	**0.317** ***(0.262)***	**0.209** ***(0.328)***	**-0.118** ***(0.184)***	**0.163** ***(0.754)***	**0.118** ***(0.572)***	**-0.154** ***(0.137)***
Constant term	0.043 *(0.182)*	0.064 *(0.424)*	0.214 *(0.000)*	0.097 *(0.007)*	0.117 *(0.230)*	0.238 *(0.238)*	-0.064 *(0.495)*	0.125 *(0.063)*	0.010 *(0.837)*	0.020 *(0.518)*
Wald chi2(12)	167.72	51.92	775.94	20139.76	428.26	445.01	197.72	951.18	60.79	516.2
Number of observations	217	53	86	61	71	50	96	51	105	61
Number of instruments		26	27	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.196)	(0.660)	(0.358)	(0.955)	(0.806)	(0.342)	(0.778)	(0.271)	(0.998)	(0.436)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A23: Non-financial service FDI and real GDP per capita growth: Input to Table 12
Unbalanced 1990-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	n/a	-0.009 *(0.161)*	n/a	-0.011 *(0.000)*	-0.028 *(0.001)*	-0.066 *(0.000)*	-0.013 *(0.015)*	-0.006 *(0.435)*	-0.013 *(0.000)*	-0.002 *(0.417)*
Gross fixed capital formation share of GDP	n/a	0.311 *(0.003)*	n/a	0.306 *(0.000)*	0.152 *(0.002)*	0.142 *(0.054)*	0.092 *(0.087)*	0.133 *(0.031)*	0.128 *(0.014)*	0.363 *(0.000)*
Real lending interest rate	n/a	-0.030 *(0.199)*	n/a	0.052 *(0.629)*	-0.025 *(0.139)*	0.019 *(0.210)*	-0.018 *(0.809)*	0.053 *(0.501)*	-0.027 *(0.218)*	-0.059 *(0.000)*
Gross secondary school enrolment ratio	n/a	0.042 *(0.175)*	n/a	0.028 *(0.037)*	0.083 *(0.009)*	0.037 *(0.037)*	0.016 *(0.110)*	0.058 *(0.276)*	0.044 *(0.000)*	0.009 *(0.567)*
Government consumption share of GDP	n/a	0.000 *(0.727)*	n/a	0.001 *(0.154)*	0.000 *(0.776)*	-0.001 *(0.026)*	-0.001 *(0.148)*	-0.001 *(0.172)*	0.000 *(0.482)*	-0.001 *(0.226)*
Government stability	n/a	0.003 *(0.219)*	n/a	-0.002 *(0.503)*	0.003 *(0.141)*	0.006 *(0.006)*	0.000 *(0.873)*	0.009 *(0.063)*	0.005 *(0.059)*	-0.004 *(0.118)*
Non-financial service FDI share of GDP	**n/a**	**0.492** ***(0.223)***	**n/a**	**-0.048** ***(0.813)***	**0.687** ***(0.002)***	**0.577** ***(0.032)***	**-0.143** ***(0.215)***	**0.358** ***(0.466)***	**0.202** ***(0.072)***	**-0.243** ***(0.044)***
Constant term	n/a	-0.013 *(0.839)*	n/a	0.046 *(0.138)*	0.128 *(0.028)*	0.515 *(0.000)*	0.160 *(0.010)*	-0.035 *(0.698)*	0.043 *(0.182)*	0.013 *(0.543)*
Wald chi2(20)	n/a	46.62	n/a	28587.32	1104.21	346.34		10450.3	306.29	1213.03
Number of observations	n/a	99	n/a	115	111	85	253	82	236	131
Number of instruments	n/a	86	n/a	92	84	84	106	69	111	97
Arellano-Bond test for AR(2) in first differences	n/a	(0.116)	n/a	(0.959)	(0.991)	(0.203)	(0.113)	(0.171)	(0.158)	(0.142)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A24: Non-financial service FDI and real GDP per capita growth: Input to Table 12
Balanced 1998-2004 panel

Real GDP per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged GDP per capita level	-0.012 *(0.001)*	-0.018 *(0.120)*	-0.019 *(0.000)*	n/a	-0.030 *(0.036)*	-0.092 *(0.000)*	-0.014 *(0.036)*	-0.016 *(0.087)*	-0.012 *(0.000)*	0.001 *(0.869)*
Gross fixed capital formation share of GDP	0.251 *(0.000)*	0.160 *(0.522)*	0.002 *(0.980)*	n/a	0.161 *(0.162)*	0.134 *(0.513)*	0.053 *(0.481)*	0.184 *(0.068)*	0.161 *(0.075)*	0.427 *(0.002)*
Real lending interest rate	-0.043 *(0.118)*	-0.005 *(0.881)*	-0.051 *(0.561)*	n/a	-0.066 *(0.043)*	-0.122 *(0.237)*	0.164 *(0.014)*	-0.053 *(0.782)*	-0.029 *(0.449)*	-0.047 *(0.108)*
Gross secondary school enrolment ratio	0.046 *(0.008)*	0.007 *(0.876)*	0.030 *(0.079)*	n/a	0.107 *(0.000)*	0.050 *(0.222)*	0.030 *(0.064)*	0.158 *(0.057)*	0.050 *(0.002)*	0.006 *(0.771)*
Government consumption share of GDP	0.000 *(0.743)*	-0.001 *(0.512)*	-0.002 *(0.068)*	n/a	-0.001 *(0.317)*	0.000 *(0.812)*	-0.002 *(0.007)*	-0.004 *(0.085)*	0.000 *(0.735)*	0.000 *(0.696)*
Government stability	0.001 *(0.711)*	0.006 *(0.410)*	-0.001 *(0.372)*	n/a	-0.001 *(0.778)*	0.007 *(0.059)*	-0.004 *(0.100)*	0.003 *(0.566)*	0.002 *(0.464)*	-0.007 *(0.012)*
Non-financial service FDI share of GDP	**-0.049** ***(0.818)***	**0.026** ***(0.979)***	**0.113** ***(0.378)***	**n/a**	**0.656** ***(0.011)***	**0.214** ***(0.541)***	**-0.282** ***(0.015)***	**0.588** ***(0.373)***	**0.291** ***(0.058)***	**-0.391** ***(0.001)***
Constant term	0.048 *(0.165)*	0.115 *(0.155)*	0.250 *(0.000)*	n/a	0.153 *(0.146)*	0.709 *(0.000)*	0.213 *(0.006)*	0.040 *(0.613)*	0.035 *(0.430)*	-0.009 *(0.724)*
Wald chi2(12)	143.19	154.81	224.37	n/a	434.1	1739.41	179.53	109.74	208.72	95.64
Number of observations	229	53	91	n/a	71	50	108	55	107	67
Number of instruments	27	26	27	n/a	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	(0.639)	(0.297)	(0.209)	n/a	(0.344)	(0.562)	(0.411)	(0.198)	(0.236)	(0.419)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A25: Non-financial service FDI and manufacturing growth: Input to Table 13
Unbalanced 1990-2004 panel

Real manufacturing value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	-0.020 *(0.000)*	-0.001 *(0.849)*	-0.029 *(0.000)*	-0.009 *(0.143)*	-0.033 *(0.000)*	-0.085 *(0.000)*	-0.006 *(0.596)*	-0.011 *(0.351)*	-0.026 *(0.000)*	-0.002 *(0.729)*
Gross fixed capital formation share of GDP	0.346 *(0.000)*	0.251 *(0.175)*	0.010 *(0.949)*	0.454 *(0.000)*	0.381 *(0.000)*	0.136 *(0.485)*	0.303 *(0.078)*	0.286 *(0.000)*	0.239 *(0.078)*	0.957 *(0.000)*
Real lending interest rate	-0.051 *(0.134)*	-0.010 *(0.799)*	0.016 *(0.883)*	0.077 *(0.627)*	-0.052 *(0.082)*	0.080 *(0.045)*	-0.046 *(0.779)*	0.076 *(0.337)*	-0.038 *(0.223)*	-0.027 *(0.218)*
Gross secondary school enrolment ratio	0.060 *(0.098)*	0.045 *(0.388)*	0.047 *(0.158)*	0.006 *(0.832)*	0.116 *(0.002)*	0.049 *(0.250)*	0.000 *(0.994)*	0.029 *(0.742)*	0.134 *(0.000)*	-0.053 *(0.015)*
Government consumption share of GDP	0.001 *(0.449)*	-0.001 *(0.269)*	0.000 *(0.879)*	-0.001 *(0.622)*	0.000 *(0.680)*	0.001 *(0.730)*	0.002 *(0.235)*	0.001 *(0.668)*	-0.001 *(0.641)*	0.003 *(0.008)*
Government stability	0.004 *(0.277)*	0.005 *(0.292)*	0.001 *(0.888)*	0.007 *(0.305)*	0.002 *(0.291)*	0.008 *(0.044)*	0.010 *(0.024)*	0.015 *(0.006)*	0.007 *(0.159)*	-0.009 *(0.148)*
Non-financial service FDI share of GDP	**-0.468** ***(0.016)***	**0.375** ***(0.610)***	**0.137** ***(0.475)***	**-0.887** ***(0.000)***	**0.998** ***(0.003)***	**1.283** ***(0.002)***	**-0.534** ***(0.003)***	**1.053** ***(0.091)***	**0.538** ***(0.018)***	**-0.759** ***(0.017)***
Constant term	0.025 *(0.565)*	-0.086 *(0.313)*	0.229 *(0.000)*	-0.034 *(0.554)*	0.043 *(0.415)*	0.481 *(0.002)*	-0.073 *(0.521)*	-0.092 *(0.215)*	-0.013 *(0.833)*	-0.074 *(0.120)*
Wald chi2(20)	294.19	159.35	4123.09	17810.91	7.41E+09	1.46E+08	4957.85	416.32	145.47	22994.27
Number of observations	367	99	141	106	102	82	183	66	196	105
Number of instruments	111	86	100	86	82	82	99	64	105	93
Arellano-Bond test for AR(2) in first differences	(0.139)	(0.271)	(0.132)	(0.217)	(0.695)	(0.456)	(0.204)	(0.123)	(0.536)	(0.913)

* P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Table A26: Non-financial service FDI and manufacturing growth: Input to Table 13
Balanced 1998-2004 panel

Real manufacturing value added per capita growth	All countries	LA&C	E&CA	S&EA	Low income	Middle income	High income	Man. based	Mixed	Services-based
log of lagged manufacturing value added per capita level	n/a	-0.023 *(0.027)*	-0.032 *(0.000)*	-0.013 *(0.096)*	-0.028 *(0.013)*	-0.116 *(0.027)*	0.013 *(0.473)*	-0.017 *(0.169)*	-0.019 *(0.000)*	0.007 *(0.488)*
Gross fixed capital formation share of GDP	n/a	-0.076 *(0.823)*	0.399 *(0.021)*	0.612 *(0.000)*	0.330 *(0.066)*	0.268 *(0.453)*	0.499 *(0.021)*	0.465 *(0.078)*	0.568 *(0.000)*	1.244 *(0.000)*
Real lending interest rate	n/a	-0.019 *(0.708)*	-0.003 *(0.986)*	-0.026 *(0.912)*	-0.098 *(0.002)*	-0.164 *(0.203)*	0.449 *(0.049)*	0.091 *(0.781)*	0.001 *(0.990)*	-0.018 *(0.737)*
Gross secondary school enrolment ratio	n/a	0.000 *(0.999)*	0.102 *(0.151)*	0.127 *(0.012)*	0.107 *(0.000)*	0.056 *(0.498)*	0.046 *(0.485)*	0.116 *(0.494)*	0.107 *(0.000)*	-0.075 *(0.039)*
Government consumption share of GDP	n/a	-0.002 *(0.344)*	-0.002 *(0.248)*	-0.003 *(0.042)*	-0.001 *(0.582)*	0.002 *(0.426)*	0.000 *(0.971)*	-0.001 *(0.838)*	0.001 *(0.381)*	0.004 *(0.021)*
Government stability	n/a	0.008 *(0.313)*	0.002 *(0.775)*	-0.008 *(0.229)*	-0.001 *(0.896)*	0.009 *(0.294)*	-0.005 *(0.459)*	0.013 *(0.339)*	0.002 *(0.807)*	-0.019 *(0.005)*
Non-financial service FDI share of GDP	**n/a**	**-0.013** ***(0.994)***	**0.162** ***(0.561)***	**-0.834** ***(0.000)***	**0.756** ***(0.044)***	**0.267** ***(0.667)***	**-0.967** ***(0.000)***	**0.627** ***(0.464)***	**0.789** ***(0.007)***	**-1.351** ***(0.000)***
Constant term	n/a	0.145 *(0.197)*	0.129 *(0.105)*	0.014 *(0.842)*	0.065 *(0.431)*	0.652 *(0.187)*	-0.127 *(0.455)*	-0.101 *(0.564)*	-0.088 *(0.189)*	-0.117 *(0.078)*
Wald chi2(12)	n/a	4274.6	569.92		4766.68	3105.13	493.52	8055.97	228.33	663.12
Number of observations	n/a	53	68	54	63	50	79	44	93	55
Number of instruments	n/a	26	26	27	27	27	27	27	27	23
Arellano-Bond test for AR(2) in first differences	n/a	(0.322)	(0.148)	(0.296)	(0.608)	(0.260)	(0.124)	(0.764)	(0.215)	(0.141)

*P-values in parentheses. The (n/a) results are due to second order autocorrelation in the error term. The coefficients and the p-vales are robust to heteroscedasticity.

Figures

Fig. 1

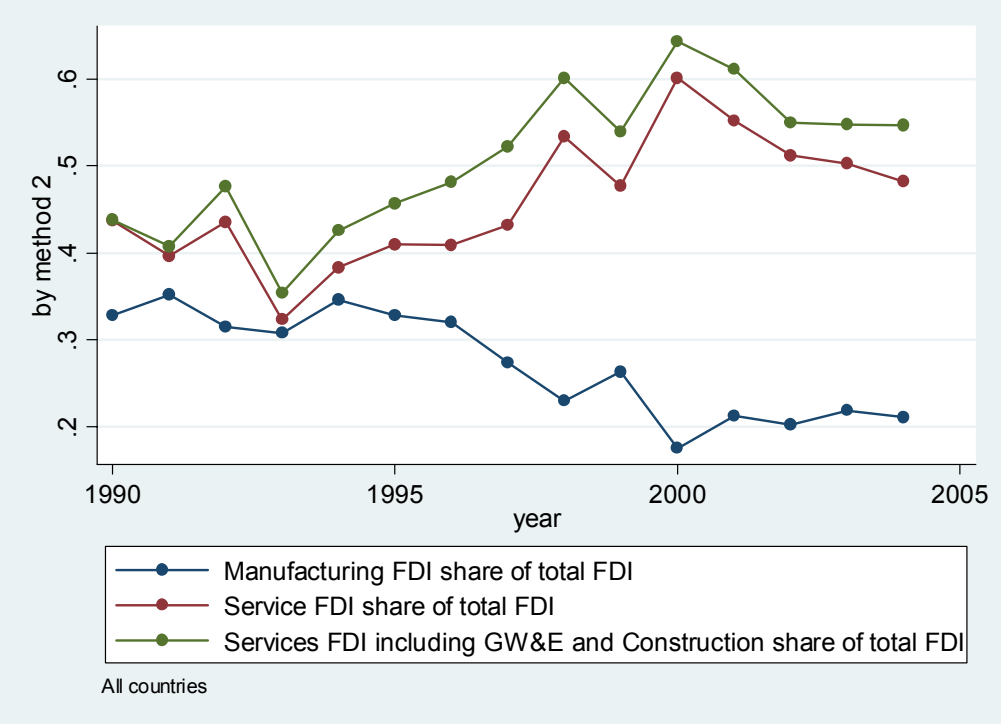


Fig.2

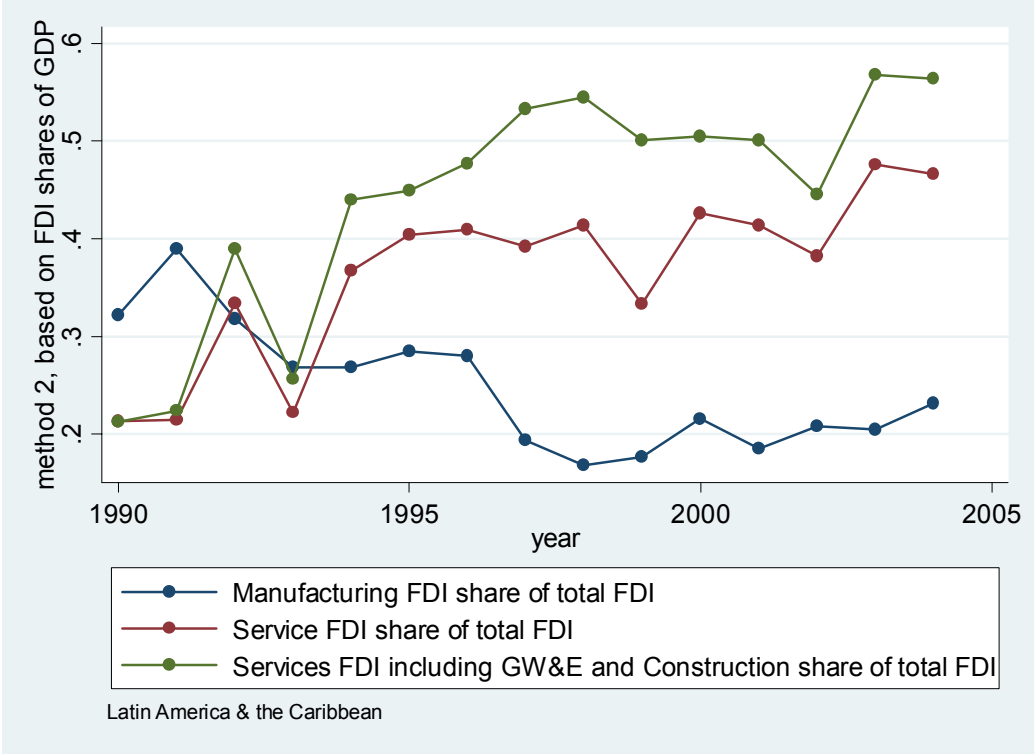
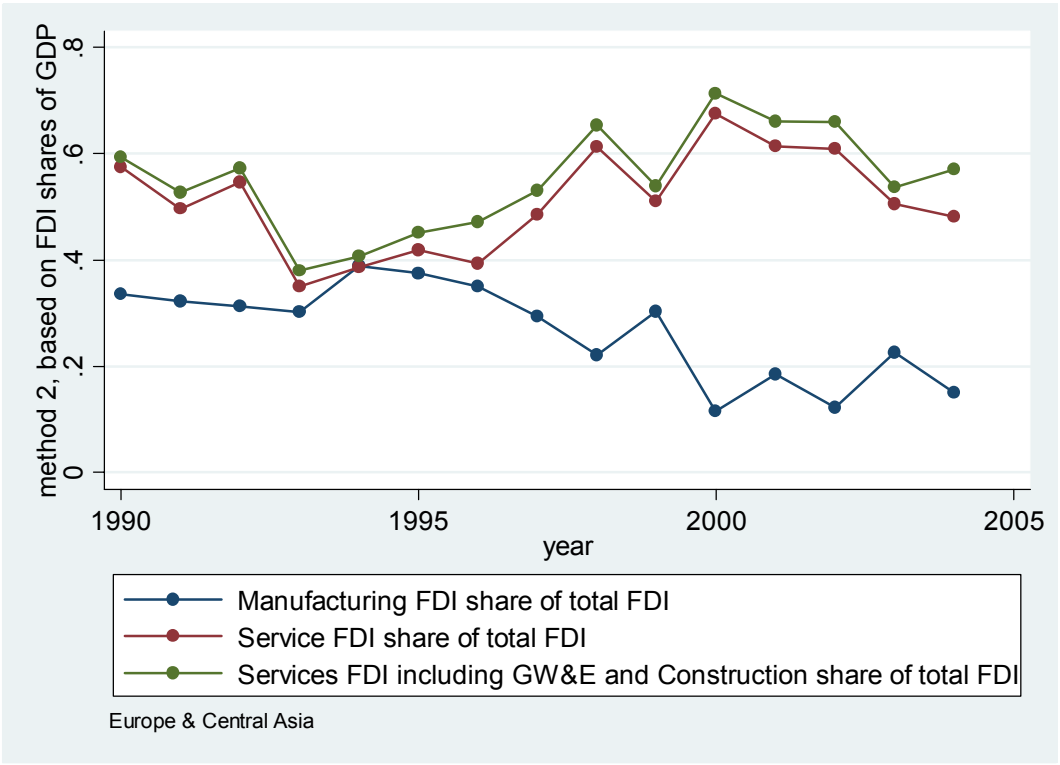


Fig.3


method 2, based on FDI shares of GDP
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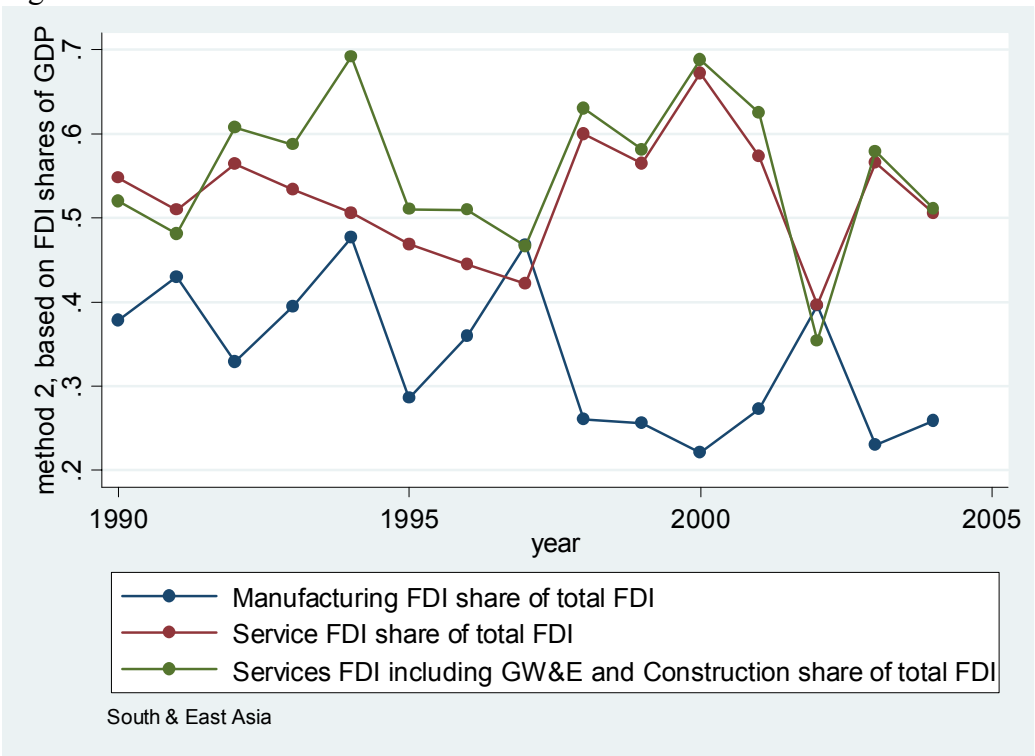
Manufacturing FDI share of total FDI
Service FDI share of total FDI
Services FDI including GW&E and Construction share of total FDI
Europe & Central Asia

Fig.4


method 2, based on FDI shares of GDP
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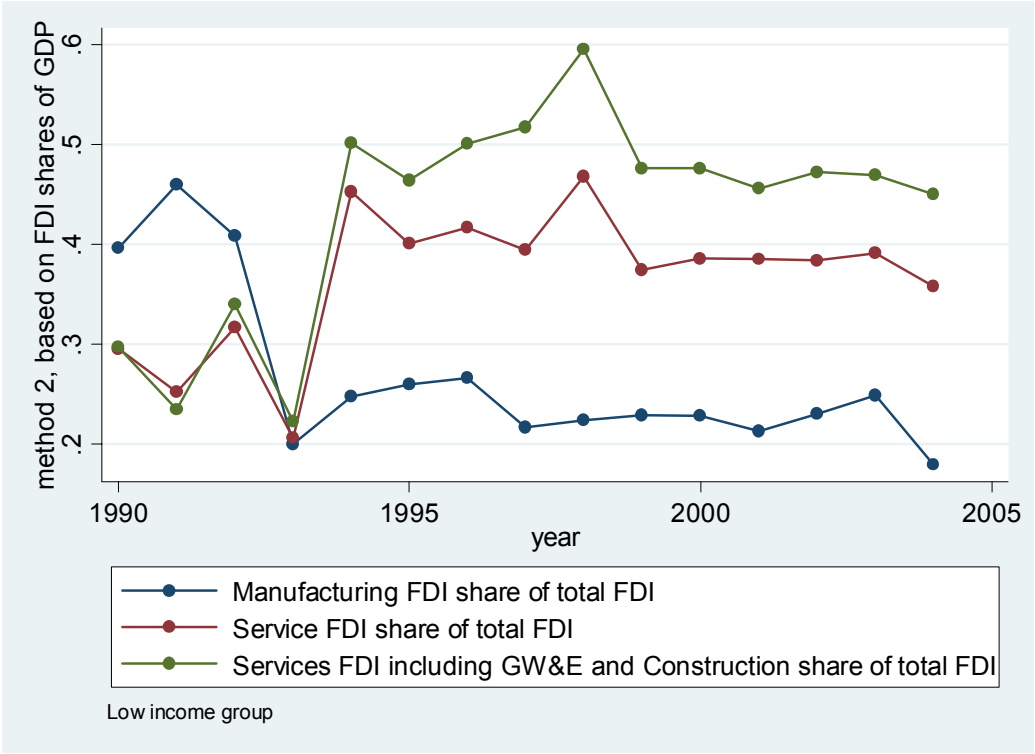
year
Manufacturing FDI share of total FDI
Service FDI share of total FDI
Services FDI including GW&E and Construction share of total FDI
South & East Asia

Fig.5


method 2, based on FDI shares of GDP
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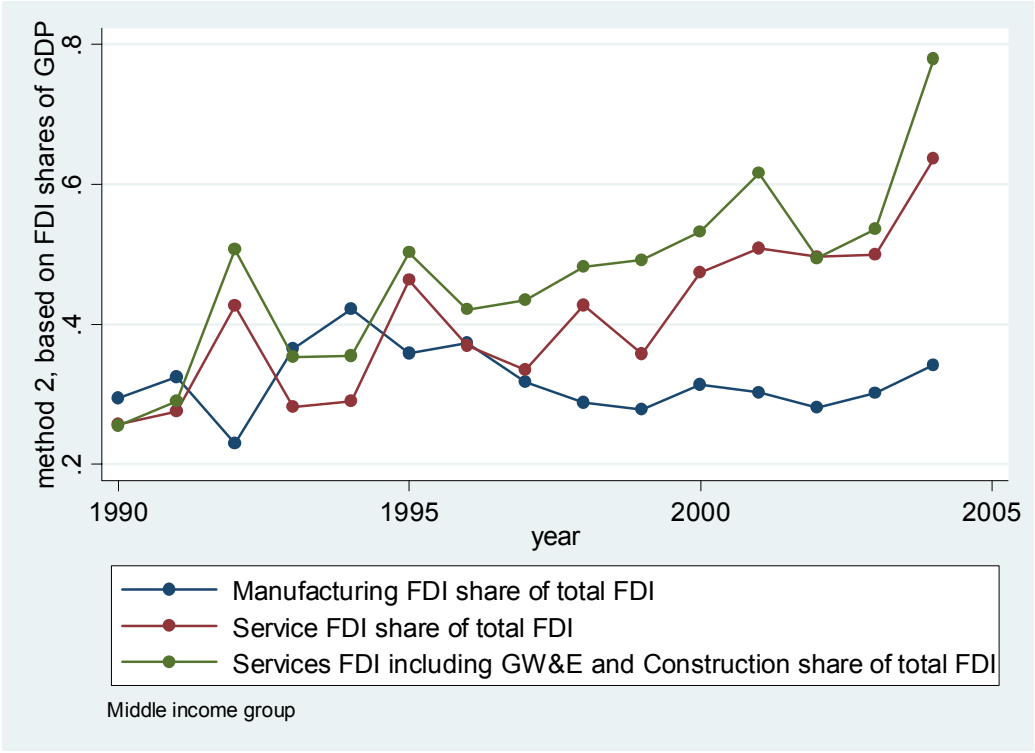
Manufacturing FDI share of total FDI
Service FDI share of total FDI
Services FDI including GW&E and Construction share of total FDI
Low income group

Fig.6


method 2, based on FDI shares of GDP
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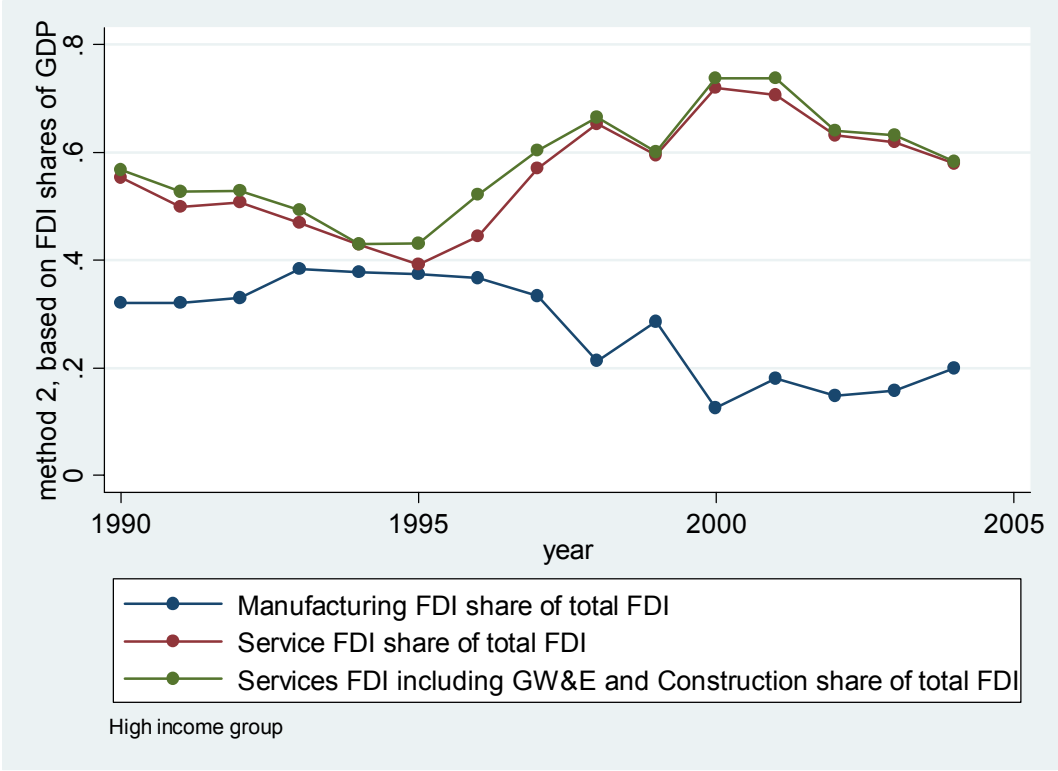
Manufacturing FDI share of total FDI
Service FDI share of total FDI
Services FDI including GW&E and Construction share of total FDI
Middle income group

Fig. 7


method 2, based on FDI shares of GDP
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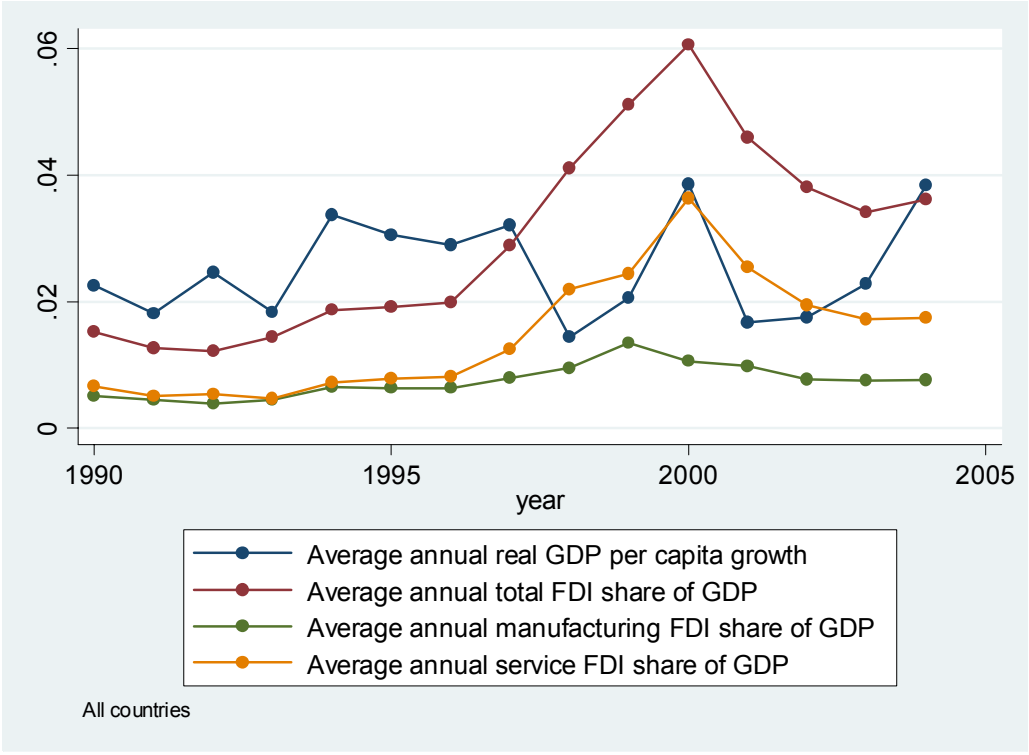
year
Manufacturing FDI share of total FDI
Service FDI share of total FDI
Services FDI including GW&E and Construction share of total FDI
High income group

Fig.8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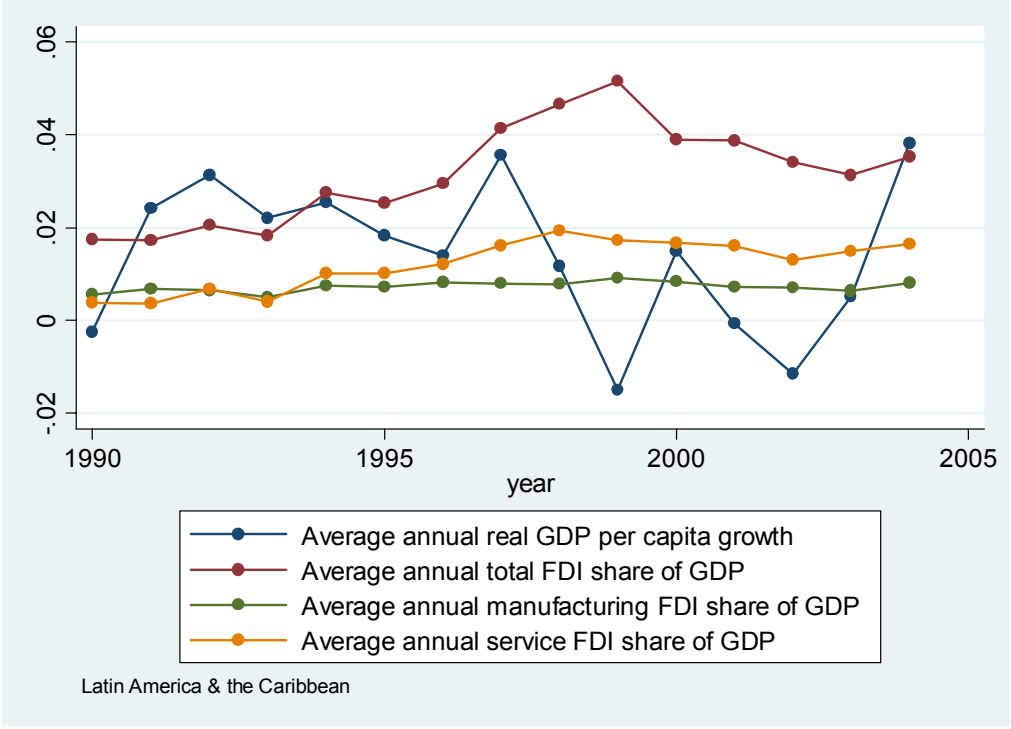
year
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
All countries

Fig. 9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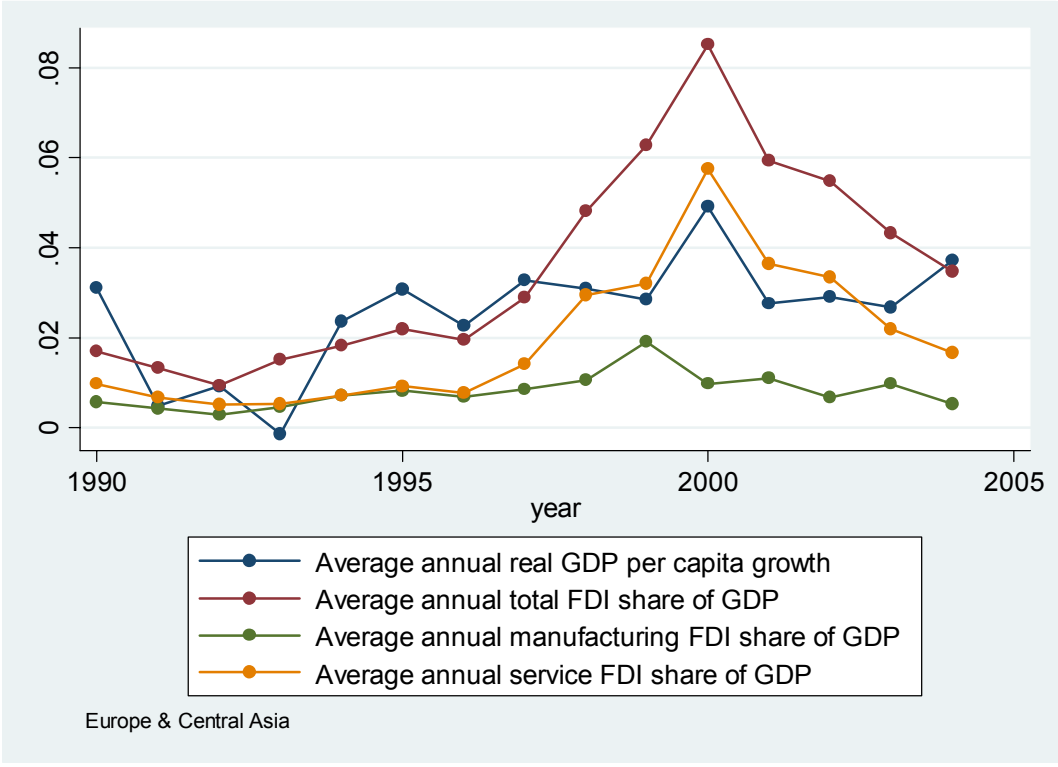
year
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
Latin America & the Caribbean

Fig.10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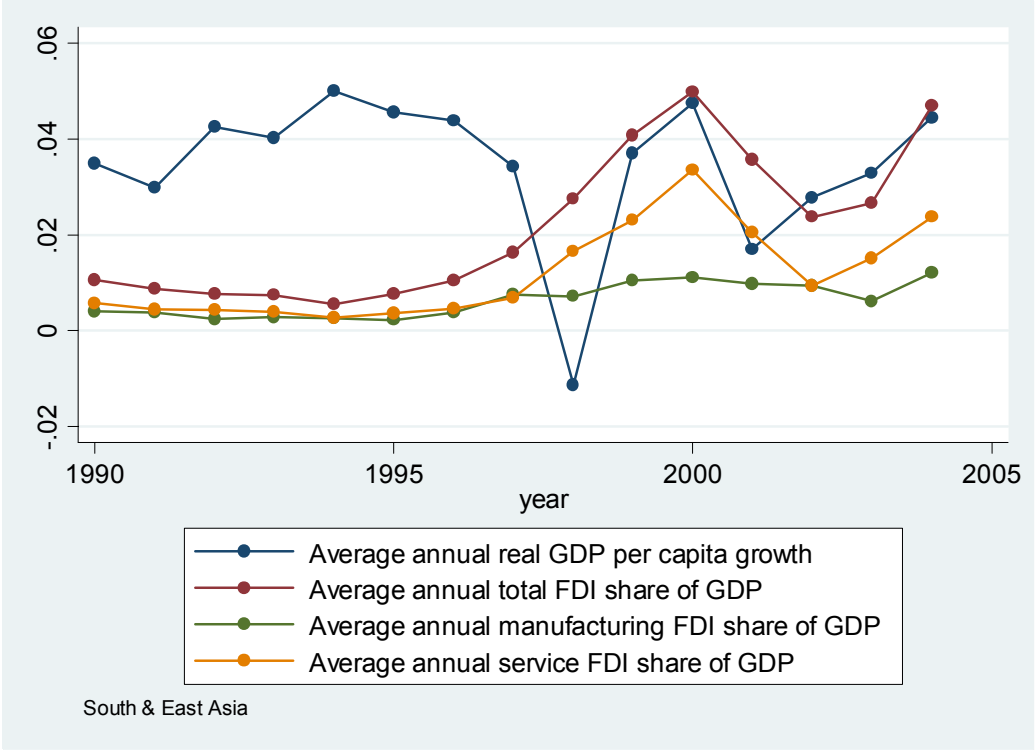
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
Europe & Central Asia

Fig.11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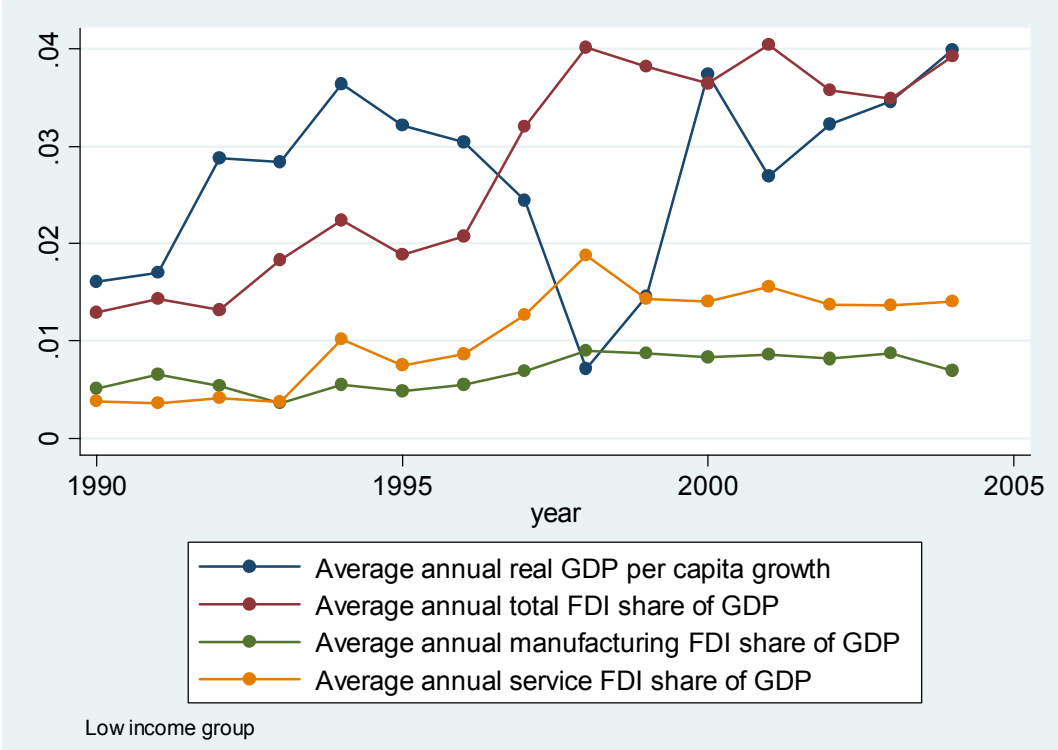
year
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
South & East Asia

Fig. 12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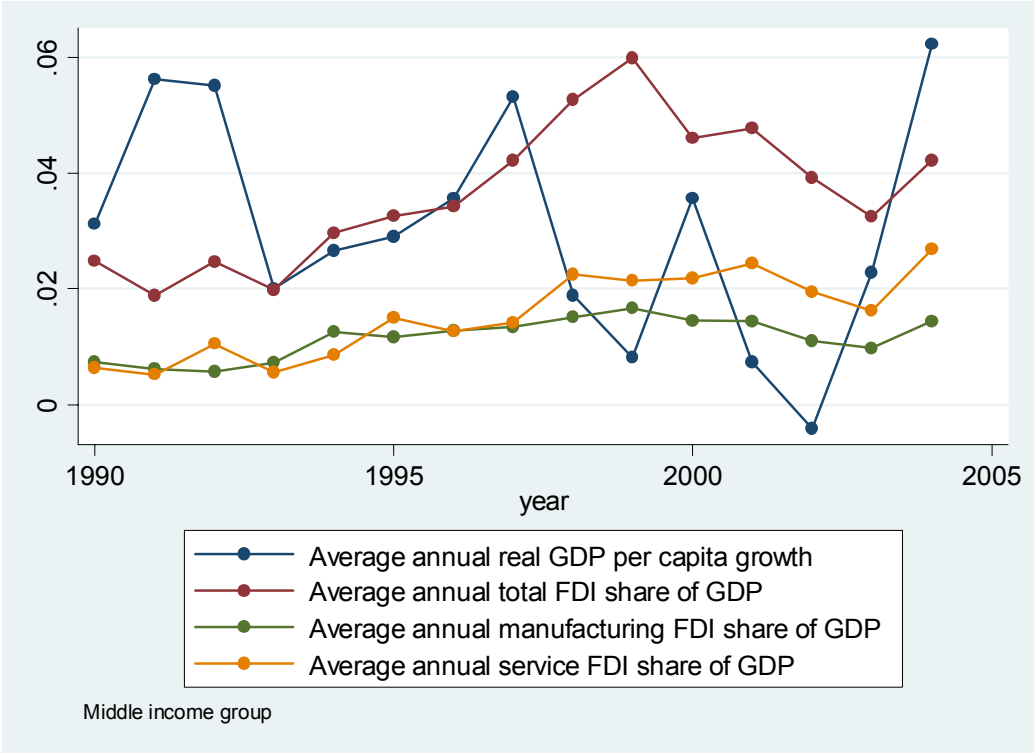
year
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
Low income group

Fig. 13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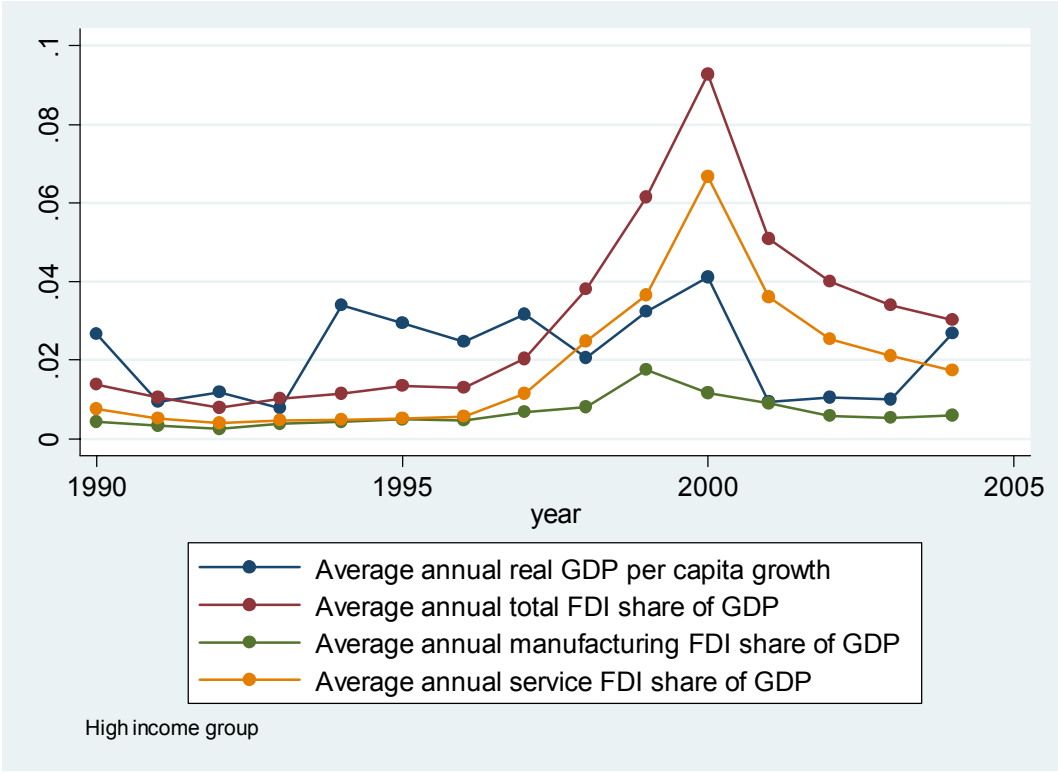
year
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
Middle income group

Fig. 14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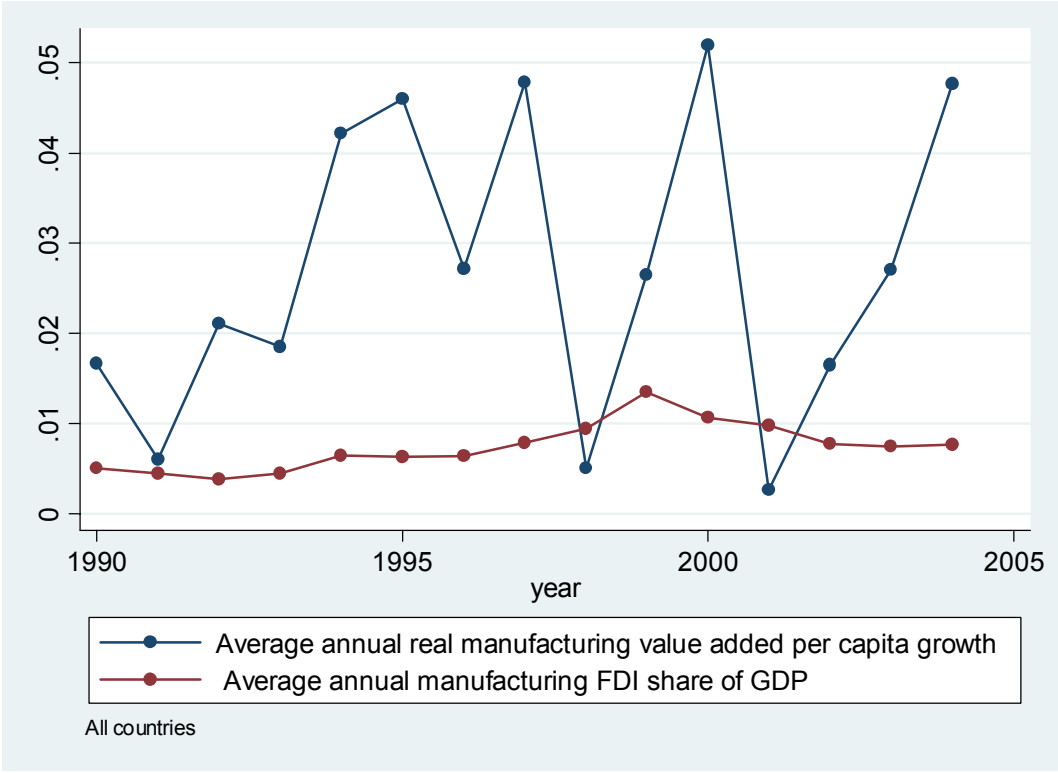
Average annual real GDP per capita growth
Average annual total FDI share of GDP
Average annual manufacturing FDI share of GDP
Average annual service FDI share of GDP
High income group

Fig. 15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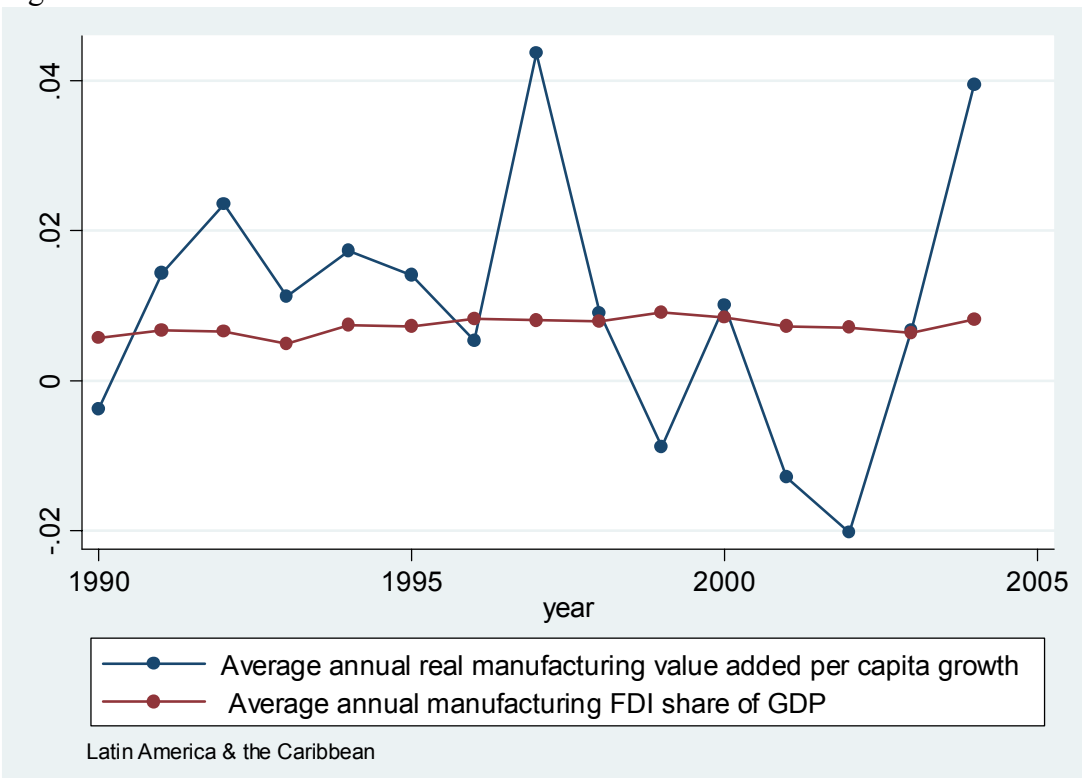
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
All countries

Fig.16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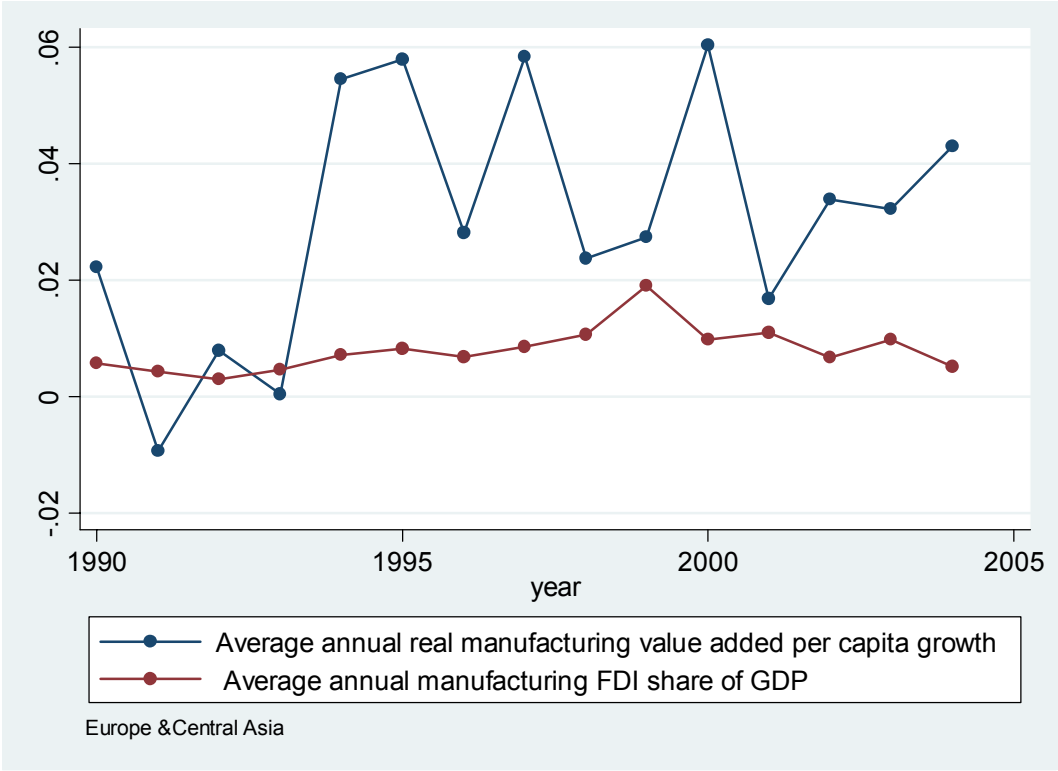
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
Latin America & the Caribbean

Fig.17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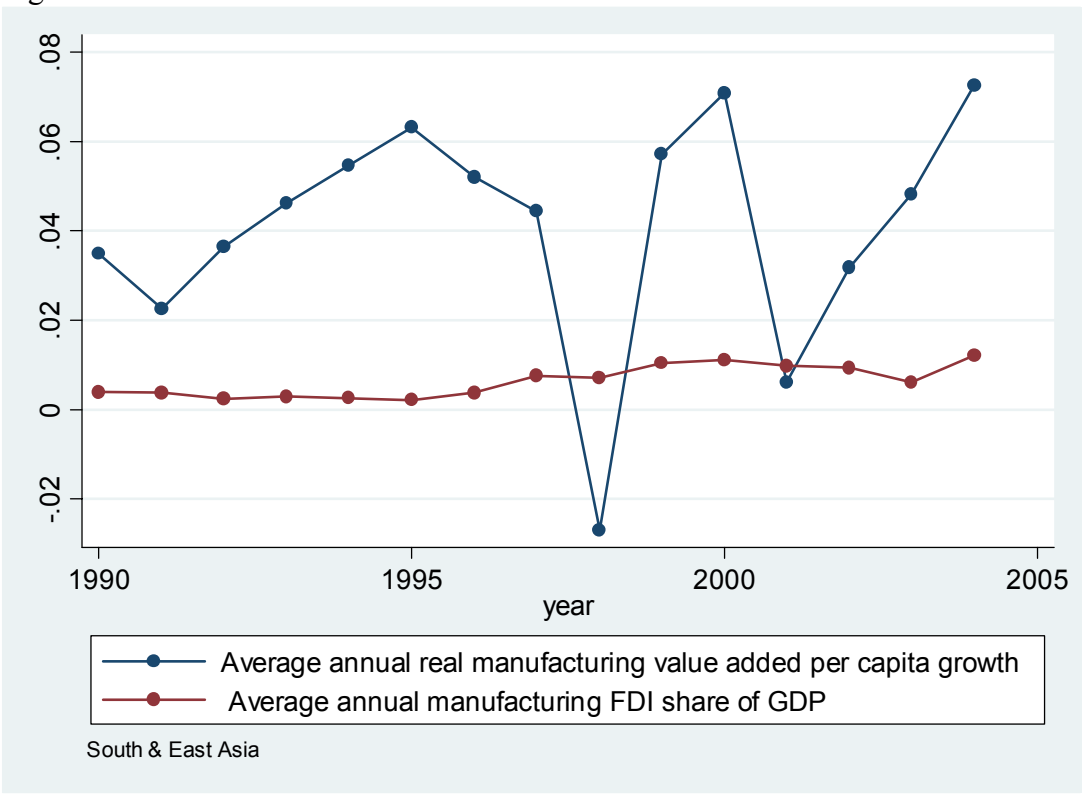
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
Europe &Central Asia

Fig. 18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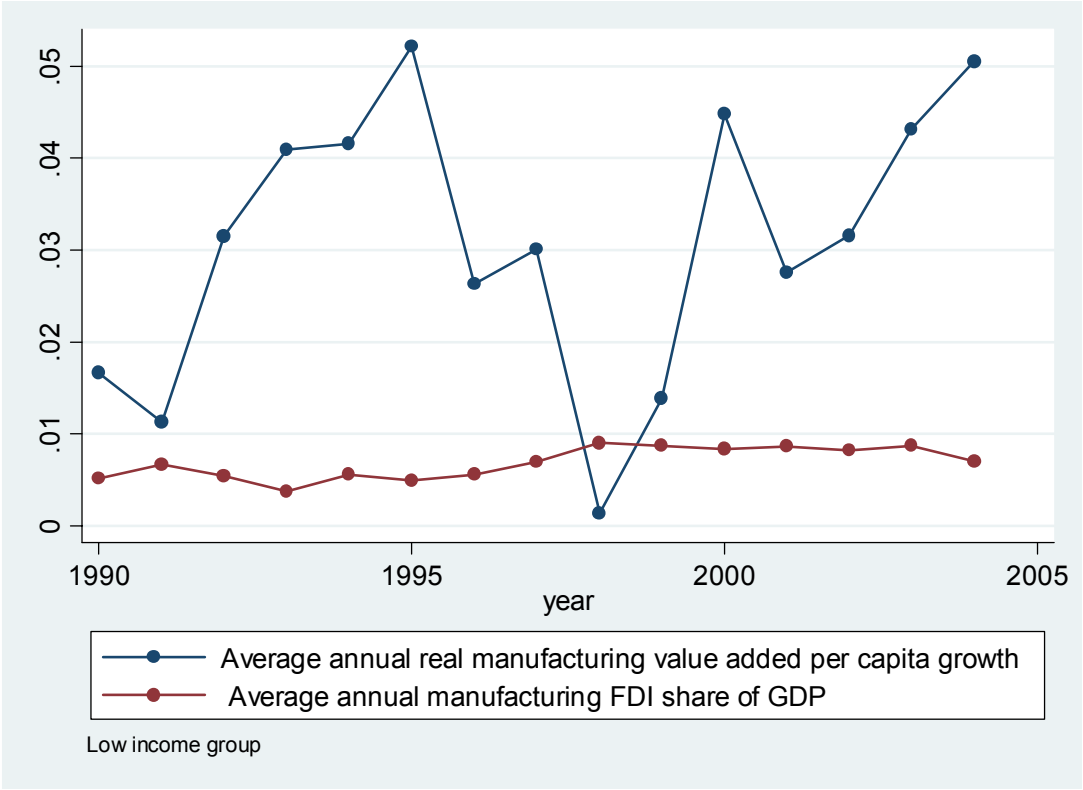
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
South & East Asia

Fig. 19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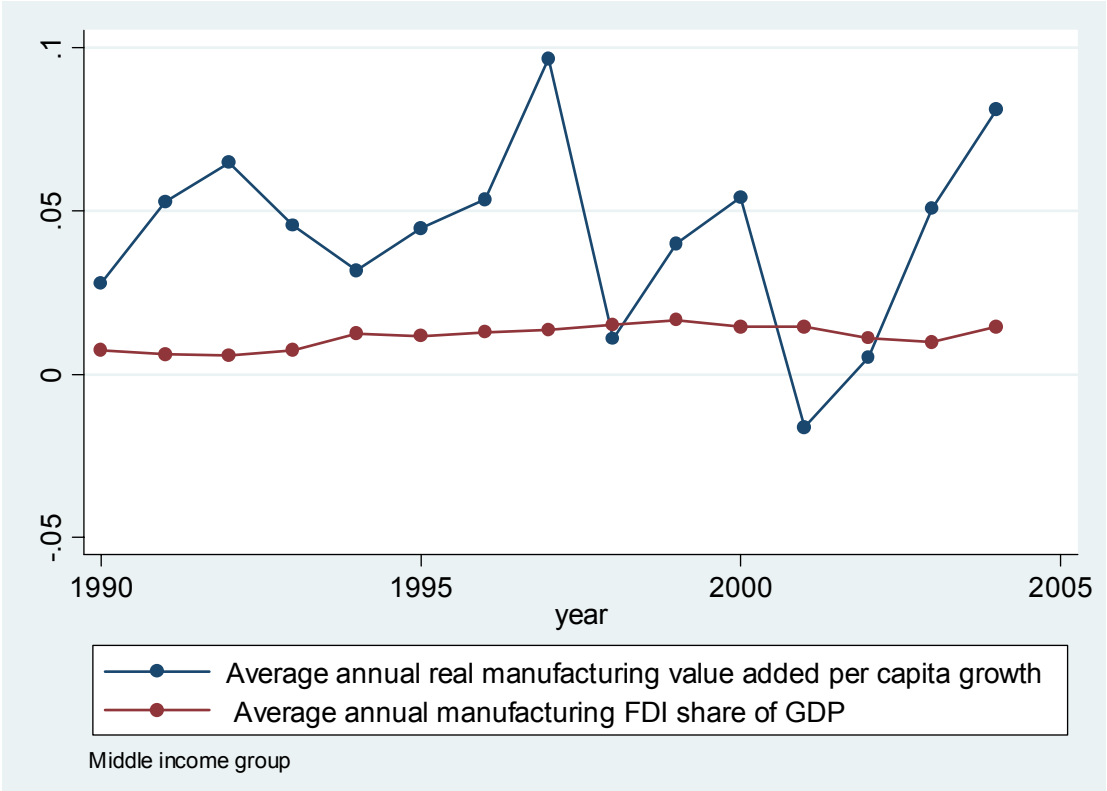
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
Low income group

Fig. 20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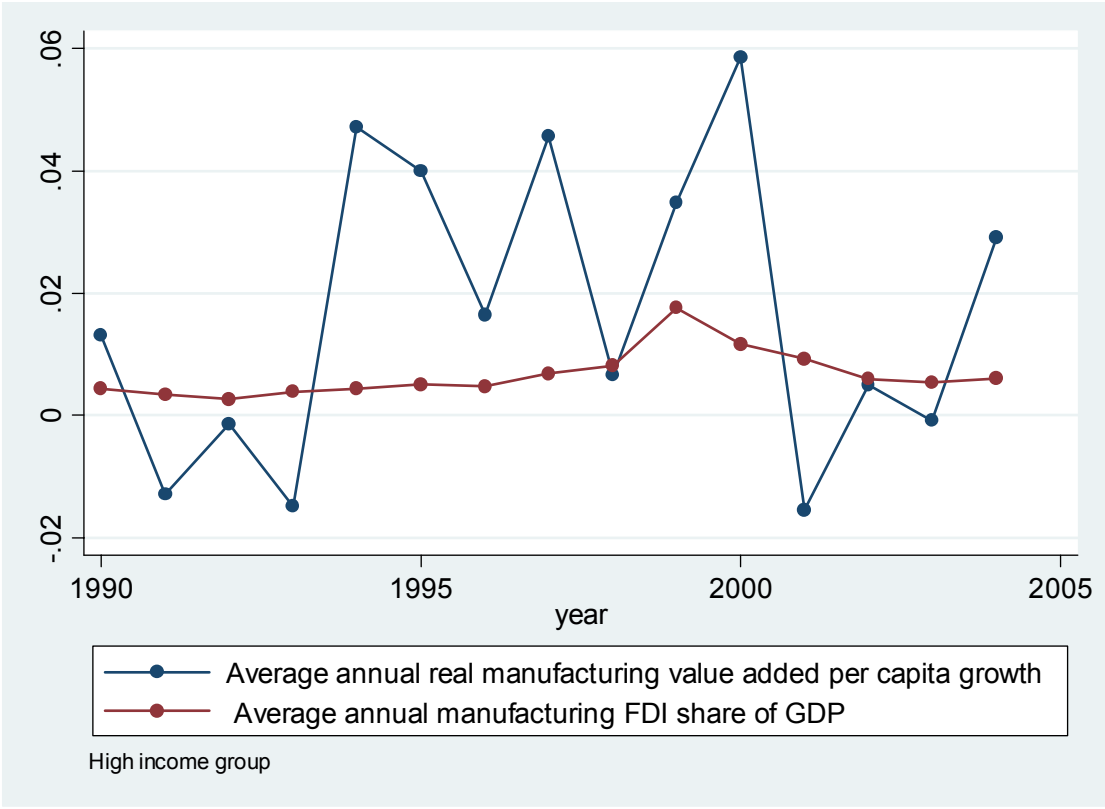
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
Middle income group

Fig.21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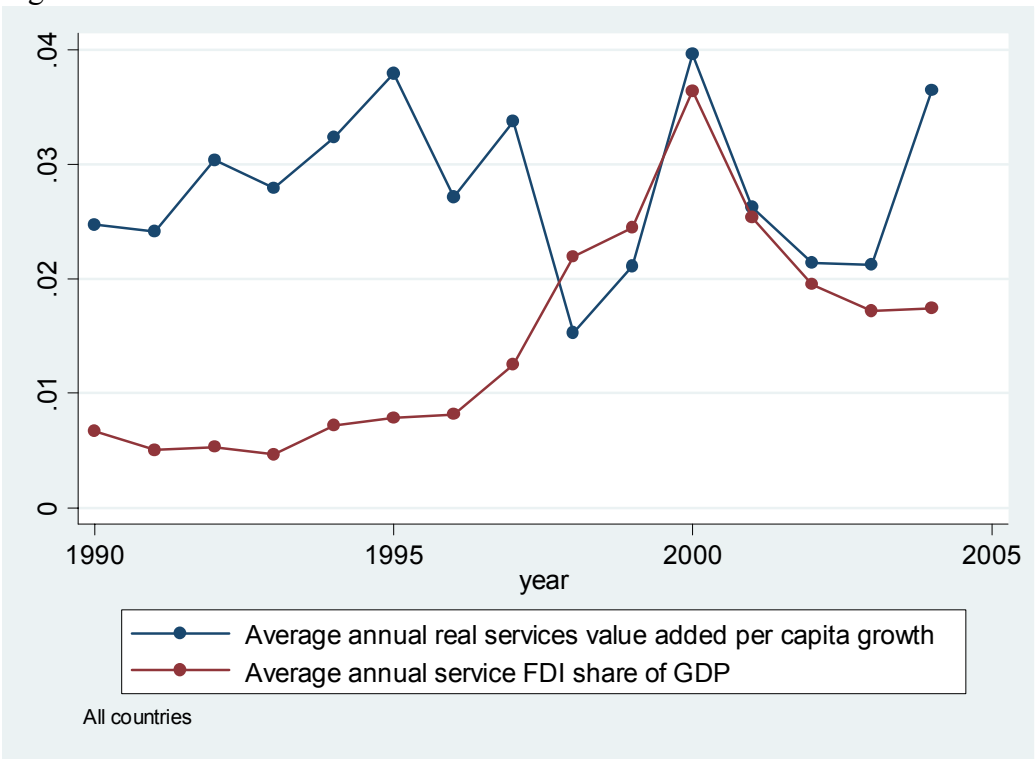
year
Average annual real manufacturing value added per capita growth
Average annual manufacturing FDI share of GDP
High income group

Fig. 22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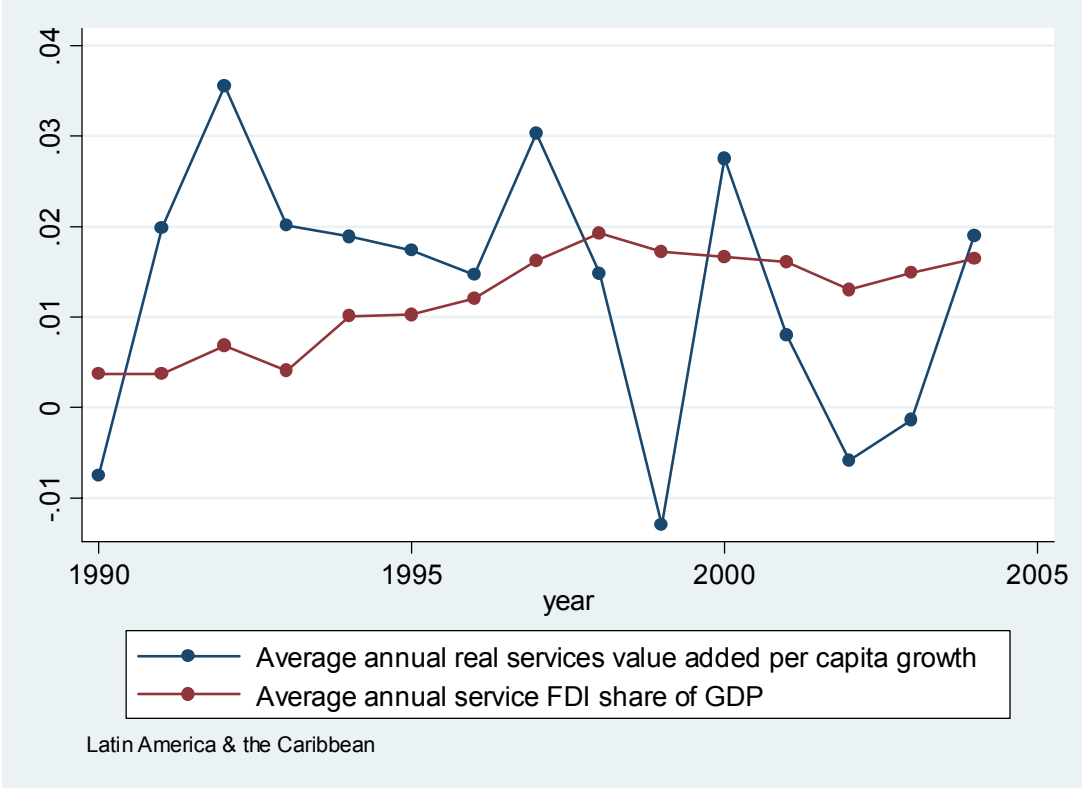
Average annual real services value added per capita growth
Average annual service FDI share of GDP
All countries

Fig. 23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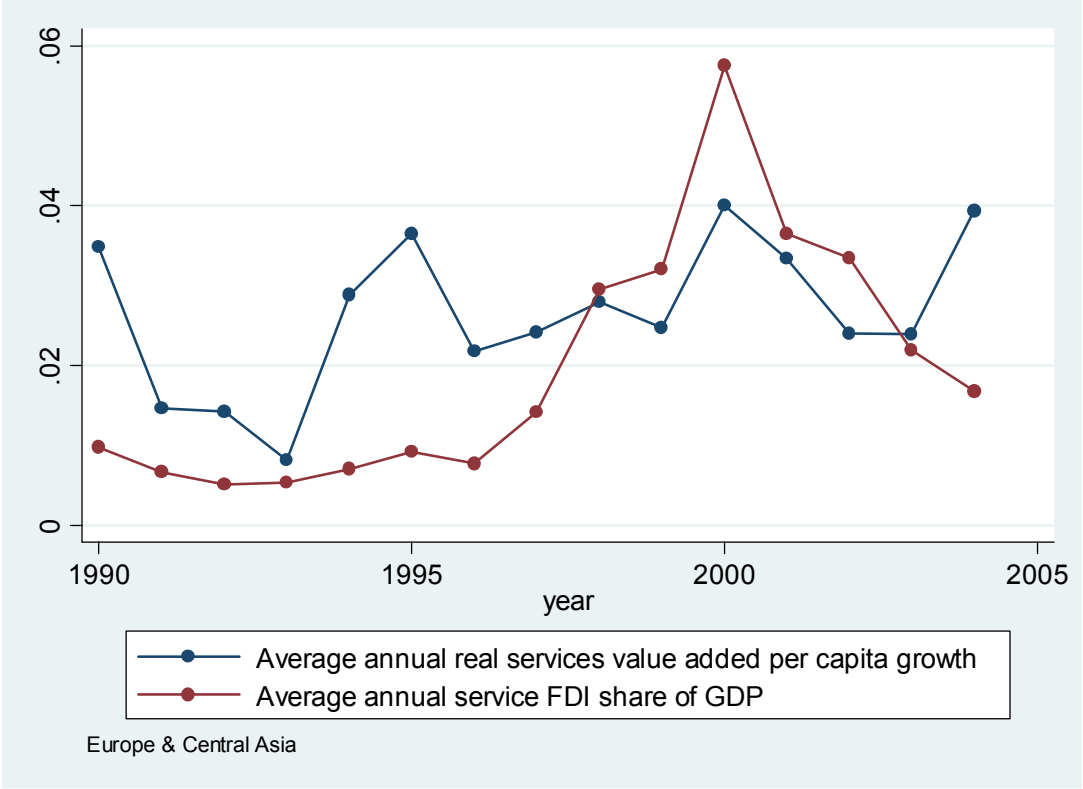
year
Average annual real services value added per capita growth
Average annual service FDI share of GDP
Latin America & the Caribbean

Fig. 24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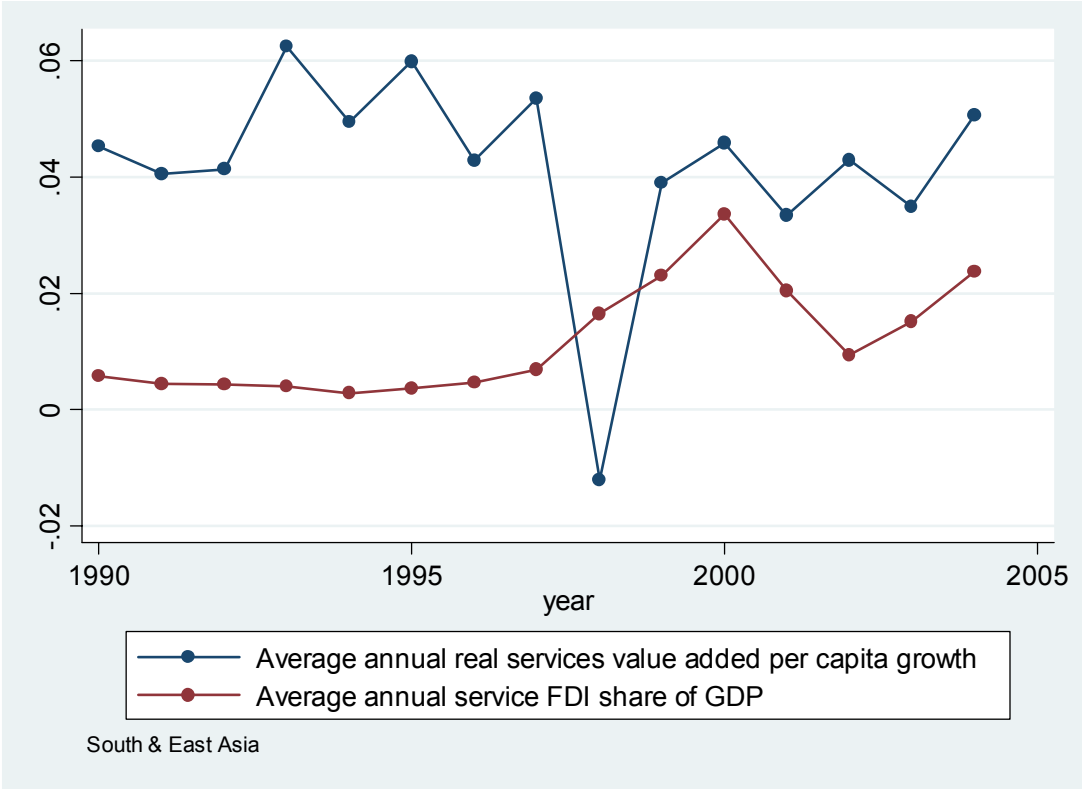
year
Average annual real services value added per capita growth
Average annual service FDI share of GDP
Europe & Central Asia

Fig.25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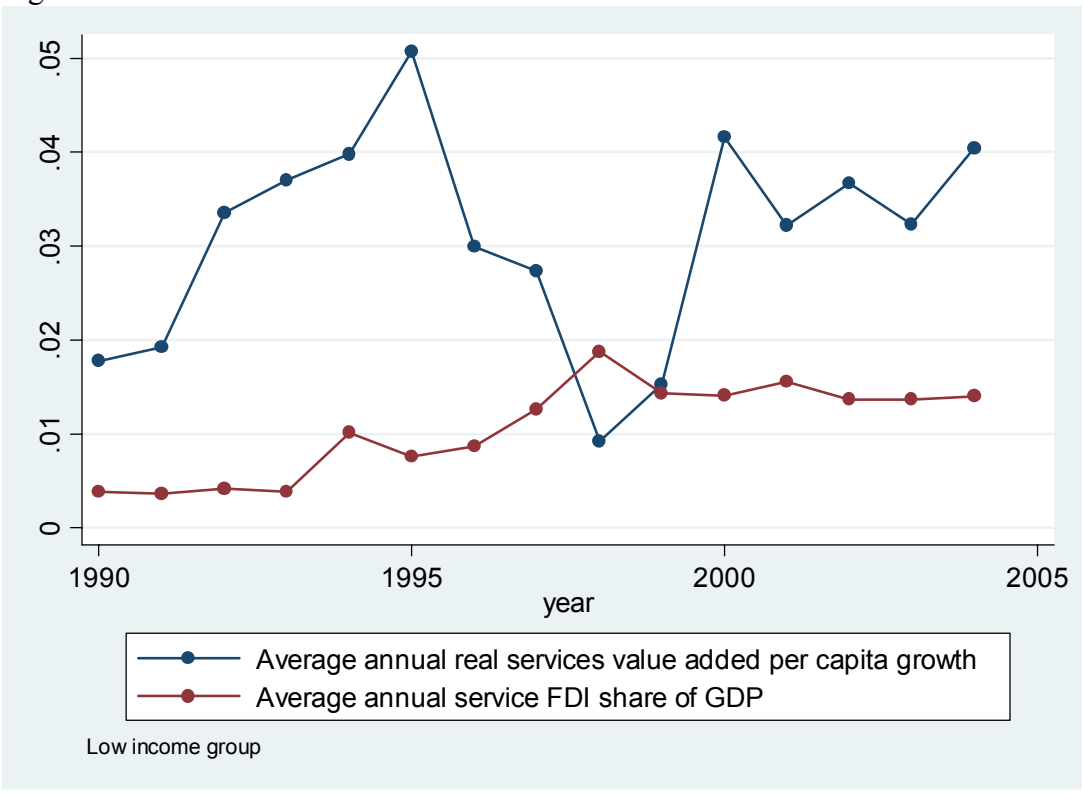
year
Average annual real services value added per capita growth
Average annual service FDI share of GDP
South & East Asia

Fig. 26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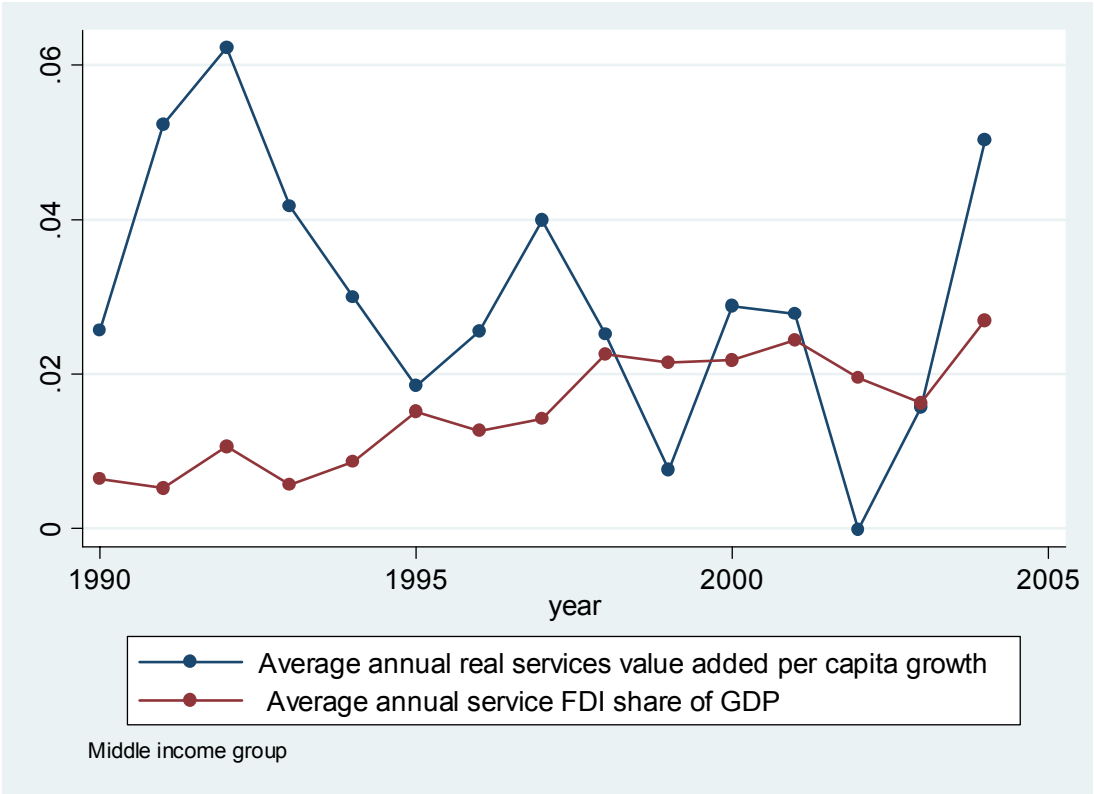
Average annual real services value added per capita growth
Average annual service FDI share of GDP
Low income group

Fig. 27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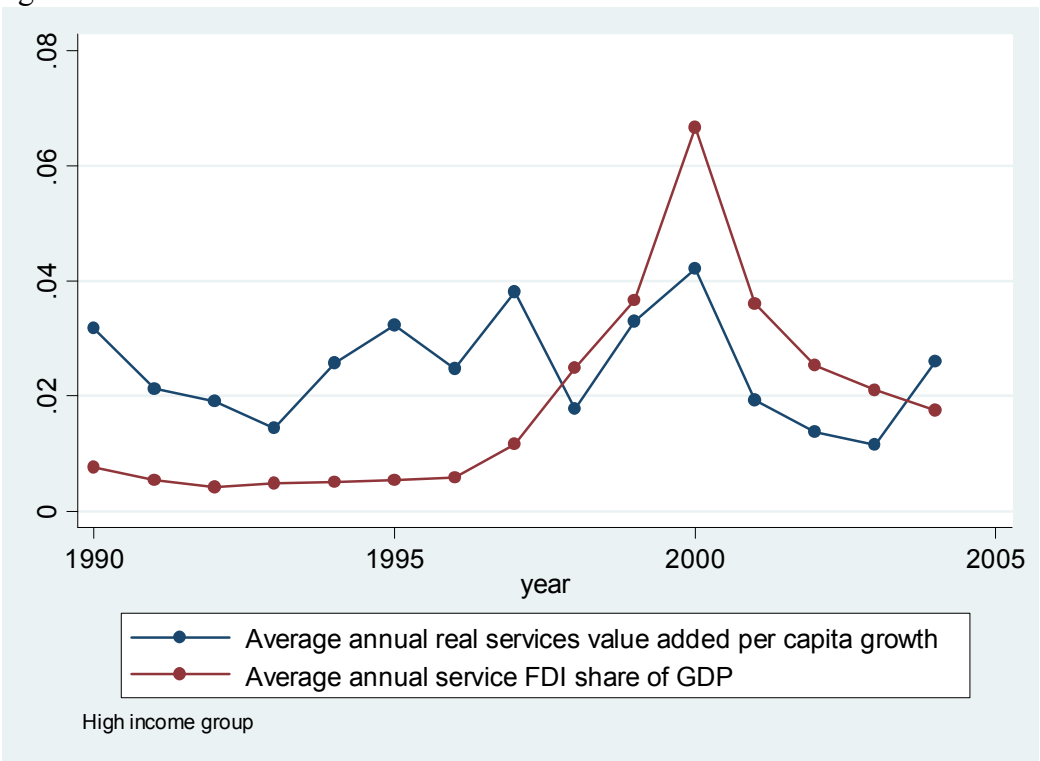
Average annual real services value added per capita growth
Average annual service FDI share of GDP
Middle income group

Fig. 28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year
Average annual real services value added per capita growth
Average annual service FDI share of GDP
High income group

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