Indonesia

Indonesia 2019 Constraints Analysis Report

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

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Abstract

Indonesia's economic trajectory over recent decades has been impressive: annual growth in GDP has reliably exceeded 5% and the accompanying reduction in poverty has been substantial. Gradually, however, growth rates have moderated, largely due to inadequate investment: While investment in construction has been fairly high, foreign direct investment into Indonesia has been low. As a result, Indonesia's exporting and importing experience shows stagnation and inability to exploit new export opportunities. This analysis concludes that the binding constraints to restored growth rates and further poverty reduction include:

Barriers to Export-Oriented Competitiveness

Trade and FDI are each relatively heavily restricted in Indonesia, and evidence suggests the economy pays a substantial price in the forms of lower investment, firm productivity, and employee wages. Protection-induced stagnation helps explain the absence of per capita income increases from new exports since 2005. Also, economic growth rates have moderated as Indonesia has become more restrictive (relative to comparators). Finally, restrictions on trade and FDI have affected the composition of Indonesian firms and the type of production those firms engage in, such that Indonesian firms are less internationally competitive and more inward-focused.

Barriers to Domestic Productivity and Innovation

Indonesia's SOE presence is extensive and its competition regime is weak. Consistent with this apparent dearth of competition, product, service, and process innovations are each rare at Indonesian firms, and research and development (R&D) spending is low. The outsized role that SOEs (which are in some cases monopolies and therefore spared from competitive pressures) play in the economy comes at a substantial cost in the form of foregone returns on equity, conservatively estimated to be half a percentage point of GDP (Australia Indonesia Partnership for Economic Governance, 2017). Moreover, firms in Indonesia appear to have relatively low rates of entry and exit, and therefore seem to face disproportionately low risks of having to shut down or face competition from new entrants (World Bank and International Finance Corporation, 2019). This helps explain service sector firms' low propensities to innovate and Indonesian firms' lack of export competitiveness.

Costly and Underdeveloped Financial Intermediation

Relative to comparator countries, Indonesia's total financial sector assets, bank deposits, stock market capitalization, and credit to the private sector are all low, and its capital markets are shallow (World Bank and International Finance Corporation, 2019). The economic costs of this constraint take the forms of moderately high interest rates, onerous collateral requirements, and high reserve requirements which effectively constitute a tax on financial intermediation loans (World Bank, 2018). While the spread between lending and deposit interest rates is lower than in income comparators, it is higher than in regional comparators, which further suggests there are problems mobilizing savings. Finally, there is some evidence that firms' value added is inversely related to their degree of reliance on loans, suggesting financial intermediation problems could be preventing certain kinds of firms from prospering (BPS, 2017b).

Executive Summary

Overview

Indonesia's more than 17,000 islands are home to 264 million people and substantial ethnic and linguistic diversity. The national motto, "Unity in Diversity", is an important theme in the world's largest Muslim democracy, a country that houses approximately 1,200 ethnic groups and sub-groups.[1] The archipelago also contains Southeast Asia's largest economy, and apart from the 1998 Asian Financial Crisis (AFC) and its aftermath, Indonesia's real annual gross domestic product (GDP) grew solidly in recent decades. In particular, the annualized growth rate from 1980 to 1996 was 6.4%, and while the analog for 2000 to 2016 is lower at 5.3%, growth volatility in this latter period has been low (World Bank, 20018). Since the end of the commodity boom in 2013, however, only domestic demand and to a lesser extent investment have been left to drive growth. The annualized rate of growth from 2014 to 2016 has therefore been a relatively modest 5%.

Although significant poverty reduction has accompanied growth over the years, poverty is still too prevalent for complacency. Poverty headcount rates are higher than in most of Indonesia's comparator countries with roughly twenty percent of people living under the World Bank's middle income poverty line in 2018 (World Bank, 2018).[2] Moreover, the benefits of growth have not been equally shared across regions, genders, or ethnic minorities. Indonesia is at a critical juncture regarding its prospects for continued growth and poverty reduction, given the potential demographic dividend of the coming decade. As the country's working age population reaches a peak, now is therefore Indonesia's best chance to "grow rich before it grows old."[3] Livelihoods of many of the country's poor, moreover, are vulnerable to natural disasters that are aggravated, in turn, by climate change. These risks underscore the importance of using the fruits of growth to invest in risk reduction, disaster preparedness, and resilience.

Unfortunately, there is little reason to expect productivity will substantially improve soon. Large proportions of recent graduates end up in jobs for which they are overqualified; agriculture's share of GDP is high for the region and declining slowly; and Indonesia's share of self-employed (and presumably less productive) workers is relatively high (World Bank, 2018; BPS, 2017). While investment levels have been high for several years, they have been driven by investment in real estate rather than more productive pursuits such as public infrastructure or machinery (Rajah, 2018). Moreover, foreign direct investment (FDI), which is particularly valuable given the tacit knowledge it confers, has been reliably low in recent years (World Bank, 2018).

This dearth of FDI means Indonesian firms have fewer opportunities to become internationally competitive, and therefore helps explain the country's stagnant export performance since the AFC. Indonesia has primarily remained an exporter of primary products (especially coal, palm oil, base metals, natural gas, crude oil, and rubber), as certain regional comparators have surged ahead with respect to medium- and higher-technology exports, such as machinery and electronics (Breuer et al., 2018). Importantly, by the time of the AFC, Indonesia had achieved a competitive foothold in the production and export of these more valuable goods, but over the years

1 According to 2010 estimates, the population is comprised of Javanese 40.1%, Sundanese 15.5%, Malay 3.7%, Batak 3.6%, Madurese 3%, Betawi 2.9%, Minangkabau 2.7%, Buginese 2.7%, Bantenese 2%, Banjarese 1.7%, Balinese 1.7%, Acehnese 1.4%, Dayak 1.4%, Sasak 1.3%, Chinese 1.2%, other 15%. The 2010 census also estimates the population consisting of 87% Muslim, 10% Christians, 1.7% Hindu, 0.7% Buddhist, and 0.6% other.

2 For this Constraints Analysis, and conditional on data availability, Indonesia's comparators include India, Malaysia, the Philippines, Thailand, and Vietnam.

3 Indonesia's share of population of working age is predicted to reach a peak between 2020 and 2030 (Gardnier and Gardnier, 2013).

whatever comparative advantage it had has diminished.[4] Currently, indicators like the economic complexity of the goods Indonesia exports and its global value chain participation are low and declining, in pronounced contrast to Indonesia's more successful comparator countries (Breuer et al., 2018).

Goods and services exports now make up about a fifth of Indonesia's GDP, which is roughly half of their share in 2000 (World Bank, 2018). Contrary to some observers' hopes, the end of the commodity price boom did not cause investment in Indonesia's export-oriented manufacturing to substantially increase, and current US-China trade tensions are showing that Indonesia is not an attractive destination for FDI. In particular, of the companies who are leaving China to minimize trade war-related risks, very few of them are coming to Indonesia.[5] This has been recognized as a problem at the highest levels of the Government of Indonesia (GOI), and rightly so given how little exports of goods and services contribute to Indonesia's otherwise impressive growth. Indonesia's growth-related priority should therefore be to achieve the levels of productivity and innovation in both tradable and non-tradable sectors that successful export performance requires.

Binding Constraint: Barriers to Export-Oriented Competitiveness

Based on MCC's analysis of Indonesia's economy, barriers to export-oriented competitiveness are a binding constraint to growth in Indonesia. These barriers take a variety of forms, including trade barriers such as tariffs, non-tariff measures, foreign direct investment (FDI) restrictions, restrictions on trade in services, and restrictions on the importation and use of foreign labor. What these barriers have in common is that they each discourage or prevent cooperation and exchange between Indonesian workers and firms and their foreign analogs. The former are consequently less innovative, less productive, and less competitive with respect to exports.

Trade and FDI are each relatively heavily restricted in Indonesia, and evidence suggests the economy pays a substantial price as a result. The great majority of Indonesians are hurt rather then helped by these restrictions, which cause lower investment, firm productivity, and employee wages. Protection-induced stagnation helps explain the absence of per capita income increases from new exports since 2005. Also, economic growth rates have moderated as Indonesia has become more restrictive (relative to comparators). Finally, restrictions on trade and FDI have affected the composition of Indonesian firms and the type of production those firms engage in. In particular, Indonesian firms are less internationally competitive and more focused on production for domestic consumption rather than more lucrative export opportunities.

Binding Constraint: Barriers to Domestic Productivity and Innovation

Barriers to the productivity and innovation of non-tradable sector firms are also a binding constraint to growth. Indonesia's competition regime is weak, its SOE presence is broad and substantial, and the Suharto-era "gift-exchange" nature of relationships between firms and the government has persisted. Beneficiary firms might be granted special licensing arrangements, or be designated as mandatory partners in foreign joint ventures, for example. Each of these policy factors results in services that are less productive and more expensive they would be given robust competition. Since these services constitute inputs to outward-oriented production, poor performance with respect to the former contributes to the non-competitiveness of exports.

Indonesia's SOE presence is extensive and its competition regime is weak. Consistent with this apparent dearth of competition, product, service, and process innovations are each rare at Indonesian firms, and research and development (R&D) spending is low. The outsized role that SOEs (which are in some cases monopolies and therefore spared from competitive pressures) play in

4 See The Growth Lab at Harvard University's Atlas of Economic Complexity.

5 See *https://www.thejakartapost.com/news/2019/09/09/indonesias-economy-at-risk-as-global-recession-looms-world-bank.html?src=most-viewed&pg=news/2018/04/03/indonesia-verifies-projects-to-be-funded-with-blended-finance.html*.

the economy comes at a substantial cost in the form of foregone returns on equity, conservatively estimated to be half a percentage point of GDP (Australia Indonesia Partnership for Economic Governance, 2017). Moreover, firms in Indonesia appear to have relatively low rates of entry and exit, and therefore seem to face disproportionately low risks of having to shut down or face competition from new entrants (World Bank and International Finance Corporation, 2019). This helps explain service sector firms' low propensities to innovate and, more generally, Indonesian firms' lack of export competitiveness.

Binding Constraint: Costly and Underdeveloped Financial Intermediation

Financial intermediation is shallow, segmented, inefficient, and costly, and is also a binding constraint to growth in Indonesia. The underlying narrative in the financial sector is one of both a high demand for and a low supply of financial services, generating low equilibrium quantities and relatively high prices, which indicates a scarcity of supply relative to demand.

Relative to comparator countries, Indonesia's total financial sector assets, bank deposits, stock market capitalization, and credit to the private sector are all low, and its capital markets are shallow (World Bank and International Finance Corporation, 2019). The economic costs of this constraint take the forms of moderately high interest rates, onerous collateral requirements, and high reserve requirements which effectively constitute a tax on financial intermediation loans (World Bank, 2018). While the spread between lending and deposit interest rates is lower than in income comparators, it is higher than in regional comparators, which further suggests there are problems mobilizing savings. Finally, there is some evidence that firms' value added is inversely related to their degree of reliance on loans, suggesting financial intermediation problems could be preventing certain kinds of firms from prospering (BPS, 2017b).

Other Constraints Considered

The CA examined a number of other potential constraints but did not find them to be binding constraints to growth. Macro risks with respect to revenue policy and administration, for example, are problematic but do not rise to the level of a binding constraint.[6] Because of tax collection inefficiencies (as opposed to sub-optimally low tax rates), Indonesia's tax revenue as a share of GDP is considerably lower than in comparator countries, and as a result government spending and investment are also relatively low (World Bank, 2018b; International Monetary Fund, 2019). However, increased public spending in recent years has not been associated with better outcomes in infrastructure, education, and health (World Bank, 2018b), which suggests that the efficiency of public investment has been low.

Labor regulations, and more specifically severance payment and minimum wage regulations, are potentially problematic for an important minority of firms, but we do not find evidence they rise to the level of a binding constraint. In de jure terms, these regulations are relatively severe in Indonesia, but in de facto terms the costs of these regulations appear to be low for most firms (since they can evade costs by employing workers on non-permanent contracts) (OECD, 2018). Larger and more formal firms seem to be an exception in that they offer permanent contracts almost exclusively, but these firms rarely report that labor regulations are a priority problem (World Bank, various years). Also, the adoption of the law which established the regulations in 2003 was followed by a substantial increase in FDI (World Bank, various years), which further supports the conclusion that these regulations do not represent binding constraints. While in principle it is possible that a minority of foreign-owned and labor-intensive firms cannot thrive in Indonesia (and existing data is therefore failing to signal the scale of the problem), evidence on which firms are not investing in a country and why is extremely difficult to obtain. In any case, the balance of the available evidence suggests that labor regulations are not a binding constraint.

6 International Monetary Fund (2019) describes how Indonesia's macroeconomy was less affected by the 2007-2009 global financial crisis and 2013 emerging market panic than it was the Asian financial crisis of the late 1990s.

While problematic, transport and logistics infrastructure does not represent a binding constraint to growth either. The evidence on the extent and quality of Indonesia's transport infrastructure and related services relative to comparator countries is mixed, while evidence on the outcomes of cost and timeliness associated with these quality measures is slightly less flattering. More specifically, the time required to import and export are somewhat longer than for comparators, while the value of production lost to breakage or spoilage during shipping is consistent with expectations given Indonesia's GDP per capita (World Bank, 2018). On the other hand, stakeholder perceptions of transport and logistics issues are relatively positive (World Bank, various years).

The analysis also considered health, education, electricity, water and sanitation, and the costs of operating firms formally as possible constraints to growth. While problems exist in each of these areas, the analysis concluded that those problems are comparatively small.

Conclusion

The country team identified barriers to foreign trade and investment, an anti-competitive services sector environment, and costly financial intermediation as binding constraints to growth. Several other possible constraints were considered but were not determined to bind.

Country Context

MCC's Board of Directors selected Indonesia as eligible to develop a second compact in December 2018. Indonesia has experienced respectable and reliable growth in GDP per capita since the AFC, and a healthy amount of poverty reduction has accompanied that growth. But poverty remains too prevalent for complacency and economic growth rates have been moderating further away from their potential. Two key factors which help explain Indonesia's recent growth-related shortcomings are its low degrees of openness and investment productivity. On a closely related note, press reports suggest that Indonesia's lack of export competitiveness has been recognized as a problem at the highest levels of government. This CA has therefore been conducted at an opportune time.

As the first step in development of this compact, MCC prepared this Constraints Analysis, in consultation with counterparts in the Government of Indonesia. Notably, these counterparts included staff from the Ministry of National Development Planning (Bappenas) who shared the results of a growth diagnostic they were conducting under the guidance of Harvard University's Center for International Development. This was followed by data collection efforts, reviews of other recent growth diagnostics, stakeholder consultations (including with the Bappenas-appointed CA Panel), and empirical tests of the extent to which various possible constraints bind growth as described in Haussman, Rodrik, and Velasco's Growth Diagnostic (HRV, 2005).

The main result is that constraints to trade and economic cooperation between Indonesians and foreigners, insufficient competition in the non-tradable service sector, and costly financial intermediation have been determined to bind Indonesia's economic growth. Constraints on openness limit Indonesian firms' access to productivity-increasing knowledge from abroad as well as affordable inputs to export-oriented production. The lack of competition amongst domestically-oriented firms results in a dearth of innovation, which presumably increases costs for and adds to the challenges of would-be exporters. The

high cost and shallowness of financial intermediation mean that it is more difficult to finance productivity-enhancing investments, including for export-oriented firms.

This report presents an overview of Indonesia's recent growth and poverty reduction experience, outlines in relative detail the evidence underlying the conclusions as to which constraints are binding, and more briefly describes those factors judged to not represent binding constraints.

Economic History and Productive Sectors

The Indonesian economy has growth substantially and steadily since after the Asian Financial Crisis of 1997-98. Between 2000 and 2019, the annual growth rate of GDP per capita averaged 3.90% and was never less than 2.24%. In 2019, GDP per capita in constant 2010 USD terms was estimated to be $4,451 (World Bank, 2018). Moreover, and as will be shown below, substantial poverty reduction has accompanied growth over the years.

National growth rates have, however, moderated more recently, shrinking from around 6% before 2014 to around 5% after (World Bank, 2018). This decrease was driven by the end of the commodity price boom, to which Indonesia was substantially exposed given its key exports of coal, palm oil, base metals, natural gas, crude oil, and rubber (Rajah, 2018). Writing in December 2018, the World Bank characterized the risks to Indonesia's growth of decreased foreign demand (from global trade tensions) and low commodity prices as "substantial" (World Bank, 2018b).

Decomposing Indonesia's GDP provides insight as to how its GDP growth might be increased. Relative to comparator countries, and as a share of its GDP, investment is high in Indonesia and the sum of exports and imports is low (UNCTAD, 2019). As we have seen, however, high rates of growth have not accompanied the large amounts of investment that have been made in recent years, likely because so much of that investment was in construction (as opposed to more productive assets like public infrastructure and machinery) (Rajah, 2018). Also, and consistent with low exports and imports, foreign direct investment as a share of GDP has been low in Indonesia (World Bank, 2018). Given the transfer of tacit knowledge and prospects for export competitiveness that this sort of investment normally entails, it is not surprising that overall investment has bought less growth in recent years (Rajah, 2018).

Indonesia's exporting and importing experience shows stagnation and inability to exploit new export opportunities. Between 2000 and 2016, for example, Indonesia's exports of low-technology goods remained stable while those in key comparator countries (India, Thailand, and Vietnam) declined. At the same time, Indonesia's competitiveness with respect to high-technology exports declined gradually, again in contrast to key comparator countries' experiences (Breuer et al., 2018). Contrasting Indonesia's experience exporting higher technology goods over the 1995-2016 period with that of Vietnam is instructive: While the per capita value of Indonesia's electronics exports declined, Vietnam's started from a lower base and grew to be several multiples larger than Indonesia's (and similarly for machinery exports).[7] In further contrast to comparator countries, Indonesia's participation in global value chains and the economic complexity of its exports have been low and declining (Breuer et al., 2018). While Indonesia had therefore previously achieved a comparative advantage in the export of at least some higher technology goods, it did not manage to convert these initial successes into growing or sustained exports of more valuable products. Confirmation of Indonesia's lack of competitiveness came in the form of relatively low numbers of firms choosing to operate in Indonesia in response to US-China trade tensions.[8] In response to press coverage of this issue, no less a personage than the Indonesian President Jokowi Widodo described this lack of competitiveness as, "a problem that we need to solve."[9]

7 See Harvard University's Atlas of Economic Complexity.

8 See *https://www.thejakartapost.com/news/2019/09/09/indonesias-economy-at-risk-as-global-recession-looms-world-bank.html?src=most-viewed&pg=news/2018/04/03/indonesia-verifies-projects-to-be-funded-with-blended-finance.html*.

9 See *https://amp.scmp.com/week-asia/economics/article/3025818/jokowi-urges-ministers-take-advantage-us-china-trade-war*.

The COVID-19 pandemic and the global economic slowdown it caused adds to the urgency of these issues. In 2020, GDP per capita was estimated to have shrunk by 3.1%, while according to the World Bank, real GDP was 7.9% lower in early 2021 relative to what the pre-crisis trend would have implied. While (at the time of writing) the World Bank expected GDP to grow by 4.1% in 2021 and 5.0% in 2022, uncertainty remained high and downside risks were judged to outweigh upside ones (World Bank, 2021).

Fortunately, the growth that has occurred over the years has resulted in substantial poverty reduction. In particular, for every percentage point increase in GDP per capita that took place in Indonesia between 1996 and 2017, the poverty headcount share decreased by 0.57 percentage points, which represents a considerably stronger relationship between growth and poverty reduction than in comparator countries over comparable periods.[10] As of 2019, the share of the population estimated to be living under the international poverty line of $1.90 per day (in 2011 PPP terms) was 2.7%, while the analogous estimate for the lower middle income poverty line of $3.20 per day—which is particularly relevant given Indonesia's status as a lower middle income country--was 19.9%. While the share of Indonesians living under $1.90 per day is not high given Indonesia's GDP per capita, several comparators had smaller population shares falling below that standard, and the share of Indonesians living under $3.20 per day is high (relative to GDP as well as comparators). Moreover, inequality, as measured by the Gini index, has increased over the years, going from a value of 31.7 in 2002 to 38.2 in 2019 (World Bank, 2018). This is a large increase which warrants attention as to whether growth will continue to be as poverty-reducing as it has been.[11] The disadvantages that characterize life for a large share of Indonesians are reflected in health statistics as well. For example, maternal and child mortality rates in Indonesia are considerably higher than regional averages, tuberculosis rates are high given GDP, and more than one in four children were classified as stunted in 2019 (World Bank, 2018). While (as we will see) health problems do not rise to the level of a binding constraint to growth, they illustrate the costs of Indonesia's inequality. In addition, of course, the poverty rates cited above are likely higher at the time of writing due to the COVID-19 pandemic and the associated economic contraction.[12] It therefore seems likely that several years' worth of high and sustained growth will be needed just to reverse the poverty-increasing effects of the pandemic. Finally, while provincial poverty rates are considerably higher in southern and eastern provinces, these provinces are populated such that the greatest number of poor people live on Java, whose contribution to GDP is disproportionately large.

A number of other key economic indicators further highlight the need for accelerated growth in Indonesia. Indonesia's structural transformation is less advanced than and has been less rapid relative to that of key comparators. In particular, Indonesian agriculture's share of GDP is somewhat higher than GDP per capita predicts, it is higher than in key comparator countries (the Philippines, Thailand, and Malaysia), and its decline since 1995 has been considerably slower than in Vietnam (World Bank, 2018).[13] Also, while growth over the previous two decades has bought a substantial reduction in the self-employment rate, that rate remains high (particularly for women). Correspondingly, the wage or salary employment rate is low, indicating a dearth of good jobs (World Bank, 2018). It is particularly important for the economy to generate more such jobs now and over the next decade since the working age population is expected to peak in 2030. There is therefore no time like the present for Indonesia to "grow rich before it grows old." Finally, shortcomings in Indonesia's management of natural resources have led to Indonesia having one of the

10 This result corresponds to the international poverty line of $1.90 per day, but Indonesia's growth was also relatively effective in reducing poverty when considering the $3.20 per day poverty line.

11 Despite the increase in the Gini index, the elasticity of poverty with respect to GDP has not weakened between 2002 and 2019 (in the sense of exhibiting a statistically significant trend).

12 While estimates of the shares of the population living under the international and lower middle income poverty lines in 2020 were not available at the time of writing, the analogous estimate for the national poverty line were estimated to have risen from 9.4% in 2019 to 10.19% as of September 2020. See *https://www.worldbank.org/en/country/indonesia/overview*, accessed September 7, 2020.

13 More positively, agricultural value added per agricultural worker is slightly high given Indonesia's GDP per capita.

world's highest deforestation rates over the 2005-2015 period, and air pollution which is estimated to cost $400 million per year (World Bank, 2014).[14] While economic growth alone will not necessarily eliminate these problems (or substantially decrease Indonesia's net emissions of greenhouse gases more generally), it could increase Indonesians' demands for and the government's supply of improved regulatory regimes (Jayachandran, 2021).

Other indicators are less obviously troubling, even if they do mask certain underlying issues. For example, both labor force participation and employment rates are high given Indonesia's GDP. Participation rates vary substantially by gender, however, with 84% of men over the age of 15 estimated to be in the labor force in 2019 while only 54% of women were. Youth unemployment is low given GDP but high relative to comparators. Indonesia's urbanization rate is as GDP predicts (World Bank, 2018).

Growth Question

While Indonesia's growth and poverty reduction experiences are in many ways enviable, a large share of Indonesians remain poor. The end of the commodity boom, international trade tensions, and (in marked contrast to comparator countries) continued stagnation with respect to the complexity of exports and global value chain participation have each highlighted Indonesia's economic weaknesses. Achieving higher growth rates is therefore a priority for Indonesia, and the central question motivating this analysis is how this can be achieved. Available evidence suggests that low-productivity investments and relatively little economic cooperation between Indonesians and foreigners reflect the missing pieces in Indonesia's growth story. The identified binding constraints to growth—barriers to export-oriented competitiveness, barriers to domestic productivity and innovation, and costly and underdeveloped financial intermediation—speak directly to these issues.

Discussion of Constraints

Barriers to Export-Oriented Competitiveness

Barriers to export-oriented competitiveness are a binding constraint to growth in Indonesia. These barriers take a variety of forms, including trade barriers such as tariffs, non-tariff measures, FDI and restrictions on trade in services, and restrictions on the importation and use of foreign labor.[15] What these barriers have in common is that they each discourage or prevent cooperation and exchange between Indonesian workers and firms and their foreign analogs. The former are consequently less innovative, less productive, and less competitive with respect to exports. Restrictions on FDI or foreign workers, for example, mean that Indonesians are exposed to less tacit knowledge—expertise painstakingly developed by foreigners which requires learning by doing, and therefore a dedicated foreign presence. Import restrictions ultimately have the same impact but via lack of access to the right sets of inputs (rather than state of the art knowledge or technology, as in the previous example). These anti-export competitiveness policies are also similar in that they concentrate benefits amongst a relative handful of incumbent firm owners at great expense to the rest of the economy.

A variety of indicators provide evidence that a lack of openness to FDI and trade constitutes a binding

14 Deforestation rates have been considerably lower more recently, however.

15 Examples of non-tariff measures include, e.g., antidumping duties, licensing requirements, domestic content and mixing requirements, exchange controls, customs clearance procedures, and subsidies and other aid. Examples of trade in services include international transportation; financial and insurance services; legal, engineering, and other professional services; computer services; and telecommunications.

constraint to growth in Indonesia. In addition to benchmarking the severity of Indonesian restrictions, the HRV methodology suggests four kinds of empirical tests which can be used to identify whether barriers to export-oriented competitiveness constrain growth: (1) Does the factor have a high shadow price? (2) Do changes in the factor result in changes in private investment or growth? (3) Do firms attempt to bypass the constraint? (4) Do firms whose production technologies are less intensive in the factor thrive relative to other firms? Typically, and in intuitive terms, these four questions are intended to jointly establish whether the supply of some factor is low relative to demand for that factor, and therefore whether the economy would benefit from a supply increase. In the case of restrictions on economic cooperation between Indonesians and foreigners, where more is generally worse rather than better, the overall question is whether restrictions are sufficiently numerous and impactful as to decrease investment and growth.

Benchmarking on key indicators

Restrictions on economic cooperation with foreigners are more severe in Indonesia than in comparator countries. The shares of imports and exports subject to non-tariff measures are higher in Indonesia than in most of its regional comparators (including relatively economically successful ones). The share of Indonesian imports (weighted by value) subject to non-tariff measures was 69%, while the analogous share averaged across comparators is 51%. Similarly, the value-weighted share of exports subject to non-tariff measures was 60% in Indonesia and 30% in comparator countries.[16] Trade in services is also relatively restricted in Indonesia, where the OECD's Services Trade Restrictiveness Index (whose value increases in restrictiveness) took on a value of 0.46 as compared to 0.35 for non-OECD economies (excluding Indonesia).[17] FDI restrictions are also more severe in Indonesia than in any of its comparators: The OECD's FDI Regulatory Restrictiveness Index (whose value also increases in the severity of restrictions) was 0.31 for Indonesia and 0.21 for regional comparators.[18] Finally, whereas Indonesia's comparators feature different visa categories for different kinds of workers (and tend to offer more allowances for high skilled workers), all foreign workers who want to work in Indonesia have to endure the same unwieldy process regardless of their skill level (Frasheri et al., 2017). Available indicators therefore suggest that Indonesian firms have a harder time trading goods and services as well as gaining access to foreign expertise.

Shadow price

What sorts of costs do the aforementioned restrictions on foreign direct investment and trade impose on the Indonesian economy? Investment restrictions in the forms of caps on foreign equity limits and local content requirements are each associated with lower foreign direct as well as domestic investment. The World Bank (2017) concluded that, "raising the foreign equity limit in at least one sub-sector from zero to 100 percent, on average, leads to an additional 3.8 FDI projects in that sector … and an additional USD 4.3 million of realized investments every year". Also, reserving a sector only for micro-, small- and medium-sized enterprises was associated with 22% fewer FDI projects. Negative Investment List restrictions limit foreign participation in affected sectors[19] and have been associated with a richer variety of impacts, including a negative one on Indonesia's overall export competitiveness (World Bank, 2018c). More specifically, while these restrictions are associated with a 14% increase in incumbent firm profits, this represents their lone benefit, and it is concentrated amongst the relative handful of individuals who own beneficiary firms. In contrast, these restrictions are associated with a 1% de-

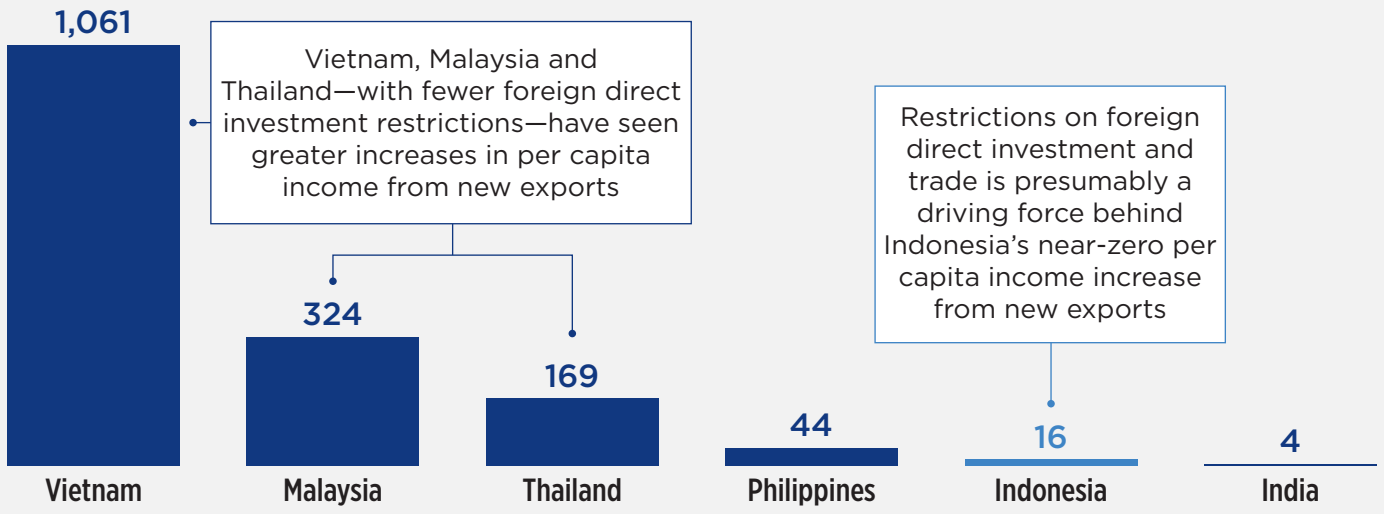
16 In unweighted terms, 56% of Indonesian imports (and 34% of exports) were subject to non-tariff measures as compared to 46% (18%) of comparators'. See https://wits.worldbank.org/tariff/non-tariff-measures/en/country/IDN.

17 See https://www.oecd.org/policy-briefs/indonesia-dismantling-barriers-to-competition-and-innovation.pdf.

18 See https://data.oecd.org/fdi/fdi-restrictiveness.htm#indicator-chart.

19 The Negative Investment List, or Daftar Negatif Investasi (DNI), codifies the key restrictions on FDI in Indonesia including foreign equity limits, sectoral reservations to MSMEs, special licenses, and minimum local content requirements. The DNI applies to at least one investment restriction in 28 percent of all sectors, and limits foreign equity participation in 20 percent of them, in some cases prohibiting foreign investment altogether (IFC (2019), Draft Country Private Sector Diagnostic, p. 18).

FIGURE 2: Income increases from exports, 2000-2015, Indonesia and comparators



Source: Harvard University Center for International Development Atlas of Economic Complexity

crease in investment, a 4% decrease in productivity, a 14% decrease in employees' wages, as well as a 7% increase in output prices for beneficiary firms (and therefore higher input prices for downstream firms). The great majority of Indonesians affected by these restrictions seem to be hurt rather than helped by them. Protecting firms from competition therefore lowers productivity and innovation, and this protection-induced stagnation is presumably a driving force behind Indonesia's near-zero per capita income increase from new exports over the past 15 years. In contrast, Thailand's per capita income increase from new exports over this period was $169, Malaysia's was $324, and Vietnam's was $1,061.

Correlations with investment or growth

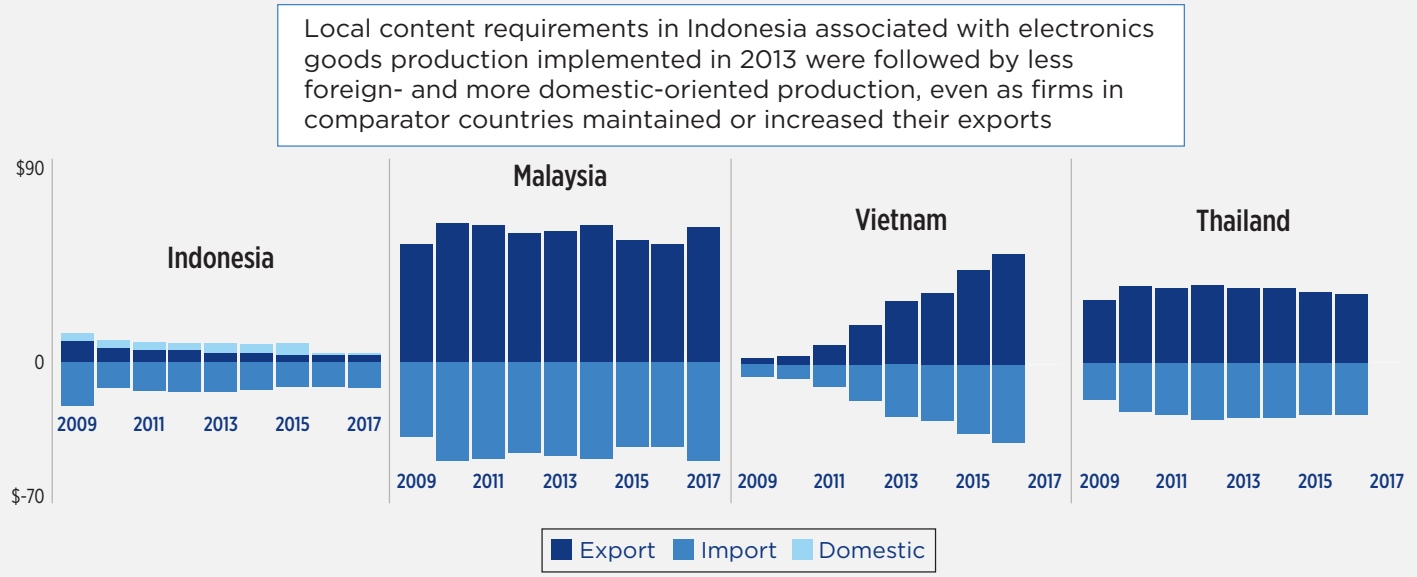
Have changes in restrictions been followed by changes in investment or growth? Indonesian FDI restrictions grew substantially less severe over the course of the 1990s, which might help explain the relatively high contemporaneous growth rates. Since the AFC, however, there has been very little change in the absolute severity of those restrictions, which contrasts with the decreases observed amongst Indonesia's comparators (OECD, 2016). Indonesia therefore experienced lower growth rates as its FDI restrictions stopped improving in absolute terms, and still lower growth rates as those restrictions have grown more severe relative to comparators. Moreover, the share of Indonesia's imports subject to conventional trade barriers has been rising since 2009, and in contrast to comparators, import tariffs have increased since 2000 (World Bank, 2018c). Again, then, barriers to economic cooperation with foreigners increased while growth rates were moderating.

Bypassing the constraint: Is there evidence of firms trying to cope with restrictions on FDI and trade by somehow bypassing them? Anecdotal evidence of extremely large foreign firms making deals with high-level officials related to stringent local content requirements is consistent with this possibility. While the viability of this sort of strategy could be more limited for smaller firms, data availability constraints preclude a fuller examination of this or the larger question of how foreign firms might be bypassing the restrictions in question.

Firm composition

Are the firms which operate and thrive in Indonesia disproportionately less intensive with respect to imported inputs and foreign expertise? In addition to decreasing the competitiveness of Indonesian firms, restrictions in the form of the Negative Investment List are associated with lower foreign firm entry and domestic firm exit (World Bank, 2018c). Firms in Indonesia are therefore

FIGURE 3: Indonesian and comparators' exports and imports of electronics products in USD (billions)



Source: World Bank Indonesia Economic Quarterly, December 2018

disproportionately less internationally competitive than they would be in the absence of the barriers to openness in question. As another example, local content requirements associated with electronics goods production implemented in 2013 were followed by less foreign- and more domestic-oriented production, even as firms in comparator countries maintained or increased their exports. Also, particular restrictions have been associated with lower foreign firm participation in Indonesia. A set of investment restrictions implemented in 2010, for example, had the practical effect of limiting foreign seed production firms' participation in the Indonesian production of horticulture goods.[20] Indonesia's horticulture exports stagnated thereafter, even as comparators' took off (World Bank, 2018c).

Effect of the binding constraint on women's economic prospects

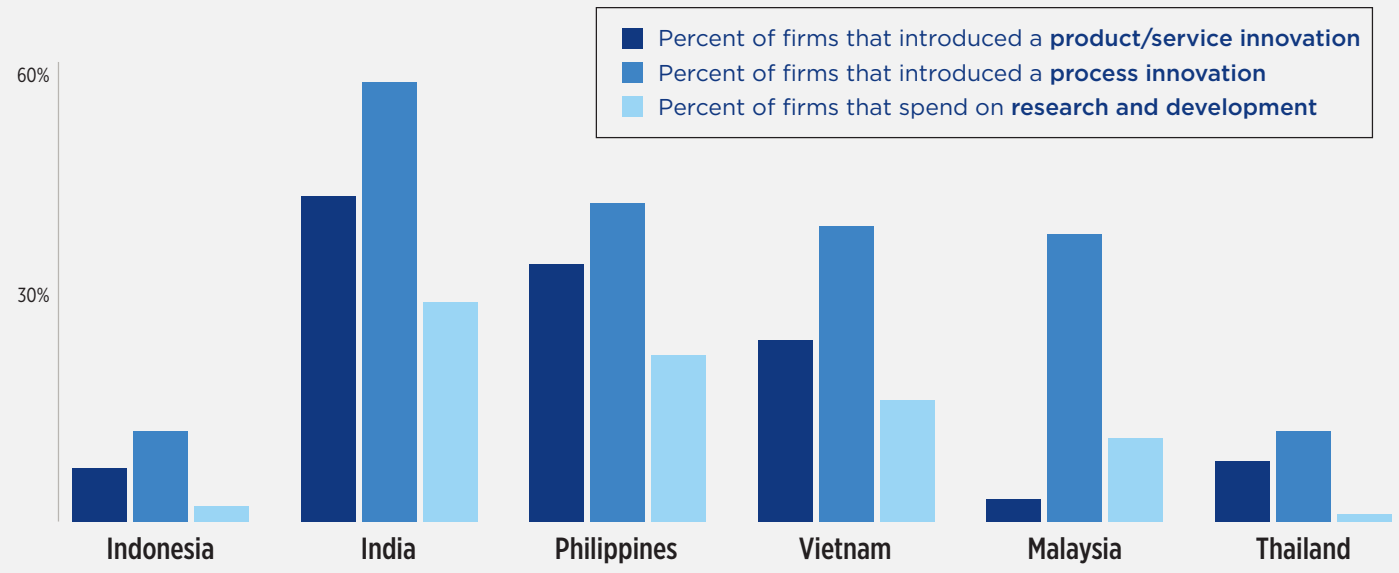
Increased trade barriers and restrictions on FDI may have limited women's economic potential. A study on the impacts of trade liberalization in Indonesia analyzed national socio-economic household survey data from 259 districts (from all provinces except Aceh, Papua, and Maluku), and found that reductions in tariffs from 17.2% in 1993 to 6.6% in 2002 expanded job opportunities in local areas, particularly for women over 20 years of age. Impacts were driven by improved firm competitiveness because of cheaper intermediate inputs, and there were increases in jobs in sectors which traditionally employed females as well as in more male-dominated sectors. As a result, female employment, hours worked, household income each increased while maternal and child health improved, and child marriages decreased (Kit-Katos et al., 2017). Another study concluded that increasing FDI and lowering trade barriers reduced the gender wage gap at the bottom and the middle of the wage distribution, and that these relationships were particularly strong in provinces with lower average incomes (Jamielaa and Kawabata, 2018).

Barriers to Domestic Productivity and Innovation

Barriers to the productivity and innovation of non-tradable sector firms are also a binding constraint to growth. Indonesia's competition regime is weak, its SOE presence is broad and substantial, and the Suharto-era "gift-ex-

20 The 2010 Horticultural Law (no. 13) aimed to support development of the horticulture sector through a combination of restrictions on foreign investors (in the form of 30 percent maximum foreign equity) and import barriers (e.g., licensing requirements, restricted ports of entry). The investment restrictions have reduced the participation of foreign seed companies, which can provide invaluable sources of knowledge in a technologically intensive sector, such as horticulture (World Bank, 2018c).

FIGURE 4: Product/service innovation, process innovation, and R&D spending in Indonesian and comparator country firms



Source: World Bank Enterprise Surveys

change" nature of relationships between firms and the government has persisted. Beneficiary firms might be granted special licensing arrangements, or be designated as mandatory partners in foreign joint ventures, for example. Each of these policy factors results in services that are less productive and more expensive than they would be given robust competition. Since these services constitute inputs to outward-oriented production, poor performance with respect to the former contributes to the non-competitiveness of exports. Again, also, as the economy as a whole suffers from these anti-competitive policy actions (or lack thereof), only a relative handful of firm owners benefit.

Benchmarking on key indicators: Indonesia benchmarks poorly with respect to available indicators on the degree of competition in its economy. In particular, the number of sectors of the Indonesian economy in which there is some SOE presence is unusually large. As of 2013, Indonesia had the second-highest number of subsectors—second only to China—having at least one SOE according to the OECD-World Bank Group Product Market Regulation database, comprising 51 OECD and non-OECD countries (World Bank and International Finance Corporation, 2019). Importantly, some of these SOEs are monopolies, and there are non-tradable service sector SOEs as well as manufacturing ones. The strength of Indonesia's competition policy regime is also relatively low: According to an OECD survey of competition regimes based on 2013 data in 49 countries, Indonesia's regime ranked as one of the least effective (World Bank and International Finance Corporation, 2019).

Shadow price

The Indonesian economy appears to pay a heavy price in terms of foregone innovation due in large measure to insufficient competition and extensive reliance on SOEs. World Bank Enterprise Survey data shows that product, service and process innovations are each rare at Indonesian firms, and research & development (R&D) spending is low. Again, this conclusion extends to service sector firms in particular, which strongly suggests that barriers to productivity exist in domestic- as well as foreign-oriented sectors. Patent applications and the number of R&D researchers are each also low relative to comparators as well as in absolute terms (World Bank, 2018). Finally, the outsized role that SOEs play in the economy comes at a substantial cost (in the form of foregone returns on equity), conservatively estimated to be roughly half a percentage point of GDP. More than a dozen SOEs experienced annualized losses between 2012 and 2017 of between $70 million and $140 million, and a further eight SOEs experienced losses between 2008 and

2015. Non-tradable service sector SOEs substantially contribute to these losses. For example, assuming the assets of Indonesia's monopoly electricity distributor could earn a 12% return on equity if they were held in private hands, then given the SOE's asset stock and after-tax profits in 2015, $6 billion was lost in foregone returns (Australia Indonesia Partnership for Economic Governance, 2017).[21] The low productivity of the non-tradable services sector that these results reflect is presumably an important contributor to Indonesia's poor export performance.

Firm composition

Consistent with insufficient competition, firms in Indonesia had relatively low rates of entry and exit (as of 2006, the most recent data available, via World Bank and International Finance Corporation (2019)). More recent survey data reveals that firms in Indonesia are on the older side relative to comparator country firms, which suggests entry and exit rates have remained low (World Bank, various years). Indonesian firms therefore seem to be disproportionately shielded from the related risks of having to shut down or face competition from new entrants. This lack of competition helps explain Indonesian firms' low propensities to innovate or conduct R&D, as well as their lack of export competitiveness.

Effect of the binding constraint on women's economic prospects

Lack of competition among domestic firms reduced demand for workers with tertiary education and higher skills, which can reduce incentives for youth, especially women. Evidence indicates that though girls score higher than boys in mathematics and science, they usually do not pursue technical education at the tertiary level, and even graduates with technical education are not employed in productive sectors. In 2017, the ASEAN youth index scored Indonesian "employment and opportunity" at 0.28, the lowest compared to a regional average of 0.53.[22] Around 50% of the population is less than 30 years old, and by 2030, the working age population will reach 70%. However, lacking skills, opportunities and incentives can be a potential barrier to realizing the demographic dividend, and a major challenge to sustainable growth.

Costly and Underdeveloped Financial Intermediation

Financial intermediation is shallow, segmented, inefficient, and costly, and is a binding constraint to growth in Indonesia. The underlying narrative in the financial sector is one of both a high demand for and a low supply of financial services, generating low equilibrium quantities and relatively high prices. This is most prominently reflected in the relatively high cost of finance in Indonesia.

Benchmarking on key indicators

A wide variety of indicators suggest that Indonesia's financial system is underdeveloped. The financial sector's total assets stood at 75% of GDP in 2017, with bank assets accounting for about three-fourths of the total, which is low compared to emerging market peers (IMF, 2019).[23] Indonesia lags substantially behind the regional median on other financial indicators such as bank deposits (28 percentage points below the regional median as a percentage of GDP), stock market capitalization (26 percentage points below), and credit to the private sector (15 percentage points below) (World Bank and International Finance Corporation, 2019). Relative to its comparator countries, Indonesia's money supply, its fraction of firms with loans or credit lines, and its level of domestic credit provided by the financial sector (both overall, and by banks specifically) are each low (World Bank, 2018). In another manifestation of an underdeveloped financial sector, Indonesia's capital markets are shallow and therefore an inadequate source for long-term capital. The

21 The same authors estimate that the overall return on equity for all the SOEs in their dataset was 10.6%, which suggests that a 12% return is a reasonable benchmark. In fact, amongst the subset of relatively financially successful SOEs, the authors estimate a return on equity of 23%.

22 ASEAN Youth index: UNFPA & ASEAN 2017. The 2017 youth index included Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam

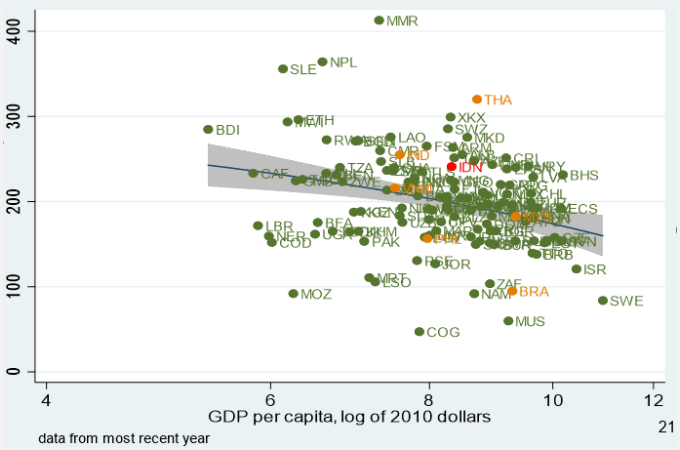
23 It should also be noted that state-owned commercial banks account for 38% of banking system assets, and they lend primarily to SOEs and large corporations. Moreover, state-owned banks and the national-level SOEs that they lend to are mostly supervised by the same state shareholder institution, the Ministry of State-Owned Enterprises.

domestic institutional investor base is narrow, with insurance companies and pension funds accounting for only 8% of assets, given limited insurance penetration and a pension fund segment which was only established in 2015 (World Bank, 2016). Investments in stocks and mutual funds form 66% of the insurance sector portfolio, whereas pension fund management appears to be relatively risk averse, with 26% of resources invested in deposits, 24% in government securities, and 21% in bonds. This risk aversion is driven in part by legal requirements to invest conservatively and predominantly in government bonds, and high liquidity requirements to allow for penalty-free pre-retirement withdrawals also prevent further development of the market. Outstanding domestic debt securities (public and private) and stock market capitalization are also below levels in Asian comparators (IMF, 2019). Meanwhile, 55% of firms are reported to need loans, while only 17% of firms obtained a loan from a financial institution in the past year (World Bank, 2018).

Shadow price

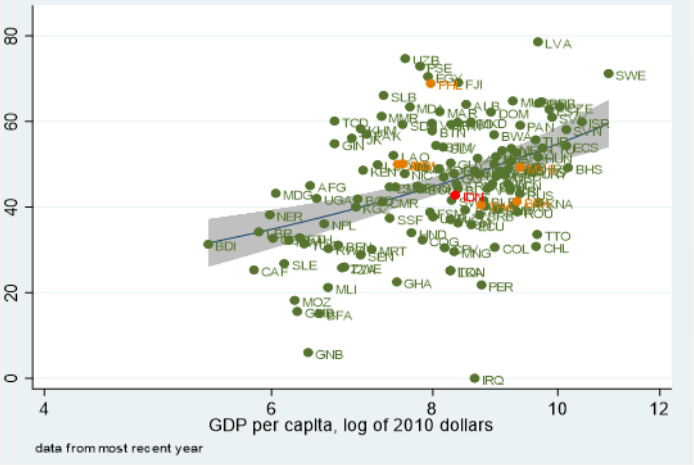
The cost of finance appears to be high in Indonesia. In particular, real interest rates are moderately high, collateral requirements are onerous, and high reserve requirements effectively constitute a tax on financial intermediation loans (World Bank, 2018; World Bank, 2016). While loans are rarely rejected, this could be because potential borrowers are discouraged from applying for loans by high interest rates, onerous collateral requirements and complex application procedures (World Bank and International Finance Corporation, 2019). While the spread between lending and deposit rates is low in Indonesia relative to income-based comparators, it is high relative to most regional comparators (World Bank, 2018). Finally, Indonesia's high cost of finance appears to be driven more by problems with the mobilization of savings than by the inadequacy of savings. Indonesia's sovereign debt is rated by major rating agencies as investment-grade, and recent SOE bond issuances have been oversubscribed, which each indicate adequate access to foreign capital.

FIGURE 5: Value of collateral needed for a loan (% of loan amount), relative to GDP per capita



Source: World Bank World Development Indicators

FIGURE 6: Percent of firms not needing a loan, relative to GDP per capita



Source: World Bank World Development Indicators

Bypassing the constraint

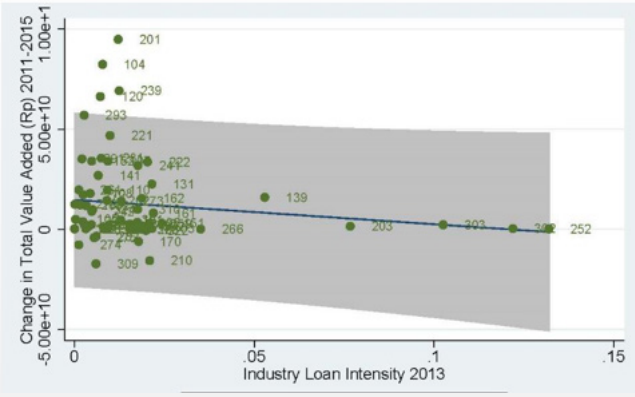
Evidence on whether firms act to circumvent a potential financial constraint is mixed. On the one hand, the fraction of firms financing investment internally is relatively low, while the fraction of firms using bank finance is relatively high, which each suggest that firms have ready access to external finance. On the other hand, considering relative amounts of borrowing, the proportion of investment and working capital financed by banks is low (World Bank, 2018). Amongst individuals, borrowing from family and friends is relatively common

in Indonesia, which possibly indicates that the financial system does not yet meet individuals' personal financial service needs (World Bank, 2016).

Firm composition

We next consider the performance of firms that are relatively intensive in the use of external finance as a productive input. We find that firms' value added is inversely related to their degree of reliance on loans, though this simple bivariate relationship is weak and sensitive to outliers (BPS, 2011; BPS, 2015). In other words, the more heavily firms borrow, the slower is their growth, on average. This constitutes qualified evidence of the bindingness of access to finance as a productive factor.

FIGURE 7: Industry loan intensity and growth in value added for manufacturing firms, 2011-2015



Source: Indonesian Annual Manufacturing Surveys from 2011 and 2015

Effect of the binding constraint on women's economic prospects

Gender inequalities in financial intermediation limit women's economic opportunities, and the profitability and expansion of their firms in particular. On the demand side of the market for finance, survey data show that though women have greater unmet financial needs, they are less likely than men to apply for loans. This is due to limited agency in determining the use of profits, assets and loans for expansion of their businesses. Also, 40% of women entrepreneurs cited the high cost of finance as the reason for not borrowing from a bank. Other contributing factors include risk aversion, inadequate collateral, and lack of confidence in their ability to receive loans (International Finance Corporation, 2016). On the supply side, women appear to be poorly served by lending institutions: Despite having lower rates of non-performing loans, women receive smaller loans with shorter maturities; spousal co-signature on loans is required more often to guarantee loan approval for women than it is for men; banks lack outreach strategies to serve women; and women have access to very few tailored loan products. Most female entrepreneurs do not have access to insurance, and so must use profits to deal with emergencies rather than re-invest. All these factors presumably contributed to only 12% of female business owners reporting in a 2014 survey that they had received bank financing, as compared to a rate of 37% amongst men (Australia Indonesia Partnership for Economic Governance et al., 2017).

Non-Binding Constraints

The team also considered other potential constraints to growth, including macroeconomic risks, labor regulations, transport and logistics infrastructure, electricity, water and sanitation infrastructure, the regulation of firms, health, and education. For reasons we describe below, and sometimes despite serious related problems, each of these sectors were determined to not bind growth. We conclude this section by considering the relationship between gender inequality and economic growth in Indonesia.

Macroeconomic Risks

Evidence suggests that Indonesia's tax revenue policy and administration is a relatively concerning aspect of its macroeconomic management, but even so it does not rise to the level of a binding constraint. Indonesia's tax revenue relative to GDP is considerably lower than comparators', and government spending and investment as a share of GDP is therefore relatively low as well (International Monetary Fund, 2019). It is not at all clear that this has had any effect on economic growth, however: Recent increases in public spending have not been accompanied by better outcomes in infrastructure, education, and

health (World Bank, 2018b).[24] International Monetary Fund (2019b) suggests that weaknesses downstream of revenue collection—in planning, budgeting, and expenditure management—have recently been driving the low efficiency of public investment.

Other potential macroeconomic management risks appear to be low. Indonesia appears able to service its international liabilities: reserve adequacy is at least moderate (depending on the comparators), interest payments on debt have been relatively low and stable, and investment-grade sovereign debt makes for relatively inexpensive foreign financing (World Bank, 2018). Evidence on the magnitude of Indonesia's external debt is mixed: as a fraction of exports or reserves it is relatively high, but as a share of GDP it is relatively low (World Bank, 2018). Inflation averaged less than four percent since 2016 (World Bank, 2018).

Microeconomic Risks: Labor Regulations

Labor regulations are potentially problematic for an important minority of firms, but we do not find evidence that they rise to the level of a binding constraint. In de jure terms, severance payment and minimum wage regulations in Indonesia are relatively severe (OECD, 2018). In de facto terms, however, the costs of these regulations appear to be low for the great majority of firms, with the possible and important exception of more foreign-owned and export-oriented firms. For most firms, a low cost alternative to offering workers the kinds of permanent contracts that subject them to the risk of having to pay generous severance payments or relatively high minimum wages is to simply offer non-permanent contracts (on terms that are acceptable to both sides, as is typical elsewhere). This approach seems common: World Bank (2016b) finds that 66 percent of workers were not covered by any severance payment requirement, while a further 27 percent received less than they were entitled to under the regulations, so that only seven percent of workers received the full payment. But larger and more formal firms seem to offer permanent contracts almost exclusively (World Bank, various years). While these firms only rarely report that labor regulations are a priority problem, and the adoption of the law which established the regulations in 2003 was followed by a substantial increase in FDI, it is possible that the set of firms that chooses to operate in Indonesia is disproportionately less sensitive to the country's severe labor regulations. In other words, labor regulations could in principle be deterring certain foreign firms (e.g., labor-intensive producers competing in global value chains) from investing in Indonesia. Unfortunately, however, evidence on which firms might not be investing in a country and why is extremely difficult to obtain.

Infrastructure: Transport and Logistics

Available evidence suggests that while Indonesia's transport infrastructure is problematic, the costs it imposes do not clearly bind growth. The quantity and quality of Indonesia's transport infrastructure compared against international benchmarks is mixed. Road density, quality, and connectivity indices all rank below expectations, while the availability and quality of transport services more generally rank significantly above average against comparators (World Economic Forum, 2018). On maritime transport, both an indicator of the quality of port infrastructure and the Liner Shipping Connectivity Index are slightly above average (World Economic Forum, 2018). The Logistics Performance Index overall and its six constituent indicators are all above expectations. As for outcomes of cost and timeliness associated with these quality measures, the time required to import and export are somewhat longer than comparators, while the value of production lost to breakage or spoilage during shipping is on par with expectations. Direct measures of the costs that Indonesia's transport network impose on the economy suggest that those costs are non-trivial. A recent estimate put the costs of congestion in Jakarta at 1.7% of GDP (World Bank, 2019). In a 2016 survey of 3,000 households in Jakarta, women identified transport as one of the major factors for opting out of the labor force (Witoelar et al., 2017). Das et al. (2018) revealed that transport and logistics is a major barrier for the fast-growing e-commerce industry, which was $6 bil-

24 Indonesia's fiscal deficit has fallen since 2015 and was projected to remain at 1.8% of GDP in 2019-2020. As of mid-2023, the fiscal deficit was roughly 2.3% of GDP.

lion in 2018, and is expected to increase significantly. E-commerce needs reliable logistics infrastructure to cater to the 1.6 billion parcels expected to be shipped annually. Finally, stakeholder perceptions of these issues are relatively positive. A World Economic Forum opinion survey on the quality of roads ranked Indonesia above average. The percentage of firms identifying transportation as a major constraint is below average against comparators (World Bank, various years).

Infrastructure: Electricity

Indonesia's electricity supply is also not a binding constraint. Quantitative measures of Indonesia's electricity supply are mostly adequate relative to comparators. Access to electricity is nearly universal in Indonesia, and roughly 95% of rural and 98% of urban households have it (World Bank, 2018). The frequency of power outages is roughly typical in Indonesia, while the duration of outages is slightly greater in Indonesia than it is in comparators. Importantly, however, the share of firms who report experiencing power outages is much lower than Indonesia's GDP per capita would predict, and the value of sales lost due to outages is relatively low. Moreover, the private use of generators in Indonesia is relatively low (World Bank, various years). On the other hand, it appears that the extent to which firms depend on power in the production process is very slightly negatively related to growth in firm value added from 2011-2015 (BPS, 2011; BPS, 2015). On balance, though, it appears that firms in Indonesia are mostly able to take whatever problems the supply of electricity brings in stride.

Infrastructure: Water and Sanitation

The percentages of the population in Indonesia that uses at least basic drinking water and sanitation services is lower than in comparator countries (though only slightly in the former). Indonesia's rates of improvement along these lines have been relatively high, however (World Bank, 2018). Measures of the shadow price of water and sanitation-related constraints are mixed. Mortality from poor water and sanitation is higher in Indonesia than in comparators, though differences—7.1 (per 100,000) in Indonesia versus 4.2 in the Philippines and 3.5 in Thailand--are not large in absolute terms (World Bank, 2018)). The share of firms in Indonesia who report experiencing water insufficiencies is relatively low, however (World Bank, various years). While these data suggest that water and sanitation issues warrant attention, they do not rise to the level of a binding constraint.

Microeconomic Risks: Regulation of Firms

The weight of the evidence on the costs of operating formally suggests that these costs do not present an economically substantial burden for Indonesian firms. The day-to-day regulation regime mostly appears to not be especially costly for firms: Trade facilitation, access to land, and the overall ease of doing business in Indonesia each seem typical with respect to their cost relative to the situation in comparator countries (World Bank, various years). There are indications that the regulatory environment overall is somewhat problematic and the expense of resolving contract disputes is high in Indonesia, however (World Bank, 2018). Many indicators of the shadow price of operating formally suggest that Indonesia is not a particularly costly place to start a business, obtain relevant licenses or permits, comply with regulations, or pay taxes (World Bank, 2018; World Bank, various years). Changes in Indonesia's regulatory quality do not help explain growth patterns in recent years: While lower growth has accompanied recent decreases in regulatory quality, this quality was even lower when growth rates were consistently higher (International Monetary Fund, 2018). Evidence on whether firms regard operating formally sufficiently costly as to engage in coping behavior is mixed: While firms in Indonesia were more likely to have started out operating informally relative to firms in comparator countries (World Bank, various years), Rothernburg et al. (2015) find little evidence that reducing firm registration costs affects formality rates. On balance, the costs of operating formally do not seem to bind growth in Indonesia.

Health

While there is evidence of serious health problems in Indonesia, there is no sign that these problems constrain economic growth. Life expectancy in Indonesia is more

or less typical for a similarly developed country, and prime-age adult mortality rates are similar to those in comparator countries (World Bank, 2018; Global Burden of Disease, 2016).[25] Importantly, though, the economy does not seem to be substantially negatively affected by individuals' health problems: Estimates of Indonesia's share of GDP lost to worker illness and illness-induced early retirement are each relatively low (Rasmussen et al., 2016).

Education

The supply of human capital also seems adequate relative to current demand for it. While Indonesia's shares of the population with either secondary or tertiary degrees are each relatively low (World Bank, 2018), the returns to schooling are not high (Montenegro and Patrinos, 2014). Also, many skilled workers appear to be overqualified for the positions they hold, particularly for individuals who have just graduated, which suggests that the economy takes time to absorb current quantities of skilled labor (BPS, 2017). The human capital of workers therefore appears to not bind growth.

Gender Inequality and Growth

While gender inequality is not a binding constraint, it is an inequity that has a negative impact on growth. A recent study indicated that raising female (formal and informal) labor force participation (FLFP) by 4%, increasing the number of hours women work, and moving women to higher productivity sectors could add $135 billion to annual GDP by 2025 (Woetzal et al., 2018). Currently, FLFP is 54.3% (vs. 84% for males), which is far below the regional average (68%), and it increased only two-tenths of a percentage point during the last two decades. Vulnerable employment is also high for both men (42%) and women (56%), and nearly 85% of working women are employed informally. Lack of child and elderly care facilities/services is a major barrier for FLFP, as childcare expenditures in Indonesia are relatively low (Addati et al., 2018). A 2010 survey on 3,000 women in Jakarta revealed that of the 68.7% of mothers (aged 20-34) that were not working, 43.2% cited not having any caregiving options as the reason (McDonald, 2011), and data from Indonesia's Central Bureau of Statistics (BPS) reveals that an additional public preschool per 1,000 children would increase FLFP by 13% (Halim et al., 2018).

Conclusion

The country team identified barriers to foreign trade and investment, an anti-competitive economic environment, and costly financial intermediation as binding constraints to growth. Barriers to economic cooperation with foreigners and a stagnant services sector each negatively affect Indonesia's export and therefore growth prospects. Several other possible constraints were considered but were not determined to bind.

The three binding constraints to growth are interrelated. Export growth depends on improving the productivity of firms in Indonesia's non-tradable services sector as well as the productivity of export-oriented firms; domestically-produced goods and services are inputs for outward-oriented production and therefore need to be competitively produced and priced for downstream firms to be able to compete. Policies that effectively limit competition for non-tradable sector firms therefore help constrain tradable sector firms, just as protectionist policies ostensibly implemented on behalf of those same tradable sector firms do. In both cases, the policy-induced lack of competition makes for less innovation and productivity, higher output prices, and therefore, fewer exports. The high cost and shallowness of financial intermediation

25 Again, Indonesia is not without serious public health challenges, however, as shown by the relatively high incidence rate of tuberculosis as well as relatively high rates of infant and under-five mortality (World Bank, 2018).

mean that it is more difficult to finance productivity-enhancing investments, including for export-oriented firms. Low competitiveness in the financial sector and well-established relationships between state-owned banks and state-owned enterprise (SOE) borrowers tend to crowd out lending to new entrants and inhibit the development of project-based lending. Finally, low-productivity Indonesian firms are overwhelmingly very small in size and tend not to grow. Such firms' balance sheets do not develop to support commercial borrowing, as well as (eventually) issuance of corporate debt and hence financial sector deepening.

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