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Policy Note 1

Openness, Growth, and Productivity in Indonesia's Development Agenda

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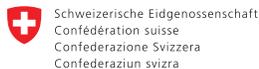
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Policy Note 1

Openness, Growth, and Productivity in Indonesia's Development Agenda

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Abstract

The government of Indonesia has set ambitious goals for development, envisioning high, inclusive and sustainable growth over the coming years. Indonesia has the resource endowments and the potential to attain these goals. To turn this potential into reality, the private sector needs to increase investment and productivity to become a growth-engine for quality jobs to meet the needs of a rapidly increasing labor force. This note argues that maintaining and deepening Indonesia's integration into the global marketplace will facilitate this process. Policies that encourage greater integration into the world economy are no substitute, however, for a broader development strategy that takes into account, on one hand, that public support may be needed to improve the general business climate and quality of human capital, particularly logistics services, and on the other, that there remains room for corrective action to compensate groups that may be negatively impacted in the process of integration into the world economy.

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Indonesia proved resilient during the financial crisis in the developed world, continuing on its development path of strong growth and poverty reduction. This has been reflected in relatively strong growth rates in recent years, as well as an uninterrupted process of poverty reduction. This was achieved because, in spite of a temporary reduction in external demand during 2009, domestic demand kept growing robustly during this period. These trends have generated some debate about the role that greater integration into the world economy does, can and should play in Indonesia's development strategy.

This note examines available evidence on the links between integration, growth and competitiveness (both international – across

Chapter 1

Introduction and Context

countries, and for Indonesia). It also explores the complementary policies that can ensure that greater integration into the global marketplace provides the maximum gains while making the risks more manageable.

Although there are risks that need to be managed, Indonesia can benefit substantially from retaining and deepening its integration into the world economy, because integration facilitates increases in investment, fosters competition and induces competitiveness improvements in domestic industries, which translate into welfare gains for the Indonesian population.

The first section of this note looks at the relative roles that investment in physical capital, productivity gains and increases in the labor force have played in stimulating growth in Indonesia. The second section discusses how greater integration with the world economy can help increase the contribution of investment to growth. The third section focuses on how integration can help increase competitiveness and hence the contribution of productivity to growth, while the fourth section discusses how integration can help increase the contribution of human capital accumulation. The fifth section explores the scope for further integration of the Indonesian economy into the global marketplace. Finally, the sixth section elaborates on the complementary and compensatory policies needed to ensure Indonesia maximizes gains and minimizes risks from greater integration.



Indonesia has grown at an average rate of 5.8 percent per annum over the last five years. Between 2006 and 2008, increases in the capital stock accounted for more than half of this growth, while 27 percent of growth resulted from an increase in the labor force. To a great extent, growth in Indonesia was driven by the accumulation of capital and labor. This has been a relatively common finding in studies focusing on the impressive growth performance of the so-called “NICS” (Singapore, Hong Kong, Taiwan and South Korea) over the last decades of the twentieth century.¹

¹ A classic reference is Alwyn Young’s (1994) analysis on the matter.

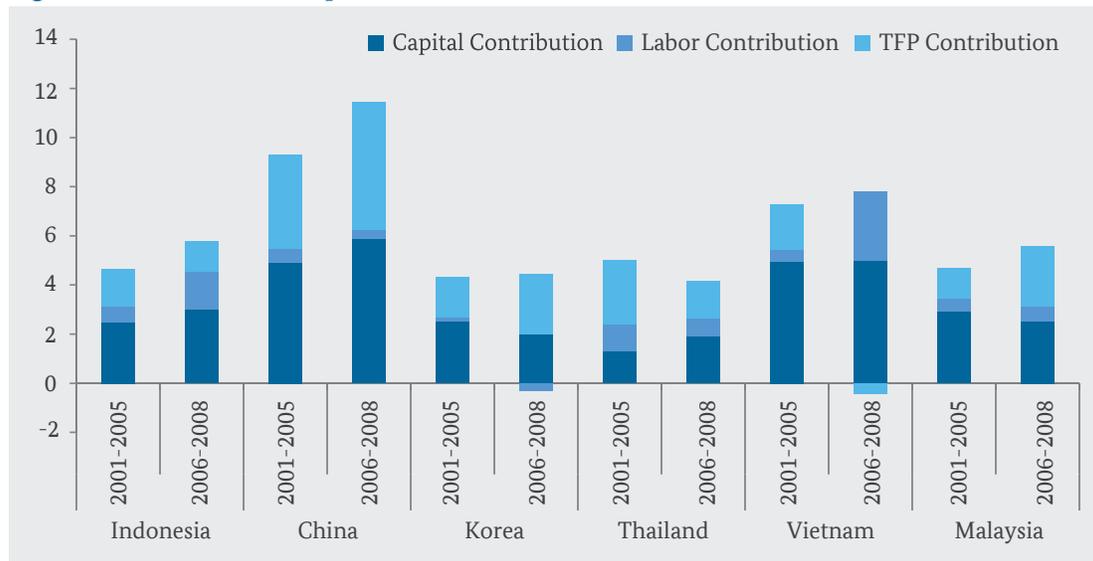
Chapter 2

How did Indonesia Grow in the Recent Years? What Were the Main Drivers?

However, productivity growth has played a more central role in recent growth experiences in East Asia. Productivity is here defined as the capacity to make better use of the available capital stock and labor force.² Improved productivity has been an increasingly important driver of growth among countries in the region, with the exception of Vietnam (Figure 2.1). In China, nearly half of the remarkable GDP growth performance, with rates well above 10 percent per annum, was accounted for by productivity growth.

Compared to most middle-income countries in the region, Indonesia is lags behind in generating productivity growth. In Malaysia and Thailand, productivity growth contributed 44 and 36 percent, respectively, to their economic growth between 2006 and 2008. For Indonesia, the figure was 21 percent. Given the strong evidence of the centrality of productivity growth in driving up long-run income per-capita, policy debate focused on improving productivity is critical to Indonesia’s development agenda.

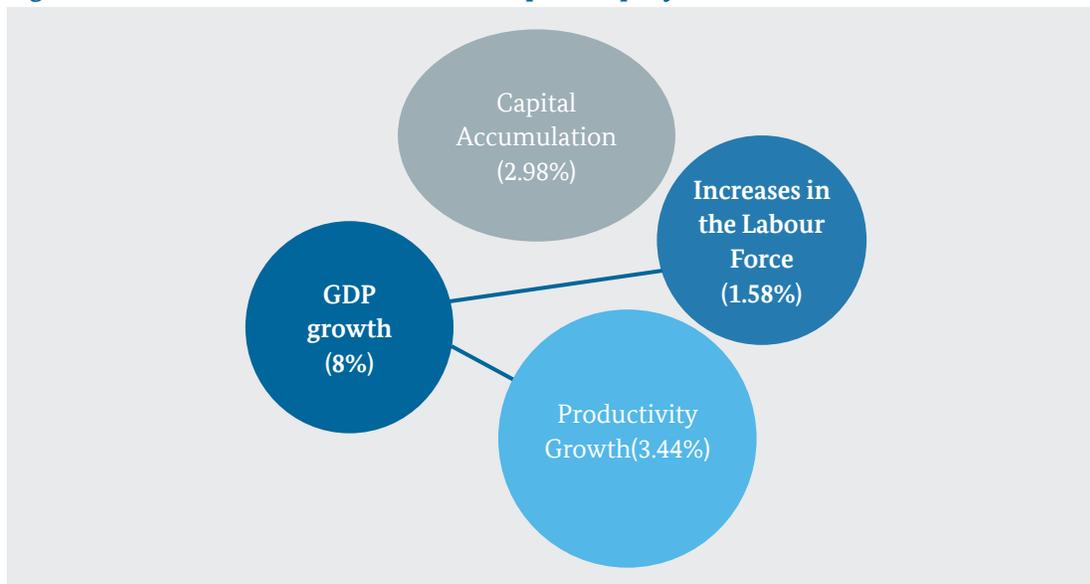
Figure 2.1. Growth Decomposition for Selected East Asian Countries (2001-2008)



Source: Authors’ calculations based on APO Data.

2 These results emerge from a growth accounting decomposition in which GDP growth results from the sum of increases in the stock of capital mediated by the share of capital in the production process, increases in the labor force mediated by the share of labor in the production process, and increases in productivity. The decomposition assumes that production can be represented by a Cobb-Douglas production function, and that factor markets are relatively competitive. A more detailed description of the methodology is presented in the Appendix to this note.

Figure 2.2. What Would it Take to Grow at 8 percent per year?



Source: Authors' calculations

Ramping up investment and productivity growth are essential for Indonesia to meet its ambitious growth targets. A back of the envelope calculation suggests that if labor force growth remains stable around 1.58, meeting the 8 percent target for annual GDP growth will require increases in productivity by a factor of between 1.76 and 2.6, depending on the prevailing investment ratio. This implies that productivity growth would have to increase from its current level of 1.23 percent to between 2.17 percent and 3.22 percent if the 8 percent growth target is to be met, based on the assumption that the investment ratio stabilizes at respectively 100 percent and 85 percent of its pre-East Asian crisis level. (Figure 2.2).³

³ For this simulation we use the ratio $K/Y=2.4$ reported by APO for 2008, a depreciation rate for the capital stock=4%, and the Cobb-Douglas coefficient, $\alpha=0.5$.



In 2012, investment spending in Indonesia picked up while the country has also attracted strong inflow of FDI. In 2012, the ratio of investment to GDP was higher than the pre-East Asian crisis level, suggesting that an increased role of investment in driving growth. Recent BKPM data suggests that 2012 was a record year for foreign investment realization having reached US\$24.6 billion, representing a 26 percent year-on-year increase and more than 70 percent of overall investment realization in Indonesia. These increased FDI inflows have been driven, on the one hand, by relatively low labor costs, and on the other, by favorable demographics, higher GDP per capita growth, a rapidly growing middle class, and rich natural resource endowments. This makes Indonesia an attractive destination for efficiency-seeking, market-seeking foreign and resource-seeking firms.

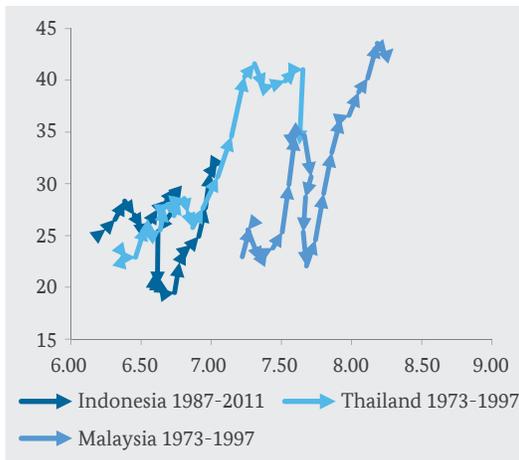
Chapter 3

How Can Greater Integration Stimulate Investment?

Nevertheless, looking back further over recent decades suggests that Indonesia's investment performance has lagged behind comparative countries within the region (Figure 3.1 and Figure 3.2). The experience relative to India is interesting. India's investment rates were similar to those that Indonesia experienced in the mid-1970s to early 1990s. However, in recent years, India's investment rates have continued to rise with income per capita, while those of Indonesia experienced a significant setback on foot of the East Asian crisis. In more recent years, Indonesia's investment rate has begun to recover, but still remains much lower than those in China when it was at a similar stage of development.

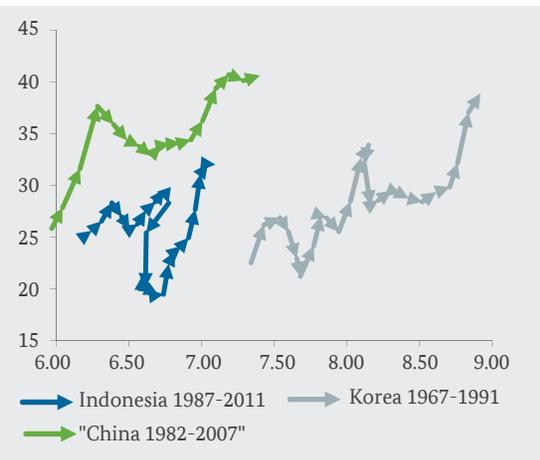
The comparison with high-income economies in the EAP region is also revealing. When these economies faced comparable levels of per capita income to those in Indonesia today, investment rates were not too dissimilar to those currently prevailing in Indonesia. But, investment in these countries continued to rise significantly to 35-45 percent before declining as they reached much higher per capita income levels. Given this performance in terms of investment, the question that arises is how will Indonesia manage to increase investment rates to the levels required to meet its growth targets? Adopting measures to foster FDI could help sustain the current trajectory of increasing investment rates in Indonesia so that they reach the necessary levels to meet growth targets.

Figure 3.1. Gross Fixed Capital Formation and Level of Development for Selected Countries (1)



Source: Authors' calculations based on WDI Data.

Figure 3.2. Gross Fixed Capital Formation and Level of Development for Selected Countries (2)



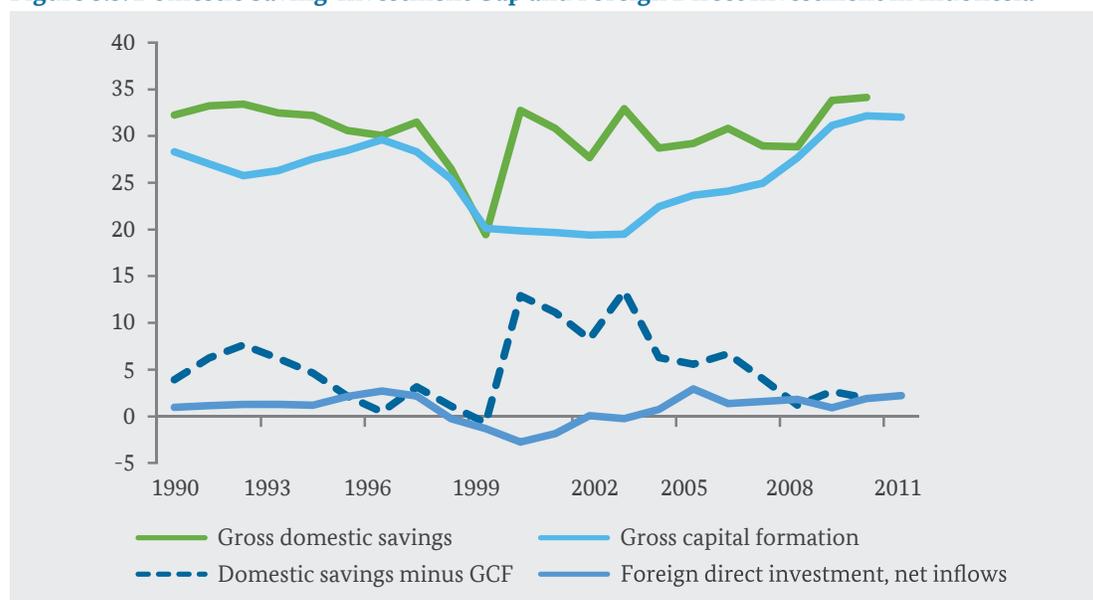
Source: Authors' calculations based on WDI Data.

Indonesia is an attractive destination for foreign investment and foreign investment is an attractive source of financing for Indonesia. For investment rates to rise, the combination of two elements is needed: investment opportunities in Indonesia and financing for investment. Greater integration with the global marketplace is likely to contribute in both respects.

3.1 Financing for Investment

Given the *estimated* evolution of domestic savings, foreign sources will be crucial in providing the required financing for the targeted increases in capital investment. Over the last decade the domestic saving-investment gap has fallen to almost zero (Figure 3.3), and although it is possible to stimulate higher savings rates domestically, these could have the unintended consequence of choking off domestic demand, which has been an important driver of growth in recent years. From a pure accounting perspective, if higher investment rates are to be observed in Indonesia, the economy will have to be more receptive to foreign investment.

Figure 3.3. Domestic Saving-Investment Gap and Foreign Direct Investment in Indonesia



Source: Authors' calculations based on BPS.

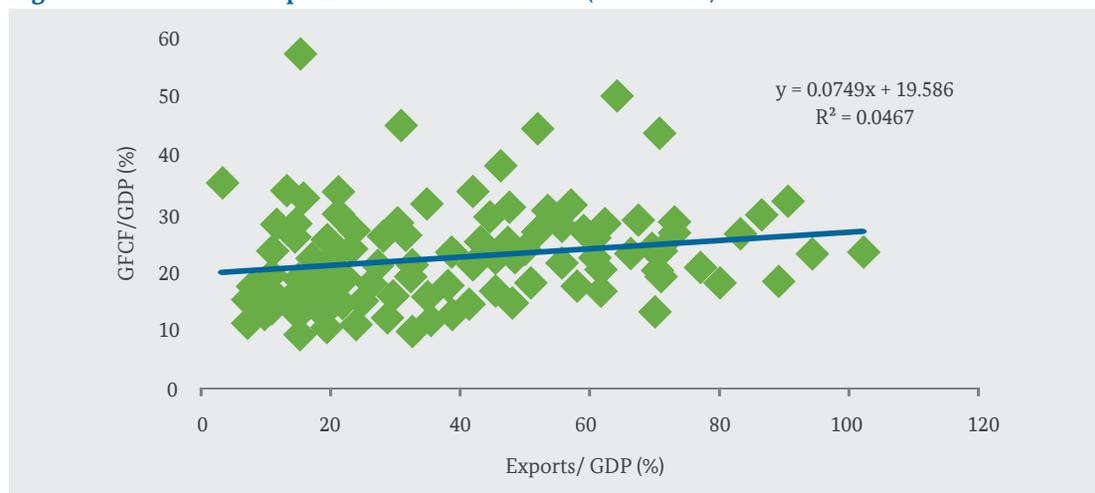
Amidst the foreign financing options available, FDI appears to be an attractive one. FDI flows are typically more stable than other foreign financial flows, such as portfolio investment. This makes FDI a more reliable source of financing in the long term.⁴ This is particularly salient given the opening of a small current account deficit in Indonesia. A current account deficit is perfectly compatible with robust, sustainable, investment-led growth so long as foreign investment is of a stable, long-term and productivity-enhancing nature.

4 In addition, FDI is likely to have beneficial effects on the level of competitiveness of the economy. We will discuss these effects in more detail below.

3.2 Investment Opportunities

Greater integration with the world economy can further increase investment opportunities in Indonesia. Cross-country evidence suggests a systematic association between increased openness and investment (Figure 3.4).⁵ By providing a larger potential market for firms', greater integration results in increased returns to physical capital accumulation, which in turn directly affects economic growth. For example, according to Bhagwati and Srinivasan (2001) openness was the key determinant of the investment boom in Korea and Taiwan because firms needed to sell their output into large markets where it would not drive prices down. In addition, greater openness can help remove structural constraints on investment, such as having access to imported capital goods, or to improved provision of logistics services, *et cetera*.

Figure 3.4. GFCF and Openness Across Countries (1990-2010)



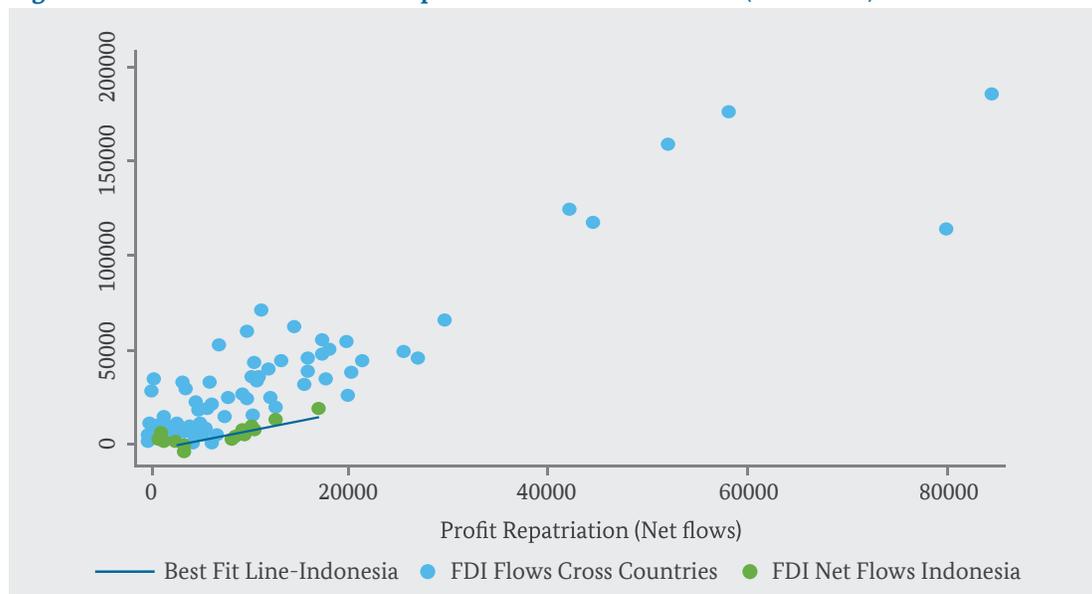
Source: Authors' calculations based on WDI.

3.3 What is the Role for the Government in Ensuring Foreign Financing is Beneficial?

To design the most appropriate regulatory framework, it is important that the Indonesian government is fully informed of the distinctive characteristics of foreign financing sources. Foreign financing sources for investment have certain characteristics that make them different from domestic sources. To better design policies, policymakers need to fully grasp the implications of these distinctive characteristics. Two in particular, are worth noting:

⁵ This is true both if openness is measured as exports/GDP or as imports/GDP.

Figure 3.5. FDI Flows and Profit Repatriation Across Countries (1985-2011)



Source: Authors' calculations based on WDI data.
Note: in USD Millions.

First, foreign flows of capital are typically more volatile than domestic flows. Because of information asymmetries and risk perceptions, businesses typically prefer to invest at home, for a given rate of return, even if they face very low costs of investing abroad. This is an empirical regularity known in the field of international finance as the “home bias equity puzzle”. Meanwhile, businesses that do decide to invest abroad are usually more sensitive to relative changes in rates of return and they often have access to more information.

Second, outflows of repatriated profits can be large. Even if foreign businesses that invest in Indonesia decide to re-invest some of the profits obtained in the country, it is likely that a portion (if not all) of those profits will eventually be repatriated to the home countries.

This means that strong inflows in the financial account in the form of, say, foreign direct investment, are bound to be associated with investment income outflows in the current account (Figure 3.5). In fact, World Bank analysis suggests that a 1 percent increase in FDI net inflows leads to a 0.6 percent increase in profit repatriation, all other things being equal.



4.1 The Association between Greater Integration and Productivity

Both cross-country and Indonesia-specific evidence suggests a systematic association between greater integration into the global marketplace and both greater competitiveness and faster productivity growth. Countries that exhibit faster growth in the ratio of exports to GDP tend also to exhibit faster productivity growth (Figure 4.1; the same applies for the association between imports to GDP ratio and productivity growth). For Indonesia, the evidence is as follows

Chapter 4

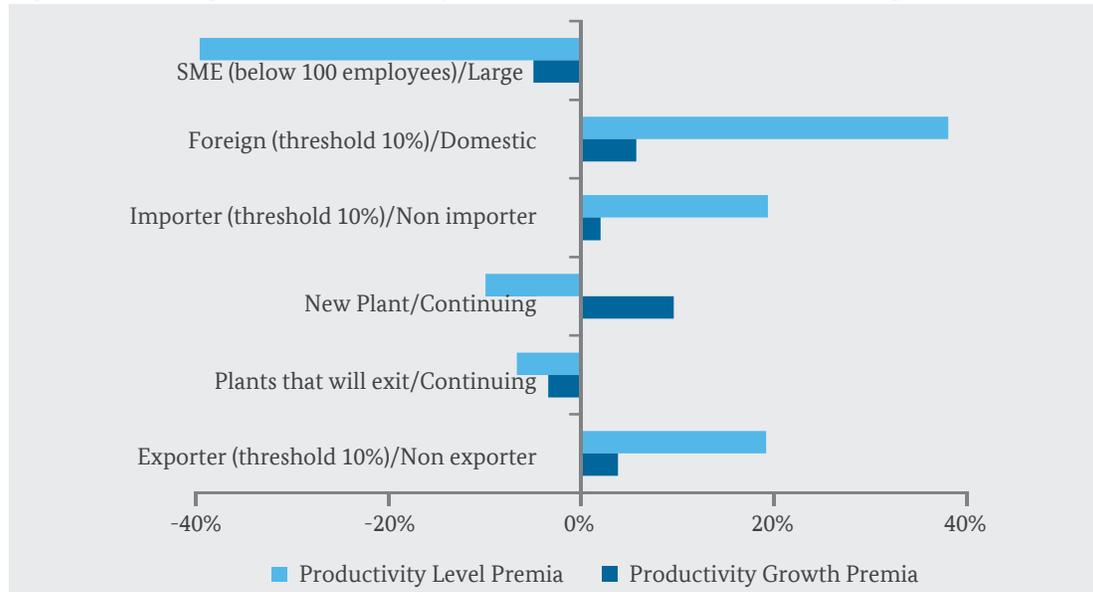
How Can Openness Stimulate Competitiveness and Productivity?

- The best performing manufacturers are those that are relatively well integrated with the world economy (e.g. exporters, users of imported inputs, or operators of foreign-owned plants) exhibit both higher productivity levels and growth than those that are not integrated;
- Exporters and firms that use imported materials tend to be, on average, 19 percent more productive than non-integrated plants.
- Foreign-owned plants have a productivity advantage of 38 percent over their domestic counterparts;
- The “openness” premium in terms of productivity *growth* is also substantial. TFP growth for exporters has been 3 percent faster than for non-exporters; for foreign firms it has been about 6 percent higher than for domestic; and for users of imported inputs it has been 2 percent higher than for those that rely only on domestic inputs (Figure 4.2).

Figure 4.1. Total Factor Productivity Growth and Openness Across Countries (1990-2010)



Source: Authors' calculations based on WDI data.

Figure 4.2. “Integration” Productivity Premia for Indonesian Manufacturing Firms

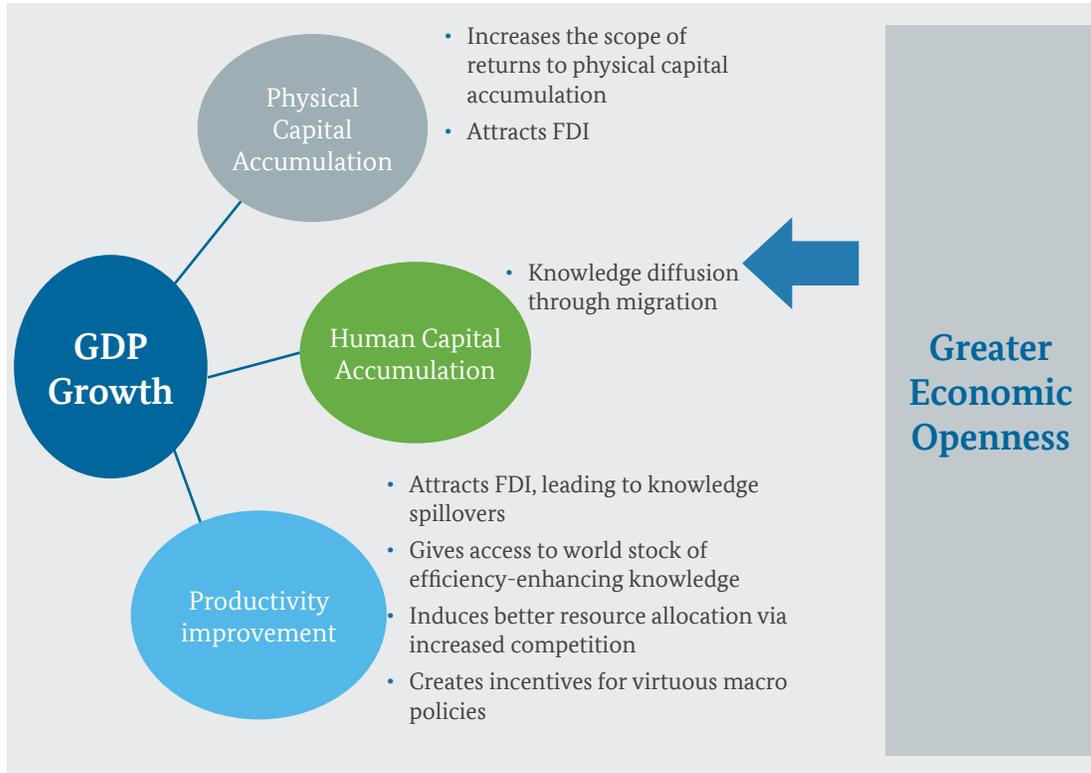
Note: The premia result from comparing productivity levels and growth associated with plants displaying the mentioned characteristics (foreign, importer, exporter, etc.), with those without that characteristic. Industry affiliation, province, and year effects have been controlled for. Foreign plants are those that have at least 10 percent foreign ownership; importer/exporter are plants that respectively import/export at least 10 percent of their output; exiting plants are those that will stop producing during the coming 2 years; and new plants are those that have been created in the past 3 years.

Source: Authors' calculations based on BPS data.

4.2 How does openness affect productivity?

The reported association between openness and productivity does not necessarily imply a causal link between the two. Thus, it is important to review the main channels through which greater integration could actually cause increases in productivity levels and growth rates (Figure 4.3), and briefly to present evidence of these channels at work.

Figure 4.3. Channels Linking Greater Openness & Productivity & Growth



Source: Authors' elaboration.

The facilitation of international technology diffusion is probably one of the most important means through which greater openness has the potential to stimulate growth and accelerate convergence of income per capita across countries. For most countries, and in particular for emerging economies like Indonesia, foreign sources of technology are of preponderant importance for productivity growth (Keller, 2004). There are a number of channels through which international technology diffusion can take place, namely: imports, exports, foreign direct investment and human capital mobility.

Imports: Promoting Competition, Facilitating Innovation

Cross-country evidence suggests that, generally, increased trade in the form of higher import competition and higher export rates do not lead to substantial job destruction, but rather lead to sustained job-growth, on aggregate.

Episodes of sustained growth across countries suggest that virtually all countries that grew rapidly did so by rapidly expanding their exports and imports rather than by substitution of imports with domestic production. At the same time, declines in per-capita income are rarely associated with substantial import increases (Table 4.1).⁶

Table 4.1. Growth and Trade: Comparing Miracle and Debacle Countries

Summary Table			
Period	Miracle Countries (3% or Higher per capita growth)	Miracle countries with rising imports to GDP ratio	Population in Millions
1961-80	33	23	356.5
1980-99	26	16	2106.5
Period	Debacle Countries (Sustained Reductions in per capita income)	Debacle countries with rising imports to GDP ratio	Population in Millions
1961-80	14	6	68.6
1980-99	65	17	621.4

Source: Arvind Panagariya's DEC Lecture, World Bank, 2011.

Access to imports can also improve domestic access to foreign technologies. Evidence suggests that trading with a country with a large stock of knowledge from its cumulative R&D activities, provides a channel through which efficiency levels can be increased by importing a larger variety of intermediate products and capital equipment embodying foreign knowledge, and by acquiring information, otherwise costly to obtain (Coe *et al.*, 2009).

Nevertheless, economies with appropriate absorptive capacities, as well as a business climate conducive to growth, are the ones that benefited most from imported technologies. There is no indication that learning from international knowledge is inevitable or automatic once an economy engages in trade (see box 4.1).

⁶ This exercise was performed in Panagariya (2004), who looked, on one hand at “miracle countries” (those that grew at 3 percent or more in per capita terms during the period 1961-80, and 1980-99), and on the other at “debacle countries” (those with sustained declines in per capita growth). The list of countries for each category (miracle, debacle) along with rates of growth of GDP, exports, imports and population are reported in the Appendix A, and obtained from Panagariya (2004).

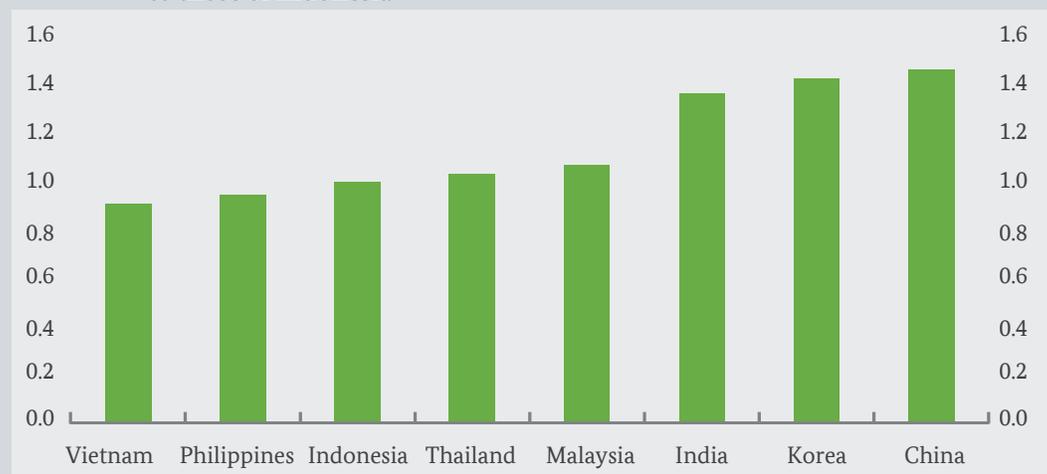
Box 4.1. An improved investment climate and better absorptive capabilities can increase gains from greater integration into the global economy via foreign R&D spillovers

Indonesia has the lowest level of research and development expenditures to GDP in the region. While this has a direct effect on Indonesia's capacity to innovate, the level of integration with the world economy also affects the country's ability to benefit from the worldwide stock of available knowledge. This transfer of knowledge through trade can come through a variety of channels, such as importing a wider variety of intermediate products and capital equipment embodying foreign knowledge, and by acquiring information, otherwise costly to obtain. This is in addition to other means of accessing the stock of available foreign knowledge through foreign direct investment, international migration and cross-border information flows.

Recent empirical work on OECD economies has found that the level of education of the labor force, business environment, and the quality of the judicial system play an important role in determining the extent to which exposure to foreign R&D results in aggregate productivity gains for the domestic economy (Coe et al, 2009). Similarly, in Indonesia, firms with highly educated employees have been found to adopt more technology than others (Blalock and Gertler, 2009). Because adopting technologies involves costly resource reallocation, an improved business environment will lower these costs and make it easier for firms to innovate. A more effective and reliable judicial system is also important: ensuring that contracts are enforceable will facilitate the reorganization or reassignment of technology to different purposes, thus making facilitating technology adoption.

The results of the above analysis can be used to explore how much of aggregate total factor productivity (TFP), i.e. the efficiency with which inputs are used in production, is explained by domestic R&D capital stocks and how much is explained by exposure to spillovers from foreign R&D via trade. Simulation exercises can then examine the extent to which improvements in the quality of education or the investment climate could increase the size of these spillovers.

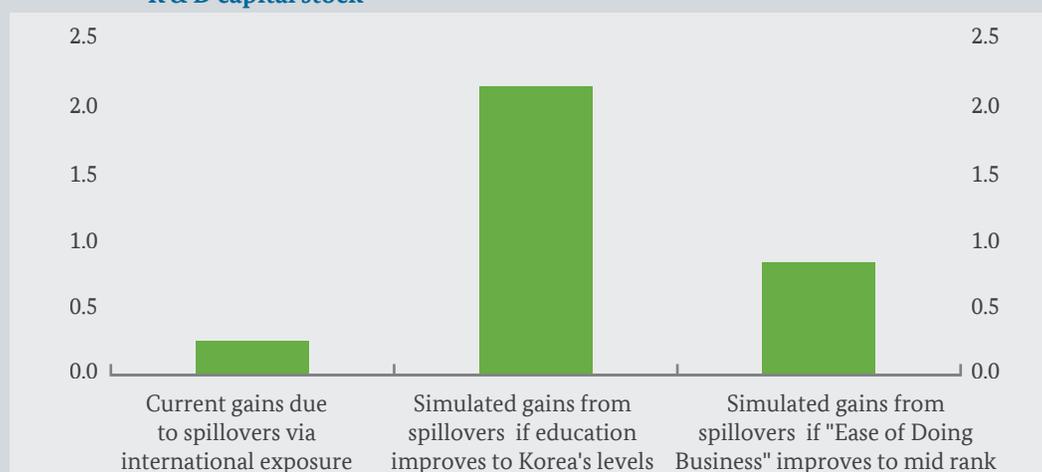
Figure 4.4. Estimated productivity gains from own R&D capital stocks normalized relative to those of Indonesia



Note: Current international spillover gains calculated based on the R&D capital stock of Indonesia's trading partners, its exposure to them, and the economy's absorptive capabilities.

Sources: World Bank staff calculations based on Coe et al (2009) estimated elasticities plus data from WDI, Comtrade, World Economic Forum and Doing Business database.

Figure 4.5. Indonesia's estimated and simulated productivity gains from international spill overs of foreign R&D relative to productivity gains from own R & D capital stock



Note: These figures are obtained by constructing R&D capital stocks and combining them with the estimated elasticity of TFP with respect to R&D capital stocks.

Sources: World Bank staff calculations based on Coe et al (2009) estimated elasticity and WDI Data on R&D stocks

Other countries in the region, such as China, Korea and India are obtaining much higher productivity gains from domestic R&D than Indonesia, due to substantially larger R&D capital stocks (Figure 4.4). Exposure through international trade to the foreign stock of knowledge can provide an extra boost to Indonesia's aggregate productivity level, estimated at about 25 percent of the effects attributable to its own R&D capital stocks. To obtain these estimates, the framework of Coe *et al* is applied to take into account of the R&D capital stock of Indonesia's trading partners, Indonesia's trade exposure to these partners, and the economy's knowledge absorption capabilities, the quality of education and the investment climate. We then compare this contribution to that of Indonesia's own R&D stocks. In contrast, Korea, with better capacities to absorb foreign knowledge, enjoys productivity gains due to foreign R&D spillovers amounting to about 155 percent of those gains due to its own R&D.

Simulation exercises suggest that if the quality of education in Indonesia was to rise to the level of Korea, Indonesia would enjoy, due to spillovers, twice the productivity gains that it currently derives from its own R&D capital stocks (Figure 4.5). Similarly, improvements in the investment climate could also lead to substantial increases in such spillover benefits. The scope for productivity gains due to international spillovers of R&D could therefore be substantial and could complement improvements in domestic R&D.

Note: For more details, see: Coe et al (2009) and Blalock and Gertler (2009)

In Indonesia, tougher import competition resulted in better performance of domestic producers. Increased competition typically leads to a better allocation of resources, and improvements in productivity levels. This happens because import competition increases the incentives to invest and innovate, as is suggested by anecdotal evidence (see Box 4.2).

Of particular importance is domestic firms' access to imported inputs. A study conducted by Amiti and Konings (2007), looking at manufacturing census data from 1990-2001, found that a 10-percentage point fall in input tariffs led to a productivity gain of 12 percent via learning, quality and variety effects. This gain was found to be at least twice as high as any gains from reducing output tariffs that may arise via tougher competition effects (In Policy Note 3 the importance of imported inputs for productivity gains, product quality improvements, and product diversification is discussed).

FDI: Financing Investment, Enhancing Learning, Increasing Productivity

FDI has been considered an important channel for international technology diffusion and productivity gains with potential spillovers to other firms through direct or indirect interaction. Technology that is firm-specific is likely to be transferred among multinational parents and subsidiaries. However, technological learning externalities are likely to benefit domestic firms that interact with multinationals either by supplying or buying inputs (vertical spillovers), or by competing with them (horizontal spillovers).

In Indonesia, supplying inputs to multinational firms has been identified as an important channel in improving the productivity of manufacturing plants. The productivity gains via this channel exceed 2 percent in a number of industries, but the gains do not accrue to all suppliers equally. Firms that have the necessary learning capacities, which typically imply an educated labor force and previous investments in research and development, gain more from supplying inputs to multinational firms. Other important evidence also indicates that as a result of supplying inputs to multinational firms, input prices tend to be reduced, benefitting other users of these inputs (see Box 2 for anecdotal evidence; and Blalock and Gertler 2008, 2009).

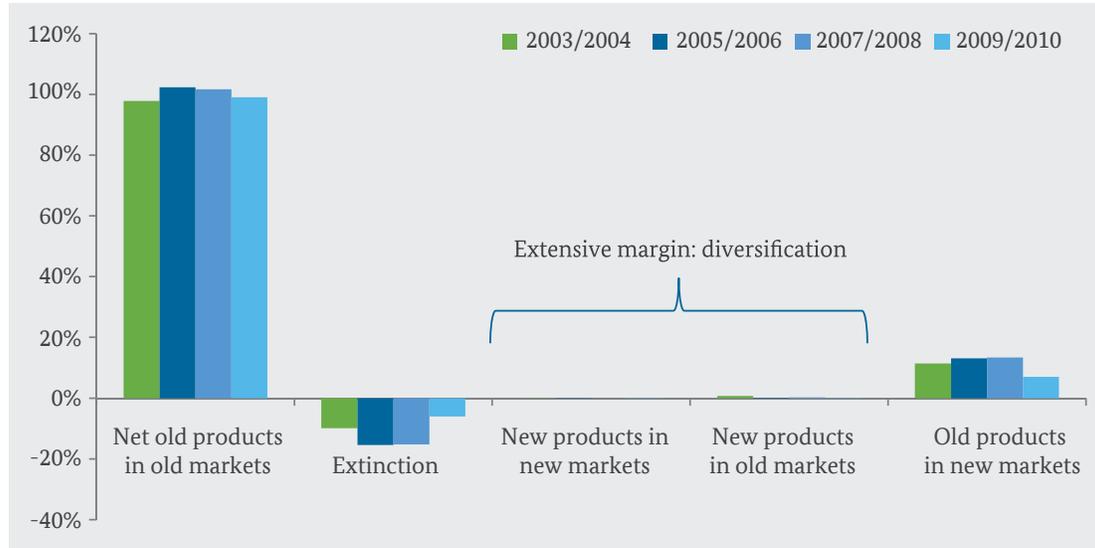
Relaxing restrictions on FDI in Indonesia's services sector is associated with improved productivity in the downstream manufacturing sectors that rely on services inputs. Services account for 35 percent of all intermediate inputs in the productive sectors, and 21.3 percent of all intermediate inputs in the manufacturing sector. More competition, improving the quality, increasing variety and reducing prices of these inputs can be expected to improve competitiveness across the economy. Policy Note 5 presents a finding that 8 percent of the total increase in productivity in Indonesian manufacturing during the 1997-2009 period can be attributed to the relaxation of restrictions on FDI in the service sectors. The finding also suggests that those manufacturing relying most intensively on service sector inputs tend to benefit most.

Exports: Driving Productivity and Growth

Most of Indonesia's export growth over the last decade has been due to increased sales of the same products to the same markets. Figure 4.6 shows the portion of export growth that is explained by selling more of the same products to the same destinations (the "intensive margin"), by the

extinction of export flows, by selling new products to new markets, new product to old markets and old products in new markets. Only the last three categories (i.e. the “extensive margin”) can be associated with diversification. In Indonesia, export diversification along the product dimension (selling new products either in new or old markets) explains a negligible portion of export growth, while diversification along the market dimension (old products in new markets) is relatively small.

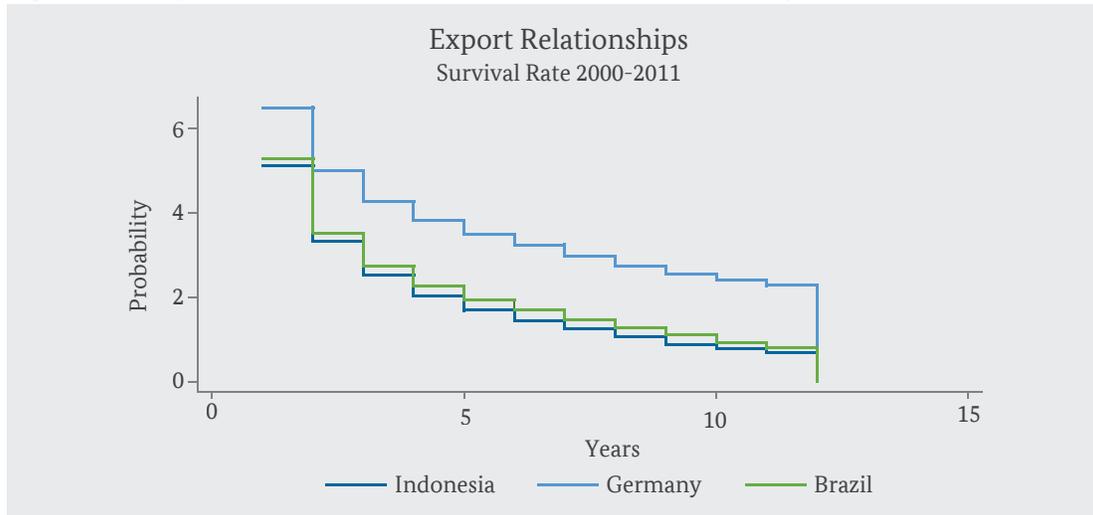
Figure 4.6. Export Growth Decomposition into Extensive and Intensive Margin



Note: An export product is considered to be a category of the HS classification at 6 digits of disaggregation.
Source: Authors’ calculations based on WITS Comtrade data.

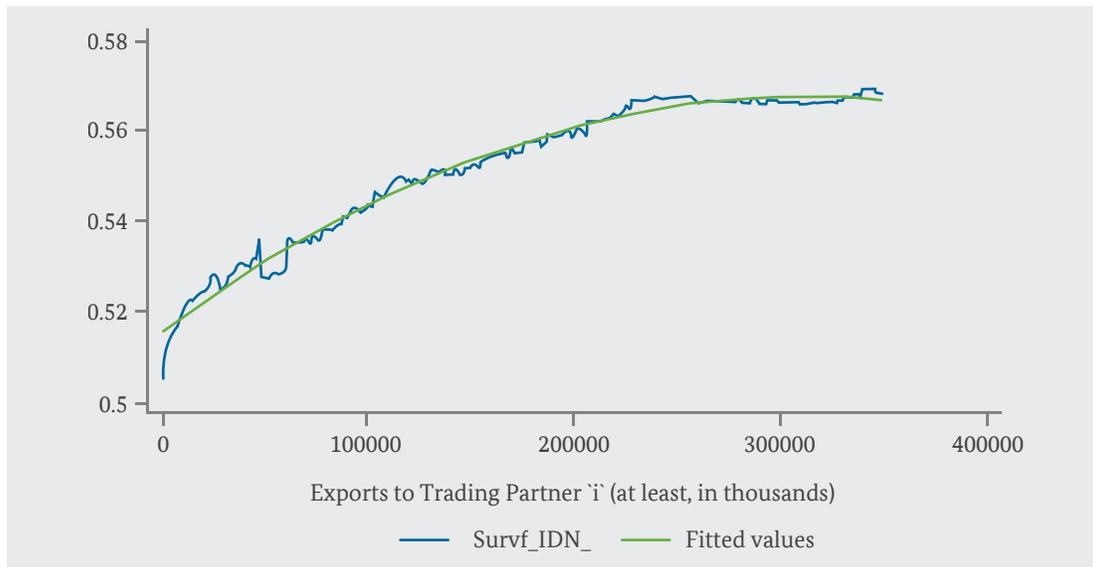
Entering export markets is costly, and surviving is difficult. Another striking element from Figure 4.6 is that extinction rates of export flows in Indonesia are relatively high (averaging 12 percent, excluding the atypical values of the first two years). There are fixed costs associated with entering export markets, related to the search and matching processes. Firms not only need to search for foreign clients themselves, but also for information about regulations and standards in the foreign country. With imperfect information, firms often need to actually enter export markets to make these cost discoveries, which results in relatively low survival rates. Figure 4.7 shows that survival rate of Indonesia’s exports is lagging behind export champions such as Germany and also comparable large emerging economies like Brazil. Only slightly more than half of Indonesian export flows (product-destination pairs) survive more than one year, while about one third survive two years.

Figure 4.7. Export Survival Rates for Indonesia, Brazil and Germany (2000-2011)



Source: Authors' calculations based on WITS Comtrade data.

Figure 4.8. Indonesia's 1 year Survival Probability and Trade Volume with a Given Partner (2000-2011)



Source: Authors' calculations based on WITS Comtrade data.

Increasing trade with a particular market will bring more information for new exporters, and therefore help them to subsequently enter that market. Research shows that the overall level of trade between two countries is important in allowing new entrants to survive in the market. The expansion of exports of existing products is helpful for future export growth and diversification. (Brenton et al, 2007). Figure 4.8 shows that this result also holds for Indonesia, where the probability of an export flow of a product-destination pair surviving the first year increases substantially with the volume of exports to that destination.

Box 4.2. Do local firms benefit from greater openness? Some case study evidence from manufacturers in Jakarta and Surabaya

A number of interviews were carried out with managers of manufacturing companies in the areas of Jakarta and Surabaya to investigate the importance that local firms' interaction with foreign counterparts may have for performance. These provided important inputs for understanding the importance that greater integration has for competitiveness and growth. The interviews improved comprehension of the mechanisms at work behind some of the results found when analyzing firm-level quantitative data.

The presence of Japanese automotive producers seems to generate “vertical” and “backward” learning spillovers. The former benefited producers of metal components that supplying to these Japanese automotive producers while the latter benefited other clients of these suppliers that now enjoyed a better quality of inputs. A domestic producer of metal components for Japanese automotive firms highlighted the substantial benefits received from interaction with its foreign clients. Japanese firms operating in Indonesia provided support to Indonesian suppliers during several free consultations as well as auditing activities, which were conducive to improvements in product design and quality.

More importantly, the producer claims that the new knowledge acquired by the local firm improved the quality of inputs sold to other customers (both local and foreign), thus suggesting the existence of ‘backward learning spillovers. In addition, the new knowledge also helped the firm gain market share and enter new markets.

Interaction with suppliers of imported inputs, as well as with foreign clients, has encouraged knowledge transfers to some Indonesian manufacturing firms. Two other resource-based manufacturers (one in the coffee processing sector, another in the fish industry) claimed that interaction with foreign clients involved in the exporting activity helped them introduce better quality and sanitary standards. The fish producers, for example, subject to strict sanitary standards abroad, and encouraged by free training provided by their foreign client, improved standards in all of their production processes. For the producer in the coffee industry, substantial learning was achieved both from interacting with foreign clients and with foreign suppliers. With respect to the latter, free training was provided on how to operate a sophisticated imported coffee processor, which ultimately led to an improvement in the quality of the final product.

Tougher competition from imports provided the incentives for Indonesian firms to innovate in products and processes, thus succeeding in maintaining market shares. A large local household and electric appliance producer based in Surabaya reported that competition with Chinese producers encouraged them to be more creative, which led to the development of a customer service unit to provide quality after-sales service. This innovation proved to be effective in maintaining market shares by differentiating their product from those of Chinese competitors.

Source: Authors' elaboration based on interviews carried out among manufacturers in Jakarta and Surabaya in October 2011.



Greater integration into the world economy comes with an increased mobility of people, which may stimulate knowledge diffusion which improves the quality of the economy's human capital. 'Brain circulation' through the mobility of foreign educated experts and scientists has been reported to be crucial, for example, in the development of capabilities and technology transfers in South Korean, Taiwanese and Chinese firms. In fact, the circulation of a transnational community of overseas Chinese engineers, entrepreneurs and managers, most with graduate degrees from the USA and work experience in Silicon Valley, is claimed to have been crucial in the development of the semiconductor industries in these countries (Saxenian, 2002).

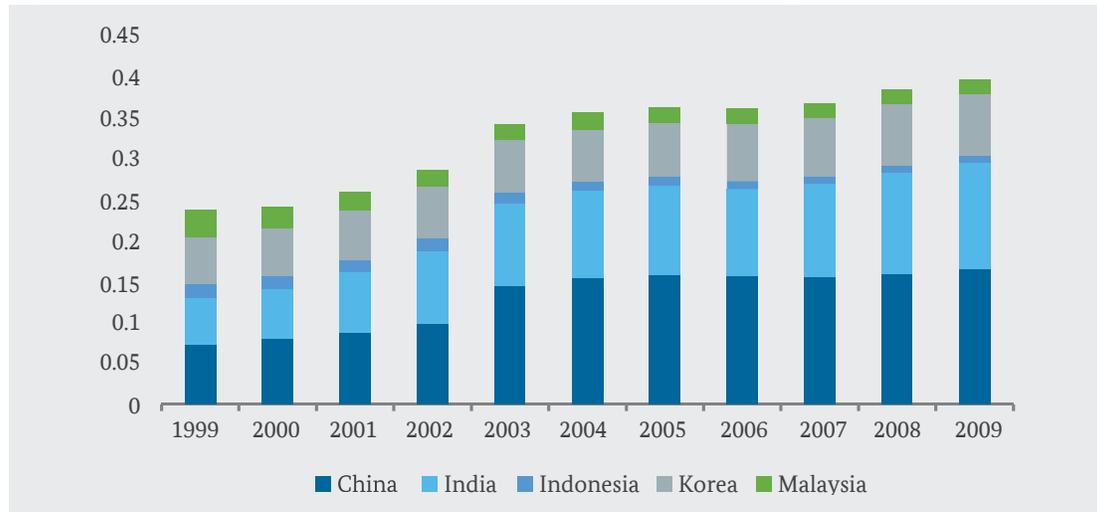
Chapter 5

How Can Openness Stimulate Human Capital Accumulation?

International student flows are an important conduit for R&D spillovers from developed to developing countries. Recent research, focusing on students from developing countries, analyzes how meaningful is the channel of international student flows for the R&D spillovers across countries, and finds that the channel is a significant one (Le, 2010).

The share of Indonesians in total foreign students abroad, such as United States, has dropped dramatically in the last ten years (Figure 5.1).⁷ This happened at the same time as the shares of students from China, India, Vietnam and Korea in total foreign students in the USA increased dramatically.⁸ This means that the scope for R&D spillovers through this channel is reduced. This is particularly costly for a country like Indonesia, where students that do manage to go abroad tend to return to the home country in large numbers after they finish their studies (Figure 5.2).

Figure 5.1. Share of Students from Selected Countries to Total Foreign Students in USA and UK



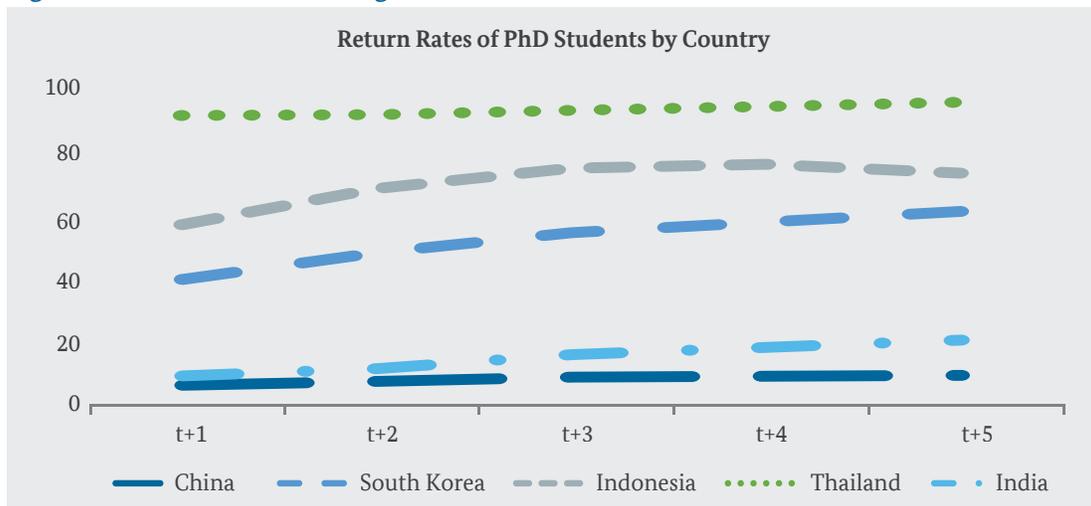
Source: Authors' calculations based on UNESCO.

Note: Based on data of student visas granted by these countries.

⁷ The pattern tells a similar story when data is normalized by population.

⁸ Part of the drop in the shares of Indonesian students in American universities over the last 10 years responds to increased difficulties in obtaining visas to visit the USA. However, the same message emerges when we look at alternative destinations for students, such as Australia.

Figure 5.2. Return Rates of Foreign PhD Students



Source: Oak Ridge Institute for Science and Education
Note: Engineering and Science, from the US, 2003-2007.



To encourage inflows of FDI, Indonesia needs to improve its domestic investment environment, to ensure that tariffs on imports (in particular to those of intermediates) remain low, and to reduce both non-tariff barriers and restrictions on FDI where these still exist.

Chapter 6

What Scope is there for Further Integration of Indonesia?

Table 6.1. Most Restrictive Countries by Type of FDI Restriction (OECD)

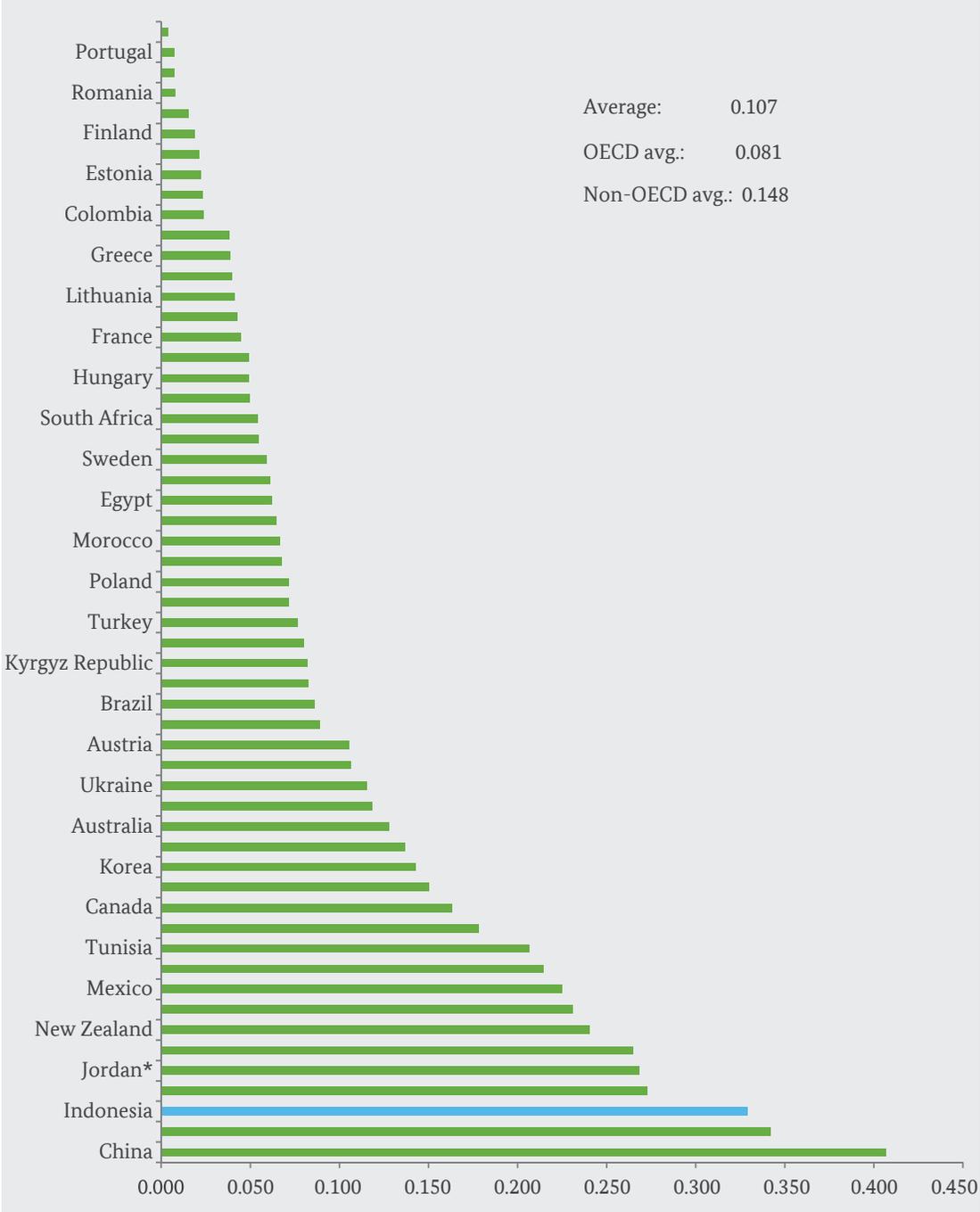
Top Five Most Restrictive Countries by Policy			
Equity Restrictions	Screening	Key Personnel Restrictions	Operational Restrictions
Indonesia	New Zealand	Saudi Arabia	Iceland
Japan	China	Indonesia	Jordan
China	Australia	Peru	Saudi Arabia
India	Mexico	China	Mongolia
Saudi Arabia	Ukraine	Mongolia	Russia

Source: Authors' calculations based on OECD.

Indonesia is the third most restrictive economy overall towards foreign investment of those measured by the OECD in 2012, behind only China and Saudi Arabia. It was the second most restrictive, after China, towards foreign service sector investment. Indonesia is the most restrictive country in terms of the portion of maximum equity allowed to foreign firms, and second most restrictive in terms of regulations affecting hiring decisions (Figure 6.1 and Table 6.1). This not only affects the prospects of aggregate investment rates in the economy, but also impacts on the competitiveness of the sectors in which the restrictions are imposed, and on the competitiveness of related sectors across the economy.

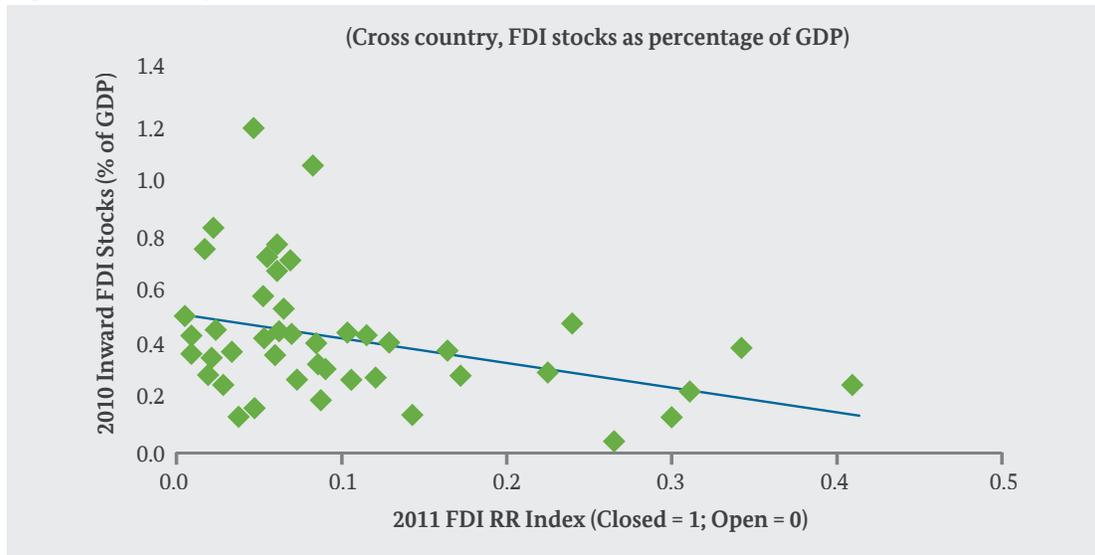
Easing constraints on FDI will contribute to meeting the Government's growth targets both by increasing investment, and also, through increased competition.

Figure 6.1. FDI Policy Restrictiveness Index Ranking (OECD)



Source: OECD.

Figure 6.2. Policy Restrictiveness and FDI Stocks



Sources: OECD statistics, and UNCTAD for FDI/GDP figures for some non-OECD countries.

Despite increases in FDI flows in recent years, Indonesia can do much more to tap this source to support further development of the economy. While FDI flows now broadly reflect the size of Indonesia's economy, the country accounting for both 1.2 percent of world FDI flows and 1.2 percent of world GDP. In 2011, the South East Asia region accounted for 3.1 percent of global GDP but 7.6 percent of global FDI flows.

Cross-country evidence suggests that the statutory restrictions measured in the OECD FDI regulatory restrictiveness index are negatively correlated with FDI stocks (Figure 6.2).



7.1 Maximizing the Benefits and Minimizing the Costs of Greater Openness

The growth and productivity gains from greater integration are not automatic, as mentioned above. Complementary policies are needed to make sure that the channels linking openness and growth are at work, and to avoid or minimize the unintended consequences of greater integration.

There are at least three areas in which complementary policies could help ensure that greater integration is an effective growth-increasing, welfare-enhancing force: (i) ensuring

Chapter 7

Managing Openness: the Role for Complementary Policies

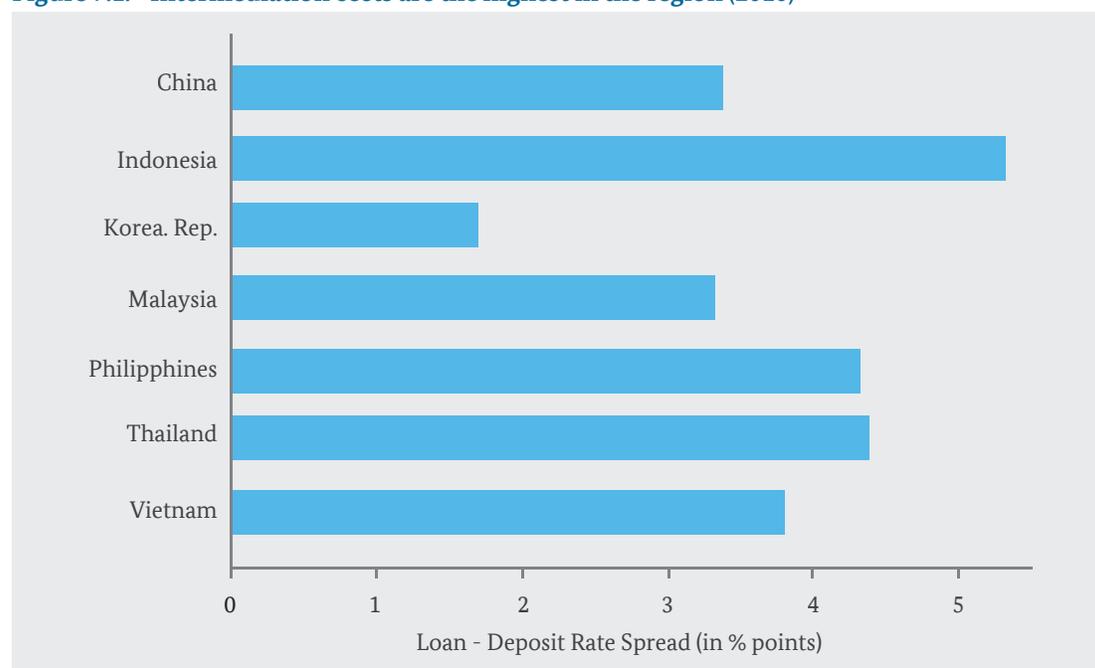
that credit markets are an efficient tool for private sector development, (ii) stimulating investment in human capital to ensure local firms can profit from the opportunity that greater integration provides for technology diffusion, and (iii) making sure the business climate is adequate to both minimize the costs of resource reallocation that may arise and to ensure that an environment of fair competition exists in the market.

Credit markets

Greater integration increases returns on investment by allowing firms to exploit economies of scale. Hence improving the function of credit markets can facilitate capital accumulation and financial intermediation.

In Indonesia, bank intermediation costs are among the highest in the region, as measured by the difference between banks' loan and deposit rates. This is likely to be explained by relatively higher inflation levels and volatilities experienced by Indonesia in recent years, and has a direct bearing on the ability of the private sector to carry out investment projects.

Figure 7.1. Intermediation costs are the highest in the region (2010)



Source: World Development Indicators.

In addition, **alternative financing options outside of banking finance are limited, even for large firms, as the domestic bond market in Indonesia is significantly underdeveloped and dominated by issues of public debt**, as shown by Figure 7.2.

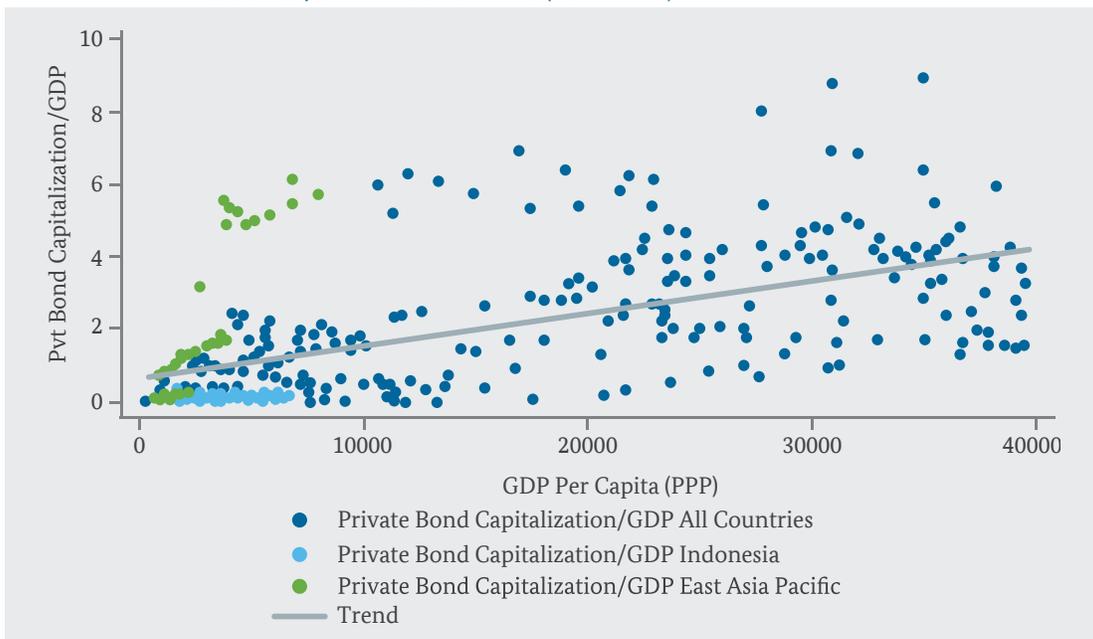
Given its level of development, **Indonesia's ratio of corporate bond capitalization to GDP is far below average**, and it has remained virtually unchanged despite a sustained GDP per capita growth record during the 2000s (Figure 7.3).

Figure 7.2. Indonesia's domestic bond market is small and dominated by government issuance
Bond issuance as % of GDP by sector (2010)



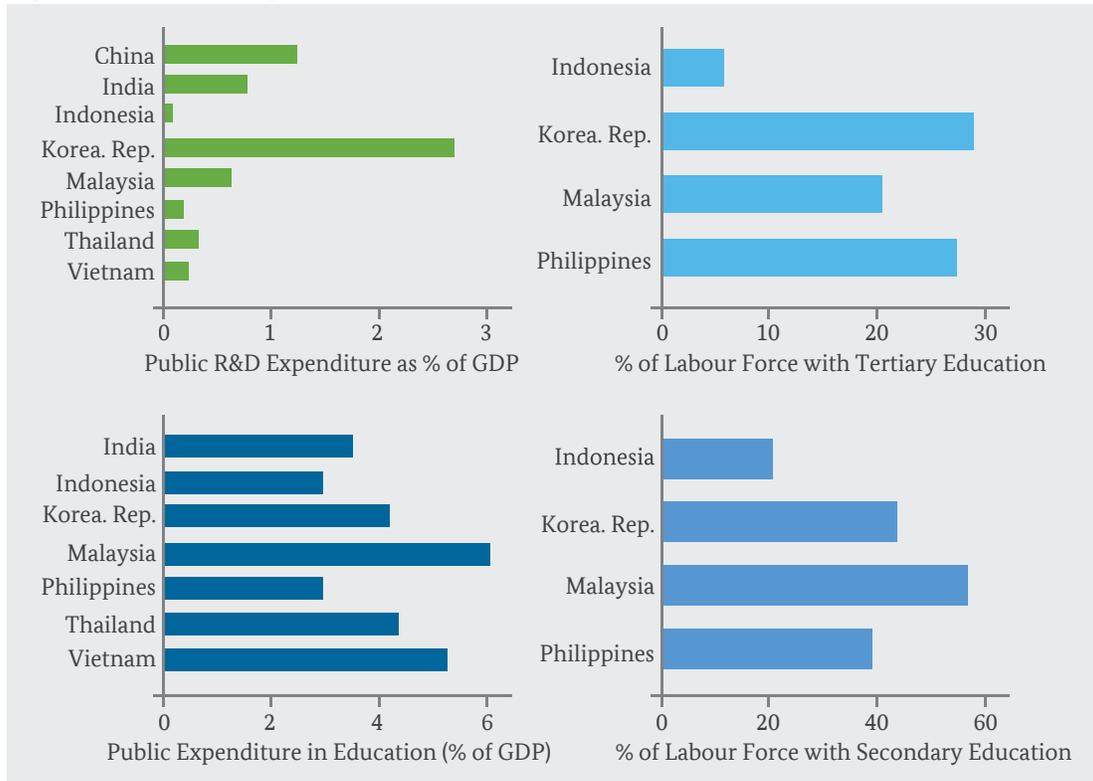
Source: ADB Asian Bond Market Monitor.

Figure 7.3. Indonesia's private bond market size is small and has not been growing
Private bonds /GDP versus GDP PC (1990-2009)



Source: Authors' calculations based on Financial Structure Database, WB, and WDI.

Figure 7.4. Human Capital and R&D Indicators (2010)



Source: World Development Indicators.

Human Capital and Absorptive Capacities

In an economy relatively abundant in low-skilled labor like Indonesia, increased openness could result in an increase in the relative wage of unskilled workers, discouraging the formation of human capital.

Therefore, active policies to stimulate innovative activities and human capital accumulation are needed in order to ensure that Indonesia has the capacity to transform greater integration into technology diffusion and learning, and more importantly, into higher income and better jobs for Indonesians.

Facilitating the attendance of Indonesian students at top universities in the USA, Australia and elsewhere, and their eventual repatriation, can help improve Indonesia’s stock of human capital and the diffusion of technology. Policies that stimulate the development of absorptive capacities have significant potential to facilitate technology diffusion (see Box 1).

Furthermore, as has been documented with extensive evidence, the extent to which an economy acquires knowledge through openness depends on the capability of its private sector to absorb that knowledge.

In Indonesia, for example, local firms with highly educated workers or those that carry out research and development activities enjoy substantially larger vertical gains from interacting with FDI firms.⁹ The challenge for Indonesia is to improve the human capital stock, raise research and development expenditures, and public expenditure in education, that are still relatively weak by international standards, despite recent advances (Figure 23).

A Productivity-Enhancing Business Climate

One of the channels for gains from greater integration lies in the pro-competitive effect that induces a reallocation of resources from less productive into more productive activities. This process often implies costly adjustments due to the shedding of labor and capital by declining firms and the assimilation of inputs by those that expand. But, this costly process is essential to reaping the benefits from greater integration through productivity gains. In aggregate, this process of ‘creative destruction’ should be welfare enhancing.

For Indonesia to facilitate this process, there are important barriers to firm entry and exit that need to be addressed. At present doing business in Indonesia is generally costly, as indicated by the low rankings in terms of “Starting a business”, “Getting Electricity”, “Registering Property”, “Resolving Insolvency”, et cetera (see Figure 24). A business environment that minimizes these costs by reducing impediments to resource reallocation and firm renewal will help the Indonesian economy to maximize the gains from greater integration (see Box 1).

7.2 Easing the Adjustment

In the short run, reforms to pursue greater economic integration can put stress on some economic actors, and even in the long run, may leave some individuals at a permanent disadvantage. Evidence suggests that trade-displaced workers tend to be slightly older, have longer tenure and higher earnings from their lost job (Francois, Jansen and Peters in ILO, 2011). In this sense, adjustment costs resulting from trade reform can be asymmetric in nature. In addition, it is often argued that being open exposes an economy to larger shocks, thus creating uncertainty. Probably, the most significant adjustment problem occurs when workers have to be reallocated from unproductive or unprofitable activities into new booming activities.

Even where reforms could engender significant economy-wide gains, in aggregate, *ex ante* uncertainty as to the scale and distribution of gains and losses among sectors or individuals, can act as a brake on the reform process where interests have significant lobbying power (e.g. Fernandez and Rodrik (1991)).

Therefore, there is a room for policy interventions to ensure that reforms to pursue greater economic integration will yield a more inclusive development outcome. Meaningful and transparent compensatory policies to minimize social disruption alongside policies focusing on the reduction of rigidities in the labor market are key areas that the government might want to consider. In addition to addressing equity concerns, this approach can enhance net efficiency gains from trade reform by mitigating frictions arising from structural adjustment.

9 Blalock and Gertler (2009).

Comprehensive trade adjustment assistance may involve programs that distribute the gains more equally, by compensating displaced workers, or others that lose out from greater integration, and that provide incentives for workers to acquire the necessary new skills and training. One long-standing example of such a program, dating from 1962, is the United States Trade Adjustment Assistance (US-TAA) that aims to reduce the damaging impact of imports experienced by certain firms, farms, regions and workers in the US economy.

A more recent example is the European Globalisation Adjustment Fund (EGF), established by the EU in 2009 to help workers find new jobs and develop new skills when they have lost their jobs as a result of changing global trade patterns. The EGF finances measures such as job-search assistance, mobility allowances, career advice, mentoring, entrepreneurship promotion, tailor-made training, and allowances for participation in lifelong learning and training activities.

Assistance that is generally available, rather than targeted specifically at those experiencing a negative impact from trade reform, is preferable given both the mixed success of targeted assistance in facilitating structural adjustment and the fact that it is nearly impossible to identify all those workers adversely affected by trade reform (Francois, Jansen and Peters in ILO, 2011).¹⁰ Measures to strengthen Indonesia's social safety net more generally should be pursued in this context, while targeted assistance should be confined, in principle, to instances of highly concentrated sectoral or regional structural adjustment.

Concrete examples of trade adjustment measures recommended by the ILO (2011) include:

- Gradual implementation of trade reform with early announcement of policy change.
- A tailored combination of 'Passive' (e.g. income replacement, short-time working arrangements or unemployment insurance) and 'Active' (e.g. re-training, job-search assistance or public work schemes) Labor Market Policies.
- Comprehensive trade related adjustment assistance programs such as the US-TAA and EGF, which may incorporate a combination of the above-mentioned measures.
- Improving the business environment through, for instance, investing in infrastructure, securing property rights, facilitating market entry and exit, and expanding access to finance can all improve the ease and speed of structural adjustment.

¹⁰ Chapter 6: Trade and Employment: From Myths to Facts, ILO, 2011, http://www.ilo.org/wcmsp5/groups/public/@ed_emp/documents/publication/wcms_162297.pdf

References

- Amiti, M., & J. Konings (2007). Trade Liberalization, Intermediate Inputs, and Productivity: Evidence from Indonesia. *American Economic Review* 97(5): 1611-38
- Bhagwati, J. & T.N. Srinivasan (2001). Outward-orientation and development: Are the revisionists right? In Deepak Lal and Richard H. Snape (eds). *Trade, Development, and Political Economy: Essays in Honour of Anne O. Krueger*. Palgrave Macmillan, London: 3-26.
- Blalock, G. & P. J. Gertler (2008). Welfare Gains from Foreign Investment Through Technology Transfer to Local Suppliers. *Journal of International Economics*, 74(2): 402-421
- Blalock, G. & P.J. Gertler (2009). How Firm Capabilities Affect Who Benefits from Foreign Technology. *Journal of Development Economics*, 90(2): 192-197
- Brenton, P. & R. Newfarmer (2007). Watching More Than The Discovery Channel. Policy Research Working Paper 4302. The World Bank, Washington, D.C.
- Coe, D.T., E. Helpman & A.W. Hoffmaister (2009). International R&D Spillovers and Institutions. *European Economic Review*, 53: 723-741
- Fernandez, R. & D. Rodrik (1991). Resistance to Reform: Status Quo Bias in the Presence of Individual-Specific Uncertainty. *The American Economic Review*, 81(5):1146-1155
- Francois, J., M. Jansen, & R. Peters (2011). Trade Adjustment Costs and Assistance: The Labour Market Dynamics. In: *Trade and Employment - From Myths to Facts*, Eds. M. Jansen, R. Peter and J. Salazar-Xirinachs, ILO, Geneva
- Keller, W. (2004). International Technology Diffusion. *Journal of Economic Literature*, Vol.XLII:752-82
- Le, T. (2010). Are Student Flows A Significant Channel of R&D Spillovers From The North To The South? *Economics Letters*, 107(3):315-317
- Panagariya, A. (2004). Miracles and Debacles: In Defence of Trade Openness. *The World Economy*, 27(8):1149-1171
- Panagariya, A. (2011). DEC Lecture, World Bank.
- Saxenian, A. (2002). Silicon Valley's New Immigrant High Growth Entrepreneurs. *Economic Development Quarterly*, 16(1):20-31
- Young, A. (1994). The Tyranny of Numbers: Confronting the Statistical Realities of the East Asian Growth Experience. NBER Working Paper No.4680



Appendix A

Miracles (1961-80)				
Country	Growth	Exports	Imports	Population in Millions
Botswana	8.5			0.5
Malta	7.3			0.3
Singapore	7.2			1.5
Hong Kong	6.9	10.8	10.6	3.2
Gabon	6.6	10.6	12.1	0.5
Taiwan	6.4			11.0
Korea, Rep.	6.3	23.7	18.0	25.7
Lesotho	4.8	7.6	11.8	0.9
Trinidad and Tobago	4.7	3.8	9.1	0.9
Thailand	4.6	9.3	9.6	27.2
Brazil	4.6	8.1	7.6	75.0
Malaysia	4.4	6.9	7.2	8.4
Barbados	4.4			0.2
Israel	4.2	1.1	8.1	2.2
Georgia	4.1			4.2
Cote d'Ivoire	4.1	7.6	7.9	3.9
Seychelles	4.0			0.0
Tunisia	4.0	8.3	7.2	4.3
Bermuda	4.0			0.0
Ecuador	3.7	8.2	8.0	4.6
Dominican Rep.	3.6	5.6	10.6	3.3
Ireland	3.6	8.0	7.8	0.8
Egypt	3.5	5.4	8.1	26.5
Indonesia	3.5	6.5	10.2	95.9
Paraguay	3.5	3.0	10.6	1.9
Mauritius	3.5	2.4	3.8	0.7
Mexico	3.4	8.6	7.8	38.1
Panama	3.4			1.2
Belize	3.4			0.1
Togo	3.2	9.9	8.8	1.5
Fiji	3.0	7.6	7.7	0.4
Mauritania	3.0	11.3	7.7	1.0
Kenya		3.3	3.6	8.6

Debacles (1961-80)				
Country	Growth	Exports	Imports	Population in Millions
Central African Republic	-0.1			1.6
Zambia	-0.3	1.0	0.4	3.2
Somalia	-0.4			2.9
Madagascar	-0.4	1.2	1.8	5.5
Dominica	-0.4			0.1
Ghana	-0.4	-2.7	-3.0	7.1
Guinea-Bissau	-0.5			0.5
Niger	-0.5	3.5	7.8	3.1
Senegal	-0.6	-0.1	1.2	3.3
Iran	-0.7			22.1
Congo, Dem. Rep.	-0.9	2.8	5.7	15.7
United Arab Emirates	-1.0			0.1
Chad	-1.9	1.4	0.8	3.1
Kuwait	-3.6			0.3

Miracles (1980-99)				
Country	Growth	Exports	Imports	Population in Millions
China	8.3	10.4	8.0	981.2
Korea, Rep.	6.6	12.9	10.5	38.1
Equatorial Guinea	6.4			0.2
Taiwan	6.1			17.6
Singapore	5.9			2.3
St Kitts and Nevis	5.9	2.9	2.9	0.0
Thailand	5.5	11.9	8.0	46.7
Indonesia	4.7	2.6	3.7	148.3
Botswana	4.7			0.9
Hong Kong	4.5	11.0	10.8	5.0
Antigua and Barbuda	4.4	5.4	4.8	0.1
Dominica	4.2	9.1	1.8	0.1
Bhutan	4.1			0.5
Malta	4.1			0.4
Chile	3.9	7.7	5.5	11.1
Malaysia	3.9	11.1	9.6	13.8
India	3.8	8.5	6.5	687.3

Miracles (1980-99)				
Country	Growth	Exports	Imports	Population in Millions
St Vincent	3.7	4.4	2.6	0.1
St Lucia	3.7	4.0	3.1	0.1
Mauritius	3.7	7.4	6.8	1.0
Grenada	3.4	6.0	3.8	0.1
Maldives	3.3			0.2
Vietnam	3.2			53.7
Cape Verde	3.1			0.3
Pakistan	3.0	5.8	1.4	82.7

Debacles (1980-99)				
Country	Growth	Exports	Imports	Population in Millions
Afghanistan	-0.1			16.0
Gambia	-0.1	2.7	-1.1	0.6
Estonia	-0.1			1.5
Guatemala	-0.2	1.5	3.4	6.8
Ecuador	-0.2	4.9	-1.7	8.0
Samoa	-0.2			0.2
Namibia	-0.2	2.5	2.6	1.1
el Salvador	-0.3	3.6	5.7	4.6
Latvia	-0.3			2.5
Gabon	-0.3	2.8	0.1	0.7
South Africa	-0.4	2.9	2.5	27.6
Honduras	-0.5	0.8	1.6	3.6
Bolivia	-0.5	2.7	4.3	5.4
Netherlands Antilles	-0.5			0.2
Croatia	-0.5			4.6
Togo	-0.5	-0.8	0.0	2.6
Yemen	-0.6			8.5
Sao Tome and Principe	-0.6			0.1
Rwanda	-0.7	-1.0	5.5	5.2
Albania	-0.7			2.7
Algeria	-0.7	3.5	-2.1	18.7
Suriname	-0.7	-5.6	-6.4	0.4
Cameroon	-0.7	4.8	4.0	8.7

Debacles (1980-99)				
Country	Growth	Exports	Imports	Population in Millions
Romania	-0.8			22.2
Mali	-0.9	6.9	4.0	6.6
Somalia	-0.9			5.9
Nigeria	-0.9	0.0	-3.0	71.1
Vanuatu	-0.9			0.1
Comoros	-1.0	11.3	0.1	0.3
Lithuania	-1.0			3.4
Micronesia	-1.0			0.1
Belarus	-1.0			9.6
Russian Federation	-1.1			139.0
Bahrain	-1.1			0.3
Burundi	-1.2	7.7	2.6	4.1
Venezuela	-1.2	3.3	2.1	15.1
Uzbekistan	-1.2			16.0
Central African Republic	-1.3			2.3
Angola	-1.4			7.0
Kuwait	-1.5			1.4
Zambia	-1.6	-0.1	-2.3	5.7
Djibouti	-1.6			0.3
Madagascar	-1.9	0.8	-1.9	8.9
Nicaragua	-1.9	2.7	3.2	2.9
Kyrgyz Republic	-1.9			3.6
Cote d'Ivoire	-1.9	2.9	0.1	8.2
Liberia	-2.0			1.9
Marshall Islands	-2.1			0.0
Armenia	-2.2			3.1
Haiti	-2.2	2.7	5.6	5.4
United Arab Emirates	-2.4			1.0
Kiribati	-2.4			0.1
Kazakhstan	-2.5			14.9
Saudi Arabia	-2.6			9.4
Niger	-2.6	0.1	-5.1	5.6
Brunei	-2.8			0.2
Sierra Leone	-2.9	-4.8	-5.2	3.2
Moldova	-3.6			4.0

Debacles (1980-99)				
Country	Growth	Exports	Imports	Population in Millions
Tajikistan	-4.1			4.0
Ukraine	-4.3			50.0
Libya	-4.5			3.0
Congo, Dem. Rep.	-4.5			27.0
Georgia	-4.7			5.1
Azerbaijan	-5.1			6.2
Iraq	-9.5			13.0

Source: Panagariya (2004).



