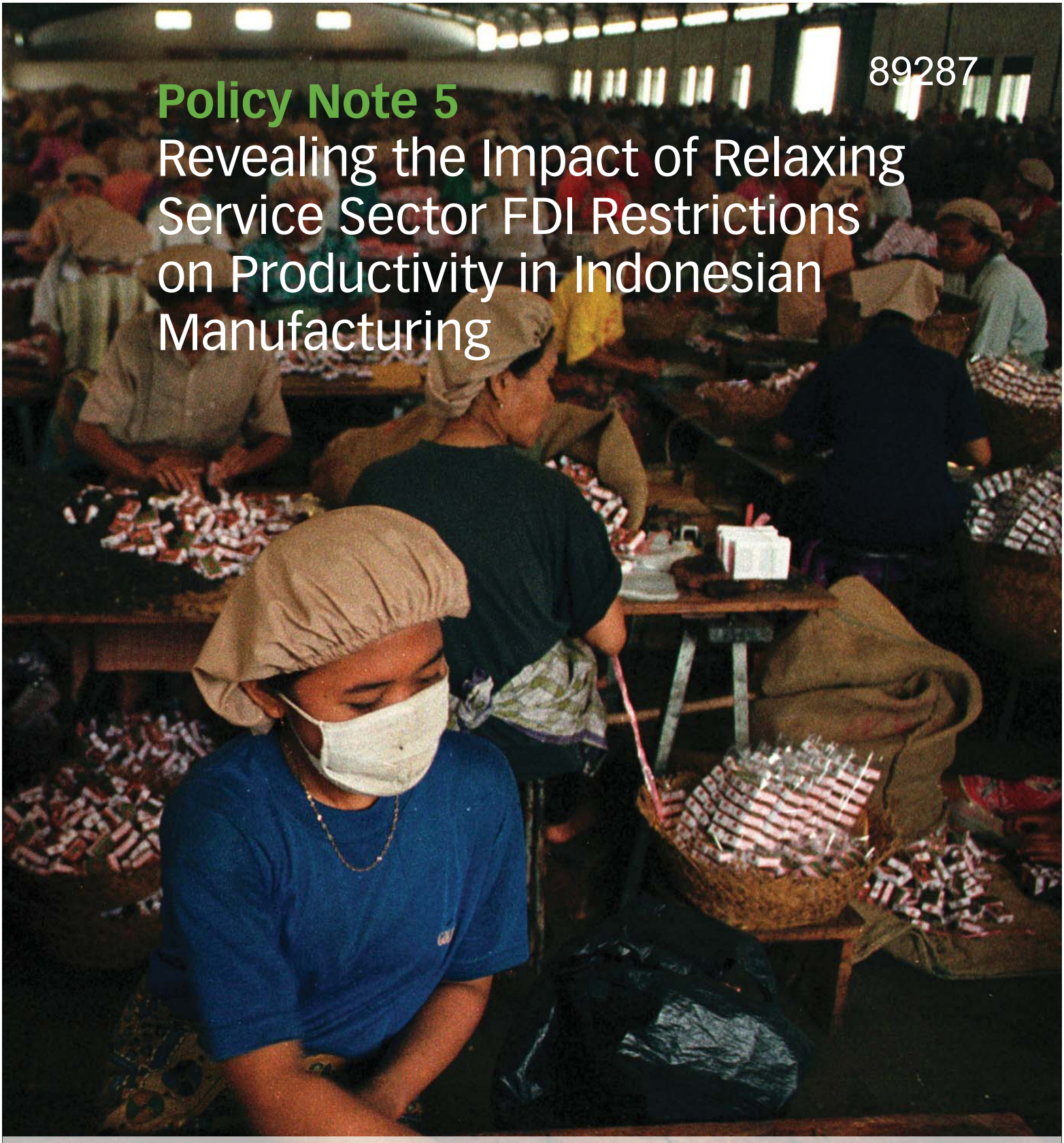

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Policy Note 5

Revealing the Impact of Relaxing Service Sector FDI Restrictions on Productivity in Indonesian Manufacturing

Multi Partner Facility
Trade and Investment Climate

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THE WORLD BANK OFFICE JAKARTA

Indonesia Stock Exchange Building, Tower II/12-13th Fl.
Jl. Jend. Sudirman Kav. 52-53
Jakarta 12910
Tel: (6221) 5299-3000
Fax: (6221) 5299-3111

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For further information about this document please contact Sjamsu Rahardja (srahardja@worldbank.org)

Policy Note 5

Revealing the Impact of Relaxing Service Sector FDI Restrictions on Productivity in Indonesian Manufacturing

Authors: Victor Duggan, Sjamsu Rahardja, Gonzalo J. Varela

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Abstract

The services sector in Indonesia accounts for more than half of total value added, employs more than 55 million workers, and provides 35 percent of overall inputs to the productive sectors of the economy. Improving quality, increasing diversity and reducing costs in service sectors' produce is likely to greatly improve Indonesia's competitiveness across all sectors. With a focus on the manufacturing sector, this note argues that relaxing restrictions on competition, and on the participation of foreign firms, in services can be expected to improve service sector performance, and lead to economy-wide benefits in terms of productivity and competitiveness. It does so by reviewing the international evidence available, and by presenting new evidence for Indonesia on the positive spillovers that easing restrictions has had on the productivity of domestic manufacturing firms. The economic impact of these spillovers is sizable. In fact, spillovers from service sector reform account for about 8 percent of the observed increase in Indonesian manufacturing productivity over the period 1997-2009.

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In order to maximize its potential for economic development, Indonesia needs to move progressively up the value chain in the manufacturing and services sectors. This will allow Indonesia to diversify its economy away from subsistence activities in the primary commodity sectors and improve the country's capacity to plug into increasingly global supply chains. Fostering dynamic modern manufacturing and service sectors is thus fundamental to this necessary structural transformation of the Indonesian economy (World Bank, 2012).

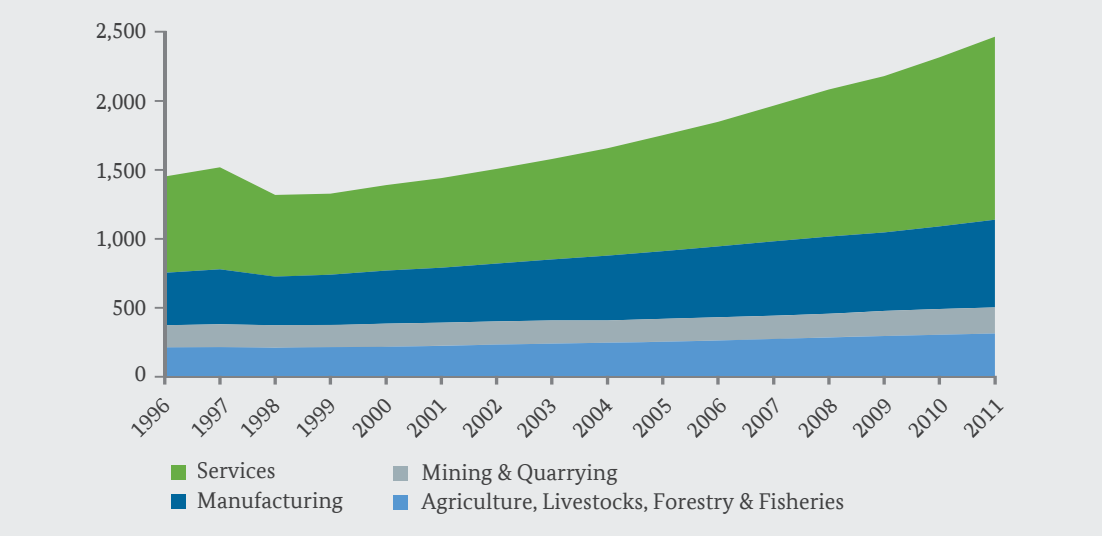
In its in-depth 2012 study of the Indonesian manufacturing sector, the World Bank highlighted the importance of reliable and competitively priced service sector inputs to improve productivity in the manufacturing sector. Transport and electricity service inputs are judged particularly important in this regard as they currently act as important constraints on investment and productivity in Indonesian manufacturing.

Chapter 1

How Important and Interdependent are Dynamic Service and Manufacturing Sectors for Indonesia's Economy?

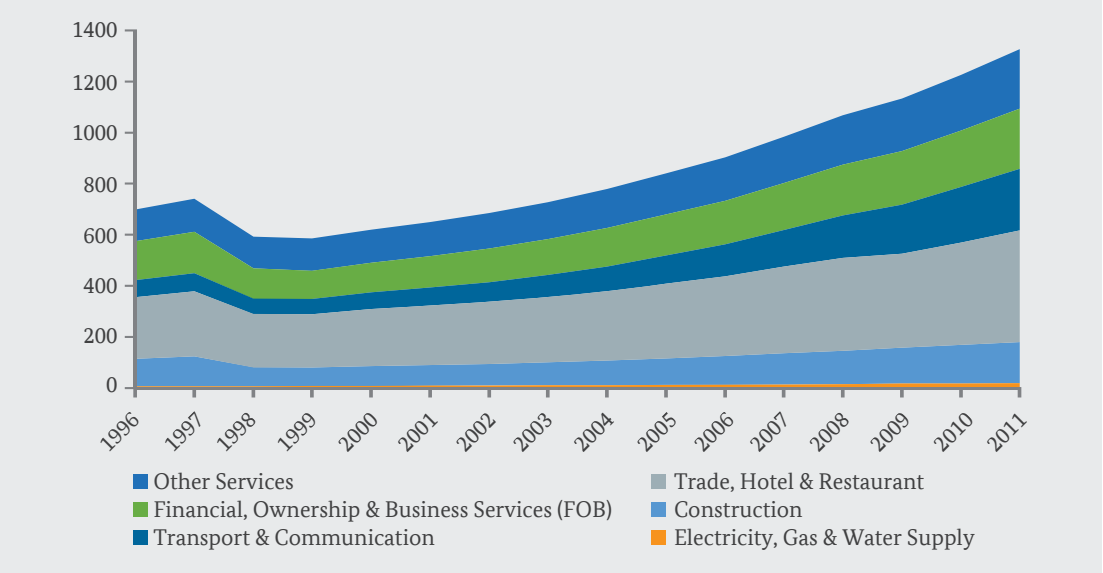
The service sector is the largest direct job creator in Indonesia, and the sector contributing most to value added. The services sector accounts for half of all those employed in Indonesia, and more than half of GDP (see Figure 1.1). With growth having averaged 7.2 percent over the past decade, services is the most dynamic sector, driven in large part by strong growth in the Trade and Transport & Communications sub-sectors (see Figure 1.2). Service sector performance, productivity and growth has been and will continue to be critically important to the Indonesian economy in its own right as a motor for growth and moving up the value chain.

Figure 1.1. Indonesian GDP by sector



Source: BPS.
Note: *Constant 2000 prices. IDR trillions.*

Figure 1.2. Service Sector Value Added by Subsector

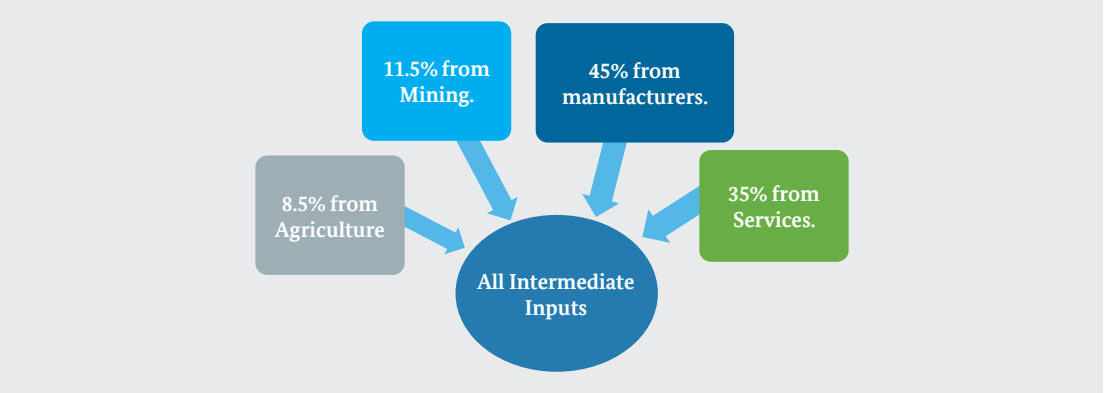


Source: BPS.
Note: *Constant 2000 prices. IDR trillions.*

The service sector is not only the largest and most dynamic sector in Indonesia, it is also strongly inter-linked with all other sectors of the economy. An increasingly competitive services sector can therefore be expected to improve output and efficiency both economy-wide and in the services sectors.

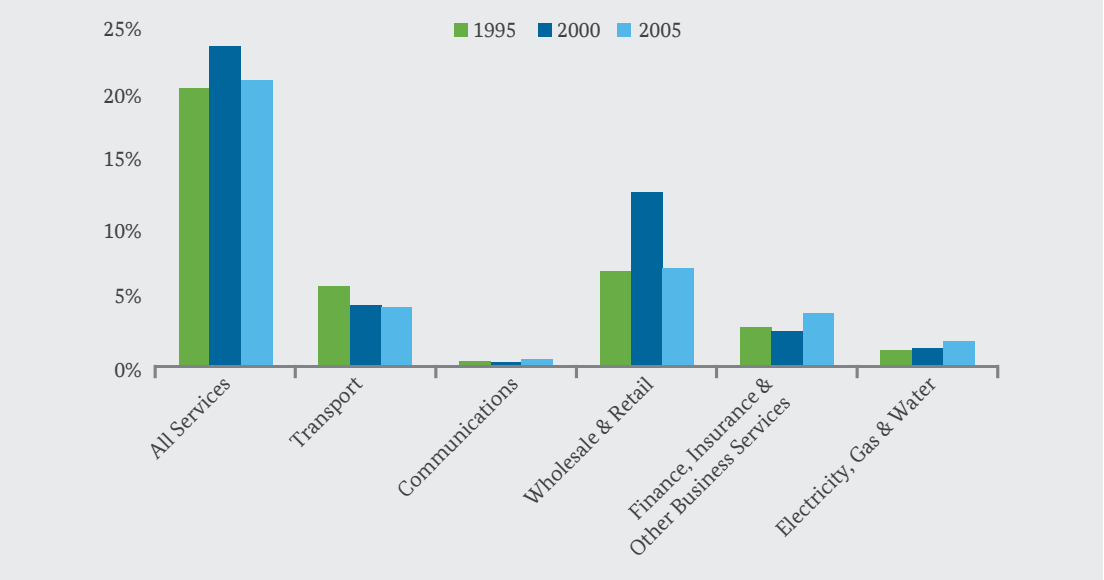
Services account for 35 percent of overall intermediate inputs, (Figure 1.3.), including 27 percent of primary sector inputs, 21.3 percent of manufacturing inputs and 50 percent of service sector inputs. 62 percent of overall intermediate inputs from the service sector (i.e. of the 35 percent cited above) are accounted for by trade-related sub-sectors: (transport, wholesale & retail, post & communications, financial & insurance, electricity, gas & water). This proportion, at 76.9 percent (i.e. of the 21.3% cited above), is far higher for services inputs into the manufacturing sector (see Figure 1.4).

Figure 1.3. How linked are Indonesia's productive sectors?



Source: BPS.

Figure 1.4. Service input intensities over time for manufacturing

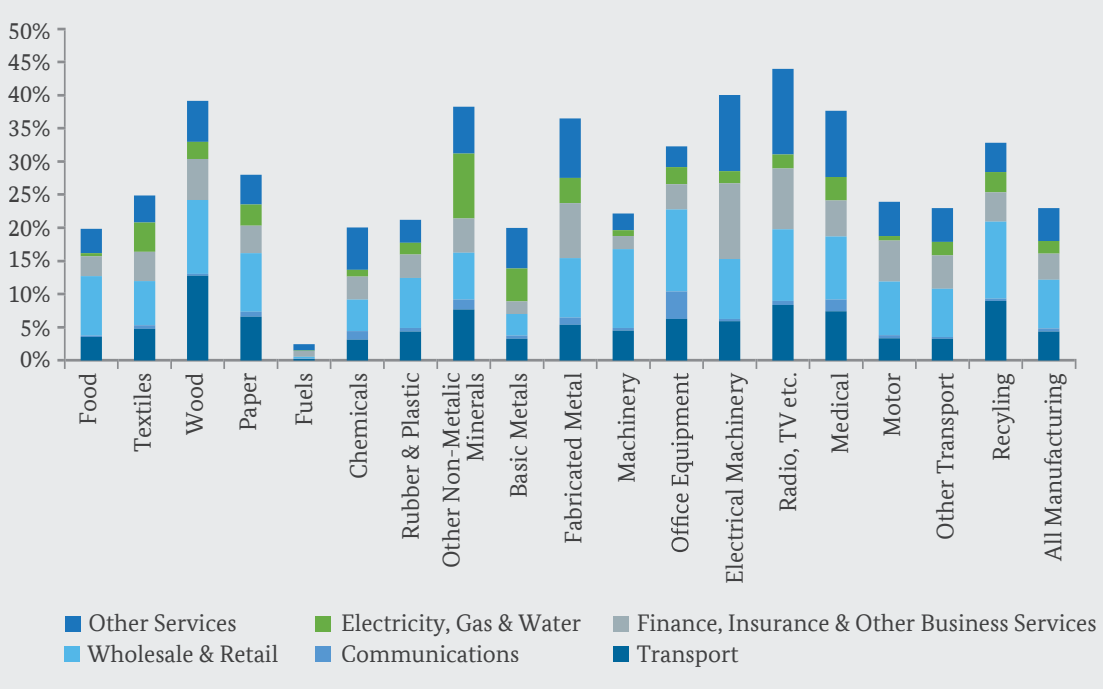


Source: BPS.
Note: Links of Indonesia's manufacturing sectors to service subsectors.

As an example, the manufacture of wood products relies on the services sector for 36.9 percent of all inputs. Roughly a third of this, or 12.8 percent of total inputs, is accounted for by the transport sector, 11.1 percent by retail & distribution, and 3.9 percent by finance & insurance (Figure 1.5). Similarly, the manufacture of radios, televisions and communication equipment relies on the service sector for 34.9 percent of its inputs – of which 8.4 percent from transport, 10.8 percent from retail & distribution, and 1.5 percent from financial & insurance.

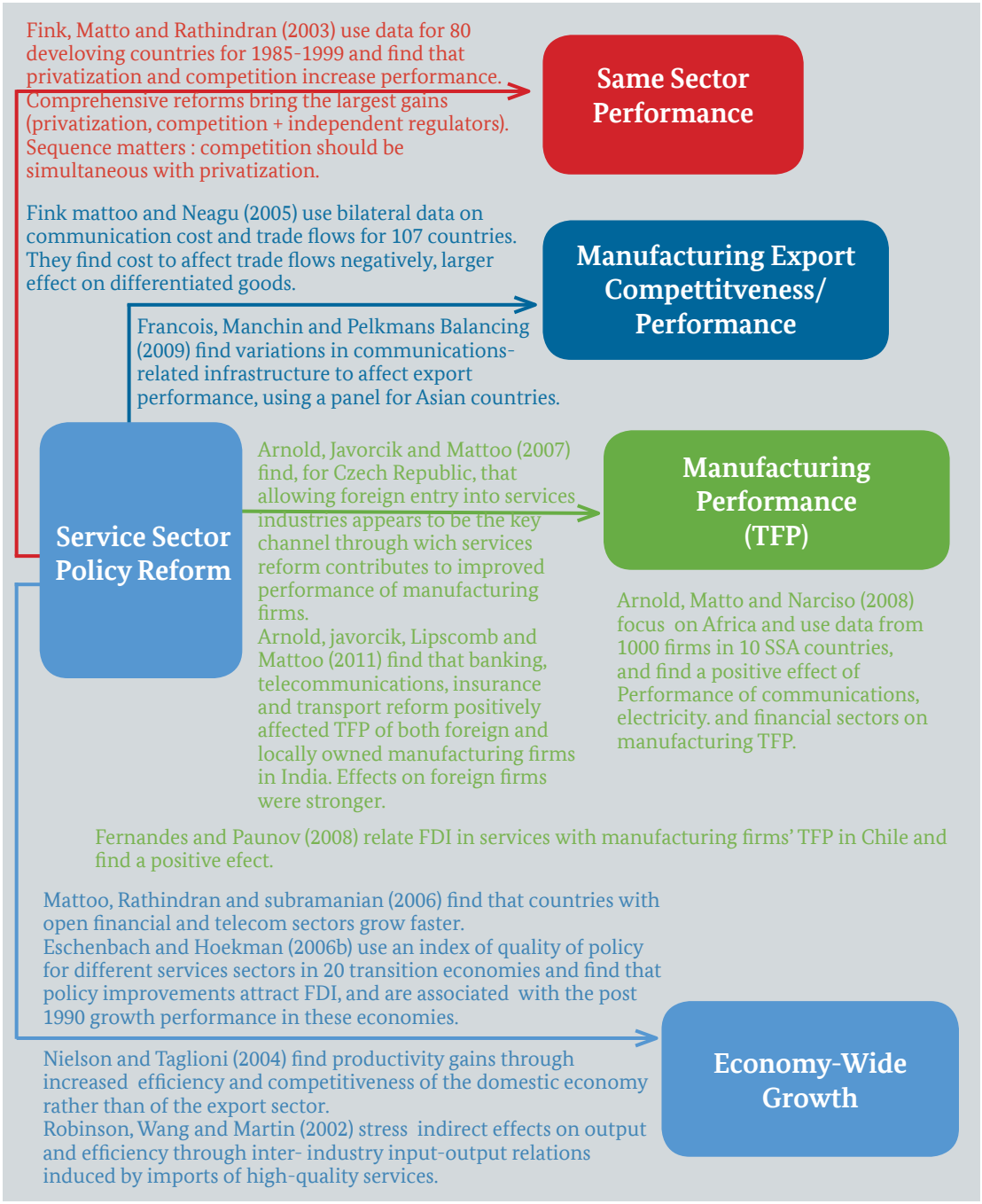
These inter-linkages underline the importance of services as inputs for firms across different activities, and the potential economy-wide productivity gains from an improvement in service sector performance. Access to more, superior or better value services can be expected to improve productivity at Indonesian firms, enabling them to better compete in the global marketplace.

Figure 1.5. Service input intensities by manufacturing sectors



Source: BPS.
Note: *percent of total intermediate manufacturing inputs; 2005.*

Box 1.1. Evidence on the Impact of Service Sector Reform on Economic Performance and Manufacturing Productivity



Source: World Bank staff.

While international trade in services has increased in recent decades, the exposure of services sectors to competition is typically more limited than that for other sectors of the economy, either because the current state of technology does not make particular cross-border trades in the service sector profitable, or because barriers to trade are stricter than in other sectors.[1] The services sector is also an area where market failures often occur and therefore there are reasons for government regulations to ensure economic well-being (e.g. Hoekman, 2007). For instance, network service industries (such as power transmission) may be natural monopolies,

1 A recent study by Borchert, Gootiiz and Matoo (2012) reveals that the higher the GDP per capita of a country, the lower the services trade restrictions they impose.. Interestingly, when the set of countries is restricted to those in the East Asia Pacific region, the relationship is inverted: countries with higher GDP per capita tend to impose higher restrictions in services trade.

Chapter 2

How Open to Competition is the Service Sector in Indonesia?

implying that it might be inefficient for more than one firm to produce, thereby necessitating regulations to prevent abuse of market power. Information asymmetry also prevents customers from assessing *ex-ante* the qualification and quality of a services provider before the service is consumed. The risk of low income consumers remaining underserved, or being provided with low quality services (i.e. cream skimming), may undermine inclusiveness in access to services.

Hence, benchmarking the state of the regulatory regime in services should not be on the basis of complete liberalization (absence of regulation). Instead, given the sound arguments for government regulation of the conduct of service providers, policy discussion should be focused on improving the regulatory regime through, for instance, the introduction of minimum service requirements or universal access stipulations.

In reality, services sectors are often over-regulated at the expense of limiting entry and competition. Regulations can be non-discriminatory, protecting incumbent firms, or discriminatory against foreign services providers. As a consequence, those restrictions may create a mark-up for incumbents or prevent new activities which create real costs to the economy, domestic consumers and firms which are typically captive clients of incumbent service providers. In many instances, they may be at the mercy of inefficient public monopolies, or other providers who are not faced with incentives to reduce prices or improve quality. Broad-based, productivity-enhancing service sector reform should then necessarily encompass measures to increase competition, encourage foreign investment, stimulate innovation and ensure judicious regulation.

Since the East Asian crisis, liberalizing reforms have both increased competition and openness to trade and foreign investment[2] across most sectors of the Indonesian economy. To a large extent, this resulted from the unilateral structural adjustment process undertaken by the Government of Indonesia in the wake of the economic crisis. Much of the impetus for reform in this regard stemmed from the ongoing fiscal burden of maintaining inefficient, loss-making SOE service providers and accelerating reforms to stimulate private investment. Wide-ranging reforms were adopted to encourage markets entrants, including foreign investors.[3] Fulfillment of international commitments, initially to the WTO (GATS) and latterly to ASEAN, also played some part in this reform process.[4]

Indonesia also participated in the ASEAN Framework Agreement on Services (AFAS) which aims to facilitate the freer flow of services throughout ASEAN, entailing commitments to progressively reduce all restrictions in five priority sectors – air transport, eASEAN, Healthcare, tourism and logistics. By 2015, ASEAN investors should be allowed to hold up to 70 percent of the equity in Indonesian firms in these sectors. These targets are subject to some flexibility (15%) in the case of sub-sectors of national sensitivity.

2 See Figure 2.1 for an illustration of the evolution of openness to FDI.
3 In some cases, the impact of these reforms in revitalizing SOEs was remarkable, notably Garuda, Telkom and Indosat.
4 The World Bank's GATS Restrictiveness Index, that measures the extent of GATS commitments toward liberalization of a given country, shows Indonesia with a score of 9.52, while the average for East Asia-Pacific is 22.08 (0 indicates no commitments, 100 indicates fully liberalized).

Implementing these multilateral commitments, and aligning 'behind the border' regulations, have proved challenging as they require changes in both domestic policies and legislation. Although the former mandate lies with the executive branch, bureaucratic rigidity and resistance from domestic vested interest both complicate and slow down this process. The task is further complicated due to the nature of the political bargaining process required to enact or change legislation, the authority granted to local government to create laws, and the propensity for line Ministries to introduce sector specific regulations that go further than legislation enacted by central government.

The Negative Investment List (NIL) is probably the most important reference for prospective foreign investors into Indonesia. It details those sectors from which foreign investment (from ASEAN or elsewhere) is proscribed, and those sectors that are open, but carry foreign equity limits. As such, it is a useful tool for FDI policy implementation. This list has undergone a number of incarnations. Both before (1994) and after (2000) the East Asian crisis the Negative Investment Lists lacked sufficient meaningful detail. With the landmark Investment Law of 2007, however, a new List was developed which was supposed to be the single, comprehensive reference point for prospective investors. The List underwent significant changes in 2010, imposing more restrictions on foreign investment into the telecommunications sector, for example (see Box 2). On the other hand, several sectors, such as hospital services, underwent greater liberalization at this time.

Cross-country comparisons suggest that restrictiveness towards FDI in services is relatively high in Indonesia. The OECD compiles an FDI Regulatory Restrictiveness Index measuring the openness of 55 economies to FDI. It has been conducted intermittently since 2003, backdated to 1997, and on an annual basis since 2010. It includes four primary components: restrictions on foreign key personnel, equity restrictions, screening and approval requirements, and other operational restrictions (e.g.: land use restrictions).[5] As foreign equity limits are understood to be the most onerous restrictions on FDI, the index is strongly weighted according to these limits. According to the 2012 iteration of the index, Indonesia is the third most restrictive FDI regime of those surveyed, ranking behind only China and Saudi Arabia.

While the Index measures a country's policy stance on FDI, and therefore the focus is placed firmly on discriminatory measures toward foreign investors, the index may also register the impact of non-discriminatory measures that are burdensome to investment regardless of its origin.[6] In this sense, the index may be viewed to a certain extent as a proxy measure for a broad range of policy variables.

In the aftermath of the East Asian crisis, for instance, there was an economic imperative, and political support, for reforms in Indonesia. One notable example is the 1999 reform of the Indonesian Telecommunications sector (See Box 2). Such 'big bang' reform processes are not atypical when looking at international experience; reforms in the Indian service sectors in the

5 For a detailed description of the index see Kalinova et al, 2010.
6 See OECD Reviews of Regulatory Reform, paragraph 70.

1990s are another example of such 'packaging'.[7] This suggests that the evolution of the indicator may well be indicative of more wide-ranging reforms, of which a changed FDI policy stance is an important part.

The evolution of Indonesia's service sector ratings in the OECD index since 1997 reflects broad based liberalization in the aftermath of the East Asian crisis, as evidenced by the fall in Indonesia's score across all service sectors (with the exceptions of media and real estate) between the 1997 and 2003 iterations of the Index. There was little real change from 2003 to 2006 (Figure 2.1).

Between 2007 and 2010 – taking into account the impact of the 2007 Investment Law and the creation of, and amendments to, the Negative Investment List – there was moderate liberalization across most service sectors, significant liberalization in the hotel & restaurant sector, and a significant increase in restrictiveness in the communications sector. No changes in Indonesia's service sector index rating have been registered since 2010.

Despite its relatively restrictive FDI policy regime, robust economic growth, improved political stability together with a burgeoning middle class have seen Indonesia become an increasingly attractive destination for FDI.

Despite extensive liberalization of Indonesia's FDI regime in the wake of the East Asian crisis, foreign direct investment flows remained weak at first. With the return of macroeconomic stability, coupled with strong growth, investors began to return in greater numbers as the 21st century progressed, even in the absence of further significant liberalization of FDI policy. Having dipped in 2009 with the onset of the global financial crisis, FDI flows have since surged, reaching $18.9bn USD in 2011.

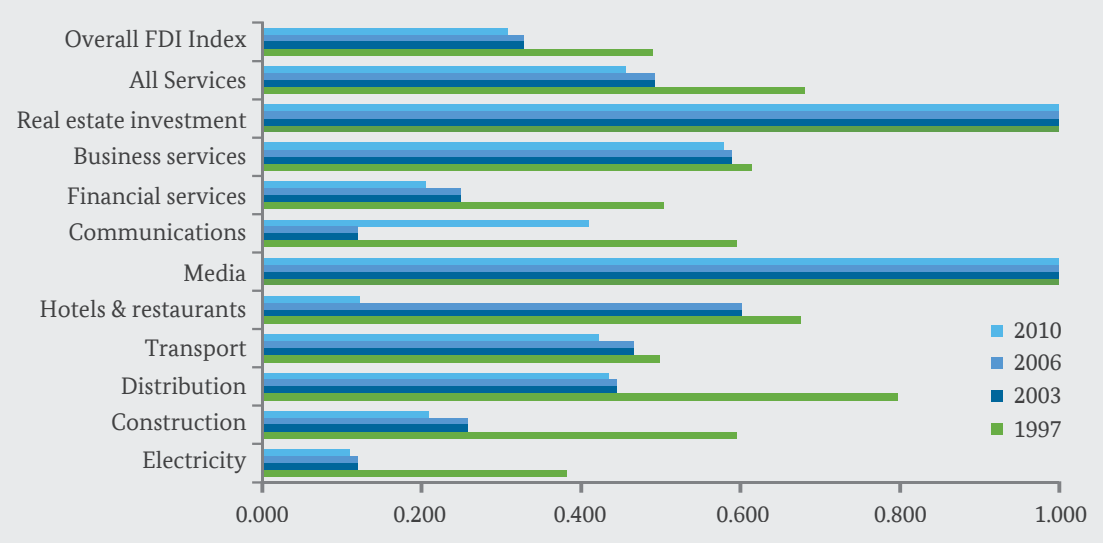
FDI has been strong across all sectors, but particularly in the services sector, which accounted for 40.1 percent of all inward investment into Indonesia in 2011 (Figure 2.2).[8]

To a large extent, this has been driven by FDI into the two service sub-sectors that were both the largest and the fastest growing in 2011: Transport & Communications and Trade, Hotel & Restaurant (of which the bulk is accounted for by Wholesale & Retail).

7 The Indian telecommunications sector offers an example. Arnold et al (2011) report that the National Telecom Policy, announced in 1994 improved the environment for private investment in general. Subsequently, the government opened the long distance sector of the telecom industry to private competition, largely eliminated restrictions on the number of service providers, and relaxed foreign ownership limitations. The authors found that telecommunications reforms had a positive and significant effect on the productivity of Indian manufacturing reforms.

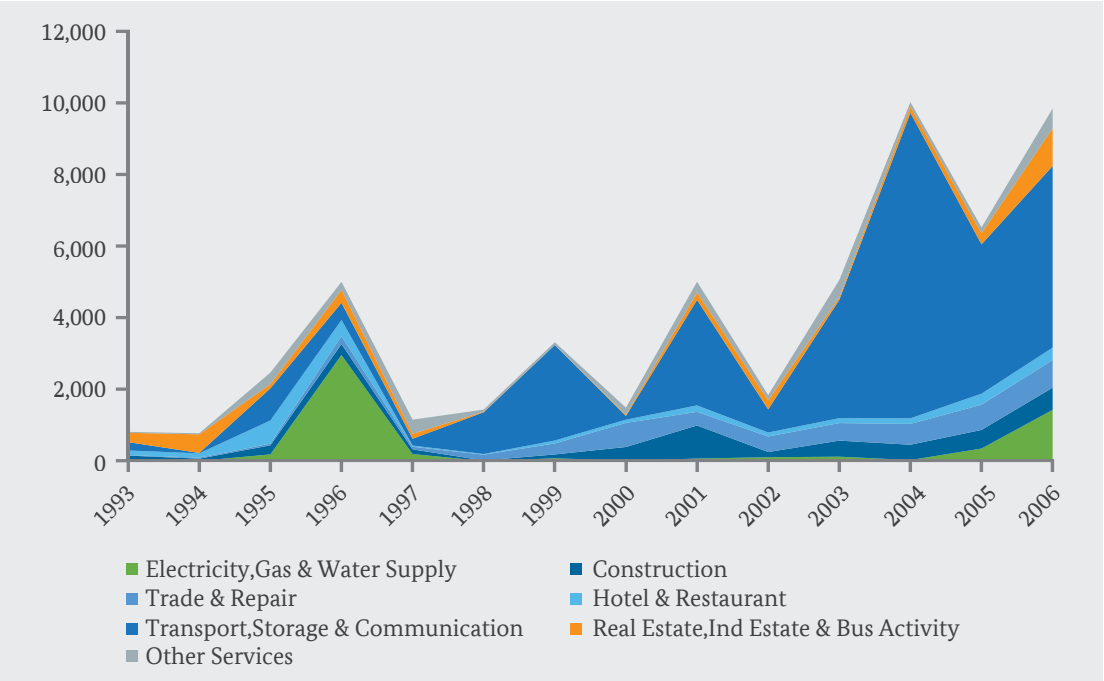
8 Source: BKPM.

Figure 2.1. OECD restrictiveness index: most service sectors became more open to FDI over time



Sources: OECD FDI Regulatory Restrictiveness Index.
Note: 1=completely closed, 0=completely open.

Figure 2.2. Inward service sector FDI, by sub-sector



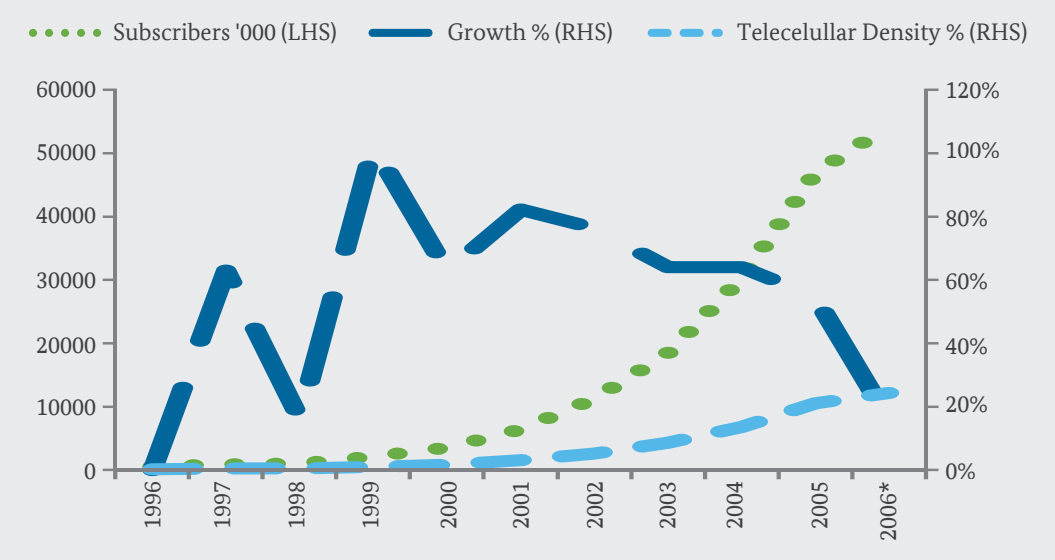
Source: BKPM, FDI data, various years.
Note: millions of USD.

Box 2.1. Indonesia's Reform Rollercoaster in Telecommunications

Between 1966 and 1998, Indonesia's telecommunications sector was tightly controlled, and reform was incremental. Until 1980, Indosat and Perumtel (now Telekom) provided both domestic and international telecom services. Perumtel was a state-owned enterprise, as was Indosat after 1980 when the government bought what had up to then been a wholly owned subsidiary of ITT, a US multinational. At this point, Indosat became the sole provider of international services, Perumtel providing domestic services. Thus, government acted as both regulator and monopoly operator.

From 1989 onwards, with investment capital in short supply, the government began to allow the incumbents to form strategic alliances with foreign firms. They maintained monopoly market power, although a degree of competition arose in the mobile phone sector, particularly with partial privatization of the two incumbents in 1995.

Figure 2.3. Subscribers to Cellular Phone Lines



Source: Nathan Associates Report on "Restructuring the Telecommunications Industry" by Steve Magiera (Chapter 2, p. 14)

In 1998, given the commitments made with the IMF, and the pre-existing commitments arising from Indonesia's joining of the WTO in 1995, avenues for reform opened up across the economy, including in telecommunications. This gave rise to the government's 1999 Blueprint for Telecommunications, and the landmark Telecommunications Act of that year that set out broad based reforms including increased regulatory transparency and an end to the government's triple role as regulator, policymaker and provider.

The Act also allowed for increased competition, with the SME sector encouraged to participate, and international alliances encouraged.

Telekom's monopoly on domestic services ended in 2002, although it retained a dominant market position and control over an extensive infrastructure network.

While the government maintained a 15 percent stake in Indosat, 43 percent was sold to public investors and 42 percent was sold to Singapore Technologies Telemedia.

These reforms were important, but incomplete as Indonesia continued to lag behind regional peers in term of telecom and internet penetration, even if the cellular sector grew substantially (see Figure 2.3). Inadequate infrastructure remained a significant constraint.

With the introduction of the landmark Investment Law in 2007, the sector became significantly more restrictive as foreign equity limits were reduced (now ranging between 49-65 percent depending on technology and ranging from 0-100 percent depending on service offered) while several sectors were included on the newly introduced Negative Investment List (NIL). Such regulatory compartmentalization of the telecommunications sector, coupled with the multiple licensing requirements facing investors, create ambiguity, discourage foreign investors and hamper the FDI flows needed to boost infrastructure investment.

With amendments to the NIL in 2010, restrictions on investment in internet service providers were tightened further with the introduction of a 49 percent foreign equity limit. Furthermore, in one of the most significant changes to the NIL at this time, foreign investment in cellular towers was completely prohibited.

The OECD's FDI Regulatory Restrictiveness Index reflects these developments: the Communications sub-index fell significantly from 0.595 to 0.120 between 1997 and 2003 as a result of the 1999 reforms, but increased again to 0.410 between 2006 and 2010 as a result of the increasing restrictiveness described above.

Source: World Bank staff based on Eick (2007) and Magiera (2011a).

Relaxing restrictions on competition and foreign investment helps encourage new market entrants. New entrants may be in a position to provide services which had not been available heretofore, and that may impact on other sectors' performance. For example, the introduction of multimodal transport services and digital value added services in telecommunications may allow manufacturers to improve production processes or, for instance, move to 'Just in Time' stock management, or more generally, to better overcome geographical, time and language barriers.[9]

Competition may also lead to a reduction in the cost of services, or an improvement in their quality. New entrants may be in a position to provide capital for infrastructure investment, for instance, thus improving the quality and reliability of service provision. Clearly, such improvements not only improve service sector

9 Arnold et al (2010)

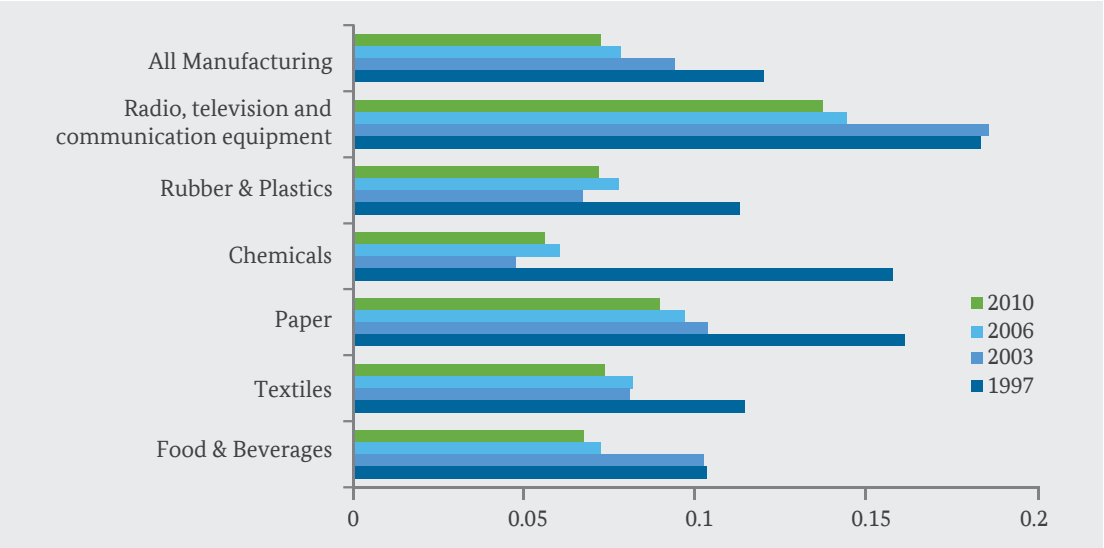
Chapter 3

Why does an Open and Competitive Services Sector Matter?

performance, but can benefit downstream manufacturers, creating dynamic, economy-wide gains that boost national competitiveness.

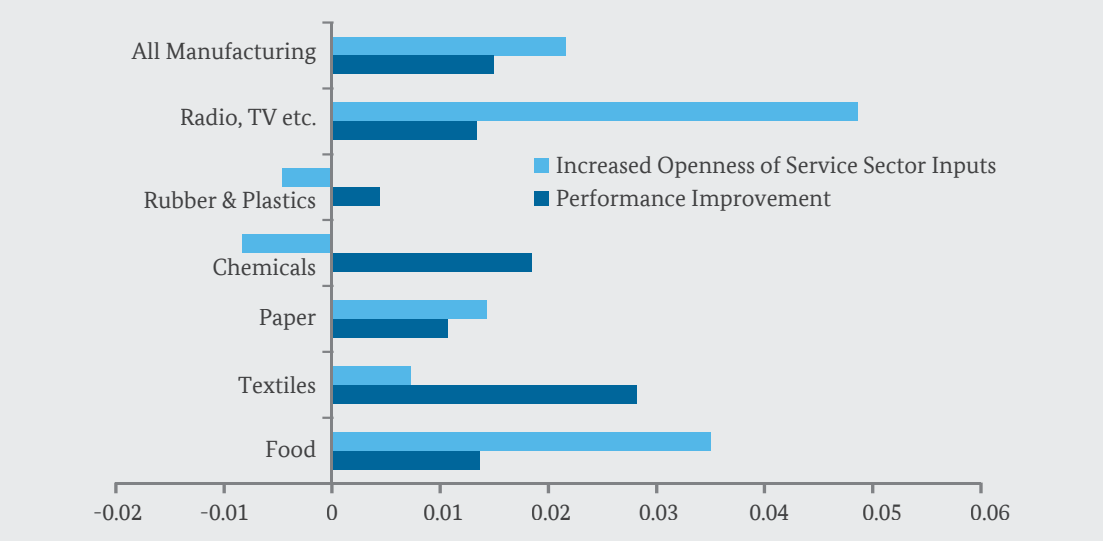
Foreign firms are typically larger, and thus better able to exploit economies of scale, and are better integrated with the global marketplace, thus better able to access superior technologies. FDI can thus generate knowledge and technology spillovers horizontally – to domestic service providers -, and vertically, to suppliers or users of these services.

Figure 3.1. Restrictiveness to FDI in upstream service sectors faced by key manufacturing sectors



Source: World Bank staff based on BPS & OECD.

Figure 3.2. Changes in policy restrictiveness and changes in performance in services sectors



Source: World Bank staff based on Enterprise Survey and OECD.

The firm-level data available from the World Bank Enterprise survey suggest that in the Indonesian service sector, foreign firms are larger than domestic firms. While 23 percent of foreign firms in the service sector have more than 100 employees, only 1 percent of domestic firms do. In addition, foreign firms tend to use better technologies and more sophisticated processes, as suggested by the fact that they are four times as likely to have international certifications than domestic firms within the same size class.

The performance of service sectors, as measured by the perceptions of the manufacturers that use them, is negatively related to how restrictive those sectors are toward FDI. The link between service sector performance and policy restrictiveness toward FDI in the service sector is revealed when looking at perception-based indicators of performance. To construct these, we combined data on perceptions from the World Bank Enterprise Survey and on input-output data from BPS, and proceeded in the following steps:

1. We looked at firms' responses to questions on whether electricity, transport or communications were 'no obstacle' to doing business, a minor obstacle, a moderate obstacle, a major obstacle or a very severe obstacle in 2003 and in 2009. Across all three sectors, the proportion of firms reporting 'no obstacle' increased significantly (electricity: 22.3%, telecommunications: 20.8%, transport: 17.8%) between 2003 and 2009. This suggests improved service sector performance.
2. We looked at how the degree of restrictiveness on FDI evolved over this period, relying on the OECD restrictiveness indicator. We found moderate increases in openness in the transport and electricity sectors, while restrictiveness increased after 2007 for the telecommunications sector.
3. Using data from input-output tables we constructed for each manufacturing sub-sector an index of performance of the services sub-sectors from which they sourced inputs, and an index of restrictiveness toward FDI in those same service sub-sectors (see Figure 3.1, a formal description of the way in which the index is calculated is presented in Box 4.1).
4. We then explored the link between these two indicators, controlling for sector specific effects.
5. We found that a one percent improvement in service sector performance as perceived by all manufacturers was associated roughly with a one percent reduction in the degree of restrictiveness toward FDI in those service sectors, as measured by the OECD restrictiveness index (see Figure 3.2 for visual inspection of the evolution of the two indicators).[10]

The experience in freight and logistics services in Indonesia provides a concrete example of the link between policy restrictiveness and performance. If services related to freight and logistics services, for example, remain sheltered from foreign investment and competition, costs may remain high and service quality poor. This undermines the capacity of the private sector to benefit from business opportunities involving long-distance shipping.

10 Formally, we regress the index of restrictiveness on the perception based performance index, using a fixed effect model, which allows us to control for time-invariant sector specific factors that affect the perceptions of services performance, The point estimate for the elasticity of performance with respect to restrictiveness is -0.9, and significant at 1 percent. We cannot reject the hypothesis of the effect being different from -1.

Given the important linkages between the services sector and the manufacturing sector in Indonesia, it is relevant to ask: what are the productivity costs that manufacturers face due to policy restrictiveness toward FDI in the service sector? Are some manufacturers more affected than others? If so, what determines these effects? Are there any service sectors for which policy restrictiveness towards FDI has particularly large effects on manufacturers?

To answer these questions we relate the productivity of Indonesian manufacturers with an indicator of policy restrictiveness toward FDI in the services sector (from the OECD index), weighted by the respective manufacturing

Chapter 4

What is the Impact of Service Sector FDI Restrictiveness on Manufacturing Productivity?

sector's usage of inputs from each service sector (see Box 4.1 for a detailed description of the methodology, and Box 1.1 for a schematic review of different studies that have approached the similar issues in different countries).

Box 4.1. Estimating the effects of policy restrictiveness towards FDI in the service sector on manufacturing productivity of Indonesian firms

To assess the impact that restrictive policies towards foreign direct investment in the service sector may have on the performance of the manufacturing sector, we rely on the OECD's FDI regulatory restrictiveness index, on input-output tables for the Indonesian economy, and on the manufacturing census, containing detailed firm-level data for all medium and large manufacturing firms, over the 1990-2009 period. On average, the census contains information for 20,000 firms per year.

We proceed in two stages. First, we use input-output tables to get a sense of the importance that each service sector has for the input costs of each manufacturing sector. The service restrictiveness (rest) that each sector in manufacturing faces is calculated as the weighted average of each service sector's OECD restrictiveness index, where the weights are given by the share in the total input bill of a given manufacturing sector 's' accounted for the service 'j'. Formally, we proceed as in equation (1):

$$rest_{s,t} = \sum_{j=i}^{J} w_{t,s,j} \, OECDr_{j,t} \quad (1)$$

where 'rest' is the *weighted* restrictiveness index faced by manufacturing sector 's' at time t, 'w' is the share of the input bill of manufacturing sector 's' accounted for the service sector 'j' at time 't', and 'OECDr' is the OECD restrictiveness index of the service sector j at time t. The weights obtained from Indonesian input-output tables are available for 1995, 2000, and 2005, disaggregated at the 2 digit level of the 3rd revision of the International Standard Industrial Classification (a total of 18 sectors), while the service sector OECD restrictiveness indices used are available for 1997, 2003, 2006, and 2010, and for Electricity, Construction, Distribution, Transport, and Communications.[11]

To establish whether there exists a causal relationship between manufacturing firm performance in Indonesia, and how restrictive policies are toward FDI in the services sectors, in the second stage, we regress the productivity of manufacturing firms on the restrictiveness measure 'rest' as calculated above.[12] Formally, we estimate equation (2):

$$\overline{\text{In } TFP}_{i,t+1,t+2,t+3} = a_i + a_t + \beta rest_{s,t} + X_{s,t} \text{ II} + \varepsilon_{i,t} \quad (2)$$

11 Data availability constrains us to assume that the input cost shares of manufacturing sectors remain relatively stable around each data point we have available. Then, we match these shares in 1995 with the restrictiveness indicator in 1997, the shares in 2000 with the restrictiveness indicators in 2003, and the shares in 2005 with the restrictiveness indicators for 2006 and 2010. Given that we do not have data on manufacturing TFP beyond 2010, we do not use the available OECD indicators for 2011 and 2012. In any case, there are no changes apparent in those two periods with respect to the previous scores.

12 Our approach follows that of Arnold, Javorcik and Mattoo (2011).

where $\overline{\ln TFP}$ is the average log TFP of firm 'i' log TFP over the years t+1, t+2 and t+3, a_i are firm fixed effects, that capture unobserved heterogeneity, such as firm location, size, specificities related to products produced by the firm, and other time-invariant factors that may affect firms' performance, a_t are year fixed effects, that capture economy-wide shocks such as technological advances, across-the-board business climate changes and other macro shocks that may affect firm's performance.[47]

Given that we allow for a lagged effect of restrictiveness in services on manufacturing TFP, we have three overlapping periods on which the model is estimated. In the first period, the matching data are the restrictiveness index for 1997 with firms' productivity averages for 1999, 2000 and 2001. In the second, the restrictiveness index for 2003 with firms' productivity averages for 2004, 2005 and 2006. In the third, the restrictiveness for 2006 with firms' productivity averages for 2007, 2008 and 2009.

The X vector includes controls for other factors related to integration with the global marketplace that may affect performance.[48]

(1) Policy restrictiveness in upstream manufacturing sectors, as this may also affect firm's TFP in addition to that in service sectors. Here, we rely on the OECD restrictiveness indices for manufacturing, and weight them in the same way as in 'rest', using input-output coefficients.
(2) The level of tariff protection in upstream manufacturing sectors (again weighted by the input-output coefficients).
(3) The degree of competition faced by firms, proxied by (a) the level of tariff protection and (b) the share of output produced by foreign firms operating in the same sector (which in turn also captures potential horizontal spillover effects).

13 TFP is measured using a multilateral index as suggested by Aw, Chen and Roberts (2001). The Aw et al index allows for technological heterogeneity, which is not the case for alternatives approaches such as those of Levinsohn & Petrin or Olley & Pakes. Although Aw et al does not control for measurement error in the same manner of these alternatives, it does not moreover depend on the same very strong identifying assumptions. In addition, even taking these identifying assumptions as acceptable, they need identifying variables (investment in OP, and electricity use/expenditure - or some other input - in LP). This reduces the sample size substantially in our case given the number of missing observations for these two variables.

14 Standard errors in the estimation are adjusted to allow for correlation between observations belonging to the same industry in the same year, given that the variables of interest are defined at the sector level while the dependent variable is defined at the firm level.

We consider five variations of our baseline specification above, to obtain answers to the following specific questions:

(1) Is the effect of 'rest' on firm's TFP different for domestic and for foreign firms? For this, we estimate equation (2) on the subset of domestic firms only, following Arnold et al (2011).

(2) Is 'policy restrictiveness' capturing the effect of restraining FDI flows from coming in? To answer this, we replace 'rest' with FDI flows in equation (2).

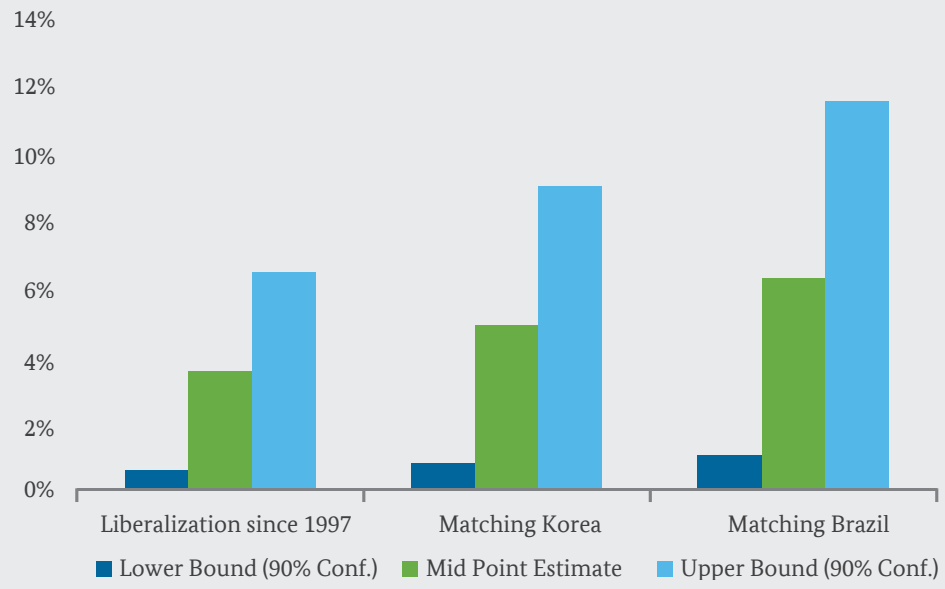
(3) Are the effects of 'rest' on firms' TFP the same for firms at the bottom, at the middle, or at the top of the TFP distribution? To answer this question, we interact the 'rest' variable with dummies for firms in the top 25 percent and bottom 25 percent of the distribution of TFP.

(4) Is restrictiveness in specific service sectors particularly relevant for manufacturing performance? For this, in equation (2), we replace the aggregate 'rest' indicator with sector-specific indicators.

(5) Do *changes* in restrictiveness in the service sector affect *the growth of productivity* of manufacturing firms? For this we estimate the model in differences rather than in levels (this implies losing the first period).

Source: World Bank staff.

Figure 4.1. Estimated effects of service sector liberalization (on TFP) and some simulations



Source: World Bank staff calculations.
Note: The green bars indicate the point estimates of the induced effects; the light blue bars show the lower and upper bounds of 90 percent confidence intervals; the mid-point estimate on the left for Indonesia) represents the 3.5 percent increase in manufacturing TFP attributed to the relaxation of restrictive service sector FDI policies., i.e. some 8 percent *of the total 43 percent TFP increase over the period.*

Post-Asian crisis reforms service sector FDI policy in Indonesia have contributed to increased productivity of its manufacturing firms, accounting for 8 percent of the overall increase in total factor productivity over the period 1997-2009[15]. With Indonesian manufacturing plants having increased productivity by almost 43 percent over the period, of which close to 3.5 percent is accounted for by the total effect of relaxing restrictive FDI policies toward the services sector (Figure 4.1), our results therefore suggest that these reforms accounted for about 8 percent of total TFP gains over the period (for the full set of results of the baseline model, see columns (1) to (5) of Table 1 in the Appendix).[16]

If Indonesia were to match policies of service sector reform champions, the productivity gains for manufacturing firms would be in the order of an additional 5 percent. In 1997, South Korea ranked second after China in terms of FDI regulatory restrictiveness according to the OECD indicator, suggesting a more restrictive environment than the one prevalent in Indonesia at the time. By 2010, South Korea had become significantly more open to FDI, falling to tenth place in the rankings.

This was achieved by substantially reducing statutory restrictions on both the establishment and operations of foreign firms, resulting in a reduction of Korea's score from 0.532 in 1997 to 0.143 in 2010 (compared to Indonesia's 0.311). Brazil, another emerging giant in the world economy like Indonesia, offers an interesting comparison. Matching Brazil's level of restrictiveness is estimated to lead to TFP gains in the order of 6 percent, on average.

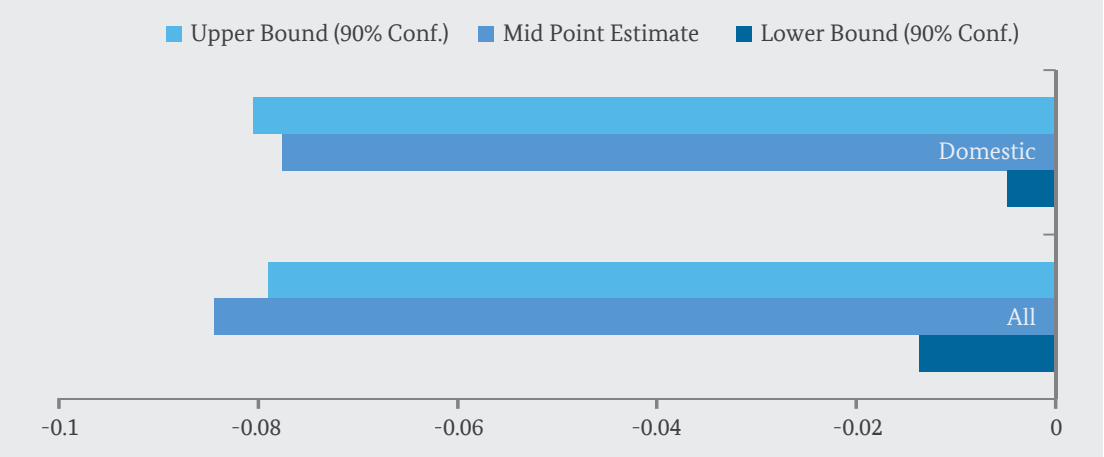
a. How Do Actual FDI Flows into the Services Sector Impact on Manufacturing Productivity?

Overall, policy restrictiveness toward foreign firms in the service sector seems to be a clearer determinant of manufacturing performance than actual FDI flows in services. If instead of considering the OECD restrictiveness indicator, we look at the effect that actual FDI flows into the services sector have had on manufacturers' TFP, we see that even if the effects are positive, they are not well determined (for the full set of results see columns (6) to (10) in Table 1 of the Appendix). Three factors may drive this apparent discrepancy in the results:

15 We estimate that these reforms added roughly 0.4 percent to annual average productivity growth in the manufacturing period over the period.

16 The estimated size of the impact of service sector reform for the Indonesian case is in line with that reported by Fernandes and Paunov (2012) for the case of Chile, where reforms in the service sector accounted for about 5 percent of total productivity growth over the period 1992-2004.

Figure 4.2. Effect of a 1 percent reduction in the service sector policy restrictiveness index on manufacturing TFP by ownership



Source: World Bank staff calculations.

First, even if the OECD restrictiveness indicator is designed for FDI barriers, it likely captures the overall policy reform stance, which will have a stronger effect on service quality than policies targeting FDI exclusively.

Second, a restrictive environment toward FDI may affect how incumbent foreign plants behave in the economy. A relatively more hostile environment may induce more defensive strategies, with less interaction with domestic plants, and lower levels of investment and innovation.

Third, FDI stocks are more likely to affect the performance of upstream service sectors than FDI flows. Unfortunately, disaggregated data on FDI stocks for the services sector are unavailable for Indonesia. Flows are, for these purposes, imperfect proxies for stocks as they are "lumpy".

b. Are benefits from service sector reforms distributed equally across different types of manufacturing firms?

Domestic and foreign manufacturing plants benefit alike from reform in the services sector (Figure 4.2). This is important from a policy perspective, as it suggests that local Indonesian firms will benefit from further reform as much as foreign firms in Indonesia. This is not always the case: reform may allow the entry of foreign service providers, which may have stronger links with foreign manufacturing plants, and whose local presence could provide greater benefits to foreign-owned than to domestic plants in manufacturing. India is an example where gains accruing to foreign manufacturing plants were about 12 percent greater than those accruing to domestic ones, as reported by Arnold et al (2010). (For the full set of results, see Table 2 in the Appendix.)

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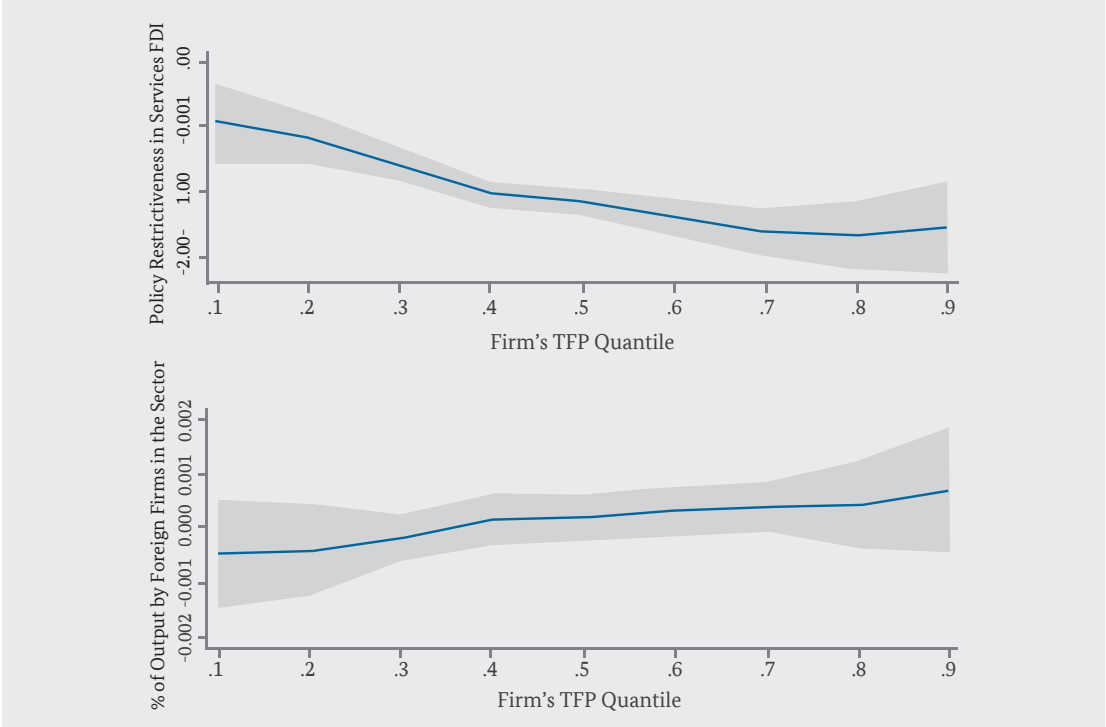
c. Which firms benefitted most from service sector reform?

The more productive firms are at the outset, the more they gain from service sector reform. The spillover effect from reduced restrictiveness in the service sector over the last 15 years was not homogeneous across manufacturing firms. Our analysis suggests that the spillover effect of service sector reform on manufacturers increases with firms' TFP. In fact, among all firms in manufacturing, the least productive 20 percent did not benefit from service sector reform, while the gains accruing to the most productive 20 percent were about 33 percent greater than those accruing to the median firm (Figure 4.3 top panel). Interestingly, more productive firms also benefit more from a stronger presence of multinationals in the same sector, likely due to horizontal spillovers (Figure 4.3 bottom panel) (see Table 3 in the Appendix for the full set of results).[17]

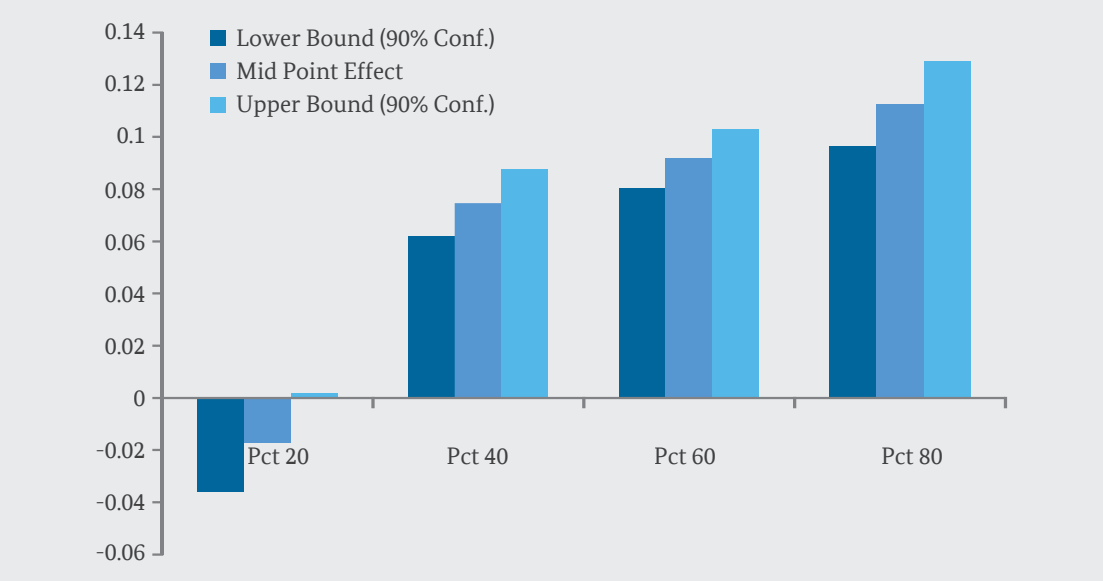
Figure 4.3. Semi-elasticities of service reform index (top) and same-sector presence of multinationals (bottom) on manufacturing TFP, by TFP decile



Source: World Bank staff calculations.

17 Fernandes and Paunov (2012) find the opposite for the case of service sector reform in Chile: manufacturing firms that were furthest away from the technological frontier tended to benefit most.

Figure 4.4. Effects of policy restrictiveness in services at different levels of the distribution of TFP



Source: World Bank staff calculations

The "winners" from service sector reform in Indonesian manufacturing have more human capital. Preliminary evidence suggests that the gains for manufacturers from service sector reform increase with the level of human capital of the firms' workforce, as measured by the average wage paid.

Similarly, for the case of horizontal spillovers within Indonesian manufacturing Blalock and Gertler (2009) also find that firms with higher human capital tend to benefit more from spillovers. **As a consequence of this heterogeneity, the average gains mask more complex effects.** While the least productive firms have little to gain, the gains that could accrue to the most productive 20 percent of firms is close to 12 percent (Figure 4.4).[18]

These firms are relatively more productive, they tend to add more value per unit of output, generate foreign exchange in export markets, and create better-paid jobs than less productive firms.

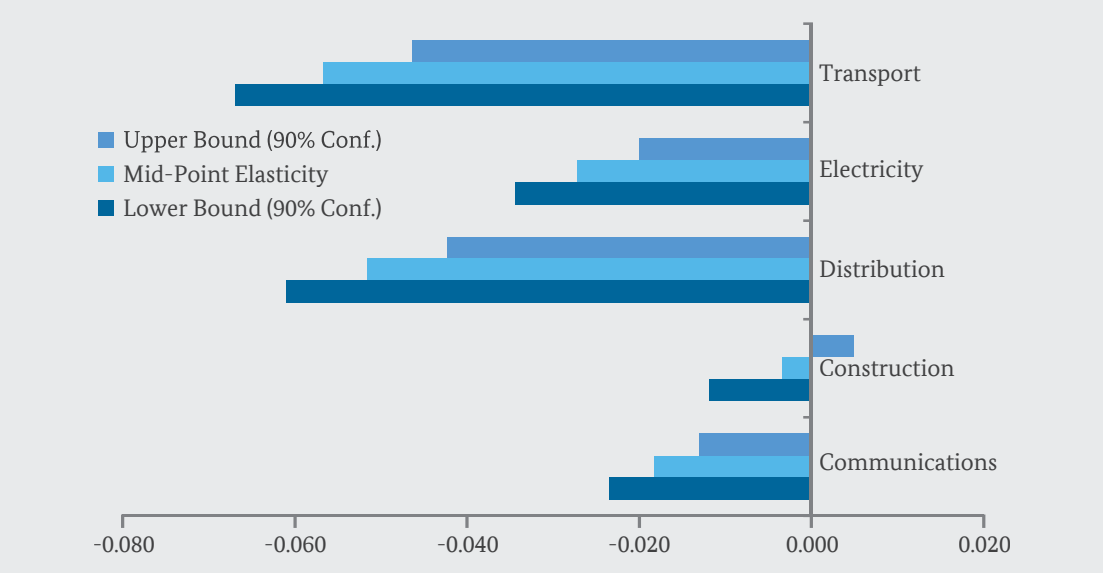
d. Are there specific service sectors that are critical for manufacturing performance?

Transport and distribution appear to be the service sectors for which reform most benefits manufacturers. When we disaggregate the restrictiveness indicator for different subsectors, substantial differences in the size of the effects on manufacturing performance emerge. For example, a 10 percent reduction in the restrictiveness index in the transport sector will increase

18 Results are analogous if instead of using quantile regression techniques, we test for differential effects of policy restrictiveness in the services sector by adding an interaction term of restrictiveness with dummies for top and bottom quartiles in terms of TFP, in the framework of a fixed effect model.

manufacturing firms' TFP by slightly more than a half percent (Figure 4.5). **If Indonesia were to match Malaysia's transport sector reforms (e.g.: by allowing majority foreign ownership in road freight), the estimated productivity gains for manufacturers are in the order of 2.92 percent.**

Figure 4.5. Manufacturing TFP changes after a 1 percent increase in the restrictiveness index, by sector



Source: World Bank staff calculations.

In the Electricity, Gas and Water sector, a 10 percent reduction in the restrictiveness index for the sector would yield productivity increases of about a quarter of a percentage point, while a reduction of similar magnitude would generate a productivity increase of less than one fifth of a percentage point in the case of Communications (Figure 4.5). The effects of reform in the Construction sector seem to have no effect on the total factor productivity of manufacturing firms.[19]

e. Do changes in FDI restrictiveness affect productivity growth?

Reductions in FDI policy restrictiveness in service sectors are systematically associated with faster productivity growth among firms in manufacturing sectors that use those services more intensively. These results are in line with those reported for the relationship between the level of restrictiveness and the level of firms' TFP, and constitute a check of robustness. The same patterns hold in terms of the heterogeneity in the effect by firm's TFP levels, as well as the specificities in terms of individual sector effects (see Table 4 in the Appendix for the full set of results).

19 Results reported here correspond to quantile regressions at the median. If instead we include the subsectoral measures of policy restrictiveness in the context of a Fixed Effects model, similar results emerge in terms of the size of the effects, although for subsectors "Communications" and "Distribution", the effects are poorly determined.

The Indonesian services sector plays an important role in the economy, as a direct creator of value added and jobs, and will continue to do so as the country develops. Indirectly, the sector plays a fundamental role in relation to the overall economy: it provides inputs into production that facilitate transactions through space (transport, telecommunications) or time (financial services). In fact, evidence increasingly suggests that service sector reform is a major potential source of gains in economic performance, including manufacturing productivity and the coordination of activities between and within firms. Efficient, low cost and high quality services generate economy-wide benefits. This is because goods production requires efficient services such as transport and logistics, telecommunications, business services, etcetera.

Chapter 5

Conclusions and Policy Recommendations

This note argued that service sector reforms, particularly in the form of reduced restrictions on FDI in the services sector, will likely increase competition in the sector, and contribute to quality improvements and price reductions, which will in turn induce economy-wide gains. We provided evidence suggesting that (i) the changes in restrictiveness toward FDI that took place in the last 15 years explain about 8 percent of TFP growth in Indonesian manufacturing during this period, (ii) the productivity gains were largely similar for domestic and foreign owned firms, (iii) more productive firms tended to benefit more from service sector reforms than less productive firms, and (iv) reforms in specific service sectors, such as transport, distribution, and electricity, gas & water, seem to be particularly important determinants of manufacturing performance.

From these results, some policy recommendations emerge:

Service sector reforms that reduce barriers to FDI– such as reducing equity limits on foreign ownership, restrictions on hiring foreign personnel (particularly harmful to the services sector that heavily relies on quick access to highly qualified personnel not always available locally) or, more generally, any discriminatory business regulation that introduces a bias against foreign firms – are likely to stimulate investments in the sector. These investments will contribute to (i) improved services infrastructure, (ii) increased competition, and (iii) improved quality of services provided.

In the road freight sector, for example, while the policy focus should be on increasing the quantity and quality of infrastructure, regulatory reform could also help boost competition and innovation. Indonesia could benefit substantially from reducing restrictions on foreign participation, which would help bring the sector into line with those of comparator countries, such as Malaysia. This could bring down freight costs, thus better positioning local firms to produce at competitive prices. Complementary policies to strengthen institutions crucial to service sector development are necessary if Indonesia is going to fully benefit from service sector reform. These involve mechanisms to address market failures and asymmetric information, independent regulators, and contract-enforcing mechanisms. These reforms are of particular salience due to three distinct characteristics of services:

(i) they are usually intangible, so they cannot be inspected by users before they are purchased, which introduces a market failure due to asymmetric information;

(ii) they often require specialized distribution networks (cables and satellites for telecommunications, pipes for energy distribution, or rails for land transport, for example) are prone to the emergence of natural monopolies or oligopolies. In these cases, independent regulators are crucial to promote competition. The 1999 Blueprint for Telecommunications and the landmark Telecommunications Act that ended the triple role of the government as regulator, policymaker and service provider was an initial step in the right direction; and

(iii) they tend to be customized, and the supplier and consumers usually need to make relationship-specific investments. This means that switching to another supplier (or consumer) is costly. The fear of *ex-post* default may reduce the incentives to make an investment today, making contract-enforcing institutions very important.[20]

20 Goswami et al (2012).

Broad-based, productivity-enhancing service sector reform should then necessarily encompass measures to increase competition, stimulate innovation and ensure judicious regulation, in addition to encouraging foreign investment. Recent proposals to reform the Indian insurance and pension sectors provide high profile examples of efforts to package reforms aimed at simultaneously easing service sector foreign equity limits while strengthening the regulatory framework.

Although in this note we report evidence suggesting downstream vertical spillovers from service sector reform on manufacturing performance, it is likely not only that manufacturers benefit, but that service users across the economy also benefit. It is known that these spillovers tend to increase with the amount of interaction between foreign and domestic firms. To maximize the positive spillovers, the government could consider incentivizing interaction between foreign services providers and domestic firms, either those that use their services or that supply inputs to them. One option would be for the government to substitute restrictions on foreign ownership with requirements for new foreign entrants to undertake, for example, explicit supplier development programs.

Evidence reported in this note suggests that more productive firms in the manufacturing sector tend to gain more from spillovers from service sector reform. These firms have better absorptive capabilities, and more skilled labor. This suggests that building human capital and labor force skills will not only have the known direct effects on productivity and the competitiveness of Indonesian firms, but will also likely increase the positive spillovers that accrue to manufacturers from service sector reform, and from increased FDI, in particular.

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Appendix

Appendix Table 1.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP
Policy Restrictiveness in	-0.903*	-0.940*	-0.981**	-0.982**	-0.851*					
Services FDI	(0.493)	(0.513)	(0.433)	(0.435)	(0.432)					
Policy Restrictiveness in Manufacturing FDI		-1.288*	-0.255	-0.255	-0.248		-1.195	-0.162	-0.163	-0.155
		(0.749)	(0.718)	(0.718)	(0.754)		(0.763)	(0.684)	(0.685)	(0.732)
Tariffs on Inputs (Effective)			-0.00759*	-0.00759*	-0.00717			-0.00754*	-0.00759*	-0.00722
			(0.00436)	(0.00441)	(0.00501)			(0.00437)	(0.00443)	(0.00501)
% of Output by Foreign				1.50e-05	-0.000151				-0.000152	-0.000297
Firms in the Sector				(0.000424)	(0.000395)				(0.000427)	(0.000400)
Output Tariffs (Effective)					-0.000758					-0.000725
					(0.00339)					(0.00351)
FDI Flows in the						-0.124	2.817	3.338	3.307	3.556
Service Sector						(0.127)	(3.735)	(3.077)	(3.097)	(3.212)
Constant	0.336***	0.382***	0.393***	0.393***	0.389***	0.0954***	0.284***	0.288***	0.291***	0.299***
	(0.0437)	(0.0558)	(0.0479)	(0.0489)	(0.0471)	(0.0130)	(0.0317)	(0.0308)	(0.0343)	(0.0351)
Observations	40,336	40,336	40,336	40,336	40,208	164,908	40,336	40,336	40,336	40,208
Firm-level Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standard Errors	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year	Clustered ISIC 2/ Year
R-squared	0.026	0.027	0.029	0.029	0.029	0.026	0.026	0.028	0.028	0.029
Number of id	25,492	25,492	25,492	25,492	25,425	29,456	25,492	25,492	25,492	25,425
Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1										

Appendix Table 2.

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP
Policy Restrictiveness in Services FDI	-0.851*	-0.783*	-0.820*	-0.842*					
	(0.432)	(0.445)	(0.428)	(0.431)					
Restrictiveness * Dummy Foreign			-0.223						
			(0.651)						
Dummy Foreign			0.0707						
			(0.0636)						
Policy Restrictiveness in Manufacturing FDI	-0.248	-0.527	-0.233	-0.243	-0.219	-0.222	-0.161	-0.282	-0.326
	(0.754)	(0.862)	(0.754)	(0.753)	(0.721)	(0.724)	(0.742)	(0.715)	(0.654)
Tariffs on Inputs (Effective)	-0.00717	-0.00754	-0.00721	-0.00719	-0.00710	-0.00708	-0.00685	-0.00695	-0.00886*
	(0.00501)	(0.00516)	(0.00502)	(0.00502)	(0.00503)	(0.00506)	(0.00507)	(0.00507)	(0.00521)
% of Output by Foreign Firms in the Sector	-0.000151	-0.000624*	-0.000171	-0.000165	-0.000282	-0.000325	-0.000309	-0.000257	-0.000293
	(0.000395)	(0.000370)	(0.000398)	(0.000396)	(0.000387)	(0.000379)	(0.000402)	(0.000391)	(0.000384)
Output Tariffs (Effective)	-0.000758	-0.000972	-0.000774	-0.000767	-0.000904	-0.00100	-0.00107	-0.00139	-0.000969
	(0.00339)	(0.00359)	(0.00338)	(0.00338)	(0.00353)	(0.00356)	(0.00350)	(0.00358)	(0.00356)
Restrictiveness * % Foreign Own.				-0.000575					
				(0.00776)					
Percent Owned (Foreign)				0.000364	0.000189	0.000160	0.000867	0.000541	0.000308
				(0.000795)	(0.000432)	(0.000461)	(0.000695)	(0.000488)	(0.000833)
Rest in Communications					-5.970				
					(6.558)				
Rest in Commun*% Foreign Own.					0.172				
					(0.151)				
Rest in Construction						-9.161			
						(11.65)			

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP	TFP
Rest in Const* % Foreign Own.						0.335			
						(0.393)			
Rest in Distribution							-0.173		
							(0.494)		
Rest in Distri* % Foreign Own.							-0.0114		
							(0.0145)		
Rest in EGW								-11.79**	
								(4.838)	
Rest in EGW* % Foreign Own.								-0.0644	
								(0.0835)	
Rest in Transport									-2.259**
									(0.915)
Rest in Transport * % Foreign Own.									0.00103
									(0.0246)
Constant	0.389***	0.380***	0.383***	0.387***	0.317***	0.322***	0.317***	0.357***	0.384***
	(0.0471)	(0.0483)	(0.0471)	(0.0471)	(0.0315)	(0.0342)	(0.0326)	(0.0353)	(0.0405)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Standard Errors	Clustered ISIC2/ Year	Clustered ISIC2/Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year	Clustered ISIC2/ Year
Observations	40,208	37,387	40,208	40,208	40,208	40,208	40,208	40,208	40,208
R-squared	0.029	0.032	0.030	0.029	0.029	0.029	0.029	0.030	0.030
Number of id	25,425	23,888	25,425	25,425	25,425	25,425	25,425	25,425	25,425
Robust standard errors in parentheses									
*** p<0.01, ** p<0.05, * p<0.1									

Appendix Table 3.

Dep Var: TFP	(2)	(4)	(6)	(8)
	Quantile 20	Quantile 40	Quantile 60	Quantile 80
Policy Restrictiveness in Services FDI	-0.168	-1.030***	-1.390***	-1.660***
	(0.164)	(0.0618)	(0.0999)	(0.175)
Policy Restrictiveness in Manufacturing FDI	-0.289	0.0160	-0.134	-0.218
	(0.237)	(0.179)	(0.346)	(0.276)
Tariffs on Inputs (Effective)	-0.00476***	-0.00614***	-0.00634***	-0.00590***
	(0.00153)	(0.000828)	(0.000820)	(0.00115)
% of Output by Foreign Firms in the Sector	-0.000315	0.000276	0.000471*	0.000589*
	(0.000411)	(0.000263)	(0.000262)	(0.000309)
Tariffs on Output (Effective)	-0.000995	0.000543	0.000770	-0.00118
	(0.00107)	(0.000730)	(0.000822)	(0.00155)
Constant	-0.255***	-0.0888***	0.0209***	0.218***
	(0.00577)	(0.00269)	(0.00286)	(0.00538)
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Observations	40,208	40,208	40,208	40,208
Standard errors in parentheses				
*** p<0.01, ** p<0.05, * p<0.1				

Appendix Table 4.

Dep Var: TFP	(5)	(14)	(23)	(32)	(41)
	q50	q50	q50	q50	q50
Rest Communications	-14.20***				
	(2.467)				
Rest Construction		-3.986			
		(5.865)			
Rest Distribution			-1.057***		
			(0.116)		
Rest Electricity				-7.120***	
				(1.135)	
Rest Transport					-2.036***
					(0.224)
Policy Restrictiveness in Manufacturing FDI	-0.0214	-0.295	-0.209	-0.313	-0.276
	(0.312)	(0.209)	(0.212)	(0.240)	(0.282)
Tariffs on Inputs (Effective)	-0.00497***	-0.00466***	-0.00430***	-0.00435***	-0.00617***
	(0.000895)	(0.000793)	(0.000778)	(0.000728)	(0.000873)
% of Output by Foreign Firms in the Sector	0.000156	0.000107	0.000187	0.000142	0.000211
	(0.000216)	(0.000239)	(0.000285)	(0.000172)	(0.000274)
Tariffs on Output (Effective)	0.000199	-0.000523	4.14e-05	-0.000628	-0.000331
	(0.000608)	(0.000711)	(0.000597)	(0.000809)	(0.000663)
year==1997	0.0936***	0.0728***	0.0640***	0.0858***	0.0943***
	(0.00595)	(0.00642)	(0.00430)	(0.00456)	(0.00801)
year==2006	0.101***	0.0948***	0.0796***	0.101***	0.103***
	(0.00537)	(0.00580)	(0.00411)	(0.00329)	(0.00443)
Constant	-0.0301***	-0.0219***	-0.0129***	-0.0281***	-0.0311***
	(0.00355)	(0.00419)	(0.00267)	(0.00237)	(0.00346)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	40,208	40,208	40,208	40,208	40,208
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

Appendix Table 5.

Dep. Var. D.TFP	(1)	(2)	(3)	(4)	(5)	(6)
	q50	q50	q50	q50	q50	q50
D. Rest. to FDI in Services	-0.566***					
	(0.127)					
D. Rest. In Manufacturing	0.413	0.390	0.411	0.483	0.473	0.432
	(0.423)	(0.422)	(0.569)	(0.431)	(0.455)	(0.427)
D. Tariffs on Inputs	-0.00948***	-0.00956***	-0.00990***	-0.00918***	-0.0108***	-0.00959***
	(0.00123)	(0.00114)	(0.00161)	(0.00167)	(0.00108)	(0.00124)
D. % of Output by Foreign Firms in the Sector	5.90e-05	-0.000112	-0.000104	-5.95e-05	-0.000115	-2.06e-05
	(0.000306)	(0.000346)	(0.000418)	(0.000219)	(0.000368)	(0.000280)
D. Tariffs on Output	-0.000180	-0.000380	-0.000132	-0.000188	-0.000437	-0.000192
	(0.00101)	(0.00149)	(0.00144)	(0.00101)	(0.000761)	(0.00136)
D. Rest EGW		-3.922				
		(3.282)				
D. Rest Construction			-7.435			
			(9.690)			
D. Rest Distribution				-0.368*		
				(0.206)		
D. Rest Transport					-1.217***	
					(0.396)	
D. Rest Communications						-5.483
						(4.584)
Constant	0.207***	0.216***	0.215***	0.203***	0.216***	0.213***
	(0.00639)	(0.00750)	(0.00843)	(0.00980)	(0.00663)	(0.00562)
Firm Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14,359	14,359	14,359	14,359	14,359	14,359
Standard errors in parentheses						
*** p<0.01, ** p<0.05, * p<0.1