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Can Open Service Sector FDI Policy Enhance Manufacturing Productivity? Evidence from Indonesia

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Drawing on the findings of recent research, this note examines the extent to which changes to policy restrictions on foreign direct investment (FDI) in the Indonesian service sector affected the performance of downstream manufacturers during 1997–2009. The analysis uncovers two important findings: first, that relaxing restrictions toward FDI in service sectors was associated with improvements in the perceived performance of those sectors, and second, more importantly, that this relaxation accounted for 8 percent of the total observed increase in manufacturers' total factor productivity (TFP) during this period. The results show that these TFP gains accrue disproportionately to those firms that are relatively more productive and that gains are related to the relaxation of restrictions in the transport as well as the electricity, gas, and water sectors. TFP gains are associated, in particular, with the relaxation of foreign equity limits, screening and prior approval requirements, but less so with discriminatory regulations that prevent multinationals from hiring key personnel from abroad.

Goods and Services: Mutually Reinforcing Liberalization

Just as Cinderella was the ignored sister with great potential, so service sector FDI may be the neglected sibling of trade policy. As trade and FDI regimes have become more liberalized in recent decades, tariff reductions and FDI in manufacturing have hogged the limelight, while FDI in services has often remained a wallflower. In fact, most restrictions on FDI flows today are in the service sectors (UNCTAD 2004), reflecting the fact that governments—particularly in developing countries—are not willing to allow unrestricted foreign entry into sectors they consider sensitive or strategic.¹

Openness in the service sectors is part and parcel of a comprehensive trade policy reform package. The benefits of

opening up the service and goods markets can be mutually reinforcing, the full potential of each not being realized without adequate openness in the other. Increased openness in service sectors not only implies increased foreign presence, it implies, more broadly, encouraging entry and inducing increased competition between foreign and domestic providers alike. One would expect this competitive dynamic to deliver: (i) better and more reliable provision of existing services, (ii) new varieties of services, and (iii) competitive pricing in the service sectors. Furthermore, one would expect increased productivity, trade and output in the service sectors, and improved economywide performance through links with the productive sectors.

Duggan, Rahardja, and Varela (2013) explore links between changes to restrictions on service sector FDI in Indone-

sia and both the perceived performance of those service sectors and productivity in downstream manufacturing since the East Asian crisis. Their analysis uses firm-level data on manufacturers' productivity from 1997–2009, results from the World Bank Enterprise Surveys on performance perceptions and the Organisation for Economic Co-operation and Development's (OECD) FDI Regulatory Restrictiveness Index, combined with data from Indonesia's input-output tables regarding the intensity with which manufacturing sectors use services inputs.

Indonesia: Reformed Service Sector Driving Postcrisis Recovery

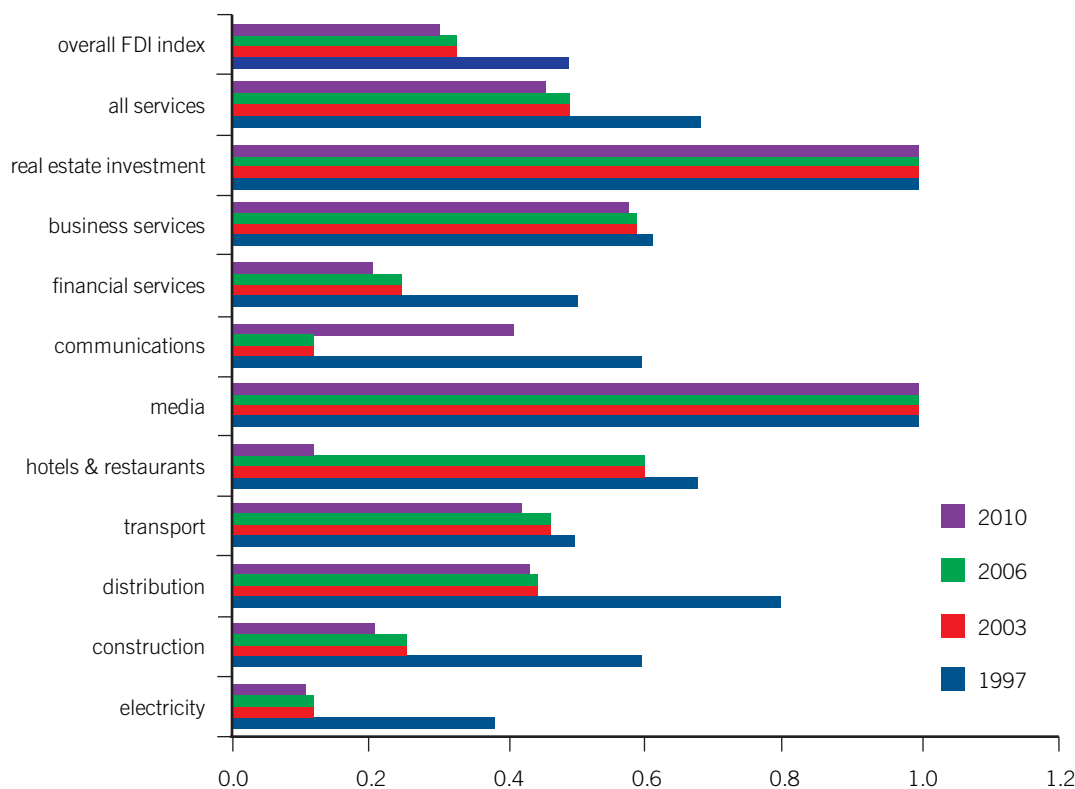
Since the East Asian crisis, Indonesia has undergone political and economic transformation, with stability becoming entrenched and the business environment improving significantly. It is one of the largest and fastest growing economies in Asia, and the world's most dynamic growth pole. The service sectors combine to account for half of all those employed in Indonesia, and more than half of gross domestic product (GDP). With growth having averaged 7.2 percent over the past decade, the service sectors are the most dynamic, driven in large part by strong growth in the communications, transport, and trade sectors. Overall, the country has become more open to trade and FDI, liberalization being particularly in-

tense in the immediate aftermath of the crisis (figure 1). Many of these policy changes were exogenously determined, driven by commitments to the International Monetary Fund, the World Trade Organization, and the Association of South-east Asian Nations.

The reforms following the East Asian crisis had a tremendous impact not only on the development of Indonesia's service sectors, but also on overall economic growth. The reforms included abolishing state-owned enterprise (SOE) monopolies, allowing more private operators, including FDI, and establishment of regulatory bodies for several service sectors. Notably, Indonesia's telecom and air transport sectors underwent significant reform and have subsequently experienced rapid transformation. As seen in figure 2, output from services increased rapidly during the years of economic recovery (1999–2004), with a 6.5 percent average annual growth rate, compared to a GDP growth rate of 4.6 percent over the same period.

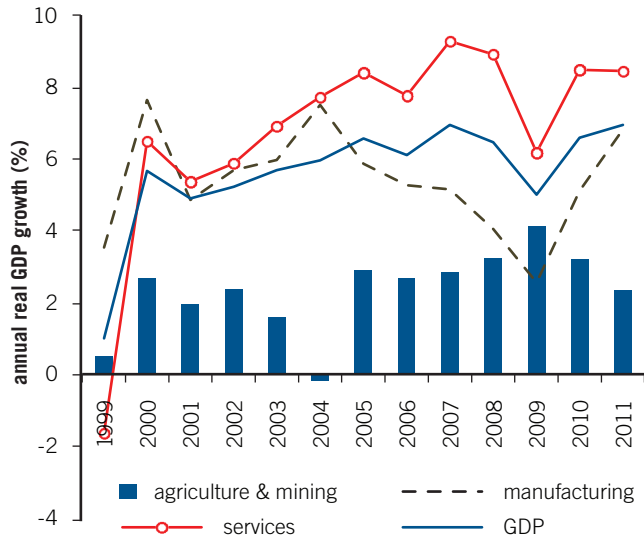
The postcrisis relaxation of regulatory restrictions, along with an increasingly attractive domestic market and relatively lower labor costs, contributed to a strong recovery in FDI flows across all sectors. Despite Indonesia's relatively restrictive policy regime, FDI flows have been particularly strong in the service sectors (figure 3), accounting for 40.1 percent of all FDI in 2011, driven in turn by investments in the trans-

Figure 1. The Evolution of FDI Restrictiveness in Indonesia, Since 1997



Source: OECD FDI Regulatory Restrictiveness Index.
Note: 0 = least restrictive, 1 = most restrictive.

Figure 2. Services Played Important Role in Indonesia's Economic Recovery



Source: Staff estimates from "Statistics Indonesia" data.

port, storage, communications, trade, hotel, and restaurant sectors.

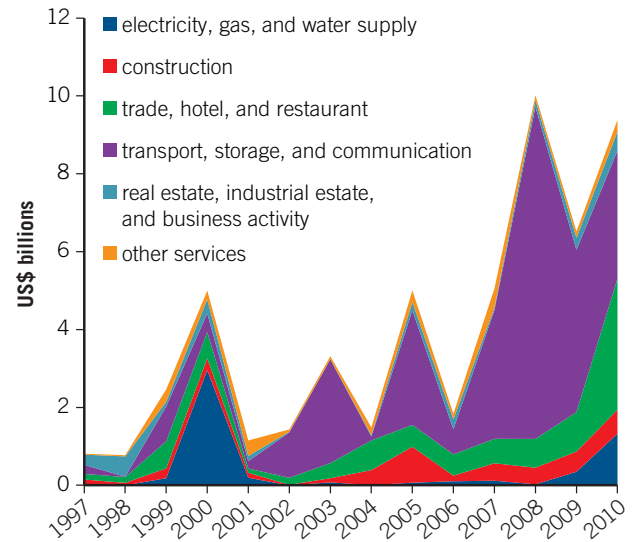
While Indonesia is relatively open in terms of trade in goods, restrictions on foreign participation in the economy, and the service sector in particular (either through trade or through FDI), remain pervasive despite broad-based liberalization efforts since 1997. Moreover, reforms have not been universally in the direction of increased liberalization. For example, having undergone significant opening to private sector investment, both domestic and foreign, with the passage of the landmark Telecommunications Act in 1999, the telecom sector became relatively more closed through a tightening of foreign equity limits after the passage of Presidential Regulation 77/2007 and subsequently 36/2010 (that is, the investment negative list), which regulate investments in several sectors.

The OECD's FDI Regulatory Restrictiveness Index reflects these developments (figure 1): the communications subindex 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. The OECD index also suggests that Indonesia's service sector FDI regime is the second most restrictive, after China, of the 55 countries surveyed.

Indonesia: Links between Services and Manufacturing

The individual service sectors combine to be not only the largest and most dynamic sector in Indonesia, but they are also strongly linked with all of the productive sectors, accounting for 35 percent of overall intermediate inputs, including 27 percent of intermediate primary inputs, 21.3 percent of in-

Figure 3. Boom in Service Sector FDI, by Subsector



Source: Indonesia Investment Coordinating Board.

termediate manufacturing inputs, and 50 percent of intermediate inputs into the service sectors themselves.

These links underline the importance of services as inputs for firms across different activities, and the potential for economywide productivity gains through improved service sector performance. Changes in the regulatory environment for services therefore have the potential to have a strong economywide impact.

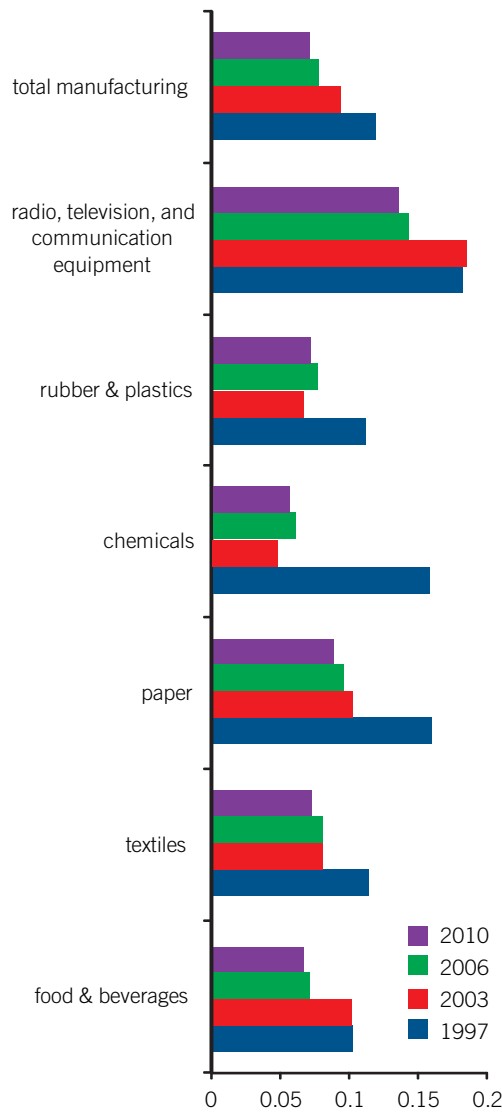
Despite recent policy changes in limiting foreign ownership in the telecom and transport sectors, in general, Indonesian manufacturers have been increasingly presented with better access to competitive services since 1997. The analysis team calculated the weighted average restrictiveness of access to services faced by Indonesian manufacturers using plant level data and input-output tables, which use a methodology presented in the next two sections. The calculations show that the average restrictiveness to services faced by Indonesian manufacturing has declined steadily over the years (figure 4). Access to more, better, or cheaper services can be expected to improve productivity at all Indonesian firms, enabling them to better compete in the global marketplace.

Measuring the Impact: Service Sector Reform and Performance

Given the important links between the service and manufacturing sectors in Indonesia, key questions are:

- (i) What are the productivity costs that manufacturers face due to policies restraining competition in the form of FDI restrictions in the service sectors?
- (ii) What are the characteristics of the manufacturers most affected by FDI restrictions in the service sectors?

Figure 4. Indonesian Manufacturers Have Better Access to Competitive Services—Evolution in the Weighted Restrictiveness Faced by Selected Manufacturing Sectors in Upstream Services



Source: BPS, OECD FDI Regulatory Restrictiveness Index, and authors' calculations.

- (iii) In which service sectors are restrictions most costly?
- (iv) Which specific restrictions hurt manufacturers the most?

Four data sets help provide answers to these questions: the OECD FDI Regulatory Restrictiveness Index for Indonesia for 1997–2009, input-output tables constructed by the Indonesian statistical office (BPS), Indonesian manufacturing census data tracing all registered manufacturing firms in Indonesia with 20 or more employees (on average, containing information for about 20,000 firms per year), and perception data on service performance from the World Bank's Enterprise Surveys for Indonesia (available for 2003 and 2009). Input-output data provide a sense of the importance that each service sector has for the input costs of each manufacturing

subsector. The policy restrictiveness in services that is faced by each manufacturing sector user is calculated as a 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. Figure 4 shows the evolution of this index over 1997–2010.²

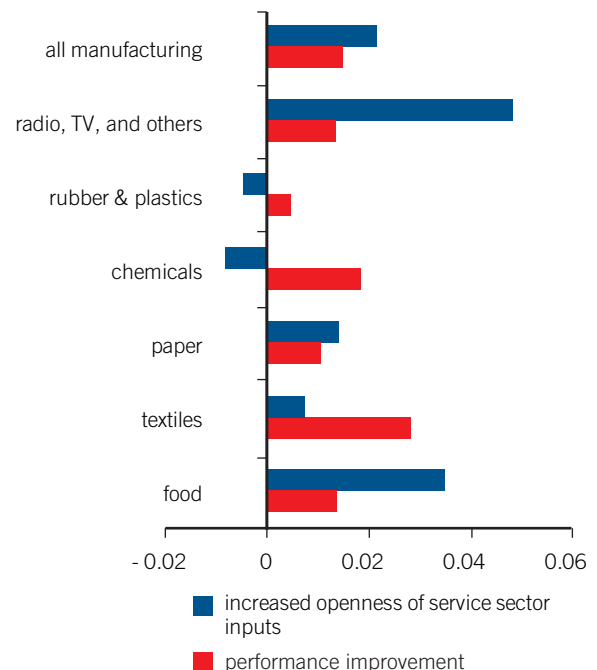
The next step splits into two stages: first, links between this measure of policy restrictiveness and service sector performance as perceived by manufacturers are explored, and second, manufacturing firms' TFP is related to the indicator of policy restrictiveness in services.³

Reform and Perception-Based Performance in the Service Sector

For reforms in the services sector to have an effect on manufacturing productivity, a preliminary condition is that these reforms somehow affect the performance of the service sectors themselves, either by affecting the quality, availability, or price of the services provided to manufacturers. This section examines these two relationships.

The performance of the service sectors, as measured by the perceptions of its users in manufacturing industries, is negatively related to how restrictive it is toward FDI. Analysis showed that a 1 percent improvement in service sectors' perceived performance was associated with a 1 percent reduction in the degree of restrictiveness toward FDI in those service sectors (figure 5).

Figure 5. Increased Service Sector Openness Associated with Improved Performance Perceptions



Source: Statistics Indonesia, OECD FDI Regulatory Restrictiveness Index, and authors' calculations.

The experience in freight and logistics services revealed by data in Indonesia provides a concrete example of a typical link between policy restrictiveness and performance. If services related to freight and logistics remain sheltered from foreign investment and competition, costs may remain high and service quality poor, thus undermining the capacity of the private sector to benefit from business opportunities that involve long distance shipping. Logistics costs in Indonesia are estimated to be nearly double those in the Republic of Korea, and nearly three times those in Japan. Costs are even significantly greater than those in neighboring countries. For example, it costs US\$750 to transport a container from Cikarang to Tanjung Priok on the island of Java, but only US\$450 between Pasir Gudang and Tanjung Pelepas in Malaysia, a roughly similar distance.

While the major importance of quantity and quality of infrastructure should not be underestimated, differences in terms of openness and competition in the Indonesian service sector may also play a role. The road freight sector is relatively more open in Malaysia, where they even allow full foreign ownership if services rendered include technologies, vehicles, and expertise not available in Malaysia. Moreover, port handling charges are substantially higher in Indonesia than in Malaysia, likely due, at least in part, to the fact that while a monopoly operates the terminals of Tanjung Priok (Indonesia), and cargo handling is closed to foreign ownership, several firms (foreign and domestic) compete in Tanjung Pelepas (Malaysia), driving costs down and improving the quality of services.

Reform and Manufacturing Productivity

Post-Asian crisis reforms in the service sectors in Indonesia have contributed to increased productivity of its manufacturing firms, adding roughly 0.4 percentage points to annual average productivity growth over 1997–2009. With Indonesian manufacturing plants increasing their productivity by almost 43 percent over the period, and the total effect of relaxing restrictive policies toward FDI in the service sectors being close to 3.5 percent, the results here suggest that these reforms accounted for a sizable 8 percent of this total. This is roughly in line with international evidence; for example, Fernandes and Paunov (2012) find that reforms in the service sectors in Chile accounted for about 5 percent of the total productivity growth of manufacturers over 1992–2004.

A numerical exercise is useful to give a sense of the relevance of this result. If Indonesia were to match the policies of a service sector reform champion, such as Korea, the productivity gains for manufacturing firms would be on the order of 5 percent instead of the observed 3.5 percent.⁴ Matching Brazil's level of restrictiveness would lead to TFP gains on the order of 6 percent, on average (figure 6).

Who gains the most from service sector reform?

Evidence suggests that in Indonesia, domestic and foreign-owned manufacturing plants benefit alike from reform in the service sectors. This is important from a policy perspective, because it suggests that local firms can benefit as much as foreign firms from further reform, and contrasts with evidence found in different contexts. For example, in India, Arnold et al. (2010) find that gains accruing to foreign-owned manufacturing plants were about 12 percent greater than those accruing to domestic plants.

How productive you are matters for how much you gain. The marginal return to service sector reform is higher among the best performers. The spillover effect from reduced restrictiveness in the service sectors over the last 15 years was not homogeneous across firms. While the least productive 25 percent of firms did not benefit from service sector reform, the gains accruing to the 25 percent most productive were about double in size than those accruing to firms in the central part of the distribution. This result suggests that reforms in services disproportionately benefited those firms that had better capacity and technology to employ inputs. These more productive firms also tend to add more value per unit of output, generate more foreign exchange in export markets, and create better paying jobs than less productive firms.

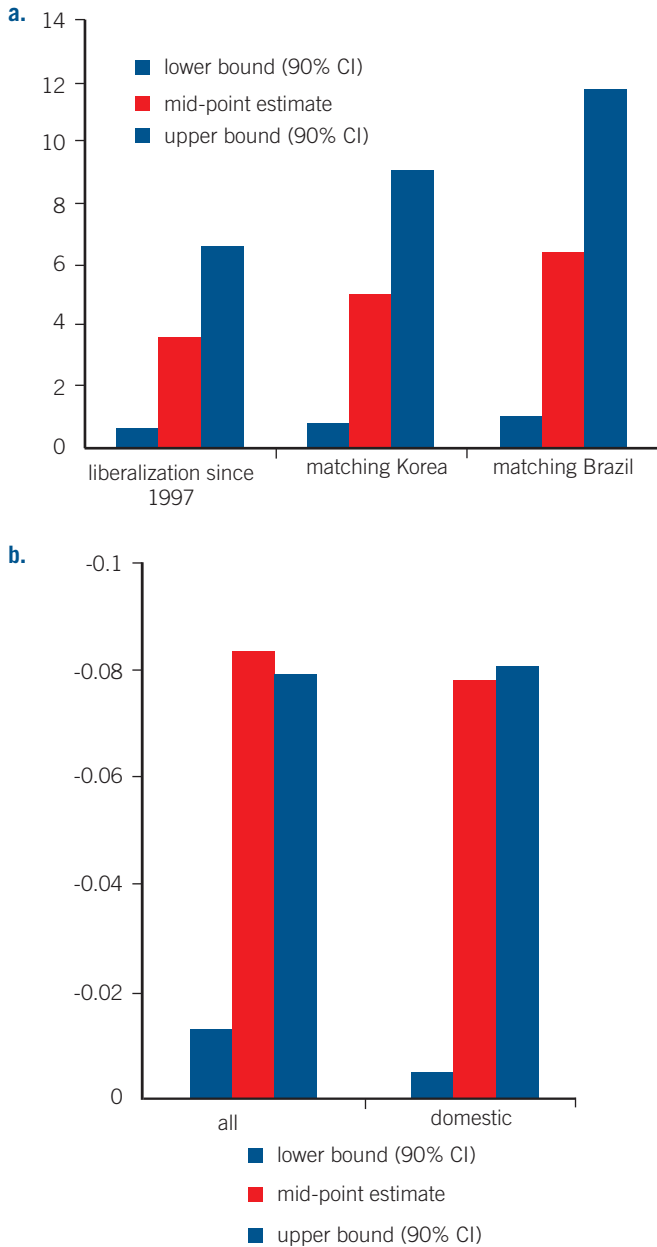
Not all reforms are created equal...

From a policy perspective, it is important to know whether all types of reforms conducive to reduced restrictiveness to FDI in services are equal from the point of view of their effects on manufacturing performance. Evidence suggests this is not the case.

The sector in which restrictions are relaxed matters. Transport, electricity, gas, and water appear to be the service sectors in which reform most benefits manufacturers, while the effects on manufacturers' TFP derived from reform in the communications, distribution, and construction sectors are indistinct, from a statistical point of view.⁵

The type of restriction that is relaxed also matters. Anecdotal evidence suggests that foreign firms value having the majority on a firm's board of directors. This allows them to be more effective in influencing firms' operations and strategic plans. Thus, restrictions in terms of maximum equity allowed to be held by foreigners in particular sectors may be especially harmful in discouraging foreign entry and can discourage foreign counterparts from deploying their best systems and technology. Results from this analysis confirm this to be the case. While specific restrictions to hiring key personnel from abroad by foreign firms in the services sector seem to be relatively innocuous for manufacturing performance, restrictions in terms of maximum foreign equity allowed are negatively associated with manufacturing firms' TFP. The same

Figure 6. Estimated Effects of Service Sector Liberalization on TFP, and Some Simulations



Source: Authors' calculations.
 Note: The red bars indicate the point estimates of the induced effects; the blue bars show the lower and upper bounds of 90 percent confidence intervals.

holds for restrictions related to screening, prior approval requirements, and other operational restrictions.

Conclusion

Substantial gains can still be achieved if countries move forward with their liberalization agendas in the service sectors. Indonesia, in particular, has much to gain from tapping service sector FDI to drive the economywide productivity gains needed for sustainable long-term economic development.

There is nothing automatic about benefits from service sector FDI positively impacting economywide productivity. Appropriate supply side supports are necessary to ensure the greatest possible welfare and productivity gains. Policies on skills and education, investment in infrastructure, and adequate protection for intellectual property all have a role to play in maximizing the positive impact of opening the service sectors to foreign investment. Given the risks of market failures, such as limited accessibility, poor quality and regulatory capture by big service providers, proper incentives and a robust regulatory regime have significant roles to play in encouraging competition and ensuring universal access and quality services for users. 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 foreign equity limits in the service sector while strengthening the regulatory framework.

Like Cinderella, Indonesia needs glass slippers for both feet. For Indonesia, reaping the maximum benefits from foreign investment and global trade is likely to require the progressive opening of trade-related service sectors to foreign investment, while maintaining an open posture on trade in commodities and manufactured goods, coupled with continued efforts to improve policy certainty, macro stability, and the business environment.

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Notes

1. Many service sector activities are plagued with market failures, for example, natural monopolies, incomplete markets, or asymmetric information. This may partially explain why governments often intervene heavily in these activities.
2. This follows the approach of Arnold, Javorcik, and Mattoo (2011).

3. This is calculated by regressing TFP on the manufacturing sector–specific index of policy restrictiveness in service sectors and other controls that include firm-level fixed effects, year fixed effects, manufacturing input and output tariffs, foreign presence in the manufacturing sector, and policy restrictiveness toward FDI in the manufacturing sectors themselves.

4. Korea speeded up its service sector reform agenda recently, at a later stage of development than Indonesia.

5. The estimated effects of restrictiveness on TFP are negative in all cases, but for these three sectors, they are not statistically significant. Evidence from India reported by Arnold et al. (2010) also points to reform in the transport sector as a top priority for manufacturers, as well as reform in communications and finance.

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