The Worldwide Shift of FDI to Services- How does it Impact Asia? New Evidence from Seventeen Asian Economies.

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Abstract

We study productivity spillovers of industry-level FDI on both, the sector of manufacturing and the sector of services, in seventeen South and East Asian economies. Using a dynamic panel GMM methodology, we find significant productivity spillovers by several industry-level FDI: mining FDI and some specific services FDI flows, such as financial services, trade, as well as transport and communications FDI. Services FDI has a two-fold effect on the economy. While having a positive impact on services growth, some services FDI inflows have a negative effect on manufacturing growth. At the same time manufacturing FDI has an impact only on its own sector.

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1. Introduction

Emerging market and developing economies have been competing in attracting foreign direct investment (FDI) because of its perceived positive productivity spillovers on the receiving countries. Presently, for many developing countries FDI stands as the most important foreign source of financing. However, the traditional kind of FDI primarily absorbed by the manufacturing sector has been gradually substituted by services FDI with financial services FDI emerging as one of the most substantial international capital flows worldwide. This process of "deindustrialization" of FDI began in the 1970s, when services FDI represented about a quarter of total capital stock and rose to more than 60% in 2007 preceding the Global Financial Crisis. The region of East Asia and the Pacific has been on a path of steady recovery of FDI since the crisis with countries such as Vietnam, Thailand, Indonesia and Malaysia completely rebound (Doytch, 2015).

The hypothesis of existence of productivity spillovers of FDI is based on the assumption that FDI carries a superior technology[1] which is not widely available to domestic firms and which further spills to domestic firms through replication and backward engineering. The spillover, however, plays out in the form of two interactive effects: an *productivity effect* and a *competition effect*. Although the two effects are hard to disentangle[2], they are in the heart of the FDI spillovers literature. Firm-level studies analyze these effects through the examination of the so called multinationals enterprises' (MNE's) linkages.

The firm-level FDI studies distinguish two kinds of FDI linkages- horizontal and vertical. The nature of these linkages reflects both the driving forces behind the FDI and the effects that FDI generates. Vertical linkages are defined as production linkages with inputs bought from (backward linkages) or output sold to (forward linkages) local firms (UNCTAD, 2001). The vertical linkages are hypothesized to benefit local firms though intentional and unintentional upgrading of production, partner-firms technical training, advising, financing other intangible capital exchanges (Hansen & Schumburg-Muller, 2006; Hanson, Mataloni, & Slaughter, 2005; Braconier & Ekholm, 2000; Kubny and Voss, 2014). The establishment of such vertical linkages requires some special conditions (Giroud, Jindra & Malek, 2012). Since FDI is expected to have some complementarities

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[1] The word "technology" is used in broad terms to mean to knowledge of know-how.
[2]

with its vertically-related industries, FDI's vertical productivity effects are expected to be positive if the foreign firm can manage efficiently the offshoring of "fragments" of its production (Hanson, Mataloni, & Slaughter, 2005; Braconier & Ekholm, 2000). Vertical FDI is perceived to be efficiency-seeking and occur because of cost-saving during the process of fragmentation of production (Liu and Nunnenkamp, 2010; Kubny and Voss, 2014). Vertical FDI are also thought to be largely responsible for the *positive productivity spillovers* and technology transfer.

Horizontal FDI, on the other hand, occur for market-seeking reasons- the need to access certain foreign product or input markets. Horizontal FDI is the kind that fits better the classical Heckscher–Ohlin trade framework with the assumption that FDI occurs as a substitute for trade (Mundell, 1957). However, this is a framework that establishes some basis for analyzing FDI in the tradable sectors (primary and secondary), but perhaps does not fit very well an analysis of non-tradables (services).Within this framework, horizontal FDI is deemed responsible for the *completion effect*- foreign firms crowding out domestic markets and driving out domestic firms by competing in quantity and offering better wages to the high-skilled domestic workers (Aitken and Harrison, 1999). Therefore, horizontal FDI is expected to produce *negative spillovers* on domestic firms, that is, unless the foreign competition spurs up domestic innovation and the final effect on domestic firms turns positive[3].

However, both concepts- vertical and horizontal FDI, suffer from some shortcomings. First, as Lipsey, (2002) points out "vertical" and "horizontal" FDI are largely theoretical categories. In practice, it is difficult to categorize FDI in such way. Second, the firm-level data sets, capture production linkages and input-output relations along the value chains, but do not trace exchanges of labor, and more specifically high-skilled labor, which is likely to be the most common "vehicle" knowledge spillovers. Since workers can move in both, vertical and horizontal direction, the positive technological spillover need not happen necessarily along the vertical linkages of the value chain. The effects due to human capital mobility remain largely out of the scope of the firm level analysis. Third, any synergies due to secondary horizontal interactions between domestic firms that have already acquired foreign knowledge from MNEs, are

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[3] Kokko (1996)

also not captured. The above shortcomings call for an analysis at a higher level of aggregation in addition to the traditional firm-level studies of FDI. Studying the effects at a higher level of aggregation aliens with a point made very clear by Ramstetter and Ngoc (2013) that an impact of foreign ownership on productivity *levels* or *differentials* (own firm productivity or difference from domestic firms' productivity) is different than a an impact productivity *spillover* (other firm's productivity) and spillovers may exist in the absence of own productivity effect. The spillovers, therefore, would be captured at a higher level of aggregation- industry level.

Previously, sector-level research has shown that non-financial services FDI tends to have a negative productivity impact on the manufacturing sector (Doytch and Uctum, 2011). The question of which services industry causes this negative spillover remains open. This paper seeks to present new evidence about the growth implications of the shift of FDI to services in the context of South and East Asia and the Pacific. We contribute in several different ways. First, we use an unique data set on industry-level FDI, on fifteen South and East Asian and Pacific economies complied from ASEAN Secretariat, UNCTAD, OECD, as well individual countries central banks that spans 1999-2011. The economies included are: Australia, Bangladesh, Brunei, China, Hong Kong, India, Indonesia, Japan, Rep. of Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand, Vietnam. Second, we use an industry-level disaggregation for FDI that has not been explored in FDI studies before. We examine FDI absorbed by the industries of: finance; trade; business services; tourism; and transportation and communications services, in addition to aggregate services, manufacturing, and extractive industries FDI. Second, we analyze both, effects on the manufacturing and the services sectors, in addition to aggregate productivity effects. Third, we use a dynamic panel Generalized Method of Moments (GMM) estimator (Blundell and Bond, 1998) that allows us to correct for potential endogeneity in the data and explore both its cross-sectional and time-series variation.

In summary, we find an overall positive impact of FDI on growth. This positive impact can be attributed to mining FDI and some specific services FDI flows, such as financial services, trade, as well as transport and communications FDI. Services FDI has a two-fold effect on the economy. Whiling having a positive impact of services growth,

some services FDI inflows have a negative effect on manufacturing growth. At the same time manufacturing FDI has an impact only on its own sector.

The organization of the paper is as follows: section 1 gives a brief literature review; section 2 some stylized facts about FDI in South and East Asia and the Pacific region; section 3 describes the model, the data, and the empirical methodology; section 4- the empirical results and then we conclude.

1. Literature Review

1.1. Studies on FDI.

With capital flows intensifying and globalizing in the past several decades, the way international finance treats FDI has changed. If the early treatment was a mere subset of portfolio flows, FDI is currently a means of allocating funds to a highest rate of return use (Kindleberger, 1969). The microeconomic view of FDI, which is consistent the capital market theory, emphasizes the role of competitive advantage of foreign firms. For a foreign firm to compete successfully on domestic markets, where is has a number of disadvantages to local firms, it should posses one of several competitive advantages to survive: technological advantage supported by patents, brands etc., organizational expertise, marketing channels, economies of scale or an unique source of cheap financing (Hymer, 1976; Caves, 1971; Dunning, 1980). At the same time, such possession of technological advantage is why the firm should internalize the foreign production through incorporation of foreign subsidiaries rather than externalize it though trading with foreign firms (Buckley and Casson, 1976; Nayak and Chaudury, 2014). The institutional and other risk factors, on the other hand, determine the choice between FDI and outsourcing (Nayak and Chaudury, 2014).

Productivity spillovers from FDI may occur if, as a result of the greater competition, domestic firms learn to utilize better their resources (Wang and Blomstrom, 1992); if knowledge spills over to domestic firms via labor turnover (Fosfuri, Motta, & Ronde, 2001); or if there are demonstration effects, or new R&D innovation (Cheung & Lin, 2004). Imperfect competition on domestic markets, however, can lead to negative spillovers from FDI. If a transfer of superior technology lowers cost of production and represents a positive spillover, in another situation foreign firms may take over a large

share of the product market or the resource markets and lead to productivity decline for domestic firms declines (Aitken and Harrison, 1999). This is how FDI may bring negative spillovers. A systematic analysis of productivity spillovers from FDI is discussed by Suyanto and Bloch (2009).

There are numerous studies exploring empirically the existence of spillovers. At the firm level, studies have been largely inconclusive. Some case studies indicate positive horizontal spillovers of FDI (Haskel, Pereira and Slaughter, 2007; Keller and Yeaple 2009; Blalock and Gertler, 2003); some- positive vertical spillovers Javorcik (2004); and others find no or negative spillovers (Aitken and Harrison, 1999, Gorg and Strobl, 2001, Lipsey and Sjoholm, 2003, Lipsey, 2004). Recently, the firm-level FDI literature has become interested in the identification problem of FDI- does foreign ownership contribute to an increase in firm productivity or do foreign firms tend to select themselves into an *a priori* more productive domestic firms. Fons-Rosen et al. (2012) find that once they control for foreign firms self selection, increases in productivity associated by foreign ownership disappear, especially in developed economies. However, the tests conducted by Fons-Rosen et al. (2012) are done only for firms that enter the market via merger or acquisition, not as a Greenfield investment and the study is encopasses only European firms.

The trade literature also provides an opinion on the existence of productivity spillovers. They are viewed as horizontal and vertical transfer of knowledge via buyer– supplier relationships of MNCs (Egan and Mody, 1992; Hobday, 1995; Radosevic, 1999). With increasing international fragmentation of production, FDI induced spillovers grow in importance (Feenstra, 1998 and Hummels et al., 2001).

At the macroeconomic level, generally studies have found positive productivity spillovers of FDI (Bende-Nabende and Ford, 1998). FDI is viewed as an important source of financing (De Mello 1999; Eller et al. 2006). The positive spillovers found are conditioned on factors related to the so called "absorptive capacity" of the host economy- a minimum level of human capital, financial development and institutional infrastructure (Borensztein, De Gregorio, Lee, 1998, Balasubramanyam, et al. 1999; Blonigen and Wang, 2005; Blomstrom, Lipsey and Zejan, 1994, Alfaro, Kalemli-Ozcan and Volosovych, 2008). Recently, the macroeconomic analysis of FDI has aimed at industry-

level view of the flows. Doytch and Uctum (2011) who find evidence of positive spillovers of manufacturing FDI, uncover mixed results for services FDI. When digging deeper and disintegrating further, he authors find that financial services FDI has a predominantly positive effect on growth. However, non-financial services FDI causes a negative spillover on the manufacturing sector. The exact industry responsible for the negative effect has remained undetermined and the causes of this negative effect- not fully clarified. The current study aims at casting more light on this question.

1.2. Studies on FDI in Asia

As previously mentioned, Ramstetter and Ngoc (2013) systematize two separate groups of productivity studies- on productivity levels (or differentials) and on productivity spillovers. Overall, the studies seeking for productivity level effects of FDI have failed to establish strong results in the context of various East Asian economies. The studies, seeking spillover effects, however, have mostly found positive spillovers.

A group of studies done on China find support of the hypothesis of technology transfer from foreign invested to local firms (Cheung & Lin, 2003; Hu & Jefferson, 2002; Liu, 2002; Tseng & Zebregs, 2002; Zebregs, 2003; Chen, Chang & Zhang, 1995). In addition, some authors find that the spillover effect depends on the industry of FDI (Buckley et al., 2006). Jeon et al. (2013) find a negative horizontal (i.e. ame industry) impact of FDI, which are particularly prominent in low technology sectors, and a positive vertical effect of FDI in both, low and high, tech sectors. With respect to state-owned enterprises, Girma et al. (2008) find that FDI is associated with more innovations, if the absorbing firms export or invest in human capital. Chinese FDI has also been found to have a crowding out effect on rest-of Asia FDI (Salike, 2010).

In the case of Indonesia, Takii (2002) fail to find foreign ownership effect on productivity differentials, however, in a 2006 study (Takii, 2006), he finds positive spillovers on productivity of related firms. Several studies on Thai manufacturing firms confirm this observation. Ramstetter (2004) suggests that the strong link of FDI is not with productivity, but with wages. In a study on Thai manufacturing plants, he finds a strong connection with productivity only for wholly-owned MNEs and a strong association with wages for all MNEs. However, both Kohpaiboon, 2006 and

Ramstetter, 2006 find positive spillover effects of FDI. Kohpaiboon (2006) concludes that the spillovers are higher in industries where import protection is weak.

In Malaysia, Khalifah and Adam (2009) emphasize in a study on Malaysian manufacturing firms that the presence of a spillover effect depends on the share of foreign ownership in the MNE (majority foreign-owned vs. minority foreign-owned MNEs) and the level of industry disaggregation. Their study also clearly divides the productivity question in two: are there productivity differentials between the foreign-owned and domestic firms, and are there productivity spillovers to the domestic firms. The spillover question is framed as whether domestic firms are more productive when there is a greater presence of MNEs in an industry. The study finds positive spillovers form the, measure as increased value added and capital accumulation by the domestic firms.

More evidence of productivity spillovers is reported Indian manufacturing industries (Fujimori and Sato, 2015). The authors test for an effect of FDI on total factor productivity (TFP) rather than labor productivity. They find a positive effect of the FDI stock especially through the backward linkage channel.

The results from the studies conducted at the firm-level, and more specifically the lack of evidence for productivity differential effects of the foreign-owned and domestic firms and the presence productivity spillovers to other firms, suggest that industry level of aggregation matters for the examination of spillovers.

2. Stylized Facts and literature review

FDI flows by industry, Totals for South and East Asia and the Pacific
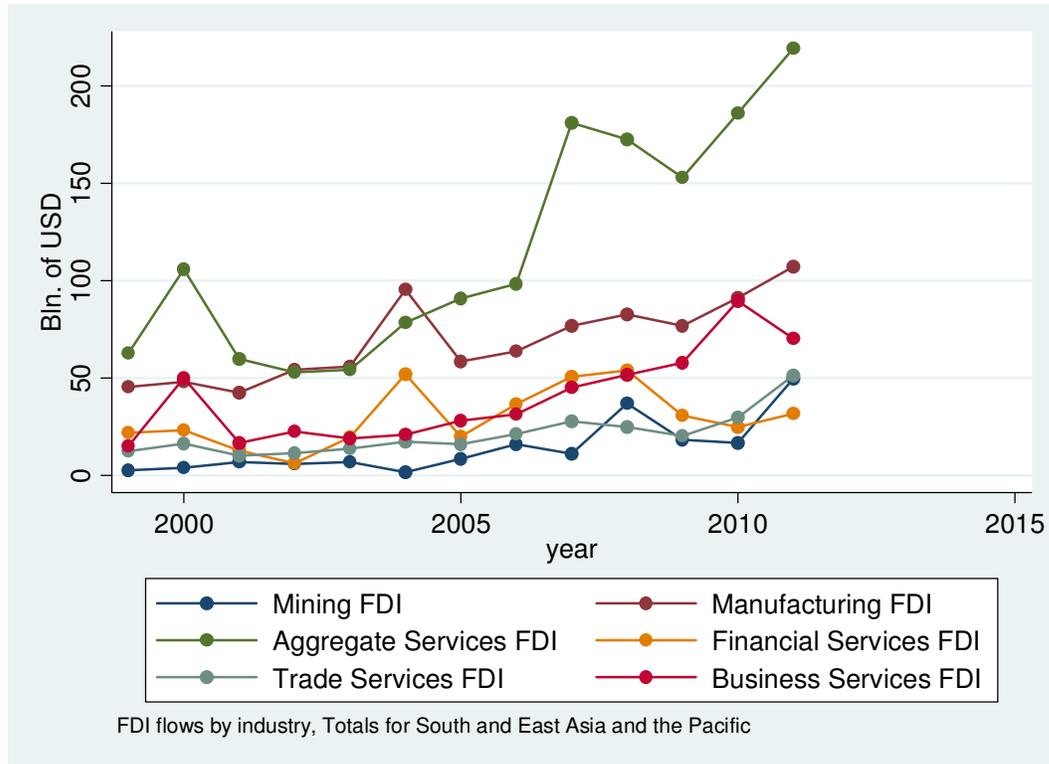
3. Model, Methodology and Data

The conceptual model for this study is based on classical growth theory and tests the hypothesis of conditional convergence[4]:

$$\log y_{i_t} = (1 + \beta)\log(y_{i,t-1}) + \Gamma W_{it} \tag{1}$$

Subscripts *i* and *t* describe the cross-sectional and time dimensions of the panel data, respectively; y_{it} - output the per capita of country i; W_i is a vector containing the log of the traditional growth determinants (technological progress, human capital, physical capital and natural resources) and more recently developed determinants, such as FDI and institutional factors. $(1 + \beta)$ is that the parameter estimate that captures convergence. Literature suggests that it should be negative, reflecting that fact that countries that are further away from their steady-state level of output should grow faster than those closer t to their steady-state levels.

The conceptual growth model translates into the following empirical model:

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[4] See Islam (1995), Caselli, Esquivel and Lefort (1996), Durlauf and Quah (1998), Durlauf, Johnson and Temple (2004).

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$$\log y_{it}^k = \beta_0 + (1 + \beta_1)\log(y_{i,t-1}^k) + \beta_2 x_{it} + \beta_3 f_{it}^j + \beta_4 \eta^t + \mu_i + \varepsilon_{it} \ , \tag{2}$$

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

where $i = 1,...,17$ and $t = 1,...,12$, the superscript k stands for a *GDP index* (k= GDP, manufacturing value added, and services value added), the superscript j is an *FDI index* (j= manufacturing FDI, service FDI, financial FDI, and nonfinancial service FDI). Accordingly, y_{it}^k is real per capita output in sector k, in constant year 2005 prices, $y_{i,t-1}^k$ is the lagged level of per capita output, f_{it}^j is the GDP share of FDI net inflows into the jth industry. The industries are as follows: (1)- the aggregate economy; (2)- extractive industry (mining); (3)- manufacturing; (4)- aggregate services; (5)- financial services; (6)- construction; (7)- wholesale and retail trade (trade); (8)- hotels and restaurants (tourism); (9)- business services; (10) transport, storage and communications (transport).

The row vector x_{it} consists of the most commonly used control variables in the growth literature, such as domestic investment share of GDP, schooling (gross secondary school enrolment ratio) as a proxy for human capital, natural resources rents share of GDP (as a proxy for natural resource endowments); the Government Stability ICRG Index and the Anti-Corruption ICRG Index, used interchangeably as proxies for institutional quality. The variables μ_i and η_t are, respectively, a country-specific and a time-specific effect. The combinations between output k indexes and the FDI j indexes with a change of the institutional control variable translate into 60 different regression models.

The method of the dynamic panel GMM estimator, known as *Blundell-Bond system GMM* (Blundell and Bond, 1998; Arrelano and Bover, 1995) is designed to capture the joint endogeneity of some of the explanatory variables through the creation of a matrix of instruments based on lagged level observations and lagged differenced observations. The estimator also has a matrix of instruments to deal with endogeneity of lagged dependent variable and the induced MA(1) error term. This methodology has been successfully applied in economic growth context in a number of studies (Caselli et al., 1996; Easterly et al., 1997; Levine et al., 2000; Doytch and Uctum, 2011).

The necessary conditions for the system GMM are: a) that the error term does not have second order serial correlation and b) even if the unobserved country-specific effect is correlated with the regressors' levels, it is not correlated with their differences:

a. *The standard GMM conditions* of no second order autocorrelation in the error term

$$E[y^k_{i,t-s} (\varepsilon_{it} - \varepsilon_{i,t-1})] = 0 \text{ for s} \geq 2 \text{ and t=3,....T}$$

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

$$E[f^j_{i,t-s}(\varepsilon_{it} - \varepsilon_{i,t-1})] = 0 \text{ for s} \geq 2 \text{ and t=3,....T;} \tag{3}$$

b. *Additional conditions* of no correlation of the unobserved country-specific effect with their differences:

$$E[(y^k_{i,t-1} - y^k_{i,t-2})(\mu_i + \varepsilon_{it})] = 0$$

$$E[(x_{i,t-1} - x_{i,t-2})(\mu_i + \varepsilon_{it})] = 0$$

$$E[(f^j_{i,t-1} - f^j_{i,t-2})(\mu_i + \varepsilon_{it})] = 0 \tag{4}$$

The regressions in this study are run with a minimum number of lags in the instrumental matrix to preserve degrees of freedom.

The dependent variables - *real per capita GDP, manufacturing value added, and services value added* are compiled from *World Development Indicators* (WDI). 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[5].

Gross domestic investment share of GDP is *gross fixed capital formation* share of GDP, complied from *World Development Indicators* (WDI) that consists of plant, machinery, and equipment purchases, construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings, land improvements (e.g., fences, ditches).

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[5] Services also include the imputed bank service charges, import duties, as well as any statistical discrepancies.

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.

Natural resources Rents share of GDP are also complied from WDI. The indicator includes rents generated by coal, forest, mineral, natural gas, and oil resources Estimates based on sources and methods described in "The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium" (World Bank, 2011). We hypothesize natural resources endowments are factor of economic growth that can have both a positive and a negative impact on the economy. Potential negative impact may be realized in the case of a "natural resource curse" situation.

Government stability and *Anti-corruption* that are ued interchangiby in the models are compiled by the *International Country Risk Guide. Government stability* is defined to have three components consisting of government unity, legislative strength and popular support. The index, which ranges 0-12 assesses how well the government can carry out its declared programs and can stay in the office. *Anti-corruption,* on the other hand, refers to atual or potential corruption in the form of excessive patronage, nepotism, job reservations, 'favor-for-favors', secret party funding, and suspiciously close ties between politics and business. These sorts of corruption are potentially of great risk to foreign business in that they can lead to popular discontent, unrealistic and inefficient controls on the state economy, and encourage the development of the black market.

All *FDI* series are net inflows, accounting for the purchases and sales of domestic assets by foreigners in the corresponding year. They are taken in proportion to GDP. The sources for this variable are individual central banks web sites, United National Conference on Trade and Development (UNCTAD) Statistics, ASEAN Statistics, and OECD statistics.

FDI is defined by OECD Stat. as an investment that "reflects the objective of obtaining a lasting interest by a resident entity in one economy (''direct investor") in an entity resident in an economy other than that of the investor (''direct investment enterprise")" (OECD, *International direct investment database,* Metadata). Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both

incorporated and unincorporated (OECD, *International direct investment database,* Metadata). A direct investment enterprise is define as an incorporated or unincorporated enterprise in which a foreign investor owns 10 per cent or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. A direct investment enterprise may be an incorporated enterprise - a subsidiary or associate company - or an unincorporated enterprise (branch) (OECD, *International direct investment database,* Metadata).

4. Empirical results

The empirical results are presented in six tables (Table 1-6). Tables 1-3 present the results respectively of regressions of GDP per capita growth, manufacturing value added per capita growth and services value added per capita growth with an institutional control variable- government stability index from ICRG. Tables 4-6 present the results of the same tee regressions controlling for anti-corruption. Each table consists of ten columns presenting results of models with a different sectoral FDI inflow starting with total FDI, and continuing with mining, manufacturing, aggregate services, financial services, construction, trade, tourism, business services, and transport and communications FDI. The rows of each table display model coefficients estimates of the explanatory variables.

Productivity spillovers from FDI to domestic firms are attributed to transfer of superior technologies from foreign to domestic subsidiaries'. They can, however, be either positive or negative (Aitken and Harrison, 1999). Negative spillovers can occur, if FDI in one industry depletes resources, such as skilled labor from another (Doytch and Uctum, 2011). In this study, we find both positive and negative spillovers from FDI.

One of the robust results is the significance of domestic investment as a determinant of growth, both at aggregate and sector level (Tables 1-6). This result is expected and predicted by classical growth theory. Some of the more curious result relate to the natural resource endowment, the schooling, and the institutional control indicators.

When aggregate growth is considered (Table 1 and 4), the natural resource endowments proxied by natural resources rents, appear to have either neutral or non-robust to the type of FDI flow negative impact on growth (Table 1, columns 1 and 9; and

Table 4, columns 1 and 8)[6]. When manicuring and services growth are considered separately, natural resource endowments appear to be associated with a positive effect on services growth rather than on manufacturing growth (Tables 2-3 and 5-6). The services regressions controlling for mining FDI (Tables 3 and 6, column 2), total services (Tables 3 and 6, column 4), financial services (Table 6, column 5) and business services FDI (Table 6, column 9) produce significant positive effects. At the same time natural resources endowments show a negative impact on manufacturing growth in models with business services FDI (Tables 2 and 5, column 9).

The inconclusive result about the contribution of natural resources to growth is consistent with the conflicting hypotheses known from growth theory- on one hand natural resources are a kind of capital and as such they are expected to contribute to growth; on the other- natural resources can stall growth through a resource curse mechanism that leads to over-appreciation of domestic currency and under exporting and under investing in human capital growth. Thus, the impact of natural endowments can either way.

Similarly to the natural resources result, the schooling variable also displays more positive results in services growth rather than manufacturing growth regressions. The gross secondary school enrollment ratio is significant in regressions controlling for total services FDI (Tables 3 and 6, column 4). It is also positive and significant in aggregate growth regressions with total services FDI (Tables 1 and 4, column 4). At the same time it is negative and significant in manufacturing growth regressions that control for mining FDI (Tables 2 and 5, column 2) or services FDI (Tables 2 and 5, columns Table 5, columns 7-10). Thus, educated labor is more important for services growth than for manufacturing growth. The fact that in some of the manufacturing regressions schooling has a negative impact may be because it is more important for manufacturing for the labor to be cheap than to be highly educated.

Another unexpected result is the lack of robust effect by the two institutional variables explored- government stability and anti-corruption. Both produce mostly neutral, but when significant- mixed results (Tables 1-6).

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[6]These are the models controlling respectively for aggregate FDI and either business services or tourism FDI.

Finally, the key explanatory variables of interest - the flows of FDI by industries produce differential effects on the two explored sectors- manufacturing and services. The models of aggregate GDP growth, with both government stability and anti-corruption as controls for institutional quality, are consistent and show positive significant effects of total FDI, mining FDI, total service FDI, financial service, trade, as well as transport and communications FDI (Tables 1 and 4, columns 1, 2 4, 5, 7, and 10). When explored by sectors, the positive effects of the described services FDI can be traced exclusively to services growth (Tables 3 and 6, columns 4, 5, 7, and 10). The models with the two different institutional controls yield consistent results for FDI.

To the contrary, FDI in extractive industry tends to slow down growth of the services sector (Tables 3 and 6, column 2). Thus, the positive impact of mining FDI on overall GDP growth cannot be traced to the services sector. There is no evidence in our results that it is due to the manufacturing sector either (Tables 2 and 5, column 2). Therefore, we suspect that it could be due to an impact on the primary sector.

Finally, the FDI flow that impacts positively the manufacturing sector is manufacturing FDI (Tables 2 and 5, column 3). However, manufacturing growth is impacted negatively by aggregate services FDI (Tables 2 and 5, column 4), and more specifically business services FDI (Tables 2 and 5, column 9). This result is consistent with previous studies on non-financial FDI (Doytch and Uctum, 2011) and casts more light on which specific services flows acts as a de-industrialization factor in the Asian economies. The hypothesis of this negative impact of business services FDI is that it drains resources from manufacturing sector and therefore hurts manufacturing sector growth.

6. Conclusion

This paper seeks to present new evidence about the growth implications industry-level FDI with an emphasis on FDI in the services sector. It establishes productivity spillovers form industry-level FDI in the region of South and East Asia and the Pacific, using a GMM estimator.

In summary, we can say that this study that is based a total of sixty models, allows us to differentiate between the effects of FDI at the industry level. We find a rich set of

results pointing out to an overall positive impact of FDI on growth for the group of South and East Asian economies examined. The positive impact of total FDI can be mining FDI and some specific services FDI flows- financial services, trade, as well as transport and communications FDI. All of the described three flows work out their impact on the aggregate economy via positive impact of the sector of services. Mining FDI, on the other hand has a positive effect on the economy, although within the services sector its effect is a negative one.

Services FDI, however, has a "double-edged" effect on the economy. Although it tends to benefit its own sector, it depletes resources from manufacturing and hurts manufacturing growth. This is specifically true for business services FDI. However, in spite of being hurt by business services FDI, the manufacturing sector of South and East Asian economies gets a boost from its own sector FDI. Although the effect of manufacturing FDI is not visible at the aggregate growth level, it is significant enough to spur growth in manufacturing.

References

Aitken, B. J., & Harrison, A. E. (1999). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American economic review*, 605-618.

Alfaro, L., Kalemli-Ozcan, S., & Volosovych, V. (2008). Why doesn't capital flow from rich to poor countries? An empirical investigation. *The Review of Economics and Statistics*, *90*(2), 347-368.

Balasubramanyam, V. N., Salisu, M., & Sapsford, D. (1999). Foreign direct investment as an engine of growth. *Journal of International Trade & Economic Development*, *8*(1), 27-40.

Bende-Nabende, A. V. R. O. M., & Ford, J. L. (1998). FDI, policy adjustment and endogenous growth: Multiplier effects from a small dynamic model for Taiwan, 1959–1995. *World development*, *26*(7), 1315-1330.

Blalock, G., & Gertler, P. J. (2008). Welfare gains from foreign direct investment through technology transfer to local suppliers. *Journal of International Economics*, *74*(2), 402-421.

Blomstrom, M., Lipsey, R. E., & Zejan, M. (1994). *What explains developing country growth?* (No. w4132). National Bureau of Economic Research.

Blonigen, B and Wang, M. 2005. *Inappropriate pooling of wealthy and poor countries in empirical FDI studies* in *Does Foreign Direct Investment Promote Development*? (Eds) T. Moran, E. Graham and M. Blomstrom, Institute for International Economics Publication, Washington, DC, pp. 221–44

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of econometrics*, *87*(1), 115-143.

Buckley, P. J., & Casson, M. (1976). *The future of the multinational enterprise* (Vol. 1). London: Macmillan.

Caves, R. E. (1971). International corporations: The industrial economics of foreign investment. *Economica*, 1-27.

Cheung, K. Y., & Lin, P. (2004). Spillover effects of FDI on innovation in China: Evidence from the provincial data. *China economic review*, *15*(1), 25-44.

De Mello, L. R. (1999). Foreign direct investment-led growth: evidence from time series and panel data. *Oxford economic papers*, *51*(1), 133-151.

Doytch, N. (2015). Sectoral FDI Cycles in South and East Asia, *Journal of Asian Economics*, 36 (1), 24-33.

Doytch, N., & Uctum, M. (2011). Does the worldwide shift of FDI from manufacturing to services accelerate economic growth? A GMM estimation study. *Journal of International Money and Finance*, *30*(3), 410-427.

Dunning, J. H. (1980). Towards an eclectic theory of international production: some empirical tests. *Journal of international business studies*, *11*(1), 9-31.

Egan, M. L., & Mody, A. (1992). Buyer-seller links in export development. *World Development*, *20*(3), 321-334.

Eller, M., Haiss, P., & Steiner, K. (2006). Foreign direct investment in the financial sector and economic growth in Central and Eastern Europe: The crucial role of the efficiency channel. *emerging Markets review*, *7*(4), 300-319.

Feenstra, R. C. (1998). Integration of trade and disintegration of production in the global economy. *The journal of economic perspectives*, 31-50.

Fons-Rosen, C., Kalemli-Ozcan, S., Sørensen, B. E., Villegas-Sanchez, C., & Volosovych, V. (2012). Where are the Productivity Gains from Foreign Investment?.

Fosfuri, A., Motta, M., & Rønde, T. (2001). Foreign direct investment and spillovers through workers' mobility. *Journal of International Economics*, *53*(1), 205-222.

Gorg, H., & Strobl, E. (2001). Multinational companies and productivity spillovers: A meta-analysis. *The economic journal*, *111*(475), 723-739.

Haskel, J. E., Pereira, S. C., & Slaughter, M. J. (2007). Does inward foreign direct investment boost the productivity of domestic firms?. *The Review of Economics and Statistics*, *89*(3), 482-496.

Hobday, M. (1995). East Asian latecomer firms: learning the technology of electronics. *World development*, *23*(7), 1171-1193.

Hsiao, F. S., & Hsiao, M. C. W. (2006). FDI, exports, and GDP in East and Southeast Asia—Panel data versus time-series causality analyses. *Journal of Asian Economics*, *17*(6), 1082-1106.

Hummels, D., Ishii, J., & Yi, K. M. (2001). The nature and growth of vertical specialization in world trade. *Journal of international Economics*, *54*(1), 75-96.

Hymer, S. (1976). *The international operations of national firms: A study of direct foreign investment* (Vol. 14, pp. 139-155). Cambridge, MA: MIT press.

Javorcik (2004)

Keller and Yeaple (2009)

Kindleberger, C. P. (1969). American business abroad. *The International Executive*, *11*(2), 11-12.

Lipsey, R. E. (2004). Home-and host-country effects of foreign direct investment. In *Challenges to globalization: Analyzing the economics* (pp. 333-382). University of Chicago Press.

Lipsey, R. E., & Sjoholm, F. (2003). *Foreign firms and Indonesian manufacturing wages: An analysis with panel data* (No. w9417). National Bureau of Economic Research.

Nayak, D., & Choudhury, R. N. (2014). A selective review of foreign direct investment theories.

Petri, P. A. (2012). The determinants of bilateral FDI: Is Asia different?. *Journal of Asian Economics*, *23*(3), 201-209.

Radosevic, S. (2002). Regional innovation systems in Central and Eastern Europe: determinants, organizers and alignments. *The Journal of Technology Transfer*, *27*(1), 87-96.

Suyanto, S. R. and Bloch, H.(2009),"Does Foreign Direct Investment Lead to Productivity Spillovers? Firm Level Evidence from Indonesia.". *World Development*, *37*(12), 1861-1876.

Wang, J. Y., & Blomström, M. (1992). Foreign investment and technology transfer: A simple model. *European economic review*, *36*(1), 137-155.

Appendix1: Figures

Fig. 1, 2 & 3:Total FDI by Income groups.

Total FDI, High Income Economies

Total FDI share of GDP, Middle Income Economies

Total FDI share of GDP, Low Income Economies
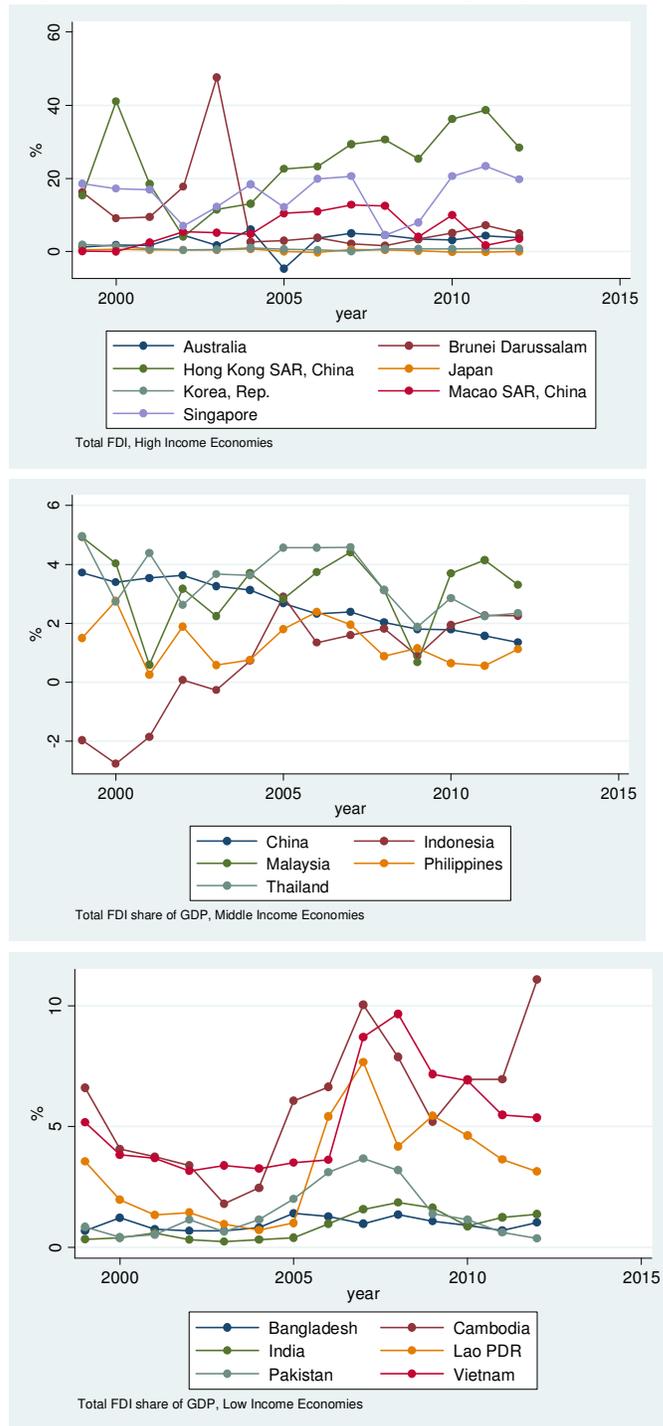
Fig. 4, 5 & 6:Manufacturing FDI by Income groups.

Manufacturing FDI, High Income Economies

Manufacturing FDI share of GDP, Middle Income Economies

Manufacturing FDI share of GDP, Low Income Economies
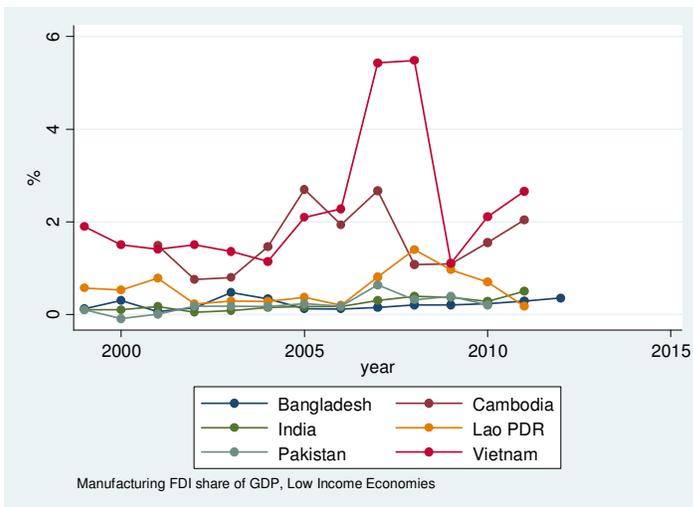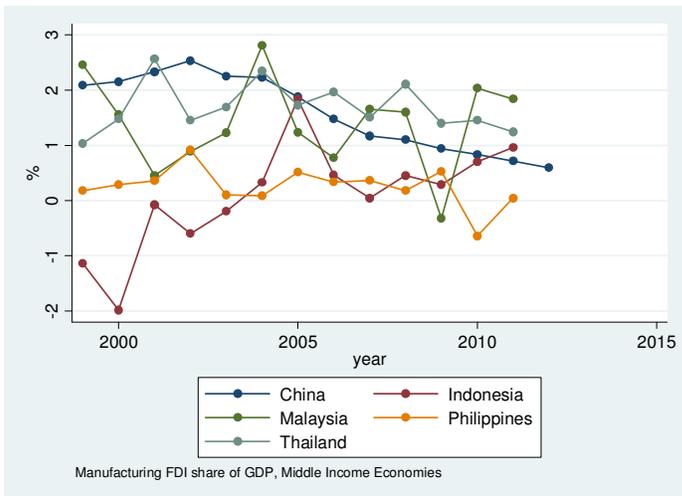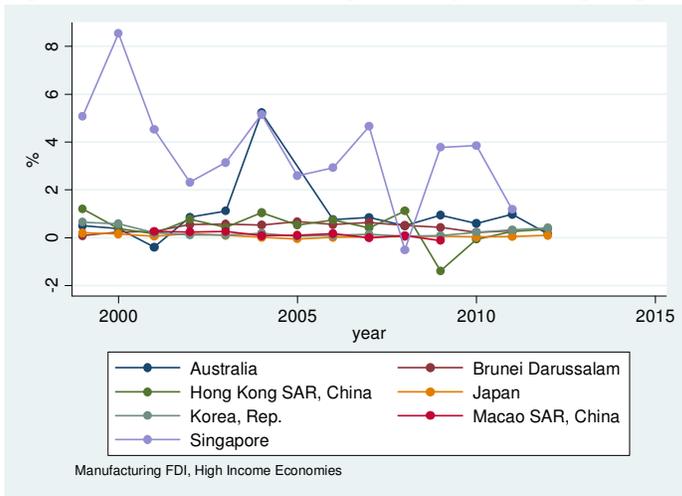
Fig. 7,8 & 9: Business Services FDI by Income groups

Business Services FDI, High Income Economies

Business FDI, Middle Income Economies

Business Services FDI, Low Income Economies
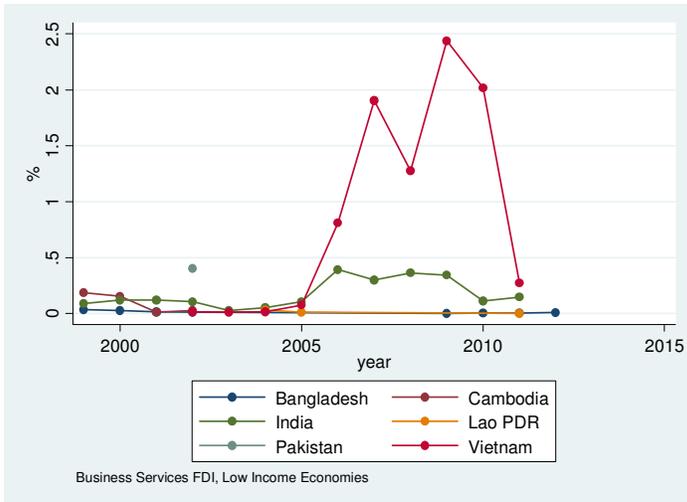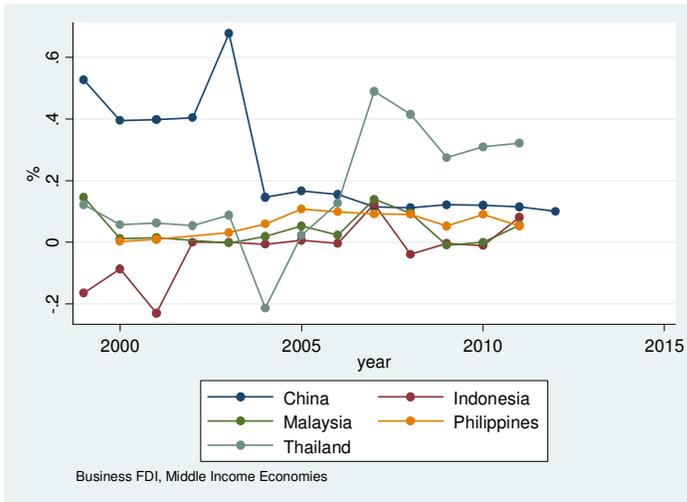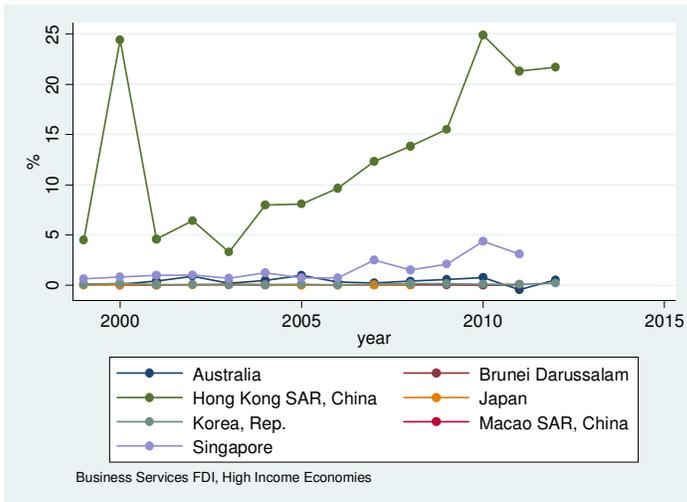
Fig. 10,11 & 12: Trade Services FDI by Income groups

Trade Service FDI, High Income Economies

Trade Services FDI, Middle Income Economies

Trade Services FDI, Low Income Economies
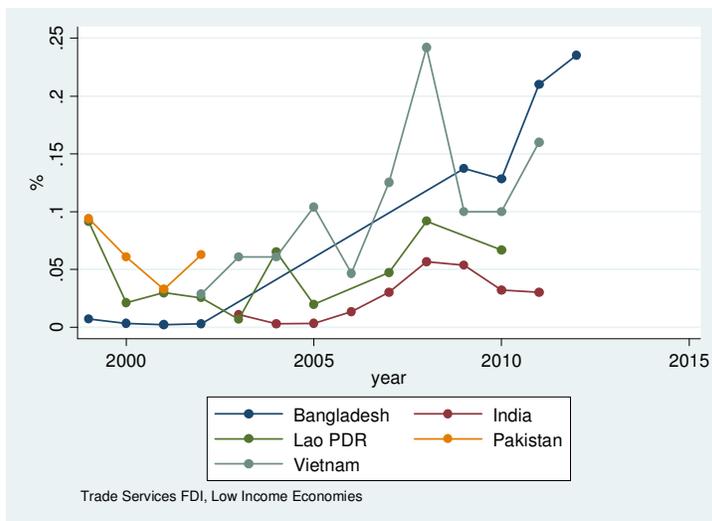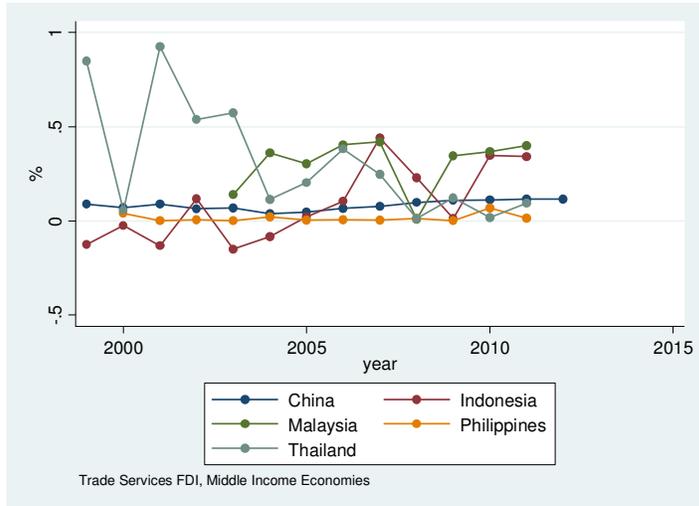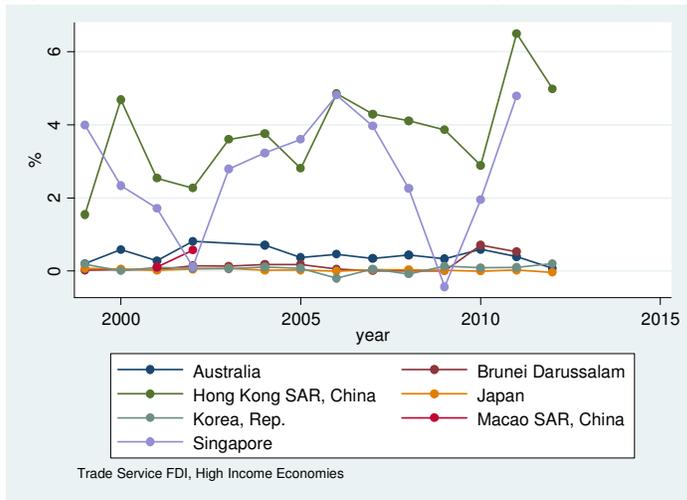
Fig. 13, 14 &15: Financial Services FDI by Income Groups

Financial Services FDI, High Income Economies

Financial Services FDI, Middle Income Economies

Financial Services FDI, Low Income Economies
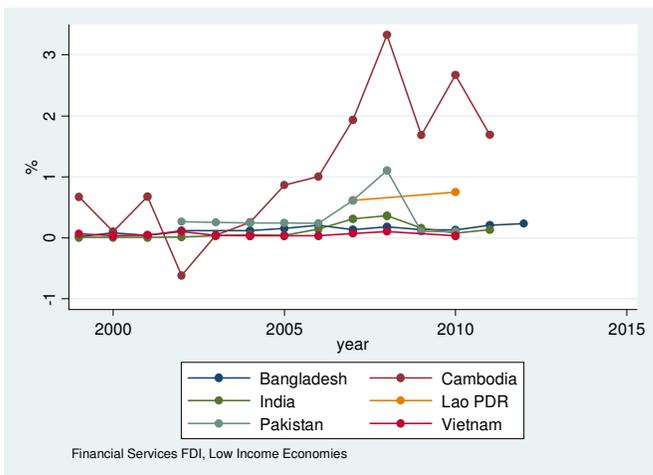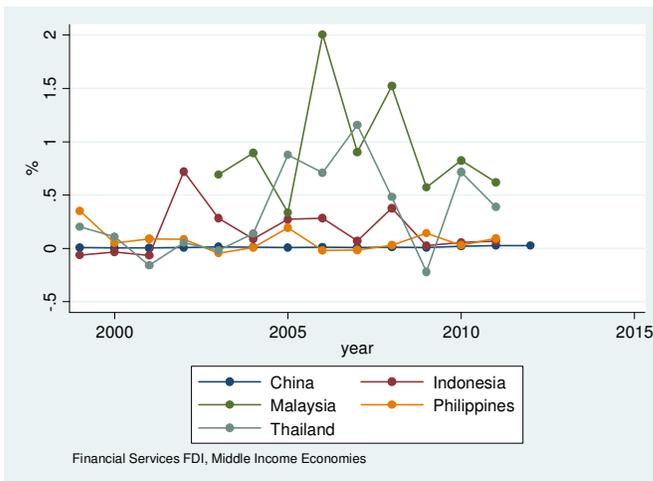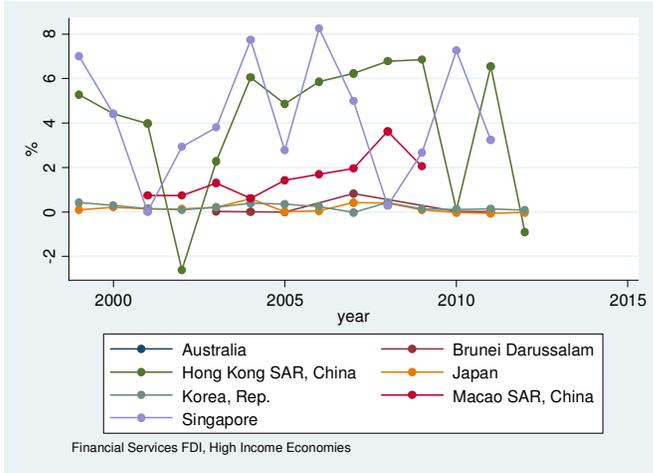
Table: Sectoral FDI Data Availability

countries	Data Coverage
Australia	1985-2011
Bangladesh	1995-2011
Brunei	1999-2011
China	1997-2008
Hong Kong	1998-2008
India	1995-2010
Indonesia	1995-2011
Japan	1980-2011
Korea, Rep.	1980-2011
Malaysia	1999-2011
Pakistan	1985-2009
Philippines	1995-2011
Singapore	1999-2011
Thailand	1980-2011
Vietnam	1999-2011

Table 1

Independent Variables	(1) Total FDI	(2) Extractive Industries FDI	(3) Manufacturing FDI	(4) Total Services FDI	(5) Financial Services FDI	(6) Construction FDI	(7) Trade FDI	(8) Tourism FDI	(9) Business Services FDI	(10) Transport & Communications FDI
Lag.ln(GDP per capita, 2005USD)	0.999***	1.001***	0.992***	0.992***	0.993***	0.990***	0.986***	0.986***	1.002***	0.999***
	(0.00652)	(0.00464)	(0.00454)	(0.00456)	(0.00414)	(0.00565)	(0.00729)	(0.00509)	(0.00561)	(0.00320)
Gross Fixed Inv/ GDP	0.00255***	0.00278***	0.00230***	0.00233***	0.00267***	0.00214***	0.00243***	0.00146	0.00264***	0.00292***
	(0.000536)	(0.000401)	(0.000391)	(0.000291)	(0.000362)	(0.000431)	(0.000378)	(0.00108)	(0.000433)	(0.000325)
Natural Resources Rents/GDP	-0.000325**	-0.000453	-0.000111	-0.000180	-0.000277	-0.000333	-0.000121	-0.00306	-0.000273	-0.000646
	(0.000141)	(0.000366)	(0.000159)	(0.000196)	(0.000211)	(0.000258)	(0.000310)	(0.00268)	(0.000239)	(0.00139)
Gross Tertiary Enrollment Rate	-9.76e-05	-0.000285	0.000127	0.000136	-3.99e-06	0.000269	0.000394	0.000252**	-0.000343	-0.000236**
	(0.000282)	(0.000219)	(0.000212)	(0.000264)	(0.000262)	(0.000230)	(0.000325)	(0.000119)	(0.000307)	(0.000107)
Ln(Government Stability)	0.00161	0.00549	0.00707	0.00658	0.0180***	0.0161	0.0161	-0.0698**	0.0191*	0.00695
	(0.0156)	(0.0179)	(0.0113)	(0.00721)	(0.00407)	(0.0203)	(0.0150)	(0.0328)	(0.0100)	(0.00665)
FDI/GDP	**0.104***	0.135	0.150	**0.0940***	**0.521***	0.608	**0.729***	0.158	0.0185	**0.872***
	(0.0391)	(0.210)	(0.162)	**(0.0561)**	**(0.198)**	(1.558)	**(0.380)**	(1.980)	(0.0971)	**(0.305)**
Observations	449	249	298	263	240	249	261	86	226	177
Number of countries	18	15	16	15	14	16	16	7	15	9
AR (2)	0.003	0.323	0.065	0.119	0.301	0.063	0.026	0.690	0.266	0.702
Sargan test	0.013	0.087	0.000	0.360	0.258	0.030	0.000	1.000	0.000	0.248

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2:

Independent Variables	(1) Total FDI	(2) Extractive Industries FDI	(3) Manufacturing FDI	(4) Total Services FDI	(5) Financial Services FDI	(6) Construction FDI	(7) Trade FDI	(8) Tourism FDI	(9) Business Services FDI	(10) Transport & Communications FDI
Lag.ln(Manuf. value added per capita, 2005USD)	0.982***	0.998***	0.996***	0.994***	0.997***	0.987***	1.010***	1.007***	1.009***	1.010***
	(0.00687)	(0.00550)	(0.00629)	(0.00775)	(0.00713)	(0.00615)	(0.0118)	(0.00366)	(0.00653)	(0.00882)
Gross Fixed Inv/ GDP	0.00362***	0.00426***	0.00404***	0.00345***	0.00458***	0.00439***	0.00378***	0.00172**	0.00319***	0.00487***
	(0.000662)	(0.000582)	(0.000777)	(0.000676)	(0.000689)	(0.000778)	(0.000770)	(0.000732)	(0.000829)	(0.00125)
Natural Resources Rents/GDP	0.000401	-9.15e-05	0.000398	-0.000121	0.000185	0.000348	-0.000209	0.00164	-0.000153	0.00522*
	(0.000263)	(0.000397)	(0.000326)	(0.000267)	(0.000465)	(0.000531)	(0.000335)	(0.00120)	(0.000240)	(0.00293)
Gross Tertiary Enrollment Rate	0.000535	-0.000433**	-0.000239	-7.69e-05	-0.000318	0.000112	-0.000892*	-0.000584**	-0.000841***	-0.000912***
	(0.000432)	(0.000169)	(0.000261)	(0.000378)	(0.000483)	(0.000208)	(0.000505)	(0.000238)	(0.000275)	(0.000324)
Ln(Government Stability)	0.0299*	0.00128	-0.0343*	-0.00989	0.00270	-0.0145	0.00218	-0.199***	0.0161	-0.0237*
	(0.0177)	(0.0185)	(0.0177)	(0.0196)	(0.0115)	(0.0405)	(0.0236)	(0.0262)	(0.0172)	(0.0137)
FDI/GDP	0.0413	-0.0864	0.174	**-0.190***	0.128	-3.386	-0.804	-0.123	**-0.463***	0.890
	(0.150)	(0.212)	(0.275)	**(0.106)**	(0.814)	(2.488)	(0.688)	(3.703)	**(0.0842)**	(0.861)
Observations	380	233	268	233	212	220	232	72	205	148
Number of countries	16	14	15	14	13	15	15	6	14	8
AR (2)	0.058	0.223	0.230	0.654	0.635	0.639	0.282	0.484	0.864	0.816
Sargan test	0.045	0.640	0.066	0.035	0.000	0.115	0.013	0.844	0.231	0.241

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3:

Independent Variables	(1) Total FDI	(2) Extractive Industries FDI	(3) Manufacturing FDI	(4) Total Services FDI	(5) Financial Services FDI	(6) Construction FDI	(7) Trade FDI	(8) Tourism FDI	(9) Business Services FDI	(10) Transport & Communications FDI
Lag.ln(Services. value added per capita, 2005USD)	0.993***	0.997***	0.992***	0.991***	0.994***	0.994***	0.988***	0.993***	1.000***	1.000***
	(0.00308)	(0.00490)	(0.00424)	(0.00486)	(0.00307)	(0.00465)	(0.00600)	(0.00711)	(0.00483)	(0.00440)
Gross Fixed Inv/ GDP	0.00211***	0.00249***	0.00211***	0.00209***	0.00239***	0.00193***	0.00204***	0.000833	0.00253***	0.00293***
	(0.000334)	(0.000357)	(0.000360)	(0.000324)	(0.000320)	(0.000533)	(0.000315)	(0.00122)	(0.000374)	(0.000282)
Natural Resources Rents/GDP	-0.000166	0.000104	0.000145	7.91e-05	4.20e-05	-2.45e-05	6.03e-06	0.000410	0.000193	-0.000136
	(0.000117)	(0.000163)	(0.000119)	(0.000164)	(0.000188)	(0.000220)	(0.000202)	(0.00365)	(0.000182)	(0.00165)
Gross Tertiary Enrollment Rate	6.64e-05	-9.16e-05	0.000134	0.000201	-4.43e-05	0.000113	0.000319	-0.000155	-0.000311	-0.000309
	(0.000174)	(0.000226)	(0.000212)	(0.000241)	(0.000193)	(0.000218)	(0.000275)	(0.000291)	(0.000286)	(0.000188)
Ln(Government Stability)	0.0222***	0.00613	0.00248	0.00270	0.0126**	0.0128	0.0184	-0.0683***	0.0108	-0.00742
	(0.00732)	(0.0140)	(0.00905)	(0.0117)	(0.00590)	(0.0231)	(0.0154)	(0.0146)	(0.0103)	(0.00557)
FDI/GDP	**0.0636***	0.0400	0.270	**0.118***	**0.470***	0.741	**0.586***	-0.703	0.0254	**0.724***
	(0.0329)	(0.109)	(0.187)	**(0.0677)**	**(0.166)**	(1.171)	**(0.306)**	(1.275)	(0.116)	**(0.200)**
Observations	409	249	284	249	227	236	248	83	221	164
Number of countries	17	15	16	15	14	16	16	7	15	9
AR (2)	0.013	0.208	0.022	0.041	0.107	0.026	0.024	0.823	0.007	0.907
Sargan test	0.047	0.204	0.000	0.096	0.006	0.004	0.000	1.000	0.000	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4:

Independent Variables	(1) Total FDI	(2) Extractive Industries FDI	(3) Manufacturing FDI	(4) Total Services FDI	(5) Financial Services FDI	(6) Construction FDI	(7) Trade FDI	(8) Tourism FDI	(9) Business Services FDI	(10) Transport & Communications FDI
Lag.ln(GDP per capita, 2005USD)	0.999***	1.001***	0.994***	0.990***	0.994***	0.991***	0.969***	0.980***	0.997***	0.996***
	(0.00796)	(0.00405)	(0.00406)	(0.00727)	(0.00406)	(0.00631)	(0.0119)	(0.00347)	(0.00653)	(0.00376)
Gross Fixed Inv/ GDP	0.00247***	0.00281***	0.00240***	0.00226***	0.00290***	0.00225***	0.00234***	0.00210***	0.00286***	0.00306***
	(0.000473)	(0.000359)	(0.000399)	(0.000382)	(0.000332)	(0.000427)	(0.000639)	(0.000360)	(0.000498)	(0.000295)
Natural Resources Rents/GDP	-0.000346*	-0.000344	-5.87e-05	-0.000112	-2.02e-05	-0.000237	0.000223	-0.00424***	-2.30e-05	-0.00108
	(0.000200)	(0.000303)	(0.000160)	(0.000247)	(0.000143)	(0.000248)	(0.000627)	(0.00133)	(0.000269)	(0.00133)
Gross Tertiary Enrollment Rate	3.90e-05	-0.000177	4.06e-05	0.000205	-4.99e-05	0.000238	0.000820**	0.000138	-0.000235	-0.000223***
	(0.000270)	(0.000152)	(0.000200)	(0.000351)	(0.000226)	(0.000219)	(0.000385)	(0.000141)	(0.000247)	(7.22e-05)
Ln(Anticorruption Index)	-0.0148	-0.00802	0.00449	0.0103	0.00586	-0.00128	0.0365**	0.0536**	0.0159	0.0108
	(0.0116)	(0.00953)	(0.00825)	(0.0105)	(0.00591)	(0.0124)	(0.0167)	(0.0229)	(0.0123)	(0.0127)
FDI/GDP	**0.118****	0.128	0.0907	0.0890	**0.592****	0.743	**1.022***	**-4.322***	0.0639	**0.855****
	(0.0458)	(0.189)	(0.149)	(0.0625)	**(0.158)**	(1.418)	**(0.570)**	**(2.493)**	(0.0916)	**(0.265)**
Observations	439	247	299	264	239	249	259	86	224	175
Number of countries	18	15	16	15	14	16	16	7	15	9
AR (2)	0.013	0.208	0.022	0.041	0.107	0.054	0.024	0.823	0.007	0.907
Sargan test	0.047	0.204	0.000	0.096	0.006	0.019	0.000	1.000	0.000	0.000

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 5:

Independent Variables	(1) Total FDI	(2) Extractive Industries FDI	(3) Manufacturing FDI	(4) Total Services FDI	(5) Financial Services FDI	(6) Construction FDI	(7) Trade FDI	(8) Tourism FDI	(9) Business Services FDI	(10) Transport & Communications FDI
Lag.ln(Manuf. value added per capita, 2005USD)	0.984***	1.002***	0.994***	0.996***	1.002***	0.995***	1.010***	1.002***	1.013***	1.012***
	(0.00653)	(0.00634)	(0.00540)	(0.00691)	(0.00992)	(0.00657)	(0.0126)	(0.0101)	(0.00773)	(0.00493)
Gross Fixed Inv/ GDP	0.00381***	0.00411***	0.00404***	0.00318***	0.00472***	0.00422***	0.00386***	0.00560***	0.00362***	0.00505***
	(0.000678)	(0.000644)	(0.000844)	(0.000904)	(0.000598)	(0.000634)	(0.000723)	(0.00119)	(0.000980)	(0.000761)
Natural Resources Rents/GDP	0.000517**	-0.000138	0.000242	-0.000367	0.000376	0.000201	-0.000247	-0.00215	-5.06e-05	0.00364*
	(0.000252)	(0.000333)	(0.000266)	(0.000304)	(0.000399)	(0.000257)	(0.000327)	(0.00168)	(0.000225)	(0.00203)
Gross Tertiary Enrollment Rate	0.000659	-0.000600***	-0.000214	-8.83e-05	-0.000366	-1.50e-05	-0.000835*	0.000615	-0.000826***	-0.000379*
	(0.000408)	(0.000153)	(0.000269)	(0.000305)	(0.000473)	(0.000259)	(0.000486)	(0.000481)	(0.000263)	(0.000213)
Ln(Government Stability)	-0.0194	0.00355	0.00187	-0.0126	-0.0323	-0.0208	-0.0118	-0.146***	-0.0168	-0.0504*
	(0.0185)	(0.0250)	(0.0224)	(0.0246)	(0.0293)	(0.0288)	(0.0271)	(0.0270)	(0.0276)	(0.0281)
FDI/GDP	0.0931	-0.0686	0.0927	**-0.221***	0.640	-2.260	**-0.681**	1.725	**-0.365***	1.250
	(0.126)	(0.173)	(0.285)	**(0.0524)**	(0.613)	(2.341)	**(0.325)**	(3.541)	**(0.139)**	(0.876)
Observations	370	231	269	234	211	220	230	72	203	146
Number of countries	16	14	15	14	13	15	15	6	14	8
AR (2)	0.002	0.306	0.063	0.064	0.389	0.315	0.037	0.122	0.338	0.802
Sargan test	0.029	0.573	0.000	0.249	0.552	0.088	0.000	1.000	0.002	0.442

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Independent Variables	Total FDI	Extractive Industries FDI	Manufacturing FDI	Total Services FDI	Financial Services FDI	Construction FDI	Trade FDI	Tourism FDI	Business Services FDI	Transport & Communications FDI
Lag.ln(Services. value added per capita, 2005USD)	0.992***	0.996***	0.991***	0.983***	0.992***	0.994***	0.974***	0.973***	0.994***	0.995***
	(0.00308)	(0.00532)	(0.00415)	(0.00857)	(0.00303)	(0.00513)	(0.00787)	(0.00888)	(0.00633)	(0.00624)
Gross Fixed Inv/ GDP	0.00234***	0.00252***	0.00217***	0.00178***	0.00255***	0.00201***	0.00190***	0.000992	0.00267***	0.00283***
	(0.000324)	(0.000371)	(0.000389)	(0.000474)	(0.000335)	(0.000486)	(0.000525)	(0.000698)	(0.000446)	(0.000250)
Natural Resources Rents/GDP	-9.87e-06	0.000209	0.000206*	5.66e-05	0.000279**	5.09e-05	0.000129	-0.00378	0.000388**	-0.00100
	(8.23e-05)	(0.000204)	(0.000110)	(0.000206)	(0.000141)	(0.000140)	(0.000419)	(0.00266)	(0.000195)	(0.00169)
Gross Tertiary Enrollment Rate	4.35e-05	2.89e-05	5.54e-05	0.000447	-4.43e-05	0.000109	0.000677**	5.24e-05	-0.000182	-0.000183
	(0.000153)	(0.000185)	(0.000198)	(0.000383)	(0.000174)	(0.000228)	(0.000282)	(0.000134)	(0.000250)	(0.000140)
Ln(Government Stability)	0.00790	-0.00545	0.0160	0.0302**	0.0199**	0.00140	0.0355***	0.0872***	0.0233*	0.00906
	(0.00575)	(0.0109)	(0.0102)	(0.0129)	(0.00794)	(0.0100)	(0.0123)	(0.0287)	(0.0126)	(0.0196)
FDI/GDP	**0.0833****	0.0468	0.189	0.114	**0.450****	0.849	0.879*	**-6.408****	0.106	**0.757****
	(0.0333)	(0.112)	(0.166)	(0.0840)	**(0.103)**	(1.089)	(0.453)	**(2.103)**	(0.116)	**(0.231)**
Observations	399	247	285	250	226	236	246	83	219	162
Number of countries	17	15	16	15	14	16	16	7	15	9
AR (2)	0.079	0.159	0.252	0.468	0.884	0.023	0.246	0.169	0.880	0.721
Sargan test	0.034	0.720	0.079	0.034	0.003	0.002	0.011	0.006	0.273	0.948

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1