

Realizing **Indonesia's** Economic Potential



EDITORS

Luis E. Breuer • Jaime Guajardo • Tidiane Kinda

“Indonesia has never excelled in the art of self-promotion. But this publication, written by those whose jobs are to conduct rigorous and timely monitoring of the state of the country’s economic health, and the country’s policy practitioners, might give a little help. It contains up-to-date analyses of the country’s important progress and diagnosis of the major challenges it faces. A must-read for those who have stakes and interests in the country.”

Boediono

11th Vice President, Indonesia; former Governor, Bank Indonesia

“This ambitious book captures vividly the daunting challenges facing policymakers in many commodity-exporting economies struggling to achieve sustained rapid growth without capsizing in the turbulent waters of today’s global financial markets. It is an inspiring story of the policymakers’ determination to strengthen macroeconomic resilience to external shocks while striving to unleash the economic potential of the country to meet the expectations of people for higher standards of living.”

Hoe Ee Khor

Chief Economist, ASEAN+3 Macroeconomic Research Office

“It has been 20 years since the 1998 financial, economic, and political crisis of Indonesia—and we are still here and going strong despite dire predictions at the time. The book comes at a timely juncture and takes a “back to the future approach.” That is, there is a thorough review of the stabilization, restructuring, and reforms to get us here and, more importantly, a forward-looking view. The book does a good job of laying out the challenges Indonesia will face, as well as the potential opportunities from a young population, digital technologies, and a rising Asia. Whether or not we agree on the priorities identified if Indonesia is to move forward, the book provides an excellent platform for rich policy discourse.”

Mari Pangestu

Professor of International Economics, University of Indonesia

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EDITORS

Luis E. Breuer • Jaime Guajardo • Tidiane Kinda

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Foreword

Indonesia has made remarkable progress over the past 20 years. This is no accident. The country transformed itself by pursuing sound economic policies and by harnessing the incredible ingenuity and diversity of its people. Strong and stable economic growth sharply reduced poverty, raising living standards for millions of people and enabling the emergence of a vibrant middle class.

Indonesia is one of the world's largest emerging market economies, a founding member of the Association of Southeast Asian Nations (ASEAN), and a member of the Group of 20. Playing host to the 2018 IMF and World Bank Annual Meetings in Bali is further testament to Indonesia's increasingly prominent role in the global policy debate. These meetings present a unique opportunity to showcase the impressive social and economic achievements of Indonesia and Asia. The world can learn much from the region, including the so-called ASEAN way of reaching across borders. This is beautifully captured in the official motto of Indonesia: "*Bhinneka Tunggal Ika*," or "Unity in Diversity."

Indonesia is well positioned to pursue its further transformation toward an even more prosperous and inclusive society by taking advantage of several beneficial trends, including its young and expanding labor force, the rapid growth of the digital economy, and the growing role of Asia in the global economy. However, capitalizing on this favorable environment to achieve higher growth and provide quality jobs to the growing workforce will need to be supported by critical policy reforms, including mobilizing revenues to finance development spending and supporting reform of product, labor, and financial markets.

This book explores the key issues policymakers will likely face in the coming years. It discusses policy priorities that can enable Indonesia to continue to prosper, including the need to upgrade its "soft infrastructure"—that is, the institutions, policy frameworks, and toolkits used to manage the economy. The IMF is a committed partner in Indonesia's transformation, sharing knowledge of international best practice through policy advice, technical assistance, and training. We are "*gotong royong*"—*working together to achieve a common goal*.

Christine Lagarde
Managing Director
International Monetary Fund

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Editors

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Abbreviations

AEOI	automatic exchange of information
AFC	Asian financial crisis
AML	anti–money laundering
AMT	alternative minimum tax
ASEAN	Association of Southeast Asian Nations
BI	Bank Indonesia
BoC	board of commissioners
BoD	board of directors
BSA	balance sheet approach
CAR	capital adequacy ratio
CFT	combating the financing of terrorism
CIT	corporate income tax
CRM	compliance risk management
CRS	Common Reporting Standard
DFS	digital financial services
DGCE	Directorate General of Customs and Excises
DGT	Directorate General of Taxation
D-SIBs	domestic systemically important banks
ECI	economic complexity index
ELA	emergency liquidity assistance
FATF	Financial Action Task Force
FC	financial conglomerate
FDI	foreign direct investment
FinTech	financial technology
FSAP	Financial Sector Assessment Program
FSGM	Flexible System of Global Models
FTA	free trade agreement
GFC	global financial crisis
GFS	government finance statistics
GIMF	Global Integrated Monetary and Fiscal
GVAR	global vector autoregressive
GVC	global value chain
G20	Group of Twenty
HH	household
HHI	Herfindahl-Hirschman index
HWI	high-wealth individual
ICR	insolvency and creditor rights
IIP	international investment position
IT	information technology
KPPIP	Committee for Acceleration of Priority Infrastructure Delivery

KSSK	Komite Stabilitas Sistem Keuangan (Financial System Stability Committee)
KUR	Kredit Usaha Rakyat (People's Business Loan Program)
LCR	liquidity-coverage ratio
LCY	local currency
LP	Laku Pandai (branchless banking)
LPS	Lembaga Penjamin Simpanan (Indonesia Deposit Insurance Corporation and also the bank resolution agency)
MFS	monetary and financial statistics
MoF	Ministry of Finance
MSME	micro, small, and medium-sized enterprises
MTRS	medium-term revenue strategy
NBFI	nonbank financial institution
NFC	nonfinancial corporation
NPL	nonperforming loan
NTM	nontariff measure
OJK	Otoritas Jasa Keuangan, Financial Services Authority
OJK Law	Law of the Republic of Indonesia on Financial Services Authority, No. 21 of 2011
PDs	probabilities of default
PPKSK Law	Prevention and Resolution of Financial System Crisis Law, No. 9 of 2016
PPP	public-private partnership
RCA	revealed comparative advantage
ROW	rest of the world
Rp	rupiah
SAR	Special Administrative Region
SME	small and medium-sized enterprises
SNG	subnational government
SNKI	Strategi Nasional Keuangan Inklusif (National Strategy for Financial Inclusion)
SOE	state-owned enterprise
STLG	sales tax on luxury goods
TFP	total factor productivity
TT	taper tantrum
UHWIs	ultra-high-wealth individuals
VAR	vector autoregression
VAT	value-added tax
WTO	World Trade Organization

PART I

BUILDING UPON A STRONG FOUNDATION

Realizing Indonesia's Economic Potential: An Overview

LUIS E. BREUER AND TIDIANE KINDA

Home to more than 260 million people, Indonesia is the fourth most populous country in the world and the largest economy in Southeast Asia. With GDP of about US\$1 trillion, the country is the world's sixteenth largest economy and the seventh largest in purchasing-power-parity terms. It has played an increasingly prominent role in the global policy debate, including as a member of the Association of Southeast Asian Nations (ASEAN) and the Group of 20 (G20), an international forum bringing together 20 of the world's largest advanced and emerging market economies.

Indonesia's modern economy has been long in the making, shaped by periods of extended prosperity, a major socioeconomic and political crisis in the late 1990s, and a strong and sustained recovery during the past 20 years. Despite this rich history and the large size of the economy, the economic literature on Indonesia remains limited, and studies that provide a comprehensive and integrated macroeconomic analysis are particularly scarce. There are some exceptions. Booth (1998) takes stock of macroeconomic changes in the Indonesian economy during the 19th and 20th centuries.¹ Hill (2000) analyzes Indonesia's remarkable economic transformation between the mid-1960s and the mid-1990s. Basri and Hill (2011) provide an analytical narrative of Indonesian economic growth over two decades, with particular attention to the Asian financial crisis of the late 1990s and the global financial crisis of 2007–09. Ananta, Soekarni, and Arifin (2011) and Wie (2012) provide a historical overview of economic development in Indonesia until the global financial crisis. Basri (2013) studies Indonesia's political economy and factors underlying the country's resilience during the global financial crisis. Ing, Hanson, and Indrawati (2018) provide a more recent analysis, with a focus on trade and industrial policies. Notably, even though Indonesia has made impressive socioeconomic progress during the past two decades, including in recent years, much of the existing literature focuses on the periods leading into either the Asian financial crisis or the global financial crisis.²

¹The *Bulletin of Indonesian Economic Studies*, hosted by the Australian National University, has been publishing various articles focused on the Indonesian economy and society since 1965.

²A number of authors have also written on the economic history of Indonesia, analyzing developments from as early as the 14th century. These include Papanek (1980), Robison (1986), Cribb (1995), Dick and others (2002), Ricklefs (2008), and Marks and van Zanden (2012).

This book has three main goals. First, it complements the existing literature by providing a comprehensive and integrated macroeconomic analysis covering recent years, including the aftermath of the “commodities supercycle” that began in the early 2000s, during which the global prices of energy, metals, and food rose rapidly. Second, it surfaces underlying forces that are likely to shape the future of the economy and provides some recommendations on how to strengthen the policy frameworks and toolkits—the country’s critical “soft infrastructure”—to help ensure that the Indonesian economy and the Indonesian people continue to prosper. Finally, it investigates the main constraints to growth and proposes options for raising resources, in particular domestic revenues, to overcome those constraints and boost potential economic growth.

The rest of this chapter is organized as follows. The first section summarizes Indonesia’s social, economic, and political achievements during the past two decades. Major trends that could profoundly affect the Indonesian economy are then discussed, including demographic trends, reflected in a young and growing labor force; the rise of the digital economy, facilitated by the young tech-savvy population; and the rise of Asia, particularly China, in the global economy. As the global landscape continues to evolve and shift, Indonesia’s policy frameworks and toolkits must be adapted to ensure that the economy continues to prosper in this new environment. The 12 thematic chapters of the book explore some of the key economic issues policymakers will likely face in the coming years. The final section of this chapter summarizes the key findings from the thematic chapters.

ACHIEVEMENTS DURING THE PAST TWO DECADES

Indonesia has made remarkable political, economic, and social progress during the past two decades. In the aftermath of the Asian financial crisis, the country adopted a wide range of political and economic reforms (*reformasi*) that served the country well. In the political sphere, the military-led political system was replaced by a democratic multiparty system with term limits for the president. A deep decentralization program replaced the system of centralized government and development planning, giving greater direct authority, political power, and financial resources to regencies and municipalities. Local governments’ responsibilities were expanded in health, primary and middle-level education, transport, agriculture, manufacturing industry and trade, capital investment, land, and infrastructure services. Although decentralization aimed to improve the delivery of public goods and satisfy regional interests, the process was hampered by the fact that there was no corresponding increase in subnational governments’ capacity to deliver public goods (Nasution 2016).

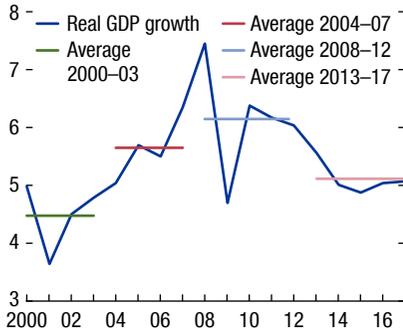
A wave of reforms reduced the dominant role of the government in the economy—a legacy of the postcolonial period—and began a shift toward a more market-based economy. Policy frameworks and toolkits were upgraded, including adoption of a floating exchange rate, fiscal rules that limited the deficit and capped public debt, and an inflation targeting regime. The banking sector was also restructured, and regulation and supervision were overhauled (see Chapter 2,

Figure 1.1. Selected Macroeconomic Indicators: Growth, Inflation, Current Account, Reserves, Fiscal Deficit, Public Debt

Growth has stabilized at about 5 percent since 2013.

1. Real GDP Growth

(Percent, year over year)

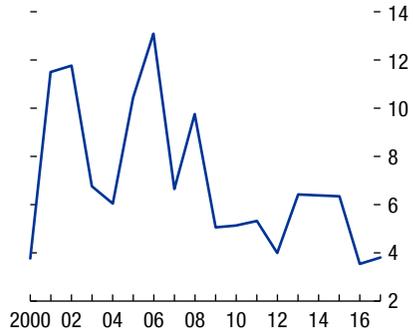


Sources: Haver Analytics; and IMF staff estimates.

Inflation remains contained at about 3 percent.

2. Inflation

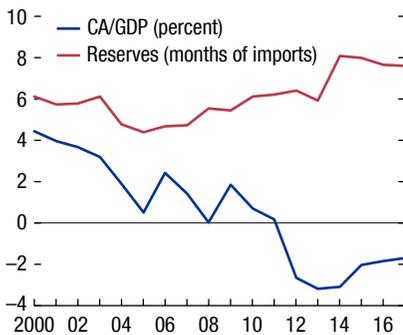
(Percent, year-over-year average)



Sources: CEIC Data Co. Ltd.; authority data; and IMF staff estimates.

Comfortable external positions support resilience.

3. Current Account Balance and Reserves



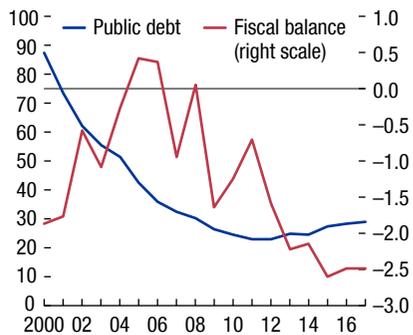
Sources: CEIC Data Co. Ltd.; and IMF staff estimates.

Note: CA = current account.

The fiscal deficit and debt are manageable.

4. Public Debt and Fiscal Balance

(Percent of GDP)



Sources: CEIC Data Co. Ltd.; authority data; and IMF staff estimates.

“Twenty Years after the Asian Financial Crisis”). As a result, the economy became much more resilient, benefiting from comfortable external positions, low public debt, and ample international reserves (Figure 1.1).

Various sectoral reforms were implemented to open up the economy and improve the business environment, including privatization of some state-owned enterprises, elimination of monopolies in some sectors, and reduction of general

subsidies. More recently, fuel and electricity subsidies were more effectively targeted to low-income households; the land acquisition process for infrastructure projects was streamlined and made more flexible; the foreign direct investment (FDI) regime was partially liberalized, including for logistics, tourism, and agriculture; and the setting of the minimum wage was made more transparent and predictable (see Chapter 3, “Boosting Potential Growth”).

The Indonesian economy is benefiting from these far-reaching reforms and performing well, even after the end of the commodities supercycle. Growth has stabilized at about 5 percent since 2013. At about 3 percent, inflation is contained and within the official target band (3.5 ± 1 percent). The current account deficit is modest (less than 2 percent of GDP) and remains manageable, and the fiscal deficit has been kept below the statutory deficit ceiling of 3 percent of GDP (see Figure 1.1).

Supported by an expanding economy and entrenched macroeconomic stability, Indonesia has also made strong progress in various social areas. Between 1996 and 2016, poverty was reduced by half, to 11 percent, and infant mortality was halved to 22 infant deaths for every 1,000 live births (Table 1.1). During the same period, life expectancy at birth increased by 4 years, to 69 years. Access to clean water, electricity, and sanitation also improved significantly as did educational attainment, although access to sanitation and education attainment are both still relatively low. The use of the internet more than doubled between 2010 and 2016, even though it is still limited and unequally distributed across the country. Although there has been some progress, gender disparities remain prevalent. For example, the proportion of seats held by women in the national parliament more than doubled since 2000 but was still below 20 percent in 2017. The gender gap in labor force participation declined slightly between 1996 and 2016 but is still substantial, with the female labor force participation rate at 51 percent compared with 82 percent for men.

LOOKING AHEAD: TRENDS THAT COULD TRANSFORM THE ECONOMY

Three major trends are likely to transform the Indonesian economy in the future: favorable demographics, the emergence of the digital economy, and the increasing role of Asia, particularly China, in the global economy.

Demographic Dividend

Indonesia's population continues to expand rapidly. It grew at 1.3 percent a year on average during 2000–16, reaching about 261 million in 2016. The fertility rate, currently at 2.4 children per woman, while declining, is projected to remain above the replacement rate of 2.1 children per woman until 2030. As a consequence, despite a declining trend in the population growth rate, the total population is projected to reach 296 million by 2030, also supported by a marked improvement in life expectancy (Figure 1.2).³ As for population

³Population growth has been declining in recent years, from 1.4 percent in 2000 to 1.1 percent in 2016.

TABLE 1.1.

Selected Social Indicators, 1996–2016	1996	2000	2006	2010	2016
Extreme poverty: poverty headcount ratio at \$1.90 a day (2011 PPP) (% of population)	45.9	39.8	28.0	15.9	6.8
Poverty headcount ratio at \$3.20 a day (2011 PPP) (% of population)	79.0	80.2	66.2	48.4	31.4
Poverty headcount ratio at national poverty lines (% of population)	17.5	23.4	17.8	13.3	10.9
Infant mortality rate (per 1,000 live births)	48.6	41.1	32.2	27.5	22.2
Life expectancy at birth, total (years)	65.3	66.2	67.4	68.2	69.0
Educational attainment, at least completed lower secondary, population 25+, total (%)	19.1	...	43.3	42.3	48.8
Improved sanitation facilities (% of population with access)	42.3	47.1	53.1	57.0	60.8
Improved water source (% of population with access)	74.5	77.9	81.9	84.5	87.4
Access to electricity (% of population)	72.4	86.3	90.6	94.2	97.0
Individuals using the Internet (% of population)	0.1	0.9	4.8	10.9	25.4
Proportion of seats held by women in national parliament (%)	...	8.0	11.3	18.0	19.8
Labor force participation rate, female (% of female population ages 15+), ILO estimate	49.0	50.6	50.3	51.9	50.8
Labor force participation rate, male (% of male population ages 15+), ILO estimate	82.7	84.7	84.9	83.9	82.0
Income Gini coefficient	...	...	36.6	37.8	39.7

Sources: World Bank, World Development Indicators; and Statistics Indonesia.

Note: Last column is 2016 or latest available data. For the proportion of seats held by women in national parliament, the latest data point is 2017. ILO = International Labour Organization; PPP = purchasing power parity.

growth, urbanization has been rapid in recent decades. The urban population grew at 3 percent a year during 2000–16, while the rural population declined by 0.2 percent.⁴

The labor force is projected to increase substantially. Indonesia is undergoing a demographic transition with a sizable decline in infant mortality and a reduction in fertility rates (Table 1.2). This has led to an increase in the working-age population, defined as persons 15 to 64 years old, of 1.6 percent, or 2.5 million people a year, during 2000–16.

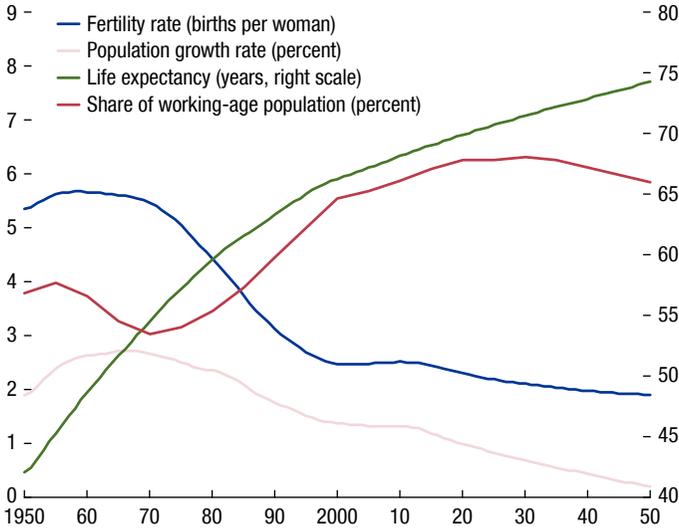
These favorable demographic trends provide a unique window of opportunity for economic growth. In particular, the number of workers is growing faster than the number of dependents, a demographic dividend that has provided strong tailwinds to growth and productivity in many other countries (IMF 2015).

Demographic trends are expected to increase Indonesia's annual real GDP growth by close to 1 percentage point during 2020–50.⁵ This boost is substantial

⁴About 55 percent of the population lives in urban areas.

⁵This estimate could be viewed as a lower bound given the relatively high youth unemployment rate and existing room to improve labor force participation, particularly for women. The estimate rests on a number of assumptions: (1) unchanged total factor productivity growth (based on the historical average), (2) unchanged age- and gender-specific labor force participation rates (and employment rates), and (3) a constant capital-to-effective-labor ratio. See IMF (2017) for more details. The methodology follows the approach of Aiyar, Ebeke, and Shao (2016), building on work by Feyrer (2007). The baseline model fits the growth in real output per worker on the share

Figure 1.2. Fertility, Population Growth, and Life Expectancy
(Percent, left scale)



Source: IMF staff estimates based on United Nations (2015) (medium fertility scenario).

TABLE 1.2.

Indonesia: Demographic Indicators				
	2000	2005	2010	2016 ¹
Population growth (percent)	1.4	1.4	1.3	1.1
Working age (15–64 years old)	2.1	1.6	1.4	1.2
Rural	–0.7	–0.1	–0.3	–0.4
Urban	4.3	3.1	2.9	2.5
Percent of total				
Working age (15–64 years old)	64.6	65.3	66.2	67.2
Rural	58.0	54.1	50.1	45.5
Urban	42.0	45.9	49.9	54.5
Population <30 years old	58.0	55.7	53.7	51.9
Total population (million)	211.5	226.7	242.5	261.1
Life expectancy at birth, total (years)	66.2	67.2	68.1	69.1
Fertility rate, total (births per woman)	2.5	2.5	2.5	2.4

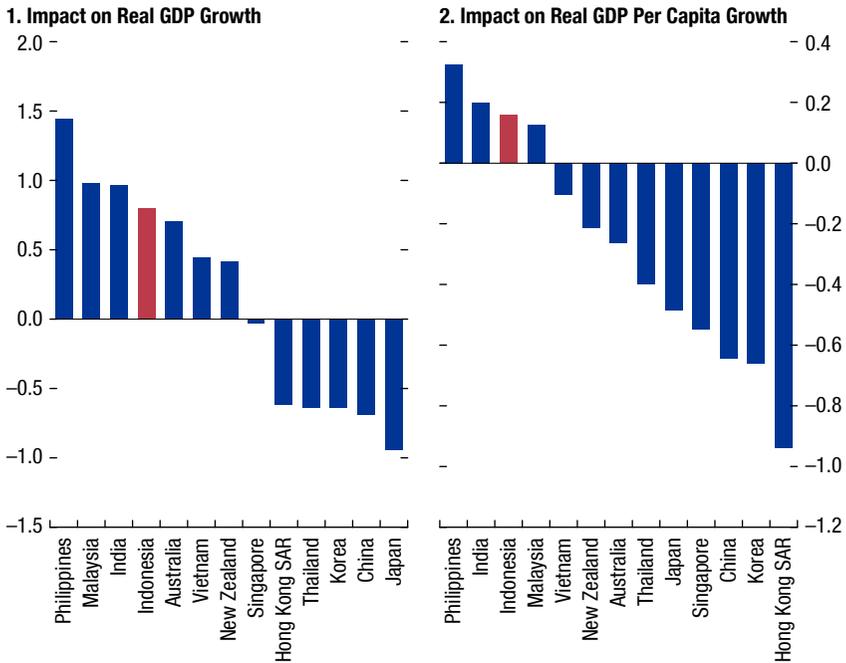
Sources: World Bank, Health Nutrition and Population Statistics; and Statistics Indonesia.

¹Or latest available data.

and positions the country relatively well compared with peers in Asia, many of which are set to endure a reduction of real GDP growth as a result of adverse demographic trends (Figure 1.3). Indonesia is among a few comparable Asian

of workers ages 55 and older and the combined youth and old-age dependency ratios, with decade (10 years) and country fixed effects.

Figure 1.3. Growth Impact of Demographic Trends
(Percentage point impact; average over 2020–50)



Sources: IMF (2017) based on IMF staff projections; Amaglobeli and Shi (2016); UN (2015), medium fertility scenario; and Penn World Tables 9.0.

Note: The baseline estimates are based on the assumptions of unchanged labor force participation by age-gender cohort, constant capital-to-labor ratio, and total factor productivity growth unchanged from historical average.

countries set to benefit from a boost to GDP per capita owing to favorable demographics. During 2020–50, demographic trends are expected to increase the growth of Indonesia's annual GDP per capita by close to 0.2 percentage point.

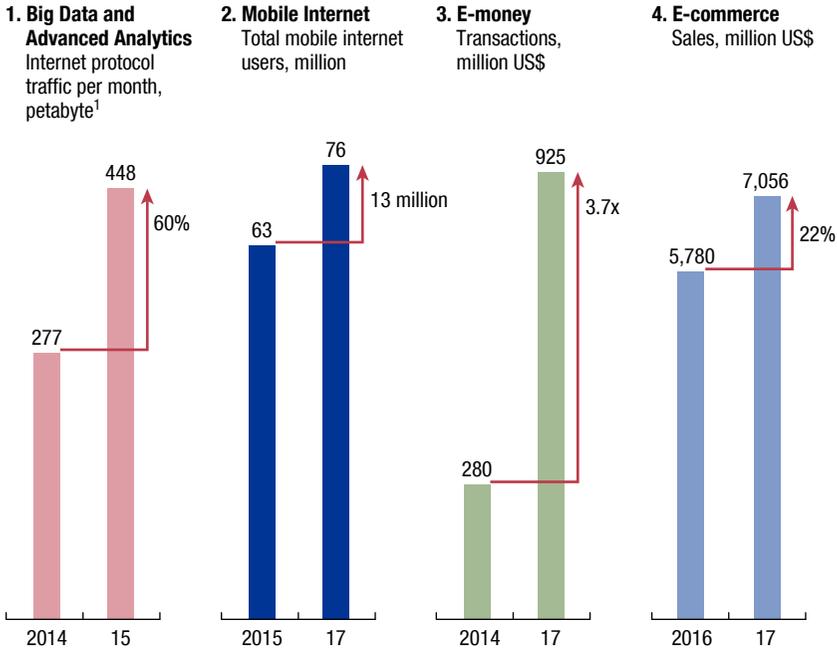
McKinsey and Company (2012) estimates that Indonesia's consumer class could grow by 90 million by 2030. Such an increase would represent the third-largest expansion of consumers in the world (after China and India), providing unique economic opportunities.

An Emerging Digital and Technology-Driven Nation

With the third-largest youth population in the world and 130 million active social media users, Indonesia is poised to have the largest digital economy of all Southeast Asian countries. According to McKinsey and Company (2016), digitalization could expand Indonesia's economy by 10 percent by 2025. The economic gain would materialize mostly through a combination of higher productivity and labor

Figure 1.4. Indonesia's Digital Landscape: Selected Indicators

There is a notable digital dynamism in Indonesia.



Sources: CEIC Data Co. Ltd.; McKinsey and Company (2016); and Statista.

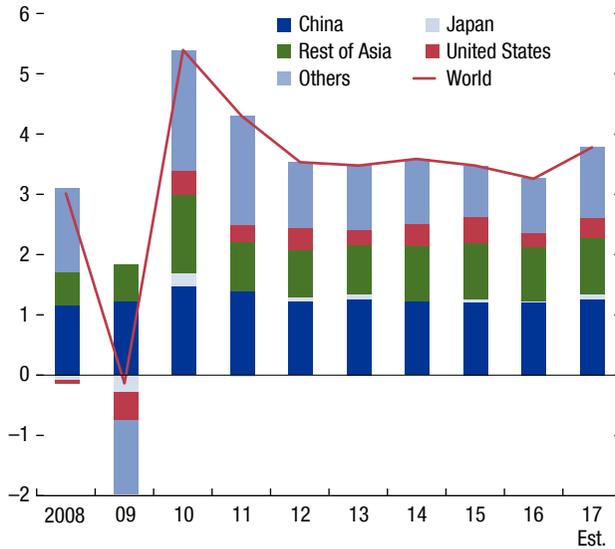
¹1 petabyte = 1 million gigabytes.

inputs. Digital technologies also have the potential to add 3.7 million jobs, including through enhanced job-matching schemes and flexible on-demand work via online platforms.

Indonesia's digital landscape has expanded rapidly in recent years—ranging from increased use of big data and mobile internet to the rise of digital financial services and e-commerce (Figure 1.4). The use of big data and advanced analytics increased by 60 percent between 2014 and 2015, while the number of mobile internet users grew by 13 million (more than 20 percent) between 2015 and 2017.

There has also been a large shift toward digital financial services. This is a promising development in support of greater financial inclusion given the country's unique geographic challenges and the fact that it houses the third-largest unbanked population in the world. For instance, an Indonesia Banking Survey performed by PricewaterhouseCoopers (2017) found that the number of people who mostly banked through traditional branches (more than 50 percent of their total transactions) dropped from 75 percent in 2015 to 45 percent in 2017. Digital transactions are growing rapidly. E-money, which is mostly used by lower-income individuals, almost quadrupled between

Figure 1.5. Contribution to Global Growth, 2008–17
(Percentage points)



Sources: IMF, World Economic Outlook database; and IMF staff calculations.

2014 and 2017, while revenues from e-commerce grew by 22 percent between 2016 and 2017.

Indonesian youth are ready adopters of these technologies and comprise a sizable customer base for the digital economy. There also is a vibrant environment for digital startups. A recent survey by the Economist Intelligence Unit (2017) ranked Jakarta as the eighth best city in the world for digital companies and particularly praised it for developing new technologies and for innovation and entrepreneurship.

The Rise of Asia, Particularly China

The economic rise of China has been a key driver of global and Asian growth in recent years. During 2000–17, Asia accounted for about two-thirds of global growth, with China alone accounting for nearly one-third (Figure 1.5). Spillovers from China have increased as China's economy has grown and integrated more closely within the region and with the world in both trade and finance (IMF 2016). Initiatives to foster regional cooperation in the areas of trade, investment, and finance, such as the Belt and Road Initiative, could help enhance infrastructure provision and further boost regional growth.

Indonesia lies at the heart of rising Asia. McKinsey and Company (2012) predicted that 75 percent of the 1.8 billion people projected to join the global consuming class by 2030 will likely be in Asia. This unique dynamism means higher external demand for Indonesia's products, ranging from agricultural goods to energy,

commodities, tourism, and manufactured goods. Indonesia's exports to other Asian economies, particularly China, accelerated strongly in recent years. Rapid economic expansion in China fueled demand for raw materials from Indonesia, leading to a quadrupling of export values to China during 2000–16. From fifth in 2000, China has emerged as Indonesia's top export destination in 2016, mostly driven by commodity products (see Chapter 9, "Diversifying Merchandise Exports").

The Chinese economy is undergoing a structural transformation, rebalancing from an investment- and export-driven model toward a consumption- and services-driven model. China's economic transformation reduces the long-term risks of a sharp adjustment and thus benefits not only China but also the rest of Asia, including Indonesia. But there are some challenges. China's rebalancing is expected to negatively affect countries with higher exposure to Chinese domestic investment, including commodity exporters such as Indonesia (IMF 2016; Mathai and others 2016). However, China's consumption is expected to increase, including for agricultural products and tourism, which can greatly benefit Indonesia.

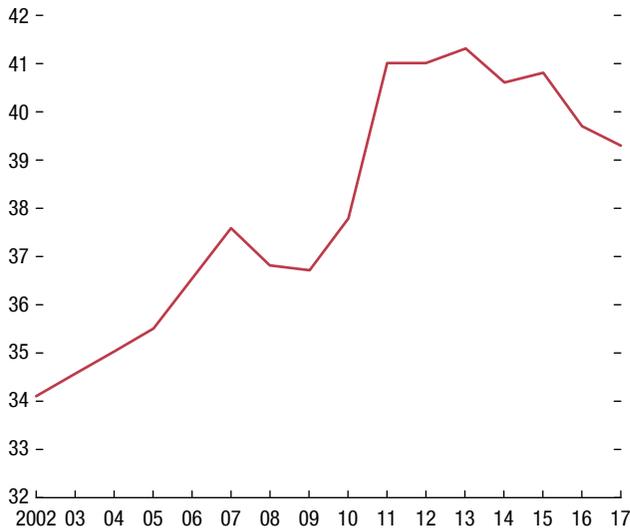
Some Challenges

Indonesia is well positioned to benefit from these favorable trends, but there are vulnerabilities and challenges. Inequality is an important one. Income inequality rose sharply between 2002 and 2013, a period of rapid growth associated with the commodity boom, although it has declined in recent years (Figure 1.6). There are also gaps across income groups in access to health services and higher education.

In addition, youth unemployment remains stubbornly high, and reaping the demographic dividend requires creating sufficient quality jobs to absorb the expanding labor force. Rigid labor legislation has been associated with a large informal labor market. Institutional, regulatory, and structural constraints hamper the business environment and hinder growth and job creation. Low tax revenues and thin domestic financial markets constrain the authorities' ability to implement needed reforms, including scaling up infrastructure provision and improving public services such as health, education, and social safety nets. Indonesia's relative low exposure to cross-border trade and financial flows since the Asian financial crisis has also limited productivity-enhancing spillovers associated with global economic integration, which hampers competitiveness. For instance, the low level of FDI and low participation in global and Asian value chains may hinder Indonesia's ability to tap the growing Asian consumer market and complicate the transition from a commodity-dominated economy to a more innovative, services-oriented economy. With one of the lowest internet penetration rates in the ASEAN region, the digital divide can slow the rise of the digital economy.

Indonesia may struggle to seize the many opportunities presented by the digital economy, a young population, and a rising Asia if it does not implement needed structural reforms. These include raising tax revenues to enhance

Figure 1.6. Income Inequality, 2002–17
(Gini coefficient)



Sources: Statistics Indonesia; and IMF staff estimates.

infrastructure, upgrading education, further opening product markets and service sectors to support more efficient allocation of resources and economic diversification, and deepening financial markets.

The chapters in this book analyze how Indonesia can tackle these challenges by answering the following questions: How have Indonesia's economic policy frameworks evolved since the Asian financial crisis? What are the country's main structural constraints to raising productivity and growth? How should the country go about financing priority spending and structural reforms to support competitiveness and inclusive growth while preserving stability? In essence, where should the priorities be placed in the next wave of investment in the country's soft infrastructure? Answering these questions is important for Indonesia but could also provide lessons for other large commodity exporters in their quests for economic diversification.

ORGANIZATION AND MAIN FINDINGS OF THE BOOK

This book consists of 13 chapters grouped into five parts. Part I reviews the strong foundations of the Indonesian economy. Part II analyzes the main structural constraints to improving productivity and raising potential growth. Part III proposes options for raising government revenues for priority spending and structural reforms to support growth. Part IV examines Indonesia's links to the world

economy, including exposures to trade and capital flows, and examines the country's competitiveness. Part V concludes by highlighting the role of financial deepening and financial stability in supporting inclusive growth.

There are three key messages:

- Indonesia has done well during the past two decades, including by building a more resilient economy and achieving remarkable socioeconomic progress.
- As the world economy shifts, policies and institutions need to adapt to ensure that Indonesia's economy continues to prosper.
- To lift productivity, support competitiveness, and boost growth, raising government revenues, complemented by prudent financial deepening, would help finance needed reforms, including enhancing infrastructure, regulations, and human capital.

Chapter 2, "Twenty Years after the Asian Financial Crisis," by Muhamad Chatib Basri discusses how reforms undertaken since the Asian financial crisis have improved the resilience of the Indonesian economy, helping it successfully face the global financial crisis and 2013 taper tantrum episode.⁶ The author outlines critical reforms that contributed to lowering inflation and increased investor confidence, including the overhaul of banking regulations and oversight, banking sector restructuring, and central bank independence, along with the adoption of inflation targeting and a flexible exchange rate. Fiscal reforms, including the adoption of fiscal rules, supported a reduction in public debt and a buildup of fiscal buffers, which facilitated countercyclical fiscal policy during the global financial crisis. Although the economy is currently much more resilient than in 1998, the heavy reliance on nonresident financing, in part due to a small domestic revenue base, creates a source of vulnerability for the financial sector, public finances, and the corporate sector.

The next two chapters examine key structural constraints in the Indonesian economy that hamper higher productivity, growth, and job creation and could prevent the country from reaping the demographic dividend. In Chapter 3, "Boosting Potential Growth," Jongsoo Shin highlights the recent achievements of an improved institutional and regulatory framework, which has contributed to an increase in much-needed public infrastructure investment. Nonetheless, growth remains constrained by a large infrastructure gap, still-low institutional quality, and inadequate human capital. The author estimates the macroeconomic effects of an illustrative fiscal-structural reform package in Indonesia that comprises higher infrastructure spending and targeted transfers in education, health, and social programs, financed mainly by higher consumption taxes. The reform scenario also includes structural reforms that center on reducing restrictions to trade and FDI, easing entry barriers and administrative burdens on businesses, rationalizing the role of state-owned enterprises, and fostering employment. Combined, these

⁶"Taper tantrum" refers to the 2013 surge in US Treasury yields that resulted from the Federal Reserve's use of tapering to gradually reduce the amount of money being fed into the US economy.

reforms could raise potential growth to 6.5 percent in the next five years, or about 1 percentage point higher than the baseline scenario. Investing in infrastructure, including digital infrastructure, and human capital while streamlining regulations, nontariff measures, and FDI restrictions would help the country capitalize on the digital economy and facilitate the development of competitive sectors, which could, in turn, help absorb the large and growing young labor force.

Chapter 4, “Developing Infrastructure,” by Teresa Curristine, Masahiro Nozaki, and Jongsoo Shin focuses on structural issues surrounding infrastructure development, including in the regulatory and institutional framework. The authors find that multiyear capital budgeting could be improved and that there is scope to enhance coordination across ministries, for example, by establishing central guidelines and oversight for feasibility studies for infrastructure projects. Also, central-local coordination could be improved in the areas of land acquisition and regulations. The authors also note that the increasing role of state-owned enterprises and public-private partnerships could help reduce the infrastructure gap while keeping fiscal risks at manageable levels. However, they also suggest close monitoring of potential fiscal risks and paced implementation of the ambitious infrastructure development plans, given limited execution capacity and reduced fiscal space. Through a macro-fiscal simulation model, the authors highlight that financing a large infrastructure push by raising higher tax revenues would maximize the growth impact while safeguarding macroeconomic stability.

In this context, the subsequent two chapters examine how fiscal policy can help raise revenues to finance priority spending, including on infrastructure, and support structural reforms. Chapter 5, “Supporting Inclusive Growth,” by Hui Jin, examines Indonesia’s overall fiscal policy strategy. The author highlights that Indonesia has demonstrated strong fiscal discipline since the early 2000s, anchored by statutory fiscal rules. General government debt was reduced from about 90 percent of GDP in 2000 to less than 30 percent in 2016. The author proposes a fiscal strategy that centers on a medium-term revenue strategy (MTRS) to finance priority spending on infrastructure, education, health, and social assistance and support critical structural reforms while reducing inequality. Because implementing an MTRS will take time, the chapter discusses some near-term policy actions to arrest the recent drop in the tax-to-GDP ratio. These actions include removing tax exemptions and lowering the value-added tax and corporate income tax thresholds. Because much of the inequality in Indonesia is associated with unequal access to social services and infrastructure, the author stresses that revenue from the structural tax reform, as well as savings from better targeting of the existing program, could finance the expansion of social assistance programs to reduce inequality.

Given Indonesia’s low tax-revenue-to-GDP ratio, at close to 10 percent, Chapter 6, “Implementing a Medium-Term Revenue Strategy,” by Ruud de Mooij, Suahasil Nazara, and Juan Toro, elaborates on the design of the MTRS, which combines tax policy and tax administration measures to achieve an ambitious but realistic plan to increase the tax-to-GDP ratio over a five-year period. Tax policy reforms could potentially generate up to 3.5 percent of GDP, including

through the introduction of new excises on vehicles and fuel and the removal of most incentives and exemptions in the value-added tax and corporate and personal income taxes. Tax administration measures can potentially add another 1.5 percent of GDP in revenue, provided that a comprehensive compliance improvement program is implemented and institutional reforms are successful. The MTRS also strengthens reform governance through a multiyear commitment and an appropriate mandate and monitoring to ensure effective implementation.

With a continually changing global landscape, the following three chapters examine Indonesia's links to the global economy, particularly trade and capital flows, and explore the country's competitiveness. In Chapter 7, "Spillovers from the International Economy," Jaime Guajardo analyzes potential spillovers to Indonesia and other ASEAN-5⁷ economies from two shocks emanating from two main trading partners: first is a growth slowdown in China as the country rebalances away from investment and toward consumption, and lower growth in the United States as demographic pressures and slow productivity growth weigh on output in the medium term. Second are financial shocks such as spikes in global financial volatility and higher global interest rates. Spillovers from these shocks could be transmitted through three channels: trade, commodity prices, and financial markets. The author finds that spillovers to other ASEAN-5 economies from a slowdown in China are large, while those from a slowdown in the United States are relatively smaller. Spillovers to Indonesia are smaller than those to other ASEAN-5 economies and are transmitted mostly through the commodity price channel. Countries that have closer trade links to China and the United States (such as Malaysia, Singapore, and Thailand) have larger spillovers and are mostly affected through the trade channel. Spillovers could be larger if the growth shocks in China or the United States are accompanied by spikes in global financial market volatility.

In Chapter 8, "Linkages to the World Economy," Mitali Das highlights that since the Asian financial crisis, compared with the rapid expansion of domestic demand, Indonesia's trade openness has declined. The country's low exposure to global economic and financial developments has partially insulated the economy from global shocks and supported stable output growth. However, low exposure to global developments has also limited the diffusion of technological advances and productivity-enhancing spillovers associated with global economic integration. Indeed, the author shows that despite strong demographic tailwinds and steady capital accumulation, lower productivity growth has led to a decline in potential output growth in recent years. The author identifies a slowdown in human capital accumulation, a rise in protectionism, and some weakening of the regulatory environment as potential contributors to the slowdown in productivity growth.

Against this background, Chapter 9, "Diversifying Merchandise Exports," by Agnes Isnawangsih and Yinqiu Lu takes a closer look at trade developments to

⁷The ASEAN-5 are Indonesia, Malaysia, Philippines, Thailand, and Vietnam.

explore the composition of Indonesia's merchandise exports and their competitiveness. The authors find that coal and palm oil have replaced oil and gas as the top two export products, and China has replaced Japan as Indonesia's top export destination. Indonesia has remained a basic commodity exporter subject to global price swings. Five key traditional commodity products (gas, oil, coal, palm oil, rubber) accounted for about 60 percent of total exports to China in 2016. With increased competition from neighboring countries, the shares of key noncommodity exports, such as electrical appliances and textiles, declined during 2000–16. The authors stress that Indonesia has yet to improve its competitiveness in products with higher technology content to improve its low export sophistication and economic complexity. The country's comparative advantage still lies in mineral fuels and low-technology industries, and its participation in regional and global value chains remains low, limiting opportunities to tap into the growing Asian consumer market.

In Chapter 10, "Determinants of Capital Flows," Yinqiu Lu examines capital inflows to Indonesia. The author shows that the volume of capital inflows has increased, which has helped finance Indonesia's current account and fiscal deficits, especially in the aftermath of the commodity supercycle. FDI and portfolio inflows have dominated capital inflows. Government bonds, especially those denominated in rupiah, have increasingly attracted foreign investors. Indonesia has experienced several episodes of reversal or sharp declines of capital inflows since the global financial crisis, affecting bond markets but also equity and foreign exchange markets. The author's empirical analysis shows that cyclical push and pull factors have influenced capital inflows to Indonesia. Growth and interest rate differentials between Indonesia and the United States, as well as global risk sentiment, account for an important portion of capital inflows. Exchange rate expectations, interest rate spreads, and global risk aversion are also important factors behind short-term fluctuations in capital inflows. Although Indonesia's resilience to external shocks has improved, deepening the domestic capital market would help further accommodate the volatility of capital inflows.

The final three chapters of the book analyze avenues to deepen financial markets in Indonesia while preserving financial stability. The development of Indonesia's financial markets since the Asian financial crisis has been slow, and financial access remains low. The size and depth of financial markets dropped sharply after the Asian financial crisis and have not recovered since. Banks dominate the financial system, and the domestic institutional investor base is narrow. To help meet demand for financial services, Chapter 11, "Advancing Financial Deepening and Inclusion," by Heedon Kang, proposes options for furthering financial deepening and greater inclusion. These options include strengthening the credit culture and financial infrastructure, upgrading the supervisory and regulatory framework alongside financial market development, establishing a liquid benchmark yield curve, promoting long-term financing using new financial instruments, expanding the domestic investor base, supporting financial innovation, and enhancing financial literacy. The use of digital financial services

has rapidly increased, offering a promising channel for overcoming Indonesia's unique geographical barriers to financial inclusion.

In Chapter 12, “Managing Macro-Financial Linkages,” Elena Loukoianova, Jorge Chan-Lau, Ken Miyajima, Jongsoo Shin, and Giovanni Ugazio investigate macro-financial links and corporate vulnerabilities in Indonesia. Although risks from the corporate sector remain manageable, the authors indicate that the corporate sector's exposure to foreign funding can be one of the key channels for transmitting negative external shocks to the rest of the economy. The authors conclude with options for containing corporate vulnerabilities, including close monitoring of firms with rupiah income and foreign currency debt, as well as those with unhedged, nonaffiliated, or maturing foreign currency debt, together with bank linkages; and upgrading the framework for interagency coordination of corporate surveillance. In the medium term, deeper financial markets will help reduce the costs of hedging and develop the corporate bond market.

The final chapter of the book, Chapter 13, “Reinforcing Financial Stability,” by Ulric Eriksson von Allmen and Heedon Kang, explores how financial deepening can be achieved without endangering financial stability. The authors find that systemic financial risk is currently low and the banking system appears generally resilient to severe shocks. Various measures have been taken to strengthen financial oversight and crisis management, including the establishment in 2011 of the Financial Services Authority (OJK), an integrated regulator to oversee the entire financial sector. However, the authors point to further improvements that are needed. The mandates for the OJK and Bank Indonesia should be amended to give clear primacy to financial stability over development objectives. The OJK also needs to promote a more intrusive supervisory approach across sectors, including rigorous evaluation of financial institutions' risk management and internal audit functions. Crisis management and safety nets also need to be strengthened, including by adjusting emergency liquidity assistance to ensure its effectiveness.

Following two decades of socioeconomic progress, Indonesia is well positioned to continue its remarkable transformation. However, important reforms remain needed to lift growth, make growth more inclusive, and provide employment opportunities for the growing labor force. These reforms, discussed at length in the book, include raising tax revenues to enhance infrastructure and human capital, streamlining complex regulations, opening up to FDI, and deepening the financial sector while preserving stability.

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Twenty Years after the Asian Financial Crisis

M. CHATIB BASRI

INTRODUCTION

A plethora of studies have covered various crises and countries, yet crisis remains relevant for academic inquiry and discussion. Kindleberger and Aliber (2011) and Reinhart and Rogoff (2009) have documented financial crises over the past several hundred years. Financial crisis is not unique to any one region; it occurs throughout the world. In Asia, we are familiar with the 1997–98 Asian financial crisis (AFC), which greatly affected Indonesia, Korea, and Thailand. The global financial crisis of 2008–09 had significant impacts on the United States and Europe. In 2013, a market panic known as the taper tantrum (TT)—not a financial crisis—hit five emerging market economies (termed the Fragile Five). It is thus important to compare crises and financial shocks and how the impacts on countries differ.

This chapter focuses on Indonesia. Before the AFC, Indonesia's economy was lauded as a success story of structural transformation in East Asia (World Bank 1993). Its economy grew by an average of 7.6 percent per year from 1967 to 1996. Poverty levels fell significantly, from 54.2 million (40 percent of the total population) in 1976 to 34.0 million (17.5 percent) in 1996. The World Bank (1993) cited Indonesia as a member of the newly industrialized economies, together with Malaysia and Thailand. However, the AFC reversed the picture completely, hitting the Indonesian economy hard and leading to a political crisis that toppled Soeharto's 32-year authoritarian regime. Hill (1999) referred to this as the strange and sudden death of a tiger economy.

Just 10 years after the AFC, Indonesia was faced with the global financial crisis. From a global standpoint, the global financial crisis was much larger than the AFC, but Indonesia weathered the global financial crisis relatively well because of its limited impact on Indonesia's economy. This leads to the question, Why was Indonesia able to weather the global financial crisis so much better than the AFC? It did not stop there; in 2013, financial markets in emerging market economies were struck by the TT, resulting from the US Federal Reserve's decision to end its quantitative easing policy. Together with four other countries, (Brazil, India, Turkey, and South Africa), Indonesia was classified as one of the

Fragile Five. It is interesting that in a relatively short period, Indonesia overcame this financial shock and extract itself from the Fragile Five group.

Studies of financial crisis in Indonesia are relevant because of their repetitive nature and their significant impacts on the Indonesian economy. Many studies have covered each crisis and the resulting shocks on Indonesia (Soesastro and Basri 1998; Hill 1999; IMF 2003; Pempel and Tsunekawa 2015), but no analysis has compared the AFC, the global financial crisis, and the TT.¹ Why did the AFC affect Indonesia's economy so differently than did the global financial crisis and the TT? How did the different policy responses to each crisis affect the economy? This chapter shows that reforms undertaken since 1998 are one reason for Indonesia's relative resilience to the global financial crisis and the TT. Thus, these important reforms are also discussed.

This chapter is structured as follows: The next section examines the relatively limited impact of the global financial crisis and the TT compared with the AFC. The subsequent section discusses how reforms undertaken since 1998 improved Indonesia's resilience to the global financial crisis and the TT. The following section analyzes the ways in which Indonesia's economy is still vulnerable, despite improvements. The final section provides a conclusion and the way ahead.

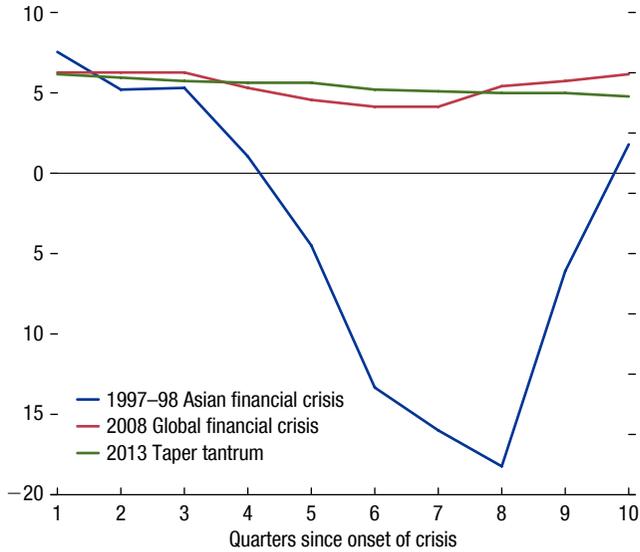
THREE FINANCIAL SHOCKS: TWO CRISES AND ONE MARKET PANIC

Economic crisis is not a new concept in Indonesia. Basri and Hill (2011) point to at least four major economic crises in the country. The first occurred in the mid-1960s. The crisis was entirely homegrown, consisting of a mild contraction and swift recovery. The second occurred in the 1980s, caused by external conditions (falling oil prices). It had a significant impact on economic growth but was also marked by a swift recovery. The third was the AFC, and the fourth was the global financial crisis. In 2013, the TT hit the Indonesian economy, but it did not result in a full-blown crisis. This chapter focuses on the two most recent crises—the AFC and the global financial crisis—as well as the TT.

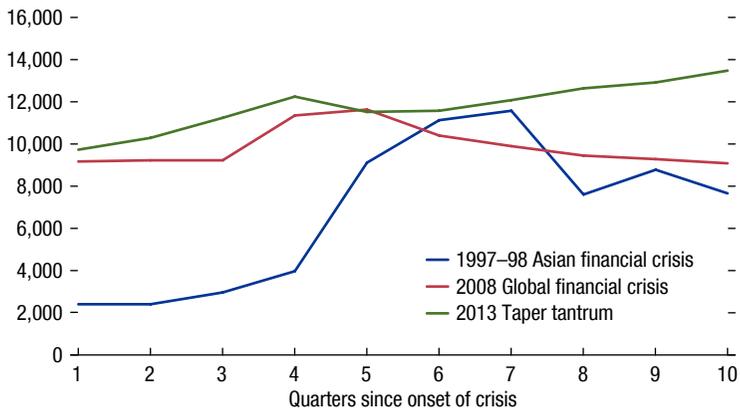
How did each crisis affect the Indonesian economy? Figures 2.1–2.3 show the different impacts of the AFC, the global financial crisis, and the TT on economic growth, exchange rates, and inflation, respectively. The figures show that the AFC had a significant impact on the Indonesian economy. Economic growth declined deeply, the exchange rate against the US dollar collapsed, and inflation rose sharply. In contrast, the global financial crisis and the TT had practically no effect on economic growth or inflation, and they had only a limited impact on the exchange rate.

Why were the impacts of the global financial crisis and the TT so much smaller than those of the AFC? Several factors differentiate the global financial crisis and the TT from the AFC (see Annex 2.1).

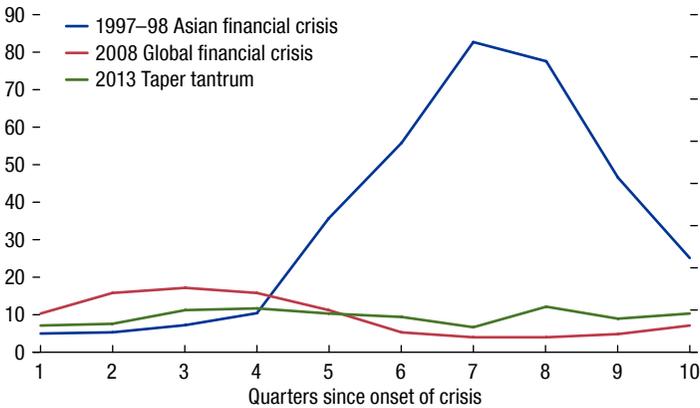
¹Basri and Hill (2011) and Basri (2015) compare the effects of the AFC and the global financial crisis, but not the TT, on the Indonesian economy.

Figure 2.1. Indonesia: GDP Growth, Quarterly

Source: Based on Basri and Hill 2011.

Figure 2.2. Indonesia: Rupiah/Dollar Exchange Rate, Quarterly

Source: Based on Basri and Hill 2011.

Figure 2.3. Indonesia: Inflation, Quarterly

Source: Based on Basri and Hill 2011.

Roots of the Crisis

The AFC was triggered by an exchange rate crisis in Thailand that then spread to Indonesia. It is important to ask, Was the crisis triggered solely by external factors, or did poor domestic economic fundamentals also play a role? It is interesting that before the AFC, Indonesia's economic growth was relatively high, its budget deficit was relatively small (-0.9 percent of GDP), and the current account deficit hovered between 2 and 4 percent of GDP, which was relatively normal for the time. The contagion effect from Thailand had a huge impact on the Indonesian economy because of weaknesses in the banking sector. Soesastro and Basri (1998) show that there were problems in Indonesia's economic fundamentals, particularly in the banking sector, which had high levels of nonperforming loans (NPLs) and short-term debt. The policy response that increased interest rates led to unforeseen increases in bad debt. Aswicahyono and Hill (2002) argue that the crisis in 1997-98 centered on financial markets, exchange rates, short-term debt, capital mobility, and political disturbances. Thus, when the financial crisis hit Thailand, the impact on the Indonesian economy was dreadful. The Indonesian economic crisis in 1998 was homegrown but not home alone.²

In contrast, the global financial crisis was almost entirely external, triggered by the US subprime crisis. The impact on Indonesia was only through financial and trade channels. Since Indonesia is relatively isolated from global financial and trade markets, the impact was limited. Total Indonesian exports as a share of GDP was 29 percent, much smaller than in Singapore (234 percent), Taiwan Province of China (74 percent), and Korea (45 percent).³ Basri and Hill (2011)

²The author thanks the former governor of the Central Bank of Indonesia, Soedrajad Djiwandono, for this term.

³This refers to the total exports of goods and services in national accounts as a percentage of GDP.

show that banks and the corporate sector were not highly leveraged, and Indonesian banks had nearly no connection to the troubled asset and financial markets in the United Kingdom and the United States.

The source of market panic from the TT was slightly different. The financial shock was triggered by tapering talk, aggravated by the current account deficit. Eichengreen and Gupta (2014) argue that the impact of the TT was greater in countries that experienced high currency appreciation and allowed their current account deficit to increase during the quantitative easing period. They also highlight that countries with relatively large financial markets experienced greater impacts. Thus, the impact of the TT resulted from a mix of external effects, compounded by a high current account deficit, leading to panic in financial markets. Efforts aimed at decreasing the current account deficit allowed Indonesia to cope with the market panic and prevented a full-scale financial crisis (Basri 2016, 2017).

Problems in the Banking Sector

As pointed out by Soesastro and Basri (1998), Hill (1999), Stiglitz and Greenwald (2003), and Fane and McLeod (2004), many banks in Indonesia were very weak in 1997–98. The banking sector was highly leveraged, the loan-to-deposit ratio exceeded 100 percent in 1997, and the ratio of NPLs to total loans was about 27 percent in September 1997.

IMF (2003) points out that vulnerabilities in the Indonesian banking sector were underestimated by the IMF and by policymakers. In addition, the decision to close 16 banks without considering the overall impact was devastating in dealing with the AFC in Indonesia. The closing of these banks led to bank runs, forcing Bank Indonesia (BI) to issue liquidity support. IMF (2003) also argues that this liquidity support led to a loss of monetary control, which, in turn, caused further drops in the rupiah. In January and February, the banking sector collapsed from bank runs, resulting from the panic triggered by the bank closure policy recommended by the IMF. The bank runs also encouraged capital flight, further harming the rupiah.

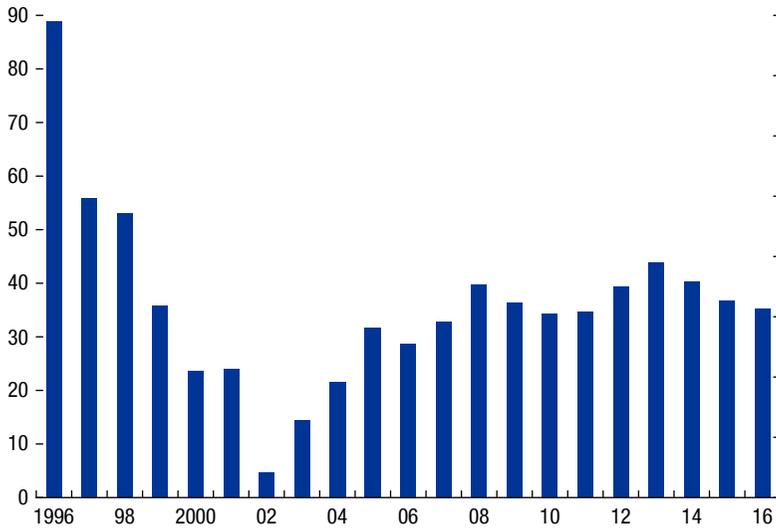
Nasution (2015) argues that there are four weaknesses in Indonesia's financial system: undercapitalization in the banking sector; substandard banking regulations and supervision, particularly related to the capital adequacy ratio (CAR); lack of competition in the banking sector, which is dominated by state-owned enterprises; and the availability of cheap credit from state-owned banks, which acts as a disincentive for corporations to seek nonbank funding sources.

Banking conditions were vastly different in 1998 than in 2008 and 2013. In 2008 and 2013, financials were much healthier than in 1998, with NPLs at less than 4 percent, loan-to-deposit ratios at less than 80 percent and 90 percent, respectively, and the CAR at about 17 percent. These improvements were due to financial institutional reforms, particularly in the banking sector, implemented after the AFC (see Annex 2.2).

Exchange Rate Regime

One of the biggest differences between the effects of the global financial crisis and the TT compared with the AFC was the exchange rate regime. Before 1997, BI

Figure 2.4. Indonesia: Short-Term External Debt
(Percent of reserves)



Sources: IMF, *World Economic Outlook*; Haver Analytics; and author's estimates.

had a crawling peg system or managed floating exchange rate, in which the government made regular adjustments to the exchange rate. Depreciation was always maintained at 5 percent per year, promoting carry trade. Because depreciation was maintained at 5 percent, investors who borrowed from overseas faced no exchange rate risk. This led to an increase in short-term external debt (Figure 2.4). Nasution (2015) shows that BI did not have good data on short-term corporate foreign debt.⁴ Furthermore, short-term borrowings were used to fund long-term projects in nontrade sectors. This resulted in a double mismatch: both currency and maturity (Nasution 2015). When the rupiah could float, many companies experienced problems with short-term foreign debt, ultimately increasing NPLs.

The situation was different in 2008 and 2013. BI adopted an inflation-targeting regime with a flexible exchange rate after the AFC. As a result, economic agents had to consider exchange rate risk in their portfolio investment decisions. Some of them were also hedging their liabilities. Thus, exchange rate depreciation did not trigger a significant panic in the foreign exchange market as it did in 1998.

As for the TT, the flexible exchange rate helped Indonesia address the current account deficit. It should be noted that Indonesia could not use the exchange rate alone to solve the problem of external imbalances. The memory of the trauma

⁴Bank Indonesia (BI) has taken measures in recent years to improve the data on short-term corporate foreign debt, including through the mandatory quarterly reporting to BI on the implementation of the principles set forth in the 2014 regulation concerning the "Implementation of Prudential Principles in Managing External Debt of Non-Bank Corporation."

from the AFC led to worries of the rupiah falling too steeply because many feared a repeat of the AFC. This scenario could work as a self-fulfilling prophecy, ultimately weakening the rupiah. To overcome this issue, policy credibility and good communication with business communities played important roles.

It is important to compare policy credibility and communication during the AFC with that during the global financial crisis and the TT. Exchange rate depreciation during the global financial crisis and the TT did not create a self-fulfilling prophecy, although the rupiah depreciated deeply against the US dollar during both episodes. The importance of policy credibility and good communication with business communities can also be seen in the situation in 2015. The Fed's plans to normalize US monetary policy in 2015 put serious pressure on money markets. The rupiah weakened from Rp 12,500/US\$ to Rp 14,700/US\$, the stock and bond markets plummeted, and there were significant capital outflows. It is worth noting, however, that the rupiah depreciated by less than 10 percent in 2015, compared with more than 15 percent in 2013. The current account deficit and inflation were much lower than in 2013; however, the market perceived that Indonesia was riskier in 2015 than in 2013 (IIF 2015). Why? This chapter argues that communicating their policy response to business communities and financial markets in 2015 was challenging for the Indonesian authorities. In addition, policy credibility faced a problem because of fiscal risks looming from unrealistic tax targets in 2015 and 2016. This reinforces the argument of the importance of policy credibility and communication with financial markets and business communities.

Policy Responses

The government responded to the crises of 1998 and 2008 in different ways. The IMF recommended that BI respond to the weakening of the rupiah by raising interest rates during the AFC. Because NPLs were high, raising interest rates increased the probability of default, which led to the banking crisis. The banking crisis worsened the economy and encouraged capital outflows. This is consistent with Stiglitz and Greenwald's (2003) argument that as an economy enters a deep recession, contractionary devaluation causes many firms to be distressed (see also Sachs 1997).

In contrast with the AFC, during the global financial crisis, BI responded by lowering the interest rate and ensuring that there was enough liquidity in the financial system. As a result, the probability of default was relatively low in 2008, and the impact of NPLs on the banking sector was also relatively small.

There were also different responses regarding financial stability. During the AFC, closing 16 banks without offering a sufficient deposit guarantee was a grave mistake. As mentioned, this resulted in bank runs. Indonesia's experience during the AFC suggested that disruption and instability in the financial sector could lead to a severe crisis of confidence and that the cost of allowing such a situation to happen was much higher than the cost of preventing it. On the basis of this experience, during the global financial crisis Indonesia strongly supported immediate efforts to restore confidence in the financial sector. Furthermore, the government focused on

anticipating changes in the financial sector rather than on structural adjustment. The government and BI prepared a financial sector safety net and crisis protocol—necessary steps when facing a financial crisis. Crisis control was focused on monitoring the financial sector. The government and BI ensured sufficient liquidity in the banking system and worked to maintain confidence in the banking sector by providing guarantees, increasing the ceiling for the guarantee on deposits from Rp 100 million to Rp 2 billion per account.⁵ They understood that the collapse of a bank or financial institution would trigger panic. Although Bank Century was relatively small and its interconnectedness was low, the government—particularly BI—felt that it was important to secure confidence in the market and thus the Financial System Stability Committee (Komite Stabilitas Sistem Keuangan, or KSSK) decided to bail out Bank Century in November 2008 (see also Basri 2015).⁶

The government applied countercyclical fiscal policy in 2008 through fiscal expansion and mitigated the impact of the financial crisis on the poorest segments of society by providing social safety nets.⁷ Indonesia introduced a stimulus package in 2009 worth about Rp 73.3 trillion (about US\$6.4 billion) to boost the economy amid the threat of an economic downturn. The package was broken down into three major categories: income tax cuts, tax and import duty waivers, and subsidies and government expenditure. Aiming to stimulate household and corporate spending, almost 60 percent of the Indonesian fiscal stimulus was allocated to cover cuts in income taxes. To minimize the effects of the global financial crisis, the government cut the individual income tax rate from 35 percent to 30 percent and the corporate income tax rate from 30 percent to 28 percent (Basri and Rahardja 2011).

The policy response to the TT differed in some ways but was fairly similar to the response to the AFC. As mentioned, the primary issue was a high current account deficit. To overcome this issue, the government and BI applied a combination of expenditure-reducing and expenditure-switching policies. The combination of exchange rate depreciation and monetary and fiscal tightening helped stabilize financial markets in a relatively short period (Basri 2017). The Indonesian government cut fuel subsidies by increasing fuel prices by about 40 percent in June 2013; BI also gradually increased interest rates by 175 basis points (Basri 2016, 2017). The government also supported BI's policy of letting the exchange rate follow market forces in the medium term, which had a positive impact.⁸ Government support was crucial, allowing BI to act independently.

⁵IMF (2003) shows that providing a blanket guarantee during a crisis is more effective than a limited deposit guarantee, but the government feared a repetition of the BI liquidity support case.

⁶The decision to bail out Century Bank had political implications. Some political parties felt that the bailout by Minister of Finance Indrawati and Vice President Boediono was a mistake because it was not based on solid information and because it harmed the country.

⁷For fiscal policy, see Basri and Rahardja (2011) and Kanit and Basri (2012).

⁸BI's policy of allowing the exchange rate to float made the nondeliverable forward and spot rate converge, and in February 2014, the Association of Banks in Singapore switched to Jakarta Interbank Spot Dollar Rate (JISDOR) as the reference exchange rate, replacing the nondeliverable forward.

The similarities between the responses to the TT and the AFC are interesting (expenditure-reducing policy, monetary tightening, and expenditure-switching policy enabled by allowing the exchange rate to float). Why were these steps effective during the TT but not the AFC? There are several possible explanations. First, the AFC was a financial crisis, while the TT was a market panic. It is true that if the TT had not been handled well, it could have led to a financial crisis, but the potential financial crisis was much smaller in scale. Second, unlike the AFC, in which a fundamental problem in Indonesia's banking sector was exposed, the TT was aggravated by Indonesia's high current account deficit. Thus, the combination of monetary tightening, budget cuts, and exchange rate depreciation worked well. In addition, banking conditions in Indonesia in 2013 were far better than in 1998, so a 175 basis point increase in interest rates did not have much of an effect on the banking sector. Furthermore, BI's monetary tightening during the TT was minute compared with the nearly 60 percent increase in interest rates during the AFC. Third, fiscal rules allowed the government to implement an expenditure-reducing policy because the budget deficit could not exceed 3 percent of GDP. The government also had political reasons for cutting fuel subsidies, although the process was still quite difficult (Basri 2016). Fourth, short-term external debt, although increasing in 2013, was still relatively small compared with 1996 (Figure 2.4). In addition, as discussed earlier, economic agents had become used to the flexible exchange rate regime, thus they had diversified their portfolios and hedged their liabilities. Therefore, the currency depreciation did not create market panic.

Political Factors

The political crisis and change of government in 1998 made the economic crisis far worse compared with 2008 and 2013. Dire economic conditions led to a political crisis and encouraged a change of government; this political crisis then exacerbated the economic crisis (Basri 2015). One major difference between political conditions in 1998 and 2008 or 2013 was the level of confidence in the government. In 1998, confidence in the Soeharto government plummeted to its lowest point, producing pressure for political reform and demand for democratization (Schwarz 1999; Aswicahyono and Hill 2002; Bresnan 2005).

WHY INDONESIA SURVIVED THE GLOBAL FINANCIAL CRISIS AND THE TAPER TANTRUM: THE ROLE OF ECONOMIC REFORM

The aforementioned discussion shows that in addition to the different policy responses, improvements in fiscal, monetary, and banking conditions since 1998 helped Indonesia handle the global financial crisis and the TT relatively well. The inflation-targeting regime with a flexible exchange rate contributed greatly to Indonesia's resilience to the global financial crisis and the TT. However, a flexible exchange rate must be supported by good corporate and bank balance sheets to

avoid problems, because depreciation of the rupiah could increase corporate debt, which, in turn, could increase the risk of NPLs. It is important to discuss the principal reforms (Annex 2.2). This chapter focuses on the most important reforms that enabled the relative resilience of the Indonesian economy.

Banking Reform

As noted, Indonesian banks suffered from relatively high NPLs before the AFC. Banking reforms clearly improved the banking sector after 1998. Nasution (2015) reviews how Indonesia reformed the risky sector. The first reform was to supply emergency liquidity and purchase bonds to increase CARs in financially distressed banks. Poorly performing banks were closed or restructured.

The Indonesian Bank Restructuring Agency was established in January 1998 in response to the banking and economic crisis. It was established to administer the government's blanket guarantee programs; to supervise, manage, and restructure distressed banks; and to manage government assets in banks under restructuring status and to optimize the recovery rate of asset disposals in distressed banks. The agency was criticized for being slow in implementing its tasks, for its lack of transparency, and for its alleged irregularities. During its six years of operations, there were seven heads.

Second, to cope with bank runs and to avoid panic, a banking safety net was created through a deposit guarantee, which was later expanded to a blanket guarantee in 1998 after the banking collapse. Third, supervision and institutions were improved. BI, which had been under the government and had limited authority, was made independent and given full authority over the banking system. Furthermore, a risk-management system for individual banks and a deposit insurance system were institutionalized (Sato 2005). These IMF reform initiatives were crucial to improving the Indonesian banking system after the AFC. Artha (2012) and Andriani and Gai (2013) show that BI's independence has succeeded in lowering inflation rates. Since 2016, inflation has been decelerating, increasing investor confidence in the Indonesian economy. In 2012, reforms continued with the separation of monetary management from banking supervision. BI focuses on efforts to reach inflation targets set by the government, whereas banking supervision is managed by the Financial Services Authority (Otoritas Jasa Keuangan, or OJK). In addition, the Financial System Stability Forum was created to coordinate efforts between the Ministry of Finance, BI, OJK, and the Deposit Insurance Corporation (LPS).

With these reforms, Sato (2005) shows that financial institutions and banking supervision changed drastically. The banking sector, which was severely damaged by the AFC, survived the crisis through the banking sector rescue program, but lending activity declined as a result of the stringent risk management efforts required in the reforms. Also, saving the banking sector was quite expensive at Rp 658 trillion (Sato 2005).

Table 2.1 shows that the ratio of loans to total assets decreased significantly, whereas claims on the central government (government bonds) increased sharply as a result of the recapitalization program (capital injection), which was valued at

TABLE 2.1.

Commercial Banks' Main Indicators, 1996–2013

	1996	1997	1998	1999	2000	2001	2002	2003	2007	2008	2012	2013
No. of commercial banks ¹	239	222	208	164	151	145	141	138	130	124	120	120
Total assets (in percent of nominal GDP)	72.8	84.3	79.8	71.8	77.8	70.9	65.8	60.3	50.3	46.7	49.5	51.9
Total loans (in percent of nominal GDP)	55	60.2	51	20.5	21.3	21	22.7	21.9	25.4	26.4	31.4	34.5
Loan-to-deposit ratio (percent)	104	105.7	85	36	37.3	38	43.2	43.5	66.3	74.6	83.6	89.7
Loan to total assets	75.6	71.5	63.9	28.5	27.3	29.6	34.5	36.3	50.4	56.6	63.5	66.5
Claim on government/total assets ²	0.2	0.2	0.1	34	43.6	39.3	35.7	30.2	18.9	17.4	8.6	8.9
Capital/total assets	9.6	8.8	-12.9	-2.7	5.1	6.4	8.8	9.7	9.2	9.1	12.2	12.5
NPL ratio (gross) ^{3,4}	9.3	19.8	58.7	32.8	18.8	12.1	8.3	6.8	4.1	3.2	1.9	1.8
NPL ratio (net) ^{3,5}	...	...	...	...	11.1	3.6	2.9	1.8	1.6	1.3	0.9	0.8

Sources: Modified from Sato (2005) and Bank Indonesia; Otoritas Jasa Keuangan; CEIC Data Co. Ltd.; IMF, Financial Soundness Indicators; and author's calculations.

Note: NPL = nonperforming loan.

¹Commercial banks only (excluding rural banks).

²Claim on the central government consists mainly of government bond injected for banks' recapitalization.

³Values for 1996–98 are for the end-of-fiscal-year period (end of March 1997 to end of March 1999).

⁴Gross NPL Ratio = NPLs/Total Outstanding Loans × 100.

⁵Net NPL Ratio = (NPLs – Reserves)/Total Outstanding Loans × 100.

Rp 658 trillion (52 percent of GDP) in 2000. In line with the bank recapitalization program, the government closed 38 banks and took over 7 private banks in March 1999. This program was financed through the issuance of Rp 430.4 trillion in government bonds in 1999–2000. This recapitalization was heavily criticized because the state bore the burden of private debt. The 2001 bank soundness program targeted a CAR of 8 percent and an NPL ratio of less than 5 percent. In 2002, net NPLs had fallen to less than 5 percent.

In addition, BI adopted the Basel Core Principles for Effective Banking Supervision. BI further implemented CAMELS supervision in 2005.⁹ In 2003, BI became a member of the Bank for International Settlements (BIS), which requires BI to be disciplined in following BIS standards, giving confidence to investors.

Fiscal Reform¹⁰

Since the AFC, the Indonesian government has taken several steps to improve its fiscal structure, and Indonesia has therefore succeeded in maintaining a relatively low budget deficit. Despite the criticism of the IMF's recommendations for Indonesia to apply tight fiscal policies during the AFC, in the long term these requirements have made Indonesia more fiscally cautious. Therefore, Indonesia's fiscal position was stronger entering the global financial crisis. This fiscal caution is reflected in State Law No. 17 in 2003, which limits Indonesia's budget deficit to 3 percent of GDP and government debt to less than 60 percent of GDP.

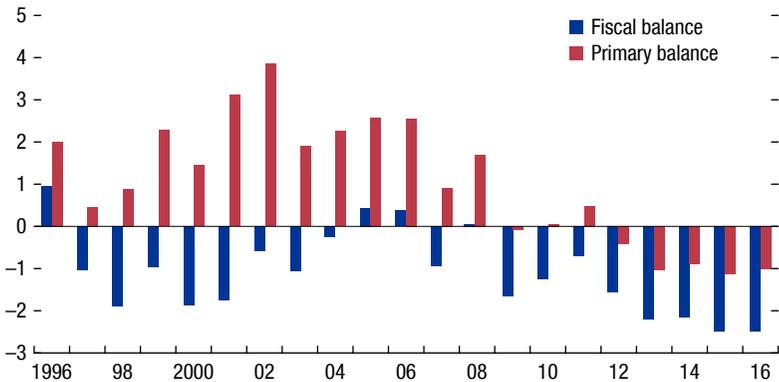
Indonesia entered the global financial crisis in better fiscal shape than did many countries in Asia, or even the United States and Europe. Figure 2.5 shows that the budget deficit as a percentage of GDP continuously declined. The primary balance has been in surplus since 2000, posting deficits only since 2012. The government's success in maintaining the budget deficit at less than 3 percent of GDP since 2000 ensured that the government-debt-to-GDP ratio consistently decreased (Figure 2.6). Basri and Hill (2011) show that one major issue faced by Indonesia after the AFC was a government debt-to-GDP ratio of about 90 percent, which was a result of the government's taking over corporate debt and the banking collapse in the AFC. Thus, macroeconomic stability in the early 2000s was extremely tenuous. However, the government's ability to maintain a low budget deficit improved its fiscal position.

Basri and Rahardja (2011) point out that after the AFC, the government budget process in Indonesia changed in several ways. First, full democratization has meant that Parliament plays a significant role in the budgeting process. The Indonesian state budget law introduced in 2003 solidifies interactions between

⁹CAMELS is a rating system that bank supervisory authorities use to rate financial institutions based on six factors: capital adequacy, assets, management capability, earnings, liquidity (also called asset liability management), and sensitivity (sensitivity to market risk, especially interest rate risk).

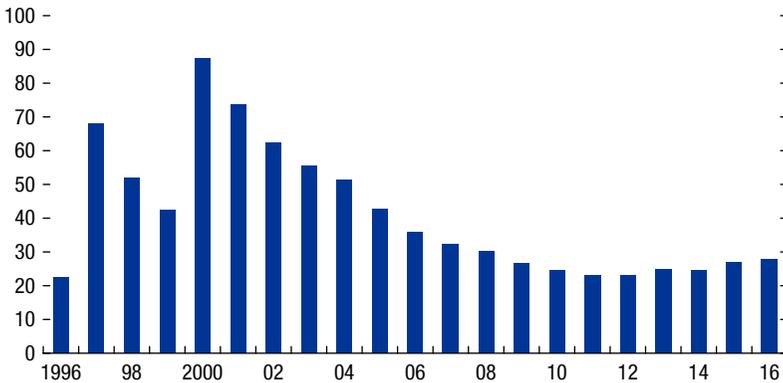
¹⁰This section draws heavily from Basri and Rahardja (2011).

Figure 2.5. Indonesia: General Government Budget Balance
(Percent of GDP)



Sources: IMF, *World Economic Outlook*; and author's estimates.

Figure 2.6. Government Debt
(Percent of GDP)



Sources: World Bank, *World Development Indicators*; IMF, *World Economic Outlook*.

the government and Parliament in the budgeting process.¹¹ Parliament's involvement has also evolved. Instead of merely endorsing the central government's proposed budget, Parliament is now actively involved in the deliberations on and modifications to the macroeconomic assumptions and in approving or rejecting the budget, proposed by all government agencies, line by line.

¹¹Law Number 17 of 2003 on State Finances.

The budget process can be lengthy and sometimes contributes to the delay in government spending. The budget process requires all line ministries to perform multiple consultations with the Ministry of Planning, the Ministry of Finance, and Parliament. Changes in budget assumptions, uncertainties in interpretation of new rules in government procurement, and low capacity in line ministries for developing working programs minimizes iterative consultations and often contributes to delays in spending (World Bank 2009). On the other hand, the government is challenged to balance the need to spend quickly against the need to have transparent and accountable budget reporting.

In addition, the format of the government budget has undergone fundamental changes. In 2000, the government changed the fiscal year from April 1 to March 31, and in the subsequent year, from January 1 to December 31. However, more important is that the Indonesian government adopted the international standard of the IMF's Government Finance Statistics system for its budget report. In 1999, Indonesia finally allowed its budget to reflect deficit or surplus and implemented a series of rearrangements in the budget items. The current budget format also clarifies sources of financing for government spending, such as privatization, government debt, and foreign loans, which previously were all treated as "development revenue." Since 2001, the central government budget has also included "balancing funds" to anticipate the decentralization of authority to local governments. After the introduction of State Law No. 17 in 2003, in 2005 the central government implemented a unified budget system that collapsed routine and development expenditures and changed sectoral budget allocations to functional allocations by line agencies.¹²

Monetary Reform

Indonesia has also improved its monetary framework since the AFC. Before the AFC, BI operated under the guidance of the central government through the Monetary Board, which comprised the Minister of Finance, several other cabinet members, and the BI governor. BI kept a heavily managed exchange rate regime, with currency depreciation fixed at 5 percent. Monetary policy operated through the issuance of BI securities geared toward limiting credit growth and achieving an inflation rate of less than 6 percent. However, inflation averaged 8.4 percent during 1990–97, one of the highest rates in Asia, contributing to a real appreciation of the rupiah and a widening current account deficit, which was financed with short-term external debt.

The heavily managed exchange rate regime maintained before the AFC contributed greatly to the depth of the AFC. To protect its international reserve position, BI let the exchange rate float in August 1997 when the economy was

¹²An example of the implications of this restructuring is that the budget for the "national defense" sector has been transformed into a budget to execute work programs under the Ministry of Defense. Meanwhile, development expenditures, which, under the old format, consisted mainly of capital expenditures, have been merged to different expenditure items including capital, material, personnel, social, and other expenditures.

experiencing large capital outflows. The rupiah depreciated by 95 percent against the US dollar in 1997 and by 73 percent in 1998, while inflation rose to 58 percent in 1997 and 20 percent in 1998. To address these issues, and as part of the financial agreement with the IMF, BI introduced a soft inflation-targeting regime with a monetary target in 1998. In addition, BI was given formal independence in 1999, which allowed it to pursue its objectives and increase confidence in the economy. As a result, average inflation declined to about 8 percent in 2000–04, while the exchange rate stabilized.

BI adopted a formal inflation-targeting regime with a floating exchange rate in 2005, in which BI explicitly announces the government-set inflation target to the public, and monetary policy is geared toward achieving the target. At the operational level, the monetary policy stance is reflected in the setting of the policy rate to influence money market rates and, in turn, the deposit and lending rates in the banking system. Changes in these rates will ultimately influence output and inflation. BI has also been reforming its monetary operations to enhance the transmission of monetary policy, including by switching the policy rate from a nontransactional rate to the transactional seven-day reverse repo rate, combined with a narrowing of the interest rate corridor in 2016. BI launched reserve requirement averaging in July 2017, with a one-month transition period to ease liquidity shortages of smaller banks. These reforms have paid off in greater price stability, with inflation remaining close to target, averaging 5 percent in 2010–17 and close to 3 percent in early 2018. Central bank credibility has also improved as reflected in the stabilization of long-term inflation expectations at near 4 percent in 2017–18.

Institutional Reform

Corruption and cronyism exacerbated the effects of the AFC (IMF 2003). IMF (2003) also points out that short-term debt was underestimated, and weak risk management in the banking sector, resulting from cronyism and corruption, was not addressed quickly enough. Weak risk management was reflected in high loans to parties connected to the bank including management, bank owners, and their families, with no project feasibility studies having been conducted.

IMF (2003) states that although the IMF identified vulnerabilities in the banking sector, it misjudged the extent of the relationship between bank owners and politicians. Furthermore, several reforms were not implemented because of resistance from vested interests with direct ties to the halls of power. For example, in November 1997, under recommendations from the IMF, the government and BI decided to close 16 troubled banks, one of which has particularly strong political connections. That bank then appealed and won its case, reopening and changing its name (Soesastro and Basri 1998). This case demonstrates the resistance to reform from vested interests with strong political ties. Corruption and cronyism, particularly when credit was given without proper risk assessment, made the banking sector vulnerable.

To deal with corruption, Indonesia formed the Anti-Corruption Committee (Komisi Pemberantasan Korupsi, or KPK) in 2002. Although the fight against corruption is far from over, there have been improvements and successes. Basri

and Hill (2011) show that actions initiated by the KPK have resulted in many legislators and senior officials' firing and imprisonment. The judiciary has also undergone significant changes; it is now autonomous, unlike under the Soeharto government. Nevertheless, corruption is still pervasive in the courts. Commercial law is very commercial in the real sense because judges are bought off, which ultimately results in legal and corporate uncertainty (Butt 2009). Although it is true that the KPK has had some notable victories, antireformists have resisted KPK's move to combat corruption. At the regional level, corruption is still widespread, although LPEM (2006) has shown a decrease in the level of harassment visits and bribes in some regions.

MORE STABLE, YET STILL VULNERABLE

Although a variety of reforms have been conducted, Indonesia remains vulnerable to external shocks. The TT, for example, showed the Indonesian economy's vulnerability to financial shocks. These market panics did not cause a full-blown crisis but did precipitate turbulent times. In addition, as mentioned earlier, the Fed's discussion of plans to normalize US monetary policy in 2015 put serious pressure on Indonesia's financial market. The situation improved when the Fed increased interest rates by only 25 basis points and Japan and Europe initiated negative interest rate policies. However, with a recent trend of recovery in the US economy and the widening of the US budget deficit because of the administration's tax policy, there is a risk of capital outflows from Indonesia because the Fed could raise the interest rate higher than what financial markets expect. These two examples show how vulnerable Indonesia's financial markets are to an external shock.

The main source of this vulnerability originates in Indonesia's dependence on portfolio financing to fund its current account and budget deficits. In Indonesia, panic is usually triggered through the government bond market because of the relatively large role played by foreign holders in funding the government deficit. When a shock occurs in the United States, as happened during the TT or with the Fed's rate normalization, bond market investors withdraw their investment portfolios, which then triggers turmoil in financial markets. Therefore, it is important for Indonesia to develop its domestic local bond market by attracting long-term funds, including pension funds and insurance.

As for the current account deficit, Basri (2017) argues that a large current account deficit is not necessarily a bad thing, if it is financed by long-term and productive foreign direct investment (FDI) to export-oriented sectors. However, a large current account deficit may increase a country's vulnerability if it is financed by portfolio investment, as in the Fragile Five countries. These vulnerabilities might make portfolio investors nervous, inducing them to withdraw their portfolios from the respective countries. Edwards (2002) points out that a large current account deficit should be a concern, although he argues that this does not mean that every large deficit will induce a crisis. There is no clear threshold on the current account deficit that will cause panic in financial markets, but lessons from the TT show that

money markets are affected when the current account deficit exceeds 3 percent of GDP and is financed by portfolio investment. Of course, this differs between nations. Basri (2017) argues that countries such as India have been able to run much larger fiscal and current account deficits than has Indonesia. Perhaps this is the result of India's macroeconomic history and capital accounts. India was not affected by the AFC, so the market was less jittery, and India's capital account is also less open than that of Indonesia, so capital does not exit so quickly.

Basri, Rahardja, and Fithrania (2016) show a strong correlation between investment and imports of capital goods and raw materials in Indonesia. The higher the economic growth is because of increases in private or public investment, the higher is the current account deficit. Thus, Indonesian short-term economic growth is always constrained by the current account deficit. When external shocks occur, as during the TT in 2013 or fears over the Fed's rate hikes in 2015, capital outflows from portfolio investment spike and the rupiah weakens significantly. To address the issue of capital flow volatility, Indonesia should continue to use fiscal, monetary, and macroprudential instruments.

If the current account deficit is financed by FDI, particularly for export-oriented sectors, the risk of capital flow volatility is relatively small. To stimulate economic growth while maintaining macroeconomic stability, efficiency and productivity must be improved so that the same investment will result in higher economic growth. Another option is for FDI to center on export-oriented manufacturing sectors. Basri (2017) recommends that Indonesia focus on improving productivity, promoting economic deregulation to increase efficiency, improving human capital, developing infrastructure, and improving governance.

CONCLUSION AND THE WAY FORWARD

The aforementioned discussion shows that the global financial crisis and the TT had much smaller impacts on the Indonesian economy than did the AFC. For several reasons, Indonesia was more successful in overcoming the global financial crisis, which was far bigger in scale than the AFC. The global financial crisis was completely external, originating from the US subprime crisis. Because Indonesia's economy was well insulated, with a relatively small share of total exports to GDP, the impact of the global financial crisis was limited. In addition, as Basri and Hill (2011) note, banks and the corporate sector were not highly leveraged, and Indonesian banks had nearly no connection to the troubled asset and financial markets in the United Kingdom and the United States. In addition, the banking sector was in a much better position than it was in 1998.

The AFC, however, can be traced to the weak banking system in Indonesia. The inappropriate monetary policy response and handling of the banking sector exacerbated the crisis, leading to bank runs and capital outflows. During the TT, the financial panic was mostly due to the pressure on the current account deficit. Although the TT was driven by the Fed's plans to unwind its quantitative easing, high current account deficits made the Fragile Five countries, including Indonesia, vulnerable. The government's and BI's response was another decisive factor. The

policy response to the global financial crisis was in stark contrast with the handling of the AFC—BI cut interest rates, and the government introduced a fiscal stimulus package.

Another important factor that helped Indonesia remain relatively unscathed from the global financial crisis and TT was the series of reforms implemented since 1998. Banking reforms, particularly those related to prudent banking regulations and oversight, reduced vulnerabilities in the banking sector. BI's change to an independent authority and its adoption of an inflation-targeting regime with a flexible exchange rate since 2005 also had a positive impact on lowering inflation and increasing investor confidence in the Indonesian economy.

Post-AFC fiscal reforms also improved Indonesia's fiscal condition, which enabled the country to cope with the financial shocks in 2008 and 2013. The fiscal rules adopted by Indonesia since 2003 allowed the authorities to implement a countercyclical fiscal policy response during the global financial crisis. These fiscal rules also reduced the government's debt-to-GDP ratio from about 90 percent in 2000 to less than 30 percent in 2016, boosting investor confidence.

The flexible exchange rate also helped Indonesia deal with financial shocks. However, it should be noted that Indonesia could not use the exchange rate as the only shock absorber. Trauma from the AFC led to fear that the rupiah would fall too steeply; many feared a repeat of the AFC. This worked as a self-fulfilling prophecy, ultimately weakening the rupiah.

Indonesia's experience shows that macroeconomic policy should not rely on only one policy instrument. For example, overly high interest rates create the risk of increasing bad debt in banks, which, in turn, encourages capital outflows. Overly restrictive fiscal policy will disrupt welfare programs and economic growth, whereas allowing the exchange rate to weaken could lead to panic and fears of a repeat of the AFC. Therefore, the combination of expenditure-reducing and expenditure-switching policies, along with macroprudential policies with continued market guidance, were appropriate steps at the time. This chapter also emphasizes the importance of policy credibility and good communication with business communities to mitigate market panic.

Political factors also play an important role. A stable political climate and consistent institutional reforms helped Indonesia weather financial shocks. The political crisis and fall of the Soeharto government in 1998 exacerbated the economic crisis. The dire economic conditions led to a political crisis, and the dynamics of the changing political climate likewise worsened the economic crisis. The political conditions in 1998 differed from those of 2008 and 2013, for example, in the level of confidence in the government. During the AFC, confidence in the government reached its lowest point.

This chapter shows that Indonesia's economy is at present much more resilient than it was in 1998. However, Indonesia's financial sector remains vulnerable because it depends heavily on nonresident financing, particularly the portfolio market. The current account deficit can tolerate to a certain limit. If the current account deficit continues to be financed by export-oriented FDI, the risk of capital outflows will shrink. However, the situation will be more difficult if the

current account deficit is financed by portfolio investment, particularly short-term debt. Vulnerabilities in the Indonesian financial sector are also exacerbated by large foreign holdings of government bonds. Overdependence on external financing increases risk in emerging markets, as Reinhart and Rogoff (2009) argues. In the future, Indonesia must strive to increase its domestic savings and develop domestic financing resources.

ANNEX 2.1. INDONESIA: CRISES AND FINANCIAL SHOCKS

The following table shows a comparison of the effects of the Asian financial crisis, the global financial crisis, and the taper tantrum.

Annex Table 2.1.1. Indonesia: Comparison of the Effects of the Asian Financial Crisis, the Global Financial Crisis, and the Taper Tantrum

	Asian Financial Crisis	Global Financial Crisis	Taper Tantrum
Monetary policy	Very tight; Bank Indonesia greatly increased interest rates; deposit rates soared to 60 percent at the peak of the crisis; liquidity squeeze	Bank Indonesia lowered interest rates by 300 basis points from 9.5 percent to 6.5 percent Sufficient liquidity	Bank Indonesia increased interest rates by 175 basis points from 6 percent to 7.75 percent
Fiscal policy	Initially targeted a budget surplus, then revised to allow a large budget deficit	Implemented a fiscal stimulus; budget deficit grew, and taxes were reduced	Tightened by cutting fuel subsidies
Banking health	Weak banking regulations; NPLs were at 27 percent, and LDR was above 100 percent	Relatively tight banking regulations NPLs were at less than 4 percent, LDR was at 77 percent, and CAR was at 17 percent	Relatively tight banking regulations; NPLs were below 4 percent, LDR was at 90 percent, and CAR was at 17 percent
Response to banking	Closure of 16 banks, resulting in a bank run	Increased deposit insurance from Rp 100 million to Rp 2 billion per account	
Policy focus	Structural reform through liberalization, dismantling monopolies, and licensing	Maintain a relatively open trade regime	Maintain a relatively open trade regime
Exchange rate regime	Managed floating; Economic actors were unaccustomed to exchange rate risk and did not hedge	Flexible; economic actors were accustomed to exchange rate risk	Flexible; exchange rate was allowed to depreciate in line with market forces

Source: Based on Basri 2015.

Note: CAR = capital adequacy ratio; LDR = loan-to-deposit ratio; NPL = nonperforming loan.

ANNEX 2.2. INDONESIA: POLICY FRAMEWORKS, 1998–2008

Monetary and Finance

- Bank Indonesia (BI), as a lender of last resort, provided liquidity assistance in late 1997 and early 1998. In addition, the government instituted a blanket guarantee program for all bank liabilities to combat further erosion of confidence in the banking system.
- In November 1997, the government entered into a financial agreement with the IMF. At the end of 2003, IMF loan commitments had been fully disbursed. The loan was paid back by 2010. The end of the IMF program also ended the government's opportunity to reschedule its bilateral external debt through the Paris Club and commercial external debt through the London Club forums. In response, some policy adjustments were made, including debt swaps, improved debt management, the creation of an Investor Relations Unit, and enhanced legal aspects of foreign debts.
- The Indonesian Bank Restructuring Agency was established in January 1998 in response to the banking and economic crisis. It was established to administer the government's blanket guarantee programs; to supervise, manage, and restructure distressed banks; and to manage the government's assets in banks under restructuring status and to optimize the recovery rate of distressed banks' asset disposals. The agency was criticized for being slow in implementing its tasks, for its lack of transparency, and for its alleged irregularities. During its six years of operation, there were seven heads.
- In August 1998, Indonesia launched a framework for the voluntary restructuring of external corporate debt, known as the Indonesian Debt Restructuring Agency. The Jakarta Initiative Task Force was launched in September 1998 to provide technical support for debt restructuring and to administer the out-of-court debt workout framework, particularly those workouts involving foreign lenders.
- In line with the bank recapitalization program, the government closed 38 private banks and took over another 7 in March 1999. This program was financed through a government bond issuance of Rp 430.4 trillion during 1999–2000.
- The government offered bond exchanges in November 2000 to boost the bond secondary market and improve recapitalized banks' liquidity. Regulations on government bonds were issued to increase investor confidence. The government also started issuing short-term notes in 2001.
- In July 1998, BI changed the Sertifikat Bank Indonesia auction from interest rate to quantitative targets (base money) and widened participation from primary dealers to all banks, brokerages, and the public to increase competition and transparency. An inflation-targeting framework was formally adopted in July 2005 to replace the monetary target. Under this framework, BI explicitly announces the government-set inflation target to the public

and monetary policy is geared toward achieving the target. At the operational level, the monetary policy stance is reflected in the setting of the policy rate to influence money market rates and in turn the deposit and lending rates in the banking system. Changes in these rates ultimately influence output and inflation.

- Efforts to absorb excess liquidity were enhanced with foreign exchange sterilization policy. The foreign exchange reserve accumulation policy plays a large role in maintaining confidence in the rupiah and preventing banks from using their excess liquidity for speculative purposes.
- The blanket deposit guarantee successfully restored public confidence in the banking industry. However, the excessive scope and nature of the guarantee created moral hazard for both bankers and depositors. To address this problem and instill a sense of security among depositors, the blanket guarantee was subsequently replaced by a limited guarantee system. In September 2004, the Indonesia Deposit Insurance Corporation was established as an independent institution to insure depositors' funds and actively participate in maintaining stability in the banking system. It began operations in September 2005.
- A bank soundness program established in 2001 targeted a minimum capital adequacy ratio of 8 percent and a nonperforming loan ratio of less than 5 percent. To increase banks' resilience, BI implemented 25 Basel Core Principles for Effective Banking Supervision. Furthermore, BI implemented CAMELS¹³ supervision in 2005.
- BI officially became a member of the Bank for International Settlements in September 2003, which enhanced investors' confidence in Indonesia.
- In 2004, the Indonesian Banking Architecture was launched and the blue print for development of Islamic Banking was issued.
- With the April 2005 policy package, BI increased the intensity of foreign exchange intervention, raised the maximum interest rate under the guarantee scheme on foreign exchange deposits, and tightened measures on banks' net open positions. Furthermore, BI and the government also agreed to establish a mechanism for dollar-demand management in Pertamina.
- With the July 2005 policy package, state-owned enterprises were required to repatriate their export revenues. Regulations limiting rupiah transactions and provision of foreign exchange credits by banks to nonresidents were issued to reduce speculation. Furthermore, bilateral swap arrangements and Asian swap arrangements with the Association of Southeast Asian Nations plus Japan, China, and Korea were signed to complement international reserves. These various policy packages were reinforced by the August 30, 2005, policy package that provided a swap hedging facility for foreign loans, infrastructure investment, and export activities; initiated a short-term swap

¹³CAMELS = capital adequacy, assets, management capability, earnings, liquidity (also called asset liability management), and sensitivity (sensitivity to market risk, especially interest rate risk).

facility in foreign exchange intervention; prohibited margin trading; and intensively monitored non-underlying foreign exchange transactions by banks.

- Banking policies were placed within a comprehensive, systematic working framework established by the January 2006 and October 2006 policy packages in response to the slowing economy and to improve banks' intermediary function.

Legal and Institutional

- To reinforce legal and institutional structures during 1998–99, the government issued the bankruptcy law and the antimonopoly law, revised banking regulations, revised the Central Bank Acts, established a commercial court, and developed a capital flow monitoring system.
- Real-time gross settlement was started in 2000 to improve the noncash payment system. Using the real-time gross settlement system, banks across Indonesia can transfer funds quicker without local clearing and with less risk.
- Anti-Corruption Committee (KPK) was created in 2002 to eradicate corruption. So far, it has engaged in significant work revealing and prosecuting cases of corruption in government bodies and the Supreme Court.
- Within the framework of supporting financial system stability, BI established a Financial System Stability (SSK) Bureau, initiated steps to form a financial safety net, and completed the Indonesian Banking Architecture as a concept for the future structure of the banking industry to be implemented starting in 2004.
- Government Act No. 24 of 2002 provides a legal basis for the government to issue state debentures to fund state budget deficits and cover short-term cash shortages and provides legal assurance to investors.

To facilitate the development of the government bond market, BI adopted the Scripless Securities Settlement System. To develop the repo market, the Capital Market and Financial Institution Supervisory Agency (Badan Pengawas Pasar Modal dan Lembaga Keuangan, or Bapepam-LK) developed a master repo agreement that could be used as a standard. Bapepam-LK also issued policies to reduce risks of industrywide crisis and failure of individual mutual funds. The mark-to-market pricing concept was implemented in 2005.

- To improve the investment climate, the government issued Presidential Decree No. 29 in 2004 concerning the Management of Foreign and Domestic Capital Investment Through a One-Stop Service System. In addition, to reduce red tape, the Capital Investment Coordinating Board issued a decree concerning revocation of the delegation of authority to provincial governors or heads of districts for approval of capital investment. The government also sought to strengthen legal certainties on several crucial prob-

lems through implementation of the 2004 Law on Industrial Relations Disputes Settlement.

- Presidential Instruction No. 67 of 2005 aimed to accelerate infrastructure construction through coordination between the government and corporations.

Capital Flows

- To protect the stock of international reserves, the authorities moved from a managed to a free-floating exchange rate regime in August 1997.
- Starting in 2000, all commercial banks were required to report their foreign exchange activities monthly. Nonbank financial institutions are required to report their foreign exchange activities the following year.
- To reduce speculation in the foreign exchange market, the authorities regulated rupiah transactions by nonresidents and applied on-site supervision to the main foreign exchange banks in 2001.
- The Asian Bond Fund was established in 2003 to minimize short-term foreign debt dependency and to support capital market development in Asia.
- In 2003, Indonesia signed bilateral swap arrangements with Japan, Korea, and China, which were part of the Chiang Mai Initiative launched in 2000. Bilateral swap facilities are one source of precautionary financing.

Trade

- The government allowed imports of heavy machinery and used computers to increase exports. It also lifted the import ban on printed materials with Chinese characters to attract investors from Taiwan Province of China, Hong Kong SAR, and Singapore. Antidumping tariffs for wheat flour were implemented to protect the domestic industry, while import tariffs for raw materials and machinery components were reduced to support the domestic machinery industry.

Fiscal

- The government increased fuel, transportation, and electricity prices to reduce subsidies in 2000. At the same time, cigarette and import tariffs, civil servant salaries, and the minimum wage were raised.
- Several measures were implemented in 2001 to raise revenue including (1) increased the value-added tax rate from 10 to 12.5 percent, (2) increased tobacco retail prices, (3) targeted a dividend payout ratio of 50 percent for state-owned enterprises, and (4) settled receivables from local governments with budget surpluses.
- Measures were also introduced to lower expenditures: (1) expedited civil servant mobility process from central to regional governments; (2) reduced

subsidies by increasing fuel, gas, electricity, water, and transportation prices; (3) focused on development expenditure; and (4) allocated funds from sharing and general allocated funds as planned.

- On the financing side, the government tried to maximize proceeds from the sale of assets from the banking restructuring program and privatization and used some of those proceeds to reduce its external debt (asset-to-bond swap and cash-to-bond swap).
- Regional autonomy, implemented in 2001, created an opportunity for regional governments to receive a larger and fairer portion of financing and to extend their tax bases. However, overlapping regulations issued by the central and regional governments have created uncertainty among investors and businesses.
- Government Regulation No. 23 of 2003 restricts state budget and regional budget deficits to a maximum of 3 percent of GDP in the current year. Central and district government debt is restricted to a maximum of 60 percent of GDP in the current year.
- Presidential Instruction No. 3 of 2006 established harmonization of central and regional government regulations; a series of reform programs for customs administration, taxation, and industrial relations; and support for small and medium enterprises and cooperatives.

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PART II

STRUCTURAL REFORM

Boosting Potential Growth

JONGSOON SHIN

INTRODUCTION

Indonesia's economic growth has slowed in the past decade, with contributions from capital and labor falling and that of total factor productivity (TFP) remaining below its peers. Higher growth is needed to address Indonesia's development needs and reap the benefits of the demographic dividend. To boost growth, the authorities have accelerated infrastructure development and improved the business environment.

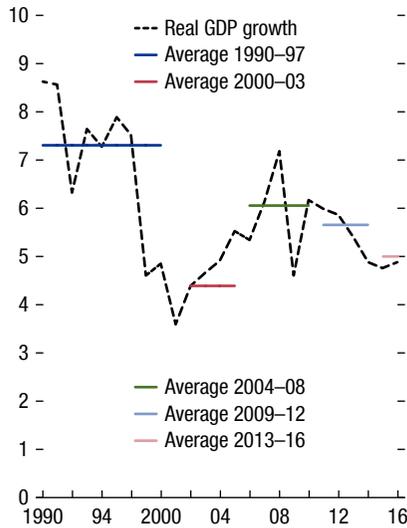
Indonesia can achieve stronger inclusive potential growth with structural reforms to infrastructure, regulations, and human capital. Growth remains constrained by a large infrastructure gap, low institutional quality, and inadequate human capital. An illustrative scenario that includes fiscal and structural reforms shows that potential growth could rise to 6.5 percent in the medium term because of permanent supply shifts, about 1 percentage point higher than the baseline scenario. Paired with a clear communication strategy, these structural reforms will help boost confidence in the economy. A large body of literature also highlights the important role of infrastructure investment for growth (Pritchett 2000; Égert, Koźluk, and Sutherland 2009; IMF 2014).

The rest of the chapter is organized as follows: The next two sections discuss growth diagnostics for Indonesia and analyze progress and challenges in infrastructure development. Regulatory reform priorities are then assessed, and the need to build human capital is discussed. A structural reform scenario is developed using the IMF's Global Integrated Monetary and Fiscal Model (GIMF). The final section concludes that Indonesia can accelerate potential inclusive growth by continuing structural reforms in infrastructure, regulations, and human capital.

GROWTH DIAGNOSTICS

Higher growth is needed to address Indonesia's development needs and reap the benefits of the demographic dividend. Indonesia's economic growth has slowed in the past decade, with the contributions from capital and labor falling and that of

Figure 3.1. Real GDP Growth
(Percent, year over year)



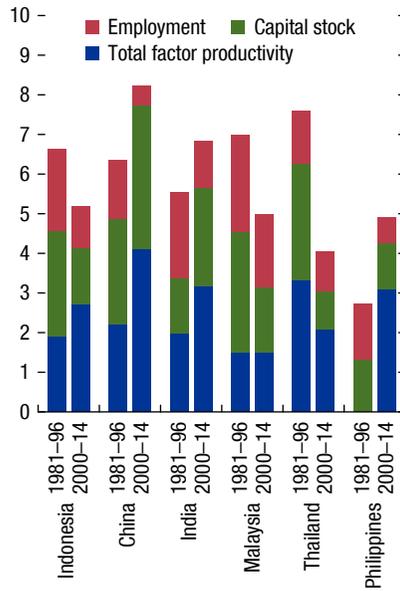
Source: Das 2017.

TFP remaining below its peers (Figures 3.1 and 3.2). Growth has stabilized near 5 percent, and exports and imports have declined relative to GDP. Slower growth has made it more difficult to create quality jobs for the nearly 2 million new labor force entrants each year. Employment varies widely across provinces, and inequality remains somewhat elevated.

To boost growth, the authorities have accelerated infrastructure development and improved the business environment. Public investment in infrastructure has increased with several projects currently under construction. The authorities have also implemented 16 economic policy packages since 2015 to streamline regulations and strengthen productivity. The foreign direct investment (FDI) regime was partially liberalized; barriers to entry have been reduced, including in the sector of logistics and transportation. For example, 100 percent foreign ownership has been allowed for toll road management and cold storage activities, and the setting of the minimum wage has been made clearer. A single submission system, covering the licenses of both the central and 534 regional governments, is being introduced to improve coordination with line ministries and local governments. Reflecting these efforts, the World Bank's *Doing Business* ranking for Indonesia improved markedly to the 72nd position in 2018 from the 106th position in 2016.

Previous studies have found that the most binding constraints to growth in Indonesia include infrastructure, regulations, and human capital (ADB 2013;

Figure 3.2. Contribution to Growth
(Percent, period average)



Sources: Penn World Table; and IMF staff estimates.

OECD 2016; World Bank 2015). Studies have also found positive effects on growth from reforms to infrastructure, regulations, trade and FDI, labor markets, and education:

- IMF (2014) finds that the multiplier on output of increasing infrastructure investment by 1 percentage point of GDP ranges between 1 percent and 1.3 percent in the first year, rising gradually to more than 2 percent in 10 years.
- Barnes (2014) finds that a benchmark reduction in the product market regulation index could increase TFP by about 2 percent of GDP over five years, with larger gains for emerging market economies. For example, a 10 percent reduction in the product market regulation index could lead to gains in TFP of 1.7 percent for the BRICS (Brazil, Russia, India, China, South Africa) and 1.3 percent for Organisation for Economic Co-operation and Development (OECD) countries. Gal and Hijzen (2016) find that product market reforms have positive effects on capital, output, and employment, with their effects increasing over time. After two years, product market reforms raise capital by 4 percent, output by 3 percent, and employment by 1 percent. Bouis, Duval, and Eugster (2016) find that major reductions in entry barriers yield large increases in output and labor

productivity over a five-year horizon, and output gains from reforms primarily reflect higher TFP. These effects become statistically significant two to three years after the reform as prices start dropping, and productivity and output increase significantly.

- Dabla-Norris, Ho, and Kyobe (2016) find that trade and FDI liberalization, as well as labor market reforms to remove excessive rigidities, can significantly boost TFP in emerging market economies. Moreover, the short-term costs of these reforms are small, whereas the medium-term benefits are sizable and long-lasting. Coady and Dizioli (2017) find that expanding education would help reduce income inequality, especially in emerging market economies.

INFRASTRUCTURE DEVELOPMENT

The government has prioritized several infrastructure projects. It has selected 247 priority infrastructure projects, with a total cost of US\$323 billion (32 percent of GDP), to be implemented in 2015–22 (Coordinating Ministry of Economic Affairs 2017). The plan centers on improving logistics, power generation, water and sanitation, and oil refineries. The authorities have increased infrastructure spending since the fuel subsidy reforms in 2015, which freed some fiscal space, and are seeking to raise infrastructure investment through state-owned enterprises (SOEs) and public-private partnerships (PPPs). The authorities have also improved the institutional and regulatory framework for infrastructure investment, including by streamlining the land acquisition process and making it more flexible, easing the Negative Investment List to attract foreign investment, and improving the framework for PPPs (ADB 2017) (see Chapter 4, “Developing Infrastructure,” for more details).

Notwithstanding these actions, the government relies on SOEs, and investors are concerned about uncertain policy and regulations. Limited fiscal space and low private sector participation have made the government rely on SOEs to jump-start infrastructure investment, which may crowd out private investment and prevent the emergence of a sound, sustainable development framework. Investors appear to be concerned with the lack of transparency in the procurement process, believing that SOEs receive more commercially attractive projects through direct assignments. Investors are also concerned about the uncertain legal and regulatory framework, particularly regarding policy continuity and land acquisition, given the long-term, capital-intensive nature of the projects.

In developing infrastructure, vulnerabilities and risks should be carefully managed to protect macro-financial stability, including by improving the regulatory framework for new financing instruments and institutional investors, pacing infrastructure development in line with available financing and the economy's absorptive capacity, and sound risk management for SOEs and PPPs (see Chapter 4 for more details).

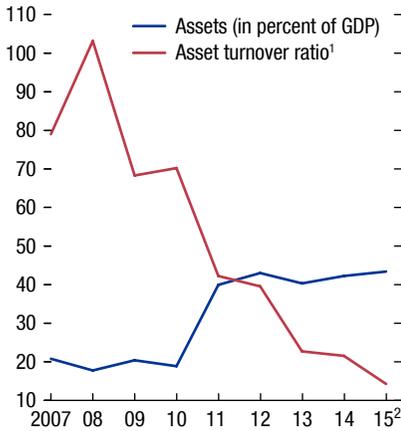
REGULATORY REFORMS

In addition to the 16 economic policy packages, the authorities have implemented other reforms to improve the business environment. The FDI regime was partially liberalized, including for logistics, tourism, and agriculture, and the process for setting the minimum wage was made more transparent and predictable. A national single window system to automate export and import permits has been introduced in more than 21 ports. The authorities are also planning to streamline nontariff measures, gradually shifting control from border to post border, and open up to trade through bilateral and regional trade agreements. Compared with the Investment Coordinating Board's one-stop service that deals with nine types of licenses, the forthcoming single submission system covers about 100 licenses from the central and local governments, thus helping simplify regulations.

Restrictive product market regulations should be reformed to foster competition and productivity growth. The OECD's Product Market Regulations Index suggests that the biggest gains can be realized by reducing state control, easing trade and FDI regulations, and lowering barriers to business entry, including antitrust exemptions:

- *The dominant role of SOEs needs to be reduced.* Even though assets have risen to about 50 percent of GDP and revenue is stable, SOE efficiency declined through 2015 (Figure 3.3). This suggests SOEs have increased their non-commercial activities and are receiving implicit subsidies, including through price controls (for example, on gas, electricity, airfares, and the retail prices of various products) and import and export restrictions. These practices could undermine the financial strength of SOEs, increase fiscal risks from contingent liabilities, and crowd out private investment. SOEs are prevalent in manufacturing, trade and transportation, and financial services (Figure 3.4). SOEs need to be confined to strategic, commercially viable sectors (IMF 2016a) (Figure 3.5). For example, the heavy SOE involvement in network industries such as electricity and railroads needs to be rationalized, which would promote private sector participation and help reduce fixed costs, particularly for smaller firms (Gal and Hijzen 2016). The energy sector, which requires significant investment, merits a review, including on the transmission and distribution of electricity and exploration for hydrocarbons. SOEs should be subject to the competition law and proper bidding procedures, and they should refrain from exercising dominant power. The governance of SOEs also needs to be improved for proper risk management, including through public listing on the Indonesia Stock Exchange, which would enhance public scrutiny and the transparency of financial information (Figure 3.6).
- *Lowering trade and FDI restrictions* would boost competitiveness and export diversification. Barriers to FDI and trade, particularly nontariff measures, have led to low integration with global value chains and limited competi-

Figure 3.3. State-Owned Enterprise Assets and Turnover Ratio (Percent)

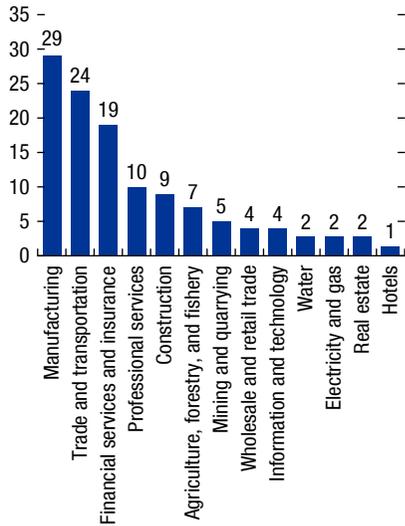


Sources: Orbis database; and IMF staff estimates.

¹Asset Turnover Ratio = Operating Revenue/Total Assets.

²Estimated using previous year growth for companies for which assets data have not been available.

Figure 3.4. State-Owned Enterprise Industries (Number)



Source: Indonesia, Ministry of State Owned Enterprises.

tiveness compared with Asian peers (Das 2017; Chapter 9, “Diversifying Merchandise Exports”) (Figure 3.7). Imports still require overlapping licensing. Indonesian manufacturers, including FDI-affiliated corporations, became less export oriented, in contrast with those in other emerging Asian economies, which increasingly took part in regional production networks (Basri, Rahardja, and Fitriana 2016). Indonesia’s ranking on trading across borders in the World Bank’s 2018 *Doing Business* report is still low, at 112 out of 190 countries. The priority is to adopt internationally harmonized standards and certification procedures in major sectors (energy, transport, construction, banking, business services). Stronger coordination across ministries would ensure coherent regulation. Free trade agreements could help lower trade and FDI restrictions.

- *Easing administrative burdens and entry barriers* would help create businesses and jobs. Existing and new firms still bear a significant burden from licenses and permits required by different ministries and local governments, and from having to undergo their procedures.¹

The overall legal and regulatory framework should also be enhanced.

¹In 2006, the government launched the “one door services” in every province to help with administrative processes associated with licenses and permits.

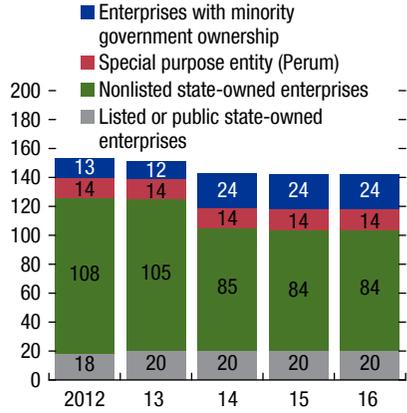
Figure 3.5. Framework for Reviewing the Status of Public Enterprises

		Policy or Strategic Relevance	
		Low	High
Commercial Viability	Low	Close down	Convert into a noncommercial government entity
	High	Privatize	Retain as a public corporation, closely monitor operations and finances

Source: IMF 2016.

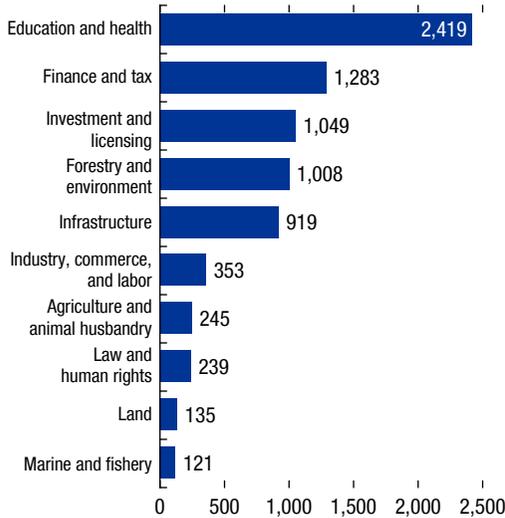
Figure 3.6. Ownership of State-Owned Enterprises

(Number, as of January 2017)



Source: Indonesia, Ministry of State Owned Enterprises.

Figure 3.7. Regulations, by Category, 2016
(Number of regulations)



Source: Indonesia, Ministry of National Development Planning.

TABLE 3.1.

Use of Regulatory Management System Instruments			
	Internal Coordination of Rulemaking Activity	Regulatory Impact Assessment	Public Consultation Mechanism
Australia	Strong	Strong	Strong
Korea	Moderate	Moderate	Weak
Indonesia	Moderate	Weak	Weak
Thailand	Moderate	Weak	Weak
Malaysia	Weak	Weak	None
Philippines	Weak	None	Weak

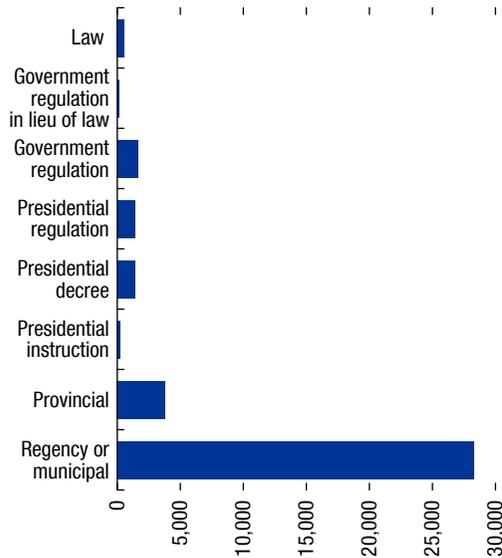
Sources: APEC; and NZIER via Economic Research Institute for ASEAN and East Asia.

Note: "None" refers to the nonuse of any informal instrument.

- The regulation and policymaking process* should be improved by the adoption of a systemic, holistic approach. Laws often lack implementing regulations, or regulations are subject to substantial interpretation and prone to rent-seeking while often conflicting with other regulations. In many cases, implementing regulations are not issued for several years, while the law provides only brief guidelines (Devi and Prayogo 2013). For example, when Construction Services Law No. 2 of 2017 came into effect, implementing regulations were not issued, and it could take up to two years to issue them; meanwhile, the regulations under the old Construction Law are still applicable. Environmental regulations and industrial regulations are often at odds, causing confusion among investors. Therefore, greater ministerial coordination and public consultation are needed to avoid conflicting regulations and policies, particularly between line ministries and local governments (OECD 2012). Regulatory impact assessments should also be strengthened (Intal and Gill 2016) (Table 3.1). A formal, centralized mechanism to simplify and evaluate existing regulations would ensure a holistic approach. The recent presidential decree in 2017 to strengthen the coordination of policies through coordinating ministries is a welcome first step.
- Local regulations:* Local policies and regulations are often inconsistent with national policies (OECD 2016). Since the early 2000s, decentralization without adequate coordination has resulted in a proliferation of local regulations (Figure 3.8).² Coordination among 405 regional governments has been challenging, with a limited role for the provinces. Therefore, a regional government coordination forum, anchored by a clear national strategy, would help nationwide policy coordination. Adopting merit-based elements linked to the implementation of reform measures and competition factors

²The government has recently started to align national and regional policies. Since 2016, 3,143 regional regulations have been discontinued.

Figure 3.8. Enacted Regulations during 1998–2017
(Number of regulations; as of April 2017)



Source: Indonesia, Ministry of National Development Planning.

into fiscal transfers to local governments would enhance accountability and coordination. Continuing efforts are required to synchronize local with central regulations through standardization. Capacity building for local governments is also critical.

- *Law and contract enforcement:* Weak enforcement of laws and contracts has hampered business certainty. Indonesia still ranks low in contract enforcement (145th place) in the World Bank's 2018 *Doing Business* report.³ Addressing these constraints requires upgrading governance in the legal environment and enhancing the transparency and consistency of the judiciary system. The Supreme Court's recent decision to recruit 1,500 judges and train them for two years would help mitigate the shortage of judges and foster public trust in the judicial system.

³It takes 498 days to enforce contracts in Indonesia, with sizable costs during the process. Weak property rights are also reflected in low rankings for starting a business (144th place) and registering property (106th place).

HUMAN CAPITAL

The authorities are trying to improve the performance of the education and labor markets. The government has allocated 20 percent of the annual budget to education and is focusing on improving the efficiency of education spending. Efficiency savings will be channeled into a sovereign wealth fund to finance future education needs. The authorities are also considering labor market reforms to enhance flexibility and align wage growth with productivity growth. Improving education and labor market outcomes would support inclusive growth and job creation.

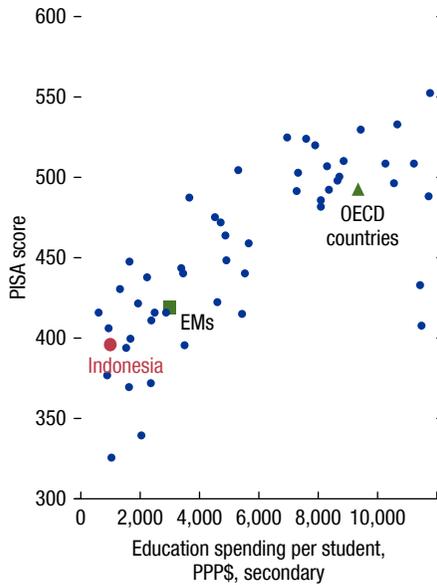
Further efforts are needed to improve the quality of education and reduce labor market segmentation:

- *Education:* Enrollment rates in primary schools vary widely across districts, whereas those in higher education are low, with fewer than one-third of Indonesians completing secondary education. Educational quality is also low, with many graduates not meeting international standards because of unqualified teachers and unaccredited higher education institutions (Figure 3.9). Corporations face persistent skill shortages.
- *Labor market:* The transition from employment in agriculture to services has continued, although wage-earning employment has slowed and nonagricultural self-employment has risen. The labor market continues to be segmented, with a large fraction of workers employed on short-term contracts. Informal employment has declined since the early 2000s but remains high (58 percent of total employment) as a result of rigid labor regulations and low on-the-job training. Youth unemployment is also high at about 20 percent, hindered by inadequate education. Female labor force participation has stagnated at about 50 percent, much lower than that of male workers (83 percent).

The priority is to improve the quality of and access to education.

- *Enhancing the quality of education spending* (ADB 2013; OECD 2016; World Bank 2017b): Expenditure on teacher salaries and allowances has risen substantially in recent years. The priority now is to improve the efficiency and quality of spending by strengthening the link between teacher compensation and performance as measured by competency, classroom performance, and professional development. Teachers' skills should be improved through training and periodic recertification. Monitoring of local government budget spending and schools' performance should also be improved.
- *Improving access to education:* Efficiency savings and additional resources should be directed to ensuring equitable access to quality education, especially in rural areas. A strong role for the central government with regard to resource allocation across regions would help alleviate the imbalance of the distribution of teachers across regions. Opening the education market to foreign investment would help strengthen education quality, particularly in

Figure 3.9. Government Education Spending and Outcome



Sources: World Bank; and IMF staff estimates.

Note: Latest available data. EMs = emerging markets; OECD = Organisation for Economic Co-operation and Development; PISA = Programme for International Student Assessment; PPP\$ = purchasing-power-parity dollars.

higher education institutions, whereas greater availability of student loans would help increase enrollment in higher education. Early childhood education should also be developed (Jung and Hasan 2014).

- *Tailoring education to labor market needs:* Vocational training can be improved by strengthening coordination with employers so that the education process is more closely linked to the needs of corporations, and by including and improving soft skills (computer, language, and thinking skills).

Strengthening active labor market policies and streamlining labor market regulations would support job creation.

- *Active labor market policies,* including job placement services and vocational training, would help labor mobility (Allen 2016). Youth employment can be boosted by targeted training in the regions. Female labor force participation can be enhanced by providing affordable childcare and flexible work arrangements, as well as better education opportunities. However, these initiatives should be subject to a cost-benefit test and ex post evaluation given their potential fiscal costs (McKenzie 2017).

- *Easing stringent job protections*, such as dismissal procedures and severance payments, while improving vocational training and job placement services, would promote youth employment and reduce the use of short-term contracts. In particular, streamlining administrative procedures, including on mediation by the administration and judicial settlement, would be important, given that administrative procedures are more distortive and disruptive than severance payments (McKenzie 2017). Adopting a more open immigration policy for skilled labor can lower skill mismatches, including in professional services. The minimum wage formula introduced in 2015 should continue to be implemented, which would help foster business certainty.

STRUCTURAL REFORM SCENARIO

A comprehensive and properly sequenced package of fiscal and structural reforms would be self-reinforcing. Given limited fiscal space, the priority should be on reforming product markets to promote entry and reduce state control, streamlining complex regulations, and fostering financial deepening and inclusion. An increase in revenue from tax reforms would create fiscal space for development spending on infrastructure, education, and health, where policy gaps remain large.

Complementarities between reforms should also be exploited. Product market reforms, including relaxing FDI and network industry regulations, can promote private participation in infrastructure. Stronger property rights through regulatory reforms can improve access to credit, while financial inclusion, such as student loans, can expand education opportunities. Financial deepening can help mobilize financing for infrastructure, while infrastructure development can improve access to education in remote areas.

The GIMF is used to estimate the macroeconomic effects of fiscal reforms in Indonesia. The GIMF is a multicountry general equilibrium model that includes a detailed specification of fiscal policy, including different taxes (consumption, labor, corporate) and expenditure items (government consumption, public investment, general and targeted transfers, interest payments) (Kumhof and others 2010).

The main properties of the GIMF calibrated for Indonesia are as follows (Anderson and others 2013; Currstine, Nozaki, and Shin 2016):

- *Tax increases*: The multipliers on output in the first year from a 1 percent of GDP permanent rise in revenue due to higher taxes are –0.2 percent for consumption taxes, –0.3 percent for labor taxes, and –0.5 percent for corporate taxes. The negative impact on output from higher consumption taxes declines over time to nearly zero after 10 years, while that from higher labor taxes rises to 0.5 percent in the second year, remaining at that level for the following eight years. The negative impact on output from higher corporate taxes reverses and increases gradually over time to 1.5 percent after 10 years.
- *Infrastructure investment*: The multiplier on output from a 1 percent of GDP permanent increase in infrastructure investment is 1 percent in the

first year, rising gradually to over 2 percent in 10 years. The rise in the multiplier in the medium term is driven by the increase in private investment, as the higher stock of public capital raises the productivity of private capital.

- *Social transfers*: The multipliers on output from a 1 percent of GDP permanent increase in social transfers are modest in the first year, ranging between 0.15 percent for targeted transfers to the poor and 0.05 percent for untargeted general transfers. The medium-term impact is slightly negative as taxes are raised or spending is cut to keep the fiscal deficit unchanged.
- *Other structural reforms*: Because the GIMF cannot estimate the impact of other structural reforms directly, they are estimated indirectly through an estimation of the impact of these reforms on TFP based on previous studies (Barnes 2014; Dabla-Norris, Ho, and Kyobe 2016; Bouis, Duval, and Eugster 2016; Gal and Hijzen 2016).

The reform scenario includes higher spending on infrastructure and targeted transfers financed mainly by higher consumption taxes, reduced barriers to trade and FDI, and structural reforms to the product and labor markets (Table 3.2).

- *Revenue*: About 2 percentage points of GDP of the extra revenue from a medium-term revenue strategy would come from consumption taxes such as value-added taxes and excises on fuel, vehicles, and plastic bags, which have low negative multipliers. The other 1 percentage point of GDP would come from taxes with larger negative multipliers.
- *Expenditure*: This extra revenue would be used to increase spending on infrastructure (1.3 percentage points of GDP) and targeted transfers to education, health, and social programs (1.5 percentage points of GDP), which have larger multipliers.
- *Other structural reforms* would center on reducing restrictions to trade and FDI and streamlining product and labor market regulations to promote entry, rationalize the role of SOEs, and foster employment. The reform scenario assumes a 10 percent reduction in the OECD's product market regulations over five years, to a level comparable to the average of the BRICS economies. This includes rationalizing the role of SOEs by enhancing their governance and reducing price controls, removing FDI and trade restrictions, and easing entry barriers and administrative burdens on businesses. These measures would be accompanied by reforms to the legal and regulatory framework. The effects of reforms on education and the labor market would take longer to realize, but would be conducive to inclusive growth.

Potential real GDP growth would increase gradually to 6.5 percent by 2022, 0.9 percentage point higher than the baseline scenario (Figure 3.10). Most of the gains in potential growth in the initial years would come from public and private investment resulting from fiscal reforms and improved efficiency, while gains in TFP from other structural reforms would play a bigger role in the outer years. Higher infrastructure investment and lower trade and FDI regulations, which would also catalyze private investment and employment, would be the main

TABLE 3.2.

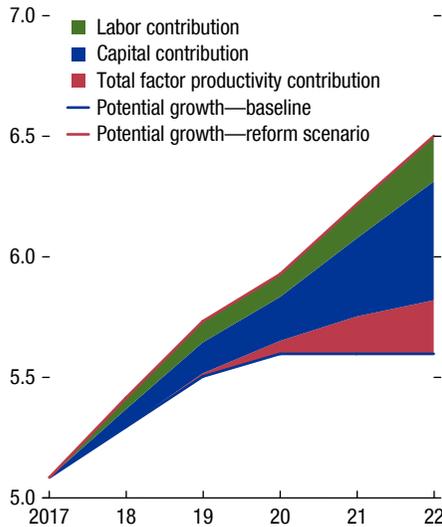
Indonesia: Illustrative Effects of Fiscal and Structural Reforms

	Baseline										Reform Scenario			
	2015	2016	2017	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	
General government revenue	14.9	14.3	14.0	14.2	14.1	14.0	14.1	14.2	14.7	15.2	15.8	16.5	17.2	
Central government revenues and grants	13.1	12.5	12.2	12.4	12.3	12.2	12.3	12.4	12.9	13.4	13.9	14.5	15.2	
Of which: tax revenues	10.8	10.4	9.9	10.1	10.1	10.1	10.2	10.3	10.5	11.2	11.8	12.4	13.1	
Oil and gas revenues	1.1	0.7	1.0	1.0	0.8	0.7	0.6	0.6	1.0	0.8	0.7	0.6	0.6	
Non-oil and gas revenues	11.9	11.8	11.2	11.4	11.4	11.5	11.6	11.7	11.8	12.5	13.2	13.9	14.5	
Tax revenues	10.3	10.1	9.5	9.7	9.8	9.9	10.0	10.1	10.2	10.8	11.5	12.2	12.9	
Income tax	4.8	5.1	4.4	4.4	4.4	4.5	4.5	4.6	4.6	4.8	5.0	5.2	5.4	
VAT	3.7	3.3	3.5	3.7	3.7	3.7	3.8	3.8	3.8	4.0	4.3	4.6	4.8	
Excise	1.3	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.3	1.6	1.8	2.0	2.2	
Other	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Nontax revenues	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	
Local government revenue net of transfer	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	2.0	2.0	
General government expenditure	17.5	16.8	16.5	16.7	16.6	16.5	16.6	16.7	17.2	17.7	18.2	18.8	19.4	
Health	1.3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.6	1.7	1.9	2.0	2.1	
Education	3.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.5	3.6	3.8	3.9	4.1	
Social assistance	1.5	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.8	1.8	
Infrastructure	2.2	2.2	3.2	3.0	3.0	2.9	3.0	3.1	3.5	3.7	3.9	4.1	4.4	
Other expenditure	8.9	8.1	6.7	7.2	7.1	7.2	7.2	7.1	6.9	6.9	6.9	7.0	7.0	
General government deficit	-2.6	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.4	-2.4	-2.3	-2.2	
General government debt	26.8	28.3	29.1	29.6	30.2	30.2	30.4	30.5	29.6	30.1	30.0	29.9	29.7	
Real GDP growth	4.8	5.0	5.1	5.3	5.5	5.6	5.6	5.6	5.4	5.7	5.9	6.2	6.5	
Inflation	3.4	3.0	3.3	3.6	3.8	3.7	3.5	3.6	3.8	4.1	4.0	3.7	3.8	
Current account deficit/GDP	-2	-1.8	-1.7	-1.9	-1.8	-1.9	-2	-2	-2	-2	-2.2	-2.3	-2.3	

Sources: Indonesian authorities; World Bank; and IMF staff estimates.

Note: The estimated impact of the reforms included in the IMF staff active scenario are based on Currestine, Nozaki, and Shin (2016); Dabla-Norris, Ho, and Kyobe (2015); Bouis, Duval, and Eugster (2016); Gal and Hijzen (2016); and IMF (2016). VAT = value-added tax.

Figure 3.10. Growth under Reform Scenario
(Percent)



Sources: Penn World Table; and IMF staff estimates.

growth drivers in the first two years, raising potential growth by 0.2–0.3 percentage point. Implementing the medium-term revenue strategy would help contain the fiscal deficit and government debt, while allowing greater social and infrastructure spending. While infrastructure spending would stabilize in the medium term, higher private investment, partly attributable to improved efficiency, and employment growth would play an increasing role over time, raising potential growth by an additional 0.5 and 0.2 percentage point, respectively, by 2022 relative to the baseline. Gains in TFP from regulatory reforms, including to product market regulations, would raise potential growth by 0.1 percentage point in 2020–21 and 0.2 percentage point in 2022. Gains in TFP would become larger in the long term, benefiting from enhanced competition, improved labor skills, and greater integration with global value chains.

The reform scenario also assumes continued macroeconomic stability:

- *Inflation* would rise to about 4 percent (year over year) in the initial years because of the demand stimulus and higher consumption taxes, but it would moderate afterward as a result of a tighter monetary stance, stronger domestic competition, and expanded production capacity.
- *The current account deficit* would widen to about 2.3 percent of GDP because of higher public and private investment–related imports (or a lower saving–investment gap in the private sector), which would be partly offset by higher exports attributable to enhanced competitiveness.

- With a medium-term revenue strategy in place, the *fiscal deficit* would be contained at about 2.2 percent and *government debt* below 30 percent of GDP in the medium term.

CONCLUSION

Growth in Indonesia remains constrained by a large infrastructure gap, low institutional quality, and inadequate human capital. Indonesia can achieve stronger inclusive potential growth with structural reforms to infrastructure, regulations, and human capital:

- *Infrastructure*: Priority should be given to financing infrastructure development with revenue from a medium-term revenue strategy. Infrastructure development should be paced in line with available financing and the economy's absorptive capacity.
- *Regulations*: The dominant role of SOEs needs to be reduced. Lowering trade and FDI restrictions would boost competitiveness and export diversification.
- *Human capital*: The authorities should enhance the quality of education spending while improving access to education. Active labor market policies, including job placement services and vocational training, would help labor mobility.

An illustrative scenario that includes fiscal and structural reforms shows that potential growth could rise to 6.5 percent in the medium term as a result of permanent supply shifts, about 1 percentage point higher than the baseline scenario. Paired with a clear communication strategy, these structural reforms would help boost confidence in the economy. Investing in infrastructure, including digital infrastructure, and human capital while streamlining regulations and FDI restrictions would also help the country capitalize on the digital economy and facilitate the development of competitive sectors, which could, in turn, help absorb the large and growing young labor force.

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Developing Infrastructure

TERESA CURRISTINE, MASAHIRO NOZAKI, AND JONGSOON SHIN

INTRODUCTION

Recognizing Indonesia's large infrastructure gap and the sizable growth impact of higher infrastructure investment (as illustrated in Chapter 3, "Boosting Potential Growth"), this chapter focuses on macro-fiscal issues and structural impediments surrounding infrastructure development. An existing body of literature highlights how inefficiencies in public investment processes, a key concern in developing economies, limits the observed benefits of public infrastructure programs (Pritchett 2000; Caselli 2005; Warner 2014; World Bank 2014).

Indonesia's infrastructure gap, including in transport and power, remains large compared with its peers. Despite the infrastructure gap, infrastructure investment has been small over the past few years, constrained by limited budget space and structural bottlenecks. To close the infrastructure gap, the government has laid an ambitious plan for infrastructure development. In line with this plan, the government has accelerated capital spending supported by several reform measures and has achieved early successes in speeding up capital spending.

Notwithstanding this progress, structural impediments remain, including with revenue collection, with the regulatory and institutional framework and with monitoring potential fiscal risks. A macro-fiscal simulation suggests that increasing public investment will have positive impacts on growth. Maximizing the growth impact of public investment, in the context of macroeconomic stability, requires a well-designed and minimally distortionary package of tax measures. There is scope to improve public investment institutions and processes to enhance efficiency. The government's plan to increase infrastructure investment through state-owned enterprises (SOEs) and public-private partnerships (PPPs) could help reduce the infrastructure gap. Nevertheless, the government should closely monitor potential fiscal risks and implement the ambitious infrastructure development plans at a measured pace, given institutional and coordination weaknesses and the limited fiscal space.

This chapter will first discuss Indonesia's infrastructure constraints and the government's development strategy. Second, it will provide an analysis of the macro-fiscal impact of implementing the plan to scale up infrastructure spending using the Global Integrated Monetary and Fiscal Model. Third, it will assess the institutions for public investment management; and fourth, it will evaluate the

government's plan to increase the role of SOEs and PPPs in infrastructure development. Finally, it summarizes the key findings and policy implications.

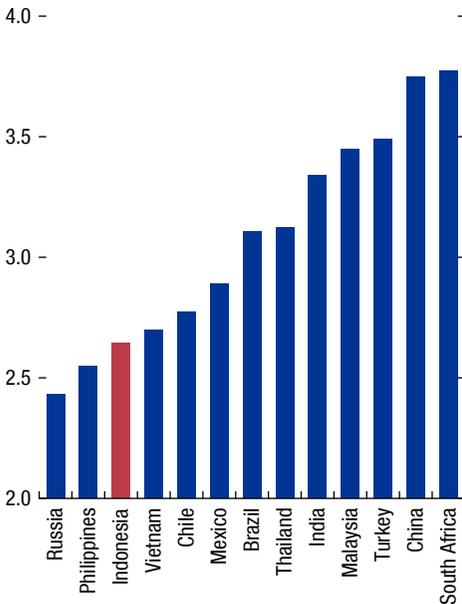
INFRASTRUCTURE CONSTRAINTS AND DEVELOPMENT STRATEGY

Indonesia's infrastructure gap remains large compared with its peers (Figures 4.1 and 4.2), particularly in transport and power. For example, logistics costs are among the highest in Asia, estimated at an annual average of 25 percent of GDP (compared with peers' 13–20 percent), reflecting weak connectivity among islands and a limited national road network. The large infrastructure gap has increased distribution costs, inhibited industry competitiveness, and weakened macroeconomic conditions. The result is limited foreign direct investment flows and waning export competitiveness (World Economic Forum 2014).

Infrastructure investment has been small over the past few years, constrained by limited budget space and structural bottlenecks. In Indonesia, general government capital spending was only 3¼ percent of GDP on average over the

Figure 4.1. Trade and Transport-Related Infrastructure, 2016

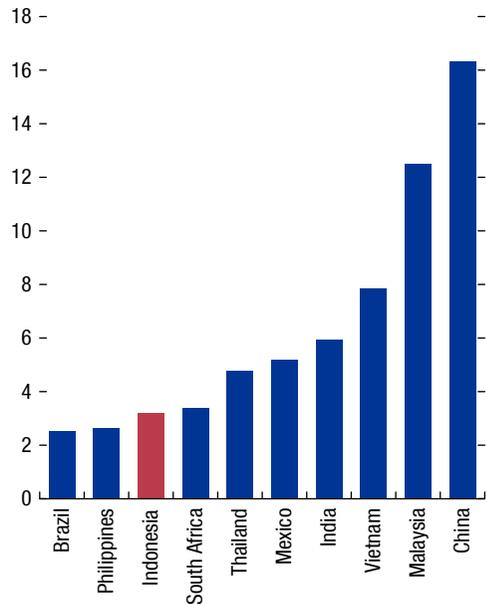
(Index; 1 = low, 5 = high)



Source: World Bank, World Development Indicators.

Figure 4.2. Public Investment

(Percent of GDP)

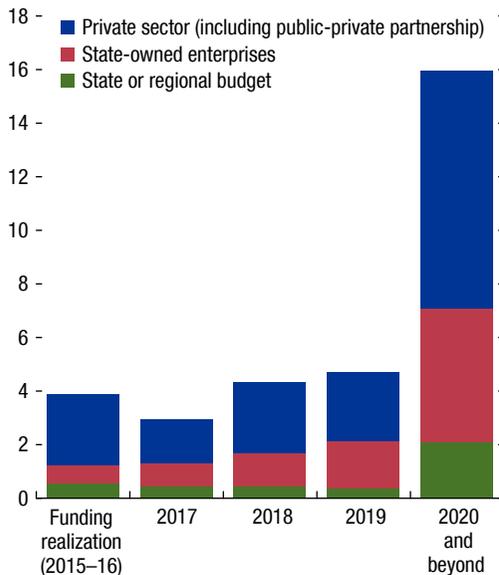


Sources: National authorities; and IMF staff estimates.
Note: General government investment; 2016 for Indonesia, 2011–14 average for other economies.

period 2011–14, one of the lowest among emerging market peers. During this period, fiscal space for capital spending was constrained by a low ratio of revenue to GDP and large energy subsidies, which reached one-fifth of the central government’s budget in 2014. In addition, infrastructure projects were delayed by structural constraints, including central and local governments’ limited capacity to execute the budget, multiple layers of regulation, and protracted land acquisition procedures. Underinvestment adversely affected growth through weakened private investment and low productivity gains.

To close the infrastructure gap, the government has set ambitious plans to scale up infrastructure investments by US\$323 billion (32 percent of GDP) during 2015–22 (Figure 4.3). These investments include constructing 3,650 kilometers of roads, 3,258 kilometers of railways, 24 new seaports, and 15 new airports. The plan also includes developing power plants with total capacity of 35 gigawatts, 33 new dams, and new oil refineries with a capacity of 600,000 barrels per day. Most of the cost is expected to be borne by the private sector (18 percent of GDP) and SOEs (10 percent of GDP) (Coordinating Ministry of Economic Affairs 2015). Out of 247 projects, 6 have been completed, 146 are being constructed, and 95 are being prepared.

Figure 4.3. Funding Allocation Plan for 247 Projects
(Percent of GDP)



Sources: Committee for Acceleration of Priority Infrastructure Delivery (KPPiP); and IMF staff estimates.

The government has recently accelerated capital spending, supported by several reform measures:

- The authorities increased public infrastructure spending by 1 percent of GDP between 2014 and 2017, underpinned by the fiscal space created from historic energy subsidy reforms. The funds allocated for infrastructure investment in the 2018 budget are around 6 percent higher than in the 2017 revised budget. Budget execution of capital outlays has substantially increased, reflecting the authorities' concerted efforts. Local governments have been encouraged to increase capital spending, supported by higher transfers from the central government, which rose by 1 percentage point of GDP between 2014 and 2017.
- To strengthen investment capacity and provide confidence, the government has injected equity into SOEs and also aims to accelerate PPP projects.
- The authorities also improved the institutional framework for infrastructure investment, such as by establishing the Committee for Acceleration of Priority Infrastructure Delivery (KPPIP) and expediting land acquisition procedures.

Nevertheless, the scope to further increase capital spending at the general government level will be limited in the absence of revenue mobilization. Although the government has begun a series of structural reforms, including streamlining fragmented regulations and developing a new legal framework to facilitate land acquisition, the effectiveness of these reforms will be tested in the coming years (World Bank 2014; Shin 2018).

MACRO-FISCAL IMPLICATIONS OF INFRASTRUCTURE DEVELOPMENT

Increasing infrastructure spending has significant macro-fiscal implications. First, it raises output growth by boosting aggregate demand as well as the economy's production capacity. Second, it will affect the fiscal accounts because the higher government spending would need to be financed by revenue-raising measures, expenditure cuts, or a higher deficit—or all three. Third, these fiscal policy shocks would affect corporate and household sectors through changes in macroeconomic variables such as inflation, wages, the interest rate, and the exchange rate. Last, in an open economy, these shocks will also affect the external balance, possibly resulting in a higher external current account deficit.

A macro-fiscal simulation model for Indonesia is constructed to quantitatively analyze the macro-fiscal implications of an infrastructure spending ramp-up. The model is the Global Integrated Monetary and Fiscal Model, a multicountry dynamic stochastic general equilibrium model with optimizing behavior by households and firms (Anderson and others 2013). The non-Ricardian features of the model, such as sticky prices and liquidity-constrained households, provide for a nonneutral impact from fiscal policy shocks. To analyze the macro-fiscal impact

of an infrastructure ramp-up, a steady state is constructed to mimic current macroeconomic conditions in Indonesia. This steady state is then shocked by an increase in public investment of 3 percentage points of GDP over 2016–20 (an increase of 0.6 percent of GDP in each year) (Curristine and others 2016). This increase could be financed through tax policy measures (See Chapter 5, “Supporting Inclusive Growth”).

The macro-fiscal implications differ depending on how the spending increase is financed. In this regard, four scenarios are considered: the increase in public investment is financed by (1) a consumption tax rate increase, (2) increases in corporate and labor income tax rates, (3) an increase in lump sum taxes, and (4) government borrowing (that is, a higher deficit). The third scenario is presented to examine an option with the least distortionary tax measure. The fourth scenario is presented for illustrative purposes, even though it would not be consistent with the reality in Indonesia, where the fiscal rule caps the general government deficit at 3 percent of GDP. Similarly, in each of the tax-financed scenarios, the idea of raising the needed revenue with a single tax measure may be unrealistic, but the scenarios are intended to highlight differences in the macroeconomic impacts of various tax measures.

The main simulation results presented in Table 4.1 suggest the importance of financing an infrastructure ramp-up not by borrowing, but by a well-designed, efficient tax package.

- The increase in public investment boosts annual output growth by 0.2–0.6 percentage point over 2016–20 depending on the scenario. In the tax-financed scenarios (scenarios 1–3), the positive growth impact from higher public investment, through both demand and supply channels as previously discussed, is dampened by the negative impact of tax increases on private consumption or investment, or both. The dampening effect on consumption and investment is pronounced in the scenarios with increases in income and consumption tax (scenarios 1 and 2), limiting the increase in growth to 0.2–0.3 percentage point. The lump sum tax scenario (scenario 3) achieves the largest growth impact (0.6 percentage point), given that this is the least distortionary tax option. The deficit-financing scenario (scenario 4) achieves a relatively high growth impact (0.5 percentage point). Here, the boost in aggregate demand is muted by a decline in net exports.
- Fiscal balances would be preserved in the tax-financed scenarios. By construction, the general government deficit is not affected under these scenarios, while the ratio of public debt to GDP decreases slightly, reflecting higher output growth. In the deficit-financed scenario, the fiscal deficit and public debt swell by 3.4 percentage points of GDP and 8.4 percentage points of GDP by 2020, respectively.
- The changes in the external current account balance largely reflect the savings and investment balance. In the deficit-financed scenario, the reduction in net savings in the fiscal sector is only partially offset by an increase in net savings in the household and corporate sectors. As a result, the current

TABLE 4.1.

Indonesia: Global Integrated Monetary and Fiscal Model: Simulation Results
(Deviations from baseline)

	Scenario 1, Financed by Consumption Tax	Scenario 2, Financed by Corporate and Income Tax	Scenario 3, Financed by Lump Sum Tax	Scenario 4, Financed by Deficit
Public investment, percent of GDP in 2020	3.0	3.0	3.0	3.0
Public sector deficit, percent of GDP in 2020	-0.1	-0.1	-0.1	3.4
Public sector debt, percent of GDP in 2020	-1.0	-0.3	-1.2	8.4
GDP growth, percent (average for 2016–20)	0.3	0.2	0.6	0.5
Contribution of:				
Private consumption	-0.3	-0.2	-0.1	0.4
Private investment	0.1	-0.2	0.2	0.2
Government spending	0.6	0.6	0.7	0.7
Net exports	-0.2	-0.1	-0.1	-0.7
Current account deficit, percent of GDP in 2020	-0.8	-0.3	-0.7	-3.1

Source: IMF staff estimates.

account balance would have to deteriorate by as much as 3.1 percent of GDP by 2020. In contrast, the deterioration in the current account balance is much lower in the tax-financed scenarios because the domestic savings-investment balance is not disrupted by a fiscal imbalance.

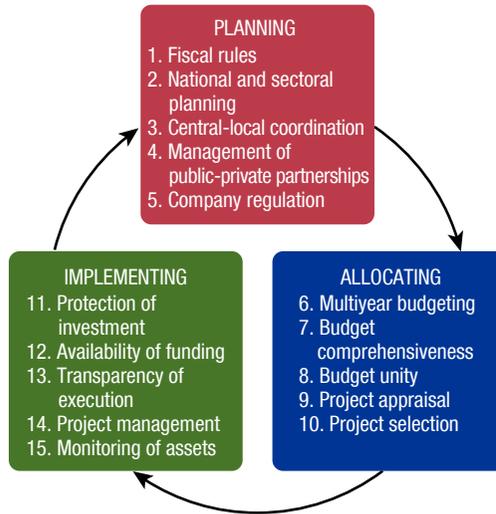
The simulation results should be viewed with caution because the Global Integrated Monetary and Fiscal Model is not able to fully mimic the reality of Indonesia. In the tax-financed scenarios with consumption or income taxes, tax rates would need to be raised significantly, exerting a large negative influence on domestic private demand. Alternatively, if revenue could be raised by less distortionary measures such as base-broadening reforms to consumption and income taxes, the negative demand impact could be less pronounced. In addition, raising additional revenues of 3 percent of GDP from a lump sum tax would be challenging. In the context of Indonesia, an option akin to a lump sum tax would be property taxes and excises.

INSTITUTIONS FOR PUBLIC INVESTMENT MANAGEMENT IN INDONESIA

Countries with stronger public investment management institutions have more predictable, credible, efficient, and productive investments. To help countries evaluate the strength of their public investment management practices, the IMF has developed the Public Investment Management Assessment (PIMA).¹ The

¹For more information, see the IMF and Public Investment Management at <http://www.imf.org/external/np/fad/publicinvestment/>.

Figure 4.4. Framework for Public Investment Management Assessment



Source: The IMF and Public Investment Management.

PIMA evaluates 15 institutions that shape public investment decision making at three key stages (see Figure 4.4): first, *planning* sustainable investment across the public sector; second, *allocating* investment to the right sectors and projects; and third, *implementing* projects on time and on budget. The PIMA covers the full public investment cycle, including national and sectoral planning, investment budgeting, project appraisal and selection, and managing and monitoring of project implementation.

According to a preliminary PIMA, there is scope to improve public investment institutions in Indonesia, particularly in the coordination and implementation of investment planning and projects. (Box 4.1).

- Regarding the planning phase, Indonesia has well-developed national and sectoral planning processes. However, planning coordination among ministries and with local governments could be improved. Specifically, each spending ministry develops its own medium-term strategic plan, which is not necessarily in line with the national plan. Also, coordination between central and local organizations for land acquisition and regulations could be improved.
- The institutions for the allocation phase are at mixed development stages. The national five-year plan appropriately includes medium-term projections for capital expenditure and a resource envelope which is broken down across ministries and programs. Project appraisal and selection are largely devolved

to spending ministries, however there are limited central guidelines and oversight. This situation also applies to projects implemented by local governments and SOEs. Spending ministries both commission feasibility studies for infrastructure projects and approve the projects, potentially giving rise to issues about the quality and objectivity.

- Indonesia scores relatively poorly on the implementation phase. Budget execution is concentrated in the last quarter, within-year budget execution would benefit from smoothing out through better planning. The quality of project management and the transparency of execution are varied but are weaker at the regional and local levels. The procedures for monitoring individual projects also vary widely across ministries and local governments and there is limited use of systematic ex post evaluations.

THE ROLE OF STATE-OWNED ENTERPRISES AND PUBLIC-PRIVATE PARTNERSHIPS IN INFRASTRUCTURE DEVELOPMENT

Stated-Owned Enterprises

The government envisages a greater role for SOEs in infrastructure development. To encourage SOEs to ramp up infrastructure investment, the government has taken a multipronged approach, including injecting capital, limiting dividend payments, and upgrading the financing framework.

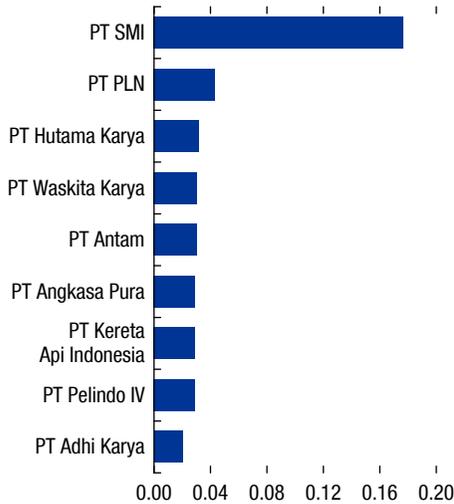
- *Injecting capital:* To expand investment capacity and provide confidence, the government has injected new capital into SOEs, focusing on the electricity, construction, and transportation sectors (Figure 4.5).² This capital injection equated to 0.6 percent of GDP in 2015–16. To ensure the proper use of the funds, the government has limited its use to specific priority infrastructure projects.³
- *Limiting dividend payments:* To encourage capital spending and send a strong signal about its intentions, the government allowed SOEs to lower dividend payments to the government in 2015–16, so long as the retained earnings were channeled into infrastructure investment (Figure 4.6). Also, asset revaluation to reflect a recent increase in asset value has been allowed to expand SOEs' balance sheets.

²Including PT PLN (electricity), PT Hutama Karya (construction), PT Waskita Karya (construction), PT Angkasa Pura (air transportation), and PT Kereta Api (railway transportation).

³The government has encouraged SOE managers to take a proactive role in infrastructure investment by holding regular discussions on the implementation of their expenditure plans and evaluating execution results using key performance indicators.

Figure 4.5. Capital Injection to Selected Infrastructure State-Owned Enterprises, 2015

(Percent of GDP)



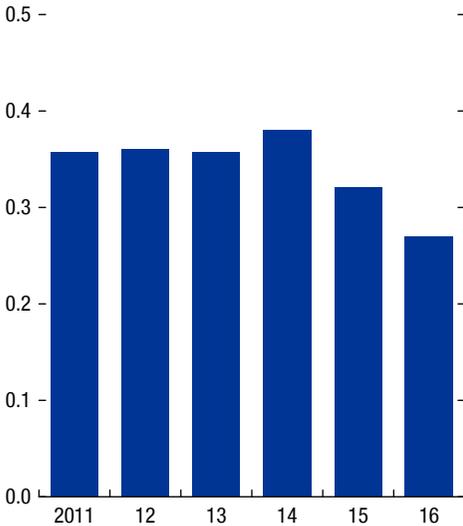
Sources: Indonesia, Ministry of State Owned Enterprises and Ministry of Finance.

Note: PT SMI (state-owned infrastructure financing facility); PT PLN (electric); PT Hutama Karya (construction); PT Waskita Karya (construction); PT Antam (mining); PT Angkasa Pura (air transportation); PT Kereta Api Indonesia (railway transportation); PT Pelindo IV (ports); PT Adhi Karya (construction).

- *Upgrading the financing framework* (ADB 2017): The role of SOEs has strengthened with the improved financing framework. PT SMI is envisaged to become an infrastructure bank, supported by a large capital injection (0.2 percent of GDP). Direct borrowing by SOEs from international financial institutions has been allowed under a sovereign guarantee. The scope of the Indonesia Infrastructure Guarantee Fund has also been expanded to include borrowing by SOEs.

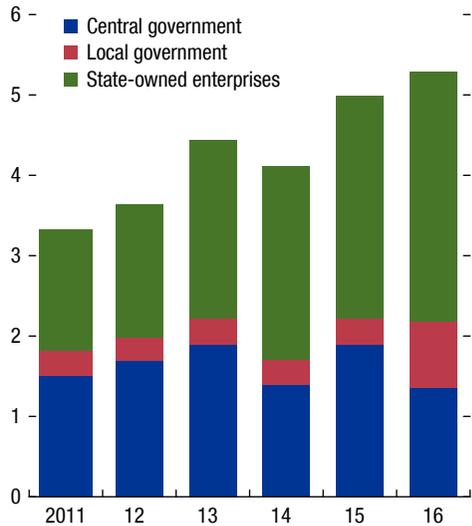
Strengthened balance sheets allowed SOEs to increase infrastructure investment. SOEs' capital expenditures increased to 2.8 percent of GDP in 2015 and 3.1 percent of GDP in 2016, from 2.2 percent of GDP in 2013 (Figure 4.7). Even so, SOEs' leverage fell because of the government's capital injection. Beginning in 2016, however, SOEs have been slowly leveraging to finance infrastructure projects, such as by issuing domestic and external bonds. By sector, spending on electricity generation accounted for the largest part of the spending

Figure 4.6. Dividend Payments from State-Owned Enterprises to the Government
(Percent of GDP)



Source: Ministry of State Owned Enterprises.

Figure 4.7. Capital Spending by Government and State-Owned Enterprises
(Percent of GDP)



Sources: Ministry of Finance and Ministry of State Owned Enterprises; and IMF staff estimates.

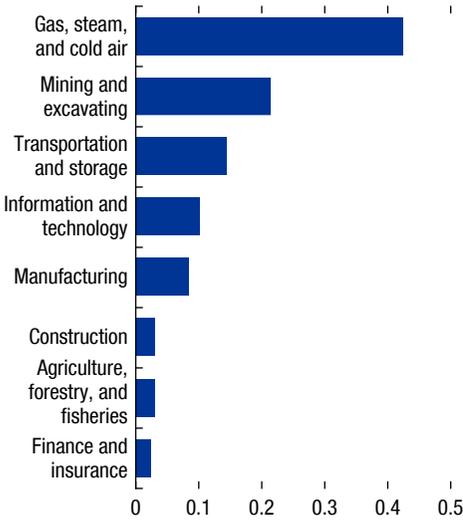
as of the second half of 2015, followed by the mining and construction industries (Figure 4.8).

Given SOEs' increase in capital spending, the authorities should closely monitor contingent liabilities and SOEs' financial performance as the infrastructure plans are gradually implemented. Fiscal risk appears to be moderate, given that SOEs' guaranteed debt is estimated to be about 1.2 percent of GDP per year into 2019 (Figure 4.9).⁴ The government has also limited the use of the injected equity and retained earnings to specific priority projects, and it has implemented a good supervisory scheme.⁵ Nevertheless, close monitoring of SOEs' infrastructure projects is warranted in view of the expected steady increase in investment and rising external debt, as well as SOEs' weakening financial performance (Figure 4.10) (Nozaki 2015). Given the need to ensure high-quality investment but with still-weak execution capacity, gradual implementation of infrastructure projects is recommended. Such caution will help minimize the potential adverse effects of increased public borrowing on interest rates (that is, crowding out private investment) and of higher contingent liabilities.

⁴Based on estimates from the Ministry of Finance.

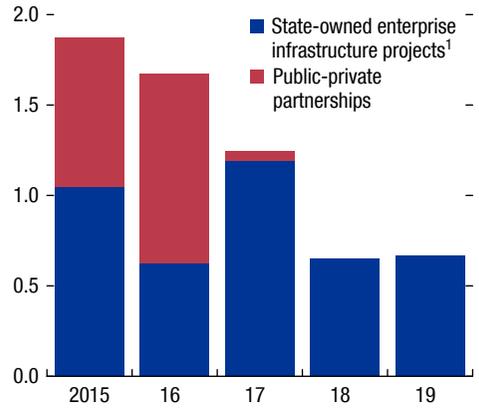
⁵SOEs are required to prepare quarterly reports so that the usage of funds is closely monitored. An audit committee also supervises SOEs' expenditure.

Figure 4.8. Capital Expenditure, by State-Owned Enterprises, 2015:H1
(Percent of GDP)



Source: Ministry of State Owned Enterprises.
Note: H1 = first half of the year.

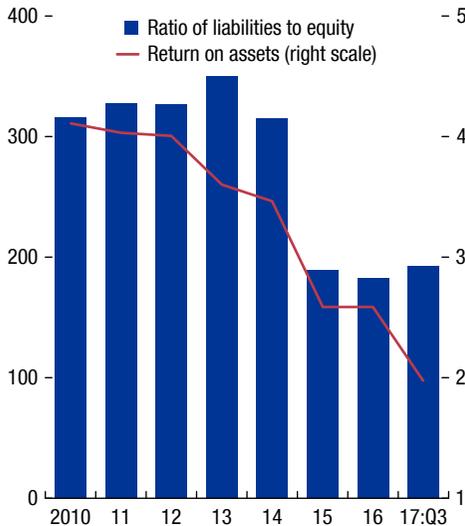
Figure 4.9. Pipeline of Guaranteed Infrastructure Projects
(Percent of GDP)



Source: Ministry of Finance.

¹Includes infrastructure projects for electricity generation using coal and gas or renewable energy; 35 GW program; Trans Sumatera; and drinking water projects.

Figure 4.10. Performance of State-Owned Enterprises
(Percent)



Source: Ministry of State Owned Enterprises (as of November 2017).
Note: Q3 = third quarter.

Public-Private Partnerships

Despite an initiative since the early 2000s to promote PPPs, implementation of PPP projects has been slow until recently. The slow progress has been in stark contrast with other peer economies, particularly Chile and Mexico, where PPPs contributed to more than 20 percent of public infrastructure investment (Table 4.2) (OECD 2012a). Indonesia saw only a few successful PPP projects in toll roads and the power sector, whereas many projects in the water and transportation sectors made little progress.

Slow progress was due to complex regulations, lack of coordination, and weak execution capacity. Delayed land acquisition (Box 4.2) and complex regulations (that is, several layers of national and local regulations) were the major bottleneck. Lack of leadership and coordination (for example, duplication of the evaluation function) across line ministries and local government was also a major barrier. In addition, weak capacity for executing complex financing projects was an impediment, together with a small base of institutional investors with limited long-term investment demand. Restrictions on foreign participation remain relatively high in the infrastructure sector.

To accelerate PPP projects, the government has improved the institutional and regulatory framework, particularly with prioritizing and monitoring projects:

- The KPPIP was established as a coordinating body to focus on the delivery of priority projects, including by commissioning or amending feasibility studies. Since the setup of the KPPIP, which also covers PPP projects, coordination across line ministries and government agencies has strengthened.⁶ The KPPIP has identified 37 priority projects, totaling 8 percent of GDP. These projects include 12 oil refineries, 1 electricity program, 74 roads, and 23 railroads. The KPPIP has also expanded its evaluation expertise by bringing in financial experts from the private sector. The Investment Coordinating Board's one-stop service has also helped expedite investment approval.
- The PPP unit was set up in the Ministry of Finance as a one-stop shop for PPP coordination and facilitation. At present, eight PPP projects are in the pipeline, totaling about 2 percent of GDP. The PPP unit has strengthened the review process for assessing contingent liabilities. Financial support schemes were also improved, particularly guarantee programs to ensure acceptable market returns for private investors, including the Viability Gap Fund (covering up to 49 percent of the construction cost) and the Availability Payment scheme (annuity payment during the concession period). Several PPPs have been launched, including the Palapa Ring Broadband project (US\$0.6 million, supported by the Availability Payment scheme), the Umbulan Water project (US\$0.3 million, supported by the Viability Gap Fund), the Central Java Power Plant (US\$3 billion), and three toll roads (US\$2.2 billion).

⁶The committee is chaired by the Coordinating Minister for Economic Affairs, with members from the Ministry of Finance, the Ministry of National Development Planning/Head of National Development Planning Agency (BAPPENAS), and the Head of the National Land Agency (BPN).

TABLE 4.2.

Public-Private Partnership Infrastructure Investment Relative to Public Infrastructure Investment, 2010

Percent	Country
0–5	Austria, Germany, Canada, Denmark, France, Netherlands, Hungary, Norway, Spain
5–10	United Kingdom, Czech Republic, Slovak Republic, Greece, Italy, South Africa, Ireland
10–15	Korea
20	Mexico, Chile

Source: OECD 2012a.

- The PPP modality has expanded to include social infrastructure and availability-based PPPs. In addition to economic infrastructure, the PPP modality can be used for social infrastructure, including facilities for education, sports, arts, tourism, health, public housing, and commercial facilities. In addition to user-pay PPPs, availability-based PPPs (in which the source of payment is the government) and hybrid PPPs (a mix of user-pay and availability-based PPPs) are allowed. Restrictions on foreign ownership (the Negative Investment List) were eased in some of the transport and energy sectors. In the transport sector, the foreign ownership limit for a seaport facility increased to 50 percent from 49 percent. The foreign ownership limit for toll road operators and telecommunications and testing companies has risen to 100 percent from 95 percent. The foreign ownership limit for distribution and warehousing has increased to 87 percent from 33 percent. The foreign ownership of a power plant (greater than 10 megawatts) has also increased to 100 percent from 95 percent.
- The land acquisition process has been streamlined and made more flexible. The maximum time needed for land acquisition has been shortened to about 400 days from 518 days. The revised regulations allow for revocation of land rights in the public interest and enable businesses to acquire land on behalf of the authorities and be reimbursed later. The State Asset Management Agency was established to facilitate the financing of land acquisition. The agency integrates land acquisitions for national strategic projects and carries over unused budget resources into the following year. The land acquisition process was completed for a toll road project (the Trans-Sumatra Toll Road) and a rail project (the Java North Line Double Track), both of which had been delayed for decades.
- The regulatory framework for PPPs has improved,⁷ together with rollbacks of other regulations to stimulate investment, including streamlining licensing processes and time.

⁷In addition to a tender mechanism, direct appointment of concessionaires is allowed under certain conditions; bundling of projects is allowed to accommodate projects that extend beyond the boundary of one agency or local government; and the private sector and international financial institutions can support preparation of PPP projects.

The government needs to closely monitor contingent liabilities, with the prudent implementation of projects. The enhanced institutional framework contributes to better screening of projects, and the amount of PPP guarantees in the pipeline appears to be moderate, at less than 1 percent of GDP per year into 2019.⁸ Nevertheless, because more PPPs will likely be launched, with a potential increase in fiscal risk, the authorities need to closely monitor contingent liabilities and ensure proper risk sharing between the private and public sectors:

- *Priority should be given to financing infrastructure development with revenue from a medium-term revenue strategy.* Despite a recent increase, there is still significant room for public investment to expand, aided by tax revenue reforms (Figure 3.6). This would allow for steady funding for infrastructure investment while limiting the buildup of external debt.
- *Infrastructure development should be paced in line with available financing and the economy's absorptive capacity.* Given low fiscal space, limited institutional capacity, and shallow domestic financial markets, a too-rapid rise in infrastructure investment could increase external debt. A more measured pace of infrastructure development, aligned with a medium-term revenue strategy (See Chapter 6 *Implementing a Medium-Term Revenue Strategy*), would help preserve macro-financial stability. Projects with larger impacts on production capacity should be prioritized. Efforts should continue to expand the capacity of the fiscal authorities, particularly at the local government level, to prepare complex financing schemes. Uniform guidelines for project selection and feasibility studies for infrastructure projects, similar to those for SOEs as discussed in the previous section, are also important.
- *Infrastructure development should be accompanied by sound risk management for SOEs and PPPs.* SOEs' financial performance, including of their domestic and external debt, should be closely monitored, given that SOEs in the infrastructure sector have continued to borrow. Although a proper balance between SOEs and the private sector is needed to ensure that SOEs do not crowd out private investment, the burden of financing infrastructure investments could be further shifted to the private sector through PPPs and foreign direct investments. Proper design of PPP contracts—including respective rights and responsibilities, risk allocation, and mechanisms for dealing with changes—is important. Overemphasis on the equity aspect of infrastructure projects may undermine feasibility studies.

Attracting private sector financing requires that the regulatory framework for new financing instruments (debt and equity) and institutional investors be improved.

- *Regulations on structured products* should be enhanced, including by clarifying the risk allocation between special purpose vehicles and issuers (OECD 2012b). Building on the recent successful issuance of asset-backed securities

⁸Based on estimates from the Ministry of Finance.

Box 4.1. Assessment of Public Investment Institutions

Planning stage

- Public investment planning is guided by national and sectoral planning. The national long-term development plan 2011–25 is broken down into a series of five-year medium-term development plans (RPJMN). At the start of each presidential term, a new RPJMN is prepared by the Ministry of National Development Planning (BAPPENAS) reflecting inputs from spending ministries, local governments, and Parliament.
- However, each spending ministry develops its own medium-term strategic plan containing medium-term outputs although they are not necessarily the same as those in the RPJMN.
- There appears to be scope to improve coordination between central and local authorities in the areas of land acquisition, regulations (for example, environmental protection), integrated planning, and capacity development.

Allocating stage

- The RPJMN is developed within a medium-term resource envelope and provides details about the allocation of funds across ministries and programs. Each ministry's annual work plan and annual budget proposal contains three-year-forward expenditure estimates for the next three years at the program and activity levels.
- Budget unity has improved. The size of extrabudgetary operations is not significant. The majority of capital projects are included in the annual budget.
- Nevertheless, when making allocative decisions on capital projects, recurring costs and medium-term implications are not clearly presented.
- Project appraisal and selection are largely devolved to spending ministries, with limited central guidelines and oversight. BAPPENAS establishes and monitors aggregate capital spending ceilings and output targets, while spending ministries appraise and select individual projects to meet these output targets. This is also the case for infrastructure projects implemented by local governments and state-owned enterprises.

Implementing stage

- Information on total project costs covering multiple years is included in planning documents, however outlays are approved by Parliament on an annual basis. The government has changed the regulations to allow unspent budget resources to be carried forward to the next fiscal year in certain cases.
- The budget is approved with sufficient time to plan execution, however capital budget execution is concentrated in the last quarter. Even though the budget is approved two months before the start of the year and detailed cash forecasts are prepared, project execution is typically slow. The government has recently taken steps to address this delay. For example, procurement has been allowed to be initiated before the start of the year.
- The quality of project management and the transparency of execution appear weaker at the local level. The procedures for monitoring individual projects are not standardized and vary widely across ministries and local governments. Except for externally financed projects, systematic ex post evaluations are limited.

Box 4.2. Recent Reforms to Land Acquisition Procedures

The government has taken important steps to address barriers to land acquisition:

- The revised land acquisition law came into effect in early 2015. Among other issues, the law has clarified that (1) all ongoing projects will benefit from the new law,¹ which can force relevant parties to sell their property for public infrastructure projects with fair compensation; and (2) land acquisition procedures should be complete within a maximum of two years. Under the new law and recently revised regulations, land acquisition could occur as quickly as three to four months. Other deregulations have also occurred.
- The function of the National Land Agency (BPN) has been revamped by setting up a special deputy for land acquisition acceleration and a dedicated team for priority infrastructure projects, as well as the development of standard operating procedures.
- Land can be directly procured by a private entity: (1) a private entity can obtain the authority for land procurement from a relevant government institution or state-owned institution and act as a proxy; and (2) with the authority, or proxy mandate, a private entity can pay in advance for land procurement on behalf of the authorities in all the preceding stages (that is, preparation, consultations, valuation, and negotiation).

The legal framework has improved, but thorough implementation is essential, particularly at the local administration level. The effects of the improvement have been gradually experienced on the ground. The new law has successfully been applied to the Palembang-Indralaya Toll Road project in South Sumatera. Another successful case is a rail project in Bojonegoro, where the land acquisition process for the Java North Line Double Track Rail project took less than two years. Early on in this process, civil society was socialized to the new law. Nonetheless, numerous cases have been stalled because of land issues.² It is important for the government to establish and demonstrate its ability to push ahead with the new law and to build trust and create stable investment flows for infrastructure projects.

¹Previously, infrastructure projects that had acquired three-quarters of the required land were subject to the old 1960 law. Also, projects for which the land acquisition process was less than 75 percent complete had to start again if a relevant entity wanted to acquire land under the new law.

²For example, development of the light rail transit project in Jakarta was hampered by land acquisition problems. The state developer asked the local administration to help purchase land along the route from residents. Cutting trees on the route also required approval from the local administration.

for the Jagorawi toll roads (Rp 2 trillion), asset-backed securities should be further explored, especially for toll roads and power plants, which have more predictable cash flows. Infrastructure investment schemes (for example, project finance, infrastructure bonds, or rupiah-linked global bonds) need to be developed, and the potential fiscal risks need to be thoroughly assessed. These could benefit from a sound legal framework, as in Thailand.⁹

⁹Infrastructure funds were introduced in 2013 in Thailand. The funds are listed instruments to facilitate infrastructure development, launched by corporations that plan infrastructure development, including in the telecommunication and utilities sectors (Ekberg and others 2015).

- *Limited concession schemes* should be explored, offering concessions to the private sector for infrastructure assets that are already operational and generating cash flows. This would help free financial resources for other infrastructure investment, increase management efficiency, and transfer know-how from the private sector.
- *Expansion of the institutional investor base* (for example, insurance firms, social security funds, private pension funds) can be supported by a stronger regulatory and supervisory framework to allow better asset and liability management (see Chapter 11, “Advancing Financial Deepening and Inclusion,” for more details).

CONCLUSION

The main findings and policy implications of this chapter are summarized as follows:

- The government’s ambitious plans for infrastructure development would rightly address the infrastructure bottleneck in Indonesia. The government has achieved early successes in accelerating capital spending, supported by a number of reform measures.
- Structural impediments remain, including with revenue collection, with the regulatory and institutional framework, and with assessing and monitoring potential fiscal risks from SOEs and PPPs. These constraining factors call for gradual implementation of the infrastructure plan, supported by steady progress in structural reforms.
- A macro-fiscal simulation suggests that ramping up public investment will have positive impacts on growth. Maximizing the growth impact while maintaining macroeconomic stability would require a well-designed and least-distortionary package of tax measures. Hypothetically, ramping up public investment without revenue mobilization would lead to large fiscal and current account deficits, giving rise to funding risks.
- There is scope to improve public investment institutions in Indonesia. Producing uniform guidelines for project selection and conducting (higher quality) feasibility studies would help improve the quality, objectivity, and transparency of infrastructure project appraisal and selection. Also, coordination between the central and local levels could be enhanced in land acquisition and regulation. Institutions for implementing infrastructure projects are relatively weak, and there is room to improve within-year budget execution and the quality of project management.
- The increasing role for SOEs and PPPs could help reduce the infrastructure gap, and the fiscal risks appear to be manageable. Nevertheless, the authorities should closely monitor potential fiscal risks and implement these ambitious infrastructure development plans at a measured pace, given structural constraints, such as institutional and coordination weaknesses, limited exe-

duction capacity, and reduced fiscal space. Prudent implementation will also help ensure high-quality infrastructure development.

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PART III

PUBLIC FINANCE

Supporting Inclusive Growth

HUI JIN

INTRODUCTION

Fiscal policy is an effective tool for supporting inclusive growth. Although it is difficult to disentangle the impact of fiscal reforms from other factors and to determine causality with certainty, IMF (2015a) suggests that such reforms could lift medium- to long-term growth by $\frac{3}{4}$ percentage point in advanced economies and even more in developing economies. Fiscal policy promotes growth through macro and structural tax and expenditure policies. At the macro level, it plays an important role in ensuring macroeconomic stability, which is a prerequisite for achieving and maintaining economic growth. At the micro level, through well-designed tax and spending policies, it can boost employment, investment, and productivity.

Indonesia has demonstrated strong fiscal discipline since the early 2000s, anchored by mandatory fiscal rules. Its general government debt was successfully curbed from about 90 percent of GDP in 2000 to less than 30 percent in 2016, driven by strong fiscal discipline and fast economic growth. At the core of Indonesia's fiscal policy are mandatory fiscal rules that limit the general government deficit to no more than 3 percent of GDP and debt to no more than 60 percent of GDP. Unlike European fiscal rules, there is no escape clause in the 3 percent deficit rule. Although rigid, the rule supports external market funding for Indonesia while its domestic investor base develops, and promotes macro stability, a prerequisite for sustained growth. Importantly, because more than half of government debt is held by nonresidents, fiscal rules play a key role in enhancing international investors' confidence. A significant body of empirical literature shows that the use of fiscal rules tends to lower the sovereign spread (Feld and others 2017; Iara and Wolff 2010; IMF 2009; Johnson and Kriz 2005). Therefore, Indonesia's fiscal rule has been and remains an important policy anchor.

However, within the fiscal rule, declining government revenue has constrained priority expenditure. At 14.3 percent of GDP in 2016, Indonesia's general government revenue is less than 15 percent, a tipping point above which taxation will be able to support state building and the strengthening of the social contract with its citizens (Gaspar, Jaramillo, and Wingender 2016). As it

stands, Indonesia does not have enough resources to expand or even maintain its priority expenditures, warranting a medium-term fiscal reform strategy to promote inclusive growth.

After examining Indonesia's fiscal policy and international experience, a medium-term fiscal strategy is recommended to support inclusive growth in Indonesia. The thrust of the fiscal strategy is to raise revenue by about 5 percent of GDP in the medium term (Chapter 6, *Implementing a Medium-Term Revenue Strategy*) to finance growth and equity-enhancing expenditure priorities in infrastructure, health, education, and social assistance, with proper sequencing.

The rest of the chapter is organized as follows: the next two sections examine major issues in tax policy and tax administration. Expenditure policy and management are then analyzed, followed by a study of the distributive role of the overall fiscal policy. International experience is discussed, and a policy recommendation for a medium-term fiscal strategy is made, with a medium-term revenue strategy at its core.

TAX POLICY: NUMEROUS EXEMPTIONS LEAD TO REVENUE LOSSES AND INEFFICIENT ALLOCATION OF RESOURCES

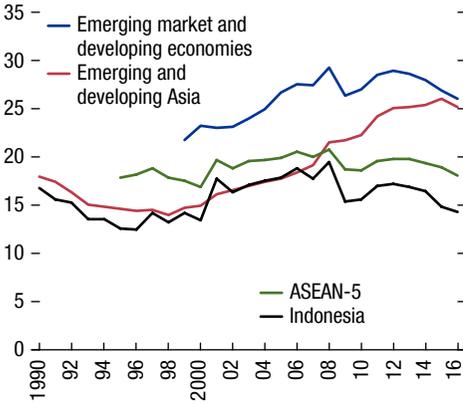
Indonesia's weak government revenue performance indicates shortcomings in tax policy. General government revenue has trailed behind that of its peers, with the gap widening after 2008 (Figure 5.1). Although the sharp decline in oil and gas revenue accounted for the majority of the shortfall, non-oil and gas revenue as a share of GDP remains weak, close to its 2004 level, and has been declining in recent years. These findings suggest that there is much room to improve tax policy.

Indonesia's headline tax rates are largely in line with those of its peers. At 10 percent, the standard value-added tax (VAT) rate is modest and in line with other countries in the region but lower than in major emerging market economies and the Organisation for Economic Co-operation and Development (OECD). The VAT law has authorized the government to increase the VAT rate to up to 15 percent through regulation if needed. The statutory corporate income tax (CIT) rate is 25 percent, in line with the OECD average and with that in major emerging market economies (Figure 5.2). The personal income tax (PIT) schedule, comprising four marginal tax rates (5 percent, 15 percent, 25 percent, 30 percent), is also generally consistent with good practice.

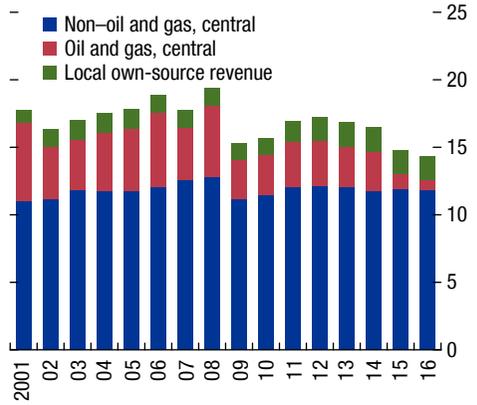
However, relatively low tax productivity points to structural issues (Figure 5.3). Indonesia's C-efficiency ratio is about 0.6, which means the authorities only collect 60 percent of total VAT revenue compared with the benchmark that taxes all consumption at a uniform rate of 10 percent (that is, the current standard VAT rate in Indonesia). In addition, CIT productivity—defined as the ratio between CIT revenue as a percentage of GDP and the top CIT rate—is low. Many factors could explain such low tax productivity, including numerous lower-rate regimes, generous exemptions, and weakness in tax administration.

Figure 5.1. Revenue Trends

1. General Government Revenue (Percent of GDP)



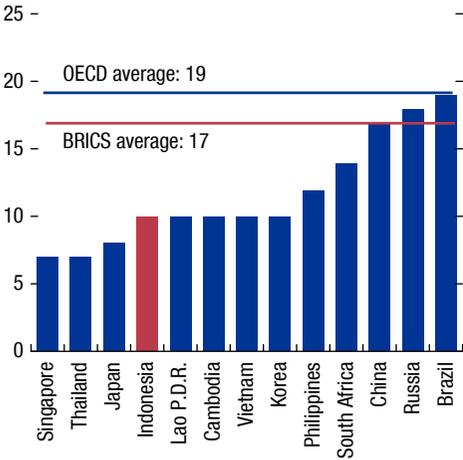
2. Indonesia: Composition of General Government Revenue (Percent of GDP)



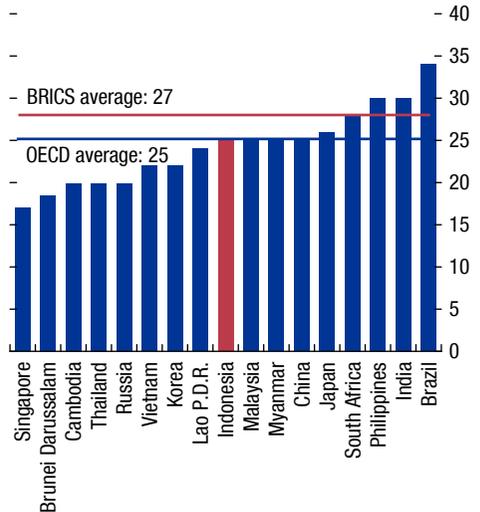
Sources: IMF, *World Economic Outlook*; Indonesian authorities; World Bank; and IMF staff estimates.
 Note: ASEAN = Association of Southeast Asian Nations.

Figure 5.2. Statutory Value-Added Tax and Corporate Income Tax Rates

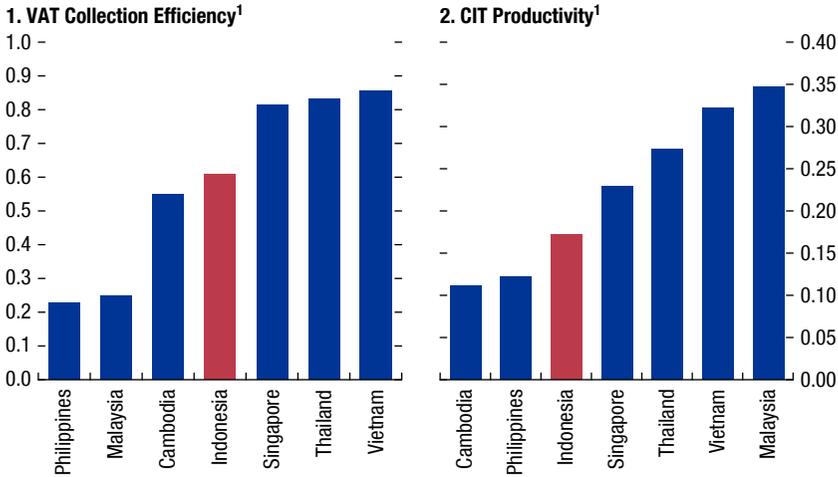
1. Value-Added Tax Statutory Rate (Percent)



2. Corporate Income Tax Statutory Rate (Percent)



Sources: International Bureau of Fiscal Documentation; KPMG tax profile reports for individual countries; and IMF staff calculations.
 Note: BRICS = Brazil, Russia, India, China, South Africa; OECD = Organisation for Economic Co-operation and Development.

Figure 5.3. Productivity of Value-Added Tax and Corporate Income Tax

Sources: IBFD database; IMF, *Government Finance Statistics*; and IMF, *World Economic Outlook*.

¹VAT Collection Efficiency = VAT Revenue as a Percentage of Consumption/VAT Rate.

Note: VAT = value-added tax.

Sources: IBFD database; IMF, *Government Finance Statistics*; and IMF, *World Economic Outlook*.

¹CIT Productivity = CIT Revenue as a Percentage of GDP/CIT Rate.

Note: CIT = corporate income tax.

Indonesia has a myriad of distortionary incentives and exemptions in its main taxes. They include not only internationally common practices such as slow tax depreciation and deductibility of interest expenses (Box 5.1), but also many Indonesia-specific distortions:

- *CIT exemptions:* There are numerous lower-rate CIT regimes—a 1 percent presumptive tax on gross revenue for small and medium enterprises with annual turnover of less than Rp 4.8 billion (about US\$355,100), a rate reduction of 50 percent for taxable income corresponding to gross turnover up to Rp 4.8 billion for medium-sized enterprises with annual turnover of less than Rp 50 billion, and a reduced rate of 20 percent for publicly listed companies.
- *VAT exemptions:* Many VAT exemptions have been granted to both final and intermediate goods and services by the VAT law and government regulation, including for mining (unprocessed products); staple foods (agriculture); tourism (hotel and restaurant), transportation, and employment services; banking and insurance; art and entertainment services; education, medical, and social services; capital goods (machinery, plant, and equipment); agricultural, plantation, and forestry products; electricity (excluding that supplied to households whose consumption exceeds 6,600 watts); distributed piped water; cattle, poultry, and seeds; weapons for the army; educational

Box 5.1. Upgrading the Tax System to Boost Productivity

Resource misallocation induced by distortionary tax treatments is an important source of low tax productivity. Distortionary tax treatments are not uncommon worldwide, including different effective marginal tax rates on capital asset types (machines versus buildings), source of financing (equity versus debt), size of firms (small versus large), and formality of business (formal sector versus informal sector):

- Distortions across capital asset types are caused by differences between tax depreciation and economic depreciation, especially in equipment associated with information technology.
- Distortions across sources of financing occur when firms are allowed to deduct interest expenses, but not returns to equity, in calculating corporate income tax (CIT) liability.
- Distortions across size of firms arise from lower CIT rate for firms below a certain size as measured by the level of profits, turnover, or number of employees.
- Distortions across formality of business are often driven by higher taxes and social security contributions imposed on formal businesses, while tax enforcement is weak on informal businesses.

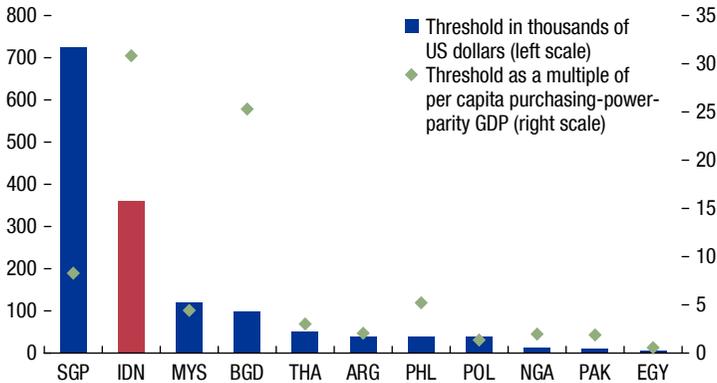
Upgrading the tax system will boost long-term productivity. Although it is difficult to eliminate all distortions in practice, reducing them to the level of the top-performing countries in the same income group could deliver substantial benefits. For emerging market economies, such reforms could translate into a higher GDP growth rate of 1.3 percentage points in the long term.

Source: Drawn from the IMF's April 2017 *Fiscal Monitor*.

books; ships, trains, and aircraft and their spare parts; and low-cost housing. Some of the exemptions, for example, for staple foods, are commonly used in other countries to protect the poor, but most other exemptions in Indonesia are not common.

- *VAT threshold:* The turnover threshold for mandatory VAT registration is Rp 4.8 billion, the same as the previously mentioned CIT threshold for the 1 percent turnover tax in lieu of the regular CIT. This threshold is very high compared with other countries (Figure 5.4). This VAT threshold covers only 50,000 firms, compared with the more than 400,000 firms previously registered under a much lower threshold of Rp 600 million.

In addition to revenue losses, these incentives and exemptions encourage substantial arbitrage behavior in the Indonesian economy, leading to inefficient resource allocation. For example, the 1 percent presumptive turnover tax for not-so-small firms provides an incentive for firms to stay below the Rp 4.8 billion threshold instead of growing into much larger and more competitive companies. It also disregards the actual profit margins of the firms and may impose a high tax burden on firms experiencing short-term losses. The same VAT threshold and numerous VAT exemptions also lead to breaks in the VAT chain, significantly compromising the VAT's efficiency and neutrality—the major attractions of VAT. In addition, all these exemptions and thresholds have significantly complicated tax administration, as subsequently discussed.

Figure 5.4. Value-Added Tax Registration Thresholds

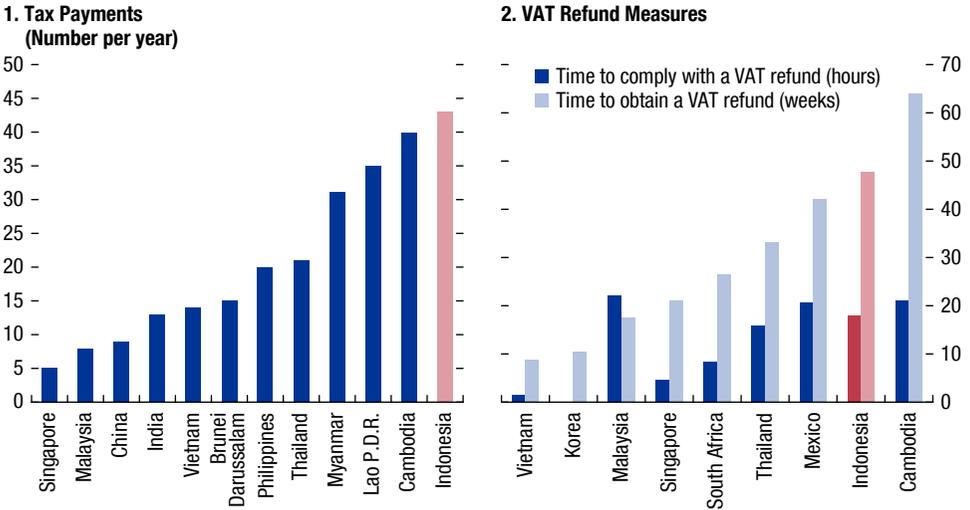
Sources: International Bureau of Fiscal Documentation; and IMF staff calculations.

Note: Figure labels use International Organization for Standardization (ISO) country codes.

TAX ADMINISTRATION: ROOM TO IMPROVE COLLECTION EFFICIENCY AND BUSINESS CLIMATE

The tax administration in Indonesia suffers from low productivity because of both policy shortcomings and administrative weaknesses. The tax administration has allocated a disproportionate number of its staff (more than 50 percent) to enforcing taxpayers' routine registration and filing obligations, for example, the extensification program that requires all employees to file tax returns. This type of work is not very productive because it is carried out manually and in an untargeted manner, reflecting weak information systems and, until recently, the absence of risk-based approaches. Similarly, about 80 percent of the tax administration's audit resources are allocated to examining refund cases that generate only 20 percent of the additional revenue from audit, while only 20 percent of the administration's audit resources examine the more productive nonrefund cases that generate 80 percent of the additional revenue from audit. This misallocation is due mainly to the legal obligation that requires the tax administration to audit almost all refund claims, regardless of their revenue risk. As a result, the tax administration gives insufficient attention to potentially large amounts of unreported taxes by the overwhelming majority of taxpayers who do not claim a refund.

As a result, taxpayer compliance is low, resulting in revenue losses. Only 20 percent of businesses file their employer withholding tax returns on time, and 5 percent make timely payment of their withheld taxes. The overall VAT compliance rate has declined from 53 percent in 2013 to 45 percent in 2015, and the rate of on-time filing of VAT returns has declined from 64 percent in 2014 to 52 percent in 2016. Only about half of individuals who provide professional services file their income tax returns on time, while fewer than one in four professional services corporations meet their filing obligations. Some 2,000

Figure 5.5. Indonesia's Tax Performance in Doing Business Report

Source: World Bank 2018.

Note: VAT = value-added tax.

Indonesian individuals own about US\$230 billion in assets, and their complex tax affairs provide opportunities for aggressive tax planning. See more detailed discussion on Indonesia's revenue administration in Chapter 6.

Moreover, cumbersome tax administration procedures in some areas have not been beneficial for the business climate. According to the 2018 World Bank *Doing Business* report (World Bank 2018), for a typical medium-sized company in Indonesia, the number of tax payments needed per year was reduced from 54 to 43 between 2016 and 2017, but that number is still well above that in peer countries. A medium-sized Indonesian company also needs to spend 18 hours to comply with VAT refunds and waits 47.7 weeks to receive the actual refunds per year, which is longer than in most countries in the region (Figure 5.5). This lengthy wait time is partly driven by the fact that the tax administration has to audit almost every taxpayer who requests a VAT refund, instead of using a modern risk-based approach.

Tax administration weaknesses may also limit the scope for further improvement of Indonesia's business climate. Indonesia has made significant progress in improving its business climate, with its overall Doing Business ranking upgraded to 72 in 2018 from 106 in 2016 (Table 5.1). This improvement is particularly impressive in the rankings for resolving insolvency (36), enforcing contracts (26), protecting minority investors (26), starting a business (23), and getting electricity (23). However, Indonesia's rank in paying taxes has barely moved—from 115 to 114—in the past two years. Without significant streamlining of the tax administration, the authorities' goal of achieving an overall Doing Business ranking of 40 might be challenging.

TABLE 5.1.

Indonesia's Doing Business Ranking				
	Doing Business 2018	Doing Business 2017	Doing Business 2016	Improvement 2016–18
Overall Ease of Doing Business Rank	72	91	106	34
Component Rank				
Resolving insolvency	38	76	74	36
Enforcing contracts	145	166	171	26
Protecting minority investors	43	70	69	26
Starting a business	144	151	167	23
Getting electricity	38	49	61	23
Registering property	106	118	123	17
Getting credit	55	62	70	15
Dealing with construction permits	108	116	113	5
Paying taxes	114	104	115	1
Trading across borders	112	108	113	1

Source: World Bank, Doing Business database.

EXPENDITURE POLICY AND MANAGEMENT: EXPANSION NEEDS AND POTENTIAL EFFICIENCY GAINS

Infrastructure, health, and education are key growth-enhancing expenditure areas for countries such as Indonesia. The IMF (2015a) provides a menu of structural fiscal policy options for promoting medium- to long-term growth: encourage labor supply, enhance investment in physical capital, support human capital development, increase total factor productivity, and promote technological progress. For emerging market economies, the most relevant policies would be to protect and increase the public capital stock, provide more efficient public infrastructure, provide disadvantaged groups with access to education, and expand access to basic health care. In Indonesia, this would mean expanding public expenditure as a percentage of GDP on infrastructure, health, and education, while also improving efficiency in those areas.

Indonesia has room to increase spending and improve efficiency in these key expenditure areas compared with peers. On one hand, constrained by its revenue-mobilization capacity, as discussed above, Indonesia's spending on infrastructure, health, and education is generally behind that of peers. On the other hand, there are signs of inefficiency in many areas. These are elaborated upon below.

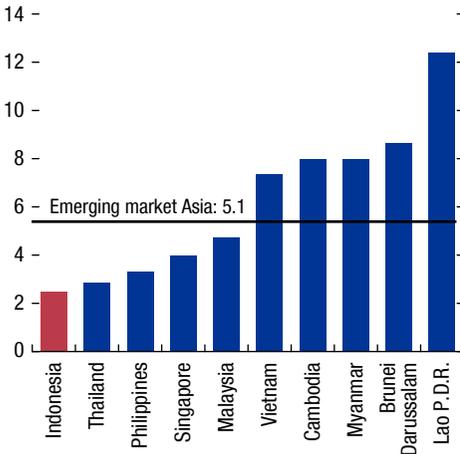
Infrastructure

Indonesia's infrastructure spending is low compared with that of its peers. Total infrastructure spending was 2.2 percent of GDP in 2016, compared with the emerging market Asia average of 5.1 percent of GDP. Indonesia's access to infrastructure is particularly low in electricity, road transportation, and health facilities (Figure 5.6).

Infrastructure development is also highly decentralized and suffers from limited implementation capacity and relatively low efficiency. Of the government's

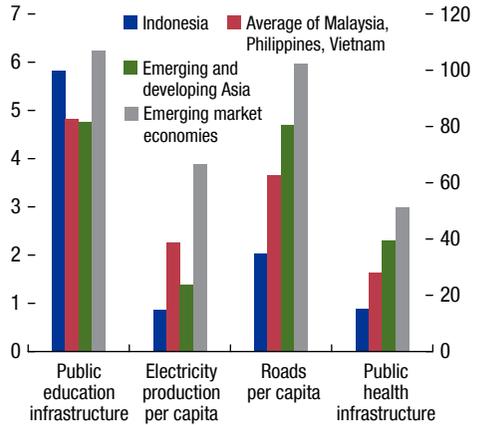
Figure 5.6. Infrastructure Investment and Access

1. Public Capital Investment (Percent of GDP)



Sources: Indonesian authorities; World Bank, World Development Indicators; IMF, *World Economic Outlook*; and IMF staff estimates.

2. Measures of Infrastructure Access (Most recent year)

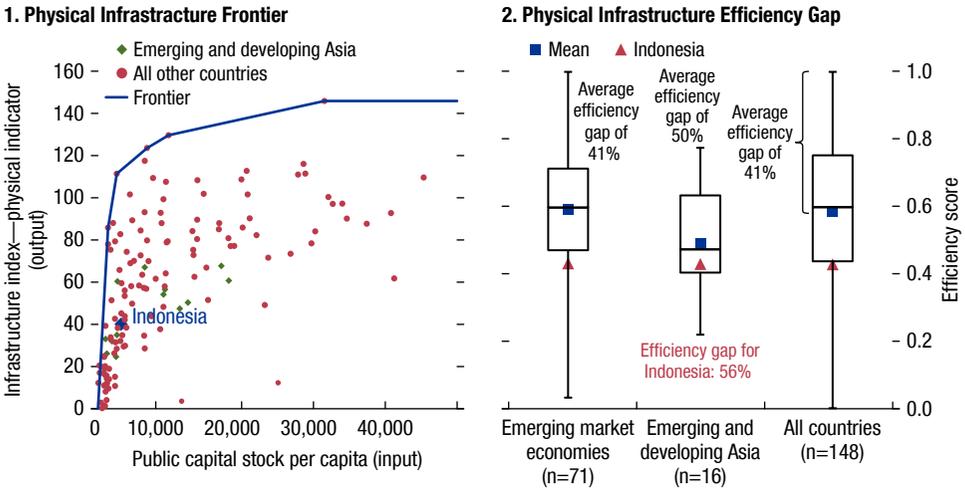


Sources: OECD, Analytical Database; World Bank, World Development Indicators; and IMF staff estimates.
Note: Units vary to fit scale. On the left axis, public education infrastructure is measured as secondary teachers per 1,000 persons; electricity production per capita as thousands of kilowatt hours per person; roads per capita as kilometers per 1,000 persons; and public health infrastructure as hospital beds per 1,000 persons. On the right axis, access to treated water is measured as a percentage of population.

US\$480 billion infrastructure investment plan for 2015–19, only about 30 percent is being executed through the central government. Starting in 2017, 25 percent of central government transfers to regions via the general allocation fund (Dana Alokasi Umum, or DAU) and revenue sharing are earmarked for infrastructure. The non-central-government channels—state-owned enterprises, public-private partnerships, and subnational government (SNG)—seem to involve more risk and entail less capacity to develop, plan, and implement investment projects efficiently. Based on IMF (2015b), an indicator for physical access to infrastructure shows relatively low efficiency in Indonesia’s public investment. The resultant efficiency gap between Indonesia and the most efficient countries with comparable levels of public capital stock per capita is 56 percent, much wider than the average gap for emerging market economies (41 percent), emerging and developing Asia (50 percent), and all countries (41 percent) (Figure 5.7).

Any expansion of infrastructure spending should be accompanied by improved public investment management. The scaling up of public investment often goes hand in hand with a decrease in investment efficiency and an increase in integrity issues. Therefore, better management is required to improve efficiency. For

Figure 5.7. Indonesia: Public Investment Efficiency

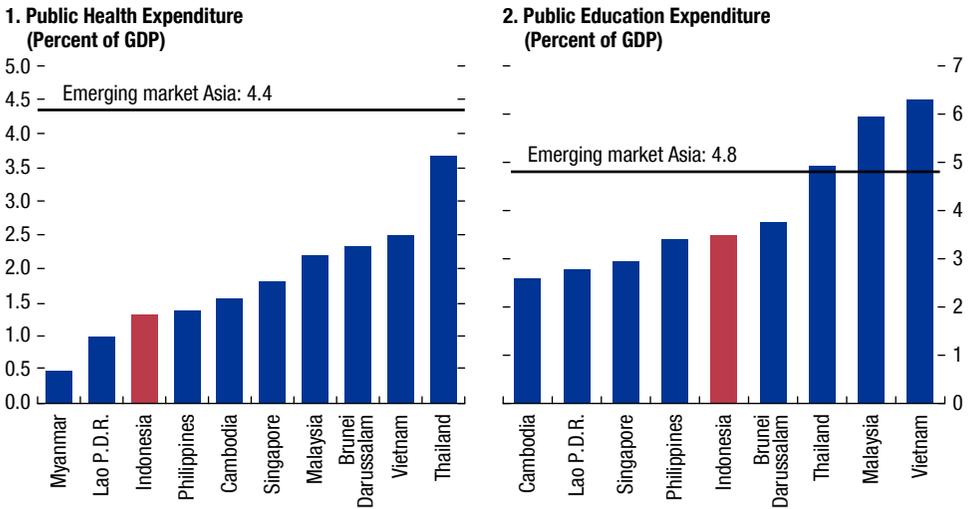


Sources: Organisation for Economic Co-operation and Development; World Bank; and IMF staff estimates.

example, the government could consider the following reforms: (1) streamline the annual budget process for public investment; (2) develop a multiyear pipeline of high-quality projects by investing in project development; (3) encourage use of multiyear contracting and carryover, at both the central and local levels of government; (4) improve timeliness and content of information flow to SNGs for special-purpose grants (Dana Alokasi Khusus, or DAK) and line ministry own-investment plans; (5) task the Ministry of Finance and Ministry of Home Affairs with jointly developing a wide-ranging capacity-building plan in the public financial management area for SNGs; and (6) simplify and reduce the reporting burden of SNGs. More important, there are currently five central agencies with some mandate for public investment: the Ministry of Finance, the Ministry of Home Affairs, the National Development Planning Agency (BAPPENAS), the Committee for Accelerated Infrastructure Delivery, and the Evaluation and Monitoring Team for State and Regional Budgets Realization. These central agencies need to coordinate more closely and develop a single-window monitoring system for line ministry and SNG public investments. At a later stage, public-private partnership and state-owned enterprise project monitoring could be integrated with such a system.

Health

Both health insurance coverage and health facilities need to be expanded. Health spending is low in Indonesia compared with peers (Figure 5.8, panel 1). On the demand side of health service, the authorities have made a commitment to

Figure 5.8. Indonesia: Public Spending on Health and Education

Sources: IMF, *World Economic Outlook*; Indonesian authorities; World Bank; and IMF staff estimates.

expand public health insurance coverage to 100 percent by 2019. At present, more than half of the population is covered, and the bottom one-third of the population (the 92 million poorest individuals) are included through waivers of public health insurance premiums. Essentially, the government is subsidizing the premiums for the poor. Many of the remaining population uncovered by the public health insurance consist of self-employed middle-income individuals, who have reportedly purchased private health insurance. On the supply side, Indonesia also has much room to increase public spending on health infrastructure and open up the health sector to the private sector and foreign investors. Although the central government is legally required to allocate at least 5 percent of its budget expenditure to health, the rule mostly ensures that health spending as a percentage of GDP remains broadly constant without a major expansion. Following Thailand's experience with implementing universal health coverage, the share of public spending in total health care spending could be expected to rise from 40 percent now to 60 percent over the medium term. If this happens, the ratio of public health spending to GDP would reach 2.1 percent in 2022—0.6 percentage point of GDP above the baseline. Additional expenditure is also needed on the supply side to provide more health infrastructure, doctors, nurses, etc.

Education

Efficiency in education needs to be improved before any expenditure expansion. Although Indonesia's public education spending is below that of the

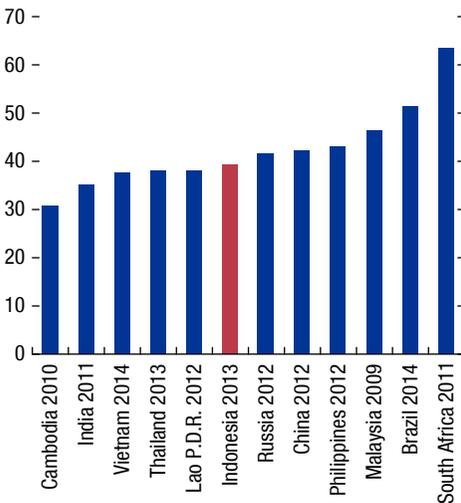
emerging market Asia average (Figure 5.8, panel 2), the near-term priority should be to improve spending efficiency. Similarly to health, the central government is legally required to allocate at least 20 percent of its budget expenditure to education. However, without strong links to educational outcomes, much of the annual increases are spent on teachers' compensation, especially through the certification programs. Therefore, the teachers' compensation system could be reviewed to identify any inefficiency, while the link between compensation and outcomes could be strengthened. Once the inefficiency issue is addressed, public education spending could be further expanded from primary and secondary education to other areas, such as early childhood, vocational, and tertiary education.

DISTRIBUTIVE ROLE OF FISCAL POLICY: ROOM TO REDUCE INEQUALITY

Inequality in Indonesia remains elevated, despite some improvement in recent years (Figure 5.9). According to the World Bank, Indonesia's income Gini coefficient was 39.5 in 2013, comparable to that of neighboring countries and the BRICS (Brazil, Russia, India, China, South Africa), and inequality has declined modestly in recent years. Mobility across income quintiles appears low (Table 5.2). During 1993–2007, 37 percent of the poorest 20 percent of families remained in the poorest quintile, while 56 percent of the richest

Figure 5.9. Inequality in Indonesia

1. Income Gini



2. Indonesia: Evolution of Gini



Source: World Bank, Poverty and Equity database.

Sources: Statistics Indonesia; and IMF staff estimates.

TABLE 5.2.

		Household Income Mobility				
		2007 Income Quintile				
		Q1	Q2	Q3	Q4	Q5
1993 Income Quintile	Q1	37	36	19	6	2
	Q2	31	28	19	14	8
	Q3	23	27	28	13	10
	Q4	12	18	22	26	21
	Q5	8	8	11	18	56

Source: World Bank 2016.

Note: Q1 is the poorest, and Q5 is the richest. Percentage in each cell represents the proportion of the income quintile in 1993 that moved to the income quintile in 2007.

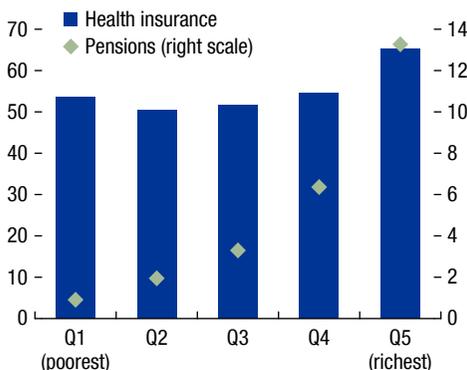
20 percent of families remained in the richest quintile, despite rapid growth (World Bank 2016).

Much of the inequality is associated with unequal access to social services and infrastructure (Figure 5.10). A significant gap exists in access to pensions; the poorest households have essentially no access to any pension benefits. In health, the situation is better, given that health insurance coverage is similar, about 50 percent, across different income groups, thanks to the government's effort to subsidize poor households' health insurance premiums. However, inequality in access to health services across regions is notable—only 28 percent of villages in the poor regions of Maluku and Papua have health centers, compared with the national average of 38 percent. For those villages without a health center, the closest health center is 24 kilometers away, on average, compared with the national average of 6 kilometers (World Bank 2016). In education, enrollment in free primary and lower secondary education is close to universal across all income groups, but enrollment of youngsters from rich households in upper secondary and tertiary education is much higher than of those from poor households (Figure 5.10, panel 3).

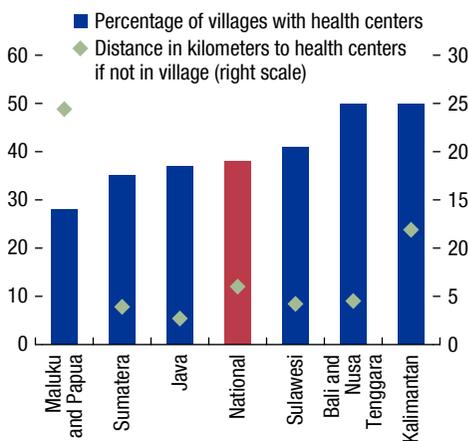
There is much room for improving the distributive role of Indonesia's fiscal policy (Figure 5.11, panel 1). The impact of Indonesia's overall fiscal policy on inequality reduction has been very limited, compared with other emerging market countries, particularly those in Latin America. Latin American countries spent much of their windfall revenue from the commodity boom in the 2000s on equity-enhancing areas such as social assistance, health, education, and infrastructure. Indonesia also has mandatory spending floors for health and education, as mentioned above, (5 percent and 20 percent of budgetary expenditure, respectively). However, Indonesia still has much room for spending on its most equity-enhancing programs, particularly on conditional cash transfers (Program Keluarga Harapan, or PKH), targeted rice transfers (Beras untuk Rakyat Miskin, or RASKIN), and scholarship programs for poor students (Bantuan Siswa Miskin, or BSM).

Figure 5.10. Indonesia: Inequality in Access to Social Services and Infrastructure

1. Coverage of Health Insurance and Pensions (Percent, by expenditure quintile)



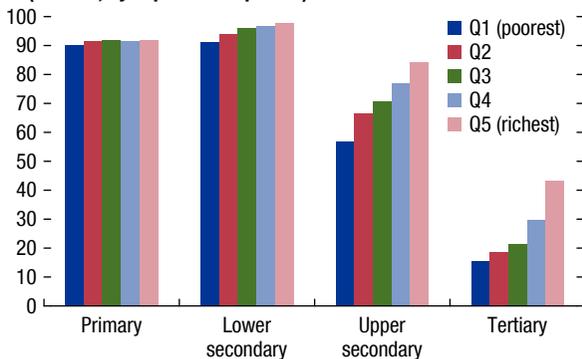
2. Regional Inequality of Health Infrastructure



Sources: SUSENAS 2016; and IMF staff calculations.

Sources: PODES 2011 Infrastructure Survey; and World Bank 2016.

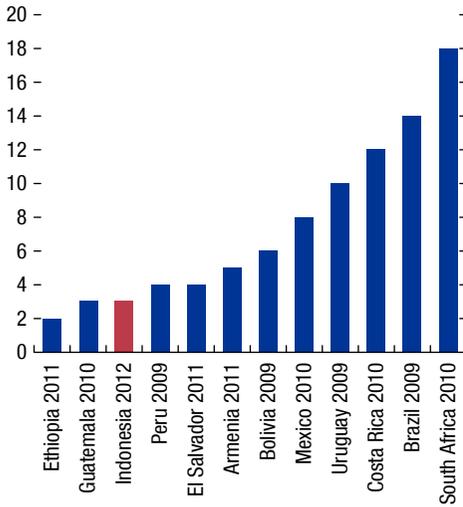
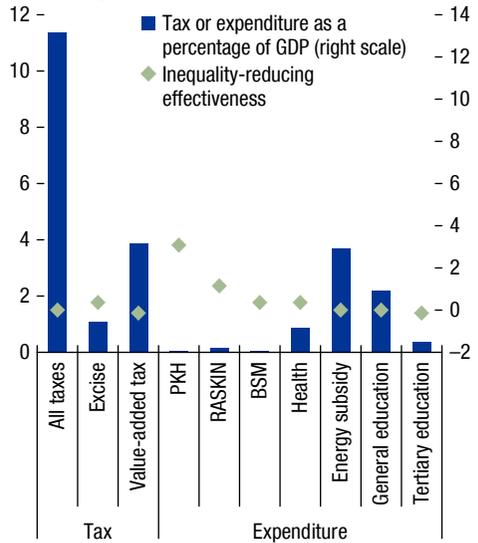
3. Enrollment Rate of School-Age Youngsters (Percent, by expenditure quintile)



Sources: SUSENAS 2016; and IMF staff calculations.

Note: The age range is assumed for the educational segments as 6–12 years for primary, 12–15 years for lower secondary, 15–18 for upper secondary, and 18–23 years for tertiary.

To partly finance the expansion of the most equity-enhancing social assistance programs, other programs could be consolidated to be better targeted and more efficient. In addition to PKH, RASKIN, and BSM, Indonesia has an array of other social assistance programs lacking coverage and adequacy, and a large share of poor and vulnerable households are not receiving all the benefits they are eligible for. An integrated database for social assistance (Pemukakhiran Basis Data

Figure 5.11. Indonesia: Impact of Fiscal Policy on Inequality Reduction**1. Reduction in Gini Coefficient by Fiscal Policy****2. Indonesia: Inequality-Reducing Effectiveness of Policies, 2012**

Source: World Bank 2016.

Sources: World Bank 2016; and IMF staff calculations.
 Note: BSM = Bantuan Siswa Miskin (scholarship programs for poor students); PKH = Program Keluarga Harapan (conditional cash transfer); RASKIN = (Beras untuk Rakyat Miskin (rice subsidy). "General education" refers to primary and secondary education.

Terpadu, or PBDT) has been developed, which covers the bottom 45 percent of the income distribution. This is a good step forward that will enable the authorities to reduce and consolidate various social assistance programs into better-targeted and more efficient programs in the next few years. In the medium term, once administrative capacity has been developed, the authorities could also consider introducing a means-tested guaranteed minimum income program (see Pinxten, Acosta, and Sun 2017 for more details).

Expansion of the most equity-enhancing programs can also be partly financed by the generally equity-neutral tax system in Indonesia. Indonesia's overall tax system has no apparent impact on equity (Figure 5.11, panel 2). Its VAT is only slightly regressive (VATs in many other emerging market economies are much more regressive; see World Bank 2016) because staple foods are exempt from the VAT in Indonesia to support the poor. Excise taxes are even notably progressive, and so is the personal income tax. Therefore, increasing taxes to finance equity-enhancing expenditure priorities will overall reduce inequality in Indonesia.

INTERNATIONAL EXPERIENCE WITH FISCAL REFORM

A basically budget-neutral medium-term fiscal strategy would enhance Indonesia's growth. International empirical studies find that government expenditure multipliers are notably larger than tax multipliers, although they need to be interpreted with caution (Box 5.2). Therefore, as long as the additional revenue from tax reforms is used for immediate spending, it will likely increase GDP growth rates.

Moreover, preserving and increasing expenditure in key areas is an integral part of a successful reform strategy for resource-revenue-dependent economies. For example, one factor behind Malaysia's ability to unlock its long-term growth potential as part of its fiscal adjustment in the early 1980s was its maintenance of expenditures on health and education at a steady level of 1.5 percent and 5 percent of GDP, respectively; this expenditure bolstered human capital to support the successful transition to a manufacturing-based economy. These levels are still well above Indonesia's 2015 spending levels for health and education (1.3 percent and 3.5 percent of GDP, respectively). Similarly, when Chile implemented its massive fiscal consolidation in the late 1970s, it actually increased public spending on primary and secondary education, as well as on primary health care.

Comprehensive tax reforms in large emerging market economies—China (1994) and Mexico (2014)—are also widely considered to have been successful and could serve as an example for Indonesia. Both reforms, through a combination of tax policy and tax administration measures, raised significant revenues in the short and medium term.

China's 1994 tax reform lifted general government revenue by 5 percent of GDP, which was gradually achieved over the medium term. After a short transition period during 1994–95, total revenue in China gradually increased from 10 percent of GDP to about 15 percent of GDP by 2002 (Ahmad 2011). The reform not only reversed the declining trend of general government revenue since the mid-1980s, but also significantly increased the share of the central government in total revenue from about 20 percent to more than 50 percent (Figure 5.12, panel 1). The reform comprised the following main tax administration and tax policy measures:

- A central-government tax administration (SAT) was created, organizationally separated from existing local-government tax administrations.
- The VAT was introduced at a rate of 17 percent. It is collected by the SAT, and the revenue is shared between central and local governments based on a formula.
- Revenue-sharing arrangements between central and local governments for other taxes, such as the corporate income tax and the natural resources tax, were clarified.

Mexico's 2013 tax reform, together with gradual fuel price liberalization and improvements in revenue administration, have increased non-oil tax revenue by

Box 5.2. Multipliers of Different Fiscal Instruments¹

Fiscal multipliers measure the short-term impact of discretionary fiscal policy on output. They are usually defined as the ratio of a change in output to an exogenous change in the fiscal deficit with respect to their baselines. The size of multipliers is determined by various factors such as trade openness, labor market rigidity, size of automatic stabilizers, exchange rate regime, debt level, public expenditure management, revenue administration, state of the business cycle, degree of monetary accommodation to fiscal shocks, and so on.

There is little consensus in the literature on the size of multipliers because estimating them is complicated for several reasons. First, it is difficult to isolate the direct effect of fiscal measures on GDP because of the two-way relationship between these variables. Second, data availability limits the scope for estimating multipliers. For example, econometric and model-based methods (such as structural vector autoregression and dynamic stochastic general equilibrium) have demanding data requirements. Moreover, long quarterly series do not exist, even in many advanced economies, as well as in most emerging market economies and low-income countries.

However, the literature does provide evidence showing that expenditure multipliers tend to be larger than revenue multipliers in advanced economies. Based on a survey of 41 studies of structural vector autoregression and dynamic stochastic general equilibrium models, Mineshima, Poplawski-Ribeiro, and Weber (2014) show that first-year multipliers amount, on average, to 0.75 for government spending and 0.25 for government revenues. Macroeconomic models also imply a clear hierarchy of fiscal instruments (Forni, Monteforte, and Sessa 2009; European Commission 2010; Coenen and others 2012). On the spending side, investment has the highest short-term multiplier, followed by government wages and government purchases, while untargeted transfers to households are associated with the lowest output impact among spending instruments. On the revenue side, the ranking of tax instruments reflects their perceived distortionary effects. Corporate income taxes and personal income taxes have the most negative effects on GDP; consumption taxes do relatively better; and property taxes seem to be the tax instrument with the smallest impact.

For emerging market economies and low-income countries, various research seems to suggest a similar pattern. In general, little is known about the size of fiscal multipliers in emerging markets and low-income countries, and it is not clear whether multipliers should be expected to be higher or lower than in advanced economies from a theoretical point of view. However, some model-based estimates suggest that expenditure multipliers are generally larger than revenue multipliers in these economies (Table 5.2.1).

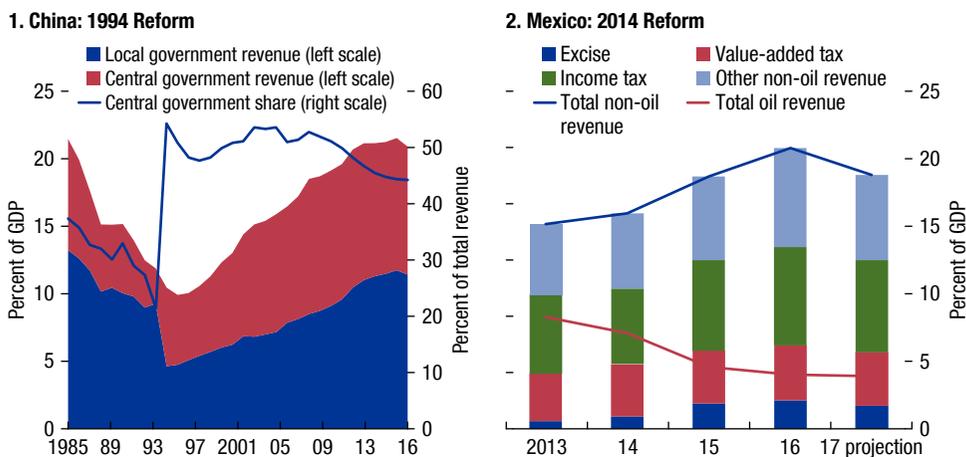
TABLE 5.2.1.

Model-Based Estimates of Short-Term Multipliers in Emerging Market Economies and Low-Income Countries

Country	OECD 2009		GIMF 2009–2013		Ducanes and others 2006		
	Expenditure	Revenue	Expenditure	Revenue	Expenditure		Revenue
					Increase	Decrease	
Bangladesh					0.4	0.8	0.1
Bulgaria			0.6	0.4			
China					0.3	1.6	0.4
Hungary	0.5	0.1					
Indonesia					0.2	0.8	0.2
Mexico	0.7	0.2					
Philippines					0.3	0.7	0.0
Poland	0.6	0.2					
Russia			0.8	0.3			
Turkey	0.7	0.2	0.9	0.3			
Emerging Asia			1.0	0.5			

Note: GIMF = Global Integrated Monetary and Fiscal Model; OECD = Organisation for Economic Co-operation and Development.

¹Drawn from Batini and others (2014).

Figure 5.12. Tax Reforms in China and Mexico

Sources: Ahmad 2011; CEIC Data Co. Ltd.; IMF, staff report for Mexico Article IV consultation; and IMF staff estimates.

more than 2 percent of GDP since 2013. The reform has to a large extent offset the sharp decline in Mexico's oil revenue (Figure 5.12, panel 2). It comprised the following elements:

- For the income tax, deductions and exemptions were limited; new tax brackets and new taxes on certain dividends and gains were implemented; the fiscal consolidation regime was eliminated; and the IDE (tax on cash deposits) and the IETU (flat business tax) were eliminated.
- Reduced VAT rates for US border states and the Baja Peninsula were suppressed.
- A new excise tax was imposed on sugary beverages and high-calorie foods, pesticides, and carbon-producing products.

Rough estimates suggest that the reform increased revenues by 1.5 percent of GDP. In addition, the decline in fuel prices in recent years and the fuel price liberalization process that began in 2016 permitted the removal of fuel subsidies and together yielded additional fuel excise revenue of about 0.8 percent of GDP.

POLICY RECOMMENDATION: MEDIUM-TERM FISCAL STRATEGY TO SUPPORT INCLUSIVE GROWTH

From the macro-fiscal perspective, Indonesia's medium-term fiscal strategy could aim to establish a small countercyclical buffer within its fiscal rule in the medium term. Indonesia's low debt and deficit levels, small gross financing needs, and other macro indicators suggest the availability of some fiscal space.

Moreover, the authorities have carefully managed the deficit to be about 2½ percent of GDP in recent years. However, in the medium term, aiming for a deficit target of 2¼ percent of GDP would provide a countercyclical buffer of ¾ percent of GDP under the fiscal rule, to help fend off potential internal and external shocks.

At the core of the medium-term fiscal strategy is a medium-term revenue strategy (MTRS), which is critical to finance priority spending (Chapter 6). The MTRS should aim to raise revenue by about 5 percent of GDP in the medium term, which would allow the government to expand spending on infrastructure, education, health, and social assistance and would support critical structural reforms (Table 5.3). At the same time, efficiency of expenditure should be enhanced, such as by improving public investment management, strengthening the link between teachers' compensation and their educational outcomes, and consolidating social assistance programs, as discussed above. The overall medium-term fiscal strategy will likely increase Indonesia's GDP growth rate to 6.5 percent by 2022, based on simulation results from the Global Integrated Monetary and Fiscal Model (Curristine, Nozaki, and Shin 2016; Anderson and others 2013).

The MTRS should center on front-loaded tax policy reforms and gradual benefits from tax administration reform. It should remove most incentives and exemptions in the VAT, CIT, and PIT; introduce excise taxes on vehicles and fuel; and raise the VAT rate to 12 percent from 10 percent. It should also improve compliance and streamline tax administration. These reforms should be carefully designed and communicated (Chapter 6).

However, because implementing the MTRS will take time, some near-term policy actions could be front-loaded to arrest the revenue fall and finance infrastructure development. Indonesia's tax-to-GDP ratio has continuously declined in recent years, so excise taxes on vehicles and fuel could be introduced as short-term actions to raise additional revenue of about 1 percent of GDP to reverse the trend. Meanwhile, these revenue gains could be used to partly finance the authorities' ambitious infrastructure plan, including the 247 national strategic projects.

At the same time, a structural subset of the MTRS could also be prioritized to support inclusive growth. This subset comprises the removal of exemptions from income taxes and the VAT, lowering the VAT and CIT thresholds, simplifying VAT policy and administration, and enhancing tax administration, which may deliver another revenue gain of 0.5–1.0 percent of GDP in the near term. Such reforms may help further increase long-term growth by 1.3 percentage points (Box 5.1). The additional revenue from the structural tax reform could finance expansion of social assistance programs to reduce inequality. Given the current small size of expenditure in the most equity-enhancing programs (0.3 percent of GDP spent on PKH, RASKIN, and BSM), expanding these targeted programs, financed by the additional revenue of 0.5–1.0 percent of GDP from the structural tax reform, would provide a strong boost to equity in Indonesia, while other less efficient social assistance programs are consolidated and more accurately targeted.

TABLE 5.3.

Indonesia: An Illustrative Medium-Term Fiscal Strategy to Support Inclusive Growth

Reform Options	Estimated Fiscal Impact by 2022 (percent of GDP)	Details of the Reform
Medium-Term Revenue Strategy¹	+5.0	
Tax Policy	+3.5	
Value-added tax	+1.2	Remove exemptions, lower value-added tax registration threshold, and increase rate from 10 percent to 12 percent.
Excise taxes	+1.1	Introduce fuel excise tax and convert the current luxury goods sales tax on vehicles to a vehicle excise tax.
Income taxes	+0.9	Remove corporate income tax exemptions and unify corporate income tax rates, impose alternative minimum tax to fight profit shifting, lower threshold for top personal income tax rate.
Property tax	+0.3	Increase rate and gradually replace transaction tax with recurrent property tax.
Revenue Administration	+1.5	Improve taxpayer compliance, institutional reform, legal reform.
Additional Expenditure Needs²	+4.7	
Infrastructure	+3.0	Increase investment expenditure to above 5 percent of GDP while improving efficiency.
Education	+0.8	Increase education expenditure toward emerging market average (4.8 percent of GDP) while improving efficiency.
Health	+0.9	Implement universal health coverage, increase medical service supply, while improving efficiency.
Social assistance	+0.1	Expand the most equity-enhancing programs while consolidating poorly targeted programs.
Other expenditure	-0.1	Cut nonpriority expenditure.
Additional Countercyclical Buffer	+0.3	Reduce deficit from about 2½ percent of GDP in recent years to 2¼ percent of GDP in the medium term.

Source: IMF staff estimates.

¹Positive sign means more revenue. This includes both tax policy and administration reforms. Details of the medium-term revenue strategy are described in Chapter 6.²Positive sign means more expenditure. This includes both expenditure policy and public financial management reforms.

These structural fiscal reforms will also lay a solid foundation for full implementation of the medium-term fiscal strategy in the future. Lowering the VAT threshold and removing distortionary VAT exemptions is a prerequisite for raising the VAT rate from 10 percent to a higher rate (for example, 12 percent). Without these reforms, increases in the VAT statutory rate would amplify existing distortions. In addition, these fiscal reforms could gradually build public support for further reforms as infrastructure is developed and inequality reduced. Once consensus is reached, the remaining part of the fiscal strategy could be rolled out, such as raising the VAT rate to finance health, education, and additional infrastructure development. With full implementation of the fiscal strategy, Indonesia will gain much-needed resources for moving beyond its middle-income status.

CONCLUSION

This chapter recommends a medium-term fiscal strategy to enhance growth and equity in Indonesia. Although the country's fiscal rules have been and should continue to be an important policy anchor, declining government revenue in recent years has constrained priority expenditure. Numerous exemptions have compromised tax policy, and there is much room to improve collection efficiency and the business climate through tax administration reform. The overall fiscal policy can also play a much larger distributive role in Indonesia. Based on the analysis of Indonesia's fiscal policy and international experience, this chapter recommends a medium-term fiscal strategy, with a medium-term revenue strategy at its core.

The thrust of the fiscal strategy is to raise revenue by about 5 percent of GDP in the medium term to finance growth and equity-enhancing expenditure priorities in infrastructure, health, education, and social assistance. With regard to sequencing, tax policy reforms, including the introduction of new excise taxes and removing exemptions, should be front-loaded in the near term to arrest the decline in revenue and support inclusive growth, which will also be complemented by tax administration reform. This prioritized subset of the fiscal strategy would also lay the foundation for implementation of the remaining part in the future.

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Implementing a Medium-Term Revenue Strategy

RUUD DE MOOIJ, SUAHASIL NAZARA, AND JUAN TORO

INTRODUCTION

Indonesia needs to substantially increase its government revenue level in a sustainable manner to finance additional expenditures that are critical for economic growth and development. With a ratio of general government tax revenue to GDP of just over 11 percent, Indonesia is the lowest among the Group of Twenty (G20) countries and trails other emerging market economies. Empirical evidence suggests that countries with a tax-to-GDP ratio of less than 15 percent tend to grow significantly more slowly than countries beyond this tipping point because it impedes opportunities for productive government spending. Therefore, adopting a medium-term approach to raising revenue will be critical to achieving the revenue-level change that Indonesia needs.

This chapter outlines a medium-term revenue strategy (MTRS) for Indonesia that aims to raise tax revenue by 5 percentage points of GDP in five years. The MTRS approach was developed for the G20 by the Platform for Collaboration on Tax and frames the tax system reform in a comprehensive and holistic framework of four interdependent components: (1) building broad-based consensus in the country for medium-term revenue goals to finance needed public expenditures; (2) designing a comprehensive tax system reform covering policy, administration, and the tax legal framework to achieve these goals; (3) committing to steady and sustained political support (government-led and whole-of-government

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approach) of implementation of the strategy over multiple years; and (4) securing adequate resourcing—domestically and from capacity development partners and donors—to support implementation of the MTRS. Complete and sustained implementation of each of these components is critical for achieving the revenue objective. The chapter provides a detailed tax system reform proposal (the second key component of the MTRS approach) encompassing a combination of tax policy, administration, and legal reform. The full-fledged MTRS for Indonesia—which may need further refinement from the Indonesian government—is summarized in Table 6.1.

THE NEED FOR A MEDIUM-TERM REVENUE STRATEGY

As discussed in Chapter 5, “Supporting Inclusive Growth,” Indonesia needs to substantially increase its government revenue. Higher expenditures on infrastructure, health care, and education are urgently needed to lift economic growth, reduce inequality, and improve the well-being of Indonesians. The government has already attempted to improve spending quality by removing distortive subsidies and promoting efficiency. However, more fundamental reforms aimed at significantly improving revenue mobilization are clearly pivotal to the country’s objectives of raising expenditure levels. Increasing Indonesia’s very low tax-to-GDP ratio has therefore been a long-standing goal of the government. Nevertheless, achieving that goal has proved to be hard. Several tax system reforms have attempted to enhance revenue performance, and temporary increases have been achieved. However, they have not led to any fundamental and sustainable improvement, and the revenue ratio remains very low and, in fact, has been declining in recent years (Figures 6.1 and 6.2).

The Indonesian government initiated a new reform effort in 2016 with better features than in previous attempts (see discussion below), but some critical weaknesses pose risks to its ambitious targets. The establishment of a reform governance framework and reform agendas, and the allocation of dedicated resources to implement the reforms, are critical to the success of complex and comprehensive tax system reforms. Also, it is notable that the sponsorship of the reforms at the highest level of government is a significant strength, with the Minister of Finance championing them as co-chairperson of the Steering Team, along with the Coordinating Minister for Economic Affairs. However, the approach to tax system reform lacks an overarching coherence, which poses a significant risk of failing to achieve a large step increase in the tax-to-GDP ratio. The current reform agenda does not identify and quantify the specific policy and administration measures that are needed to achieve and sustain the ambitious revenue target for 2020. Nor are the most important reforms singled out for close and active management by the reform team.

Adopting an MTRS approach to frame the tax system reform will increase the likelihood of achieving and sustaining the much-needed increase in the

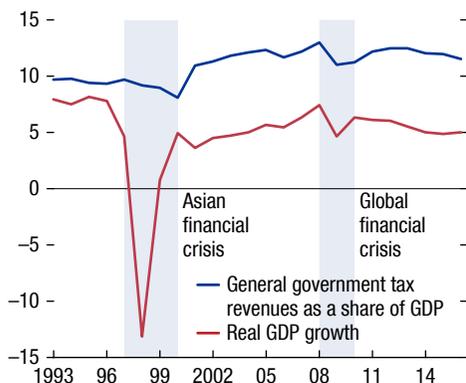
TABLE 6.1.

Indonesia's Medium-Term Revenue Strategy

Objectives	
<ul style="list-style-type: none"> • Increase tax-GDP ratio by 5 percentage points of GDP in 5 years—from 10.4 percent to 15.4 percent by 2022 • Reduce tax distortions and strengthen progressivity (to be measured by distributional and economic impact study) • Reduce compliance costs and improve investment climate (to be measured by surveys) • Improve community perception of tax system fairness (to be measured by surveys) 	
Tax Policy Reform (3.5 points of GDP)	Legal Framework Reform
<p>Value-Added Tax (VAT)</p> <ul style="list-style-type: none"> • Remove several exemptions. • Reduce the registration threshold. • Removal of the sales tax on luxury goods. • Increase (gradually) the standard rate by 2 percentage points <p>Excise Taxes</p> <ul style="list-style-type: none"> • New excises on vehicles • New excises on fuel <p>Corporate Income Tax (CIT)</p> <ul style="list-style-type: none"> • Replace the myriad of special regimes for corporate businesses with one single corporate income tax regime • Introduce alternative minimum tax <p>Personal Income Tax (PIT)</p> <ul style="list-style-type: none"> • Broaden personal income tax base by including the middle class • Strengthen the progressivity of personal income tax • Reduce the threshold of the small and medium-sized enterprise regime <p>Property Tax</p> <ul style="list-style-type: none"> • Allow higher rate, while reducing local transfers <p>Institutional Reforms in Tax Policy</p> <ul style="list-style-type: none"> • Strengthen capacity for revenue analysis in the Tax Policy Unit of the BKF 	<p>KUP Changes</p> <ul style="list-style-type: none"> • Modernize General Provisions Procedures law (RUU KUP) to improve its structure by simplifying and clarifying provisions and procedures to ensure a proper balance between revenue collection and the rights of taxpayers. • Substantially relax the requirement for auditing all or most refund audits in favor of a more risk-based approach. <p>Substantive Law Changes</p> <ul style="list-style-type: none"> • VAT Law (RUU PPN) to strengthen revenue performance through measures that improve value-added tax system design • Income Tax Law to simplify the law and eliminate distortions and broaden the base to include the middle class while improving progressivity • Eliminate the requirement to fill a tax return for employees whose only source of income is from a single job • Excise laws for revenue mobilization and addressing environmental externalities • Property tax changes to boost local revenue—enabling the central government to reduce its transfers <p>Decrees & Regulations</p> <ul style="list-style-type: none"> • Strengthen the governance framework for tax system reform to ensure effective implementation of the MTRS • Provide authority to the Ministry of Finance to change internal structure, allocate staff, and regrade positions
Tax Administration Reform (1.5 points of GDP)	External Resources
<p>Taxpayers' Compliance Management</p> <p><i>Launch a CIP with targeted, well-resourced, and supervised plans for:</i></p> <ul style="list-style-type: none"> • Value-added tax • Employer withholding obligations • Ultra-high-wealth individuals • Wealthy Indonesians: high-income earners and high-wealth individuals and professionals <p><i>Underpin the CIP with five supporting initiatives:</i></p> <ul style="list-style-type: none"> • Strengthening audit • Building a powerful data matching capability • National deployment of compliance risk management • Increasing efficiency of support and supervision • Leveraging the tax amnesty and automatic exchange of information intelligence <p>Institutional Reforms in Tax Administration</p> <ul style="list-style-type: none"> • Grant greater autonomy within the auspices of the ministry of finance • Modernize human resources management (gradually), prioritizing policies in operational areas to support the CIP • Revamp and relaunch the code of conduct • Streamline organization following international trends • Deploy a program of information and communication technology (ICT) improvements to support the CIP, in anticipation of the full ICT redevelopment 	<ul style="list-style-type: none"> • Identify capacity requirements to reform development and implementation • Identify available external support from capacity-development (CD) partners to fill capacity constraints • Formalize an agreement with capacity development partners to support the government-led MTRS
Political Support	
<ul style="list-style-type: none"> • Strengthen reform governance and management • Commit to multiyear budgets to secure reform implementation • Ensure government-led effort based on a whole-of-government approach • Involve a wide base of stakeholders to achieve a country-owned effort • Launch an "amnesty-like" socialization campaign for the MTRS 	

Note: CIP = Compliance Improvement Program; MTRS = medium-term revenue strategy.

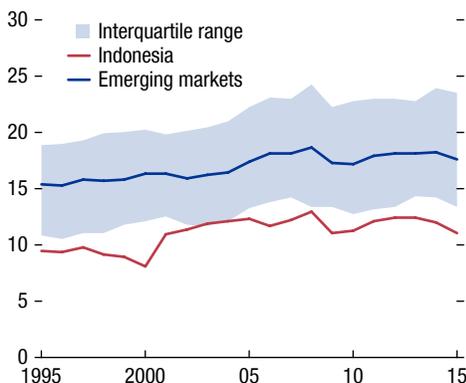
Figure 6.1. Tax-to-GDP Ratio versus Real GDP Growth (Percent)



Sources: IMF, *World Economic Outlook*; and IMF staff calculations.

Note: Tax revenues refer to general government.

Figure 6.2. Tax-to-GDP Ratio in Indonesia and in Emerging Markets (Percent)



Sources: IMF, *World Revenue Longitudinal Database*; and IMF staff calculations.

Note: Tax revenues refer to general government.

tax-to-GDP ratio.¹ The core elements needed for effective implementation of an MTRS are outlined in Box 10 of the June 2016 platform paper to the G20, reproduced here as Box 6.1. As explained in the platform paper, the strategy would help the authorities credibly commit to sustainable implementation, requiring holistic, synergic, and steady development of the core elements. Box 6.1 illustrates key priorities that should be addressed in developing each of the MTRS's four interdependent components.²

A comparison of current reform initiatives in Indonesia with the MTRS reveals similarities and key differences. To some extent, Indonesia is already undertaking revenue mobilization efforts—most notably the tax system reforms—along the lines of the above elements of the MTRS (or parts of them).³ However,

¹Adopting an MTRS is a key recommendation for enhancing countries' revenue mobilization efforts in the report on "Enhancing the Effectiveness of External Support in Building Tax Capacity in Developing Countries," prepared by the Platform for Collaboration on Tax (IMF, OECD, UN, World Bank 2016), which was submitted to G20 finance ministers in July 2016 (<https://www.imf.org/external/np/pp/eng/2016/072016.pdf>). In its July 2017 update to the G20 report (<http://documents.worldbank.org/curated/en/487521499660856455/Update-on-activities-of-the-platform-for-collaboration-on-tax>), the platform further develops the MTRS approach in a Concept Note and a two-page note, annexes 2 and 3 in the July 2017 report to the G20.

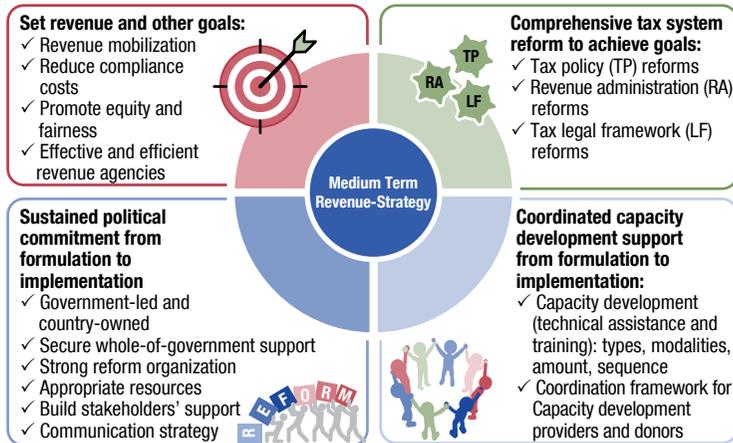
²The MTRS Concept Note published in the July 2017 update to the G20 explains in details how these four interdependent components should be developed.

³Indonesia's Ministry of Finance (MoF) has issued several decrees to organize the reform and its contents: MoF Decree 928 of December 2016 established the Tax Reform Team for 2017, comprising a governance structure of four bodies: (1) the Steering Team, (2) the Advisory Team, (3) the Observer Team, and (4) the Executive Team. Subsequently, MoF Decrees 360 and 361 were issued

Box 6.1. Core Elements of a Medium-Term Revenue Strategy, as Set Forth in the Platform Paper to the G20

- ✓ A social contract on the level of revenue mobilization effort for the medium-term (5–10 years) with due consideration to the poverty and distributional implications of the associated measures
- ✓ A comprehensive reform plan for the tax system, reflecting country circumstances and the state of institutional capacity:
 - A redesign of the policy setting to meet the revenue goal.
 - A reform of the revenue agencies to properly administer the policy setting and to achieve a high level of taxpayers' compliance to meet the revenue goal.
 - A strengthening of the legal framework to enable the policy redesign and administration reform, including by balancing revenue agencies' powers and taxpayers' rights.
- ✓ A country's commitment to a steady and sustained implementation, notably by securing political support and resourcing.
- ✓ Secured financing for the capacity development effort (technical assistance and training) to support the country in overcoming domestic constraints to formulate and implement a medium-term revenue strategy effectively.

Figure 6.1.1. Key Medium-Term Revenue Strategy Interdependent Components and Underlying Priorities



Source: Authors.

many of these efforts do not have the same reach, rigor, synergy, and sustainability as the MTRS approach. Box 6.2 elaborates on the enhancements that are required to address the weaknesses of the current tax system reform approach to transition those efforts toward an MTRS approach.

in May 2017, setting the reform agendas in the taxation and customs areas, respectively, notably for the Directorates General of Taxation and Customs and Excises (DGT and DGCE).

Box 6.2. Enhancements to the Current Tax System Reform Effort in Indonesia under the Medium-Term Revenue Strategy

Setting revenue and other goals

- *Revenue goal to finance expenditure needs:* The specified revenue mobilization effort (an explicit target of raising the tax-to-GDP ratio by the end of 2020) needs to be linked to a complementary medium-term expenditure strategy to enhance stakeholder support for the proposed tax reforms.
- *Consultation:* Efforts to achieve far-reaching and active stakeholder involvement need to be enhanced, notably to develop a country-owned revenue strategy.
- *Other objectives:* Intended tax system reform needs to define clear criteria (or objectives) to ensure high-quality measures in tax policy, tax administration, and tax legal framework.

Comprehensive tax system reform to achieve goals

- *Tax system reform scope:* To achieve the goals, the reform effort needs greater attention to addressing weaknesses in tax policy and legal frameworks, beyond reforms to the revenue agencies (Directorate General of Taxation and Directorate General of Customs and Excises).
- *Specific revenue-raising initiatives:* Specific reform initiatives in tax policy (a revenue package) and tax administration (well-targeted plan to improve taxpayer compliance) need to be identified to achieve the goals.
- *Quantification:* A realistic assessment needs to be conducted of how much revenue policy and administration measures can generate to achieve the overall revenue objective. More broadly, the impact of reform efforts needs further quantification to show how they will contribute to achieving the goals.
- *Revenue agencies' transformational initiatives:* These initiatives need to be prioritized and actively managed, with clearly empowered and accountable people, specific implementation plans, and resources allocated to achieve their outcomes. This groundwork will avoid implementation failure, as operations tend to be prioritized. In addition, synergies between two agencies (Directorate General of Taxation and Directorate General of Customs and Excises), which are both under the Ministry of Finance, must be identified and realized.
- *Good practices:* Changes inconsistent with international trends need to be discarded in the current reform strategy (for example, the expansion of local tax offices, which will not streamline the Directorate General of Taxation organization, and the untar-getted efforts on massive registration of taxpayers—"extensification"—which yields low returns).

Sustained political commitment from formulation to implementation

- *Whole-of-government approach:* Broad buy-in and country ownership of the reform are crucial and need to be further nurtured across several ministries and entities of the government.
- *Resources:* The resource commitment to finance the information technology and communication system revamping needs to be complemented to finance the deployment of other transformational reform components; it seems unrealistic that it will be accommodated within existing budgets, or the upgrades will not be properly financed.

Box 6.2. (continued)

- *Reform governance:* While Decree 928 was issued for 2017, a medium-term revenue strategy requires a multiyear commitment. Fully functioning governance is crucial, with regular meetings to assess progress, monitor milestones, ensure allocation of resources, and make timely decisions.

Coordinated capacity development support from formulation to implementation

- *Aligned support:* Good collaboration between the Indonesian government and capacity development partners needs to be aligned under the government-led medium-term revenue strategy, including by determining the overall envelope of capacity development support and each capacity development partner's role in implementing the medium-term revenue strategy.

The rest of this chapter formulates a full-fledged MTRS that addresses the above weaknesses, notably related to the tax system reform component. The next section discusses the first component of the MTRS: setting the revenue objective derived from expenditure needs. The subsequent two sections describe the two substantive elements of the tax system reform (second component of the MTRS), distinguished by tax policy reform and reform of the revenue administration. The following section then elaborates on the sustained political commitment, specifically management of the revenue strategy (third component of the MTRS), and coordination of capacity development partners in providing support (fourth component of the MTRS). The contours of the MTRS described here serve as a starting point for the government to lead a country-owned revenue strategy. The government's own MTRS should be published as a government document that highlights Indonesia's revenue mobilization effort with a steady and sustained implementation reform path, a plan of collaboration with capacity development partners supporting this effort, and alignment of the whole of government with full implementation.⁴

SETTING REVENUE MOBILIZATION OBJECTIVES

Indonesia needs to substantially increase its government revenue to finance additional expenditure priorities to boost economic growth. Chapter 5 discusses in detail the rationale for the increased expenditure. Despite efforts to make existing expenditure programs more productive and efficient, spending gaps are present in several areas and equate to 5 percentage points of GDP. The spending gaps will have to be financed by additional tax revenue because additional debt

⁴The document should be updated on an annual basis to monitor implementation progress and evaluate outcomes. Where needed, the government should modify the strategy.

is constrained by the government's commitment to following a fiscal rule that prevents increases in debt levels. Moreover, there is room to increase taxation revenue, which has been declining in recent years (Figures 6.1 and 6.2). Given the very low current spending levels on infrastructure and health care, and the low tax-to-GDP ratio, the social benefits of higher spending are likely to significantly outweigh the cost of financing enhancements through taxation.

In choosing between taxation options, it is important to select measures that will generate the best possible outcome. Otherwise, welfare losses induced by higher taxation could more than offset the benefits of the higher spending. Hence, although raising revenue is the MTRS's primary objective,⁵ the choice of reform measures for achieving this goal should be guided by clear principles of good taxation:

- *Efficiency*: Additional revenue will be raised in a way that is least distortive to the economy. For instance, taxation should not induce large distortions to investment and saving decisions, consumer choices, or employment behavior. Taxes might, however, be used to deliberately discourage certain behaviors that are socially harmful, such as air pollution or tobacco consumption.
- *Equity*: Revenue will be raised in a manner that is perceived to be fair and equitable. It is important to note, however, that what ultimately matters for equity and fairness is the combined impact of taxation and expenditures. Reductions in inequality, for instance, might best be achieved in Indonesia through public spending, even when financed by proportional or even regressive taxes.
- *Ease of administration and compliance*: Indonesia reduced the average amount of time that businesses spend preparing, filing, and paying taxes from 266 hours in 2010 to 221 hours in 2016 (World Bank 2017). Despite this reduction, Indonesia still lags its regional comparators—Korea (188 hours), Malaysia (164 hours), the Philippines (86 hours), and Singapore (67 hours).

To achieve the MTRS's revenue target, tax policy, tax administration, and legal measures are needed. These reforms will work in tandem, and there will be important interactions between them. For example, improvements in value-added tax (VAT) compliance (tax administration) will be supported by a faster refund system, elimination of VAT exemptions, and simplification of the law (tax policy). Good-quality legal tax provisions—comprising tax laws, regulations, decrees, and circulars—are essential to provide certainty to taxpayers and to minimize the costs of compliance. The next two sections develop a set of concrete reforms in

⁵The MTRS may also enhance the quality of the existing revenue system, independently of revenue goals. For instance, the envisaged reforms to the value-added tax law and the income tax law will aim to reduce tax distortions and enhance tax progressivity, and improvements in the institutional framework of the DGT will aim to achieve a more equitable tax system and lower compliance costs for taxpayers.

the areas of tax policy and tax administration.⁶ The revenue implications of these measures are quantified using historical data, international comparative evidence, or empirically validated model simulations—although some of these calculations might need further refinement when the government’s own MTRS is formulated. From this quantitative analysis, it appears that tax administration measures can potentially generate 1.5 percent of GDP in revenue over the next five years. Tax policy reforms can potentially generate the additional 3.5 percent of GDP to meet the MTRS’s overall revenue objective.

TAX SYSTEM REFORM: POLICY

Although the basic structure of Indonesia’s tax system is appropriate, there are severe weaknesses in its design that reduce its revenue productivity. Tax revenues are generated primarily from income taxes, the VAT, a handful of excises (mainly on tobacco), and a property tax. Headline rates for the corporate income tax (CIT) (25 percent), personal income tax (PIT) (top rate of 30 percent), and VAT (10 percent) are broadly in line with regional peers. However, a closer inspection reveals inherent weaknesses in the tax policy framework, in that design elements of all the major taxes severely undermine the basic principles of a good tax. For instance, the myriad of special regimes, exemptions, and tax incentives in each of the major taxes causes weak revenue performance in Indonesia compared with other countries. In addition, they create an uneven playing field, thereby inducing welfare losses, inequities, and complications in administration and compliance.

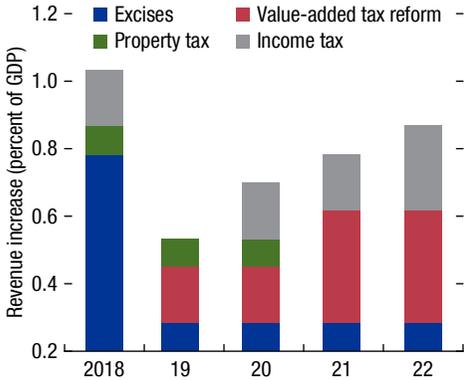
This MTRS explores revenue options in all major taxes. First, revisions to the VAT law and the income tax law provide opportunities to enhance revenue mobilization, and are currently under discussion. Second, Indonesia does not exploit excises that are common in other countries, such as on vehicles and fuel, representing significant untapped revenues. Understandably, excises on fuels will be politically challenging given that Indonesia has been struggling recently to remove fuel subsidies to allow domestic prices to align with international oil prices. Third, increases in the property tax can boost local revenue—enabling the central government to reduce its transfers. In choosing options for reform, the MTRS introduces a high-quality reform package aimed at improving revenue mobilization while strengthening efficiency, equity, and the ease of administration and compliance.

The tax policy reform package developed in this section is expected to increase revenue by 3.5 percent of GDP in five years. In quantifying impacts, the analysis relies on several technical reports (Arnold 2012; Sugana, Zolt, and Gunadi 2013; IMF 2014; World Bank and Ministry of Finance 2015; IMF 2016; Hamilton-Jart and Schulze 2017). Figure 6.3 summarizes the revenue effects from reform measures in the VAT, income tax, excises, and property tax. There is some

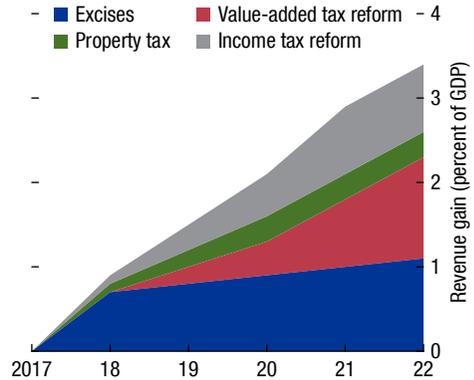
⁶Although legal aspects of tax system reform are important, this chapter does not separately discuss them; rather, it integrates those into the discussions about tax policy and tax administration.

Figure 6.3. Projected Revenue Increases from Tax Policy in the Medium-Term Revenue Strategy

1. Contribution of Tax Policy Measures of the Medium-Term Revenue Strategy



2. Contribution of Tax Policy (Cumulative Effect)



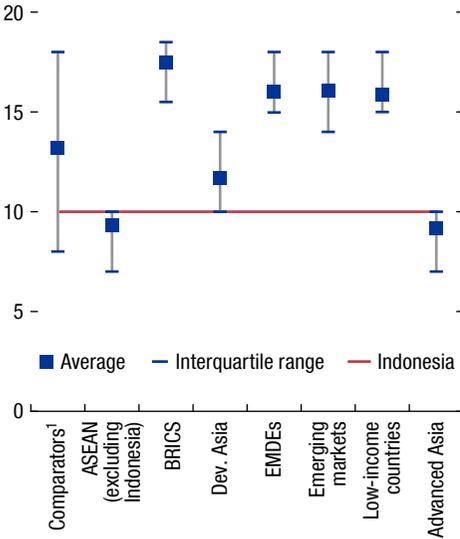
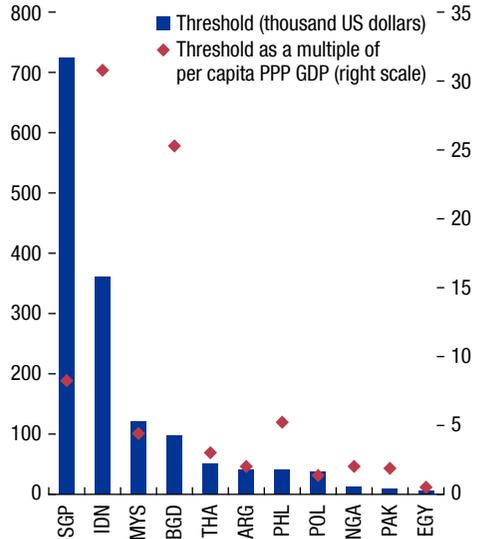
Source: IMF staff calculations.

front-loading in the first year of the MTRS (1 percent of GDP), which mainly comes from the introduction of the vehicle excise. Reforms to the VAT and the income tax are smoothed over the entire MTRS period, with revisions in the VAT law assumed to be implemented in 2020 and 2022.

To facilitate transparency and good governance in tax policymaking, the Indonesian government should also start publishing an annual tax expenditure study to assess the revenue forgone from preferential tax arrangements that deviate from the benchmark system. The study should be integrated into the regular budget cycle to inform Parliament and other stakeholders in making well-informed decisions.

VALUE-ADDED TAX

Indonesia’s 10 percent VAT rate is in line with that of other countries in the Association of Southeast Asian Nations (ASEAN), but is relatively low in a wider international context (Figure 6.4, panel 1). Since 2014, VAT revenue has declined as a share of GDP, driven in part by increasing weaknesses in its design. The number of VAT-exempt activities is long, while the VAT registration threshold (another form of exemption) is exceptionally high—at 40 times GDP per capita, one of the highest in the world (Figure 6.4, panel 2). The combination pushes too many businesses outside the scope of the VAT. Although the direct revenue loss from exemptions is likely modest, exemptions create two major problems: First, they lead to cascading effects because exempt suppliers are unable to claim VAT credits on their inputs. This distorts production patterns and reduces welfare—both outcomes that the VAT principally aims to avoid. Second, they lead to

Figure 6.4. Comparing Features of the Indonesian VAT System**1. Comparison of VAT Standard Rates (Percent)****2. Comparison of VAT Thresholds**

Sources: IMF, Fiscal Affairs Department Rates Database; and IMF staff calculations.

Note: ASEAN = Association of Southeast Asian Nations; BRICS = Brazil, Russia, India, China, South Africa;

Dev. Asia = developing Asia; EMDEs = emerging market and developing economies; PPP = purchasing power parity;

VAT = value-added tax. Data labels in panel 2 use International Organization for Standardization (ISO) country codes.

¹Comparator economies = Bangladesh, Brazil, Egypt, Iran, Mexico, Nigeria, Pakistan, Philippines, Russia, Thailand, Turkey.

breaks in the VAT chain, which reduces voluntary compliance—another key attraction of the VAT. Indeed, the very high VAT compliance gap that has been estimated for Indonesia is in part due to the myriad of exemptions and the excessively high registration threshold.⁷

Revisions to the VAT law currently under discussion should be guided by the removal of distortions and an increase in revenue productivity. The new VAT structure should be broad-based, with a single rate (including for tobacco) and with zero rating of all exports (including services and supplies to special economic

⁷Eliminating exemptions may require modifications to the policymaking process. Requests for exemptions come from different sectors for different reasons. A typical request for exemption is made by claiming that a particular good is of significant strategic importance for the economy and hence should be VAT-exempt. Exemption requests are often made for agricultural products, with the aim of helping farmers receive a better price and a higher income. However, the actual beneficiaries of these exemptions are often the middlemen rather than the farmers. Another kind of request for VAT exemptions aims to favor certain domestic activities over their VAT-free international counterparts. To effectively avoid such exemption creep in the VAT, only the minister of finance (who is primarily responsible for taxation) should be able to propose certain exemptions and a cost-benefit assessment should be made to assess the implications before a measure is sent to Parliament.

zones). Social objectives or certain industrial policies should no longer be accommodated via special VAT treatment, but instead should be achieved by using other instruments—such as expenditure policy—that are more effective and efficient for that purpose. The following concrete reforms should be part of the VAT revision in the coming years:

- *Removal of exemptions:* Exemptions for mining, agriculture (including plantation and forestry products), tourism, domestic transportation, employment services, fee-based financial services, art, entertainment, electricity, and water can be eliminated. Article 16b of the VAT law, which enables the issuance of regulations that impose VAT exemptions, should be phased out during 2018 and 2019 so that no new exemptions can be introduced without parliamentary approval. A short list of “standard exemptions” can remain, such as for margin-based financial services, education, and health care. Estimates of the revenue effect of removing exemptions vary, but are generally modest and are unlikely to exceed 0.2 percent of GDP.
- *Reduction of the registration threshold:* The increase in the VAT threshold in 2014 from Rp 600 million (about US\$45,000) to Rp 4.8 billion (about US\$350,000) reduced the tax base. Reversing this change is expected to raise revenue by 0.2 percent of GDP.
- *Removal of the sales tax on luxury goods (STLG):* The STLG is another example of inconsistent Indonesian tax policy in the sense that, while the VAT applies generally at each stage of the value-added chain, the STLG is a one-time sales tax applied to luxury goods. The STLG in 2015 raised only 0.15 percent of GDP, 90 percent of which came from vehicles. Such small revenue is not worth the complexity and administrative efforts the STLG creates. Therefore, the STLG can be repealed, and all goods should be subject to the normal VAT rate. Vehicles should instead become subject to a specific excise (see the “Excises” section).
- *A gradual increase in the standard VAT rate:* Raising the VAT rate in the current system runs the risk of magnifying existing distortions induced by the large number of exemptions. Therefore, the VAT rate can be increased, but only after several exemptions have been removed and the VAT registration threshold has been reduced. An increase in the VAT rate by 1 percentage point has been estimated to increase revenue by approximately 0.4 percent of GDP. An increase in the VAT rate to 11 percent in 2021 and to 12 percent in 2022 is expected to boost revenue by 0.8 percent of GDP by the end of the MTRS period.

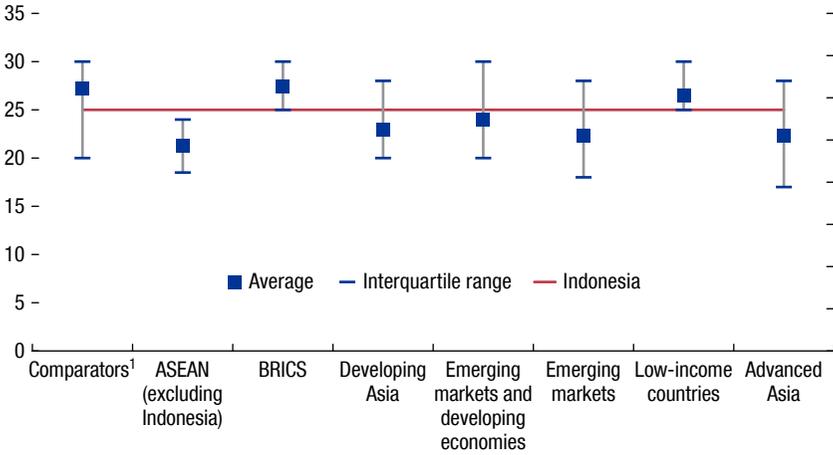
INCOME TAX

Income taxes currently raise about 5 percent of GDP in Indonesia, which is close to levels in other large emerging market economies. Yet, there are two key weaknesses in Indonesia's income tax. First, the myriad of special regimes for businesses of different sizes or in different sectors has created an uneven playing field. For

instance, there is excessive discrimination between firms as a result of sector-based final tax regimes, the overly generous presumptive taxation of small and medium-sized enterprises (SMEs), and preferential treatment of selected businesses. This system has created several arbitrage opportunities for businesses and induced organizational and allocative distortions, including significant misallocation of capital and labor. This is reflected in lower productivity than what could otherwise be achieved through a more neutral system. Second, the Indonesian income tax deliberately excludes a large share of the population from the tax base, including the rapidly growing middle class. For example, the nontaxable income threshold in Indonesia is quite high, about 90 percent of the country's per capita income. In 2016, the decision was made to increase the threshold further to boost consumption. However, it has become so high that it forgoes significant opportunities to tap an important and growing revenue base (Kharas 2017). In addition, both the revenue productivity and the progressivity of the PIT could be enhanced by bringing more middle-class families into the tax base. The following reforms to the income tax would boost revenue, enhance tax neutrality, and strengthen its progressivity:

- *Structure of the corporate income tax:* In the new tax law, one uniform CIT rate should apply to all corporate income (except for shipping, which is commonly treated separately). Final withholding schemes on deemed profits should thus be abolished, the 50 percent discounted rate for medium-sized businesses should be removed, and corporations should no longer be eligible for the small business regime, even if their turnover is less than the new SME threshold. Also, discretionary tax incentives in the CIT should be phased out. The precise revenue implications of this package are hard to predict without access to taxpayer data and a corporate sector microsimulation model. Yet, any revenue gains from these base-broadening measures could be used to reduce the headline CIT rate at the end of the MTRS period as part of an efficiency-enhancing reform. Although the current CIT rate of 25 percent is close to that of Indonesia's peers (Figure 6.5), a slight reduction will mitigate outward profit shifting by multinational firms and may help attract foreign direct investment.
- *Structure of the personal income tax:* In advanced economies, the middle class typically bears a large share of the PIT burden. Indonesia deliberately eliminates the middle class by imposing a relatively high basic exemption threshold (Figure 6.6, panel 1). Together with the rate structure, this renders the average PIT burden on middle-class families much lower than in other countries (Figure 6.6, panel 2). The new income tax law should aim to gradually expand the PIT base and strengthen its progressivity. The base would best be individual income instead of family income. Progressivity can be strengthened by replacing the basic tax deduction with a nonrefundable tax credit, calibrated to leave taxpayers in the first bracket (subject to a 5 percent rate) unaffected. The basic tax credit should be held nominally fixed over the coming years, so that an increasing share of people will gradually enter the PIT base. The top PIT rate of 30 percent might remain unchanged, but the level of income at

Figure 6.5. Distribution of Statutory Corporate Income Tax Rates (Percent)



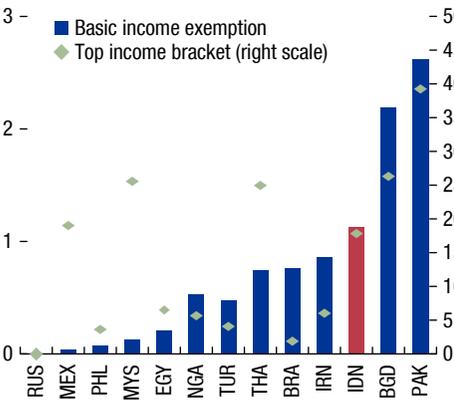
Sources: IMF, Fiscal Affairs Department Rates Database; and IMF staff calculations.

Note: ASEAN = Association of Southeast Asian Nations.

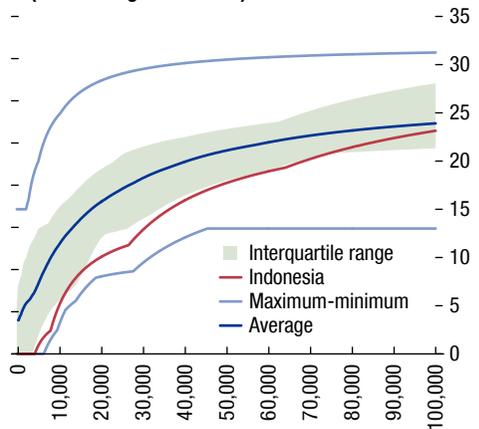
¹Comparator economies = Bangladesh, Brazil, Egypt, Iran, Mexico, Nigeria, Pakistan, Philippines, Russia, Thailand, Turkey.

Figure 6.6. Personal Income Tax Thresholds as Multiples of Per Capita GDP and Relative Progressivity of Personal Income Tax Schedule

1. Thresholds as Multiples of Per Capita GDP



2. Relative Progressivity of Personal Income Tax Schedule (Percent of gross income)



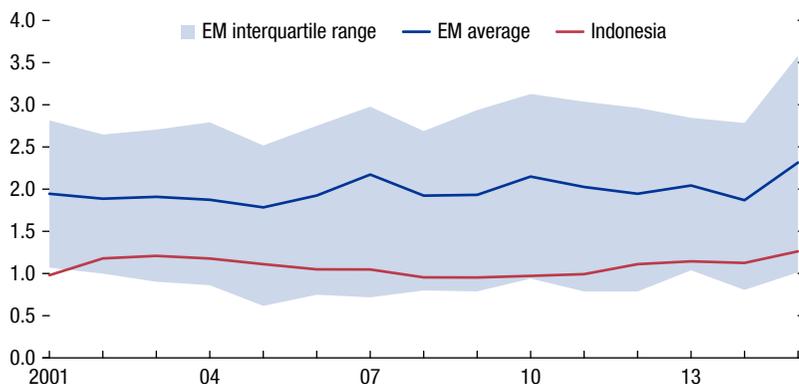
Sources: International Bureau of Fiscal Documentation; and IMF staff calculations.

Note: Data labels in panel 1 use International Organization for Standardization (ISO) country codes.

which this rate applies can be significantly reduced to further strengthen progressivity. The new rate structure should also be adjusted in such a way that revenue from the PIT will increase by 0.3 percent of GDP in 2022.

- *Small business regime:* The gross turnover threshold for Indonesia's special SME tax regime is exceptionally high by international standards, meaning that too many medium-sized businesses are subject to the 1 percent final turnover tax. This has several disadvantages: (1) it creates distortions in firm behavior (for example, it discourages firms from growing, or encourages them to split into multiple small firms); (2) it creates large horizontal inequities (for example, between firms with different margins on turnover); and (3) with a low rate of 1 percent, the inclusion of many medium-sized enterprises comes at the expense of revenue. A special SME regime should remain part of the new income tax law, but be applied only to unincorporated firms with limited ability to keep proper books and records. The special regime thus serves the purpose of reducing the compliance burden on very small firms. The new threshold under the MTRS can best be aligned with the VAT threshold and set at Rp 600 million. This reform to the SME regime is likely to yield some additional revenue, which is conservatively estimated to be 0.1 percent of GDP. However, behavioral responses may generate additional revenue and enhance productivity by eliminating distortions.
- *International taxation:* Indonesia has already adopted measures to comply with minimum international standards on base erosion and profit shifting and automatic exchange of information (AEOI). Moreover, it has implemented other anti-avoidance measures, such as controlled foreign corporation legislation and restrictions on interest deductibility. Further strengthening of these measures is underway, for instance, with respect to transfer pricing regulations, provisions against treaty shopping, the definition of a permanent establishment, and a general anti-avoidance rule. While these measures are important for protecting the CIT base and for Indonesia to comply with internationally agreed-upon standards, their potential revenue impact should not be overestimated. For instance, the adoption of anti-avoidance measures can at best capture a fraction of the revenue loss from base erosion and profit shifting; and experience with the Foreign Account Tax Compliance Act in the United States suggests a very modest revenue gain of about 0.004 percent of GDP per year (Byrnes and Munroe 2017), implying that revenue effects from AEOI are likely small, especially in the short to medium term. Another issue relevant for Indonesian international taxation rules is the country's double tax agreements. Thus far, these treaties have been guided by the assumption that Indonesia is receiving investment from other countries, rather than investing abroad. However, more and more Indonesian companies are expanding their business opportunities abroad so that outbound investment has become more important. This changes the perspective on double tax agreements. Indeed, different guidelines for double tax agreements are needed, which may also be used as a pathway to reforming other aspects of the domestic tax system.

Figure 6.7. Excise Revenues: Indonesia versus Emerging Market Economies
(Percent of GDP)



Sources: IMF, World Revenue Longitudinal Database; and IMF staff calculations.

Note: EM = emerging markets.

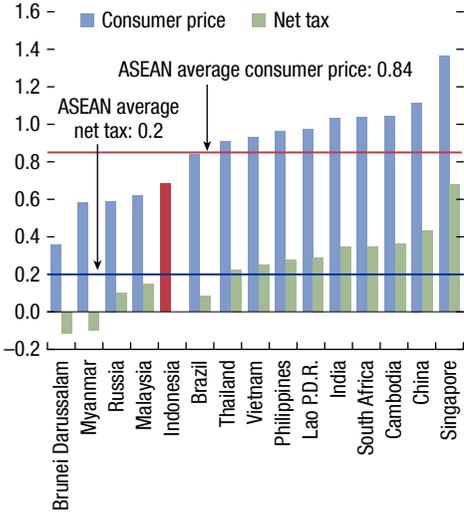
- Alternative minimum tax:* To provide an effective safeguard against tax avoidance and tax evasion by corporations, an alternative minimum tax (AMT) in the CIT has been proposed. The AMT would be based on a 1 percent tax on turnover. A corporation would thus pay the maximum of either the ordinary tax liability under the CIT or the AMT. One possible disadvantage of the AMT is that it will impose a tax on loss-making companies. To address this possibility, it would be accompanied by a generous carry-forward period of 10 years. Thus, the difference between AMT payments and regular CIT liability would be creditable against future CIT liabilities. The carry-forward provision would also help smooth volatility of tax revenues in the budget. The AMT has an expected revenue yield of 0.2 percent of GDP.

Excises

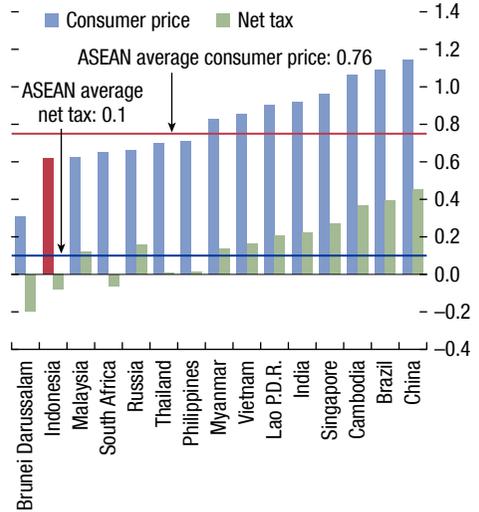
Excise revenues in Indonesia, almost exclusively from tobacco, currently stand at 1.2 percent of GDP, which is low compared with other countries. Average excise revenues in ASEAN countries are 2 percent of GDP, typically generated by excises on a wider set of products, including fuel and vehicles. In Thailand, excise revenues are about 4.6 percent of GDP; in other emerging market economies, the average excise-to-GDP ratio exceeds 2 percent (Figure 6.7). These comparative statistics indicate that Indonesia could expand its excises beyond tobacco—for which a clear road map has already been developed and a reform program is underway—to contribute to the MTRS's revenue mobilization objectives. Moreover, some excises can serve other social purposes, such as regulating undesirable behaviors that lead to pollution or traffic congestion. Two new excises are particularly attractive as part of the MTRS:

Figure 6.8. Fuel Taxes in ASEAN and BRICS

1. Gasoline: Consumer Price and Net Tax, 2016 (US\$/liter)



2. Diesel: Consumer Price and Net Tax, 2016 (US\$/liter)



Source: IMF, Energy Subsidy Database.

Note: ASEAN = Association of Southeast Asian Nations; BRICS = Brazil, Russia, India, China, South Africa; net tax = consumer price minus supply cost.

- Vehicle excise:** Vehicles are currently subject to the STLG. The STLG was introduced initially to enhance the progressivity of the revenue system by taxing luxury goods that are disproportionately consumed by rich households. The revenue, however, comes almost exclusively from vehicles. It appears, however, that the sales price of vehicles is often significantly undervalued and misreported, which has eroded the base of the STLG. Indeed, STLG revenue performance as a share of GDP has declined in recent years. Following international practice, the STLG on vehicles can better be transformed into a specific vehicle excise, independent of price. As outlined by the World Bank (2015), the amount of excise due on the sale of each new vehicle can be based on the engine size of the vehicle. The vehicle excise base can be expanded compared with current STLG treatment by also covering vehicles that are currently exempt, such as pickups and other trucks. The introduction of the vehicle excise is expected to raise additional revenue of 0.6 percent of GDP. To prevent a decline in this share over time, the specific excise rates should be adjusted yearly for inflation. The reform has specific appeal in the context of the MTRS because a significant part of the revenue will be spent on new infrastructure projects that will benefit vehicle owners.
- Fuel excise:** Indonesia currently imposes no net tax on gasoline, while diesel is still subsidized. This practice contrasts with other ASEAN countries and the BRICS (Brazil, Russia, India, China, South Africa), where gasoline and

diesel are subject to specific excises. For example, the average net tax (composed of VAT and excise) on gasoline in ASEAN countries is equivalent to Rp 2,682 per liter, while the BRICS average is equivalent to Rp 3,476 per liter (Figure 6.8). A net tax on gasoline similar to the average in ASEAN will generate expected revenue of 0.4–0.5 percent of GDP; bringing the diesel excise to the ASEAN average will add another 0.2–0.3 percent of GDP. Fuel excises have several merits for Indonesia. First, they provide a powerful tool for internalizing the cost of environmental damage caused by emissions of carbon dioxide and local air pollutants in prices, as well as costs attributed to road congestion, accidents, and noise. Thus, the excise can support Indonesia's environmental objectives under its National Medium-Term Development Plan and contribute to achieving the Paris Agreement pledge by 2030 to lower greenhouse gases by 29 percent below “business-as-usual” levels. Second, because fuel consumption and road use are closely connected, the fuel excise acts as a user charge to finance infrastructure investment. In the MTRS, the fuel excise could gradually be implemented over the next five years, to reach a revenue target in 2022 of 0.5 percent of GDP.

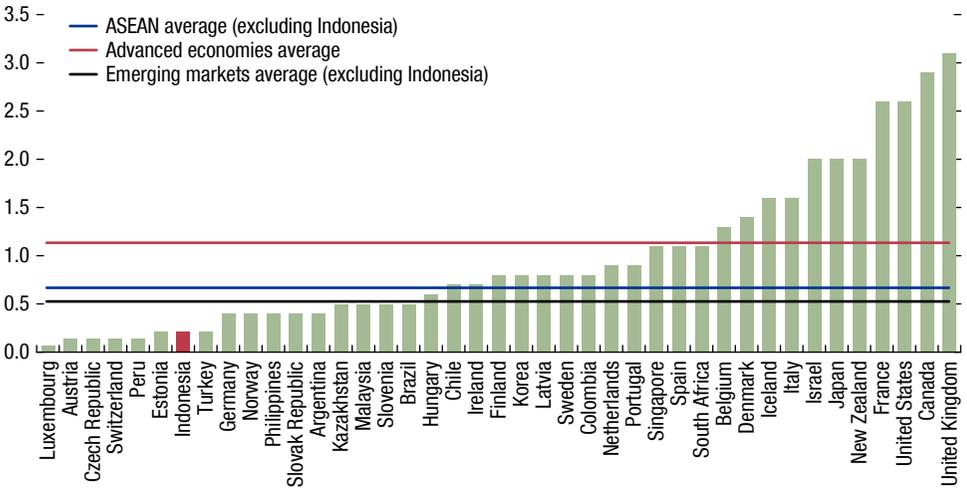
PROPERTY TAX

Recurrent property taxes are generally considered the most growth-friendly because they distort business and consumer decisions less than do other taxes. They are also perceived as fair because of the relatively close link between the tax obligation and the benefits that the taxpayer derives from local public services. By its transparency, a higher recurrent property tax rate can induce greater political accountability and improve the quality of the overall public financial system (local and central) by reducing reliance on intergovernmental transfers and encouraging fiscal responsibility on the part of local governments. Property transfer taxes (or stamp duties) are generally easy to collect, but create larger distortions in property markets and are therefore less efficient.

In Indonesia, revenue from property taxes is low and there is scope for an increase. Since 2012, the land and building tax has been largely devolved to local governments, in line with international practice. Current revenue from the recurrent property tax is about 0.3 percent of GDP, which is low compared with ASEAN averages, large emerging markets, and advanced economies (Figure 6.9) for the following reasons. First, property values used for the assessment of the property tax are considerably below market value, which results in a narrow base. Second, the law does not allow municipalities to set rates higher than 0.3 percent of the assessed value, which is also low in an international context.

To boost revenue from property taxes and improve their efficiency, the MTRS should contain at least the following three reform measures:

- *The maximum allowable rate of the recurrent land and building tax should be increased from 0.3 percent to 1 percent:* This increase will enable local governments to mobilize an additional 0.1 percent of GDP during each of the first three years of the MTRS. Central government transfers can then gradually

Figure 6.9. Tax-to-GDP Ratio for Recurrent Taxes on Immovable Property

Sources: Organisation for Economic Co-operation and Development; and IMF staff calculations.

Note: ASEAN = Association of Southeast Asian Nations.

be reduced by 0.3 percent of GDP as local governments receive more fiscal autonomy. Local governments can also use the increase in the land and building tax to recover revenue losses from reforms of other local taxes, such as the 10 percent turnover tax on hotels and restaurants (which will be moved into the standard VAT regime).

- *Properties should be revalued:* An accurate property register should be developed, accompanied by an efficient system of valuation. With the central government issuing guidelines regarding the initial appraisal and subsequent mass adjustments, local governments should be responsible for the assessment, as they are now. Revaluation closer to market values will broaden the property tax base in many districts as another way to boost local tax revenue.
- *The maximum allowable rate of the property transaction tax (stamp duty) can gradually be reduced:* Currently, the stamp duty rate is 5 percent. This tax, however, is relatively distortive and reduces the number of transactions in property markets. Because the recurrent property tax is more efficient, encouraging local governments to shift from the property transaction tax toward the recurrent property tax will enhance efficiency.

TAX SYSTEM REFORM: ADMINISTRATION

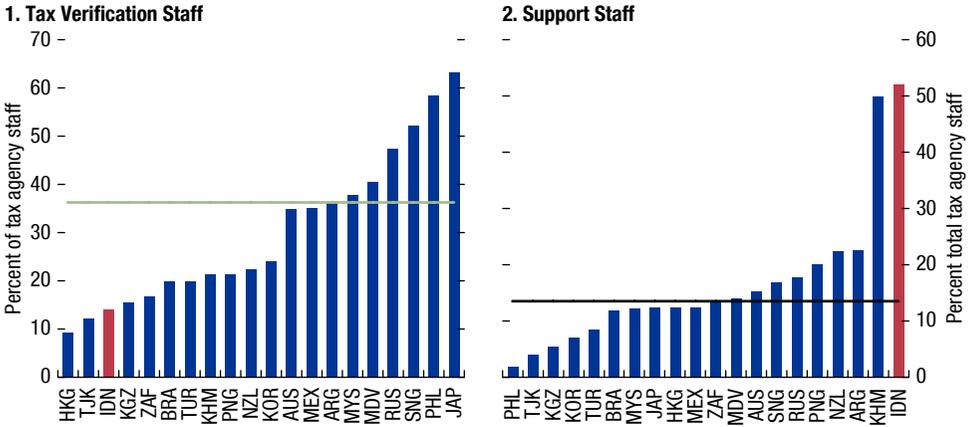
An effective and efficient tax administration is crucial for strengthening Indonesia's tax system. Although the DGT's performance has improved in some areas in recent years, potential remains for significantly increasing tax collection

Box 6.3. High-Risk Areas of Noncompliance

- *Employer withholding*: Only 20 percent of businesses file their employer withholding tax returns on time, and only 5 percent make timely payment of their withheld taxes.
- *Value-added tax*: The overall value-added tax compliance rate declined from 53 percent in 2013 to 45 percent in 2015. The rate of on-time filing of value-added tax returns declined from 64 percent in 2014 to 52 percent in 2016.
- *Professional services providers*: Only about half of individuals who provide professional services file their income tax returns on time, while fewer than one in four professional services corporations meet their filing obligations.
- *High-wealth individuals*: About 2,000 Indonesian individuals own about US\$230 billion in assets; their complex tax affairs provide opportunities for aggressive tax planning.

through further improvements in tax administration. To this end, the MTRS should include a targeted set of initiatives aimed at strengthening the DGT's capacity to do the following:

- *Reduce noncompliance and tax evasion*: As illustrated in Box 6.3, high non-compliance risks are present in the Indonesian tax system. Large numbers of businesses and individuals fail to comply with their tax obligations. Among the major taxes, filing compliance with the VAT and employer withholding is the poorest. Other areas of high risk of noncompliance include high-wealth individuals and professional services providers. Poor compliance has not only resulted in large losses of tax revenue, but has also created unequal competition between those taxpayers who comply with the tax rules and those who do not. Even worse, the failure of some individuals and businesses to pay their fair share of taxes threatens to undermine Indonesians' confidence in the fairness of the tax system and the integrity of its administration. Increasing taxpayers' compliance by a large margin would mobilize substantial additional revenues. Based on the estimates below, it is expected that tax administration reforms could increase the tax yield by up to 1.5 percent of GDP over the next five years. To achieve this increase, a comprehensive compliance improvement plan should be implemented, along with major institutional changes to sustain the revenue gains over the medium term.
- *Pursue institutional reform to increase the productivity of the DGT's workforce*: Routine tax administration suffers from low productivity. For instance, low compliance with the obligation of all employees to file a tax return has led the DGT to allocate a disproportionate number of its staff (more than 50 percent) to enforcing taxpayers' routine registration (that is, extensification) and filing obligations. This work suffers from low productivity because it is carried out manually and in an untargeted manner, reflecting weak information systems and, until recently, the absence of risk-based approaches. Thus, the DGT allocates far too many of its staff members to routine support (Figure 6.10, panel 2) and supervision tasks and far too few to auditing compared with regional peers (Figure 6.10, panel 1). For similar reasons, the DGT's auditor program is plagued by low productivity. At present, about

Figure 6.10. Allocation of Tax Staff to Verification and Support Functions

Source: Authors' calculations.

Note: Data labels in figure use International Organization for Standardization (ISO) country codes.

80 percent of the DGT's audit resources are allocated to examining refund cases that generate only 20 percent of the additional revenue from audit, while only 20 percent of the DGT's audit resources examine the more productive nonrefund cases that generate 80 percent of the audit results. This misallocation is due mainly to the legal obligation that requires the DGT to audit almost all refund claims, regardless of their revenue risk. As a result, the DGT gives insufficient attention to potentially large amounts of unreported taxes by most taxpayers who do not claim a refund.

Compliance Improvement Program

To bring the high rates of noncompliance that plague Indonesia's tax system under control, the DGT needs to implement a special *compliance improvement program*. The program would include specific plans aimed at improving taxpayers' compliance in four key areas that have high risks of revenue leakage:

- Value-added tax:** The VAT provides an important revenue stream, contributing almost 40 percent of total DGT collections, equating to 3.4 percent of GDP. However, VAT compliance rates are low and declining, from 53 percent in 2013 to 45 percent in 2015. The rate of on-time filing of VAT returns has also declined, from 64 percent in 2014 to 52 percent in 2016. Tax arrears have increased 20 percent. Tax yield could be increased significantly if the VAT compliance rate were increased to the levels of regional comparators, such as Thailand (about 80 percent VAT compliance). A compliance improvement plan for the VAT could focus on promoting and enforcing VAT registration, filing, correct reporting, and payment. In addition to increasing attention to monitoring and enforcing these core tax

obligations, a small number of high-risk sectors and high-risk activities should be identified and targeted for closer attention.

- *Employer withholding*: Employers play an important role in Indonesia's tax system, but many are not complying with their obligation to withhold and remit taxes on their wage payments. About 2.4 million employers withheld and remitted Rp 114 trillion to the DGT in 2015 on behalf of their employees. This represents 10 percent of total DGT tax collections. Employers also paid Rp 36 trillion in social security contributions. However, many employers are failing to comply with their obligation to file their withholding returns and remit the taxes withheld from employees on a timely basis. Only 20 percent of businesses file their employer withholding tax returns on time, and only 5 percent make timely payment of their withheld taxes. This failure is putting large amounts of tax revenue at risk, requiring immediate and stepped-up attention to bring this under control. The DGT could implement an intensified compliance program to ensure that businesses meet their employer obligations. By providing employers with the necessary tools, education, and support, the DGT could help them comply with their obligations. Specific support can be given to businesses at critical points in their business life cycle, such as when they hire their first employee. The DGT should also strengthen its data matching and intelligence to identify employers who are at high risk of not complying, followed by enhanced audit and reviews when risks are confirmed.
- *Wealthy individuals*: This group includes professional services providers, high-income individuals, and high-wealth individuals (HWIs). Their perceived behavior has a powerful impact on community views about the fairness of the tax system. International experience suggests that these groups pose a substantial compliance risk. In Indonesia, only about half of all individuals who provide professional services file their income tax returns on time, and fewer than one in four professional services corporations meet their filing obligations. HWIs are an important and difficult group to manage because of the complexity of their affairs and the opportunities and incentives they have to engage in international tax planning. Building high-quality third-party data and analytic capabilities would be critical to strengthening oversight of this group.
- *Ultra-high-wealth individuals (UHWIs)*: This group is separated from the HWIs because of specific patterns of noncompliance. The number of UHWIs in Indonesia was estimated to be almost 2,000 in 2016. They owned about US\$230 billion in assets, up by almost 10 percent compared with 2015 (Wealth-X 2017). The DGT could materially improve oversight of the 1,000 wealthiest individuals by establishing a dedicated UHWI team in the Large Taxpayer Office, LTO—currently the HWI team. The unit should identify and profile the top 1,000 investors and business operators and identify better ways to meet their service needs to mitigate the material compliance risks that some UHWIs present. Initially, the unit should focus

on building strong relationships and ensuring premium support for compliance with all core tax obligations. Potential noncompliance should be identified by maximizing the use of available data and should be addressed through personalized approaches reflecting the circumstances of each taxpayer. Strong cooperation from all government and nongovernment data holders is required to support UHWI compliance improvement.

The compliance improvement program will provide a systematic approach to increasing taxpayer compliance. For each of the four high-risk areas, a separate plan will be prepared to identify the specific risks across the key compliance indicators (registration, filing, payment, reporting). The plan should also provide customized treatments for mitigating the risks (including a mix of taxpayer services, enforcement programs, and legislative changes), set targets for the number and types of treatments that are to be delivered by the field offices, and include a monitoring and evaluation system to track the plan's delivery by the operational tax offices and assess its impacts on improving compliance. Furthermore, the plan should be underpinned by the following five initiatives to enhance the DGT's capacity to identify and deal with noncompliance and tax evasion.

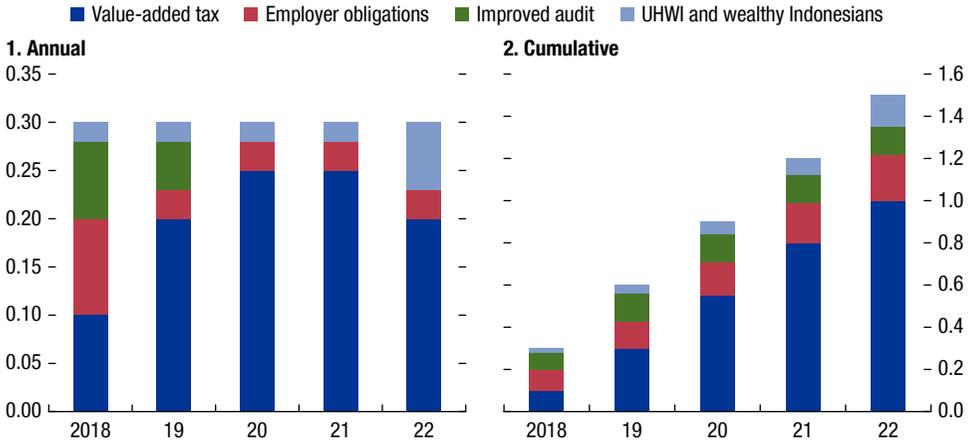
- *Strengthening audit:* Audit workforce numbers are low by international standards. A significant increase in audit staff is required, probably an almost doubling of the existing numbers. This increase will be difficult to deliver in the short term without risking quality. A national audit taskforce should be established to ensure that a steady stream of trained auditors is available to all regions over the next two years, including elite auditors working with human resources staff and others. Improved recruitment and training and the development of a national training curriculum are also required, including master class training to build specialist-development programs that strengthen the LTO and Medium Taxpayer Office (MTO) skill sets. The national audit taskforce is a prerequisite for effective deployment and retention of skilled resources and for supporting a sustainable long-term audit capability. Audit can also be strengthened by joint audits among relevant authorities. For example, recent collaborations between the DGT and the DGCE have resulted in a better understanding of taxpayers' behavior in respect of import, export, and tax filings.
- *Data-matching capability:* Self-assessment systems depend upon a comprehensive set of high-quality data for effective management, and investing in good data will pay dividends in the long term. Modern tax administrations use data to reduce compliance burdens through better targeting of services, repopulating tax returns, and better risk management. These activities make it easier for taxpayers to comply and reduce costs for compliant taxpayers. Strengthening access to data, and improving its quality, is also critical for supporting better detection of noncompliance, including by matching data from third parties to data reported by taxpayers on their tax returns. Currently, the DGT uses 67 data sets, which will need to be reorganized into a smaller number of high-priority databases. A pilot program can be

conducted with the objective of developing a longer-term comprehensive data-improvement methodology. Based on the lessons learned from the data-improvement pilot, the data-improvement methodology can be progressively deployed across all required data sets, with the aim of progressively completing the core set within three years. Because of joint audits, immediate data matching between the DGT and the DGCE has resulted in better profiling of taxpayers. Both institutions are able to better identify the risk profiles of their clients, whether they are importers, exporters, or taxpayers.

- *Compliance risk management (CRM):* CRM approaches are critical for supporting improved taxpayer compliance. Initially, they can focus on improving case selection. As the processes mature and the data sets improve, they can be expanded to include greater environmental scanning to detect and analyze system risks. The DGT's first-generation CRM system, which is under pilot in 16 district tax offices, is consistent with international CRM case selection approaches. National deployment is a high priority to better target resources to higher-risk cases. The CRM includes modules to support work in each of the core tax functions (registration, filing, correct reporting, payment) and has the potential to materially improve productivity.
- *Efficiency of support and supervision:* Successful revenue administrations respond quickly to changing organizational priorities, and ensure that staff are assigned the highest-priority work. Lower-value activities, such as the current extensification work and the auditing of low-risk refunds, are inefficient uses of resources. Indeed, refund audits should focus on high-risk cases, while extensification should target individuals and businesses with significant tax potential. The large amount of resources currently consumed by these activities could be reallocated to more productive activities. Being more responsive to a changing risk landscape is critical to supporting the compliance improvement program. Barriers to efficient staff assignment, work allocation, and risk-based compliance management should be systematically identified and removed, and the DGT should diagnose the barriers and garner support to enable more timely administrative responses, in line with international good practice.
- *Tax amnesty and AEOI intelligence:* The international momentum on full disclosure and exchange of information for tax purposes is building up through initiatives such as the Organisation for Economic Co-operation and Development's (OECD's) Common Reporting Standard (CRS) and Automatic Exchange of Information (AEOI). Ahead of the introduction of the CRS, Indonesia held a tax amnesty to encourage investors to repatriate undeclared foreign assets; the amnesty also covered domestic assets.⁸ This effort has generated revenue and provided valuable data. CRS and AEOI commence in 2018 and will increase the sharing of financial data on citizens

⁸Indonesia offered the tax amnesty between July 2016 and March 2017. About 970,000 taxpayers participated in the program. Total assets declared amounted to about 39 percent of GDP, about a quarter of which were foreign assets.

Figure 6.11. Projected Revenue Increases from Compliance Improvement Program in the Medium-Term Revenue Strategy
(Percent of GDP)



Source: IMF staff calculations.

Note: UHWI = ultra-high-wealth individuals.

between governments. Together with the tax amnesty data, there is better information than ever before and a valuable opportunity to strengthen compliance by HWIs and UHWIs. Yet international experience highlights the risk to revenue and community confidence if amnesty is not followed by credible actions to strengthen enforcement. Such actions include keeping amnesty participants in the system and compliant, and dealing firmly with nonparticipants. The DGT should thus develop a plan to ensure that the information from the tax amnesty and AEOI are exploited.

The compliance improvement plan and its supporting initiatives have the potential to increase tax collections by 0.3 percentage point of GDP per year, adding up to 1.5 percentage points of GDP in 2022, if effectively implemented (Figure 6.11).⁹

Institutional Reforms

The MTRS should include several institutional reforms aimed at making the DGT a stronger, more credible, and more accountable organization. These

⁹This increase is based on the following assumptions: (1) for the VAT initiative, the VAT compliance rate is estimated to increase gradually from 45 percent to 65 percent; (2) for the employer obligations initiative, the compliance rate is assumed to increase by about 25 percent; (3) for the audit improvement initiative, the revenue impact is based on the proposed increase in the number of auditors and improved productivity; and (4) for UHWIs and HWIs, the revenue increase assumes gains from identifying people outside the tax system, and from improved audit results from enhanced use of AEOI data and tax amnesty data.

objectives require reforms to the DGT's autonomy, budgetary arrangements, organizational structure and office network, and information systems. Implementation of these reforms in the right order and in a smooth fashion is crucial to supporting the much-needed improvement in taxpayer compliance and, consequently, to raising collection performance. It will also help sustain the revenue gains from these efforts.

- *Autonomy and budget flexibility:* The DGT should be provided additional flexibility in managing and organizing its workforce. However, it should remain an integral directorate within the Ministry of Finance (MoF). Greater flexibility will be achieved by vesting the minister of finance (instead of other government agencies) with final approval authority over key aspects of the DGT's organization, management, and human resources policies. For instance, the authority to approve a change to a job-grading classification, the internal structure of the DGT, or employee allocation within the DGT should be with the MoF rather than with the Ministry of Administrative and Bureaucratic Reform. The MoF can give the DGT greater flexibility in its operational decisions and monitor delivery against a small set of performance measures. This would allow the DGT to move funds between the major budget categories needed to enhance delivery. For instance, substantially increasing the auditor workforce requires reallocating existing staff from nonaudit to audit positions as well as seeking additional budget resources to create more auditor positions.
- *Organization:* Changes in the DGT's organization are necessary to curb corruption and enhance the productivity of its staff. The DGT's organizational reform agenda should therefore be better aligned with good international practices and standards regarding staff integrity. For instance, surveillance of local counties that lack a physical DGT presence can be improved by periodically dispatching tax officers or by adding supervision functions to customer service centers. At the same time, more complex technical functions such as tax audit and debt-collection enforcement can better be centralized to achieve the critical mass needed to provide stronger technical backing to these complex functions. Integrity measures are required to create greater awareness among DGT employees about the directorate's own Code of Conduct and by publicizing to staff the nature and consequences of misconduct. Alongside these integrity measures, human resources planning and development initiatives are needed to formulate well-founded internal staff structure and staff allocation proposals for the new priority work areas in the MTRS, such as the compliance improvement plan.
- *Information technology (IT):* Improvements to the IT system should be prioritized to support compliance management. A new computer system (the core tax administration system) could strengthen compliance and improve tax officer productivity. To achieve the best results, the new IT system will be combined with the redesigning and simplification of core tax administration processes, including registration, filing, and payment. The new system's

key compliance and productivity-enhancing features will include (1) strengthening risk management, case selection, and data-matching capacities to better target the DGT's enforcement activities on highest-risk areas and minimize burdens on compliant taxpayers; (2) improving case and workflow applications to allocate work to tax officers in an efficient manner and help them keep track of all actions taken and pending; (3) replacing the current fragmented local-level databases with national databases to develop a whole-of-taxpayer picture of taxpayers' affairs across income sources, tax types, and location; and (4) deploying the new system initially toward the large and medium taxpayer offices to strengthen control of the most important revenue sources, before extending the system to larger numbers of small taxpayer offices.

Implementation of these reforms in the right order and in a smooth fashion is crucial to supporting much-needed improvement in taxpayer compliance and DGT staff productivity. This will help sustain the revenue gains from the MTRS.

SUSTAINED POLITICAL COMMITMENT AND COORDINATED CAPACITY DEVELOPMENT SUPPORT

Tax system reform is not easy because there are multiple stakeholders, interests, views, and perspectives that need to be aligned. The numerous actors make it necessary to manage the strategy well to achieve the key objectives as part of a nationally owned effort. This section discusses six important areas of MTRS management, which are all essential to making the MTRS successful. These areas are governance of the reform, analysis to inform the public debate, mobilization of stakeholder support, communication strategy, resource commitment to ensure implementation of reform efforts, and priorities and timing. Apart from managing the internal process of the MTRS within Indonesia, it is also important to coordinate capacity development partners' efforts that support the MTRS, both in the analysis of tax system reforms and in the implementation of MTRS initiatives. These are also discussed in this section.

- *Governance with whole-of-government commitment:* Governance arrangements for tax system reform, such as the organization and management of the tax reform process, are critical to the success of the MTRS. The MTRS should be a whole-of-government strategic priority, meaning that it should be embraced by a broad spectrum of stakeholders from the public sector (various ministries and agencies) and be underpinned by clear accountability among them. Leadership of the tax reform agenda should rest with the MoF, with political backing from the president and the entire cabinet. The leadership should be supported by a reform steering committee and a tax reform executive team. At various levels, there should be effective collaboration with other government agencies to reflect the whole-of-government approach. The modus operandi of the tax reform teams should be characterized by regular meetings at each level, high levels of collaboration, prior-

itization of key issues, effective escalation, prompt decision making, clear accountability, and evaluative monitoring of progress. Once the tax reform strategy starts to be implemented, monitoring should be facilitated by quantification of the key performance indicators (including revenue performance). This will allow the steering committee to take timely action if objectives are not met.

- *Analysis:* To provide an appropriate information basis for decision makers, it is critical that the tax reform teams have access to evidence-based, quantitative analysis of the tax system reform. Quantification should inform decision makers about the impact of alternative reform options on total revenue, income distribution, and the economy. Quantification will help structure, discipline, and rationalize the debate on tax reforms, both in administration and policy. Otherwise, discussions might become dominated by vague statements or loose hopes and beliefs, with significant risk of failure. Quantitative analysis also supports the transparency and accountability of the reform process and ultimately helps build trust in government. The quantitative analysis of tax reform should be the responsibility of the MoF, most naturally in the tax policy unit of the Fiscal Policy Agency. The unit should be granted access to anonymized taxpayer data from the DGT to perform adequate tax policy analysis and develop microsimulation models to assess the revenue and distributional impacts of reform. The tax policy team should also have sufficient dedicated economists and statisticians to develop and use these simulation models for analyzing reforms in all major taxes: PIT, CIT, VAT, and excises. Collaboration with external experts and development partners can help build capacity to develop and use these models.¹⁰ One key ingredient of the analysis is the ability to link tax reform to different macro- and microeconomic variables in the economy, which is imperative to show how different tax reforms (both administrative and policy) contribute to the improvement of growth, poverty, or inequality, and at the same time to the improvement of the business climate and firm profitability.
- *Stakeholder support:* To make tax reform politically feasible and to secure the support of key stakeholders in society, a community-owned strategy is needed. Indeed, successful reform of the tax system will require not only parliamentary approval, but also broad support from both the public sector and the private sector. The former includes key parliamentary committees and advisors to the president; the latter comprises tax professionals' organizations, industry associations, and civil society organizations. Effective engagement and consultation with these private sector organizations will help secure country ownership of the MTRS initiatives. These consultative pro-

¹⁰The Indonesian government should start publishing an annual tax expenditure study to assess the revenue forgone from preferential tax arrangements that deviate from the benchmark system. The study should be integrated into the regular budget cycle to inform Parliament and other stakeholders in making well-informed decisions.

cesses should distinguish lobbying (which may have negative impacts on the design of the measures) from genuine professional and community input. The involvement of key stakeholders should be formalized so they engage in regular and genuine participation in tax reform governance and activities. As stressed earlier, a good analysis of how tax reform benefits different stakeholders is essential. It is quite natural that a particular tax reform would result in a certain group in the community paying higher taxes, or at the very least being exposed to the tax system radar. Potential backlash from different groups must be anticipated.

- *Communication:* Communication is an essential part of comprehensive tax reform. For the internal government, communication can be a significant coordination problem if a coherent whole-of-government approach is not in place. For stakeholders, communication can be quite complicated because different stakeholders may have different motivations and objectives. The MTRS provides an opportunity for the government to strengthen the social contract with its stakeholders. For it to be embraced as a country-owned strategy, its communication and socialization should be a priority across government. The highest level of government should therefore lead the effort to open and inform the national dialogue that determines society's expectations for the higher level of public services it will enjoy. Government leaders should mobilize representatives from the public sector, the private sector, and business associations along with religious leaders, community representatives, and the mass media to build broad consensus for key elements of the MTRS across multiple stakeholders and the wider community. The communication campaign should clearly link the need for additional revenue to the government's specific commitments to building human capital and infrastructure and to reducing inequality. Such a narrative will position the MTRS as a government-led and country-owned strategy. The Indonesian campaign for the 2016 tax amnesty provides a good example of how such a communication strategy can be implemented.
- *Resources:* The MTRS will require large investment in certain areas, for example, to revamp the DGT's IT systems, develop new training programs, or attract qualified staff in priority areas. The budget for the entire reform effort (including for the tax reform team) therefore needs to be clearly identified, based on the MTRS's holistic approach. The MoF's budget should clearly distinguish funding allocation for MTRS activities from other transformational activities and business as usual. In this way, MTRS activities can be more effectively monitored, there will be clearer accountability, and benefit realization will be more transparent. Given the medium-term time-frame of the MTRS, the funding envelope should be a sustained commitment to delivery over a five-year period.
- *Priorities and timing:* All reforms cannot be done at the same time. Determining when to launch a certain reform is important. Reforming the tax administration can be progressed through government regulation, pres-

idential instruction, or MoF regulations. Although this can make tax administration reforms easier, if the government is committed to progress it, their revenue impact might take some time to bear fruit because they require major changes in how people work and in administrative processes. Experience indicates that revenue effects occur with a significant time lag and depend very much on implementation. Reforms in tax policy may have a much faster impact after a new law is passed. However, revisions to VAT law and income tax law may require long deliberations within the Parliament. Such debate is best started at the beginning of an administration rather than at the end, to reduce the political weight of the reforms. Implementation of the reforms can still be realized within the MTRS period. Other tax policy reforms, for example, on excises, need parliamentary consent although the final product is a government regulation. Once established, changes in excise rates can be pursued rather quickly. Good command over choosing priorities and timing is pivotal for the tax reform to succeed.

External Support

External support from Indonesia's key development partners is important for implementing the MTRS.¹¹ This includes analytical support in shaping, designing, and analyzing the reform package, and operational support in implementing the strategy. To maximize the use of partners' funding and to avoid duplication of effort, donor partners will be asked to endorse the MTRS in formulating their assistance programs for the revenue area. The MTRS will also provide the framework for coordinating assistance from other donor partners that may wish to support the strategy, including the OECD, the Asian Development Bank, and other organizations.

CONCLUSION

This chapter argues that Indonesia needs to substantially increase its revenue mobilization effort to finance public investments that are critical for economic growth and development. However, boosting tax revenue in Indonesia has proved to be very hard. Although a tax system reform effort is now underway, the risk of another failed attempt is high. To increase the likelihood of success, this chapter argues that a different approach is needed along the lines of the medium-term revenue strategy, or MTRS, developed by the Platform for Collaboration on Tax. It aims to help the Indonesian government formulate an ambitious but realistic

¹¹The major technical assistance and financing vehicles for Indonesia are the Australia Indonesia Partnership for Economic Governance (AIPEG), the Indonesia Public Financial Management Multi-Donor Trust Fund (PFM-MDTF), the World Bank Fiscal Reform Development Policy Loan (WBDPL), and the Australian Government Partnership Fund (GPF).

plan for tax system reform for the next five years, to increase the tax-to-GDP ratio by 5 percentage points.

The reforms in the MTRS are guided by generally accepted principles of efficiency, equity, and ease of administration and compliance. A combination of tax policy and tax administration measures is identified to achieve the MTRS revenue target. Tax administration measures can potentially generate 1.5 percent of GDP in revenue over the next five years, provided that a comprehensive compliance improvement program is swiftly implemented and institutional reforms are successful. Tax policy reforms should generate another 3.5 percent of GDP, including through the introduction of new excises and through major revisions to two laws (VAT and income tax).

The MTRS aims to strengthen reform governance by means of a multiyear commitment, with an appropriate mandate and monitoring to ensure effective implementation. Wide representation of government entities is needed to ensure a whole-of-government approach, while systematic and formalized involvement of broad stakeholder groups would create country ownership. A strong expression of government commitment should be demonstrated by launching a socialization and communication campaign to develop country ownership of the strategy.

Although the MTRS developed in this chapter provides the contours of a reform strategy for the Indonesian tax system and its management, the authorities are encouraged to refine its content to take into account stakeholders' views. This effort should lead to a government-led and country-owned strategy to provide a sustainable base for implementation over the coming five years. The ultimate reward for the Indonesian people can be large: a significant and sustainable boost in economic growth that leads to higher welfare for the Indonesian people and a major reduction in inequality. It should be an effort worth pursuing.

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PART **IV**

CROSS-BORDER TRADE AND FINANCE

Spillovers from the International Economy

BY JAIME GUAJARDO

INTRODUCTION

This chapter analyzes potential spillovers to Indonesia and the other Association of Southeast Asian Nations–5 (ASEAN-5) economies (Malaysia, Philippines, Singapore, Thailand) from growth slowdowns in two of their main trading partners, China and the United States, and from financial shocks such as spikes in global financial volatility and higher global interest rates. China’s economic growth is slowing to more sustainable levels and is rebalancing toward consumption and away from investment. US economic growth picked up in 2017 and is projected to accelerate further in 2018–19, but it is expected to moderate in the medium term because of demographic pressures and slow productivity growth. At the same time, US monetary policy is normalizing after several years of near-zero policy rates and quantitative easing. Normalization could lead to higher global interest rates and spikes in global financial volatility if it surprises the market.

The ASEAN-5 economies are likely to be affected by these developments. These economies are, on average, quite open to trade and involved in production chains for which China and the United States are the processing hubs or the final destinations. The ASEAN-5 economies also have open capital accounts and are engaged in exporting commodities. This chapter considers three channels of transmission: trade, commodity prices, and financial links. Direct spillovers to Indonesia through trade should be modest because of the country’s low trade exposures. However, they could be larger if the other ASEAN-5 economies are affected. Spillovers from commodity prices and financial shocks could be larger given Indonesia’s reliance on commodity exports and external funds to finance its fiscal and current account deficits.

The issue of spillovers from growth shocks in systemic economies has received extensive attention in the literature, including coverage in the IMF’s *Spillover Reports* (IMF 2011, 2012, 2014a) and *Regional Economic Outlooks* for Asia and the Pacific (IMF 2014b, 2015, 2016b). Duval and others (2014) find that growth spillovers from China are sizable, and larger in economies that are more dependent on China’s final demand in value-added terms. The average impact of a 1 percent drop in China’s GDP is a fall in GDP of 0.3 percent for the median Asian economy and 0.15 percent for the median non-Asian economy. Ahuja and

Nabar (2012) find that a 1 percent decline in China's fixed investment reduces Indonesia's GDP by 0.1 percent, Malaysia's by 0.6 percent, the Philippines' by 0.2 percent, and Thailand's by 0.4 percent. Dizioli and others (2016) find that a slowdown and rebalancing in China can have significant spillovers to the ASEAN-5 economies, particularly those with higher trade exposures to China and commodity exporters. China's economic activity is also found to have an important effect on oil prices (IMF 2011; Anderson and others 2015). Kose and others (2017) study spillovers from changes in US growth and monetary and fiscal policies, and uncertainty in its financial markets and economic policies. They find that a 1 percentage point rise in US growth could boost growth in other advanced economies by 0.8 percentage point, and in emerging market and developing economies by 0.6 percentage point, after one year. In contrast, lingering uncertainty about the direction of US policy could dampen activity abroad.

This chapter is organized as follows: The next section documents the ASEAN-5 economies' direct exposures to growth shocks in China and the United States, as well as financial shocks, through trade, commodity prices, and financial channels. The potential impact of these shocks is then analyzed using empirical and model-based approaches. The recent performance of exports and financial markets is examined next, exploring to what extent they may be linked to developments in China and the United States.

REAL AND FINANCIAL EXPOSURES

This section analyzes the ASEAN-5 economies' exposures to external shocks through trade, commodity prices, and financial markets. Trade is likely the most important channel given these economies' high openness to trade. Spillovers from commodity prices are adverse for net commodity exporters (Indonesia, Malaysia), but positive for net commodity importers (Philippines, Singapore, Thailand). The financial channel is also important for these countries, especially for those with large external financial exposures.

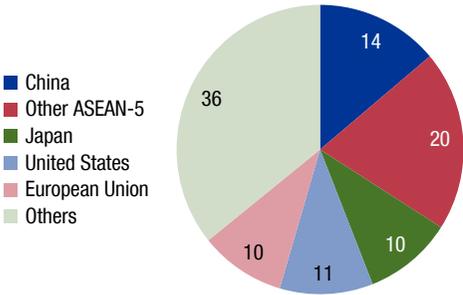
Trade Channel

The ASEAN-5 economies' trade exposures to China and the United States are large but not overwhelming. In fact, these economies export more to the other ASEAN-5 economies than to China or the United States. In 2017, exports to China ranged from 11 percent of total exports in the Philippines to 15 percent in Singapore, while exports to the United States fluctuated between 6 percent in Singapore and 15 percent in the Philippines (Figure 7.1). In Indonesia, exports to China accounted for 14 percent of total exports, and exports to the United States accounted for 10 percent. However, exports as a percentage of GDP, which is a better measure of trade exposures, vary greatly among the ASEAN-5 economies. Malaysia, Singapore, and Thailand have the largest trade exposures to China and the United States as a percentage of GDP, while the Philippines and, particularly Indonesia, have the lowest.

Value-added trade provides a complementary perspective. Figure 7.2 shows a rising share of the ASEAN-5's GDP linked to China's domestic demand and a

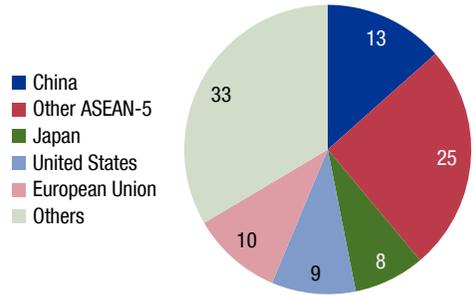
Figure 7.1. ASEAN-5: Composition of Merchandise Exports, by Trading Partner, 2017

1. Indonesia (Percent)



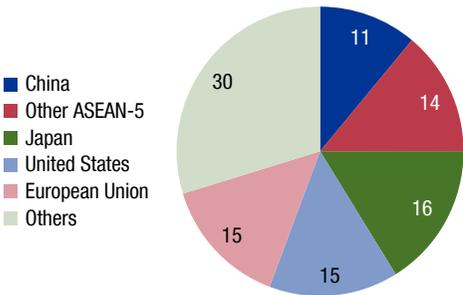
Sources: Bank Indonesia; and IMF staff estimates.

2. Malaysia (Percent)



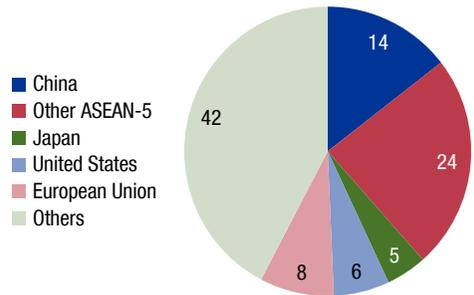
Sources: Malaysia, Department of Statistics; and IMF staff estimates.

3. Philippines (Percent)



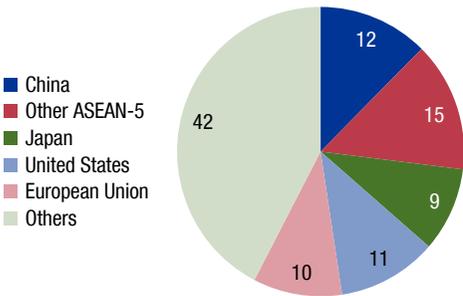
Sources: Philippines, National Statistics Office; and IMF staff estimates.

4. Singapore (Percent)



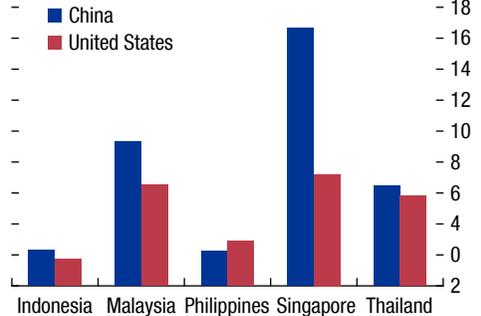
Sources: International Enterprise Singapore; and IMF staff estimates.

5. Thailand (Percent)



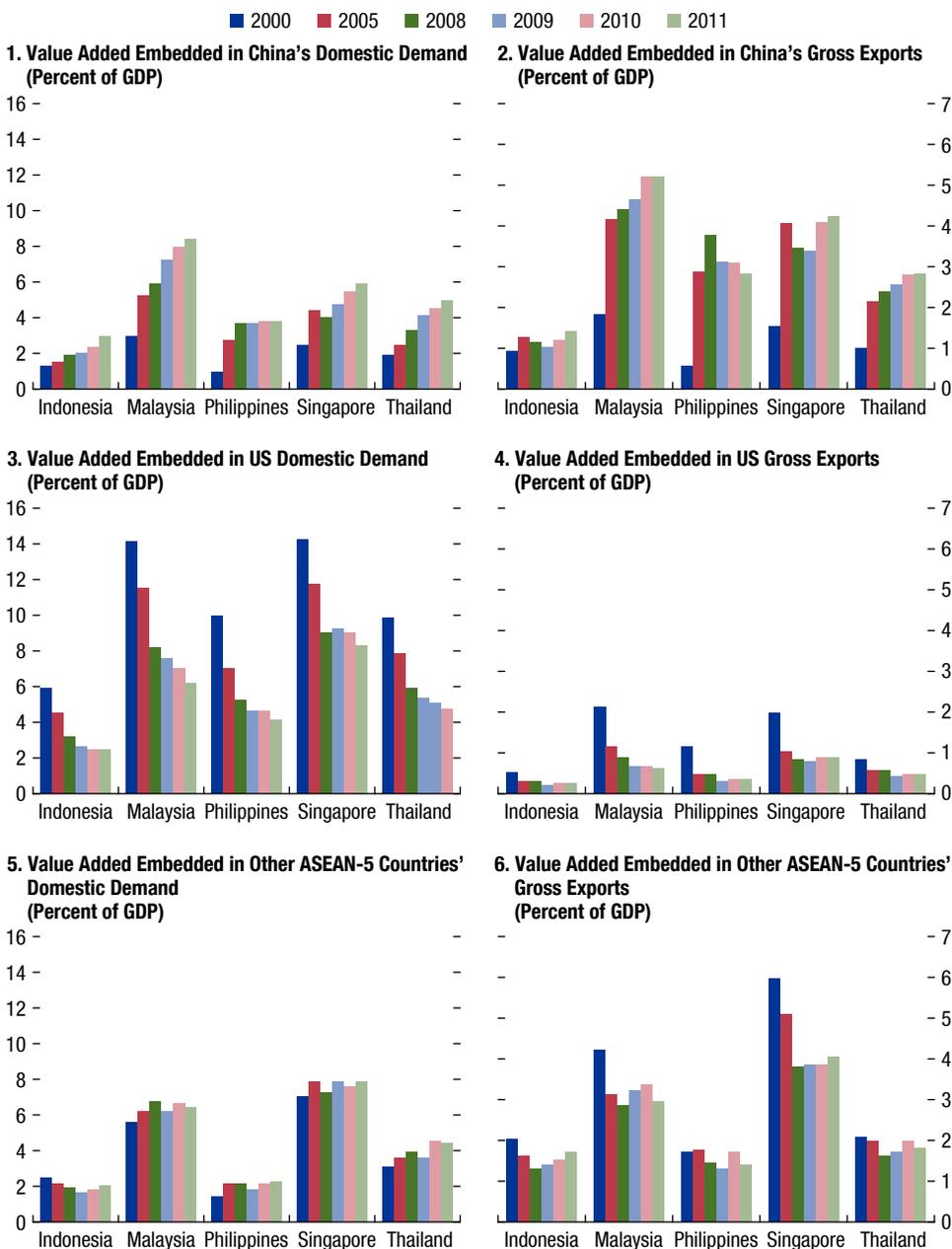
Sources: Thailand, Customs Department; and IMF staff estimates.

6. ASEAN-5: Exports to China and the United States (Percent of GDP)



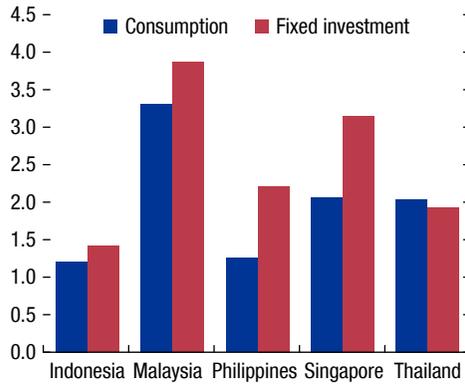
Sources: Country authorities; and IMF staff estimates.

Figure 7.2. ASEAN-5: Value-Added Trade with China, the United States, and Other ASEAN-5



Sources: Organisation for Economic Co-operation and Development Trade in Value Added database; and IMF staff estimates.

Figure 7.3. Domestic Value Added Embedded in China's Consumption and Investment, 2011
(Percent of GDP)

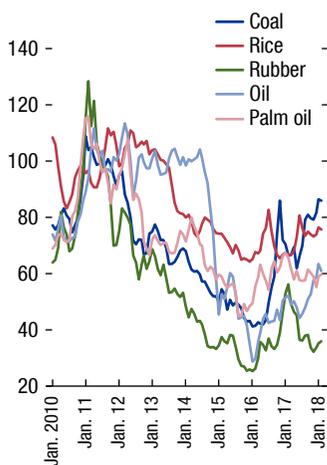


Sources: Organisation for Economic Co-operation and Development Trade in Value Added database; and IMF staff estimates.

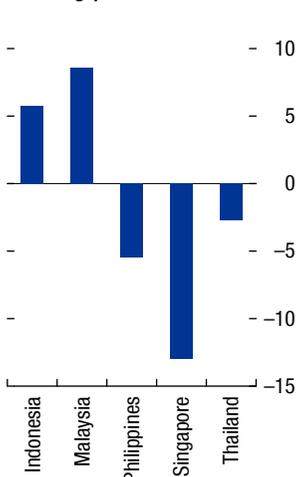
declining share linked to US domestic demand.¹ By 2011, China's domestic demand had become more important for Indonesia's, Malaysia's, and Thailand's exports in value added than that of the United States, and only slightly less important for the Philippines' and Singapore's exports. Figure 7.2 also shows a rising share of ASEAN-5 value added embedded in China's gross exports, which by 2011 exceeded the share embedded in US gross exports by a wide margin. Overall, Figure 7.2 shows a pattern of trade exposures broadly similar to that in Figure 7.1. Malaysia, Singapore, and Thailand have high exposures to both China and the United States, while the Philippines and Indonesia have low exposures. Trade in value added also shows the ASEAN-5 economies' large trade exposures to each other's domestic demand and gross exports.

Given China's ongoing rebalancing toward consumption and away from investment, the destination of exports matters. Of the ASEAN-5, Indonesia had the lowest exposure to both consumption and investment in China (Figure 7.3). In the other ASEAN-5 economies, except Thailand, exports are more linked to investment than to consumption in China, especially in the Philippines and Singapore, suggesting that rebalancing would adversely affect them in addition to the growth slowdown. The impact may be worse if the import intensity of investment in China continues to fall as more investment goods are produced domestically.

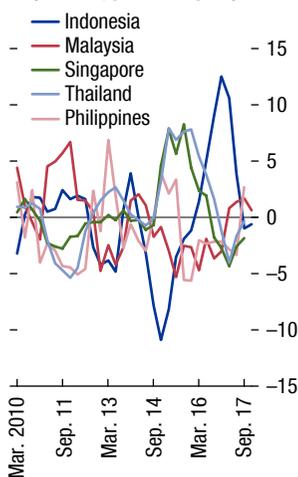
¹The latest data available in the Organisation for Economic Co-operation and Development's Trade in Value Added database are for 2011, which was a year of high commodity prices. This could overstate the exposures for commodity exporters such as Indonesia and Malaysia.

Figure 7.4. ASEAN-5: Net Commodity Exports and Terms of Trade**1. Selected Commodity Price Indices (2011 = 100)**

Source: IMF, World Economic Outlook database.

2. Net Commodity Exports (Percent of GDP, 2000–14 average)

Sources: Comtrade; and IMF staff estimates.

3. ASEAN-5: Change in Terms of Trade (Percent, year over year)

Sources: Country authorities; and IMF staff estimates.

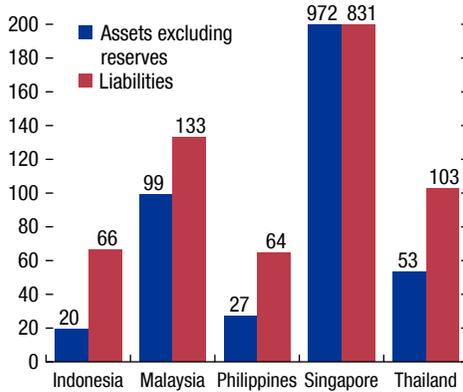
Commodity Price Channel

China and the United States are major players in commodity markets, accounting for nearly one-third of global demand for oil and more than half of global demand for metals. Lower growth in China or the United States can significantly reduce commodity prices. The combination of slow US growth, the slowdown in China, and rising supply has put downward pressure on the prices of fuel, metals, and agricultural products since the middle of 2011 (Figure 7.4). Although commodity prices have recovered since 2016, they remain well below their peaks of early 2011. These trends in commodity prices had a negative impact on the terms of trade of the ASEAN-5 net commodity exporters (Indonesia, Malaysia), and a positive impact on those of the net commodity importers (Philippines, Singapore, Thailand).

Financial Channel

Exposure to global financial shocks, measured by the degree of financial integration, varies widely among the ASEAN-5 economies. Singapore is the most integrated, with the sum of foreign assets (excluding reserves) and liabilities equating to 1,800 percent of GDP (Figure 7.5). Malaysia and Thailand follow, with a sum of 232 percent and 156 percent of GDP, respectively. Indonesia and the Philippines are the least integrated, with a sum of less than 100 percent of GDP. Thus, Malaysia, Singapore, and Thailand seem to be more exposed to global financial shocks than Indonesia and the Philippines.

Figure 7.5. Capital Account Openness
(Foreign assets, excluding reserves, and foreign liabilities as a percentage of GDP)



Sources: Country authorities; and IMF staff estimates.

A likely more important financial spillover channel is the impact of developments in China and the United States on global financial conditions and capital flows to emerging market economies. In the past, changes in global financial volatility (Chicago Board Options Exchange Volatility Index, or VIX) have been driven by US economic developments and, more recently (August 2015 and January 2016), by uncertainty about the strength of the Chinese economy. For the ASEAN-5 economies, spikes in the VIX are typically associated with capital outflows (Figure 7.6), currency depreciation, and tighter domestic financial conditions (IMF 2016a).² Volatility can be an important spillover channel, and it could also amplify the spillovers through the trade and commodity price channels.

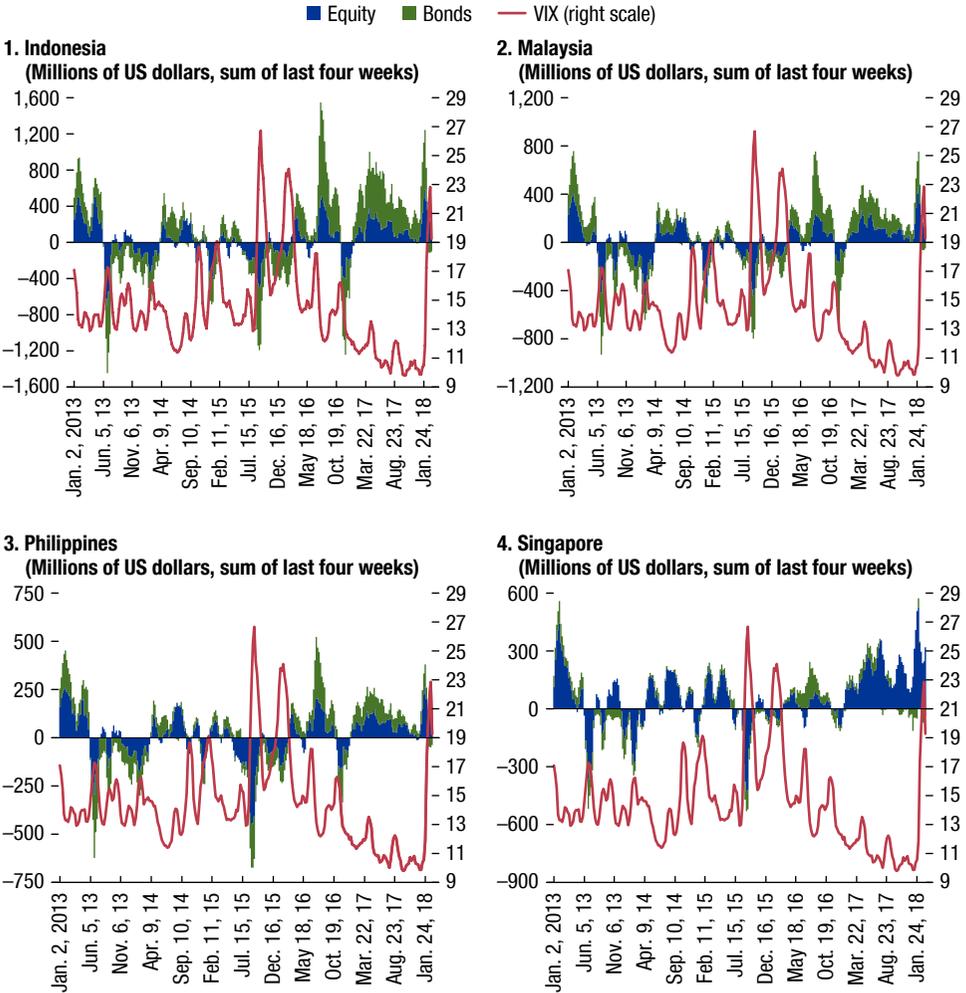
POTENTIAL IMPACT OF CHINA'S SLOWDOWN AND REBALANCING ON THE ASEAN-5

This chapter uses a global vector autoregression (GVAR) model to quantify the impact of growth shocks in China and the United States along with global financial shocks. In addition, it uses model-based simulations to complement the analysis of spillovers from the slowdown and rebalancing in China.³ The

²Flows reported by EPFR Global cover only exchange-traded funds and mutual funds, and do not account for the bulk of other institutional investors. The data for Thailand are not presented because there appears to be a structural break.

³The GVAR model may not fully capture the size of spillovers from China given the structural change of the Chinese economy over the past years. A model-based approach may better capture the size of spillovers, and could also analyze different shocks that would at the same time lower growth and rebalance China's economy.

Figure 7.6. ASEAN-5: Portfolio Fund Flows and Global Financial Volatility (VIX)



Sources: EPFR Global Country Flows; and IMF staff estimates.
 Note: VIX = Chicago Board Options Exchange Volatility Index.

results show that countries with larger trade exposures to China and the United States (Malaysia, Singapore, Thailand), commodity exporters (Indonesia, Malaysia), and those with higher financial exposures (Malaysia, Singapore, Thailand) are the most affected. Indonesia is consistently one of the least affected by these shocks among the ASEAN-5 economies because of its low trade and financial exposures.

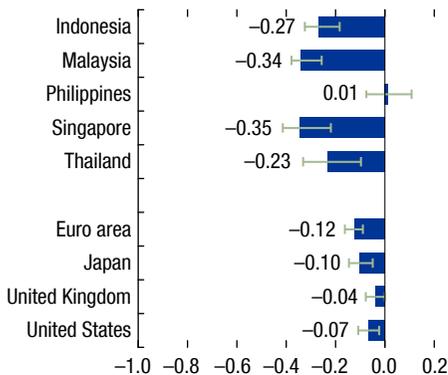
Empirical Analysis

The GVAR framework, first advanced by Pesaran, Schuermann, and Weiner (2004), has 26 region-specific models. These individual models are solved in a global setting, where the core macroeconomic variables of each economy are related to corresponding foreign variables to capture bilateral exposures through trade and financial links. The model has both real and financial variables: real GDP, inflation, real equity prices, the real exchange rate, short- and long-term interest rates, and the price of oil. The model also has a financial stress index as an observable common factor to capture the impact of surges in global financial market volatility, which could arise from disorderly macro-financial developments in China and the United States (though the methodology does not attempt to establish a causal link between them).⁴ This structure of the model is crucial because the impact of shocks cannot be reduced to one country or region but rather involves multiple regions, and may be amplified or dampened depending on the countries' degree of openness and their trade and financial structures.

In a GVAR model estimated for the first quarter of 1981 through the first quarter of 2013, a negative GDP shock in China has significant effects on the ASEAN-5 economies (except the Philippines). Figure 7.7 shows the effects from

Figure 7.7. Average GDP Responses in the First Year after a Negative GDP Shock in China

(Percent, using 2012 bilateral trade weights)

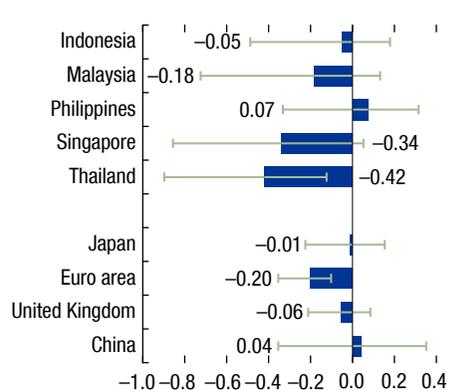


Sources: Cashin, Mohaddes, and Raissi 2016; and IMF staff estimates.

Note: Figure shows the percentage change in GDP of each country associated with a 1 percent permanent decline in China's GDP, together with the 16th and 84th percentile error bands.

Figure 7.8. Average GDP Responses in the First Year after a Negative GDP Shock in the United States

(Percent, using 2012 bilateral trade weights)



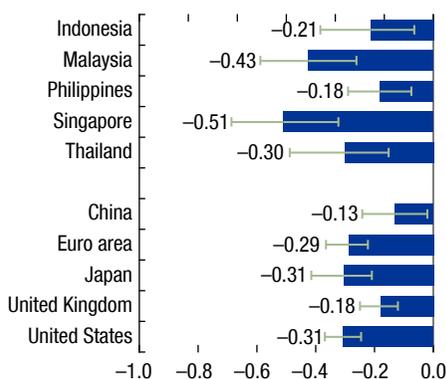
Sources: Cashin, Mohaddes, and Raissi 2016; and IMF staff estimates.

Note: Figure shows the percentage change in GDP of each country associated with a 1 percent permanent decline in US GDP, together with the 16th and 84th percentile error bands.

⁴See Cashin and others (2014); Cashin, Mohaddes, and Raissi (2015, 2016); Dees and others (2007); Chudik and Pesaran (2016); and Mohaddes and Raissi (2015) for details.

Figure 7.9. Average GDP Responses to an Increase in Global Financial Market Volatility over the First Year

(Percent, using mixed bilateral trade and financial weights)



Sources: Cashin, Mohaddes, and Raissi 2016; and IMF staff estimates.

Note: Figure shows the percentage change in GDP of each country associated with a one standard deviation increase in the financial stress index, together with the 16th and 84th percentile error bands.

a 1 percent permanent drop in China's GDP (a one-off 1 percentage point drop in China's GDP growth). The countries most affected are those with higher trade exposures to China, those within regional supply chains, and commodity exporters. After one year, Malaysia's and Singapore's GDP growth declines by 0.35 percent, while Indonesia's and Thailand's falls by 0.3 and 0.2 percent, respectively. These effects are statistically significant. The impact on the Philippines is not statistically significant. The effects on the euro area, Japan, the United Kingdom, and the United States are small.

The same GVAR model indicates that a negative US GDP shock has a lower impact on the ASEAN-5 economies than a similar shock in China, except for Thailand. Figure 7.8 shows that a 1 percent permanent drop in US GDP (a one-off 1 percentage point drop in US GDP growth) has a negligible effect in Indonesia and the Philippines, but larger effects in Malaysia, Singapore, and Thailand. However, the impact in all these economies is not statistically significant except in Thailand, where GDP growth falls by 0.42 percent after one year. The effects on other systemic economies are also small and not statistically significant, except for the euro area, where GDP growth declines by 0.2 percent after one year.

The impact in most countries would be significantly larger if the growth shocks coincided with a spike in global financial volatility. Spillovers from surges in global financial volatility are therefore examined separately without

trying to identify the cause of the shock. Figure 7.9 reports the output responses to a one standard deviation increase in the financial stress index over the first year.⁵ The results show wide differences across countries, with growth falling between 0.2 percent in Indonesia and the Philippines and 0.5 percent in Singapore. The effects are statistically significant for all countries, and larger for the more financially integrated economies (Malaysia, Singapore, Thailand). The commodity-price channel also leads to an adverse impact on growth in commodity exporters (Indonesia, Malaysia) as oil prices fall by about 6.5 percent in the first quarter.

Model-Based Analysis

To complement the analysis on spillovers from a slowdown and rebalancing in China, this section uses the IMF's Flexible System of Global Models (FSGM), a semi-structural, multiregion, general equilibrium model. It includes several region-specific modules that cover the global economy. Each module has an identical economic structure, but differs in its country coverage, key steady-state ratios, and parameters to capture each region's characteristics. While the FSGM has micro-foundations in some blocks, it has less structure in others for tractability. Private consumption and investment have micro-foundations, while trade, labor supply, and inflation have reduced-form representations. Potential output is determined by a production function with trend total factor productivity, the steady-state labor force, the nonaccelerating inflation rate of unemployment, and the capital stock. There is full stock-flow consistency in the model, and agents use model-consistent expectations. Monetary policy follows a standard reaction function, and fiscal policy follows a debt rule to ensure long-term sustainability. See Andrle and others (2015) for details.

Spillovers from China's Growth Slowdown and Rebalancing

The channels through which spillovers from China operate depend on the factors behind the rebalancing and slowdown. Changes in private demand or the budget composition can spur the economic rebalancing and slowdown seen in the data.⁶ The FSGM model is used to study how these adjustments operate and separately examine their impact in each of the ASEAN-5 economies. To facilitate comparison with the GVAR results, all shocks are calibrated to produce a 1 percentage point drop in China's growth in the first year relative to the baseline.

⁵This index measures price movements relative to trend, with a historical average value of zero (implying neutral financial market conditions). The magnitude of the shock is comparable to the 2002 episode of market volatility in advanced economies and is much smaller than the global financial crisis shock.

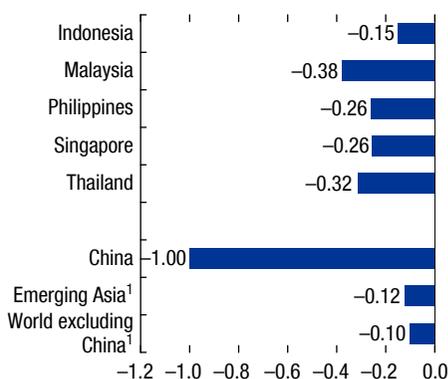
⁶The analysis does not attempt to exhaust all possible explanations for this process, but rather discusses two sources of rebalancing that are already occurring to some degree.

Scenario 1. Private demand shock: Lower investment as a result of financial stress

Credit in China has risen rapidly and exceeds the level implied by economic fundamentals (IMF 2011). Although credit growth has moderated, the credit-to-GDP ratio remains high, and the corporate sector continues to drive leverage. Thus, a possible private-demand-induced rebalancing scenario in China involves financial turbulence, including a drop in equity prices and an increase in the corporate risk premium. In addition, a 1 percentage point growth slowdown in China, this shock results in some rebalancing from investment to consumption since financial stress hits corporate profitability harder than it hits household income.

Figure 7.10 shows the impact on the ASEAN-5 economies in the first year. China's slowdown affects them through trade and commodity prices (there is no financial channel in the FSGM). Indonesia is the least impacted. A 1 percentage point fall in China's growth reduces Indonesia's growth by 0.15 percent. Countries with large trade links with China and commodity exporters are affected the most. Malaysia suffers the largest impact, with growth falling by 0.4 percentage point, while growth in the Philippines, Singapore, and Thailand fall by 0.3 percentage point. These results are similar to those of the GVAR, although spillovers are larger for the Philippines and smaller for Indonesia.

Figure 7.10. China's Private Demand Shock: Impact on Trading Partners' GDP over the First Year
(Percent)



Source: IMF staff estimates.

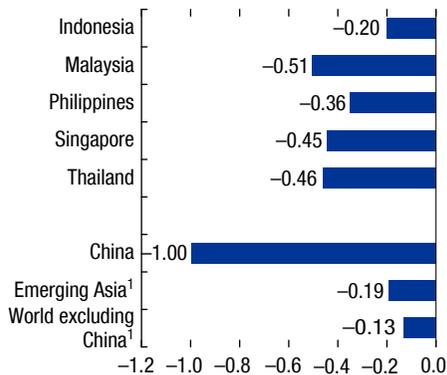
¹Includes the ASEAN-5 economies.

Scenario 2. Policy shock: Changes in the government's budget composition

In this scenario, rebalancing is induced by changes in the budget composition. China has strengthened the social safety net, including by implementing the *hukou* reforms and new urbanization plans.⁷ China is also planning to improve its pension and health systems while ensuring fiscal sustainability by lowering relatively inefficient public capital spending. This scenario considers higher public general transfers fully funded by lower public investment. This spurs consumption because households save less, and lowers investment because public investment falls and positive productivity spillovers to private investment are reduced.

This scenario produces a large drop in China's imports given that public investment has higher import content than does private consumption. It also generates a large rebalancing, with consumption in China increasing by 10 percent above the baseline in the long term and investment rising by 0.8 percent. Spillovers to the ASEAN-5 economies are larger than those in the GVAR model, except for Indonesia. A drop in China's growth by 1 percentage point lowers growth in Malaysia, Singapore, and Thailand by 0.5 percentage point in the first year (Figure 7.11). The Philippines is less affected, with growth falling by 0.4 percentage point, while Indonesia is the least affected, with growth declining by 0.2 percentage point.

**Figure 7.11. China's Policy Shock:
Impact on Trading Partners' GDP over
the First Year**
(Percent)



Source: IMF staff estimates.

¹Includes the ASEAN-5 economies.

⁷The hukou reforms expand the urban hukou or residency permits to 100 million migrant workers by 2020.

Summary

Empirical and model-based approaches find that spillovers to the ASEAN-5 economies from lower growth in China and the United States are larger for those with higher trade exposures (Malaysia, Singapore, Thailand) and commodity exporters (Indonesia, Malaysia). The impact from growth shocks in China are larger than those from US growth shocks. Indonesia and the Philippines are the least affected because of their low trade exposures, although Indonesia is affected through its commodity exports. Malaysia is highly affected through trade and commodity prices. Singapore and Thailand are also highly affected, but less so because they import commodities. Spikes in the VIX could have large effects in the ASEAN-5 economies, especially in those with higher financial exposures (Malaysia, Singapore, Thailand).

RECENT DEVELOPMENTS IN ASEAN-5

Recent developments in the ASEAN-5 economies are broadly consistent with the findings above. ASEAN-5 goods exports slowed between 2011 and 2016, coinciding with subdued growth in the United States and the slowdown and rebalancing in China, but recovered in 2017 as growth in China and the United States strengthened. At the same time, commodity prices fell between 2011 and 2016 but recovered somewhat in 2017. Domestic financial conditions have tightened at times in line with the tightening of global financial conditions.

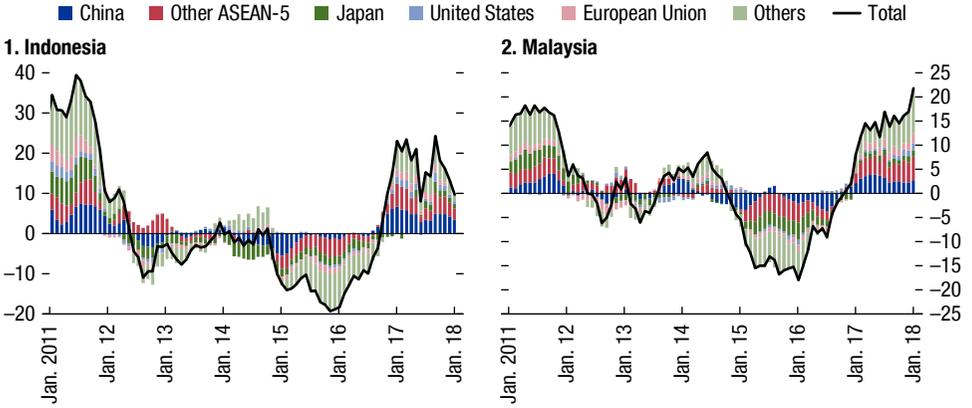
Recent Merchandise Export Developments in the ASEAN-5

Exports of goods measured in US dollars slowed in all ASEAN-5 economies after 2011, fell sharply in 2015–16, and recovered in 2017 (Figure 7.12). China was a major contributor to this cycle, while the United States contributed much less. Trade with other ASEAN-5 economies was also a major contributor, which may reflect an amplification of the slowdown in trade with China that gets transmitted to other ASEAN-5 economies through intra-ASEAN trade links.

Commodity prices explain only part of the drop in export values in 2015–16 and the recovery in 2017. The decline in export values in early 2015 was fully due to the commodity-intensive groups, but the drop since the middle of 2015 was more broadly based, with manufacturing groups also seeing sizable declines (Figure 7.13). The export recovery in 2017 was also broad-based, with both commodity-intensive and manufacturing groups seeing robust growth. The role of commodity prices is also apparent from the larger fluctuations in export growth for the net commodity exporters (Indonesia, Malaysia) than for the Philippines and Thailand.

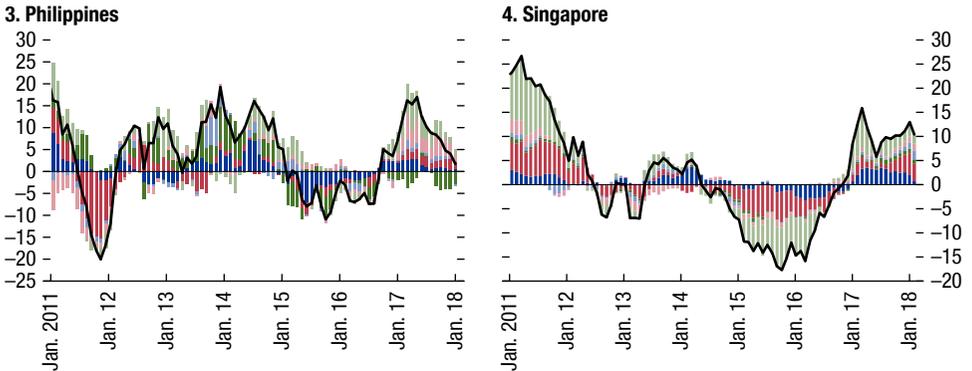
The drop in the ASEAN-5's export values in 2015–16 and the recovery in 2017 were due to both volumes and prices (Figure 7.14). Declines in export volumes explained 50 percent and 30 percent of the declines in export values in 2015–16 in Indonesia and Thailand, respectively. In Malaysia and Singapore, the drop in export values was fully due to prices. In 2017, export volumes

Figure 7.12. ASEAN-5: Contributions to Export Growth, by Trading Partners
(Percent, three-month moving average, year over year)



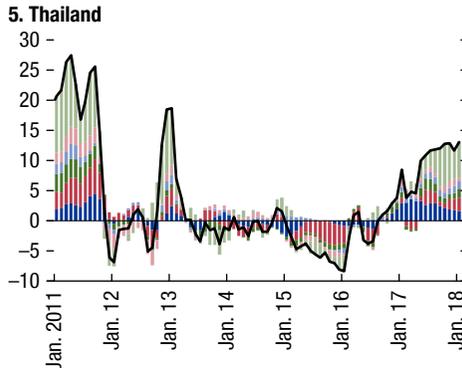
Sources: Bank Indonesia; and IMF staff estimates.

Sources: Malaysia, Department of Statistics; and IMF staff estimates.



Sources: Philippines, National Statistics Office; and IMF staff estimates.

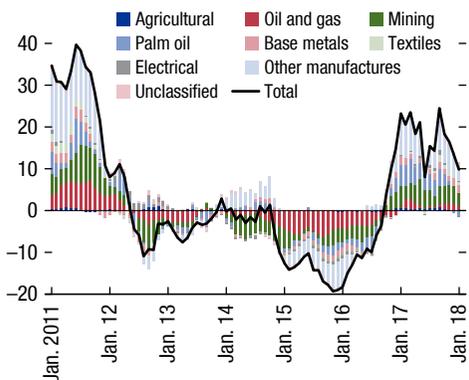
Sources: International Enterprise Singapore; and IMF staff estimates.



Sources: Thailand, Customs Department; and IMF staff estimates.

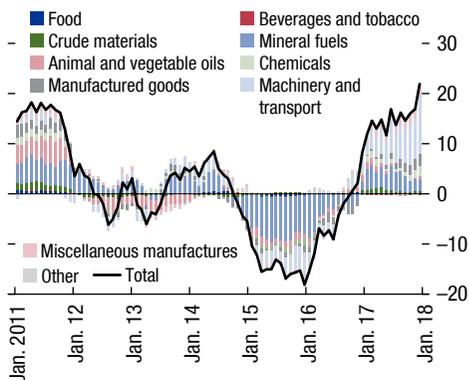
Figure 7.13. ASEAN-5: Contribution to Export Growth, by Broad Economic Category
(Percent, three-month moving average, year over year)

1. Indonesia



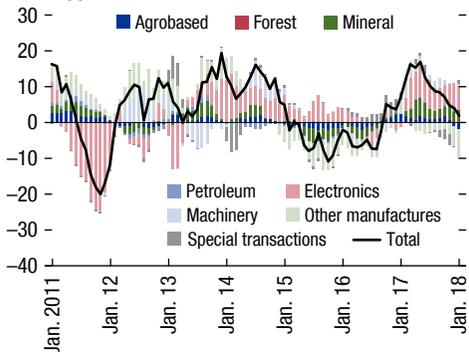
Sources: Bank Indonesia; and IMF staff estimates.

2. Malaysia



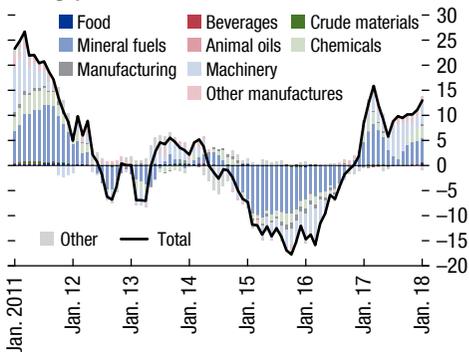
Sources: Malaysia, Department of Statistics; and IMF staff estimates.

3. Philippines



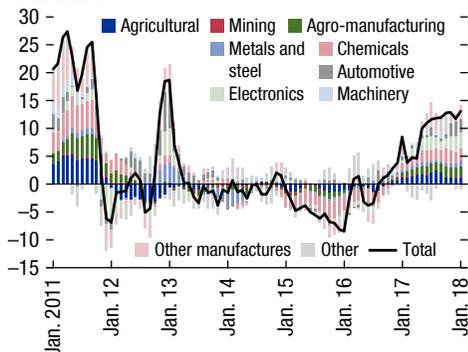
Sources: Philippines, National Statistics Office; and IMF staff estimates.

4. Singapore



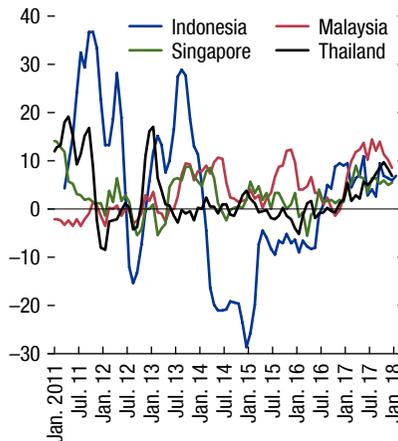
Sources: International Enterprise Singapore; and IMF staff estimates.

5. Thailand



Sources: Thailand, Customs Department; and IMF staff estimates.

Figure 7.14. Export Volume Growth
(Percent, three-month moving average, year over year)



Sources: Country authorities; and IMF staff estimates.

explained about 80 percent of the pickup in export values in Malaysia, 67 percent in Indonesia, 56 percent in Singapore, and 43 percent in Thailand.

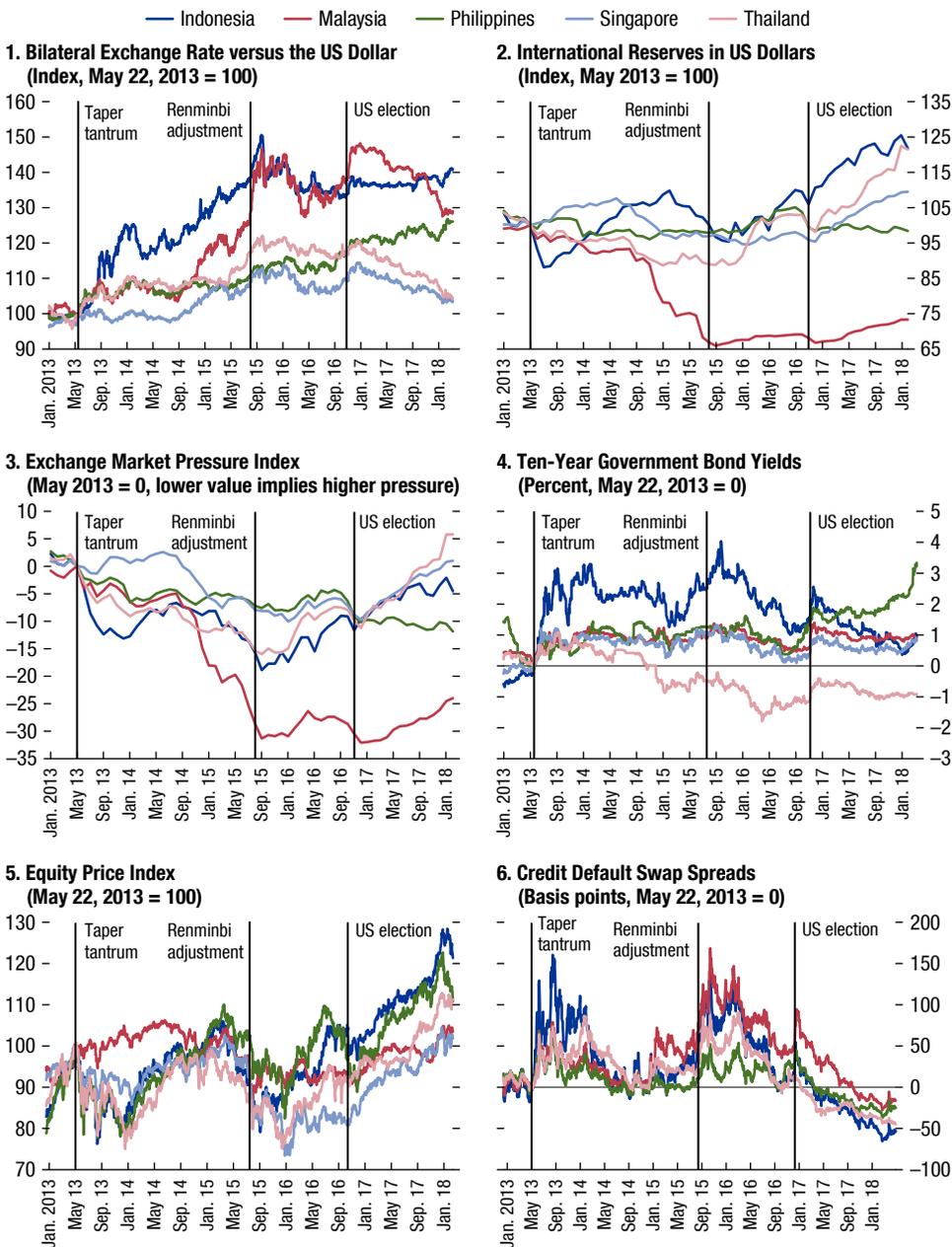
Recent Financial Market Developments

Domestic financial conditions in the ASEAN-5 countries have tightened at times in line with the tightening of global financial conditions. For example, the taper tantrum in May 2013, the spike in the VIX due to the renminbi realignment in August 2015, and the US presidential election in November 2016 triggered capital outflows, currency depreciation, stock market declines, and higher credit default swap spreads in all ASEAN-5 economies (Figure 7.15). Indonesia saw the largest exchange rate pressure in the taper tantrum episode, with its currency depreciating the most despite sizable intervention. Malaysia also saw heightened external pressures beginning in late 2014 as oil prices collapsed and the renminbi was realigned. The impact from the US elections was more moderate and short-lived, with easing global and domestic financial conditions during 2017 and early 2018, except for the Philippines.

CONCLUSION

Given their openness to trade and financial flows, and their reliance on commodity exports, Indonesia and the other ASEAN-5 economies are likely to be affected by growth slowdowns in China or the United States, and by global financial shocks. Spillovers from these shocks would be transmitted through three

Figure 7.15. ASEAN-5: Domestic Financial Conditions



Sources: Country authorities; and IMF staff estimates.

channels: trade, commodity prices, and financial markets. Countries more exposed through any of these channels are likely to be more affected.

This chapter shows that China and the United States are important trading partners for the ASEAN-5 economies, but do not play a dominant role. Exposure to global financial shocks varies widely among the ASEAN-5 economies. Indonesia and the Philippines have low trade exposures to China and the United States and low external financial exposures. However, Malaysia, Singapore, and Thailand have large trade exposures to China and the United States and large exposures to global financial shocks through their large foreign assets and liabilities. Indonesia and Malaysia are net commodity exporters and are exposed through the commodity price channel. The Philippines, Singapore, and Thailand would benefit from lower commodity prices because they are net commodity importers.

Empirical and model-based analyses show that spillovers to the ASEAN-5 economies from a slowdown in China are large, while those from a slowdown in the United States are smaller. Indonesia and the Philippines are least affected given their limited trade exposures, although Indonesia is affected through the commodity price channel. Countries with closer trade links to China and the United States (Malaysia, Singapore, Thailand) would be hit hardest, with Malaysia also being affected through the commodity price channel. Empirical analysis also suggests that the spillovers could be substantially larger if the growth shocks in China or the United States were accompanied by spikes in global financial market volatility.

Recent developments in the ASEAN-5 economies are broadly consistent with these findings. Goods export values fell sharply in 2015–16, coinciding with the slowdown and rebalancing in China and subdued US growth, but they recovered in 2017 as growth in the United States and China strengthened. Commodity prices also declined in 2015–16, recovering somewhat in 2017. Domestic financial conditions tightened at times in line with the shifts in global financial conditions. However, growth in the ASEAN-5 economies has not been significantly affected, remaining robust because of the strength of domestic demand.

The policy priorities for Indonesia and the other ASEAN-5 economies include enhancing resilience to external shocks, rebuilding or protecting policy buffers, and addressing bottlenecks to growth. To enhance resilience, these economies should diversify their exports and trading partners and reduce external vulnerabilities such as high current account deficits, large external debt, or currency and maturity mismatches in the domestic financial market. Policy buffers should be protected or rebuilt to increase the room for maneuver in response to external shocks. These adjustments include lowering fiscal deficits and public debt, enhancing the transmission of monetary policy, and modernizing the macroprudential framework. Countries should also tackle bottlenecks to growth by improving infrastructure and education quality and streamlining regulations to enhance the business climate and promote domestic sources of growth.

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Linkages to the World Economy

MITALI DAS

INTRODUCTION

A defining feature of the post–global financial crisis (post–GFC) era has been the rise in protectionism and anti–trade sentiment. This chapter analyzes the implications of a deglobalizing world for growth dynamics and policy trade-offs in one of the largest emerging market economies in the world: Indonesia. The chapter addresses the following questions: (1) How has Indonesia’s engagement with the global economy evolved over the past few decades? (2) How have global economic and financial conditions historically been transmitted to the domestic economy? (3) What are the likely consequences of declining openness¹ on Indonesia’s growth potential, and what is the appropriate policy responses?

Since the Asian financial crisis (AFC), compared with the rapid expansion of domestic demand, Indonesia has become relatively less integrated with the global economy in both trade and finance, even though it has maintained its global market.² Observers of Indonesia note that this reflects a complex set of factors, including legacies from the AFC along with a large domestic base and favorable demographics and urbanization, which enabled strong growth without high reliance on exports, a strengthening of forces that explicitly favor inward-looking policies and protectionism (see, for example, Basri and Patunru 2012).

A perhaps unanticipated consequence of Indonesia’s declining openness has been remarkable stability of output growth rates. Indonesia was among the few emerging markets that successfully decoupled from the recessionary impact of the GFC that regional peers did not escape (Blanchard, Das, and Faruqee 2010). More recently, its inward-looking stance may have limited the transmission of slowdowns from advanced economies to the domestic economy. But the benefits of high levels of growth and low growth volatility could be temporary. Since the GFC, the potential growth rate of output in Indonesia has been on a downward trend, driven by lower total factor productivity (TFP) growth (see the section “What Do Inward-Looking Policies Imply for Indonesia’s Growth Potential?”). Achieving Indonesia’s ambitious growth objectives—and generating quality jobs for its expanding labor force—will require higher productivity and technological innovations that may be best

¹Openness refers to export and import relative to GDP. Trade and financial openness has declined, due to a large extent to the rapid growth of domestic demand.

²See Chapter 9, “Diversifying Merchandise Exports.”

facilitated by greater integration. These are likely to be challenging objectives in an environment in which trading partners are increasingly protectionist.

The rest of this chapter is organized as follows. A timeline of Indonesia's engagement with the global economy, spanning the years from before the AFC to the current period, is presented in the next section, followed by a consideration of the implications of Indonesia's rising insularity for its growth dynamics. The recent deceleration of potential output growth rates is then explored, and the key drivers of this trend are discussed. Finally, an illustrative scenario analysis under which potential growth may evolve under policies that raise TFP growth to its precrisis trend is presented.

A TALE OF TWO COUNTRIES: INDONESIA'S ENGAGEMENT WITH THE GLOBAL ECONOMY BEFORE AND AFTER THE ASIAN FINANCIAL CRISIS

In the years before the AFC, Indonesia appeared to be distinctly outward looking. Economic reforms accelerated in the 1980s—spurred by oil price volatility and the recognition of the economy's acute dependence on oil and other commodities—spanning trade, banking, investment, and capital account liberalization, the hallmarks of globalization. Foreign investors, attracted by strong fundamentals, including robust growth, low inflation, and the promise of commodity wealth, funded external deficits via long-term foreign direct investment (FDI) and banking flows.³ Growth was strong, averaging 7.3 percent per year in 1987–97. Cross-border trade and financial links, while not accelerating quite as rapidly as in the Asian Tigers,⁴ rose steadily through the 1990s.

With the onset of the AFC in 1997, Indonesia began a striking turnaround.⁵ However, the country's trade and financial exposure did not follow the strong recovery and robust growth that occurred after the crisis. As a result, in relation to the size of its economy, Indonesia's trade and financial integration with the world steadily declined. These trends and the likely causes behind them are described below.

Trade: Globalization and Deglobalization

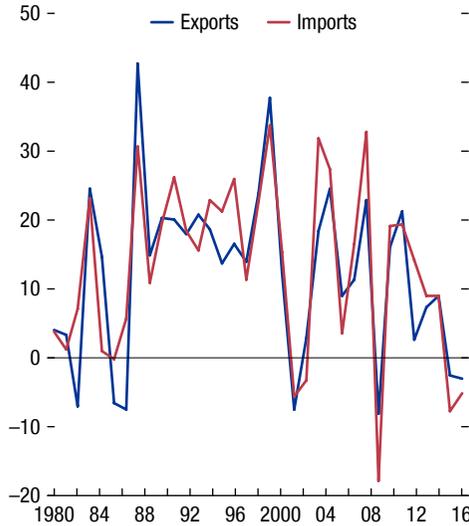
In the years before the Asian financial crisis, a series of reforms liberalized the foreign trade regime, making imported raw materials and investment goods more easily available, lowering the preferential treatment given to state-owned enterprises, and introducing a new foreign investment law that encouraged the inflow of foreign capital (World Bank 1983). These reforms, along with the export boom

³Data are from the IMF's World Economic Outlook database.

⁴The Asian Tigers are Hong Kong SAR, Korea, Singapore, and Taiwan Province of China.

⁵Excellent accounts of Indonesia's experience in the Asian financial crisis can be found in Bank Indonesia's repository as well as in Radelet and Sachs (2000). See Chapter 2, "Twenty Years after the Asian Financial Crisis," for a discussion of some vulnerabilities in the lead-up to the crisis.

Figure 8.1. Exports and Imports Growth (Percent)



Sources: IMF, World Economic Outlook Database; and author's calculations.

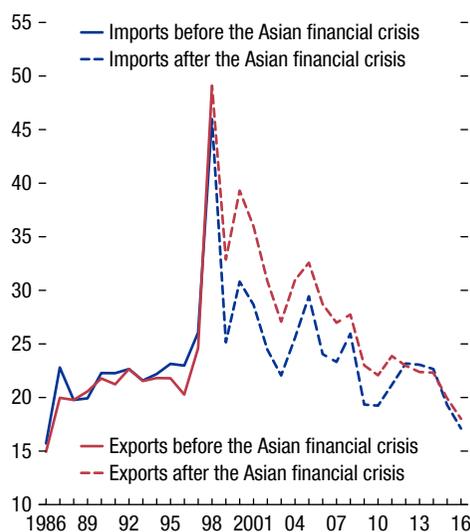
in oil and other commodities, led to an improvement in Indonesia's export and import growth performance. Export growth rose from an annual average of 4 percent in 1970–84 to 16 percent in 1985–97, and import growth rose from 4 percent to 18 percent (Figure 8.1). In the 20 years before the Asian financial crisis, exports and imports rose from 15 and 18 percent of GDP, respectively, in 1976 to 25 and 26 percent of GDP by 1996 (Figure 8.2).

Some of these improvements likely reflected favorable external conditions, particularly rising demand for commodities from advanced economies. Indeed, a significant component of the export expansion was confined to oil and timber, while manufacturing exports rose modestly (Booth and McCawley 1981). Moreover, it has been noted that much revenue was expended on further development of the oil sector at the expense of manufacturing, and that this revenue accrued to a small minority of individuals, fueling an increase in inequality (Warr 1986; Myint 2006). But in aggregate terms, the evidence indicates that Indonesia was embracing outward-looking policies at a steady rate.

Following the Asian financial crisis, the external sector steadily declined in proportion to the economy (Figure 8.2).⁶ While exports and imports represented, respectively, 40 percent and 32 percent of GDP in 2002, Indonesia became

⁶The sharp rise in exports and imports in percent of GDP in 1998, and their subsequent decline, is the result of the severe contraction of the economy during the Asian financial crisis.

Figure 8.2. Exports and Imports
(Percent of GDP)



Sources: IMF, World Economic Outlook Database; and author's calculations.

relatively less integrated than in the past as both shares declined steadily to less than 20 percent by 2016.⁷

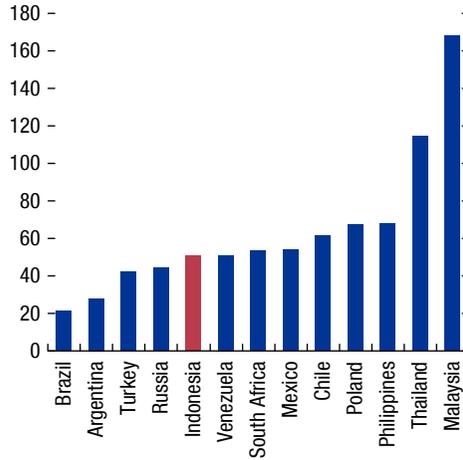
Figure 8.3 illustrates how these trends compare with average openness among emerging market peers. The data reveal two facts: First, there is tremendous heterogeneity in external sector exposure across emerging market economies. Second, while Indonesia is more closed than all its regional peers, it has been more exposed than other large economies, including Brazil and Turkey.

A natural question is whether the extent of Indonesia's declining external exposure differed across its trading partners. To shed light on this question, Figures 8.4 and 8.5 present the evolution of Indonesia's export and import shares by region. A striking feature is that all the decline in Indonesia's external sector exposure has resulted from falling trade with advanced economies. Between 2000 and 2016, the share of Indonesia's exports to advanced economies declined by about 25 percentage points, and the share of imports from advanced economies declined by an even larger 45 percentage points. The region that absorbed those declining shares from advanced economies was predominantly emerging Asia, to which Indonesia's export shares rose by about 20 percentage points and from which its import shares rose by about 30 percentage points, respectively.⁸

⁷2002 is the year Indonesian GDP (in dollar terms) recovered to its precrisis level; as such it constitutes a reasonable reference point for comparison.

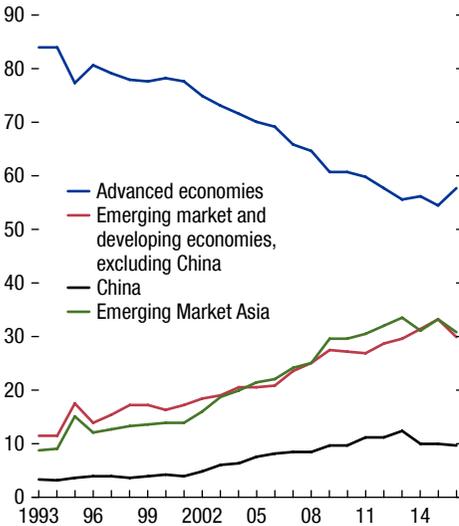
⁸As shown in Figures 8.4 and 8.5, the rise in trade with emerging Asia is not driven by China.

Figure 8.3. Average Openness, 1991–2016
(Exports plus imports as a percentage of GDP)



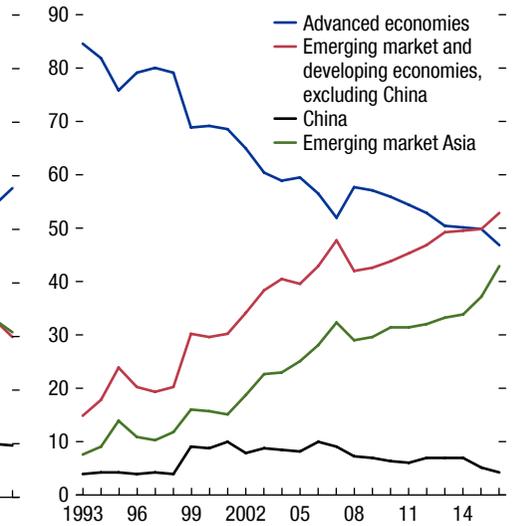
Sources: IMF, *World Economic Outlook*; and author's calculations.

Figure 8.4. Indonesia: Exports, by Region
(Percent of total exports)



Sources: IMF, *Direction of Trade Statistics*; and author's calculations.

Figure 8.5. Indonesia: Imports, by Region
(Percent of total imports)



Sources: IMF, *Direction of Trade Statistics*; and author's calculations.

What could explain Indonesia's declining trade openness? The likely explanations include a combination of fundamentals, policies, and idiosyncratic factors. On fundamentals, Indonesia has long benefited from a large domestic base and favorable demographics, which has enabled it to grow robustly with low reliance on the external sector. Fueled by a large and growing population, domestic demand averaged 97 percent of GDP in 2000–16, with the large domestic base accounting for consumption expenditures of about 67 percent. This large domestic base has been critical in maintaining output growth, including by helping Indonesia successfully decouple from the recessionary impact of the GFC that regional peers could not escape (Blanchard, Das, and Faruqee 2010).

Indonesia's declining openness may also reflect weakness in the business environment, which has hampered investment since before the AFC and weakened competitiveness, particularly in the export sector (IMF 2010, 2015b). As noted in Chapter 9, "Diversifying Merchandise Exports," Indonesia's participation in global value chains is still limited compared with some peers, who have significantly improved their competitiveness relative to Indonesia, in products with higher-technology components.

Policies have also played an important role. The trade regime had become increasingly open after the AFC, with complete deregulation of agricultural products and the removal of most nontrade barriers (Soestasro and Basri 1998). Since then, however, protectionist measures have risen, particularly on food crops, and these protections have increasingly taken the form of nontariff barriers such as licensing requirements (Lowy Institute 2014).⁹ Marks and Rahardja (2012) argue that the increasing use of nontariff barriers, which are not captured in average tariff rates, is motivated in part by a desire to maintain Indonesia's low tariff rate and meet World Trade Organization requirements.

Financial Links: Integration and Retrenchment

Indonesia's financial integration with the global economy followed a path very similar to that of its trade links, accelerating in the years before the AFC and retrenching sharply afterward, as shown in Figure 8.6.

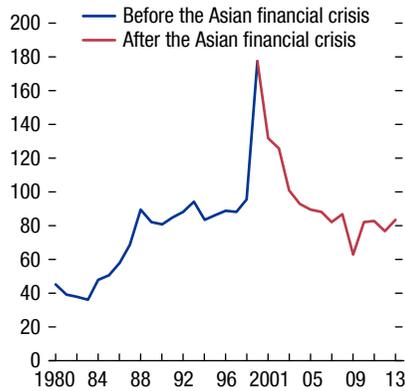
In the reforms of the 1970s and 1980s, Indonesia opened its borders to foreign capital by progressively liberalizing capital account transactions, although the industrial destinations of foreign capital were strictly regulated. Whereas FDI was predominantly directed toward oil and petroleum in the 1970s and 1980s, manufacturing and services industries were opened to FDI in the wave of liberalizing reforms in the 1990s (Sauvant, Mallampally, and McAllister 2013).

Unlike in regional peers such as Malaysia, inward FDI nevertheless remained a very small portion of Indonesia's liabilities, which were concentrated predominantly in debt securities. In the two decades between 1970 and 1990, FDI averaged only 10 percent of all external liabilities, and even on the eve of the Asian

⁹The Indonesian authorities have taken measures in recent years to reduce the number of goods covered by the import restriction list, including 2,200 goods removed in 2018.

Figure 8.6. Financial Globalization in Indonesia before and after the Asian Financial Crisis

(External assets and liabilities as a percentage of GDP)



Sources: IMF, *World Economic Outlook*; and author's calculations.

financial crisis in 1997 it had edged up to only 16 percent of all liabilities, while debt liabilities were at 85 percent. On the asset side, foreign reserves have accounted for more than half of all external assets since 1970. Reflecting its outward-looking stance, Indonesia's financial integration with the global economy (measured here as the sum of external assets and external liabilities as a percentage of GDP) rose from just 46 percent in 1980 to 89 percent in 1996 (Figure 8.6).¹⁰

The AFC set in motion a turnaround in Indonesia's financial links. Starting in 2000, Indonesia steadily lowered its financial integration with the global economy, as illustrated in Figure 8.6. By this measure, financial integration fell from 126 percent of GDP in 2002 to 80 percent of GDP in 2007.¹¹ This evolution is in marked contrast to one of the major trends of the last quarter century in the world economy, as well as in newly industrialized Asian economies, regional peers, and developing Asia, all of which have seen record cross-border transactions and a concomitant rise in financial integration (Obstfeld 2015).

¹⁰As with trade measures, external assets and liabilities are measured in US dollar terms in the External Wealth of Nations database, the source of these statistics. The sharp rise in "financial integration" as a percentage of GDP in 1998 is the result of denominator effects given the severe contraction of GDP in 1998.

¹¹The trough of the sum of foreign assets and liabilities as a ratio of GDP is 42 percent in 2008. However, the 2008 level may well be in a class by itself, reflecting large valuation effects from both the steep depreciation of the rupiah and the large drops in asset prices.

An examination of the data reveals that between the AFC and the eve of the GFC, the decline in financial integration was driven by lower external liabilities while assets were largely stable or rose slightly. Within external liabilities the decline was across the board, although debt liabilities shrank fastest, from 90 percent of GDP in 2000 to less than 30 percent of GDP in 2013.^{12,13} Since the GFC, Indonesia's financial integration has been stable around 80 percent of GDP, after dipping in 2009. The data reveal that this has resulted from a nearly equal increase in external assets and liabilities.¹⁴ Nevertheless, as of 2015, Indonesia remained one of the least financially integrated economies among emerging market peers (Figure 8.7). The difference between Indonesia and its regional peers is especially noticeable—external assets and liabilities in the Philippines and Thailand are well in excess of 100 percent of GDP.

What lies behind Indonesia's lower financial links with the global economy? As with trade, the sharp retreat in financial integration probably reflects a confluence of fundamentals and policies. However, institutions also likely play a role, as do legacies from the AFC, and both supply- and demand-side factors may be relevant.

On the supply side, the regulatory environment has impeded inward FDI since the AFC. Some measures of regulatory restrictiveness indicate that Indonesia has one of the most restrictive FDI regimes within the ASEAN-9, including bans on foreign participation in certain sectors.¹⁵ In addition to actual regulations, there is room to strengthen the institutions that support business—contractual rights, judicial institutions, and accountability.

Legacies from the difficult lessons of the AFC probably have a role, too. It is tempting to conclude, for instance, that the sharp decline in external debt liabilities since the AFC (particularly in cross-border bank borrowing) reflects a process of financial deepening in Indonesia that lowered its dependence on foreign funds. However, financial deepening has been relatively slow and modest (IMF 2017a),¹⁶ indicating that this decline is more likely a demand-side retrenchment.

Crisis legacies are also possibly reflected in the evolution of the currency composition of Indonesia's external balance sheet, reflecting the adverse

¹²Data from External Wealth of Nations database.

¹³This decline in external liabilities has helped lower the vulnerabilities of the economy to external shocks (see Chapter 7 “*Spillovers from the International Economy*”).

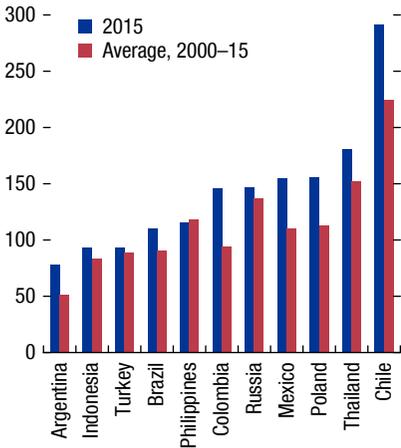
¹⁴External assets have been driven by an increase in outward FDI and Other Investment (consisting of, among others, lending to foreign financial institutions and banks), whereas external liabilities have been largely driven by portfolio investment and some increase in inward FDI.

¹⁵Data are from the OECD FDI Regulatory Restrictiveness Index database. This has been the subject of current commentary; see, for example, “Indonesia Launches ‘Big Bang’ Liberalisation,” *Financial Times*, February 11, 2016. ASEAN-9 is Cambodia, Indonesia, Lao P.D.R., Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.

¹⁶A key recommendation of the 2017 Financial System Assessment Program for Indonesia is financial deepening.

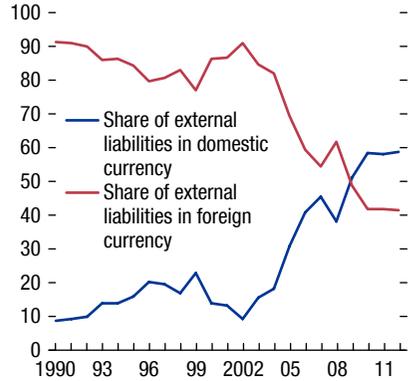
Figure 8.7. Financial Integration across Emerging Markets

(External assets and liabilities as a percentage of GDP)



Sources: IMF, *World Economic Outlook*, and author's calculations.

Figure 8.8. Foreign Currency Exposure of the External Balance Sheet
(Percent)



Source: Bénétrix, Lane, and Shambaugh 2015.

consequences of the deep rupiah depreciation in 1998.¹⁷ Indeed, in the years since the AFC, Indonesia has dramatically lowered foreign currency–denominated liabilities (Figure 8.8). While 83 percent of foreign liabilities were denominated in foreign currency on the eve of the AFC, this proportion had fallen to about 42 percent in 2012.¹⁸ Indonesia is not unique in this respect, as the decline of “original sin” (as the foreign currency exposure of liabilities is referred to in Eichengreen, Hausmann, and Panizza 2007) has been observed in emerging markets across the world.

IMPLICATIONS OF DECLINING OPENNESS FOR INDONESIA'S GROWTH DYNAMICS

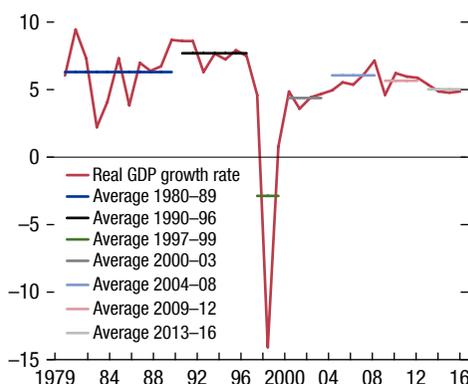
Output Dynamics in Indonesia: Stylized Facts

Figure 8.9 is the starting point for discussing the growth implications of Indonesia's declining openness. After a period of high output growth in 2005–08 marked by a commodity boom, cheap global credit, and strong performance in trading partners,

¹⁷The rupiah–US dollar rate in 1998 rose by more than 80 percent relative to its 1997 level.

¹⁸Data are from Bénétrix, Lane, and Shambaugh (2015).

Figure 8.9. Real Output Dynamics, 1979–2016
(Percent)



Sources: IMF, *World Economic Outlook*; and author's calculations.

the Indonesian economy continued to grow but at a decelerating rate. Because this slowdown occurred contemporaneously with the slowdown in advanced economies during the GFC, it is tempting to conclude that the two are inextricably linked.

This section analytically illustrates that, on the contrary, declining openness has likely helped shield Indonesia's output dynamics from global output dynamics, and increasingly so after the AFC. That is, as Indonesia's trade and financial links with the global economy have progressively declined relative to GDP, growth spillovers from global economic and financial developments have only weakly been transmitted to the economy.

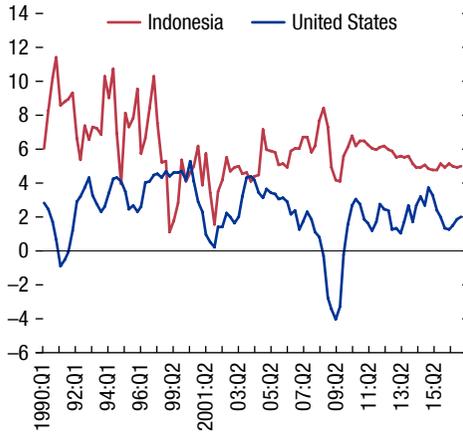
As shown in Figure 8.10 between 2004 and 2009, the growth rate of real GDP rose steadily in Indonesia, averaging 5.7 percent, while it steadily declined in the United States, averaging 1.4 percent.¹⁹ Although the growth rates of output in Indonesia and the United States have co-moved more closely since the GFC, it is not clear that this implies greater synchronicity of Indonesia and global output dynamics rather than responses to common global shocks.²⁰

One fact that supports the decoupling of Indonesia's output dynamics from global output dynamics is the remarkably low volatility of real output growth in Indonesia since the AFC. Whereas volatility was high before the AFC, the stability of Indonesia's output growth since 1999 is striking and stands out, both among regional peers and emerging markets more generally (Figure 8.11).

¹⁹The growth rate in the United States is taken as a proxy for the growth rate of the global economy.

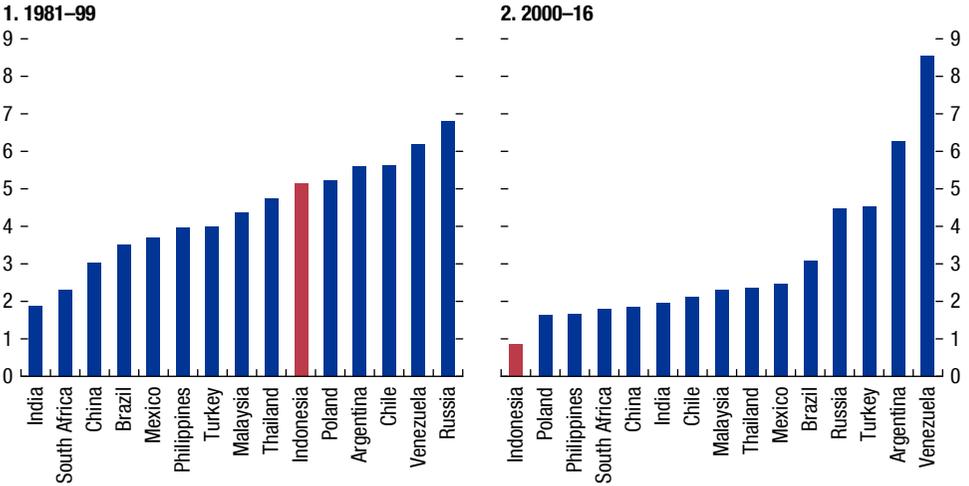
²⁰As predicted by theory (see Cesa-Bianchi, Imbs, and Saleheen 2016), in response to common global shocks, business cycle synchronization increases where financial integration falls.

Figure 8.10. Indonesia and the United States: Real Growth Rates (Percent)



Sources: IMF, *World Economic Outlook*, and author's calculations.

Figure 8.11. Real Growth Volatility (Percent)



Sources: IMF, *World Economic Outlook*, and author's calculations.

It is especially notable considering the profound changes that took place in the global economy in the post-AFC period, including the steep rise and subsequent sharp decline in commodity prices, the severity of recessions in many of its trading partners following the financial crisis, and the large swings in capital flows, including during the taper tantrum, which was especially significant for Indonesia.

This stability of output in Indonesia is, however, unsurprising once the analysis takes account of the structure and evolution of the economy. First, domestic demand is one of the highest among its peers, leaving Indonesia less vulnerable to the vicissitudes of external demand. It has also been helped by the fact that external demand is a relatively small contributor to aggregate demand, and both the export basket and export destinations are sufficiently diversified (see the section “A Tale of Two Countries: Indonesia’s Engagement with the Global Economy before and after the Asian Financial Crisis”).²¹ The declining importance of external demand may, however, also reflect weakness in the business environment, which has dissuaded investment, particularly in the export sector (IMF 2010, 2015b).

Policies have also played an important role in the low volatility of output. A strong fiscal framework, supported by caps on the fiscal deficit and on public debt, has given authorities the fiscal space to maintain demand in downturns (OECD 2016). Greater exchange rate flexibility and prudent use of foreign exchange reserves have helped absorb large external shocks and smooth output dynamics (IMF 2014a). Authorities have taken steps in recent years to lower distortionary fuel subsidies, which have also helped the fiscal position. In the years since the AFC, stronger supervisory oversight in the financial sector has improved governance and curtailed balance sheet exposures to foreign-currency borrowing, limiting the growth impact of episodic slowdowns in capital flows and currency depreciation.²²

Analytic Decomposition of the Domestic and External Contributions to Growth

To formally quantify the contributions of external and domestic factors to real GDP growth in Indonesia, this section presents an analytic decomposition of the domestic and external contributors to Indonesia’s growth dynamics.

The analysis is based on a vector autoregression (VAR) analysis using quarterly data from the first quarter of 1999 to the second quarter of 2016.²³ To limit the

²¹The role of export basket composition (particularly its concentration in primary commodity exports) is emphasized in Basri and Rahardja (2010) as a key reason for the stability of export demand during the global financial crisis, reflecting China’s and India’s strong demand for primary commodities in that period.

²²Drawn from IMF Country Report Nos. 07/272, 09/230, and 13/362.

²³The pre-Asian financial crisis years are treated as a distinct regime, in light of the findings of the section “A Tale of Two Countries: Indonesia’s Engagement with the Global Economy before and after the Asian Financial Crisis,” and thus are not included in the VAR.

TABLE 8.1.

Correlation of Domestic Real GDP Growth with Domestic and Global Factors		
	2000–16	2009–16
Domestic inflation	-.05	.11
Terms-of-trade growth	.03	-.01
REER change (increase in REER is depreciation)	.11	.07
Domestic monetary policy (JIBOR)	-.05	.11
US real GDP growth (year over year, % change)	-.03	.45
US inflation	.20	.04
EMBI spread	-.66	-.50
US one-year Treasury bond rate	-.18	-.18

Sources: World Economic Outlook; JP Morgan; International Financial Statistics; Bank of Indonesia; and author's calculations. Note: EMBI = Emerging Market Bond Index; JIBOR = Jakarta interbank offered rate; REER = real effective exchange rate.

number of estimable parameters relative to the number of observations, the VAR is limited to 10 variables, comprising four external (global) factors and six domestic factors. All variables enter the VAR with three lags.

The global factors include US real GDP growth (a proxy for advanced economy demand shocks), US inflation (a proxy for advanced economy supply shocks, once US growth is controlled for), and the US one-year Treasury bond rate (to capture advanced economies' monetary policy stance). In addition, the VAR includes the real growth rate in China, given China's growing significance in the region. Domestic factors include the real output growth rate in Indonesia, domestic consumer price inflation, the rate of real exchange rate appreciation versus the US dollar, the Emerging Market Bond Index spread (as a proxy for external financing conditions), the change in terms of trade (capturing factors other than changes in external demand or financing conditions), and the short-term interest rate proxied by the Jakarta interbank offered rate. Terms of trade are arguably either a domestic or an external factor. Results were not sensitive to this choice.²⁴

Table 8.1 gives the correlations between domestic real GDP growth and external and domestic factors over the entire period and the period after the GFC. One correlation stands out: while US real GDP growth has a negligible correlation with Indonesia's real GDP growth over the entire period (consistent with Figure 8.10), this correlation has strengthened considerably since the GFC. This suggests that since the GFC, global growth dynamics may be transmitting to domestic output dynamics.

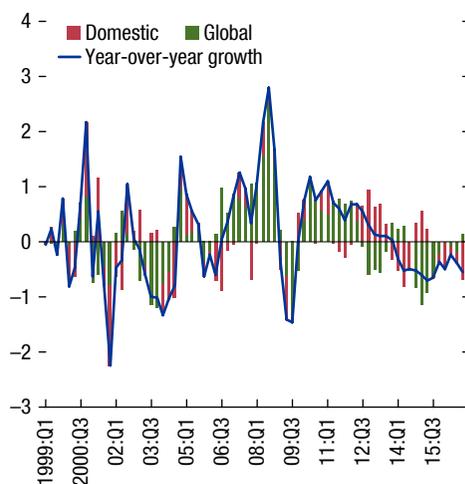
²⁴In estimating the VAR, the key restriction is that shocks to the external block are assumed to be exogenous to shocks to the internal block. Thus, the external variables do not respond to the internal variables contemporaneously. Furthermore, within the external factors, identification of the shocks is based on a recursive scheme: US growth affects all variables within a quarter, whereas shocks to other variables can affect US growth only with a lag of at least one quarter. US inflation shocks may affect all variables other than US growth within a quarter, and the US one-year Treasury rate is placed last in the recursive ordering, which implies that it responds contemporaneously to all external factors, but not to any of the domestic shocks. Among the internal block, shocks are not explicitly ordered. These assumptions closely follow the VAR exercise in IMF (2014b).

Using the VAR estimates, the analysis estimates the fraction of Indonesia's real GDP growth (relative to its estimated average growth over the sample period) that could be attributed to external versus domestic factors. Domestic factors explained more than three-fourths of the deviation of Indonesia's growth from the estimated sample mean from 1999 through the end of 2004. The contribution of external factors to deviations from average growth started rising intermittently in 2006, imparting positive contributions for most quarters in 2006 through the second quarter of 2008. Growth dynamics during the GFC are dominated strongly by external factors, with domestic factors reemerging to play a role late in 2009 (Figure 8.12).

Since 2010, both domestic and global (external) factors have played a role in output dynamics, although external factors have been the larger contributor of the two. Importantly, the contribution of external factors since 2012 has been predominantly negative while domestic factors have somewhat offset that impact on the deviation of real GDP growth from its estimated mean.

In conclusion, the VAR results are consistent with weak global growth transmitting negatively to output dynamics in Indonesia. However, the quantitative impact of the drag from external factors is not large in historical perspective, pointing to Indonesia's rising insularity as potentially shielding it from global economic and financial developments. Since late 2013, however, the VAR results suggest that global output and financial dynamics have been strong enough to partially or even fully offset the strength of domestic factors. That this has

Figure 8.12. Contribution of Domestic and Global Factors to Real GDP Growth Deviation (Percent)



Sources: IMF, *Balance of Payment Statistics*; and author's calculations.

occurred despite low and declining links between Indonesia and the global economy points to the complexity of spillovers, including possibly reinforcing channels and indirect transmission through regional trade partners.

Although it is impossible to know how global output dynamics may have affected Indonesia in the counterfactual scenario in which Indonesia's international trade and financial links were strong and rising, a reasonable (though qualified) conclusion of this section is that in that counterfactual situation, the impact of global economic and financial developments on Indonesia's output dynamics would have been larger.

WHAT DO INWARD-LOOKING POLICIES IMPLY FOR INDONESIA'S GROWTH POTENTIAL?

Assessing the medium-term path of output is critical for the conduct of both stabilization and structural policies. To the extent that global protectionist policies are temporary, countercyclical stabilization policies may suffice in addressing the short-term deceleration of domestic growth. A longer-lasting or permanent rise in protectionist measures will, however, require a clearer understanding of whether such measures will affect the path of potential growth in Indonesia, and thus provide information about whether policies are needed to raise potential growth.

Potential Output Dynamics in Indonesia: Stylized Facts

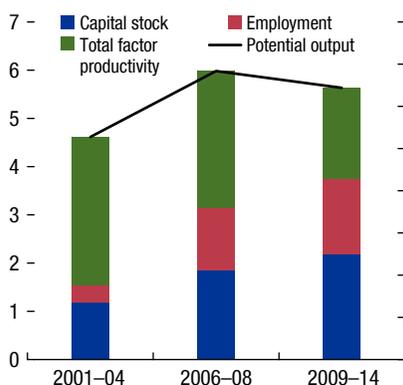
Since the GFC—and broadly coinciding with the slowdown in advanced economies—potential growth in Indonesia has been on a downward trend (Figure 8.13). Between 2000 and 2008, the potential growth rate rose from about 4 percent to 5.7 percent. It since edged down to 5.4 percent in 2009–14 and is projected to trend down further over the medium term, unless needed structural reforms are urgently implemented (see Chapter 3, “Boosting Potential Growth”).²⁵ This trend is not unique to Indonesia. The IMF (2015a) finds in emerging markets as a whole the potential growth rate declined by about 2 percentage points after the GFC. From that perspective, the declining trend is mild in Indonesia.

Identifying the sources of lower potential growth in Indonesia is a first step in assessing policy implications. To the extent that lower potential growth rates have emerged from lower factor accumulation—including human and physical capital—policy measures may need to target raising the supply of labor, reducing rigidity in labor market hiring policies, and lowering other domestic impediments to investment, including regulation, red tape, and the business environment. If, on the other hand, they arise from declining TFP, deeper structural issues may be at play.

Using a standard growth accounting framework, Figure 8.13 presents a decomposition of the growth rate of potential output into the growth rates of factor

²⁵Data from World Economic Outlook database June 2017

Figure 8.13. Potential Growth Rate Decomposition
(Percent)



Sources: World Bank, World Development Indicators; IMF, *World Economic Outlook*; and author's calculations.

inputs and total factor productivity.²⁶ This decomposition reveals that potential output dynamics in Indonesia can be traced predominantly to TFP dynamics.

Before the GFC, accelerating TFP lay behind the increase in potential growth rates. More than half of the increase in the growth rate of potential output, from about 4 percent in 2001-04 to 6 percent in 2005-08, reflects the increase in TFP growth. The increase in labor input between the two periods is also notable, but reflects in large measure a base effect. The low base (resulting from the low contribution of labor input in 2001-04) is due to the very slow decline in unemployment after the AFC, in part caused by weak investment and a poor investment climate (IMF 2005). The contribution of capital accumulation, meanwhile, is steady between 2001-04 and 2005-08. Its evolution, however, is at odds with the sharp rise in capital accumulation among regional peers in this period (IMF 2015a).

Since the GFC, the decline in the potential output growth rate is largely attributable to the decline in the growth rate of TFP. The contribution of employment and capital growth helped offset some of the decline in TFP growth between 2009-10 and 2011-14, reflecting in part a modest stimulus that Indonesia implemented as external demand softened in 2009. The role of TFP in lowering potential output is widespread in emerging markets, where it has been found to account for the entire postcrisis decline in potential growth rates for emerging

²⁶The decomposition is of the potential growth rate into the *actual* capital growth rate and the *potential* employment growth rate reflecting the working-age population,

markets as a whole (see Cubeddu and others 2014; IMF 2015a). Before turning to a discussion of prospective policies to raise potential output, the next section briefly reviews some of the factors that may be contributing to the deceleration of TFP in Indonesia.

Sources of Changes in Total Factor Productivity

A prominent supply-side explanation for secular stagnation, associated with Gordon (2016), is that low growth in advanced economies has resulted from decelerating productivity as a result of a slowdown in technological innovation. Because advanced economies are at the technological frontier, and technological spillovers across borders have been found to raise TFP and growth (see, for example, Coe and Helpman 1995; Amman and Virmani 2014), a slowdown in TFP growth in advanced economies could transmit to lower TFP growth and lower potential growth in emerging markets. For instance, lower trade and financial spillovers, as described earlier, could limit the diffusion of technology, technological know-how, and best practices.

Declining TFP growth may also be a result of convergence to the technological frontier. It has been argued that after more than a decade of rapid factor accumulation during the catch-up process, a slowdown in the growth rate of factor utilization²⁷ and human capital growth—an important component of TFP—was inevitable (IMF 2015a). In contrast to the spillovers from a slowdown in technological innovation abroad, these arguments suggest a role for only domestic factors. Stylized evidence shown below suggests that both could have played a role in the deceleration of TFP growth in Indonesia.

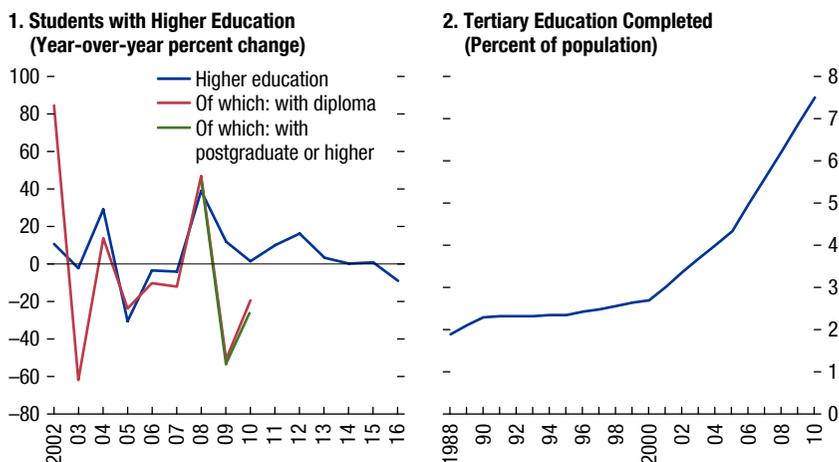
Human Capital Growth

Manuelli and Seshadri (2014) argue that human capital accumulation—distinct from labor input—affects TFP by reflecting the quality of human capital incorporated in production. It is further argued that the human capital component of TFP can decline during downturns because of lower learning-by-doing in recessions (Martin and Rogers 1997). Moreover, uncertain future growth prospects may temporarily or permanently lower the desire for higher educational attainment.

Figure 8.14 illustrates the growth rate and level of high-skill human capital accumulation (proxied by completion of tertiary education) in Indonesia. Panel 1 of Figure 8.14 shows that the growth rate of human capital accumulation was gradually rising until the GFC, and has since declined.²⁸ The decline is not severe, but taking into account the low levels of tertiary education in the population (Figure 8.14, panel 2), a slowdown in human capital accumulation could present bottlenecks for high-value-added employment.

²⁷In traditional growth decomposition, factor utilization—such as hours worked, capacity utilization, and the quality of labor and capital inputs, as distinct from the volume of labor and capital inputs—is traditionally accounted for in TFP rather than labor or capital inputs.

²⁸Data on human capital accumulation are from the Barro-Lee data set, which goes through only 2010.

Figure 8.14. Indonesia: High-Skill Human Capital Accumulation

Sources: Statistics Indonesia; and author's calculations.

Source: Barro-Lee database (www.barrolee.com).

Trade Restrictions

A well-known result from trade theory is that restrictions on trade (such as import tariffs) result in inefficient allocation of the factors of trade, decreasing TFP. This theoretical prediction has been empirically corroborated in a large body of work (for example, Caselli, Esquivel, and Lefort 1996; Hall and Jones 1999).

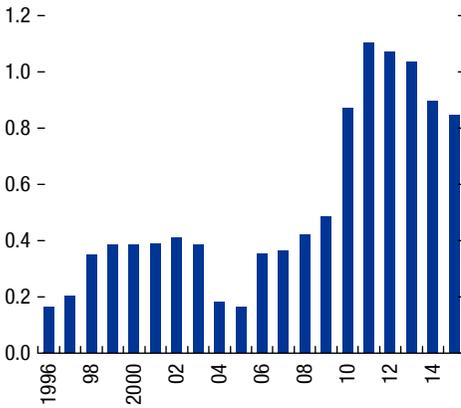
Data from the World Bank Temporary Trade Barriers database show a steady increase in protectionism in Indonesia. Figure 8.15 presents the share of imported goods that face a domestic tariff. These protectionist measures were on a downward trend before the GFC, but rose sharply thereafter. More recently, they have edged down but remain high relative to the pre-GFC years. The rise in protectionism is also evident in other measures, including average tariff rates and non-tariff barriers (Basri and Patunru 2012).

Institutions

The quality of institutions, regarding labor regulations, judicial bodies, and accountability, can play a key role in a country's ability to effectively adopt superior technologies, thereby raising TFP, income, and living standards (McGuinness 2007; Acemoglu 2008).

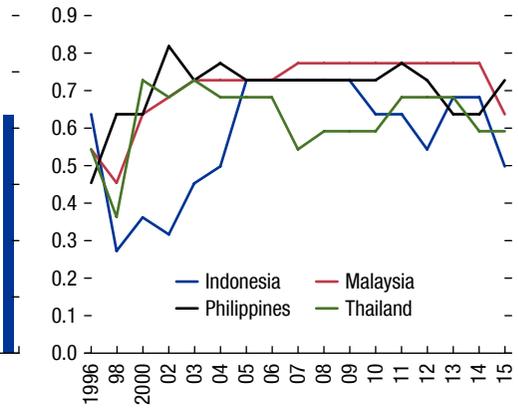
Structural impediments, including a weak investment climate, complex regulations, and shallow financial markets, have been highlighted as key issues in Indonesia (IMF 2016; World Bank 2017). Indeed, after improvements between the AFC and the GFC, measures of regulatory quality indicate that the regulatory

Figure 8.15. Temporary Trade Restrictions on Imports
(Percent of total imports)



Source: World Bank, Temporary Trade Barriers database.

Figure 8.16. Regulatory Quality Index (lower value represents weaker regulatory quality)



Source: ICRG Database.

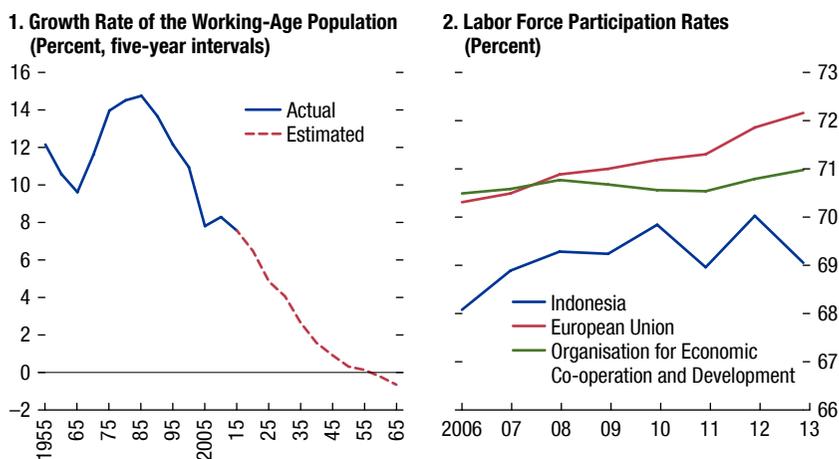
environment has weakened in Indonesia (Figure 8.16).²⁹ These measures were also somewhat lower than in regional peers as of 2015. The declining path of regulatory quality may also have fed into lower TFP growth.

Baseline and Alternative Paths for Potential Output Growth Rates

Looking ahead, what role is there for policies if the deceleration in TFP continues to present headwinds to the growth rate of potential output? To answer this question, this section considers the evolution of potential growth through a scenario analysis, assuming a path for each of its components—labor, capital accumulation, and TFP. The scenarios are only illustrative, considering the high uncertainty of projections. For labor, the future paths are derived from projected demographics for Indonesia along with assumptions about future labor force participation rates. For the foreseeable future, Indonesia has the opportunity to reap large demographic dividends, given the projected increase in the working-age population through 2060 (Figure 8.17, panel 1). However, although labor force participation rates were rising steadily before the financial crisis, they have been volatile since 2010 registering a negative average growth rate in 2010–13 (Figure 8.17, panel 2). Taking the working-age projections as given, the scenario analysis assumes that the labor force participation rate reverts to its precrisis growth rate and stabilizes at the level in

²⁹Though important challenges remain, the authorities have taken steps to improve the regulatory environment in recent years.

Figure 8.17. Growth and Labor Force Participation of Working-Age Population



Sources: UN Population Division; and author's calculations.

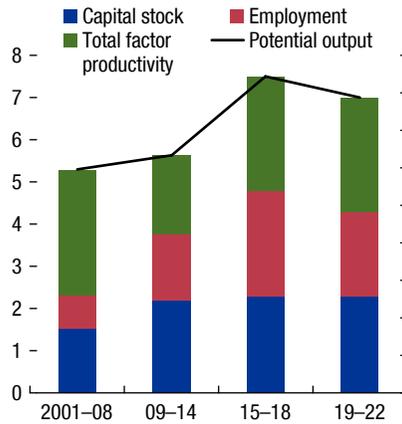
Sources: IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and author's calculations.

Organisation for Economic Co-operation and Development and European Union 28 countries, as shown in Figure 8.17, panel 2.

For capital, the assumption is that capital stock continues to grow at its post-crisis average rate. This assumption is more optimistic than the scenario analysis in IMF (2015a), which notes that less favorable external financing conditions, infrastructure bottlenecks, and softer or flat commodity prices will likely lead to a decline in emerging market capital growth over the medium term. Finally, TFP growth is assumed to rise to its precrisis mean owing to, among other factors, an increase in human capital accumulation, the removal of trade restrictions, and greater foreign participation in industry through FDI and a better business climate resulting from simplified regulations and increased financial depth.

This scenario analysis suggests that potential growth in Indonesia can increase from 5½ percent projected over the medium term under the baseline to a slightly higher rate of 7 percent under this specific scenario. The results of the scenario analysis are shown in Figure 8.18. These scenarios are intended to be qualitatively illustrative, and are subject to high uncertainty. Potential growth in Indonesia could evolve differently for several reasons, such as an upward revision to the forecast of commodity prices (which could spur investment and capital growth), or a more rapid easing of barriers to FDI inflows (which could raise TFP), or a downward revision to global growth (which could result in a less benign outlook).

Figure 8.18. Potential Growth under Illustrative Scenario Analysis
(Percent)



Sources: IMF, *World Economic Outlook*; World Bank, World Development Indicators; and author's calculations.

CONCLUSIONS

Since the AFC, compared with the rapid expansion of domestic demand, Indonesia has become less integrated with the global economy in both trade and finance. The low exposure to global economic and financial developments and the large and strengthening domestic base, along with strong policy frameworks, have insulated Indonesia significantly against the vicissitudes of global developments. The result is reflected in remarkable stability of output growth. This chapter's analysis indicates that Indonesia's inward-looking stance has limited the transmission of global economic conditions to the domestic economy.

But low exposure to global developments has likely also had costs, most notably limiting the diffusion of technological advances and productivity-enhancing spillovers of global economic integration. Indeed, potential output growth has declined in recent years despite strong demographic tailwinds and steady capital accumulation, precisely because of lower TFP growth. This chapter identifies a slowdown in human capital accumulation, a rise in protectionism, and some remaining challenges in the regulatory environment as potential contributors to the TFP growth slowdown. Accordingly, structural supply-side policies that enhance productivity may help Indonesia raise potential growth and weather any negative impulse from the world economy.

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Diversifying Merchandise Exports

AGNES ISNAWANGSIH AND YINQIU LU

INTRODUCTION

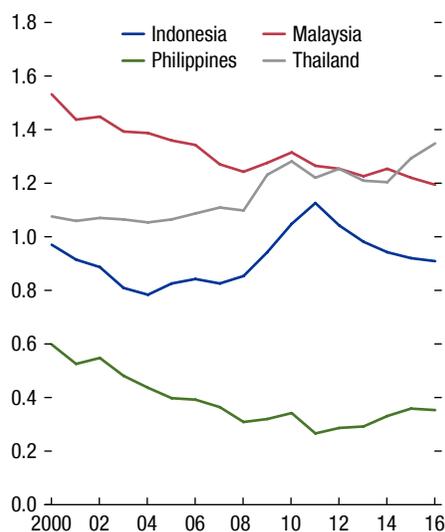
Since the start of the new millennium, Indonesia has doubled its merchandise trade with the rest of the world and maintained its overall share in the global market broadly unchanged at 1 percent. However, its exports as a percentage of GDP halved between 2000 and 2016. In addition, Indonesia has remained a basic commodity exporter subject to global price swings, attested to by the occurrence of a current account deficit in 2012 after the global commodity supercycle ended in 2011.

Against this backdrop, the objective of this chapter is to explore the composition of Indonesia's merchandise exports and their competitiveness. It finds that coal and palm oil have replaced oil and gas as the top two export products, and China has replaced Japan as Indonesia's top export destination. Still, the five key traditional commodity products (gas, oil, coal, palm oil, rubber) have contributed much to the dynamics of Indonesia's exports, and they accounted for about 60 percent of total exports to China in 2016; however, the shares of its key noncommodity exports, such as electrical appliances and textiles, declined in 2000–16, as a result of increased competition from neighboring countries.

A closer look at the composition of exports from the perspective of competitiveness has confirmed that Indonesia has yet to improve its competitiveness in products with higher-technology components and has low export sophistication and limited economic complexity, whereas some neighboring countries have significantly improved competitiveness. Indonesia's participation in global value chains (GVCs) is still limited compared with its peers. To graduate from the status of basic commodity exporter subject to global price swings, low value added, and limited employment growth, Indonesia needs to further pursue structural reforms to improve its competitiveness in higher-technology products, economic complexity, and participation in GVCs.

The rest of the chapter is structured as follows. The next section discusses the overall picture of Indonesia's export structure and briefly discusses its trade policy. The chapter then explores Indonesia's comparative advantage on the basis of the composition of its exports, and next presents Indonesia's participation in GVCs. The final section concludes the chapter.

Figure 9.1. ASEAN: Share of World Exports (Percent)



Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.

AN OVERALL PICTURE OF GOODS EXPORTS

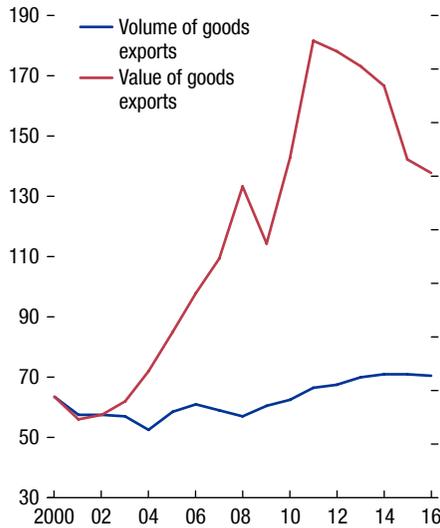
The value of goods that Indonesia exported to the rest of the world increased in the new millennium. Export growth averaged 6½ percent in 2000–16, with the value of exports doubling during the period. By keeping pace with the expansion of global trade, Indonesia maintained its share in the global market roughly unchanged at 1 percent (Figure 9.1), which positioned it as the 29th largest goods exporter in 2016 (up by five positions since 2000).

Indonesia's export growth was broadly synchronized with key global developments. After a brief contraction in 2001 after the burst of the dot-com bubble, exports started to expand in 2002, riding the wave of the global commodity price boom. The expansion was briefly interrupted in 2009 by the global financial crisis but rebounded sharply when the commodity price boom resumed. As the commodity price boom started to fizzle out in 2012, exports contracted.

The increase in exports during 2000–16 was mostly due to prices (Figure 9.2). The year-over-year change in export volumes was smaller and less volatile than that of export values, reflecting the impact of global commodity prices. Despite the increase in exports, the ratio of export value to GDP declined to 15½ percent in 2016 from 34½ percent in 2000.

Five key traditional commodity products (gas, oil, coal, palm oil, rubber) have contributed much to the dynamics of Indonesia's exports. Their dynamics were synchronized with and influenced by the global commodity price cycle. For

Figure 9.2. Goods Exports
(Billions of US dollars, 2000 prices)



Source: IMF, *World Economic Outlook*.

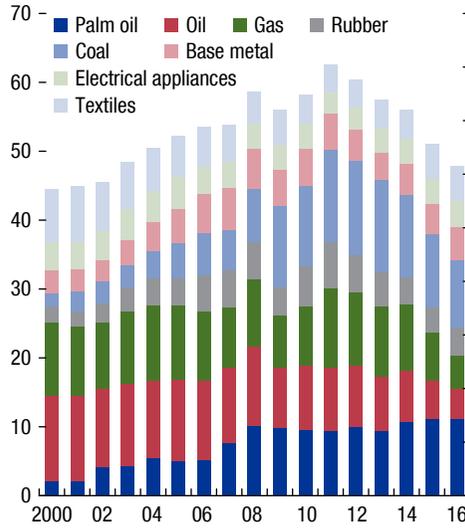
example, their total share in exports jumped from 30 percent in 2000 to a peak of 50 percent in 2011 before gradually declining to 34 percent in 2016 (Figure 9.3).

The importance of these five commodities has shifted over time. Coal and palm oil have replaced oil and gas as the top two export products (oil and gas exports accounted for 80 percent of total exports from 1965 to 1985; Pangestu, Rahardja, and Ing 2015). The maturing of oil and gas fields, lack of infrastructure investment, and higher domestic demand have turned Indonesia into a net importer of oil and gas since 2011.¹ These trends are also confirmed by their shares in global export markets (Figure 9.4). The global share of Indonesia's oil and gas exports fell by close to half of 9.4 percent in 2000 to 4.5 percent in 2016, contributing to a sharp decline in oil and gas fiscal revenue (from 5.6 percent of GDP in 2000 to 0.7 percent of GDP in 2016). The global share of palm oil exports almost doubled from 28.1 percent to 54.5 percent and that of coal almost tripled from 6.7 percent to 19.5 percent.

The shares of key noncommodity exports, such as electrical appliances and textiles, in total exports declined in 2000–16. They have faced increased competition from neighboring countries. Competition from Bangladesh and Vietnam intensified as the World Trade Organization (WTO) phased out quotas on

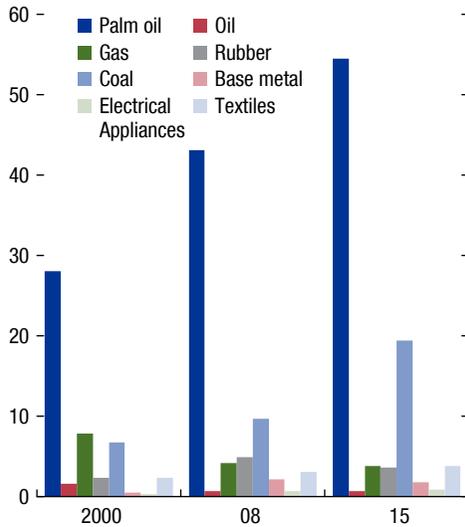
¹The Indonesian authorities have taken measures since 2014 to reduce the reliance on oil imports. These include the reduction of fuel subsidies, addition of unsubsidized fuel variants, and renewal of oil refineries.

Figure 9.3. Main Exports
(Percent of total exports)



Sources: UN Comtrade database; and IMF staff estimates.

Figure 9.4. Main Export Shares in the World
(Percent of world's exports for each type of goods)



Sources: UN Comtrade database; and IMF staff estimates.

TABLE 9.1.

Indonesia: Main Export Destinations (Percent of total)					
2000		2005		2016	
Japan	23.2	Japan	21.1	China	11.6
United States	13.7	United States	11.5	United States	11.2
Singapore	10.6	Singapore	9.1	Japan	11.1
Korea	7.0	Korea	8.3	Singapore	7.8
China	4.5	China	7.8	India	7.0
Taiwan Province of China	3.8	Malaysia	4.0	Malaysia	4.9
Malaysia	3.2	India	3.4	Korea	4.8
Netherlands	3.0	Taiwan Province of China	2.9	Thailand	3.7
Hong Kong SAR	2.5	Thailand	2.6	Philippines	3.6
Australia	2.4	Netherlands	2.6	Taiwan Province of China	2.9
Rest of the world	26.3	Rest of the world	26.7	Rest of the world	31.5

Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.

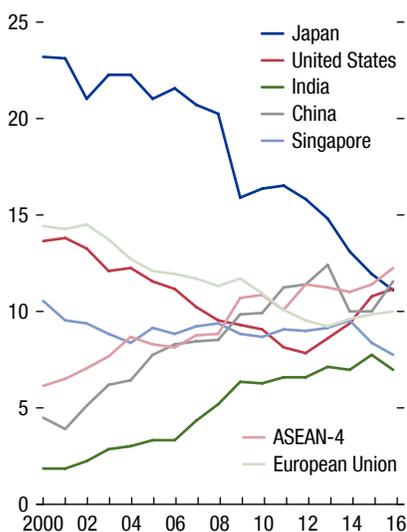
textiles and clothing in 1995–2005, while competition from China rose after its accession to the WTO in 2001 (Pangestu, Rahardja, and Ing 2015).

China has replaced Japan as Indonesia's top export destination (Table 9.1). Export values to China quadrupled in 2000–16 as a result of China's demand for raw materials to support its rapid economic expansion. In 2016, China became the top destination for Indonesia's coal and base metal exports, and the number two destination for oil and palm oil exports. China's share in Indonesia's total exports more than doubled from 4½ percent in 2000 to 11½ percent in 2016. During the same period, Japan's share halved from 23¼ percent to about 11 percent (Figure 9.5). Nevertheless, Japan was still Indonesia's top export destination for natural gas in 2016, and the number two destination for rubber, textiles, and electrical appliances. The US share remained broadly stable over this period (11.2 percent in 2016 versus 13.7 percent in 2000), remaining the number one market for Indonesia's rubber and textile exports (Annex Table 9.1.1).

Exports to China are concentrated in a few commodities (Figure 9.6). Five key commodity products accounted for about 60 percent of total exports to China in 2016. Among them, coal has replaced oil as the number one export product to China in line with the decline of oil production in Indonesia and China's rising demand for coal. In 2016, China sourced 26 percent of its coal imports and 62 percent of its palm oil imports from Indonesia. These two commodities accounted for 41 percent of Indonesia's total exports to China in 2016.

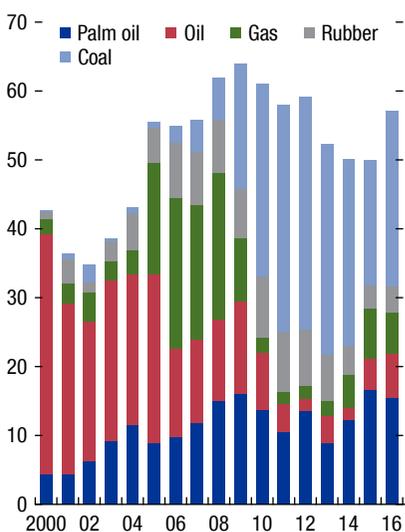
Despite rising exports, Indonesia ran a bilateral trade deficit with China. The bilateral trade surplus that Indonesia used to enjoy with China turned into a small deficit in 2008, with the deficit further widening to 1.9 percent of GDP in 2016. While Indonesia maintained its trade surplus with China in resource-based sectors, the shift to a deficit took place in the manufacturing sectors, such as machinery, transport equipment, and textiles (Marks 2015).

Figure 9.5. Indonesia: Major Export Destinations
(Percent of total)



Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.

Figure 9.6. Main Commodity Exports to China
(Percent of total Indonesian exports to China)



Sources: UN Comtrade database; and IMF staff estimates.

Indonesia's trade developments have benefited from regional and bilateral free trade agreements (FTAs), especially with the Association of Southeast Asian Nations (ASEAN). As of September 2017, Indonesia was part of seven regional and two bilateral FTAs,² and the counterparts of these FTAs accounted for 60 percent of Indonesia's exports and 70 percent of its imports in 2016. In particular, the ASEAN has continued its efforts to build a regionwide policy framework to enhance trade, economic cooperation, and financial flows among its member states. The share of Indonesia's exports to the other ASEAN countries increased from 17.5 percent in 2000 to 20.7 percent in 2016.

Indonesia has a low tariff rate but a high WTO bound tariff rate (that is, committed tariff rate under the WTO) and services trade restrictiveness. Indonesia's average applied most-favored-nation tariff rate was low at 6.9 percent in 2016, down from 9.5 percent in 2006 (WTO 2013; USTR 2017). On top of this, Indonesia offers additional tariff reductions for the economies in the FTAs. Despite the low applied most-favored-nation tariff rate, its average bound tariff rate was 37 percent in 2016 (USTR 2017). The difference between its bound and

²The regional agreements are ASEAN, ASEAN-Australia FTA, ASEAN-New Zealand FTA, ASEAN-China Comprehensive Economic Cooperation Agreement (CECA); ASEAN-India CECA, ASEAN-Japan CECA, and ASEAN-Korea CECA. The bilateral agreements are the Japan-Indonesia Economic Partnership Agreement and the Indonesia-Pakistan FTA.

applied tariff rates, at 30 percentage points, was higher than the average of 20 percentage points among Group of 20 (G20) emerging market economies. Most of Indonesia's Organisation for Economic Co-operation and Development (OECD) services trade restrictiveness was higher than the average for G20 countries, with large gaps in distribution services, maritime transport, and legal services.

The increase in nontariff measures (NTMs) has been a prominent feature in Indonesia's trade policy since the global financial crisis. The share of tariff lines subject to NTMs on the import side grew from 42 percent in 2009 to 51 percent in 2015. On the export side, the share of tariff lines subject to NTMs grew from 4 percent in 2009 to 10 percent in 2015 (Marks 2017). Data from the World Bank Temporary Trade Barriers Database indicate that Indonesia's import restriction decreased in 2004–05 but then increased sharply after the global financial crisis. Despite the recent improvement, import restrictions remain higher than they were before the global financial crisis. On the basis of data from the Global Trade Alert, Indonesia has introduced more NTMs than other G20 countries have since 2008.

COMPOSITION OF TRADE AND COMPARATIVE ADVANTAGE

An analysis of Indonesia's trade composition can reveal its comparative advantage in trade. This chapter's analysis of Indonesia's composition of trade follows the four dimensions presented by Ding and Hadzi-Vaskov (2017): diversification across product and destination, revealed comparative advantage, product sophistication, and economic complexity (see Annex 9.2). In each dimension, Indonesia's position is analyzed and compared with its regional peers (that is, the other ASEAN-4 countries plus China, India, and Vietnam) and other large emerging market economies (that is, non-Asian G20 emerging market economies—Argentina, Brazil, Mexico, Russia, South Africa, and Turkey).

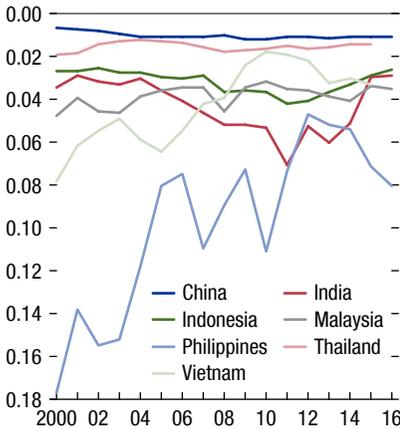
Product and Destination Diversification

Product and destination diversification is analyzed for Indonesia and its peers. The assessment of diversification is based on the Herfindahl-Hirschman index of concentration, which is calculated based on the Standard International Trade Classification (SITC) Rev.3 product classification. A smaller index indicates more diversified or less concentrated markets. More diversified export products and destinations would allow a country to better absorb shocks in its export markets.

Indonesia's export products have become more diversified since 2011, according to the Herfindahl-Hirschman concentration index. Its product diversification stands in the middle of its peers. In the region, its level of product diversification is similar to those of India and Vietnam, while it is more diversified than the Philippines and Malaysia and less diversified than China and Thailand (Figure 9.7). Compared with other large emerging market economies, its product diversification level is similar to those of Mexico and South Africa, while it is less diversified than Turkey and more diversified than Argentina and Russia (Figure 9.8).

Figure 9.7. Asian Emerging Markets: Export Product Diversification

(Index 0–1; higher value indicates exports are concentrated in fewer products)

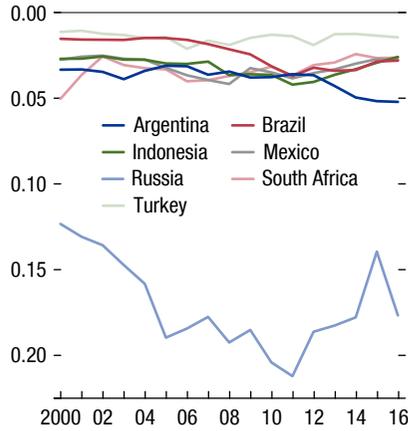


Sources: UN Comtrade database; and IMF staff estimates.

Note: Herfindahl-Hirschman index calculated using four-digit Standard International Trade Classification Rev.3.

Figure 9.8. Non-Asian Emerging Markets: Export Product Diversification

(Index 0–1; higher value indicates exports are concentrated in fewer products)



Sources: UN Comtrade database; and IMF staff estimates.

Note: Herfindahl-Hirschman index calculated using four-digit Standard International Trade Classification Rev.3.

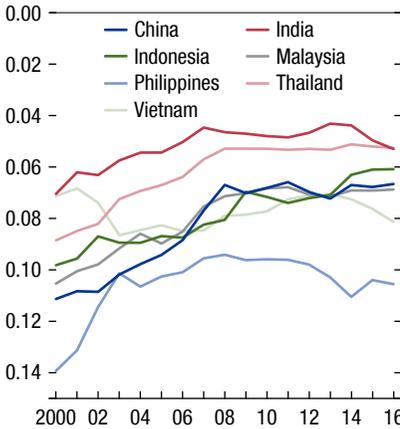
Its export destinations have also improved. A similar trend applies to most of its peers (Figures 9.9 and 9.10). The index suggests that Indonesia has improved from the category of moderate concentration to the unconcentrated category. It exported one-third of its products to its top three export destinations in 2016, whereas this proportion had been one-half in 2000.

Revealed Comparative Advantage

The revealed comparative advantage (RCA) indicates a country's relative advantage or disadvantage in exporting a certain product or group of products. It is based on the RCA index introduced by Balassa (1965), which compares the share of a group of products in a country's total exports with the share of that group of products in total world exports. An RCA larger than 1 indicates that the country has a comparative advantage in exporting that group of products. Likewise, an RCA of less than 1 indicates that a country has a comparative disadvantage.

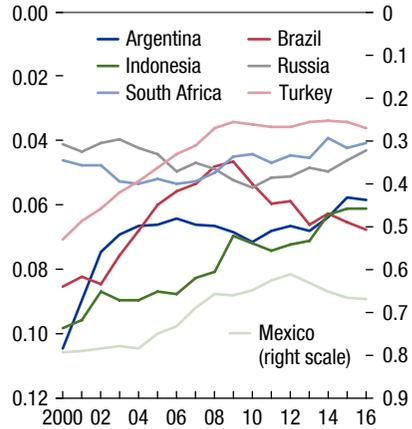
Indonesia has maintained a comparative advantage in mineral fuels and low-technology industries, in contrast with its Asian peers (Figure 9.11). The results suggest that Indonesia's RCAs in mineral fuels and low-technology industries were consistently above 1 in 2000–16, with an increasing RCA for the

Figure 9.9. Asian Emerging Markets: Diversification in Export Destinations
(Index 0–1; higher value indicates exports are concentrated in fewer destinations)



Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.

Figure 9.10. Non-Asian Emerging Markets: Diversification in Export Destinations
(Index 0–1; higher value indicates exports are concentrated in fewer destinations)



Sources: IMF, *Direction of Trade Statistics*; and IMF staff estimates.

former in 2013–16 and a stable RCA for the latter. The RCA's stability in low-technology industries sets Indonesia apart from its Asian peers. The RCAs of countries with RCAs in low-technology industries greater than 1 in 2000 (China, India, Thailand, Vietnam) declined gradually in 2000–16. In particular, China's RCA in low-technology industries declined to less than 1, while its RCA in higher-technology industries rose. Other large emerging markets' RCAs in low-technology industries have been relatively stable except for Turkey, which has experienced a gradual decline in its RCA.

Indonesia has yet to improve its competitiveness in products with higher-technology components. Its RCA in high-technology industries declined gradually in 2000–16, while its RCAs in medium-low- and medium-high-technology industries remained below 1 and stable. In contrast, China and Vietnam have gained comparative advantage in high-technology industries in this period.

Export Sophistication

Export sophistication aims to capture the potential income level at which a product may dominate on the basis of the income levels of countries that export that product. For example, if a country starts to export a new product that is exported by countries with high productivity, it may mean that over time this country can increase prices and its income. This measure is constructed using the framework in Hausmann, Hwang, and Rodrik (2007).

Figure 9.11. Revealed Comparative Advantage

Indonesia has maintained comparative advantage in mineral fuels and low-technology industries. Its RCA on other groups of products is consistently below 1. Compared with peer countries, technology-based products in Indonesia were not competitive.

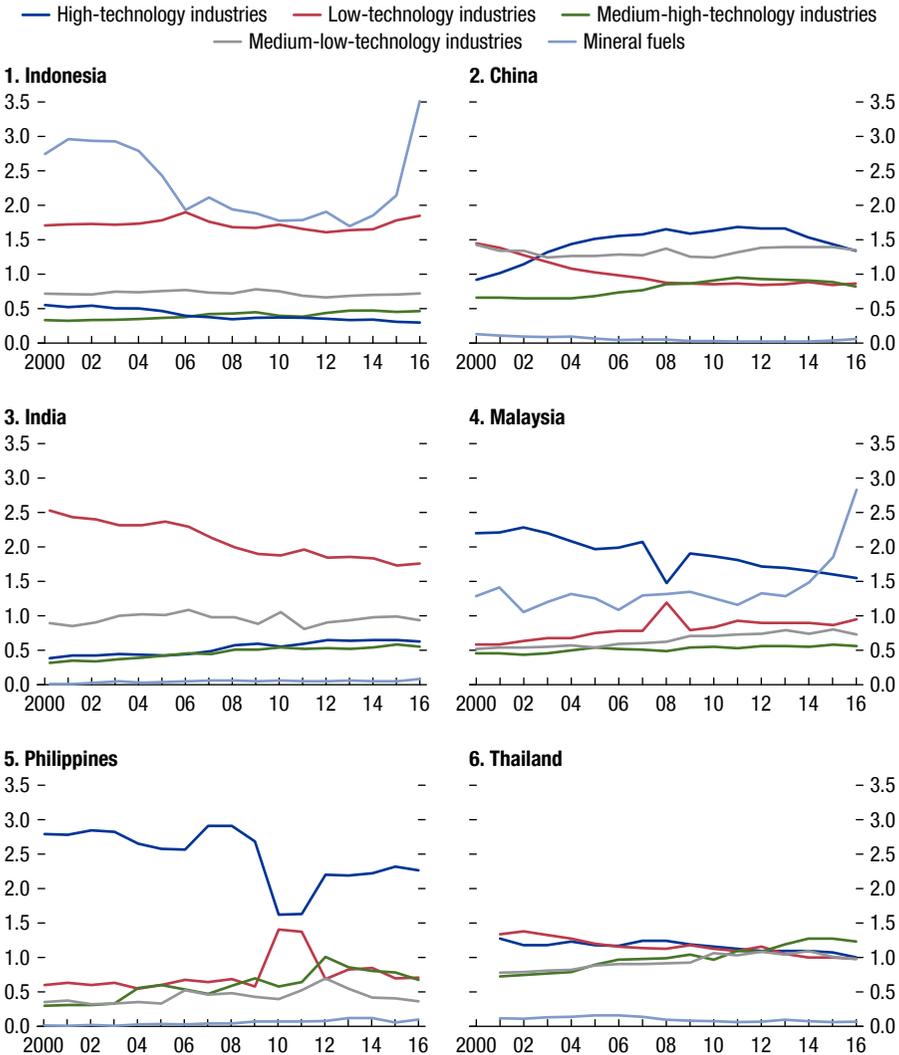
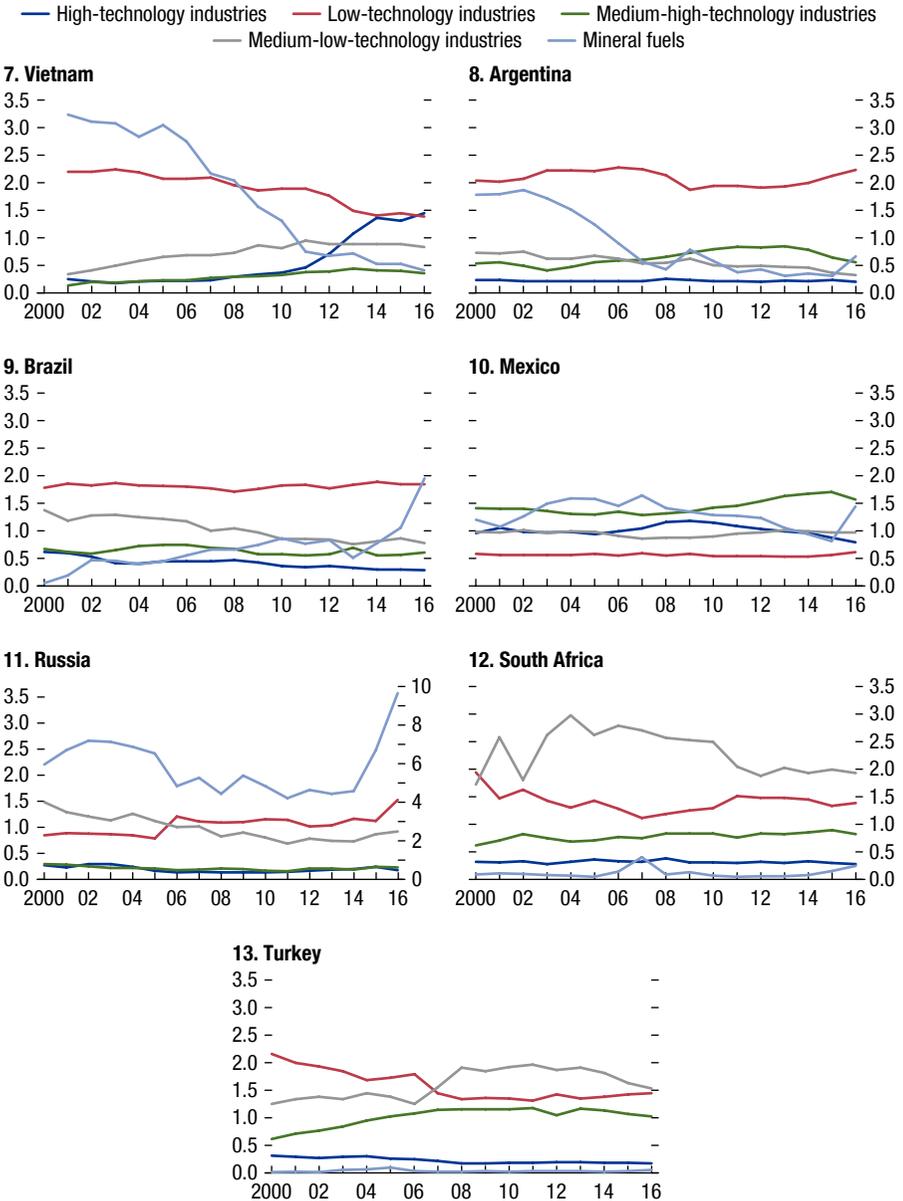
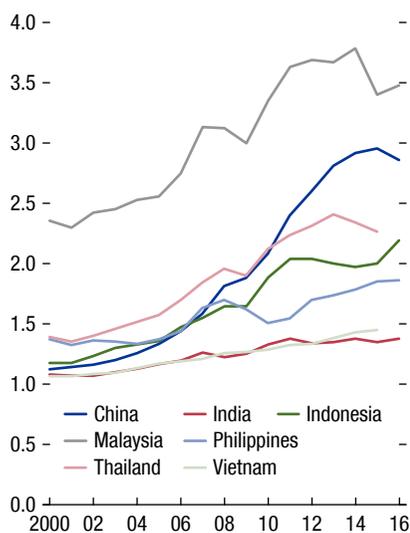


Figure 9.11 (continued)



Sources: UN Comtrade database; and IMF staff estimates.

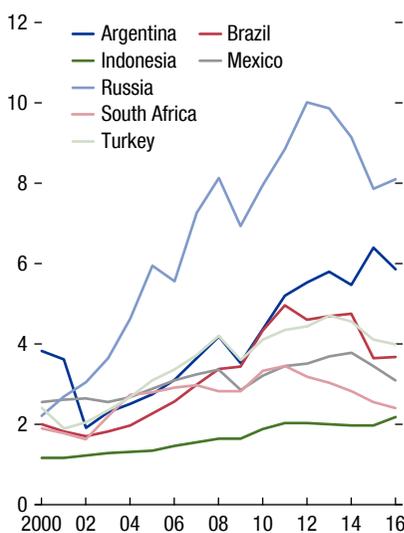
Figure 9.12. Asian Emerging Markets: Export Sophistication Index
(Index 1–10, with 10 being the most sophisticated)



Sources: UN Comtrade database; and IMF staff estimates.

Note: Based on 13 countries (Argentina, Brazil, China, India, Indonesia, Malaysia, Mexico, Philippines, Russia, South Africa, Thailand, Turkey, Vietnam).

Figure 9.13. Non-Asian Emerging Markets: Export Sophistication Index
(Index 1–10, with 10 being the most sophisticated)



Sources: UN Comtrade database; and IMF staff estimates.

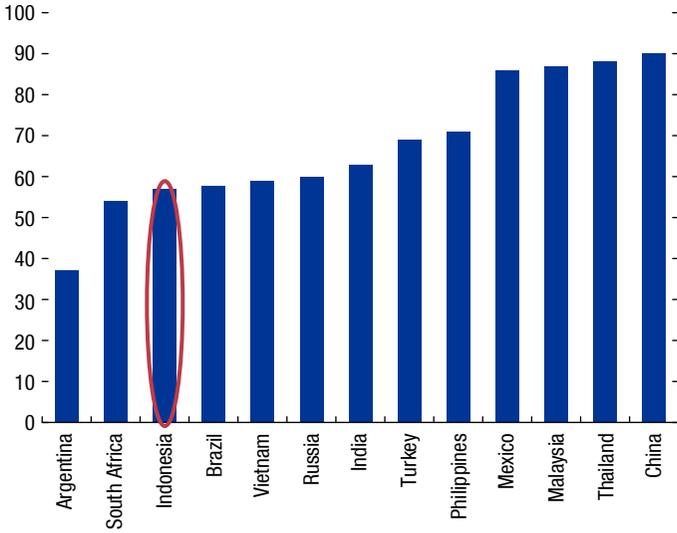
Note: Based on 13 countries (Argentina, Brazil, China, India, Indonesia, Malaysia, Mexico, Philippines, Russia, South Africa, Thailand, Turkey, Vietnam).

Indonesia’s export sophistication has improved, but it remains low compared with peers in 2000–16 (Figures 9.12 and 9.13). In this period, Indonesia managed to surpass the Philippines and be surpassed by China, while it lagged behind other peers such as Malaysia, Thailand, and non-Asian large emerging market economies.

Economic Complexity

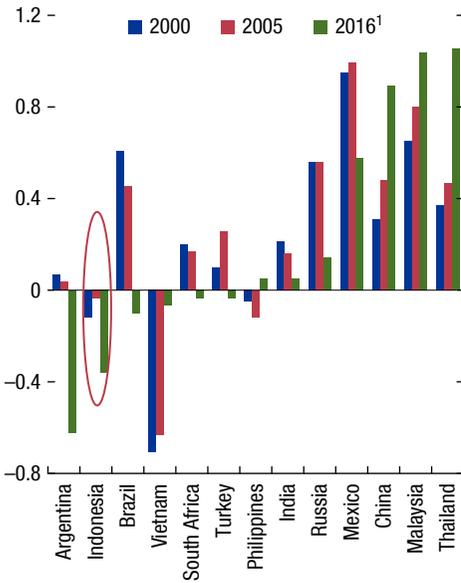
Economic complexity is a concept developed by Hidalgo and Hausmann (2009) to capture the amount of productive knowledge that is embedded in a country’s products. The economic complexity index (ECI) encompasses two aspects: diversity, the number of distinct products that a country makes; and ubiquity, the number of countries that also make the same product. Countries that produce and export a wide variety of products (high diversity) and those that are less ubiquitous are ranked higher on the ECI.

Figure 9.14. Economic Complexity Rank, 2015



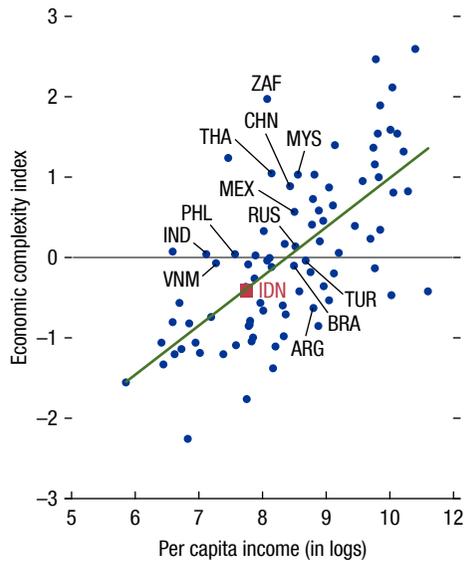
Sources: Observatory of Economic Complexity; and IMF staff estimates.
 Note: Ranked out of 108 countries. Higher number indicates higher economic complexity.

Figure 9.15. Economic Complexity Index



Source: Observatory of Economic Complexity.
 Note: Index level measures the knowledge intensity of an economy by considering the knowledge intensity of the products it exports.
¹2015 data for Thailand and Vietnam.

Figure 9.16. Economic Complexity Index and Per Capita Income, 2016



Sources: IMF, *World Economic Outlook*; Observatory of Economic Complexity; and IMF staff estimates.
 Note: 2016 or latest data available. Data labels in figure use International Organization for Standardization country codes.

The ECI suggests that Indonesia has low economic complexity. It is less capable of producing a diverse range of products that are less commonly produced by other countries. In 2015, it was ranked 57th out of 108 countries by the Observatory of Economic Complexity at the Massachusetts Institute of Technology Media Lab Macro Connections Group (Figure 9.14). While the ECI of most of its peers increased in 2000–16, Indonesia's ECI decreased (Figure 9.15). Indonesia also registered a lower ECI than India, the Philippines, and Vietnam despite having higher per capita income (Figure 9.16) (high ECI is usually associated with high per capita income).

PARTICIPATION IN GLOBAL VALUE CHAINS

Countries can benefit from participating in GVCs by enhancing productivity in tradables sectors through knowledge spillovers, technology transfers, and cost savings (Cheng and others 2015). The expansion of GVCs has been particularly pronounced among Asian emerging market economies.

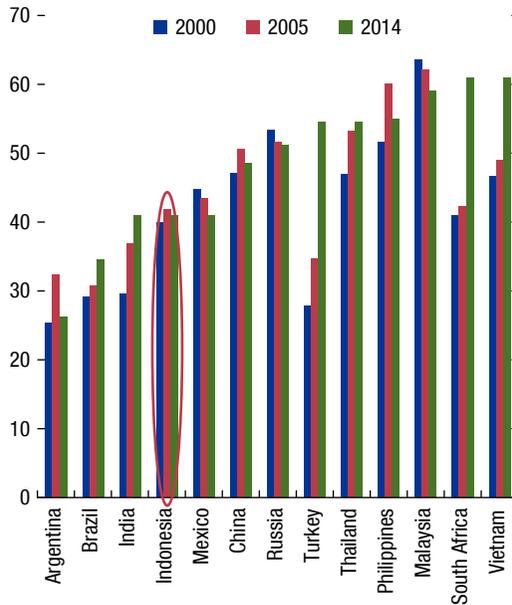
Indonesia's participation in GVCs remains below Asian peers, despite a slight increase since 2000 (Figure 9.17). The increased participation in GVCs came mainly from forward participation (domestically produced intermediate goods to be used in third countries), while backward participation (foreign value-added content in domestic exports) has declined over time, likely because of complex regulations, including NTMs (Figure 9.18). Despite the rise in forward participation, Indonesia's share in global value added remains in the middle of its peers (Figure 9.19).

The origin of value added in exports and final demand became more dominated by domestic sources (Annex Tables 9.3–9.5). The origin of value added in exports and in final demand was dominated by domestic sources in 2011, accounting for 88.0 percent and 77.9 percent, respectively. China's shares in Indonesia's exports, final demand, and import value added have further increased, while the shares of the United States, Japan, Singapore, Germany, and Australia have fallen.

The literature points to several factors determining the level of GVC participation. They include tariffs (WTO 2014; Blanchard 2013), infrastructure, access to trade finance, regulatory environment, business environment, labor skills, transportation (WTO-OECD 2013; Hummels and Schaur 2012), and economic complexity (Cheng and others 2015).

Indonesia has space for improvement to enhance its participation in GVCs with structural reforms to improve the investment climate. Indonesia's investment environment, including regulatory quality, labor skills, and quality of infrastructure, is relatively weak compared with most of its peers (Figure 9.20). Despite Indonesia's relatively low tariffs and partial liberalization of the foreign direct investment (FDI) regime, the prevalence of trade barriers and FDI restrictions has also contributed to low integration with GVCs compared with ASEAN peers, whereas, for instance, FDI has brought gains to Vietnam in both

Figure 9.17. Participation in Global Value Chains
(Percent of gross exports)



Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

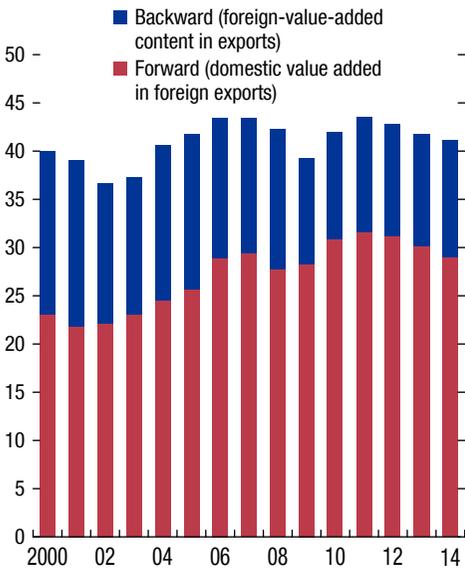
Note: Foreign value-added content and domestic value added as a percentage of gross exports.

improving export competitiveness and rising participation in GVCs. The Indonesian authorities are planning to streamline NTMs, gradually shifting control from the border to behind the border, and to become more open to trade through bilateral and regional trade agreements. Enhancing the investment climate, including infrastructure, regulations, and labor skills, would help strengthen links with GVCs and boost competitiveness (see Chapter 3, “Boosting Potential Growth”).

CONCLUSION

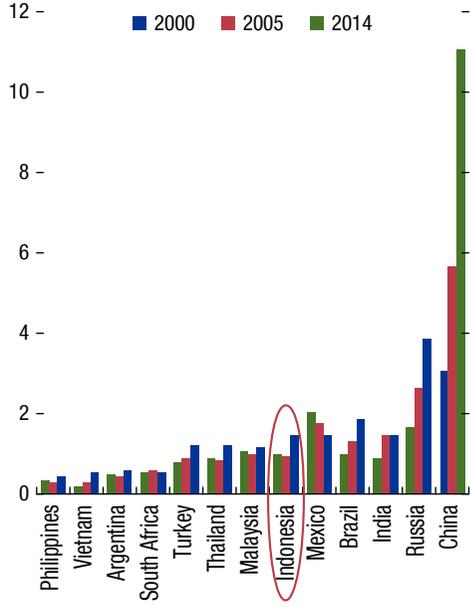
Indonesia has room to strengthen its export competitiveness by improving the investment climate. This chapter shows that Indonesia has remained integrated with the rest of the world through regional and bilateral FTAs, and its export products and export destinations have become more diversified. Indonesia’s relatively high and stable growth rate and low trade tariffs have been able to attract

Figure 9.18. Indonesia: Participation in Global Value Chains
(Percent of gross exports)



Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

Figure 9.19. Domestic-Value-Added Share
(Percent of world value added)



Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

GVCs in recent years. However, its comparative advantage still lies in mineral fuels and low-technology industries with low economic complexity, and its participation in GVCs remains low relative to Asian peers.

Looking ahead, Indonesia needs to strengthen competitiveness in higher-technology products, economic complexity, and participation in GVCs by enhancing its investment environment, including infrastructure, regulations, and labor skills. By pursuing reforms in these areas, Indonesia would be well positioned to enhance its living standards and graduate from the status of basic commodity exporter subject to global price swings, low value added, and limited employment growth.

Figure 9.20. Factors Affecting Global Value Chain Participation

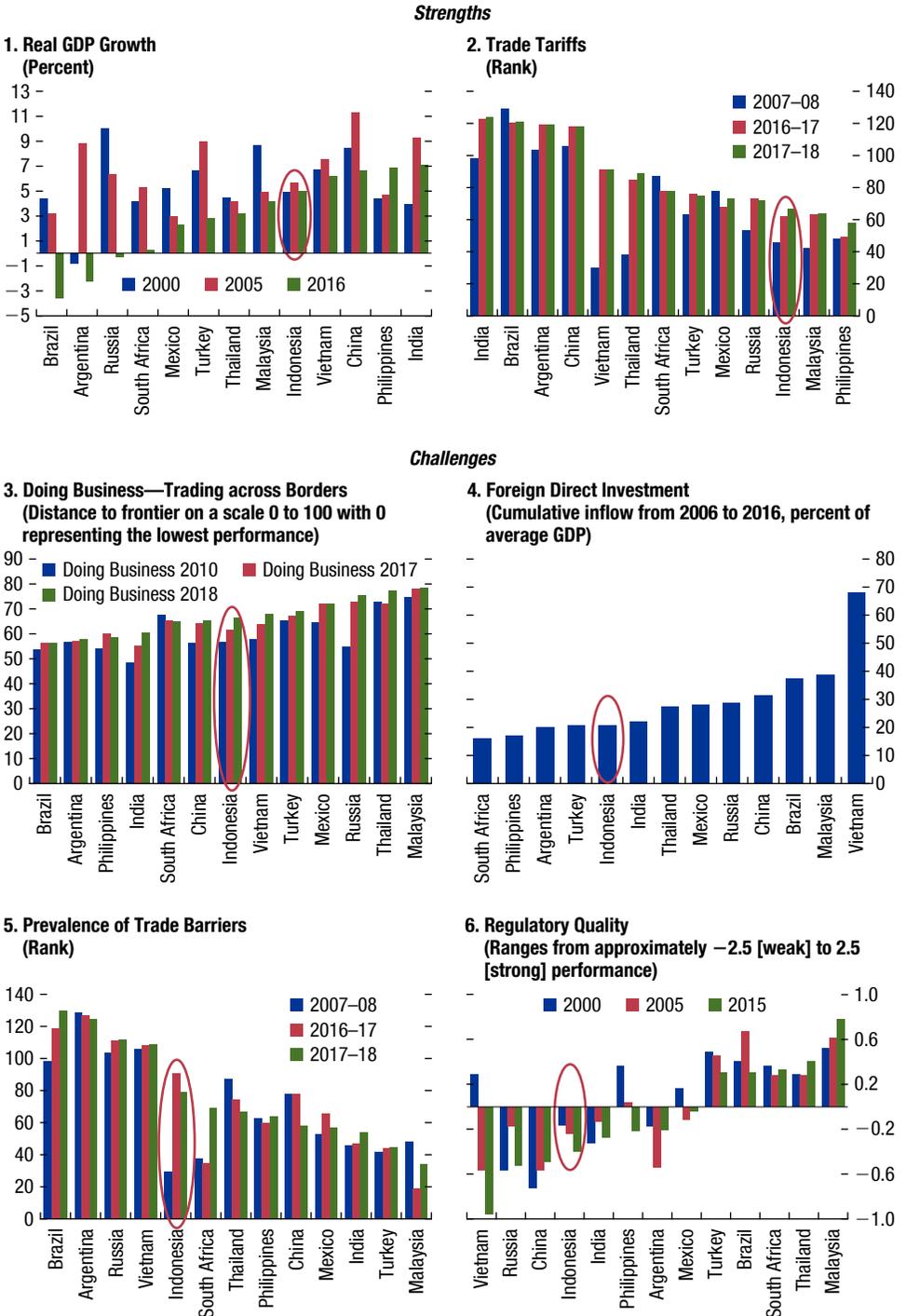
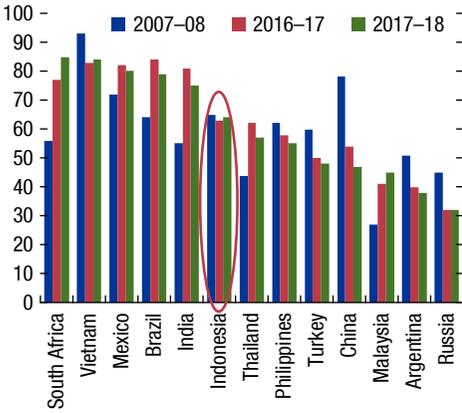
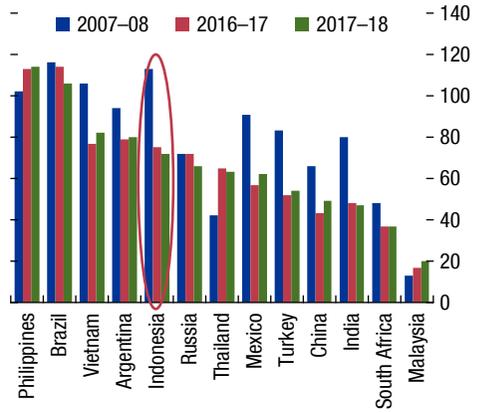


Figure 9.20 (continued)

7. Higher Education and Training (Rank)



8. Quality of Port Infrastructure (Rank)



Sources: IMF, *World Economic Outlook*; World Bank, *Doing Business*; World Bank, *Worldwide Governance Indicators*; World Economic Forum, *The Global Competitiveness Index*; and IMF staff estimates.

Note: Reflects perceptions that the government will formulate and implement sound policies and regulations that permit and promote private sector development.

ANNEX 9.1. MAIN COMMODITY EXPORTS AND ORIGINS OF VALUE ADDED

ANNEX TABLE 9.1.1.

Main Commodity Exports, by Major Export Destinations (Percent of the commodity exported from Indonesia)					
2000		2005		2016	
Natural Gas: SITC Rev.3 34					
Japan	67.33	Japan	56.36	Japan	29.85
Korea	20.38	Korea	25.62	Singapore	24.23
Other Asia, nes	10.01	China	11.75	Korea	18.72
China	0.93	Other Asia, nes	5.62	China	12.31
United States	0.64	Philippines	0.27	Other Asia, nes	11.64
Philippines	0.39	Thailand	0.21	Malaysia	2.66
Australia	0.16	Malaysia	0.04	United Arab Emirates	0.31
Hong Kong SAR	0.11	Italy	0.04	Mexico	0.26
Malaysia	0.03	United Arab Emirates	0.03	Thailand	0.02
Vietnam	0.01	Australia	0.03	Timor-Leste	0.00
Rest of the world	0.01	Rest of the world	0.03	Rest of the world	0.00
Oil: SITC Rev.3 33					
Japan	32.93	Japan	32.76	Malaysia	14.46
Korea	19.11	Korea	21.56	China	14.32
China	12.38	China	15.93	Singapore	13.63
Singapore	9.90	Australia	10.77	Thailand	13.53
Australia	7.73	Singapore	7.99	Japan	12.63
United States	5.85	United States	3.55	Australia	8.51
Other Asia, nes	4.25	Thailand	3.03	United States	7.22
Malaysia	1.98	Other Asia, nes	1.71	Korea	7.12
Thailand	1.65	Malaysia	1.22	Other Asia, nes	4.27
India	1.51	New Zealand	0.90	India	2.68
Rest of the world	2.71	Rest of the world	0.57	Rest of the world	1.62
Palm Oil: SITC Rev.3 4222+4224					
India	34.55	India	22.36	India	21.38
Netherlands	19.33	China	13.87	China	13.46
China	9.37	Netherlands	13.59	Pakistan	8.00
Singapore	5.54	Pakistan	7.42	Netherlands	5.30
Germany	3.01	Malaysia	6.53	Spain	4.34
Spain	3.00	Singapore	3.87	United States	4.30
Malaysia	2.39	Bangladesh	3.58	Egypt	4.03
United States	2.34	Germany	3.05	Bangladesh	3.59
Turkey	2.32	Sri Lanka	2.70	Italy	3.48
Bangladesh	2.00	Turkey	2.37	Malaysia	3.10
Rest of the world	1.78	Rest of the world	20.68	Rest of the world	29.02
Rubber: SITC Rev.3 23+62					
United States	32.72	United States	27.58	United States	28.01
Japan	10.90	Japan	15.09	Japan	13.53
Singapore	6.07	China	9.93	China	9.66
Germany	4.81	Singapore	5.68	India	5.96
Korea	4.53	Germany	3.40	Korea	4.63
Canada	3.11	Korea	3.11	Germany	3.03
Belgium	2.88	Canada	2.79	Brazil	2.56
China	2.41	Brazil	2.06	Canada	2.12
United Kingdom	2.06	United Kingdom	1.73	Turkey	1.91
Italy	2.04	Belgium	1.59	Belgium	1.90
Rest of the world	0.26	Rest of the world	27.04	Rest of the world	26.68

ANNEX TABLE 9.1.1. (CONTINUED)

Main Commodity Exports, by Major Export Destinations (Percent of the commodity exported from Indonesia)					
2000		2005		2016	
Base Metal: SITC Rev.3 67+68+69					
Singapore	21.98	Singapore	24.45	China	17.19
Japan	20.42	Japan	14.97	Singapore	13.11
United States	13.75	Malaysia	10.94	Australia	11.09
Malaysia	5.61	Thailand	9.73	Malaysia	8.33
Other Asia, nes	4.90	China	7.50	Thailand	7.11
Thailand	4.90	United States	4.56	United States	6.27
Netherlands	4.23	Other Asia, nes	3.93	India	5.84
Philippines	3.19	Philippines	3.00	Vietnam	4.93
Germany	2.05	Korea	2.25	Korea	4.90
Korea	1.96	Hong Kong SAR	2.03	Japan	4.87
Rest of the world	0.11	Rest of the world	16.65	Rest of the world	16.38
Coal: SITC Rev.3 32					
Japan	26.39	Japan	24.79	China	24.99
Korea	8.01	Korea	10.60	India	22.77
Philippines	5.85	India	10.49	Japan	13.65
Thailand	5.27	Hong Kong SAR	6.98	Korea	8.57
India	5.26	Italy	5.12	Other Asia, nes	6.59
Spain	4.57	Malaysia	4.73	Malaysia	5.60
Netherlands	4.55	Thailand	4.34	Philippines	5.49
Hong Kong SAR	4.37	Philippines	3.44	Thailand	4.39
Malaysia	3.19	Spain	2.21	Hong Kong SAR	2.78
Italy	2.83	Netherlands	1.98	Spain	1.46
Rest of the world	0.03	Rest of the world	25.31	Rest of the world	3.69
Textiles: SITC Rev.3 84					
United States	42.55	United States	55.17	United States	50.05
United Kingdom	8.41	Germany	8.03	Japan	9.40
Germany	7.87	United Kingdom	6.26	Germany	6.51
Netherlands	4.53	France	2.67	Korea	3.84
Japan	3.92	United Arab Emirates	2.64	United Kingdom	2.72
United Arab Emirates	3.81	Japan	2.56	China	2.42
France	2.96	Belgium	2.30	Belgium	2.37
Saudi Arabia	2.75	Netherlands	2.08	Australia	2.37
Belgium	2.65	Italy	1.86	Canada	2.29
Singapore	2.25	Canada	1.85	United Arab Emirates	1.81
Rest of the world	0.01	Rest of the world	14.59	Rest of the world	16.22
Electrical Appliances: SITC Rev.3 77					
Singapore	29.81	Singapore	41.87	Singapore	25.00
Japan	22.08	Japan	17.05	Japan	17.74
United States	8.74	United States	6.52	United States	8.94
Malaysia	4.55	Hong Kong SAR	4.65	Hong Kong SAR	5.17
Thailand	4.31	Malaysia	4.34	Malaysia	4.50
Hong Kong SAR	3.39	Thailand	2.55	France	4.25
Philippines	2.92	China	2.41	China	4.04
Korea	2.37	Korea	1.87	Thailand	3.57
France	2.28	Australia	1.70	Philippines	2.39
Germany	2.08	Philippines	1.53	Korea	2.33
Rest of the world	17.46	Rest of the world	15.50	Rest of the world	22.06

Sources: UN Comtrade database; and IMF staff estimates.

Note: nes = not elsewhere specified; SITC = Standard International Trade Classification.

ANNEX TABLE 9.1.2.

Source Country	Millions of US Dollars			Share (Percent)			Sparkline
	2000	2005	2011	2000	2005	2011	
Domestic	54,534	80,259	195,877	83.0	83.9	88.0	
Saudi Arabia	806	1,877	3,099	1.2	2.0	1.4	
China	391	1,118	2,789	0.6	1.2	1.3	
Japan	1,663	1,432	2,205	2.5	1.5	1.0	
United States	1,312	1,191	1,576	2.0	1.2	0.7	
Malaysia	425	590	1,356	0.6	0.6	0.6	
Korea	582	570	1,246	0.9	0.6	0.6	
Singapore	638	865	1,103	1.0	0.9	0.5	
Australia	479	654	919	0.7	0.7	0.4	
India	192	436	895	0.3	0.5	0.4	
Thailand	239	457	839	0.4	0.5	0.4	
Rest of the world	4,427	6,263	10,630	6.7	6.5	4.8	

Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

ANNEX TABLE 9.1.3.

Source Country	Millions of US Dollars			Share (Percent)			Sparkline
	2000	2005	2011	2000	2005	2011	
Domestic	108,858	202,800	640,214	74.6	74.9	77.9	
China	1,515	5,314	23,715	1.0	2.0	2.9	
Japan	5,575	7,941	18,664	3.8	2.9	2.3	
United States	4,963	6,322	13,231	3.4	2.3	1.6	
Saudi Arabia	1,475	3,929	9,803	1.0	1.5	1.2	
Korea	1,725	2,697	9,128	1.2	1.0	1.1	
Singapore	2,137	4,230	8,983	1.5	1.6	1.1	
Malaysia	1,279	2,664	8,358	0.9	1.0	1.0	
Australia	2,333	3,412	7,787	1.6	1.3	0.9	
Thailand	1,088	2,633	7,372	0.7	1.0	0.9	
India	611	2,023	6,738	0.4	0.7	0.8	
Rest of the world	14,279	26,786	67,725	9.8	9.9	8.2	

Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

ANNEX TABLE 9.1.4.

Source Country	Millions of US Dollars			Share (Percent)			Sparkline
	2000	2005	2011	2000	2005	2011	
China	1,905	6,432	26,504	3.9	7.7	12.6	
Japan	7,237	9,373	20,869	14.9	11.2	9.9	
United States	6,275	7,513	14,807	13.0	9.0	7.0	
Saudi Arabia	2,281	5,807	12,902	4.7	6.9	6.1	
Korea	2,307	3,267	10,375	4.8	3.9	4.9	
Singapore	2,776	5,096	10,086	5.7	6.1	4.8	
Malaysia	1,704	3,254	9,714	3.5	3.9	4.6	
Australia	2,812	4,066	8,706	5.8	4.8	4.1	
Thailand	1,328	3,090	8,211	2.7	3.7	3.9	
India	803	2,459	7,633	1.7	2.9	3.6	
Germany	1,818	2,828	5,301	3.8	3.4	2.5	
Domestic	278	525	2,709	0.6	0.6	1.3	
Rest of the world	16,888	30,221	73,055	34.9	36.0	34.6	

Sources: Organisation for Economic Co-operation and Development and World Trade Organization, Trade in Value Added database; and IMF staff estimates.

ANNEX 9.2. DIMENSIONS OF TRADE COMPOSITION AND GLOBAL VALUE CHAINS

Diversification is measured based on the Herfindahl-Hirschman index (HHI) of concentration. The HHI is calculated as the sum of squared shares of each product in total exports for export product diversification and the sum of squared shares of each export destination in total exports for market diversification. If N denotes the number of export products or export destinations and s denotes market share, the HHI of a country is calculated as follows:

$$\text{HHI} = \sum_{i=1}^N s_i^2.$$

HHI values range between $1/N$ and 1, with a smaller index indicating a more diversified or less concentrated market. Diversification of export products and destinations are analyzed for Indonesia and its peers. Product diversifications are calculated based on SITC Rev.3 at four-digit product classification, and for destinations, HHIs are calculated using IMF *Direction of Trade Statistics* data.

Revealed comparative advantage (RCA) is measured according to the RCA index introduced by Balassa (1965), which compares the share of a group of products in a country's total exports with the share of that group of products in total world exports. $\text{RCA} > 1$ indicates that a country has an RCA in exporting that group of products. Likewise, $\text{RCA} < 1$ indicates that a country has a revealed comparative disadvantage.

The RCA index for country c in exports of product p is calculated using the following formula:

$$\text{RCA}_{cp} = \left(\frac{x_{cp}}{\sum_c x_{cp}} \right) / \left(\frac{\sum_p x_{cp}}{\sum_c \sum_p x_{cp}} \right),$$

where x_{cp} represents the exports of product p by country c . The numerator refers to the share of product p in the total exports of country c , and the denominator refers to the share of product p in total world exports.

Hatzichronoglou (1997) and OECD (2003) develop an export products classification based on level of skill and technology intensity. This classification has been modified to make it more relevant to Indonesia's export structure and data availability. Instead of the International Standard Industrial Classification (ISIC) Rev.3 product classification, this chapter uses SITC Rev.3 at the four-digit product classification. Export products are classified into five categories: high, medium-high, medium-low, and low technology, and mineral fuels. The mineral fuels group is added because oil and gas are Indonesia's main export products.

Export sophistication is constructed using the Hausmann, Hwang, and Rodrik (2007) framework. This measure aims to capture the productivity level associated with a country's exports. The evolution of sophistication displays the trend in high-growth, rich countries versus slow-growing, poor economies. For each product, an associated income and productivity level (PRODY) is generated by taking a weighted average of per capita GDP, where the weights reflect the RCA of a country in that product:

$$\text{PRODY}_{pt} = \sum_c (\text{RCA}_{cpt} \times Y_{ct}).$$

where p denotes export product or category, t time, c country, and Y per capita income.

Then the income and productivity level that corresponds to a country's export basket (EXPY) is constructed with the weights corresponding to the shares of these products in total exports:

$$\text{EXPY}_{ct} = \sum_p (x_{cpt} / \sum_p x_{cpt}) \text{PRODY}_{pt}.$$

Economic complexity is a concept developed by Hidalgo and Hausmann (2009) to capture the amount of productive knowledge that is embedded in a country's products. The economic complexity index (ECI) encompasses two aspects: diversity (the number of distinct products that a country makes) and ubiquity (the number of countries that also make the same product). A country that can produce and export a wide variety of products (high diversity) and those that are less ubiquitous are ranked high on the ECI. The ECI ranks how diversified and complex a country's export basket is. This chapter uses ECI data calculated based on Simoes and Hidalgo (2011).

Global value chains (GVCs) are the position and participation of countries in global production. The GVC participation index indicates the extent to which a country is involved in a vertically fragmented production process (in relative and absolute terms). It distinguishes the use of foreign inputs in exports, or backward participation, and the use of domestic intermediates in third-country exports, or forward participation (De Backer and Miroudot 2013). The OECD, in cooperation with the WTO, has developed estimates of trade flows in value-added terms. Intercountry input-output tables and a full matrix of bilateral trade flows are used to derive data on the value added by each country in the value chain.

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Determinants of Capital Flows

YINQIU LU

INTRODUCTION

Both the volume and the composition of capital inflows to Indonesia have evolved since the global financial crisis.¹ The increased volume of capital inflows has helped finance Indonesia's current account and fiscal deficits, especially since late 2011 when the commodity supercycle ended. Foreign direct investment (FDI) and portfolio inflows have dominated capital inflows to Indonesia. Government bonds, especially those denominated in rupiah, have increasingly attracted foreign investors, and foreign interest has been influenced by global market sentiment, as attested to by several reversals of portfolio inflows.

Indonesia's external liabilities and debt positions have evolved along with the dynamics of capital inflows. The increase in capital inflows has led to an increase in external liabilities, albeit from a low level. Consistent with the composition of capital inflows, increases in FDI and portfolio liabilities have been the main drivers of the overall increase in foreign liabilities. Regarding currency composition, the share of external debt denominated in rupiah has increased, as foreign holdings of local currency (LCY) government bonds increased almost eightfold from the end of 2009 to the end of 2017, a phenomenon experienced by many emerging market economies.

Empirical analysis indicates that both push and pull factors influence capital inflows to Indonesia. For example, growth and interest rate differentials between Indonesia and the United States seem to account for an important portion of capital inflows. As expected, global risk sentiment is also important. In addition, an expectation that the rupiah will appreciate is associated with more foreign purchases of local currency government bonds.

The rest of the chapter is structured as follows: First, the developments of capital inflows to Indonesia is examined, followed by a discussion of the developments of foreign liabilities and external debt. The drivers for capital inflows to Indonesia are then reviewed, and a conclusion is provided.

CAPITAL INFLOW DEVELOPMENTS

Capital inflows to Indonesia have increased since the global financial crisis. Their average volume increased from 3.2 percent of GDP in 2005–09 to 4.2 percent

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¹Capital inflows are defined as net acquisition of domestic assets by nonresidents.

of GDP in 2010–2017. From a global perspective, driven by the liquidity released from systemic economies' unconventional monetary policies, a global search for yield has led to large capital inflows, especially portfolio inflows, to emerging market and developing economies (Sahay and others 2014). Indonesia was not an exception. Although many emerging market and developing economies experienced stable capital inflows during 2013–14 (Figure 10.1, panel 1), capital inflows to Indonesia increased and reached a peak in late 2014, then started to decline but remained at relatively high levels in 2015–17 (Figure 10.1, panel 2).

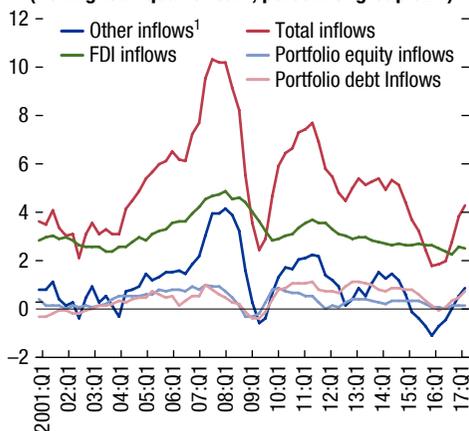
The increase in capital inflows has helped finance Indonesia's current account and fiscal deficits (Figure 10.2). After the commodity supercycle fizzled in 2011, Indonesia's current account turned to deficit in 2012 and has remained so since, in parallel with a widening fiscal deficit. Against this backdrop, increasing capital inflows enabled Indonesia to finance a current account deficit and issue additional government securities to meet budgetary needs.

FDI and portfolio inflows dominated capital inflows to Indonesia. They accounted for 51 percent and 43 percent of total cumulative inflows in 2010–17, respectively, and these ratios have remained broadly stable. Other investment inflows became positive (in four-quarter rolling terms) beginning in early 2008, largely because of a pickup in cross-border bank lending to the private sector.

Figure 10.1. Capital Inflows

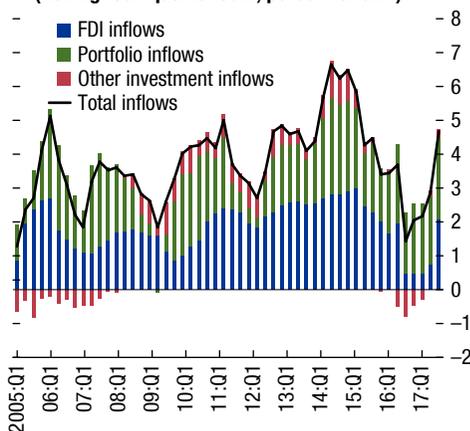
1. EMDEs: Capital Inflows

(Rolling four-quarter sum, percent of group GDP)



2. Indonesia: Capital Inflows

(Rolling four-quarter sum, percent of GDP)



Sources: IMF, Financial Flows Analytics and Balance of Payments Statistics; and IMF staff estimates.

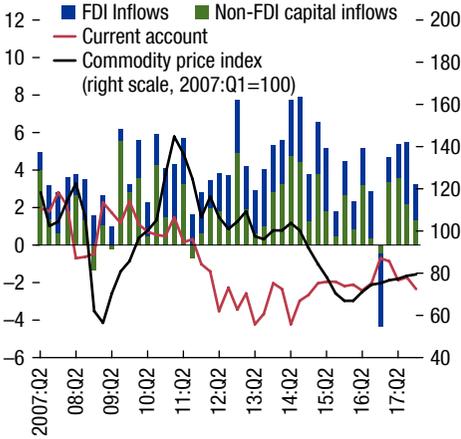
Note: EMDEs = emerging market and developing economies; FDI = foreign direct investment.

¹“Other inflows” is a residual category, comprising mainly loans (including bank lending and trade credit), deposits, and financial derivatives.

Sources: Haver Analytics; and IMF staff estimates.

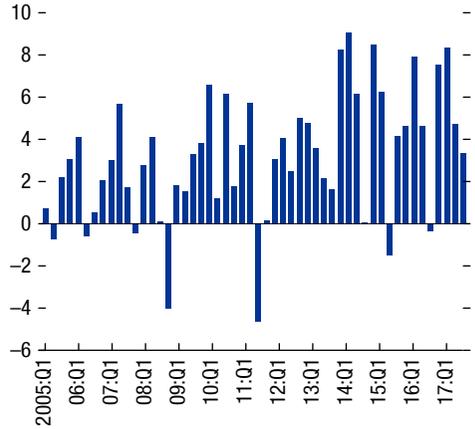
Note: The decline in foreign direct investment inflows in late 2016 was largely due to the tax-amnesty-motivated liquidation of a special purpose vehicle's stake. FDI = foreign direct investment.

Figure 10.2. Indonesia: Capital Inflows and Current Account Balance
(Percent of GDP)



Sources: Haver Analytics; and IMF staff estimates.
Note: FDI = foreign direct investment. The decline in FDI inflows in late 2016 was largely due to the tax-amnesty-motivated liquidation of a special-purpose vehicle's stake.

Figure 10.3. Indonesia: Portfolio Inflows
(Billions of US dollars)



Sources: Haver Analytics.

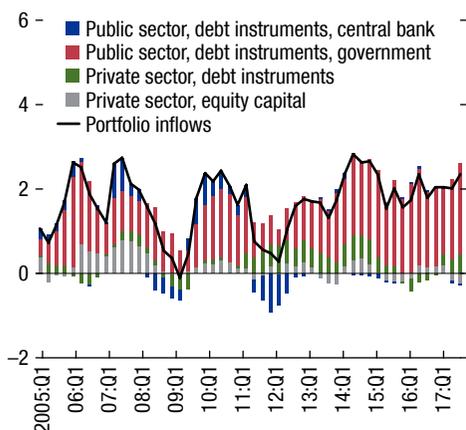
However, the recent external deleveraging of the private sector has led to a reversal of other investment inflows (Figure 10.1, panel 2).

Similar to other emerging markets, portfolio inflows to Indonesia were influenced by global market sentiment. Because of Indonesia's close integration with global capital markets, portfolio inflows have followed a clear risk-on and risk-off pattern (Figure 10.3). Because portfolio inflows resumed after the global financial crisis, their main reversals corresponded to changes in global sentiment—the euro area sovereign debt crisis in late 2011, the emerging market volatility transmitted from the reform of China's exchange rate policy in the second half of 2015 (renminbi reform), and the US elections in late 2016. Portfolio inflows also declined sharply during the 2013 taper tantrum.

Government bonds have been the most popular financial instruments for foreign investors (Figure 10.4). Inflows to government bonds accounted for 85 percent of total cumulative portfolio inflows and averaged 1.5 percent of GDP from 2010 to 2017. Global fixed-income investors are attracted by Indonesia's high government bond yields, relatively high economic growth, and the statutory fiscal deficit limit of 3 percent of GDP, which caps gross fiscal financing requirements. Corporate bonds are the second most popular instrument; however, foreign purchases of corporate bonds have declined since late 2015, following a similar trend in cross-border bank lending. Inflows to central bank bills were influenced by Bank Indonesia's imposition of a minimum holding period. After Bank Indonesia extended the minimum holding period for central bank bills to six months in May 2011 from one

Figure 10.4. Indonesia: Main Components of Portfolio Inflows

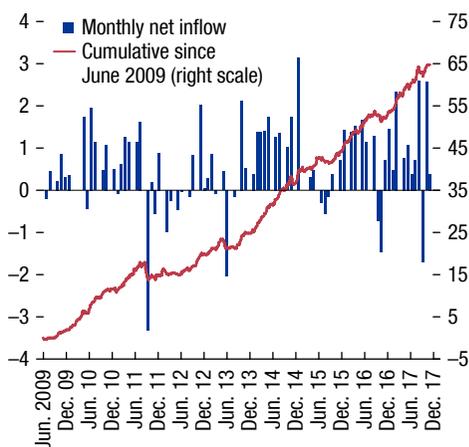
(Rolling four-quarter sum, percent of GDP)



Sources: Haver Analytics; and IMF staff estimates.

Figure 10.5. Inflows to Local Currency Government Bond

(Billions of US dollars)



Sources: CEIC Data Co. Ltd.; Bloomberg L.P.; and IMF staff estimates.

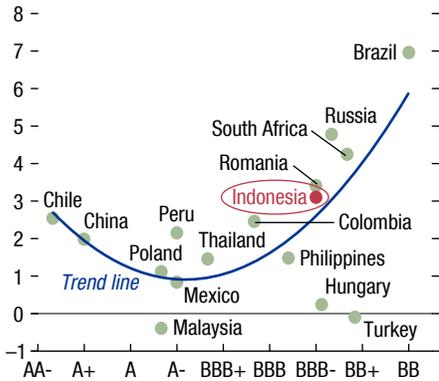
month (imposed in July 2010), foreign investors sold off central bank bills.² Inflows to equity, relatively small in volume, had been volatile.

LCY government bonds have attracted more inflows than those denominated in hard currency. It is estimated that close to 70 percent of the inflows to government bonds went to rupiah-denominated government bonds from 2010 to 2017. Despite some episodes of outflows—such as during the euro area sovereign debt crisis, the taper tantrum, the 2015 renminbi reform, and the 2016 US elections—total cumulative inflows reached US\$62 billion during this period, a major source for financing the budget deficit (Figure 10.5).

Inflows to LCY government bonds were strong from the beginning of 2016 through the end of 2017, despite some volatility related to the US election. They reached close to US\$20 billion in January 2016–December 2017, reflecting a favorable global financial environment, attractive bond yields, and some speculative inflows related to the tax amnesty program. The inflation-adjusted yield of Indonesia LCY government bonds seems comparable to that of other countries (Figure 10.6), and total annual returns on bonds—a combination of high yields and positive valuation (inversely related to the bond yields)—reached 16 percent in US dollar terms at the end of 2017 (Figure 10.7). The returns from exchange rate movements have been volatile and have often been correlated with the return from valuation, attesting to the role of foreign investors in influencing bond

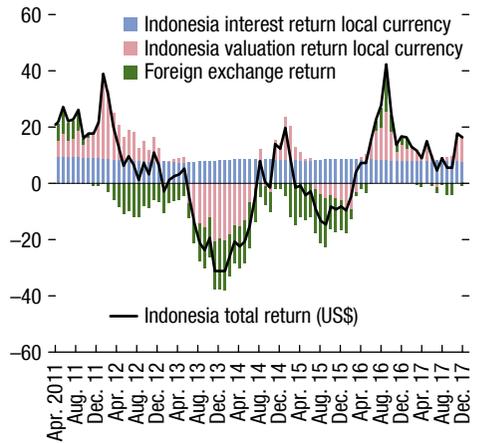
²The minimum holding period was reduced to one month in September 2013 and to one week in September 2015.

Figure 10.6. Government Bond Real Yield and Credit Rating
(Percent per year, 10-year real yield)



Sources: Bloomberg L.P.; IMF, *Information Notice System*; and IMF staff estimates.
 Note: Real yield is defined as nominal bond yield minus inflation rate. Credit rating represents the average of ratings from S&P, Fitch, and Moody's for each country. Data are as of October 2017 or latest available.

Figure 10.7. J.P. Morgan Government Bond Index-EM Global Diversified, 12-Month Return
(Percent)



Sources: Bloomberg L.P.; and IMF staff estimates.
 Note: EM = emerging market.

yields. For example, returns declined as inflows reversed in October 2016 when foreign investors likely took profits, and the reversal accelerated after the US election. It is estimated that the amount of capital reversal from LCY government bonds reached US\$2.2 billion in October 1–November 30, 2016, with the yield on 10-year bonds up by 100 basis points. Since then, capital inflows have gradually resumed, accompanied by a decline in bond yields.

The correlations among key types of capital inflows seem to be low based on quarterly balance of payments data (Table 10.1). Low positive correlations point to a small likelihood that foreign investors are engaging in herding behavior during shocks; low negative correlations mean less chance for one type of inflows to compensate for a decline in another type of inflows. The correlation of -1 between FDI debt inflows and debt outflows reflects recurrent short-term intracompany trade credit, which would be recorded as debt inflows and debt outflows in the same quarter. The correlation between FDI and private sector bond inflows is relatively high, probably because they are likely driven by the same underlying factors, such as the outlook for economic activity or commodity prices. The correlation between public bond inflows and public other investment inflows was almost zero, pointing to limited substitution between these two types of government borrowing.

However, high-frequency data point to a high correlation between equity and LCY government bond inflows, especially during the early stages of shock episodes. During the taper tantrum and 2015 renminbi reform, both equity and bond inflows to Indonesia declined or reversed, as foreign investors reduced their exposures to emerging markets (Figure 10.8).

TABLE 10.1.

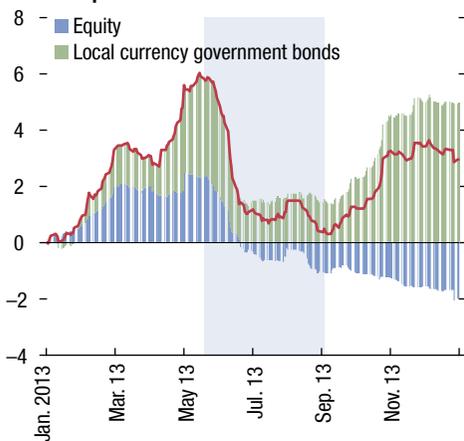
Correlation Coefficients for Items in the Financial Account
(2010:Q1–2017:Q4)

	FDI	FDI	FDI				Bond	Bond		OI	OI
	Equity	Debt	Debt	Portfolio	Equity	Bond	(private)	(public)	OI	(private)	(public)
FDI											
FDI equity											
FDI debt inflows		0.3									
FDI debt outflows		-0.3	-1.0								
Portfolio	0.3	0.3	0.1	-0.1							
Equity	0.1	0.1	-0.1	0.1							
Bond	0.3	0.3	0.2	-0.2	0.2						
Private sector	0.3	0.2	0.2	-0.2	0.2						
Public sector	0.2	0.2	0.0	0.0	0.1	-0.1					
Other Investment	0.1	0.2	0.1	-0.2	-0.2	-0.1	-0.2	-0.1	-0.2		
Private sector	0.2	0.3	0.3	-0.3	-0.1	-0.1	-0.2	0.2	-0.2		
Public sector	-0.1	0.0	-0.2	0.1	-0.1	-0.1	-0.1	-0.3	0.0	0.0	

Sources: Haver Analytics; and IMF staff estimates.
Note: FDI = foreign direct investment; OI = other investment.

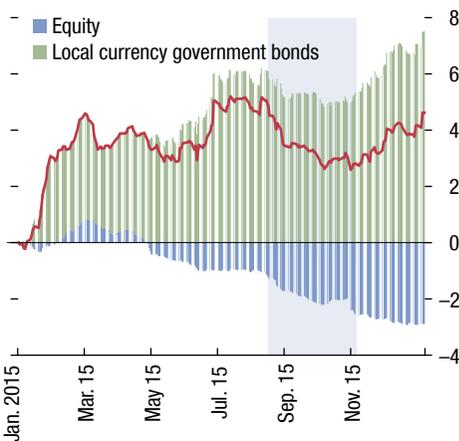
Figure 10.8. Equity and Local Currency Government Bond Inflows
(Billions of US dollars, cumulative since January 1, 2013)

1. 2013 Taper Tantrum



Sources: Bloomberg Data L.P.; and IMF staff estimates.

2. 2015 Renminbi Reform



Sources: Bloomberg Data L.P.; and IMF staff estimates.

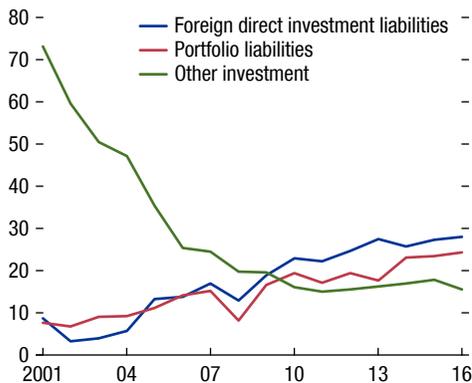
DEVELOPMENTS IN FOREIGN LIABILITIES AND EXTERNAL DEBT

Capital inflows to Indonesia since the global financial crisis led to an increase in external liabilities, albeit from a low level (Figure 10.9). Indonesia's foreign liabilities rose from 55 percent of GDP at the end of 2009 to 68 percent of GDP at the end of 2016. Consistent with the dynamics of capital inflows, increases in FDI and portfolio liabilities were the main drivers of the overall increase in foreign liabilities, and their total share in foreign liabilities increased by 12½ percentage points over 2010–16 to 77 percent at the end of 2016.

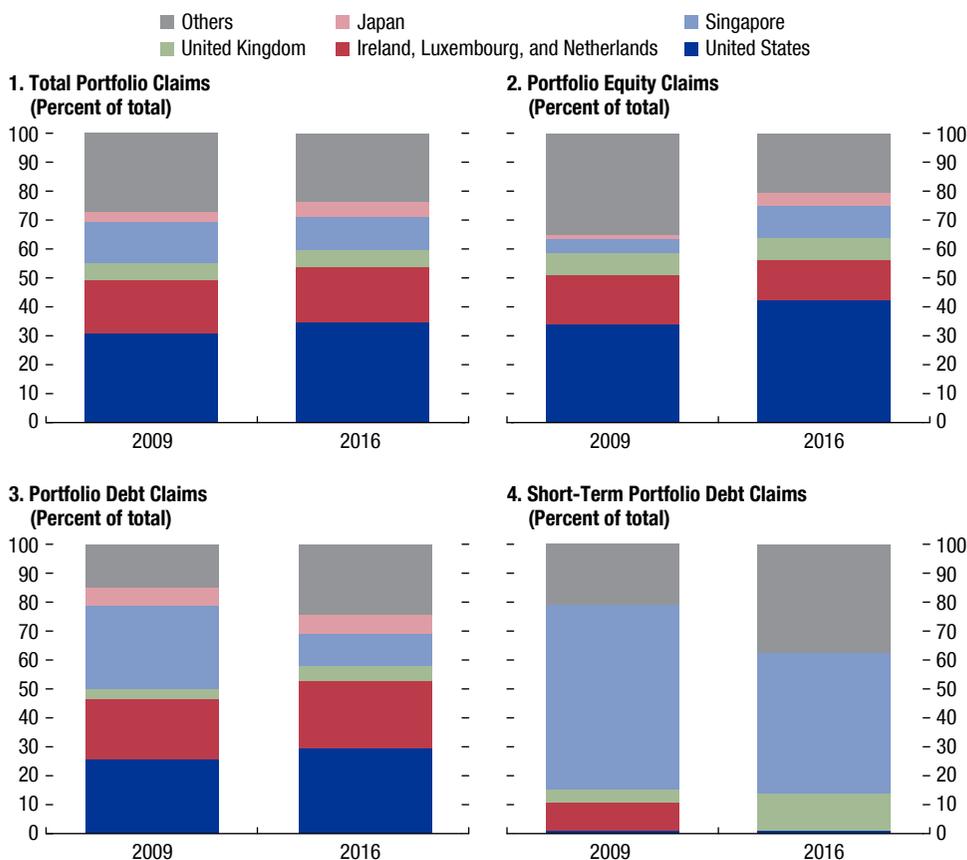
The investor base for Indonesia has shifted toward investors from Europe and the United States (Figure 10.10). Within a larger pie of portfolio claims, investors from the United States and from European financial centers (such as Ireland, Luxembourg, the Netherlands, and the United Kingdom) have seen their shares increase. This increase was observed in both portfolio equity and debt claims for investors from the United States and in debt claims for those from the European financial centers, as global investors were diversifying their portfolio investment into emerging markets. Accordingly, the share of Singaporean portfolio investors has declined. Nevertheless, Singapore investors still accounted for half of total short-term portfolio debt claims.

Despite a recent increase, Indonesia's external debt remains low. In contrast with the definition of external liabilities, external debt excludes equity FDI and equity portfolio investment. The external-debt-to-GDP ratio increased from 30 percent at the end of 2009 to 34¾ percent at the end of 2017. The share of public debt decreased from 57½ percent to 51¼ percent over the same period, because about 60 percent of the increase in external debt was due to private sector borrowing. Within the private sector, external debt of the nonbank sector stood at 14 percent of GDP, of which 20 percent was borrowed by state-owned enterprises.

Figure 10.9. Foreign Liabilities, by Type
(Percent of GDP)



Sources: Haver Analytics; and IMF staff estimates.

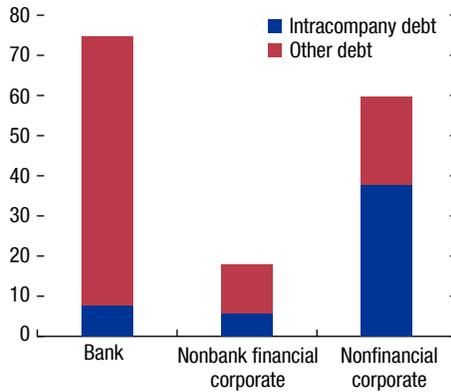
Figure 10.10. Indonesia: Portfolio Claims

Sources: IMF, *Coordinated Portfolio Investment Survey*; and IMF staff estimates.

Parent and affiliated company debt constitutes a large share of private debt (Figure 10.11). At the end of 2017, one-third of private sector external debt was from either parent or affiliated companies (US\$52 billion, 5 percent of GDP), with debt from parent companies accounting for 82½ percent of such debt. The share of intracompany loans in external debt was highest among nonfinancial corporations (about two-thirds). Some of these loans are disguised borrowing through Eurobond issuance, given that the receipts wired back to Indonesia from Eurobonds issued by the special-purpose vehicles set up by domestic companies are registered as intracompany loans in the balance of payments.

An increasing share of external debt is denominated in rupiah. About 20 percent of Indonesia's external debt was denominated in rupiah at the end of 2017, up from 10 percent at the end of 2009. This increase in share, in line with developments in portfolio inflows, reflected an increasing share of foreign holdings of LCY government bonds—a close to eightfold increase in the nominal value of

Figure 10.11. Private Sector External Debt
(Billions of US dollars, end of September 2017)



Sources: Bank Indonesia; and IMF staff estimates.

foreign holdings and a doubling of the foreign share from year-end 2009 to year-end 2017, following a similar trend in other emerging markets (Figure 10.12, panel 1). As a result, the share of rupiah-denominated government debt almost tripled from 12½ percent at year-end 2009 to 34¾ percent at year-end 2017. Foreign ownership as a share of foreign reserves is relatively high compared with peers (Figure 10.12, panel 2).

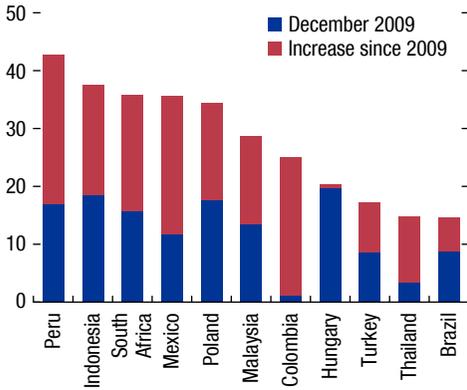
Foreign holders of LCY government bonds are diverse. About 36 percent of LCY government bonds were held by central banks, foreign governments, and mutual funds at the end of September 2017 (Figure 10.12, panel 3). Central banks and foreign governments found LCY government bonds attractive after the taper tantrum because they provide diversification of investment while reducing the cost of carry of foreign currency reserve holdings (Standard Chartered 2013). Another 42 percent of bonds were held by financial institutions. A relatively high share of foreign investors are benchmark-driven emerging market funds (Figure 10.12, panel 4).

In addition to purchasing and holding LCY government bonds, foreigners also use derivatives to gain similar exposure. Total return swaps (TRSs) and credit-linked notes (CLNs) backed by LCY government bonds are two popular instruments that are normally contracted between global investment banks and foreign investors, who get cash flows from the underlying bonds without holding the cash bonds. When local subsidiaries of global investment banks sell TRSs and CLNs to foreign investors, the total foreign exposure to LCY bonds could be larger than officially reported foreign holdings because local subsidiaries are considered residents. Despite declining from its 2010 peak, the volume of annual CLN issuance averaged US\$1.1 billion in 2011–16, roughly 17 percent of the increase in foreign holding of cash bonds (Figure 10.13).³

³Information about the volume of TRSs is difficult to gather. There is no information about the volume of CLNs that have been issued by local subsidiaries of global investment banks.

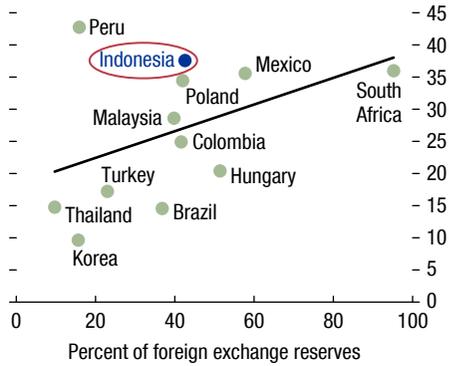
Figure 10.12. Foreign Investment Involvement

1. Growth in Foreign Holdings of Local Currency Government Bonds (Year-end 2016, percent of total)



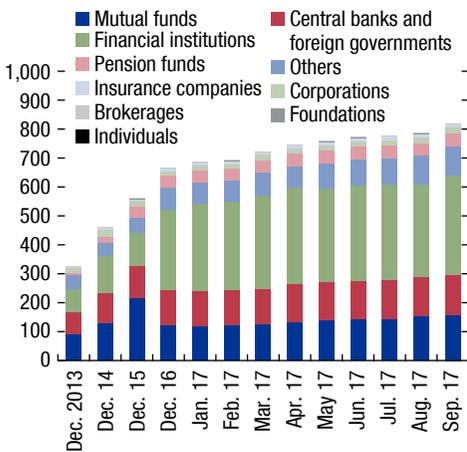
Sources: Bloomberg L.P.; Haver Analytics; and IMF staff estimates.

2. Foreign Holdings of Local Currency Government Bonds (Year-end 2016, percent of total)



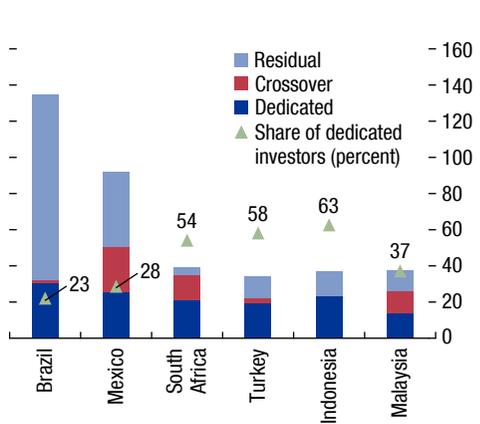
Sources: Bloomberg L.P.; country authorities; Haver Analytics; and IMF staff estimates.

3. Foreign Ownership, by Industry (Trillions of rupiah)



Source: Ministry of Finance.

4. Types of Foreign Investors in Local Currency Government Bonds (Billions of US dollars, October 2015)

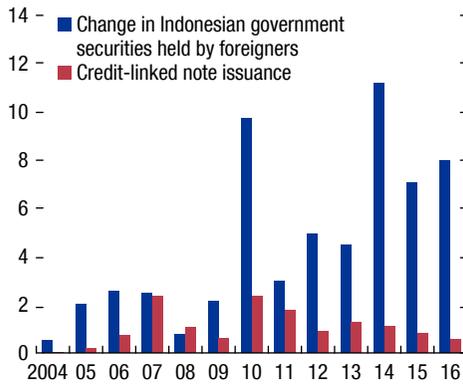


Source: J.P. Morgan.

Note: Assets under management benchmarked to emerging market indices are characterized as “dedicated” emerging market holdings; those benchmarked to widely followed global bond indices are characterized as “crossover” emerging market holdings; and the difference between the total foreign holdings and indexed holdings (both dedicated and crossover) is characterized as “residual.”

Figure 10.13. Change of Foreign Holdings of Local Currency versus Credit-Linked Note Issuance

(Billions of US dollars)



Sources: Bloomberg L.P.; Haver Analytics; J.P. Morgan; and IMF staff estimates.

DRIVERS OF CAPITAL INFLOWS TO INDONESIA

There is a rich literature on the drivers of capital flows. The typical analysis adopts the “push versus pull” framework (for example, Fratzscher 2011; Cerutti, Claessens, and Puy 2015). Push factors refer to external supply factors, such as the supply of global liquidity and global risk aversion. Pull factors refer to domestic demand-side factors that attract capital inflows, such as macroeconomic fundamentals, the institutional framework, and policies.⁴ The IMF devoted a chapter in the *World Economic Outlook* (IMF 2016b) that explores the drivers of the recent slowdown in net capital flows to emerging market economies; it finds that much of the decline in inflows can be explained by the narrowing growth differentials between emerging market and advanced economies. IMF (2016a) points out that both push and pull factors remain important for capital flows, suggesting that source and recipient country policies play a role. Other recent work on capital flows includes Ghosh and others (2012); Chung and others (2014); Nier, Sedik, and Mondino (2014); and Sahay and others (2014).

⁴For more details on the factors and policies in Indonesia that would boost growth and attract more capital, see Chapter 3, “Boosting Potential Growth.”

Panel Analysis

This examination of the drivers of capital inflows to Indonesia is based on a panel analysis of 34 countries⁵ with country fixed effects (Hannan 2017) (Table 10.2). The time period is 2009–15 and quarterly data are used to capture the drivers of

TABLE 10.2.

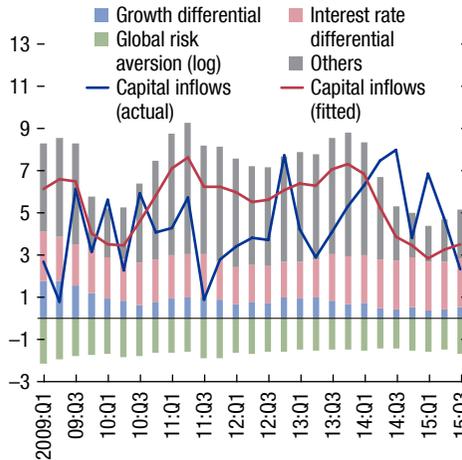
Capital Inflows (Share of GDP, 2009:Q3–2015:Q4)							
Variable	Total	Private	Foreign		Portfolio Debt	Portfolio Equity	Other
			Direct Investment	Portfolio			
Growth differential	0.21* (0.12)	0.32** (0.12)	0.07 (0.05)	0.06* (0.03)	0.07* (0.04)	0.01 (0.01)	0.07 (0.09)
Interest rate differential	0.31* (0.16)	-0.14 (0.16)	0.10 (0.09)	0.04 (0.05)	0.05 (0.06)	0.02 (0.01)	0.22* (0.12)
Trade openness	-0.01 (0.05)	0.05 (0.05)	0.06* (0.03)	-0.03 (0.02)	-0.03** (0.02)	-0.01* (0.00)	-0.02 (0.04)
Reserves	0.06** (0.02)	0.07** (0.03)	0.03* (0.01)	0.04** (0.01)	0.04** (0.02)	0.00** (0.00)	-0.00 (0.03)
Exchange rate regime	0.26 (0.45)	-0.24 (0.37)	-0.03 (0.11)	-0.29 (0.32)	-0.27 (0.30)	-0.09 (0.05)	0.61 (0.42)
Institutional quality	-8.85*** (2.68)	-6.90* (3.37)	-2.41 (1.80)	-1.79 (2.08)	-1.58 (2.32)	-0.30 (0.32)	-4.69* (2.66)
Income per capita	0.00** (0.00)	0.00*** (0.00)	0.00* (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00** (0.00)
Capital account openness	-2.17 (2.38)	-1.95 (2.74)	-1.35 (1.00)	0.38 (2.27)	1.54 (1.59)	-0.14 (0.22)	-1.34 (1.46)
Financial development	-19.12 (24.24)	-27.60 (25.69)	-10.31 (21.68)	1.30 (9.40)	6.91 (8.79)	-2.55 (1.75)	-6.89 (9.56)
Global risk aversion (log)	-0.56 (2.72)	-3.02 (2.23)	1.96** (0.81)	-2.41** (1.17)	-1.94** (0.80)	-0.35 (0.26)	0.08 (1.44)
Commodity prices (growth)	-0.04 (0.04)	-0.00 (0.02)	-0.02** (0.01)	0.01 (0.01)	0.01 (0.01)	-0.00 (0.00)	-0.03 (0.02)
Global liquidity (growth)	0.10 (0.13)	0.07 (0.11)	0.08* (0.04)	0.08 (0.07)	0.06 (0.06)	-0.00 (0.01)	-0.06 (0.07)
Us corporate spread	0.04 (1.18)	0.95 (1.02)	-0.94 (0.65)	0.85 (0.69)	0.26 (0.57)	0.26 (0.16)	0.08 (1.05)
Us yield gap	2.07 (2.43)	0.85 (1.67)	-0.32 (0.50)	-0.15 (0.96)	-0.52 (0.71)	0.24 (0.23)	2.22 (1.46)
Constant	-4.52 (14.72)	5.10 (12.75)	-4.78 (9.28)	5.32 (4.94)	1.80 (4.83)	1.43* (0.78)	-6.87 (7.12)
Number of observations	809	809	809	809	758	739	787
Number of groups	34	34	34	34	33	33	34
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Hannan 2017.

Note: Standard errors are in parentheses. * $p < .1$; ** $p < .05$; *** $p < .01$.

⁵Albania, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Croatia, Ecuador, Egypt, El Salvador, FYR Macedonia, Guatemala, Hungary, India, Indonesia, Jordan, Kazakhstan, Latvia, Lithuania, Malaysia, Mexico, Paraguay, Peru, Philippines, Poland, Russia, Saudi Arabia, South Africa, Sri Lanka, Thailand, Turkey, Ukraine, Uruguay.

Figure 10.14. Drivers of Capital Inflows
(Percent of GDP)



Sources: CEIC Data Co. Ltd., Haver Analytics; and IMF staff estimates.

capital flows after the global financial crisis. Coefficients from the panel analysis are applied to Indonesia-specific factors and global factors to derive the portion of capital inflows that can be explained by each factor.

The analysis shows that cyclical factors are significant for capital inflows to Indonesia (Figure 10.14). Growth and interest rate differentials between Indonesia and the United States seem to account for an important portion of capital inflows.

Global risk aversion is also important. More global risk aversion leads to low inflows, in particular for some components such as portfolio debt. However, the estimation does not seem to be able to capture the large fluctuations in capital inflows. For example, the reversal related to the taper tantrum, which is likely partly due to large temporary shifts in market expectations regarding the course of monetary policy in the United States, is difficult to control for in a regression using quarterly data (IMF 2016b).

GARCH Model

The availability of daily data on capital inflows allows us to analyze the impact of high-frequency market sentiment on capital inflows to Indonesia. A generalized autoregressive conditional heteroscedasticity (GARCH) model is used to analyze the main drivers of capital inflows to LCY government bonds, one of the key types of capital inflows to Indonesia. The GARCH framework, a standard tool for modeling volatility in financial economics, allows the impact of regressors on the mean and volatility of the dependent variable to be estimated. The sample

data consist of daily observations covering the period January 1, 2010, to November 30, 2017.

The empirical model of the capital inflows to Indonesia is as follows:

$$c_t = \sum_{i=1}^n \phi_i c_{t-i} + \beta_m X_t^m + \varepsilon_t \quad (7.1)$$

with

$$\sigma_t^2 = \omega + \sum_{j=1}^q \gamma_j (\sigma_{t-j}^2) + \sum_{i=1}^p \alpha_i (\varepsilon_{t-i}^2). \quad (7.2)$$

Equation (7.1) is the mean equation, in which c_t represents the capital inflows to LCY government bonds, ϕ_i is the autoregressive term incorporating the persistence of the capital inflows, $\beta_m X_t^m$ reflects the impact of exogenous factors on capital inflows, and ε_t is the error term. In equation (7.2)—the conditional variance equation— σ_t is the standard deviation, γ_j is the GARCH term, and α_i is the ARCH effects.

Variables most relevant for foreign investors' returns are chosen as the explanatory variables. The first is the expected movement of the rupiah against the US dollar. The change in the three-month nondeliverable forwards (NDF) rate is used to represent this expectation.⁶ The hypothesis is that a more appreciated forward exchange rate would persuade foreign investors to purchase more bonds. The second is the difference between the five-year government bond yield and the time deposit rate. While this is a driver mostly for local investors (mainly banks), it could also indirectly influence foreign investors, given that a larger difference would support the positive price dynamics from local investors. The third is the Chicago Board Options Exchange Volatility Index (VIX) indicator, which could capture the impact of global financial conditions and hence the perceived risks of exposure to Indonesian risk.⁷ Higher market volatility should dent foreign interest in LCY bonds. To reduce the endogeneity of capital inflows, lags of the explanatory variables are used with the lags in both the mean and variance equations chosen based on their significance. A dummy for the bond auction dates has been introduced into the model to control for inflows related to auctions; however, it does not turn out to be statistically significant.

The estimation results confirm the main hypothesis (Table 10.3). An expectation that the rupiah will appreciate is associated with more foreign purchases of bonds; a wider spread of the bond yield over the time deposit rate would encourage more foreign participation; and an increase in global risk aversion is associated with a decline in foreign investors' exposure to Indonesian risk. Foreign capital inflows have strong persistence given that inflows usually generate positive, though diminishing, momentum in the next two days.

⁶Onshore forward exchange rates have been tried as well, but they have weaker forecast power despite the correlation coefficient having the expected sign.

⁷The five-year credit default swap of Indonesia has been tried as well, but because the credit default swap and VIX are highly correlated, the one with more predictive power is chosen, which is the VIX.

TABLE 10.3.

Estimated GARCH Parameters				
	Coefficient	Standard Error	z-Statistic	p-value
Mean equation				
Variable				
C	80.2	24.89	3.22	.00
Inflows(-1)	0.2	0.02	8.84	.00
Inflows(-2)	0.1	0.02	2.46	.01
NDF3M(-3)-NDF3M(-6)	-0.2	0.02	-10.53	.00
YIELD5Y(-3)-TDeposit(-3)	7.3	3.12	2.33	.02
LOG(VIX(-3))	-21.0	8.68	-2.42	.02
Variance equation				
C_var	274.9	64.45	4.27	.00
RESID(-1)^2	0.1	0.01	8.82	.00
GARCH(-1)	0.5	0.03	15.80	.00
GARCH(-2)	-0.4	0.03	-10.72	.00
GARCH(-3)	0.9	0.03	26.34	.00
R ²	0.15			
Adjusted R ²	0.14			

Sources: Bloomberg L.P.; MoF; and IMF staff estimates.

CONCLUSION

Capital inflows have benefited Indonesia, allowing the country to finance current account and fiscal deficits. At one-half of total capital inflows to Indonesia, FDI flows have acted as a long-term stable source of capital as well as a source of new technology and management practices. Portfolio inflows—in particular, inflows to LCY government bonds—have enabled the government to borrow externally in domestic currency at a reasonable rate. Other investment flows complemented the domestic banking system in supplying the private sector with credit for trade or longer-term investment.

In the meantime, capital inflows have also transmitted global risks to Indonesia. Capital inflows tend to come in waves and could transmit global shocks to domestic financial markets. Since the global financial crisis, Indonesia has witnessed several episodes of reversal or sharp declines of capital inflows. During these episodes, not only bond markets but also equity and foreign exchange markets came under pressure.

Empirical analysis indicates that several factors are influencing capital inflows to Indonesia. For example, growth and interest rate differentials between Indonesia and the United States are positively associated with capital inflows. As expected, an increase in global risk aversion deters foreign purchase. In addition, an expectation of the appreciation of the rupiah is associated with more foreign purchases of LCY government bonds.

As noted in Chapter 2 (“Twenty Years after the Asian Financial Crisis”), Indonesia’s resilience to external shocks has strengthened. However, given the volatile nature of capital inflows, more could be done to further enhance resilience. Structural reforms to attract more FDI inflows would be welcome given that they are less volatile compared with other types of capital inflows. The

recently partially liberalized FDI regime is a welcome step in the right direction. More domestic savings, including public sector saving, would help reduce reliance on foreign capital. This would require strengthening revenue collection in the post-commodity boom era. In addition, a deep domestic capital market would help accommodate the surges and sudden stops in capital inflows caused by the narrow investor base and low market liquidity that make the government bond market susceptible to heightened market volatility.

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PART **V**

MONETARY AND FINANCIAL POLICY

Advancing Financial Deepening and Inclusion

HEEDON KANG*

INTRODUCTION

Indonesia's financial system has great potential for evolving to support inclusive growth. Indonesia has a young population, and the country can expect a sizable demographic dividend in the future (IMF 2018): the share of the working-age population is projected to peak at 70 percent in 2030. This growing working population will demand a greater range of more complex goods and services, especially financial services, including home mortgages, working capital for more start-ups, equity financing as companies expand, and financial products for risk sharing among investors and stable incomes for retirees. Indonesia also faces a large infrastructure gap, which financial deepening can support to finance.

Progress toward developing the financial system, however, has remained slow since the Asian financial crisis (AFC). Bank failures during the crisis affected the public's perception of the domestic financial sector, undermining financial development during the subsequent two decades. Credit intermediation and deposit penetration have been lower than their pre-AFC levels. The government and the corporate sector rely heavily on funding from abroad (61 and 33 percent of total debt, respectively), leaving Indonesia susceptible to capital flow reversals.

To fulfill its potential, Indonesia needs to chart out possible paths for meeting the increasing expectations of its vast population and financing its large infrastructure needs. To supplement and alleviate traditional bank and fiscal channels, capital markets need to deepen further to strengthen financial intermediation and risk sharing, diversify sources of funding, and mitigate capital flow volatility. Moreover, technological innovation should contribute to extending the reach of finance to rural and previously unbanked areas, leading to greater financial inclusion.

Promoting financial deepening and inclusion has been a government priority. The government aims to achieve higher potential growth by unlocking the infrastructure bottleneck and taking advantage of the demographic dividend, as well as by undertaking structural reforms, and thus financial development has become

*This chapter was prepared by Heedon Kang with contributions from Phakawa Jeasakul, Mariam El Hamiani Khatat, and Cormac Sullivan.

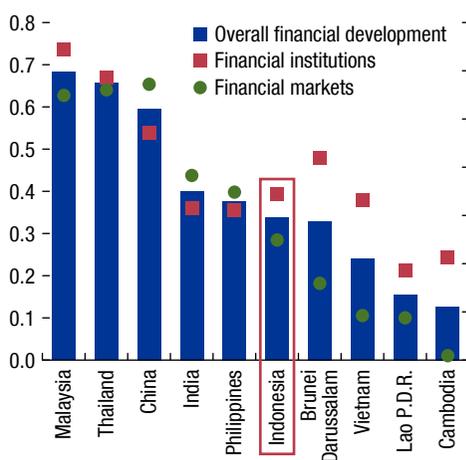
a central part of the policy agenda. The authorities published the National Strategy for Financial Inclusion in 2016 and are preparing for an ambitious national strategy for financial market development, as recommended in IMF (2017).

This chapter is organized as follows: The next section takes stock of financial market development and is followed by a section that discusses credit intermediation from a financial inclusion perspective. The existing and draft national strategies for financial deepening and inclusion are discussed, and priorities are proposed to enhance the role of the financial system for inclusive growth.

STATUS OF FINANCIAL MARKET DEVELOPMENT

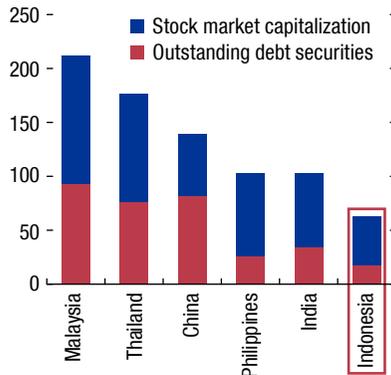
Indonesia's financial market has room for improvement. Based on the financial development index constructed by Sahay and others (2015), which captures depth, access, and efficiency, overall financial development in Indonesia trailed behind other emerging market economies in Asia. A similar observation applies to the subindices, especially for financial markets (Figure 11.1). At the end of 2015, aggregate assets of financial institutions amounted to 72 percent of GDP. The market value of bond and stock markets equaled 63 percent of GDP in 2016. Outstanding

Figure 11.1. Selected Asian Countries: Financial Development Indices, 2014



Sources: Sahay and others 2015; and IMF staff estimates.
 Note: Sahay and others (2015) develop two sets of three subindices that summarize how developed financial institutions and financial markets are in their depth, access, and efficiency, culminating in a composite index of financial development, the so-called Financial Development Index. It ranges between 0 and 1, with a higher value representing more advanced stages of financial development.

**Figure 11.2. Selected Asian Countries:
Size of Capital Markets, 2015**
(Percent of GDP)



Sources: Bank for International Settlements Debt Securities Statistics; Bloomberg L.P.; and IMF staff calculations.

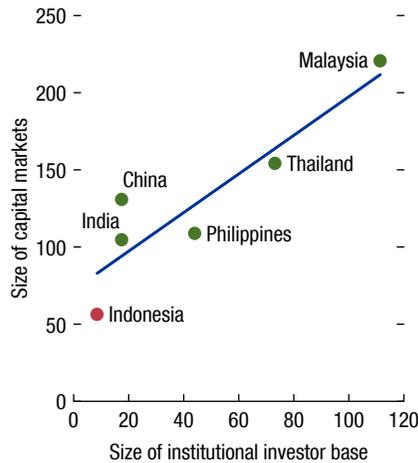
domestic debt securities and stock market capitalization amounted to 18 percent and 45 percent of GDP, respectively, both well below the Asian emerging market peer medians of 76 and 77 percent, respectively (Figure 11.2).¹ Although the financial sector is expected to grow as economic development progresses, the depth of financial markets in Indonesia largely lags behind that of its regional peers.

Banks remain dominant in Indonesia's financial system. As mentioned in Chapter 13, "Reinforcing Financial Stability," bank assets are equal to 55 percent of GDP, and account for about 80 percent of aggregate assets of financial institutions. Banks tend to be quite conservatively run, and they rely on retail deposits for funding. Given the short-term nature of retail deposits, banks provide limited financing for long-term investments and focus instead on commercial lending (about 70 percent of total loans). Asset holdings by domestic institutional investors, such as pension funds and insurance companies, remain relatively small, with outstanding assets under management of pension funds equal to about 2 percent of GDP and those of insurance companies at less than 8 percent of GDP at the end of 2015. It reflects the narrowness of the domestic institutional investor base. It is associated with the underdevelopment of capital markets. Figure 11.3 shows a high correlation between the size of the institutional investor base and the size of capital markets. Developing a critical mass of long-term institutional investors will be important for supporting financial deepening.

The money market is dominated by short-dated, unsecured interbank transactions. The daily average volume of the unsecured interbank market was Rp

¹The size of the domestic bond and stock markets continues to increase, standing at 18 percent and 48 percent of GDP, respectively, in July 2017.

Figure 11.3. Institutional Investors and Capital Markets, 2015
(Percent of GDP)



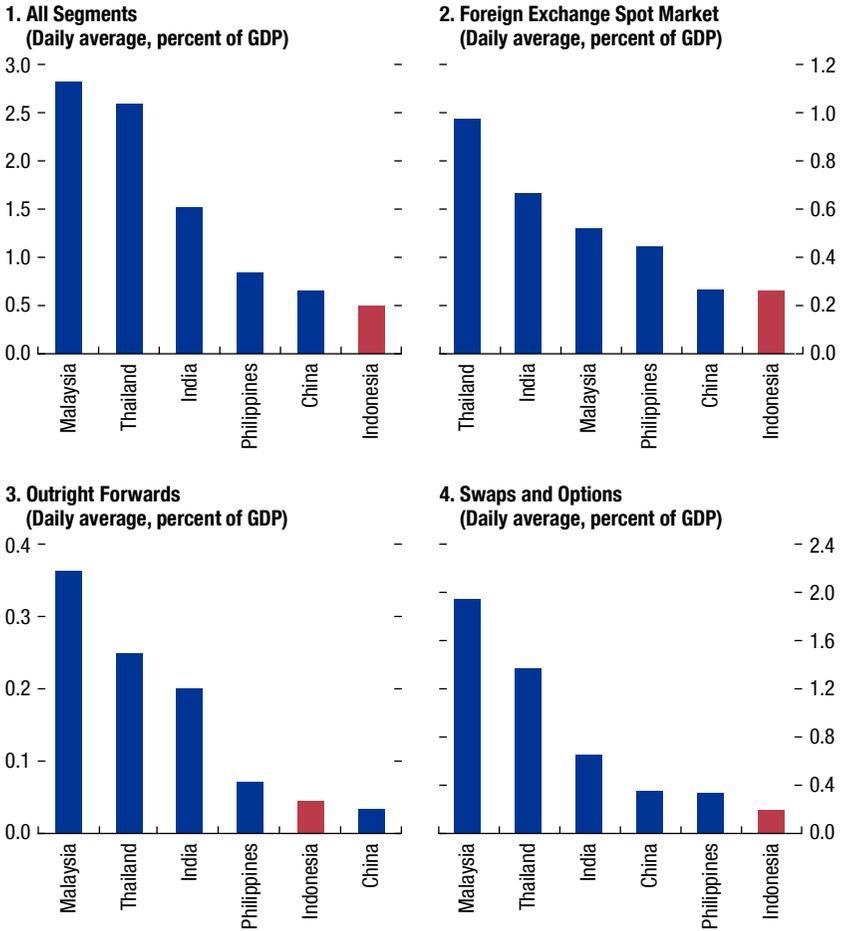
Sources: Bloomberg L.P.; and IMF staff calculations.
Note: Size of institutional investor base is the sum of assets of insurance companies and pension funds.

11.8 trillion in 2016, which is less than 0.1 percent of GDP, compared with 0.3 percent of GDP in Malaysia and Thailand. Turnover is skewed to the overnight market, which accounted for about 60 percent of interbank market activity in 2016. Both facts reflect the low liquidity in the money market. Banks manage their liquidity in the interbank market through unsecured, repo, and foreign exchange (FX) swap transactions, but also invest their excess liquidity in various Bank Indonesia (BI) instruments.

Interbank markets are segmented. Liquidity providers in the interbank rupiah market are state-owned banks and BUKU 4 banks. Foreign banks demand rupiah liquidity, while they provide FX liquidity in the interbank FX swap market (usually short in rupiah liquidity and long in FX). Foreign banks mainly trade with large domestic banks in the FX swap market. Developing the domestic money market will reduce segmentation, improve excess liquidity conditions, and ultimately increase the effectiveness of BI's monetary policy (IMF 2017).

Daily FX transactions were about US\$5 billion in 2016, equivalent to 0.6 percent of GDP. While the spot market is the most liquid segment of the FX markets, with daily turnover of about US\$3.1 billion in 2016 (or 60 percent of total FX turnover), it is still smaller than those in other Asian emerging markets according to the 2016 Bank for International Settlements Triennial Central Bank Survey of FX and over-the-counter derivatives markets (Figure 11.4). The interbank FX market is largely oriented toward meeting non-financial customers' currency demands underpinned by real economic needs. Because of relatively thin FX

Figure 11.4. Over-the-Counter Foreign Exchange Turnover, Turnover by Market Segment, April 2016



Source: Bank for International Settlements Triennial Central Bank Survey of foreign exchange and over-the-counter derivatives markets in 2016.

Note: Turnover is adjusted for local interdealer double-counting (that is, “net-gross” basis).

markets and some speculative activities, the rupiah exchange rate experienced a few incidents of volatility in 2013–14. BI has been focusing on development of FX markets to increase the flexibility of financial institutions to manage their exchange rate risk since 2014. The FX market turnover has gradually increased in 2015–17 in line with more complex products such as cross-currency swap and call spread options, and liquidity in the markets has been improving, with US dollar–rupiah bid-ask spreads narrowing.

The bond market remains dominated by long-term government securities with low daily turnover of about Rp 14 trillion in 2016. Outstanding debt securities denominated in rupiah amounted to only about 18 percent of GDP in 2016 (see Figure 11.2). To mitigate short-term refinancing risk, the Indonesian authorities have focused on development of the long-term government securities market.² This strategy has led to an increase in the average maturity of tradable public debt to more than nine years. Liquidity in the Indonesian government bond market is low because of the predominant buy-and-hold investment strategy for obtaining lucrative yields. Liquidity is far lower in the corporate bond market with daily turnover of less than Rp 1 trillion in 2016. The corporate bond market equates to less than 3 percent of GDP, two-thirds of which is accounted for by financial institutions; the rest is issued mainly by state-owned enterprises (SOEs).

Foreign ownership of government securities has been increasing in the past three years. Foreign investors hold about 39 percent of government securities denominated in local currency, one of the highest penetration rates among emerging markets (26 percent in Asia, on average). Foreign investors' share is particularly significant in maturities of five years and longer. Banks are the second-largest group of investors, holding about 30 percent of tradable securities. Banks are currently the dominant holders of shorter maturities. Domestic pension funds', insurance companies', and mutual funds' holdings of government bonds have increased since the introduction of a regulation in November 2016 (No.1/POJK.05/2016) requiring a minimum holding of government securities by institutional investors.³ The high share of foreign investors can be seen as a double-edged sword (Jeasakul, Kang, and Lim 2015). On the one hand, it promotes risk sharing with a diverse investor base. On the other hand, this combination of high foreign participation and shallow markets leaves Indonesia susceptible to capital flow reversals.⁴

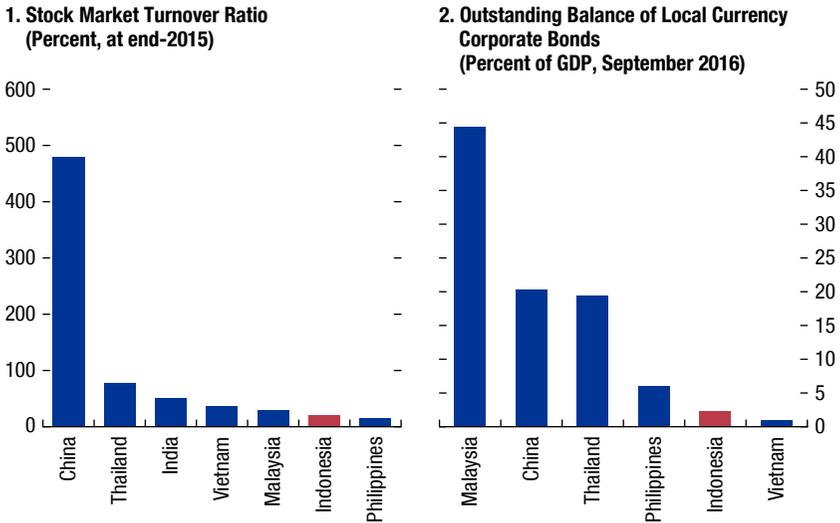
The Indonesian stock market is relatively small and has room for further development. The total number of listed firms in the market increased to 566 in 2017, even though it is still relatively small compared with Asian peers (806 in Malaysia and 750 in Singapore), and share turnover is quite low (Figure 11.5). Lipinsky and Ong (2014) point out noise trading—that is, stocks are not traded based on fundamentals—as a symptom of inefficient pricing in most stock markets in Asia, including Indonesia, and argue that improvements in the regulation of securities markets could enhance the role of stock markets as stable and reliable sources of financing.

²The authorities established a primary dealers system and a trading structure that supports transactions in a range of long-term government bonds. The annual auction calendar is announced at the beginning of each year and defines the securities to be sold at each auction.

³Minimum 20 percent of total investment at the end of December 2016, and 30 percent at the end of December 2017.

⁴A sudden and sizable pullback by foreign investors usually triggers market turmoil and a spike in risk premiums. IMF (2014) also notes that portfolio flows are likely to become more sensitive to global financial conditions.

Figure 11.5. Stock Market Turnover Ratio and Outstanding Balance of Local Corporate Bonds



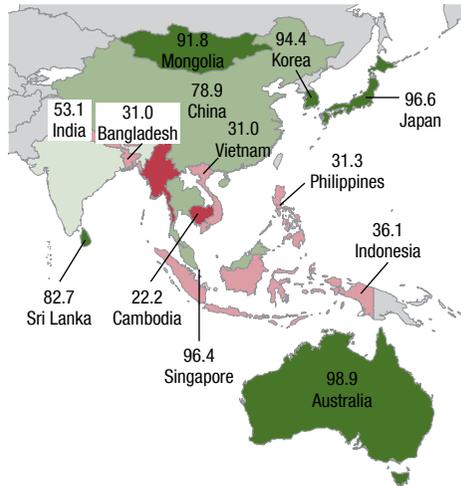
Source: World Bank FinStat.

Source: Asia Bond Online.

Corporate financing through capital markets remains low. Government securities accounted for about 85 percent of outstanding debt securities, indicating that the bond market is not an important funding source for corporations and financial institutions in Indonesia. Although corporate bond issuance nearly doubled to Rp 116 billion in 2016 from Rp 58 billion in 2013, the development gap remains evident in the low outstanding amounts compared with its regional peers (Figure 11.6), as well as the small share of issuance by nonfinancial corporations and the short-term maturity profile. The low demand for corporate bonds is partly driven by concerns about weak insolvency and creditor rights regimes. Corporate financing through the stock market also remains low as reflected in the small number of companies issuing initial public offerings (16 firms a year, on average, during 2014–16). Ekberg and others (2015) note that corporations complain about inefficient bond issuance processes and costly regulatory filings and shareholder communications, quoting interviewees who point out that it takes about four to six months to finish the bond issuance process, or about two or three times longer than the normal issuance time in other members of the Association of Southeast Asian Nations.

Financing long-term investment, including in infrastructure projects and in human capital, remains a challenging issue given the limited financing capacity of the domestic financial system. Indonesia is currently at a crossroads. It needs structural reforms to boost long-term potential economic growth to ensure the growing working-age population can be absorbed into the economy at rising

Figure 11.6. Financial Access in Asia, 2014
(Share of adult population with a bank account)



Source: World Bank, Global Findex Database.

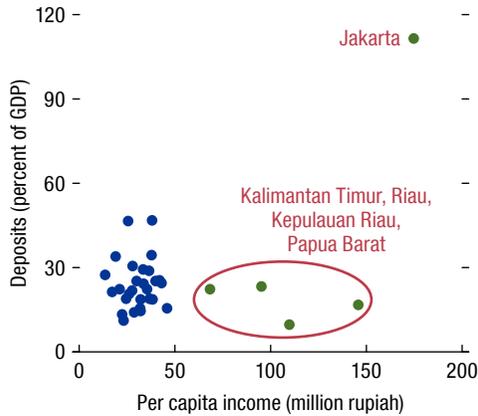
real wages, and to avoid falling into the middle-income trap. Corporations and households need long-term financing for undertaking fixed-investment projects, purchasing land and residences, and building human capital. In recent years, the government announced an ambitious plan to complete large-scale infrastructure projects that will require financing beyond what the budget and the domestic financial market can supply today. The banking sector plays an important role in providing long-term financing, but up to a certain limit because of regulatory requirements, its risk-averse business model, and the short-term funding structure. The development of capital markets to mobilize private long-term finance is needed to supplement traditional bank and fiscal channels.

CREDIT INTERMEDIATION AND FINANCIAL INCLUSION

The legacy of the AFC still affects credit and deposit penetration in Indonesia. Credit intermediation is lower, with private domestic credit amounting to 38 percent of GDP at the end of 2016, compared with 60 percent of GDP at mid-1997. Outstanding bank deposits were 38 percent of GDP at the end of 2016, about 10 percentage points lower than the pre-AFC level.

Access to the formal financial system and financial literacy have improved recently, although they are still quite low. About 36 percent of adults had

Figure 11.7. Indonesia: Regional Financial Development, 2014



Sources: Bank Indonesia; CEIC Data Co. Ltd.; and IMF staff calculations.

transaction accounts with formal financial institutions in 2014, up from 20 percent in 2011, according to the Global Findex database (Figure 11.6). But that proportion is still low compared with the average (59 percent) among other emerging market peers in the region. The national financial literacy index was 29.7 percent in 2016, up from 21.8 percent in 2013, according to a survey in 2016 by the Financial Services Authority (OJK).

Financial access varies markedly across regions within Indonesia. Financial access is high in Jakarta, the political, economic, and financial capital of the country, but is low outside of Jakarta (Figure 11.7).

Bank intermediation is still inefficient in Indonesia, holding back financial inclusion. Given Indonesia's bank-centric system, these inefficiencies have adverse implications for savings mobilization, credit intermediation, and financial inclusion. The World Bank (2017) finds that the small size of the banking system, weaknesses in the legal and institutional environment, high market power, and operational inefficiencies contribute to weak intermediation efficiency. The four largest banks, which account for about 45 percent of banking sector assets, have strong market power given their broad branch networks and niche financial services. Increased competition in the banking system would help lower domestic financing costs and potentially reduce reliance on direct cross-border borrowing.

Net interest margins, a commonly used measure of bank intermediation efficiency, are structurally higher in Indonesia than in many other emerging markets (Figure 11.8). The authorities' policy measures to address high net interest margins appear unable to increase the efficiency of bank intermediation. These measures include caps on deposit rates, allegedly to discourage

Figure 11.8. Bank Net Interest Margin
(Percent)



Source: World Bank 2017.

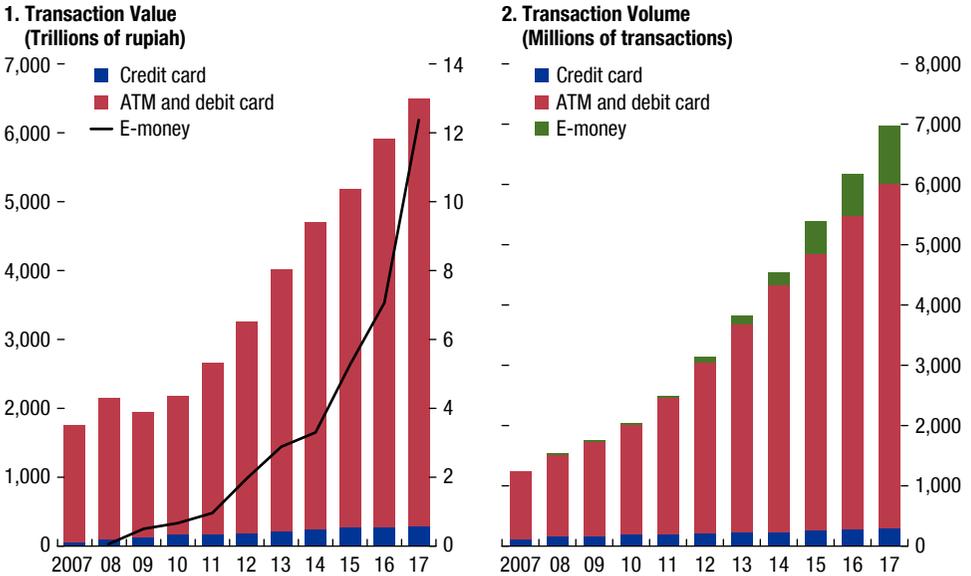
Note: Peer countries are Brazil, Chile, China, India, Mexico, Malaysia, the Philippines, Russia, Thailand, Turkey, Vietnam, and South Africa. The expected median is a statistical benchmark based on a quantile regression applied to a global country database for the period 1980–2015 using a country's structural characteristics, such as income, population size and density, age distribution, and whether it is an oil exporter or offshore financial market.

aggressive pricing behavior by some banks; moral suasion to induce banks to lower lending rates to single-digit levels, particularly for the corporate and mortgage segments; and requirements for all banks to meet minimum lending exposure quotas to micro, small, and medium-sized enterprises. These measures have not helped reduce the high net interest margins and have the unintended effects of distorting capital allocation and the pricing of risk, and thus are likely to negatively affect financial deepening and impede the effectiveness of monetary policy operations.

The use of digital financial services (DFS) has rapidly increased, and offers a promising channel for overcoming Indonesia's unique geographical barriers to financial inclusion.⁵ The value of e-money transactions increased about 13 times from Rp 0.5 trillion in 2009 to Rp 7.1 trillion in 2016 (Figure 11.9).⁶ Surveys by

⁵The term DFS is defined in Indonesia as tailored financial services and products delivered through channels other than traditional bank branches.

⁶E-money is a noncash payment instrument that satisfies the following features: (1) issued on the basis of the value of money paid in advance by the holder to the issuer; (2) the value of money stored electronically in a medium such as a server or a chip; (3) used as a means of payment to merchants that are not the issuer of the electronic money; and (4) the value of electronic money deposited by the holders and managed by the issuer does not represent deposits as defined by the

Figure 11.9. Financial Transactions via Cards and E-Money

Source: CEIC Data Co. Ltd.

Note: ATM = automated teller machine.

PricewaterhouseCoopers (2017) highlight that, although branch channels still dominate, there is a clear and rapid trend of bank customer transactions moving to mobile and Internet. From 75 percent in 2015, the share of respondents who conducted more than half of their transactions through branches decreased to 45 percent in 2017. In contrast, the share of respondents who had at least one-fourth of transactions via mobile and Internet increased from 27 percent in 2015 to 48 percent in 2017.

E-money transactions have quadrupled since 2015, albeit from a small base (Figure 11.9). Automated teller machines and debit cards continue to grow and dominate noncash transaction values and volumes, and e-money transaction values also continue to be very modest, close to Rp 2 trillion and well below 0.1 percent of GDP in 2017. In volume, however, the increase in e-money transactions is more noticeable because the average amount of the transactions is lower than with more traditional automated teller machine and debit card transactions. E-money tends to be used by lower-income individuals, including to receive social transfers, contributing to financial inclusion.

laws regulating the banking sector. Prepaid cards or e-wallets are the main form of e-money operated by banks, telecommunication companies, and transportation companies such as Go-Jek.

NATIONAL STRATEGIES FOR AND RECENT PROGRESS TOWARD FINANCIAL DEEPENING AND INCLUSION

Promoting financial deepening and inclusion has been a priority of the government in recent years. Indonesia faces a challenging long-term finance and investment gap, particularly in infrastructure. Capital market development to mobilize private long-term finance is needed to supplement traditional bank and fiscal channels. The government has created a national council for financial inclusion and a high-level joint forum for financial deepening to promote interagency coordination. The national council, chaired by the president, adopted the National Strategy for Financial Inclusion (SNKI) in 2016.⁷

The high-level joint forum is currently preparing an ambitious national strategy for financial market development. Figure 11.10 summarizes the draft national strategy to develop six financial markets in parallel—money, foreign exchange, bond, equity, sharia financial, and structured product markets. The strategy aims to allocate resources and manage risks efficiently through deep and liquid financial markets by developing market infrastructure and harmonizing regulations under close policy coordination. To promote successful implementation, the authorities will design a detailed multiyear strategic action plan that has a quantitative target (size of each market as a percentage of GDP) along with key performance indicators through three separate phases (2017–19, 2020–22, 2023–24).

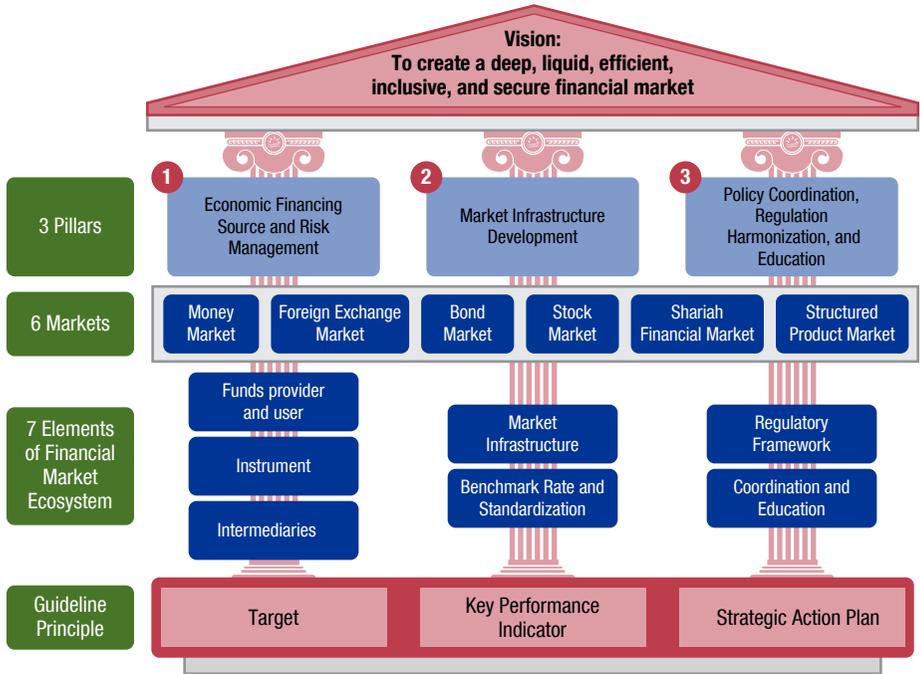
The authorities are taking steps to advance money market development. In August 2016, BI introduced a regular seven-day reverse repo operation with a fixed rate, full allotment, and the attached rate as the main policy rate. The interest rate corridor was narrowed to 150 basis points from 250 basis points. In July 2017, BI also launched partial reserve requirement averaging of 1.5 percent, out of the current 6.5 percent primary reserve requirement ratio, over a two-week period, allowing the floor of the reserve requirement ratio to be 5 percent on a given day. This reform has benefited small banks with liquidity shortages. BI already stopped issuing three-month-maturity securities with the regular three-month Treasury bill issuances by the Ministry of Finance. Issuance of Treasury bills has risen, providing more instruments at the short end of the yield curve. In addition, BI implemented a regulation regarding transactions of negotiable certificates of deposit and issuance of commercial paper in 2017 to support money market deepening and increase the variety of instruments for liquidity management.

The authorities have also taken significant steps to develop the repo market since 2013. An abridged domestic master repurchase agreement was first issued to boost the market and restore momentum to the process of creating an internationally compatible domestic agreement based on the international standard.⁸

⁷Other countries in the region have also formulated or are in the process of formulating financial-inclusion strategies (for example, Cambodia and Bangladesh) (IMF, forthcoming).

⁸On December 18, 2013, BI published the mini master repurchase agreement, an abridged version of the global master repurchase agreement, with 13 clauses. It was designed specifically for interbank, rupiah-denominated government bond repos.

Figure 11.10. Fundamental Framework for Financial Market Development



Source: Draft National Strategy for Financial Market Development, unpublished.

However, after a promising start, the adoption of the abridged domestic agreement has not been able to attract most foreign banks, which continue to rely mainly on the FX swap market for liquidity management. Some small banks also still prefer funding their needs on the unsecured interbank market. In January 2016, the OJK launched the global master repurchase agreement, aimed at further developing the repo market and attracting all market participants. As of November 2016, 73 of 106 conventional banks had signed the global master repurchase agreement. To reduce market segmentation and promote the use of repo transactions, BI is currently undertaking a series of actions, including the organization of seminars and workshops on the adoption of the global master repurchase agreement and trading of repo operations. The settlement of repo operations ensures the transfer of property of the underlying collateral.⁹ Market associations are in the process of drafting the determination of the haircut.

⁹The collateral is transferred from the repo seller's account to the repo buyer's account under a delivery-versus-payment process in the BI scripless securities settlement system. The system is also used to monitor the encumbrance of existing collateral.

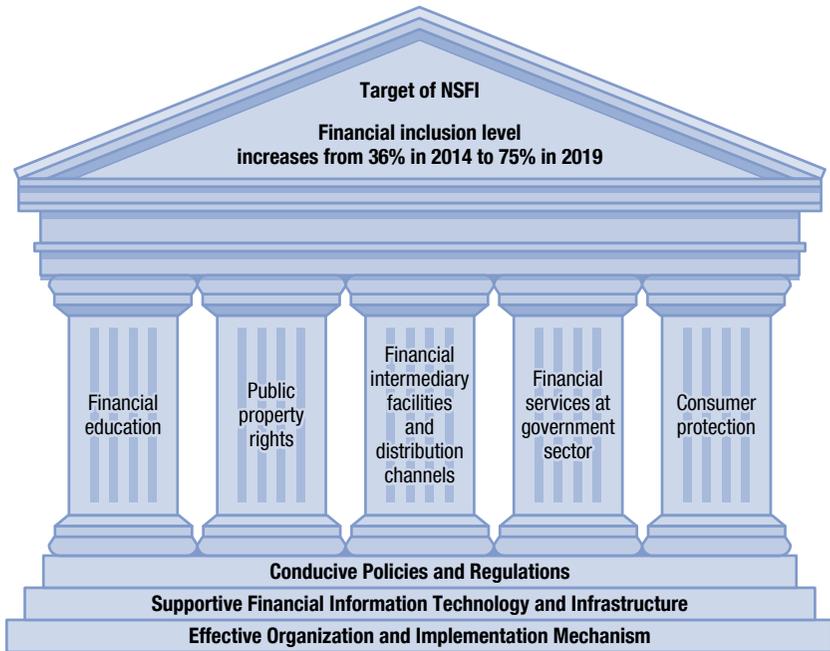
To spur FX market development, BI has overhauled its FX regulatory framework. In 2014, the scope of operations acceptable as underlying transactions for derivatives transactions was expanded. In September 2015, BI changed the threshold for providing underlying transactions for FX forward sales from US\$1 million to US\$5 million equivalent per transaction. For FX hedging, BI issued regulation No. 18/18/PBI/2016 regarding FX against rupiah transactions between banks and domestic parties, and No. 18/19/PBI/2016 regarding foreign exchange against rupiah transactions between banks and foreign parties. In addition to these changes, the Indonesian version of the International Swaps and Derivatives Association contract was introduced, and call spread options are allowed as a hedging instrument. The authorities also have plans to set up a central counterparty. To reduce dependence on hard currencies in bilateral trade settlements between Indonesia, Malaysia, and Thailand, BI also issued regulation No. 19/11/PBI/2017 regarding local currency settlement, partnering with the Bank of Thailand and Bank Negara Malaysia.

The authorities have made progress in enhancing interagency coordination to develop capital markets. Substantial cross-agency coordination and private sector consultation occurs through the Capital Market Infrastructure Development Program Team and the Bond Market Development Program Team. These initiatives have resulted in various positive reforms, including development of a capital market data warehouse and the implementation of single investor identification for government bonds. Initiatives being implemented include development of infrastructure for third-party repo transactions and the establishment of an electronic trading platform for bonds.

The 2016 National Strategy for Financial Inclusion (NSFI) has raised the profile of the financial inclusion agenda (Figure 11.11). The NSFI has five pillars—financial education, public property rights, expansion of financial products, distribution of government transfers, and consumer protection—supported by three foundations, comprising conducive policies and regulations, supportive information technology and infrastructure, and effective coordination and implementation. The strategy has an ambitious goal of achieving 75 percent of adults with a transaction account by the end of 2019. Before the launch of the NSFI, the government established the People's Business Loan (Kredit Usaha Rakyat, or KUR) program in 2007 to enhance access of micro, small, and medium-sized enterprises (MSMEs) to bank loans through the provision of subsidized, partial credit guarantees covering 70 percent of the loss. Under the program, the government provides interest subsidies to participating banks, allowing them to lend to MSMEs at capped interest rates. The KUR supported outstanding loans of Rp 53 trillion in August 2017.

The authorities are promoting the growth of DFS. Recent regulatory changes have allowed e-money issuers (banks and nonbanks) to engage digital financial services (Layanan Keuangan Digital, or LKD) agents, and allowed banks to provide basic bank accounts and other financial services via branchless banking (Laku Pandai, or LP) agents to expand service delivery outreach. These agents are now present in all provinces and in 99 percent of the districts in the country.

Figure 11.11. Pillars and Foundation of the National Strategy for Financial Inclusion (NSFI)



Source: Coordinating Ministry for Economic Affairs 2016.

LKD agents provide access to cash-in, cash-out, bill payment, and transfer services, while LP agents can offer these same services and facilitate opening basic bank accounts and conducting transactions.¹⁰ The government also introduced the Combo Card, an integrated noncash payment mechanism for social assistance programs (food, energy, education) that electronically transfers funds to targeted beneficiaries through state-owned banks. The card includes a basic savings account and can be used as a debit card as well as an e-money wallet to purchase food in grocery stores, called E-Warungs (E-Shops), and allows beneficiaries to receive financial services from LKD and LP agents. The authorities plan to expand coverage of the card from 15.5 million in 2016 to 25.7 million households by the end of 2018.

BI and the OJK are supportive of the development of fintech.¹¹ The fintech sector has expanded rapidly in recent years and attracted about US\$15 billion in

¹⁰At the end of 2016, 23 banks were offering LP services to about 3.7 million customers.

¹¹Fintech is defined as innovative usage of technology introducing new approaches to the provision of financial services and products. BI categorizes fintech firms into (1) payment, clearing, and

investments in 2016. BI has established a fintech office, and the OJK has established an internal cross-departmental group to promote sustainable growth of fintech and mitigate risks to the financial system. The OJK issued a regulation on peer-to-peer lending and proposals to establish a fintech incubator in 2016. BI issued a regulation in December 2016 on fintech players in payment and transaction processing services, such as e-money, card-based payment instruments, e-wallets, and payment gateways. The authorities also intend to establish a regulatory sandbox where innovators can operate on a limited basis under the authorities' supervision without having to worry about tripping over regulatory issues.

The two agencies have been providing financial education to enhance financial literacy. Financial literacy can help people make economic decisions more wisely and thus also enhances market discipline and financial stability. Soedarmono and Prasetyantoko (2017) find that individuals with higher financial literacy are associated with higher demand for bank credit. The study argues that higher demand for formal financial services is positively driven by the availability of publicly disseminated information about the services, highlighting the importance of widening public awareness programs in Indonesia. OJK (2017) notes that financial education has been provided through several types of activities, such as community education, outreach programs, general lectures, public service advertising, education expos, and mobile theater. The targeted participants for all these programs include households, MSMEs, farmers and fishermen, high school and university students, employees, and retirees. Between 2013 and 2016, 289 financial education activities were implemented in 144 cities.

ESSENTIALS FOR SUCCESSFUL FINANCIAL DEVELOPMENT

Financial development strategies should aim to provide wide-ranging, efficient, and safe financial services that can overcome geographical barriers. The financial sector—comprising institutions and markets—provides extensive financial services that finance consumption and investment, support wealth and risk management, and intermediate payments and transactions. To provide more efficient and safer financial services, an improvement to financial institutions and markets is required, supported by a strong credit culture, an efficient price mechanism, enhanced regulatory and supervisory frameworks, robust financial safety nets, and strong financial infrastructure. To increase the financial access of a large population dispersed over thousands of islands, Indonesia needs to overcome geographical challenges with financial innovation supported by information technology infrastructure development.

settlement; (2) deposit, lending, and capital raising; (3) market provisioning; and (4) investment and risk management. BI analysis shows 42 percent of the firms are in payment services and about 32 percent are in peer-to-peer lending.

The authorities are making progress toward achieving the goal, but it will be essential to prioritize strategic actions effectively. The authorities' progress in developing a national strategy for capital market development is commendable, and reflects high-level political support and enhanced interagency coordination. Priority should be given to improving fundamentals for financial deepening and inclusion, as recommended in IMF (2017), including the following elements:

- Strengthening credit culture and financial infrastructure
- Upgrading the supervisory and regulatory framework along with financial market development
- Establishing a liquid benchmark yield curve
- Promoting long-term financing with new financial instruments
- Expanding the domestic investor base
- Supporting financial innovation while preserving financial stability
- Enhancing financial literacy

A stronger credit culture and improved financial infrastructure are important for sustainable financial development. Provision of financial services is essentially based on financial contracts that need to be effectively enforced through strong financial infrastructure (such as an insolvency and creditor rights [ICR] regime, a public credit registry and private credit bureaus, and collateral registries). For example, an effective credit registry and credit bureaus would mitigate information asymmetries and enhance financial institutions' ability to conduct credit risk assessments. The authorities improved the use of movable collateral by making the transition to an online collateral registry in 2013. The transformation from manual to online resulted in a huge increase in the number of total registrations (World Bank 2017).¹² The introduction of a credit registry and the recent licensing of private credit bureaus were positive steps toward improving the credit culture. Current Indonesian ICR legislation is a significant improvement over pre-2004 laws, but out-of-court restructuring is still the preferred method. Efforts can be stepped up to operationalize the credit registry and bureaus, and to continue to improve ICR regimes. The authorities should also review the effectiveness of the KUR program, including its potential fiscal costs and whether it is achieving increased lending to new borrowers, as recommended in IMF (2017).

The supervisory and regulatory framework needs to evolve along with financial market development. The authorities have stepped up the regulatory and supervisory framework. To reduce the silo structure in financial oversight, which will require changes to the OJK law, the OJK has established a new department for integrated supervision (the Integrated Supervisory and Regulatory Department), which brings internal coordination directly under the authority of

¹²Since its launch, the registry has facilitated more than US\$30 billion in financing for more than 200,000 small-scale businesses. In total, there were 19.3 million registrations of corporations, MSMEs, and consumers in the three years since the launch, compared with only 3 million registrations in total during the 10 years of operation of the manual registration system that preceded it.

the chairman. The OJK should also tackle its silo structure formally through amendment of its law and strengthen financial oversight and the enforcement of prudential regulations, including with respect to financial conglomerates. Another priority includes eliminating interest rate caps, which will help improve monetary policy transmission. Portfolio exposure targets, including minimum MSME exposure targets and the minimum investment requirement on government bonds and infrastructure-related SOE bonds on nonbank financial institutions, could be reviewed. Measures that directly address market failures would be more appropriate for promoting MSME financing. The existing regulatory requirement may distort banks' risk business models and undermine their risk-management practices. Countries have taken a variety of approaches, including provision of guarantees on MSME lending, improvement of credit bureaus, and development of joint venture financing.

Continued efforts are needed to build a liquid benchmark yield curve. The Ministry of Finance observes good practices regarding its issuance program, including market communication and auctions. Benchmark securities of 5-, 10-, 15-, and 20-year maturities are perceived to be reasonably liquid, but liquidity is thin in shorter segments of the yield curve. BI has stopped issuing securities of three-month maturities with the regular three-month Treasury bill issuances by the Ministry of Finance. Further improvements can be considered to better anchor the short end of the yield curve, including (1) the gradual move to further reserve averaging already planned; (2) the gradual consolidation of BI liquidity-management instruments to support the move to the mid-corridor system; and (3) the maintenance of regular issuance of Treasury bills to avoid competition between BI instruments and Treasury bills of the same maturities.

The authorities have been mobilizing private long-term financing with new financial instruments, but there is scope for further improvement. The development of capital markets to mobilize private long-term finance is needed to supplement traditional bank and fiscal channels. The government has sought to fund infrastructure projects by issuing SOE bonds and structured products (for example, asset-backed securities) in addition to traditional bank funding. It will be important to ensure that these products are introduced without compromising prudential standards or creating undue risk in the form of high and concentrated exposures to infrastructure-related instruments or SOE debt on the balance sheets of financial institutions. Also, the development of FX and derivatives markets is important to support the development of bond and stock markets, because FX and derivatives markets help market participants hedge risk exposure in their holdings of debt and equity securities.

Enlargement of the domestic investor base should go hand in hand with the expansion of capital markets. The paucity of domestic institutional investors is not just a constraint on capital market development but also a source of vulnerability in the financial system. Institutional investors, in addition to serving as major asset holders, could help provide market liquidity and act as market stabilizers because capital market development would broaden their investment opportunities. They can also help intermediate large national savings domestically

and thus mitigate the heavy reliance on foreign funding. Therefore, developing a critical mass of long-term institutional investors will be important to support economic development as well as financial market deepening. Improved financial literacy and initial public offering distribution could enhance retail investors' participation, helping diversify the investor base. Also, greater participation by domestic institutional and retail investors in capital markets requires an overhaul of the tax and regulatory framework for financial products and improvements in hedging instruments (World Bank 2017).¹³

Financial innovation needs to accompany financial stability. BI and the OJK could step up their oversight activities of DFS and fintech, and expand collaboration to fully monitor and ensure the safety, efficiency, and reliability of these services. In particular, they should engage the telecommunications regulator and payment system operators to enhance the operational reliability of DFS. Continuing to improve communication infrastructure would reduce operational risks and sustain the confidence of agents and customers.

The authorities should continue to raise the public's financial literacy, especially about DFS, through education. The OJK needs to continue its seminars, short training courses, and workshops targeted at diverse groups of people. Youth education in a school context would substantially strengthen progress toward a financially literate society. In addition, the authorities could consider launching a nationwide campaign, in partnership with financial institutions, to spread awareness of DFS.

CONCLUSION

The development of Indonesia's financial markets has been slow, and financial access is currently low. The size and depth of financial markets has not increased since the AFC, while some of Indonesia's regional peers (for instance, Malaysia and Thailand) have made progress. The financial system, however, has the potential to evolve and support inclusive growth. To fulfill this potential, participants in Indonesia's financial system need to exert collaborative efforts to meet the increasing demand for financial services of its vast population and finance its large infrastructure needs. Financial markets are gradually moving in the right direction to strengthen financial intermediation, and technological innovation is offering a promising channel for overcoming Indonesia's unique geographical barriers to financial inclusion.

The authorities' efforts to promote financial deepening and inclusion are commendable. The authorities issued a national strategy for financial inclusion in 2016, targeting a population group in rural and remote communities without financial access. This strategy helps the public and private agents identify inclusion gaps, strengthen national attention, and facilitate interagency coordination.

¹³The withholding tax rate for foreign investors is 20 percent; the rate ranges between 0 and 15 percent in Indonesia's peers.

The authorities are also preparing an ambitious national strategy for financial market development and have already begun to tackle challenges in several financial markets in parallel, reflecting high-level political support and enhanced inter-agency coordination.

To achieve financial deepening and greater inclusion, Indonesia should continue to strengthen fundamentals, including upgrading the supervisory and regulatory framework along with financial market development, establishing a liquid benchmark yield curve, promoting long-term financing with new financial instruments, expanding the domestic investor base, supporting financial innovation, and enhancing financial literacy. These changes, however, should not give rise to undue financial stability risks. Policy coordination strengthening should also continue.

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Managing Macro-Financial Linkages

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INTRODUCTION

In response to the crisis episodes that afflicted several emerging market economies in the 1990s and more recently after the 2008 global financial crisis, the IMF launched a major effort to improve its ability to analyze whether, and to what extent, countries are vulnerable to adverse shocks. Emerging market economies, which often rely heavily on external borrowing and other capital inflows for their economic growth, are especially vulnerable to reversals in investor sentiment. The IMF has therefore paid special attention to this group of countries in its vulnerability assessment work.¹

The IMF's vulnerability analysis covers a wide range of institutions, such as the government, the financial sector, and the household and corporate sectors. For instance, see Chapter 13, "Reinforcing Financial Stability." When economies are under stress, problems in one sector often spread to other sectors. For example, concerns about a country's fiscal deficit might generate exchange rate depreciation or undermine confidence in banks holding government debt, thereby triggering a banking crisis.

Much progress has been made in incorporating vulnerability assessments into bilateral surveillance consultations. Vulnerability indicators now routinely inform the IMF's policy advice to its member countries, especially emerging market economies. The IMF has also broadened its multilateral surveillance to analyze the risk of spillovers from one country to another.

This chapter investigates macro-financial links in Indonesia using two complementary approaches. First, a balance sheet approach (BSA) discusses vulnerabilities in the Indonesian economy using sectoral balance sheets to map links and exposures. Two complementary approaches are used that exploit both cross-section

¹However, as the turmoil in world financial markets in 2008–09 underscores, crises can manifest in countries at various stages of development. Thus, the framework for the analysis of financial vulnerabilities in advanced economies has also been strengthened.

and time series dimensions of the data. Second, the chapter assesses corporate vulnerabilities using qualitative and quantitative analyses. The analyses highlight the key role of external funding in Indonesia, which could transmit negative external shocks to the rest of the economy.

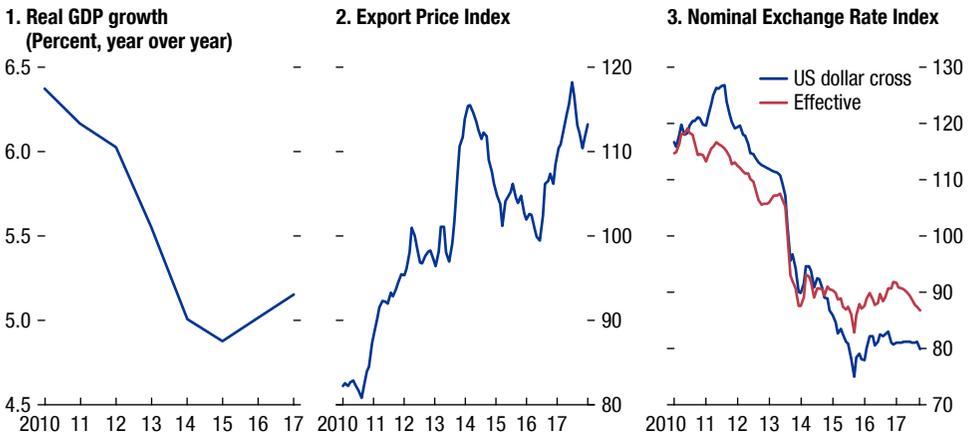
The rest of the chapter is organized as follows: First, the global context is discussed. The chapter then examines macroeconomic vulnerabilities and imbalances using the balance sheet approach. Potential corporate sector vulnerabilities in Indonesia are then analyzed, including by use of a quantitative approach that traces how macroeconomic conditions affect corporate probabilities of default relying on asset price performance and balance sheet indicators. Finally, policy implications are discussed.

GLOBAL CONTEXT

Corporate debt has risen steadily in emerging market economies since the early 2000s. The trend accelerated in the aftermath of the global financial crisis, as lower yields in advanced economies during unconventional monetary policy increased investors' demand for emerging market economy assets, especially corporate debt. The corporate debt of nonfinancial firms across major emerging market economies quadrupled between 2004 and 2014 (IMF 2015b). A rapid buildup of leverage and subsequent deleveraging is, if an economy is buffeted by adverse economic shocks, a potential risk that requires close monitoring by policy institutions (Acharya and others 2015; IMF 2015b).

At the same time, the composition of corporate debt has shifted away from loans and toward bonds in emerging market economies, which has also affected asset allocation across sectors. Greater leverage can be used for investment to boost economic growth but has also raised concerns, particularly given that financial crises in emerging market economies have been preceded by rapid leverage growth. Rising leverage could expose corporations to interest rate and currency risks unless these positions are adequately hedged (Chui, Fender, and Sushko 2014). The sheer variety of forms and channels for dollar borrowing can generate different vulnerabilities (McCauley, McGuire, and Sushko 2015).

Some of these vulnerabilities could potentially be present in the nonfinancial corporate (NFC) sector in Indonesia. Indonesia's macroeconomic performance moderated in the past several years (Figure 12.1), affected by ongoing shifts in the global economy related to lower growth and rebalancing in China and a severe down cycle in commodity prices, which also had a negative impact on peer economies. Real GDP growth is estimated to have decelerated from 6.4 percent year over year in 2010 to about 5 percent in 2017, notwithstanding a moderate rebound in 2015. The growth deceleration was due mainly to unfavorable commodity price developments, which have decreased the nation's export prices by nearly 15 percent from their peak in early 2014. The rebound in export prices in the middle of 2017 helped lift GDP growth. Since 2014, the exchange rate has weakened moderately in nominal effective terms, but by more than 10 percent against the US dollar.

Figure 12.1. Indonesia: Indicators of External and Real Sector Performance¹

Sources: Haver Analytics; and authors' calculations.

¹Period average = 100 for export price and nominal exchange rate index.

A BALANCE SHEET APPROACH

The BSA examines macroeconomic vulnerabilities and imbalances using sectoral balance sheets. In particular, large balance sheet imbalances are vulnerable to a range of shocks, such as sharp asset price movements, including exchange rates and interest rates, and reductions in investor confidence or risk appetite. The BSA complements the traditional macroeconomic analysis of intersectoral flows with an analysis of the stocks of intersectoral financial claims and liabilities. The BSA focuses on the distribution of total *financial assets* in the economy, shedding light on the investment dynamics resulting in intersectoral links and exposures. However, the BSA does not cover *nonfinancial assets* (for example real estate). Therefore, it does not provide a complete picture of the net worth of individual sectors, particularly of nonfinancial sectors for which nonfinancial assets are an important part of the balance sheet.

Construction of the BSA Matrix and Data Set

The BSA is based on sectoral balance sheets compiled in accordance with the System of National Accounts (SNA 2008).² The examination of cross-sectoral links and exposures requires input from various statistical domains, covering all sectors in the domestic economy. Therefore, a common statistical framework must be used to ensure data consistency when looking at the different sectors. The BSA analysis of the Indonesian economy relies on annual data spanning 2001–16 sourced from the following data sets reported to the IMF's Statistics Department:

²For more details on recent work on the BSA, see Caprio (2011) and IMF (2014a, 2015a).

- *Financial sector:* Monetary and financial statistics (MFS), reported using the IMF's Standardized Report Forms in accordance with the IMF's *Monetary and Financial Statistics Manual and Compilation Guide* (IMF 2016), cover monthly stocks for the sectoral balance sheets of the central bank and commercial banks, and quarterly stocks for the sectoral balance sheets of non-bank financial institutions (NBFIs). The Standardized Report Forms include detailed information for each asset and liability by instrument type, sector of counterparty, and currency of denomination (domestic or foreign).
- *External sector:* The international investment position (IIP), reported quarterly, covers outstanding claims and liabilities of each sector vis-à-vis nonresidents. The IIP is compiled in accordance with the IMF's *Balance of Payments and International Investment Position Manual* (BPM6; IMF 2009).
- *Fiscal sector:* Government finance statistics (GFS), reported annually, cover financial assets and liabilities of the general government, without detailed sectoral details. GFS balance sheets are reported in accordance with the IMF's *Government Finance Statistics Manual* (IMF 2014b).

To analyze intersectoral links and imbalances, the source data are organized in a BSA matrix (Table 12.1), which allocates financial assets and liabilities in the economy to intersectoral exposures. In the BSA matrix, each cell pairs two different sectors and shows reciprocal claims and liabilities. The cells on the matrix diagonal represent intrasectoral claims between institutional units in the same sector.³ Guided by data availability, the Indonesian economy is split into seven sectors: government, central bank, commercial banks, NBFIs, nonfinancial corporations, households (HHs), and rest of the world (ROW).

The construction of the BSA matrix relies on the counterparty information contained in the balance sheet reports of the MFS, the IIP, and the GFS. The BSA exercise assumes that the sum of financial assets and liabilities from these statistical domains covers the total of financial assets in Indonesia and, therefore, by distributing total financial assets, all intersectoral balance sheet exposures are covered in the matrix. The BSA matrix shows in columns gross assets and liabilities of each sector in relation to other sectors. For instance, the largest gross exposure in the matrix is NFC liabilities with the ROW at 43 percent of GDP,⁴ followed by HH claims on banks for 29 percent of GDP (mainly deposits).

As shown in Table 12.1, one general limitation of the BSA approach for most countries is that the balance sheet of the nonfinancial private sector (NFCs and HHs) is not directly observable because of the lack of data,⁵ and, therefore, financial assets and liabilities involving these sectors can only be attributed indirectly

³Cells in the diagonal are only populated for banks and NBFIs because of data availability.

⁴Corporations' exposure to the ROW is calculated including debt and equity exposures that encompass both direct and portfolio investment relationships.

⁵The IMF does not collect balance sheets of the corporate or HH sectors from member countries. To address this data gap, some countries have developed full financial accounts on a from-whom-to-whom basis, also covering the NFC and HH sectors.

TABLE 12.1.

The Balance Sheet Approach Matrix for Indonesia
(Percent of 2016 GDP)

	Government			Central Bank			Banks			NBFIs			NFCs			HHs			ROW			
	Assets	Liabilities	Total	Assets	Liabilities	Total	Assets	Liabilities	Total	Assets	Liabilities	Total	Assets	Liabilities	Total	Assets	Liabilities	Total	Assets	Liabilities	Total	
																						Assets
Government																						
Total	2.9	3.0	4.3	1.8	1.8	1.0	0.0	0.0	6.4	23.1	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.1
In domestic currency	2.9	2.7	3.4	1.7	1.7	1.0	0.0	0.0	6.4	23.1	23.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In foreign currency	0.0	0.4	0.9	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	0.1
Central Bank																						
Total	3.0	2.9	8.3	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.1	0.1	0.1	0.1	0.9	13.2
In domestic currency	2.7	2.9	6.6	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.1	0.1	0.1	0.1	0.1	0.0	0.0
In foreign currency	0.4	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	13.2
Banks																						
Total	1.8	4.3	2.9	3.3	3.3	2.9	2.3	11.8	18.6	17.0	17.0	28.6	28.6	17.0	17.0	6.4	1.6	1.6	6.4	1.6	6.4	1.6
In domestic currency	1.7	3.4	2.5	2.9	2.9	2.6	2.0	8.7	13.8	16.6	16.6	26.4	26.4	16.6	16.6	3.4	0.0	3.4	3.4	0.0	3.4	0.0
In foreign currency	0.1	0.9	0.4	0.4	0.4	0.3	0.4	3.2	4.8	0.3	0.3	2.2	2.2	0.3	0.3	3.1	1.5	3.1	3.1	1.5	3.1	1.5
NBFIs																						
Total	0.0	1.0	2.3	2.9	2.9	1.7	1.5	1.0	3.7	5.6	5.6	0.7	0.7	2.5	2.5	0.7	0.3	0.7	0.7	0.3	0.7	0.3
In domestic currency	0.0	1.0	2.0	2.6	2.6	1.7	1.5	1.0	2.9	5.6	5.6	0.1	0.1	2.5	2.5	0.1	0.0	0.1	0.1	0.0	0.1	0.0
In foreign currency	0.0	0.0	0.4	0.3	0.3	0.0	0.0	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.6	0.6	0.3	0.6	0.3
NFCs																						
Total	23.1	6.4	18.6	11.8	11.8	3.7	1.0	1.0	43.4	43.4	17.5	17.5	17.5	0.0	0.0	43.4	17.5	17.5	43.4	17.5	43.4	17.5
In domestic currency	23.1	6.4	13.8	8.7	8.7	2.9	1.0	1.0	2.9	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In foreign currency	0.0	0.0	4.8	3.2	3.2	0.8	0.1	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	43.4	17.5	43.4	43.4	17.5	43.4	17.5
HHs																						
Total	0.0	0.0	17.0	28.6	28.6	2.5	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In domestic currency	0.0	0.0	16.6	26.4	26.4	2.5	5.6	5.6	5.6	5.6	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In foreign currency	0.0	0.0	0.3	2.2	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ROW																						
Total	0.1	16.8	13.2	0.9	6.4	0.3	0.7	17.5	43.4	43.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In domestic currency	0.0	0.0	0.0	0.0	3.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
In foreign currency	0.1	16.8	13.2	0.9	3.1	0.3	0.6	17.5	43.4	43.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: BSA = balance sheet analysis; HHs = households; NBFIs = nonbank financial institutions; NFCs = nonfinancial corporations; ROW = rest of the world.
Source: IMF staff estimates.

from the balance sheets of other sectors covered by the MFS, IIP, or GFS. Therefore, direct balance sheet exposures between HHs and NFCs (for instance, holdings of corporate bonds by HHs) are not available for the BSA.⁶

Given this limitation, the following two important assumptions are used to construct the BSA for Indonesia, both affecting corporate exposures:

- *Foreign direct investment (FDI)*: All FDI assets and liabilities are assumed to pertain to the NFC sector because disaggregation of this item is not available for Indonesia.
- *Exposure of government to private sector*: The balance sheet exposures between the government and the NFC sectors are calculated as a residual by subtracting from total assets and liabilities in the GFS the government claims on and liabilities to other sectors.

In addition to the assumptions used by the BSA, the interpretation of corporate foreign exposure is further complicated by certain NFCs' practice of holding foreign exchange cash reserves in subsidiaries established in regional financial centers (Singapore, in the case of Indonesia). Because macroeconomic statistics follow the residency concept, the IIP for Indonesia includes the claims of Indonesian corporations on their foreign subsidiaries, which, depending on the ownership structure of the corporate group, may not correctly reflect cash reserves. More recently, the Indonesian authorities have mitigated corporate foreign currency (FX) exposures by introducing tax incentives for corporations to repatriate FX cash holdings. However, as this chapter uses data up to the end of 2016, the effects of this policy are not reflected in the analysis. Against this backdrop, the corporate foreign exposure estimated by the BSA in this chapter should be interpreted as an upper bound.

BSA Matrix Analysis

The BSA matrix for Indonesia permits the investigation of macroeconomic imbalances and vulnerabilities, with a focus on each sector's net borrowing and on net balance sheet positions in foreign currency. Whereas flow-based macroeconomic programming focuses on the sustainability of debt service, the BSA matrix analysis points to risks stemming from large imbalances outstanding, regardless of the sustainability of debt service. To simplify the visualization of imbalances, the BSA matrix can be calculated as net balance sheet positions to highlight creditor and debtor sectors. Table 12.2 shows net creditors and debtors; for instance, the NFC sector is a net debtor vis-à-vis the ROW for Rp 3,205 trillion or 25.8 percent of GDP, while HHs are net creditors of banks for Rp 1,439 trillion or 11.6 percent of GDP.

The matrix results suggest some areas of vulnerability for Indonesia. First, the government's and NFCs' large reliance on cross-border funding potentially exposes them to risks from both currency mismatches and, specifically for corporations,

⁶Bank Indonesia has recently compiled financial accounts covering balance sheet information for all sectors. This database should improve the coverage of the nonfinancial sector balance sheet, and, therefore, future extensions of the BSA exercise could benefit from this new data source.

TABLE 12.2.

Intersectoral Net Position in 2016							
Government	Central Bank	Banks	NBFIs	NFCs	HHs	ROW	
(Trillions of rupiah)							
Government	-17	310	123	-2,073	0	2,070	
Central bank	17	1,018	1	0	500	-1,524	
Banks	-310	-1,018	-290	-842	1,439	603	
NBFIs	-123	-1	290	-334	392	53	
NFCs	2,073	0	842	334		3,205	
HHs	0	-500	-1,439	-392			
ROW	-2,070	1,524	-603	-53	-3,205		
Government	Central Bank	Banks	NBFIs	NFCs	HHs	ROW	
(Percent of GDP)							
Government	-0.1	2.5	1.0	-16.7	0.0	16.7	
Central bank	0.1	8.2	0.0	0.0	4.0	-12.3	
Banks	-2.5	-8.2	-2.3	-6.8	11.6	4.9	
NBFIs	-1.0	0.0	2.3	-2.7	3.2	0.4	
NFCs	16.7	0.0	6.8	2.7		25.8	
HHs	0.0	-4.0	-11.6	-3.2			
ROW	-16.7	12.3	-4.9	-0.4	-25.8		

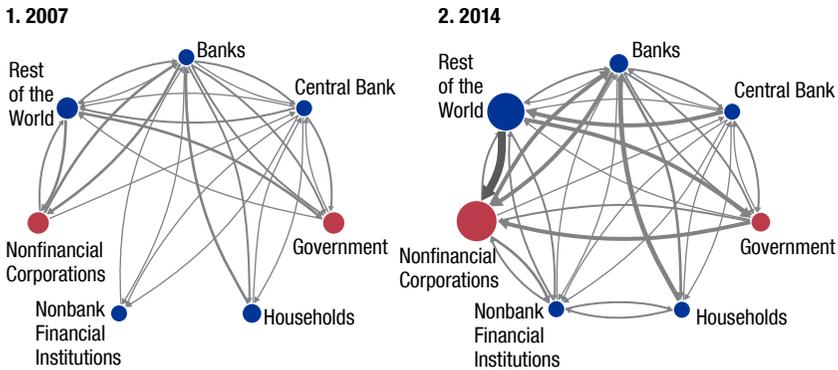
Source: IMF staff estimates.

Note: HHs = households; NBFIs = nonbank financial institutions; NFCs = nonfinancial corporations; ROW = rest of the world.

sudden withdrawal of funding. Second, although the banking system's overall exposures do not suggest large imbalances, banks' credit to NFCs (19 percent of GDP in the fourth quarter of 2016, see Table 12.1) exposes the banking system to shocks affecting the balance sheet and liquidity position of the NFC sector. For instance, a large shock to NFC balance sheet debt may increase debt service significantly, with an impact on default rates and nonperforming loans (NPLs) for domestic loans. The net exposure of banks to the private sector (NFCs and HHs combined) has turned quite negative, as bank lending has been outpaced by the accumulation of HH deposits in recent periods.

An alternative way to visualize both gross and net exposures in the same chart is through network graphs, which also compare different periods in time. The simultaneous presentation of gross and net exposures is important because a small net exposure may hide a vulnerability attributable to the existence of large and offsetting gross balance sheet links on the asset and liability side, which, in practice, may not be hedging each other in a period of financial stress due to maturity, currency, or other mismatches.

Figure 12.2 shows cross-sectoral exposures in network map form for 2007 and 2014, using different dimensions to illustrate imbalances. Bubbles in the nodes of the figure illustrate net imbalances, with the diameter indicating the relative size of the imbalance in the economy and the color distinguishing net lenders (green) from net borrowers (red). The arrows connecting the nodes represent gross exposures, so that each pair of sectors shows a pair of arrows for reciprocal claims, and the thickness of each arrow indicates the size of the relative balance sheet position with respect to total financial assets in the Indonesian economy. Missing arrows between nodes indicate data gaps in the BSA matrix.

Figure 12.2. BSA Matrix as a Network Map

Source: IMF staff estimates.

The comparison between pre–global financial crisis and post–global financial crisis balance sheet exposures shows some clear trends in the Indonesian economy. First, the direction of financing flows remained broadly unchanged in the period considered—all sectors that were net creditors in 2007 remained so in 2014. This suggests that the direction of financing is a slow-moving variable over time, and is quite insensitive to changing economic factors. Nevertheless, the size of exposures has increased considerably, both in net terms (size of the nodes) and gross terms (thickness of the arrows). For instance, NFCs’ foreign borrowing increased approximately fourfold between 2007 and 2014. It moderated in more recent periods, but remained three times larger in 2016 compared with 2007 (not shown). The comparison between the two periods also highlights the progress made by the Indonesian authorities in closing data gaps. In particular, the authorities have improved the regular collection and dissemination of the sectoral balance sheet of NBFIs, as well as the compilation of GFS stocks covering the balance sheet of the general government.

Scenario Analysis Using the BSA Matrix

The BSA matrix can be used to run scenario analyses. In particular, after identifying potential vulnerabilities, the BSA matrix can be shocked by assuming exogenous changes to macroeconomic variables to carry out comparative statics based on existing outstanding balances. In addition to one-round shocks to balance sheet positions, the BSA setting allows for simple scenario building, whereby funding shocks force affected sectors to increase their borrowing from alternative sources. Guided by the importance of foreign funding in overall balance sheet exposures identified earlier, two scenarios are considered:

- *Scenario 1 (exchange rate depreciation shock)*: Given that most foreign funding is denominated in foreign currency, the first scenario considers the rupiah’s

depreciation; that is, each gross balance sheet position in foreign currency is increased in local currency proportionally to the assumed rate of exchange rate depreciation. As a result, the stock of lending in foreign currency increases, putting the balance sheets of net borrowers in foreign currency under pressure.

- *Scenario 2 (exchange rate depreciation and capital outflow shocks)*: In addition to the exchange rate depreciation shock assumed above, as a second-round effect, corporations lose access to part of their foreign funding and, therefore, are forced in the short term to replace it with domestic funding. In this context, the BSA matrix is used to simulate the impact of a 25 percent depreciation shock *combined* with a reversal in capital flows to the NFC sector, in which corporations are forced to replace 10 percent of their foreign funding with domestic liquidity in the following round of the macro stress test. The withdrawal of domestic funds can be achieved by drawing from existing corporate bank deposits or obtaining new bank credit through prearranged lines of credit or new loans. Any of these alternatives has the same effect of increasing the net balance sheet exposure of the banking system to the NFC sector in the BSA matrix.

Scenario 1: Depreciation Shock

The Scenario 1 result shows significant deterioration in the NFC and government's net position in a depreciation shock. Table 12.3 shows the net balance sheet effect of a 25 percent currency depreciation. The red highlighted cells show how, because of their large foreign borrowing, the corporate and government sectors suffer a large net balance sheet deterioration, estimated to be 6–7 percent of GDP for corporations and about 4 percent of GDP for government. In addition, the corporate sector would also suffer some balance sheet deterioration reflecting its borrowing in foreign currency from banks and NBFIs. The green highlighted cell for the central bank reflects the hypothetical increase in value of foreign currency reserve assets during a depreciation. Notably, the banking system balance sheet is, overall, insensitive to changes in the exchange rate, with a small positive net open position vis-à-vis corporations and negative vis-à-vis households. This analysis does not

TABLE 12.3.

Scenario 1: Effects of a 25 Percent Exchange Rate Depreciation (Percent of GDP)							
	1.	2.	3.	4.	5.	6.	7.
1. Government		-0.10	0.21	0.00	0.00	0.00	4.17
2. Central bank	0.10			0.00	0.00	0.00	-3.07
3. Banks				-0.01	-0.41		
4. Nonbank financial institutions	0.00	0.00	0.01		-0.18	0.00	0.08
5. Nonfinancial corporations	0.00	0.00	0.41	0.18			6.46
6. Households	0.00	0.00		0.00			
7. Rest of the world	-4.17	3.07		-0.08	-6.46		

Source: IMF staff estimates.

consider second-round effects, that is, further deterioration of balance sheet exposures caused by weaker asset quality and higher defaults.

Scenario 2: Depreciation and Capital Outflow Shock

When the exchange rate depreciation shock is combined with a capital outflow shock, the external position of NFCs does not deteriorate as much as in Scenario 1, but NFCs are forced to draw liquidity from the banking system (Table 12.4). In a first effect, the government and the NFC sectors remain directly affected by the currency depreciation and the resulting balance sheet deterioration. However, the increase in corporations' net foreign liabilities is partially offset by the capital outflow and the effect is therefore lower than in the depreciation-only scenario. Nonetheless, corporations will need to compensate for the loss of cross-border funding by increasing their net borrowing from the domestic banking system, for instance, by using existing deposits or credit lines. This causes an increase in banks' exposures to NFCs by 3 percentage points of GDP, which can be either in national currency (for example, if liquidity is needed to pay wages or local suppliers) or, to a lesser extent, in foreign currency to service the remaining cross-border debt. This latter effect is very important because it shows that, even when a banking system is not *directly* exposed to the risk of foreign exchange depreciation or capital outflows, the initial shock propagates beyond the corporate sector to the banking system. An additional assumption could be simulated showing that NPLs increase with debt-service cost, putting a damper on bank lending.

TABLE 12.4.

Scenario 2: Effects of a 25 Percent Exchange Rate Depreciation and a Capital Outflow

	Government	Central Bank	Banks	NBFIs	NFCs	HHs	ROW
	(Percent of GDP)						
Government		-0.10		0.00	0.00	0.00	4.17
Central Bank	0.10			0.00	0.00	0.00	-3.07
Banks				-0.01	-2.99		
NBFIs	0.00	0.00	0.01		-0.18	0.00	0.08
NFCs	0.00	0.00	2.99	0.18			3.87
HHs	0.00	0.00		0.00			
ROW	-4.17	3.07		-0.08	-3.87		

Source: IMF staff estimates.

Note: HHs = households; NBFIs = nonbank financial institutions; NFCs = nonfinancial corporations; ROW = rest of the world.

Vector Autoregression Analysis

To further formalize scenario building and use the full breadth of the sectoral balance sheets data set, BSA stress testing (sensitivity analysis) on an individual period is supplemented with a regression-based approach. To allow for the

endogenous propagation of shocks to other variables in the model, a vector autoregression (VAR) is specified in which all variables are treated as endogenous and impulse responses to shocks are extracted. In this model, selected BSA variables are complemented with other macroeconomic variables aimed at analyzing the evolution of corporate exposures. The model is specified as

$$y_t = B_0 + B_1(L)y_t + u_t \quad (12.1)$$

In equation (12.1), y is the vector containing the set of BSA and macroeconomic variables used by the VAR, L is the lag operator (a single lag is used), B_0 and B_1 are the vectors of coefficients, and u is the vector of residuals. Because the aim is to model the effect of capital outflows and currency depreciation, the VAR needs a macroeconomic variable to serve as a proxy for risk appetite and capital inflows in emerging markets; the Chicago Board Options Exchange Volatility Index (VIX) indicator of stock market volatility in the United States is chosen as this proxy. In practice, a positive shock to the VIX is generally associated with higher risk aversion and lower capital flows in emerging markets, resulting in currency depreciation for Indonesia and other effects the VAR tests for. However, this negative correlation was not observed in 2014–15, a time during which the VIX was at historically low values while the US dollar was generally strengthening. Therefore, to separately account for this phenomenon and to test the sensitivity of the model, two samples of annual data between 2001–14 and 2001–16, respectively, are used to estimate a VAR for the variables shown in Table 12.5:

To derive an impulse-response analysis from the VAR results, a Choleski decomposition approach is used to identify the required coefficients and calculate the response of the model's variables to a one standard deviation shock to DVIX. In this decomposition, the four variables are stacked to reflect the assumed sequence of propagation of the initial shock: the VIX is at the top of the matrix, followed by the BSA variables, and the exchange rate at the bottom (Figure 12.3).

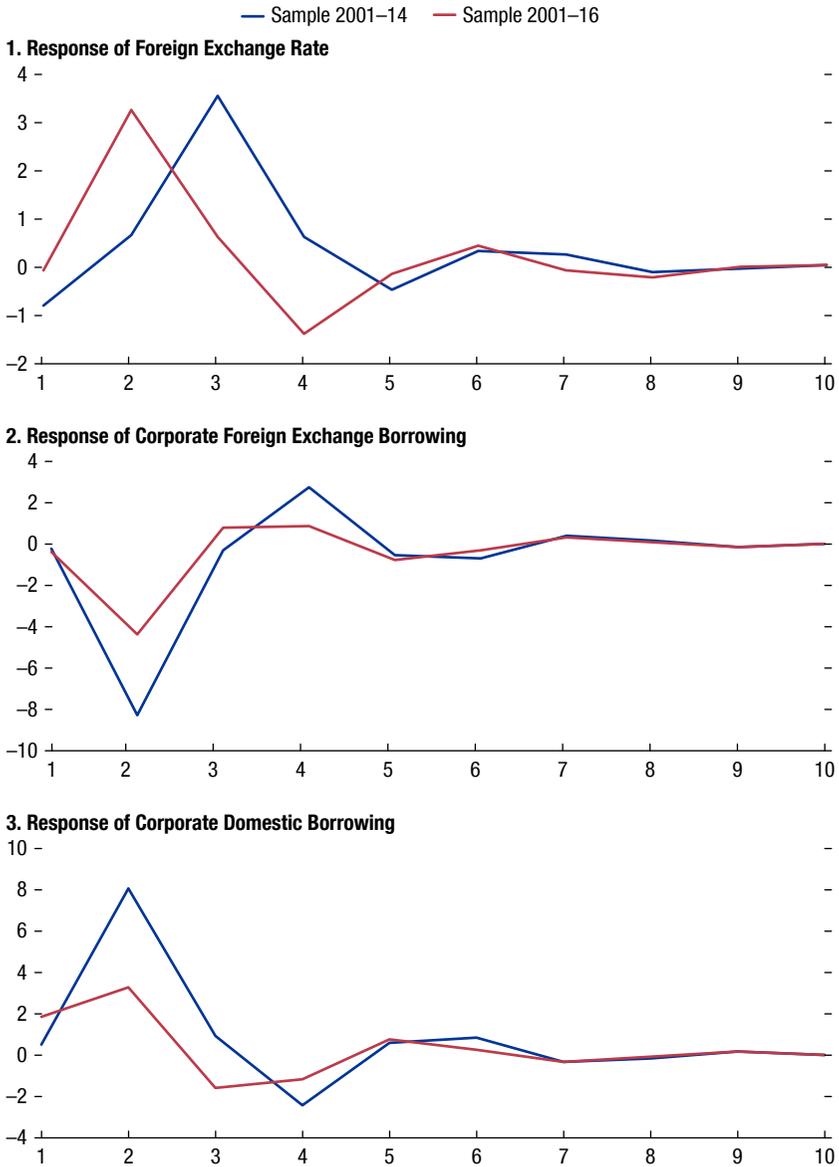
The VAR results conform to the sequence of shock propagation assumed by the sensitivity analysis in Scenario 2, in which a capital outflow and the resulting currency depreciation cause an overall decrease in foreign borrowing by NFCs; in the comparative dynamics exercise, this effect was ambiguous because of the offsetting effects of depreciation (increasing nominal debt) and capital outflow (decreasing available funding) and a significant increase in domestic bank lending to corporations. The latter result supports the conclusion of the macro stress

TABLE 12.5.

Variables Included in the VAR Analysis

Variable	Description
G_ODCNFC	Growth of bank credit to corporations
G_NFCIIP	Growth of corporate foreign borrowing
DVIX	First difference of the VIX indicator of volatility
G_XRATE	Exchange rate depreciation

Figure 12.3. Impulse-Response Analysis
(Response of different variables to a one standard deviation shock to VIX)



Source: IMF staff estimates.
 Note: VIX = Chicago Board Options Exchange Volatility Index.

testing, in which corporations may replace some of their foreign funding with domestic bank lending, creating a channel for transmitting balance sheet vulnerabilities. As expected, the VAR results that include 2015–16 in the sample show an overall weaker response of variables to the VIX shock because of the opposing trends of VIX and currency depreciation observed in these two years.

POTENTIAL VULNERABILITIES OF THE CORPORATE SECTOR IN INDONESIA

This section analyzes potential corporate sector vulnerabilities in Indonesia, relying on both qualitative and quantitative approaches. The qualitative discussion relies on stylized facts and extensively analyzes cross-country and historical data. The quantitative analysis is conducted using a bottom-up model that simulates corporations' default probabilities.

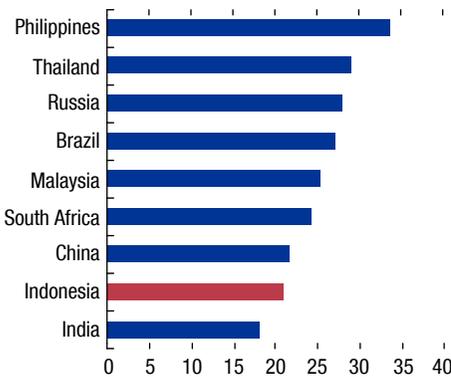
Stylized Facts

Indonesia's corporate sector is relatively strong and sound compared to its emerging market peers. First, aggregate corporate leverage is relatively low, evidenced by the fact that Indonesia's liabilities-to-assets ratio is below that of corporations in many emerging market economies (Figure 12.4, panel 1). Many corporations in Indonesia also tend to rely on internal cash flows for funding rather than on

Figure 12.4. Corporate Leverage and Profitability in Emerging Markets, 2016¹

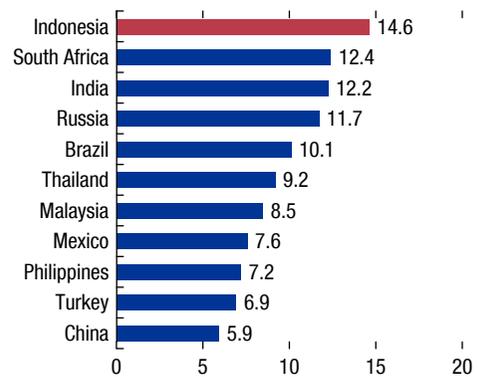
1. Corporate Leverage

(Debt as a percentage of assets, capital-weighted average)



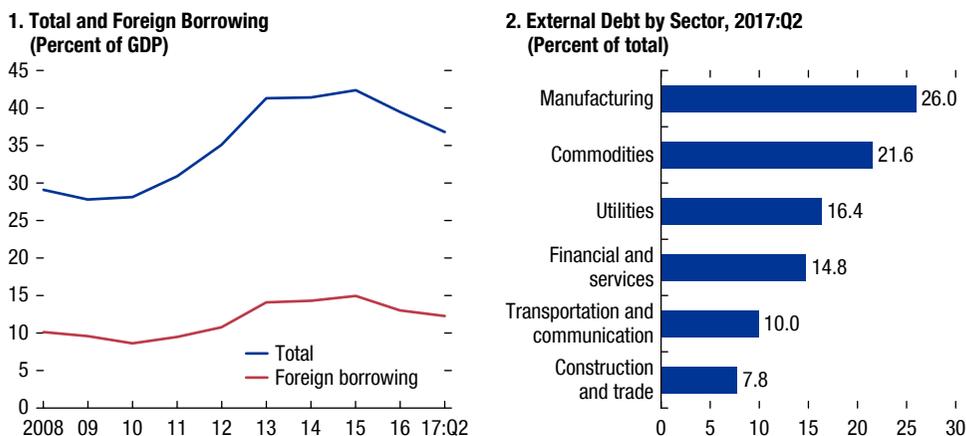
2. Return on Assets

(Percent, capital-weighted average)



Sources: Bloomberg L.P.; Datastream; Worldscope; and authors' calculations.

¹Net income of listed companies, capitalization-weighted average.

Figure 12.5. Indonesia: Corporate Debt by Currency and Sector

Sources: Bank Indonesia; CEIC Data Co. Ltd.; and authors' calculations.

external financing. Second, corporate profitability is very high. Net income was more than 14 percent of total assets in 2016, the highest among emerging market economies (Figure 12.4, panel 2).

Nonetheless, risks emerged as FX-denominated corporate debt increased in the past few years. FX corporate debt (including that owed to domestic banks) reached about 15 percent of GDP in 2015 (Figure 12.5, panel 1). The level remains relatively low, but the fast pace of increase could be a risk factor. For instance, about 90 percent of debt securities issued in 2014 were FX denominated. FX debt issuance has moderated since then, partly because of weak domestic demand and corporate prudential regulations. FX corporate debt is concentrated in the manufacturing and commodities sectors (Figure 12.5, panel 2), likely with natural hedging through foreign currency income. However, high volatility in commodity prices and the associated revenue could reduce the commodity sector's repayment capacity.

Looking ahead, several risks need to be carefully monitored if commodity prices remain subdued and the rupiah weak, including currency mismatches, refinancing risk, and default risk. Corporate prudential FX regulations have helped mitigate these risks (Figure 12.6, panel 1).

- *Higher issuance:* External borrowing could accelerate, particularly that of state-owned enterprises, given that infrastructure spending is expected to rise in the coming years, driven by the government's push for economic development.
- *Currency mismatches:* While Bank Indonesia's corporate prudential FX regulation has helped corporations manage currency risk, a portion of FX debt is estimated to be unhedged partly because hedge costs are generally high

Figure 12.6. Indonesia: Corporate Debt Rollover Needs and Debt at Risk

1. Corporate Borrowing and Leverage

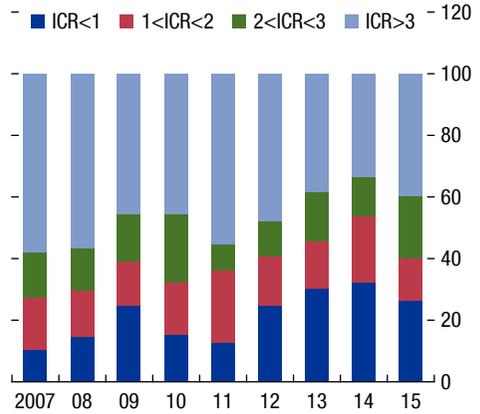
(Percent of rolling four quarter GDP unless noted otherwise)



Sources: Bank for International Settlements database; Bloomberg L.P.; CEIC Data Co. Ltd.; and IMF staff estimates.

2. Indonesia: Corporate Debt at Risk

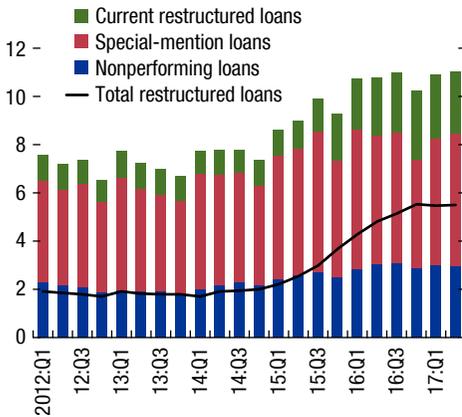
(Percent of total debt)



Sources: Orbis database; and IMF staff estimates. Note: ICR (interest coverage ratio) = earnings before interest expense and taxes/interest expenses.

3. Problem Loans

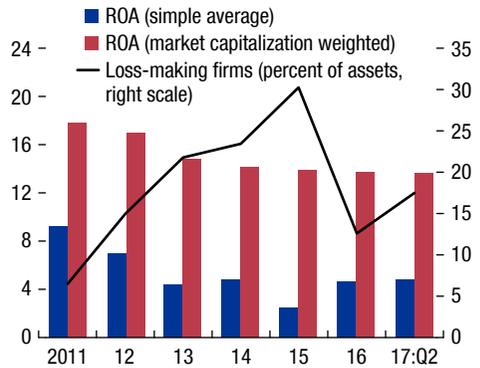
(Percent of total loans)



Sources: Financial Services Authority (OJK); and IMF staff estimates.

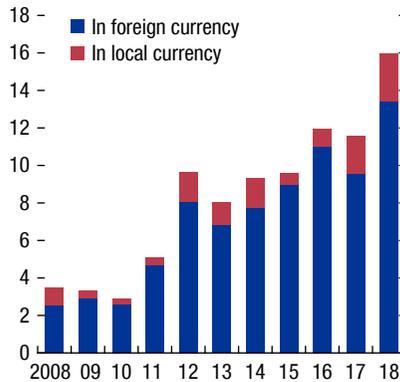
4. Corporate Return on Assets

(Percent)



Sources: Bloomberg L.P.; and IMF staff estimates.

Figure 12.7. Debt Securities Maturing
(Billions of US dollars)



Sources: Dealogic; and IMF staff calculations.

given shallow domestic financial markets. Despite a recent moderation, FX debt still accounts for 45 percent of total corporate debt, and corporations are exposed to exchange rate volatility. Some corporations appeared to be using derivatives instruments that knock out if the rupiah depreciates substantially, in which case FX exposure would jump, causing losses with default risk.

- *Refinancing risk:* Corporations will likely face larger rollover needs, particularly for FX debt securities, in 2018 (Figure 12.7). A large proportion of maturing debt is leveraged or high yield. However, there are mitigating factors: a large share of nonbank private corporations' external debt maturing within a year is owed to affiliates, and the rollover needs within a year appear manageable.
- *Default risks:* Following the drop in commodity prices, the interest coverage ratio fell (Figure 12.6, panel 2). NPLs in commodity-related corporations are particularly high (for example, 6.1 percent in the mining sector as of December 2017) because of legacy effects from low commodity prices and banks' risk management. Although banks have been repairing their balance sheets, problem loans, including NPLs, special-mention, and restructured loans, remain elevated at more than 10 percent of total loans because of legacy effects from the drop in commodity prices and the slight economic slack (Figure 12.6, panel 3).⁷
- *The corporate prudential FX regulation* has helped moderate risks from corporate external debt. This regulation requires hedging at least 25 percent of

⁷More recently, NPLs have stabilized at slightly less than 3 percent as a result of improved corporate performance and household debt-service capacity.

net FX liabilities of corporations with external debt maturing within six months, maintaining the short-term liquidity ratio (FX assets to FX liabilities maturing within three months) above 70 percent, and having a credit rating of no less than BB- or equivalent to borrow externally. The regulation was adopted in 2015 in response to the combination of a rapid increase in corporate external debt and regulatory and supervisory gaps, which has the potential to disrupt the financial system through spillovers to the banking sector. Since the introduction of this measure, corporate foreign debt has stabilized.

Bottom-Up Default Analysis of the Corporate Sector

To complement the qualitative analysis discussed in the previous section, a quantitative forward-looking assessment of corporate sector vulnerabilities in Indonesia was conducted using a bottom-up, individual-firm-level approach. To summarize, corporate default probabilities for individual firms were projected under different macroeconomic assumptions that include plausible, but low-probability, adverse economic scenarios. To do so, both economy-wide and firm-specific risk factors were used to capture risk transmission channels. These risk factors were assumed to be influenced by macroeconomic variables and serve as input to the quantitative model to produce default probabilities of individual firms. See Miyajima and others (2017) for the methodology and results.⁸

In the scenario analysis, macroeconomic conditions were characterized by variables commonly used in the stress-testing literature. GDP growth is used as a proxy for the growth in incomes and earnings of firms. The unemployment rate affects household consumption and spending and, in turn, corporate sales. Inflation can signal macroeconomic uncertainty because high inflation raises costs and impairs credit quality but also reduces the real debt burden. Exchange rate performance affects firms through net exports and balance sheet channels. Short-term interest rates are an indicator of the cost of funding for corporations. The domestic equity price index and short-term interest rates define market conditions and, in turn, affect the state of individual firms. Firm-specific factors capture characteristics including liquidity, profitability, and size.

Two different paths for the macroeconomic variables were assumed through the end of 2019.⁹

- In the baseline scenario, GDP growth was assumed to moderately increase, the unemployment rate to decline gradually, and inflation to fall. The rupi-

⁸The analysis relies on the Bottom-Up Default Analysis (BuDA) framework advanced by Duan, Miao, and Chan-Lau (2015), and currently implemented by the Credit Research Initiative at the Risk Management Institute, National University of Singapore. This approach complements those on debt-service capacity by Chow (2015) and improves on other market-based approaches, such as that of Dwyer, Kocagil, and Stein (2004).

⁹The baseline scenario and the downside scenario are described in detail in the Indonesia Financial Sector Assessment Program Financial System Stability Assessment 2017.

ah's movement would be consistent with historical performance. Short-term money market interest rates would decline moderately.

- In the downside scenario, GDP growth was assumed to decline sharply. The unemployment rate would jump, and inflation would surge because of the pass-through of significant rupiah depreciation. The short-term interest rate would jump.

Several key observations emerged from estimated results.

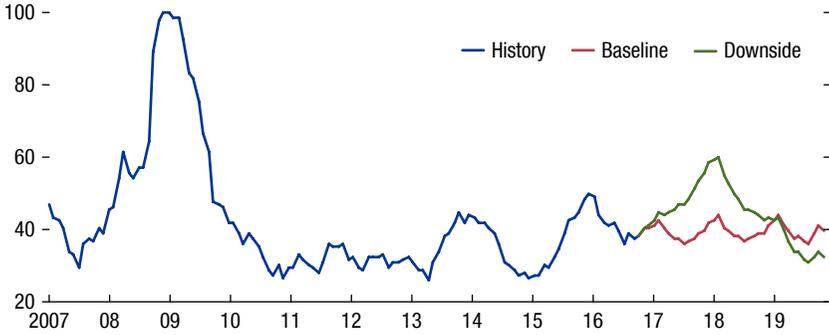
- First, gauging from the uptick in probabilities of default (PDs) toward early 2016, the firm-specific factors may have recently taken less supportive values than in previous periods after the growth slowdown and rupiah depreciation weakened corporate balance sheet conditions amid rising corporate FX leverage.
- Second, weaker macroeconomic performance would naturally lift corporate PDs to higher levels. The median PD under the downside scenario would rise to about one-half of the maximum registered during the Lehman Brothers crisis (Figure 12.8, panel 1, green line). This reflects a sharp GDP growth slowdown and deterioration in other macro variables. However, the PD would decline as economic activity regains momentum.
- Third, a negative market shock could increase the sensitivity of PDs to weaker macroeconomic performance. Under the baseline scenario, the projected PDs of corporations rise, but remain at levels comparable to those during the taper tantrum in 2013 (Figure 12.8, panel 1, red line). This is the case despite projected GDP growth trailing lower, probably because the kind of financial market volatility witnessed during the taper tantrum is absent in the projections.
- Fourth, related to the point above, corporate distress can worsen materially if weak macroeconomic performance is accompanied by severe financial market jitters. Under the downside scenario, the 95th percentile estimate, with a remote chance of occurrence, rises to very close to the maximum registered during the global financial crisis (Figure 12.8, panel 3, black line). It has been well documented that cross-border spillovers of a negative shock could be large in an environment of elevated uncertainty and financial market volatility. Under such circumstances, what is considered a low-probability outcome (with a high impact) could become a real threat.

CONCLUSION

The analysis of macro-financial links and macroeconomic imbalances reveals particular balance sheet vulnerabilities in Indonesia and is an important complement to traditional financial programming based on flows. Although data gaps and short time series may constrain the robustness of part of the analysis, the use of sectoral balance sheets and the BSA matrix tool show important results for Indonesia, particularly concerning the exposure of the corporate

Figure 12.8. Indonesia: GDP Growth and Corporate Default Probability
(Index, Lehman peak = 100)

1. Median Probability of Default under Baseline and Adverse Scenarios



2. Probability of Default under Baseline: Median, 75th and 95th Percentiles



3. Probability of Default under Downside Scenario: Median, 75th and 95th Percentiles



Source: Authors' estimates.

sector to shocks to foreign funding. The crucial takeaway from the economy-wide analysis of balance sheet exposures is that such exposures can be powerful channels for transmitting otherwise localized vulnerabilities, particularly through the financial sector.

Overall, the risk from the corporate sector remains manageable in Indonesia, and the authorities have strengthened the framework for monitoring corporate vulnerabilities. The aggregate corporate-debt-to-GDP ratio remains low, and, on a system-wide basis, near-term refinancing risk appears to be moderate. The authorities are monitoring corporate vulnerabilities closely, and implementation of Bank Indonesia's corporate prudential regulations has helped corporations manage currency risks. The authorities' ongoing work to upgrade the framework and interagency coordination for corporate surveillance is also moving in the right direction.

Nonetheless, close monitoring and granular analysis of maturing FX debt are warranted. Even though the overall risk of the corporate sector is manageable, in the past a group of corporations, some of which are connected to large business groups, faced heightened debt risks. Close monitoring, therefore, would be needed of corporations with FX debt and rupiah income, as well as of those with unhedged, nonaffiliated, or maturing FX debt, together with bank links.

Strengthening of policy coordination should also continue, coupled with data analysis to assess the dimensions of the debt problems of specific corporations in vulnerable groups. The authorities should consider reviewing the corporate resolution framework (including the bankruptcy regime) to ensure that it can deal with large and systemically connected conglomerates. In the medium term, deeper financial markets will help reduce the costs of hedging and will help develop domestic corporate bond issuance and trading.

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Reinforcing Financial Stability

ULRIC ERIKSSON VON ALLMEN AND HEEDON KANG

INTRODUCTION

In recent years, Indonesia's bank-dominated financial system has successfully weathered a simultaneous slowdown in economic and credit growth, but the profitability of banks has fallen somewhat, and problem loans have risen. The banking system appears resilient to severe shocks thanks to high capital buffers and still-strong profitability. However, because they rely on short-term deposits for funding, many banks (mostly small ones) could face liquidity shortages under stress, including in foreign currency, even if, in the aggregate, the shortfalls should be manageable for the authorities.

The authorities have been pursuing an ambitious agenda to strengthen financial oversight and crisis management. They have implemented Basel III, adopted a new insurance law, and improved supervisory practices across sectors. It is important to note that, in 2011, the Financial Services Authority (Otoritas Jasa Keuangan, OJK) was established as an integrated regulator to oversee the entire financial sector. In addition, Bank Indonesia (BI) has developed analytical tools to assess systemic risk and has introduced several macroprudential instruments. In 2016, Parliament approved the Prevention and Resolution of Financial System Crisis Law, No. 9 of 2016 (PPKSK Law), which clarifies the responsibilities of the agencies involved in crisis management and resolution.

This chapter aims to answer the following questions:

- How resilient is the financial system to adverse shocks?
- Are the new frameworks for oversight and crisis management effective?
- What needs to be done to further enhance resilience?

The chapter is organized as follows: After describing the structure of the financial sector, the chapter discusses recent macro-financial developments. It then examines the financial sector's resilience to shocks and contagion. The next two sections take stock of the progress in financial policies and identify areas where further progress will be needed. A concluding section follows.

This chapter draws on work of the 2017 IMF–World Bank Financial Sector Assessment Program (FSAP) for Indonesia, and in particular the Financial System Stability Assessment, which was considered by the IMF's Executive Board on May 24, 2017.

SNAPSHOT OF THE FINANCIAL SECTOR STRUCTURE

Indonesia's financial system is relatively small and is dominated by banks. At the end of 2015, financial sector assets equaled 72 percent of GDP, smaller than in emerging market peers (Figure 13.1). Bank assets equaled 55 percent of GDP, whereas assets of insurance companies, the second-largest category, equaled 7 percent of GDP (Table 13.1). However, nonbank financial institutions (NBFIs) are growing fast: in the 10 years to 2015, assets of financial institutions grew by about 8 percentage points of GDP, with more than half of the increase contributed by NBFIs, particularly insurance companies. Life insurance accounts for the largest share of the insurance market.

Financial conglomerates play a key role in the financial system. Some 49 financial conglomerates, which include banks, insurance companies, securities firms, and finance companies, account for 70 percent of the aggregate assets of financial institutions. Bank-led conglomerates hold more than 90 percent of conglomerate assets. More than half of the financial conglomerates have a horizontal structure with an unregulated holding company controlling the group.

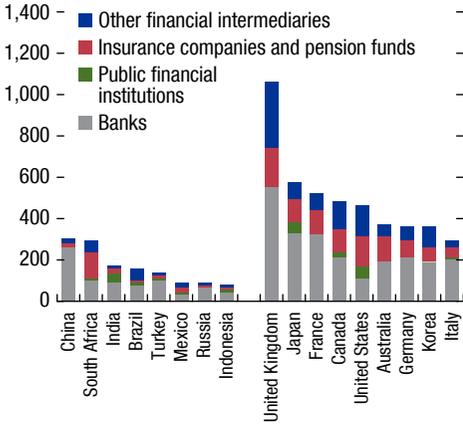
Indonesia's banking system is not as highly concentrated as those in other emerging markets, but it features large state-owned commercial banks. The four largest banks—three of which are majority owned by the government—account for almost half of banking system assets, and most other banks are medium-sized or small (Table 13.2). Banks designated as domestic systemically important banks (D-SIBs) account for about 65 percent of banking system assets. Slightly more than 20 banks account for a market share of 80 percent. Four state-owned banks and 26 regional development banks (partly owned by regional governments) account for nearly half of banking system assets. Private banks are diverse in size, business models, and ownership, with 9 foreign subsidiaries and 31 foreign branches.

Direct exposures across banks are limited, and the unsecured interbank and repo markets are thin. Banks manage their liquidity through operations in the unsecured interbank market and the repo market. Banks with licenses to operate in foreign currency rely on operations in the foreign exchange swap market (dominated by foreign banks). However, these markets are shallow (interbank market exposures amount to only 3 percent of banks' assets), and many, mostly smaller, banks lack the capacity to engage in repo transactions and lack access to the foreign exchange swap market. Banks also place excess liquidity in various BI instruments and facilities, and the volume of BI liquidity-absorbing operations dwarfs interbank market turnover.

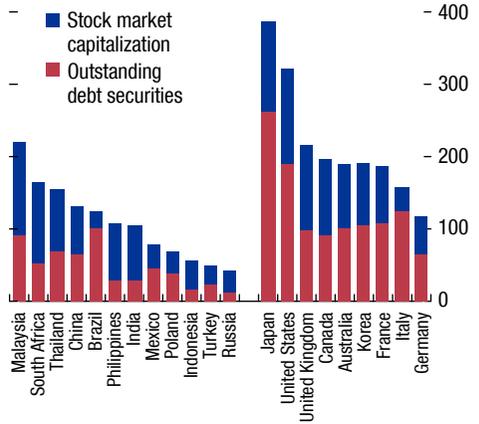
Local capital markets are relatively shallow and have a strong foreign presence, making them sensitive to shifts in global market sentiment. At the end of 2015, outstanding domestic debt securities and stock market capitalization equaled 16 and 41 percent of GDP, respectively. The local bond market is dominated by rupiah-denominated government securities, and foreign investors hold 38 percent of government securities (the average for Asia is 26 percent). This combination of shallow markets and high foreign participation can act as an amplifier of financial market volatility.

Figure 13.1. Selected Countries: Size of Financial System and Financial Development

**1. Assets of Financial Institutions
(Percent of GDP, end-2014)**



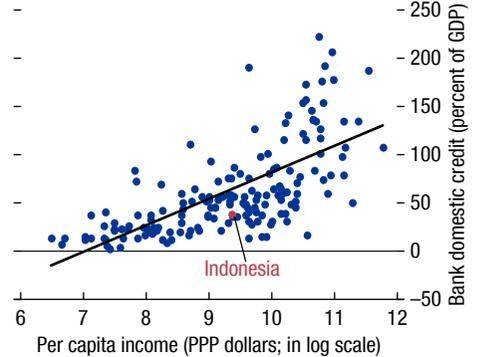
**2. Market Value of Capital Markets
(Percent of GDP, end-2015)**



3. Overall Financial Development Index (1984–2014)¹



4. Credit and Income, 2016



Sources: Bank for International Settlements, Debt Securities Statistics; Bloomberg L.P.; Financial Stability Board 2015 Global Shadow Banking Report; IMF, World Economic Outlook database; Statistics Indonesia; Sahay and others 2015; and IMF staff estimates.

Note: PPP = purchasing power parity.

¹Sahay and others (2015) develop two sets of three subindices that summarize how developed financial institutions and financial markets are as measured by their depth, access, and efficiency, culminating in a composite index of financial development, the Financial Development Index. It ranges between 0 and 1, with a higher value representing more advanced stages of financial development.

²Peers include Brazil, China, India, Malaysia, Mexico, the Philippines, Poland, Russia, South Africa, Thailand, and Turkey.

TABLE 13.1.

Financial System Structure

	Size					
	Percent of GDP			Percent of Aggregated Assets of Financial Institutions		
	2005	2010	2015	2005	2010	2015
Financial institutions: Total assets	63.4	59.9	71.7	100.0	100.0	100.0
Deposit-taking institutions	52.0	45.6	55.4	82.1	76.1	77.3
Of which, commercial banks	51.3	44.9	54.5	81.0	75.0	76.1
Of which, stated-owned banks	18.7	16.3	20.0	29.5	27.1	28.0
Other nonbank financial institutions	11.3	14.3	16.3	17.9	23.9	22.7
Insurance companies	4.4	5.9	7.2	6.9	9.9	10.0
Pension funds	2.2	1.9	1.8	3.5	3.2	2.5
Mutual funds	1.0	2.2	2.4	1.5	3.7	3.3
Financing intermediaries	3.2	3.4	4.1	5.0	5.7	5.7
Other nonbank financial institutions	0.7	0.9	0.8	1.1	1.5	1.2
Financial markets: Market values						
Outstanding debt securities	15.5	14.1	15.7	...	...	...
Stock market capitalization	26.0	47.2	40.8	...	...	...
Memo item:						
Sharia financing	0.7	1.4	2.6	1.1	2.4	3.6
Sharia banks	0.6	1.2	1.8	0.9	1.9	2.6
Conventional banks with Sharia financing units	0.1	0.3	0.7	0.2	0.4	1.0
				18	23	22
				21	34	34
				3	11	12
				5	4	4
				1,115	1,275	1,916
				157	142	137
				312	272	260
				293	559	1,091
				236	194	266
				117	108	162
				3,258	3,103	3,671
				2,143	1,828	1,755

Sources: Bank for International Settlements Securities Statistics; Bloomberg Finance L.P.; Financial Services Authority (OJK); and IMF staff estimates.

*One foreign bank branch was closed at the end of February 2017, and the number of commercial banks is now 117.

TABLE 13.2.

Structure of the Banking System (Percent of banking system assets; as of 2016:Q3)						
	Top Four	All D-SIBs	Medium ¹	Small ¹	Micro ¹	Total
Private bank	10.1	26.6	10.2	6.4	2.4	45.6
of which: Foreign bank subsidiary	0.0	10.2	5.5	4.1	0.4	20.2
State-owned bank	35.4	38.5	0.0	0.0	0.0	38.5
Regional development bank	0.0	0.0	3.8	3.8	0.9	8.5
Foreign bank branch	0.0	0.0	5.8	1.5	0.1	7.4
Total	45.5	65.1	19.7	11.8	3.4	100.0

Sources: Financial Services Authority (OJK); and IMF staff estimates.

Note: D-SIBs = domestic systemically important banks.

¹Medium-sized, small, and micro banks are banks whose total assets are between 40 billion and 100 billion, between 10 billion and 40 billion, and less than 10 billion rupiah, respectively, as of the third quarter of 2016.

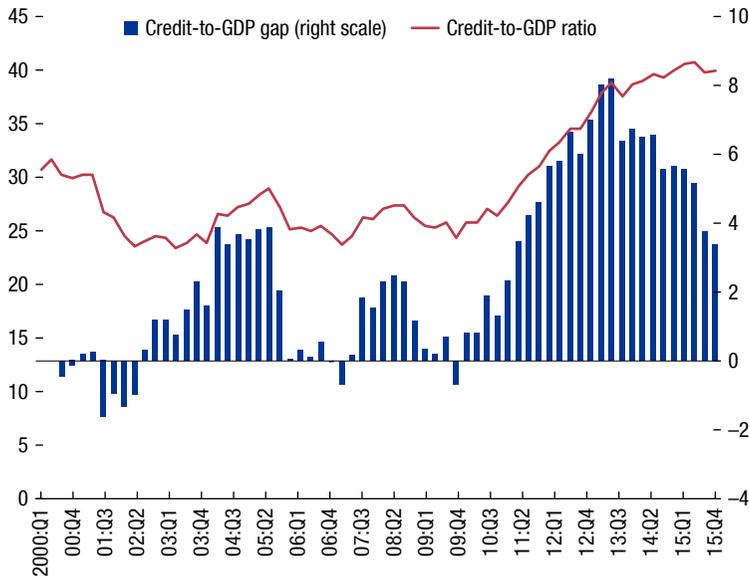
MACRO-FINANCIAL CONTEXT

Indonesia's macro-financial performance since the previous comprehensive assessment by the Financial Sector Assessment Program (the 2010 FSAP) has been robust. Growth has remained strong at 5 to 6 percent. Macroeconomic imbalances have been kept in check, capital flows have remained generally supportive despite bouts of volatility, and financial stability has been preserved. The exchange rate and bond yields have been allowed to adjust broadly in line with market conditions but with BI occasionally intervening in foreign exchange and bond markets to prevent disorderly conditions. Monetary policy has responded to inflation and balance of payments pressures, and macroprudential policy was tightened to contain rapid mortgage loan growth and to moderate housing price growth. Fiscal deficits have remained below the statutory 3 percent of GDP ceiling.

In recent years, the economy has successfully navigated a simultaneous economic and financial cyclical deceleration. The slowdown began in 2013, led by a decline in commodity prices, and bottomed out in 2015; a small rebound in 2016 is projected to continue over the medium term (Annex 13.1). As inflation pressures eased in 2016, BI eased monetary policy. Credit growth had peaked in 2011, and the credit-to-GDP gap has been falling steadily since 2013 (Figure 13.2). In line with the easing credit cycle, housing prices have decelerated (and appear to be in line with fundamentals) and loan quality has deteriorated, and BI partly unwound the earlier macroprudential policy tightening. Household debt has remained low at 17 percent of GDP.

Profitability in the banking system is high and has evolved in line with the economic cycle. With return on assets averaging 2.7 percent over the past decade, Indonesian banks are very profitable compared with banks in other emerging markets (Figure 13.3). Profits are driven largely by net interest income and vary across banks. The four largest banks and public regional banks are among the most profitable, likely reflecting the former's extensive banking network and the latter's business relationships with regional governments. At the other end of the spectrum, some D-SIBs and a large group of micro banks (about 50 banks accounting for 3½ percent of banking system assets) have low profitability. Profitability has declined

Figure 13.2. Credit-to-GDP Ratio and Gap
(Percent)



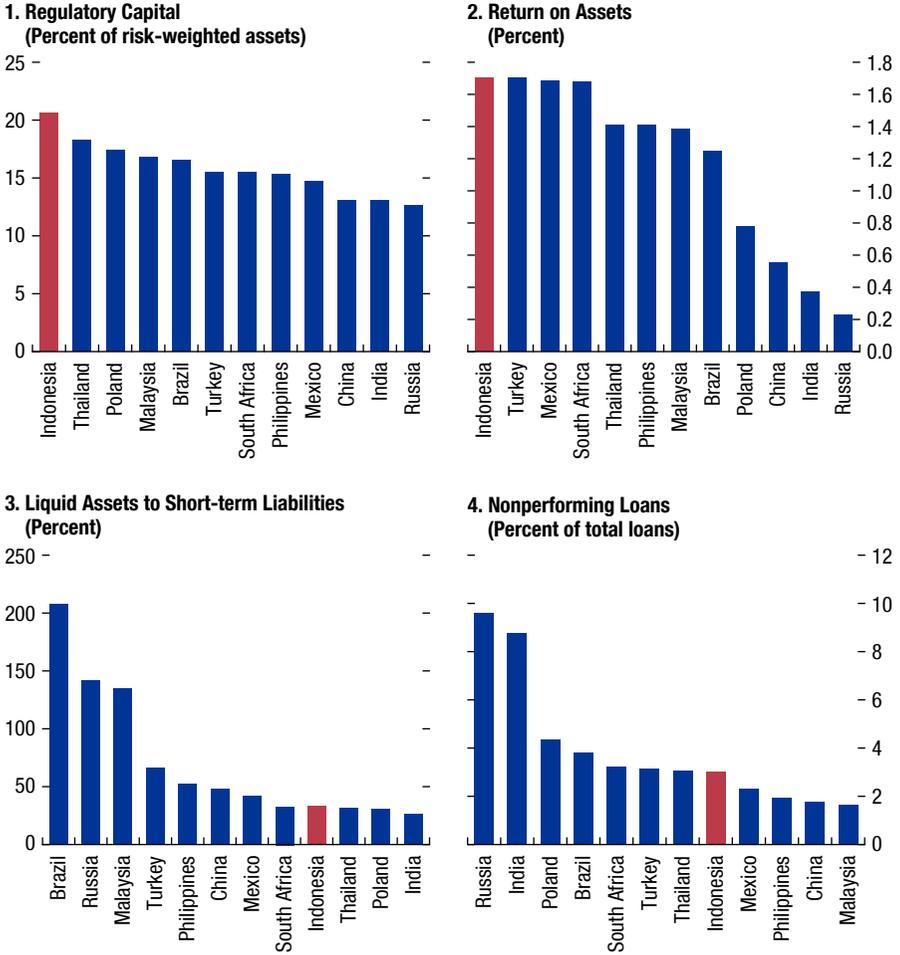
Sources: Bank for International Settlements; and IMF staff calculations.

recently as the economy has slowed; systemwide return on assets was 1.7 percent in the third quarter of 2016, down by 0.5 percentage point from a year earlier.

Capital ratios have risen in recent years and are well above regulatory minimums. Banking system capital equaled 20.6 percent of risk-weighted assets in the third quarter of 2016, almost double the regulatory requirement, and more than 90 percent is in the form of high-quality common equity Tier 1 capital. D-SIBs hold a similar level of capital and, despite being subject to higher regulatory requirements, still enjoy buffers of about 10 percent of risk-weighted assets.

However, asset quality has deteriorated as economic activity has decelerated, and headline numbers may understate the full extent of this deterioration. Nonperforming loans (NPLs) have increased, particularly in the commodity-related and manufacturing sectors, from 1.7 percent in 2013 to 3 percent in late 2016. In addition, special-mention loans have remained high in recent years (about 4 to 5½ percent of total loans), and there has been an increase in restructured loans of about 2½ percent of total loans since June 2015, most of which are not classified as NPLs (Figure 13.4).¹

¹A loan is classified as a “special-mention loan” if the amortization and interest payment is past due but by less than 90 days, and a new loan is defined as “restructured” when it replaces an old loan and is paid over a longer period.

Figure 13.3. Banking Financial Soundness Indicators among Emerging Market Peers

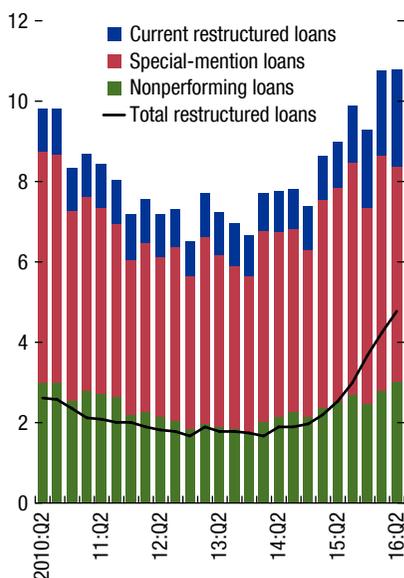
Sources: IMF, Financial Soundness Indicators database; and IMF staff estimates.

Note: Data shown are as of the third quarter of 2016 for all countries, except Brazil (second quarter) and China and Turkey (both first quarter).

Banks' liquidity ratios have been largely stable through the economic and financial cycles. Liquid assets relative to short-term liabilities have fluctuated around 33 percent in recent years with no clear trend. The systemwide loan-to-deposit ratio has also been stable since mid-2013, reflecting banks' reliance on deposits for funding. Structurally, banks rely on short-term deposits for funding; nearly 90 percent of deposits have a maturity of less than 90 days.

There are important differences in financial soundness indicators across banks (Figure 13.5). Larger banks, on average, tend to have lower NPLs and stronger profits, although the profitability of some D-SIBs is relatively low. Liquidity

Figure 13.4. Problem Assets, 2010–16
(Percent of total loans)



Sources: Financial Services Authority (OJK); and IMF staff estimates.

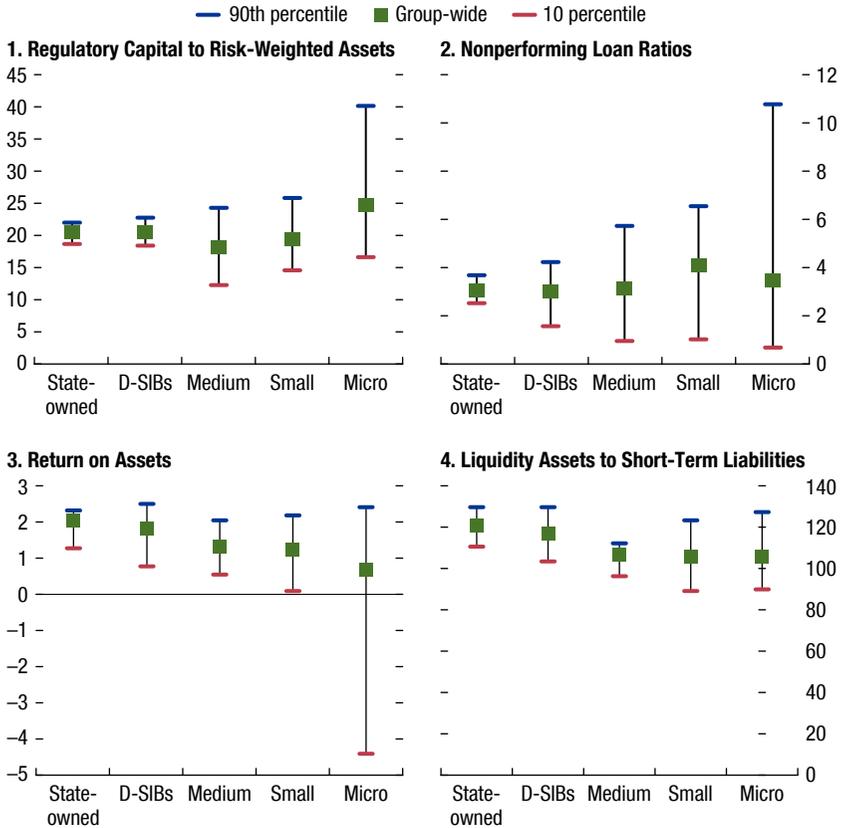
indicators of the larger banks, including state-owned banks, also appear solid, whereas those of smaller banks look weaker on average (with a relatively large dispersion). Overall, the wider dispersion of financial soundness indicators among medium-sized and smaller banks points to potential pockets of vulnerability in those segments.

Corporate vulnerabilities have remained broadly in check, but some risks remain.² Corporate leverage remains moderate, and foreign currency–denominated debt declined slightly in 2016, partly aided by the implementation of BI hedging regulations (Figure 13.6). Profitability has rebounded somewhat, and the share of loss-making firms has declined. Still, important vulnerabilities remain in the form of relatively high debt at risk, particularly in the commodities, construction, and transportation sectors; a high share of foreign currency–denominated debt securities; and an increase in rollover needs in the coming years.

Market data suggest that systemic risk is low. Figure 13.7 shows indexes of systemic risk and their main drivers calculated using market data for 32 financial institutions. While the probability that several financial institutions might experience distress simultaneously has risen recently, the tail risk indicator, which measures the magnitude of the expected losses in the event of distress, has

²See Chapter 12, “Managing Macro-Financial Linkages.”

Figure 13.5. Banking Financial Soundness Indicators, by Group of Banks
(Percent, as of 2016:Q3)



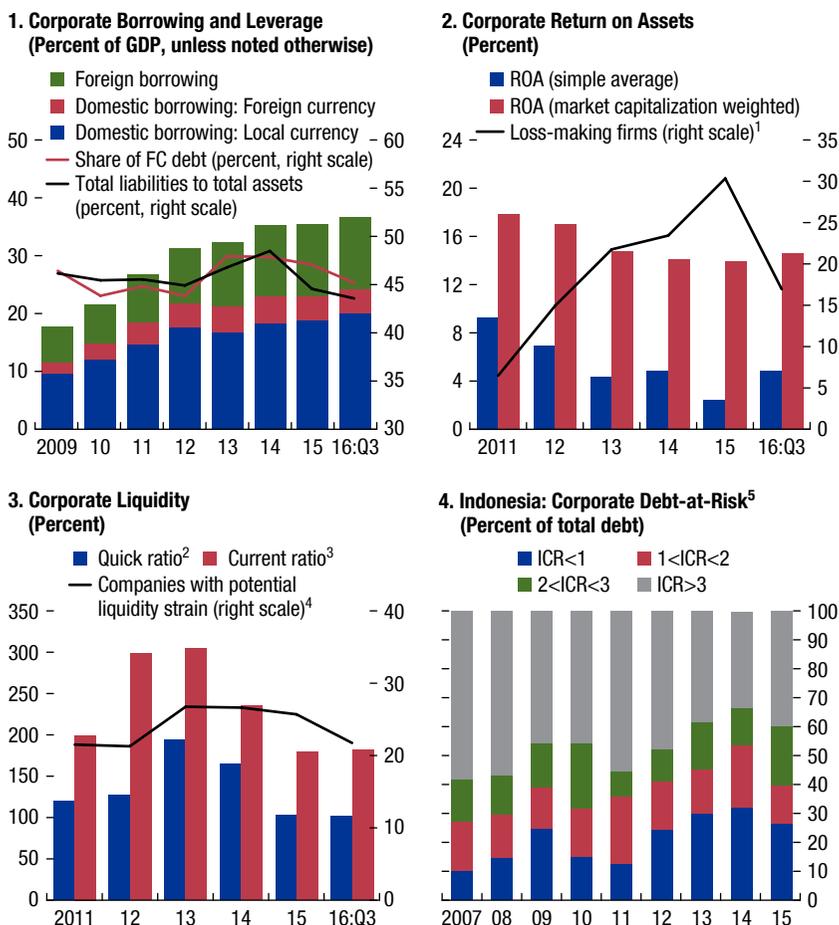
Sources: Bank Indonesia; and IMF staff calculations.

Note: D-SIB = domestic systemically important bank.

remained broadly unchanged at a low level. These findings, which should be interpreted with caution given the shallowness of Indonesia's stock market and the low float rates of some financial institutions' shares, suggest that the financial institutions perceived as experiencing higher levels of stress are the smaller ones.

Large banks are the main drivers of systemic risk, but some appear to play a stabilizing role in periods of stress. The systemic importance of the four largest banks is illustrated by their potential to generate stronger cascade effects (that is, the ability to bring other institutions under distress) than other D-SIBs and nonbanks in absolute terms. While most banks' contributions to systemic risk are in line with their size, the contributions of the four largest banks to systemic risk are smaller than their sizes, suggesting that they tend to mitigate rather than amplify risks in times of stress. Spillovers from nonbanks to banks, although increasing over time, remain limited.

Figure 13.6. Indonesia: Corporate Sector Performance



Sources: Bloomberg L.P.; CEIC Data Co. Ltd.; Orbis database; and IMF staff estimates.

Note: FC = foreign currency; ROA = return on assets.

¹Percent of assets.

²Quick ratio = (Cash + Marketable Securities + Accounts Receivable)/Current Liabilities × 100.

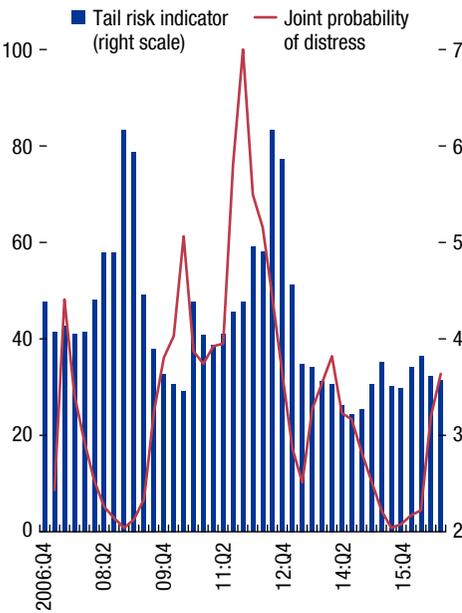
³The ratio of current assets to current liabilities.

⁴Percent of assets with the current ratio less than 100.

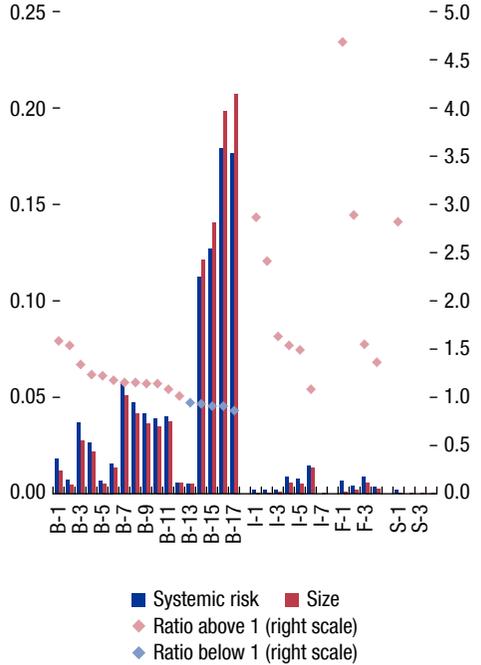
⁵Interest Coverage Ratio (ICR) = Earnings before Interest and Taxes (EBIT)/Interest Expenses.

Figure 13.7. A Bird's-Eye View of Systemic Risk

1. Joint Probability of Distress and Tail Risk Indicator



2. Marginal Contribution to Systemic Risk, December 2016 (Sum of each institution's share = 1)



Sources: Bloomberg L.P.; Moody's KMV; and IMF staff estimates.

Note: Joint probability of distress is the probability that all institutions will become distressed (2011:Q4 = 100). Tail risk indicator measures the amount of expected loss at the 99.9th percentile tail risk (in percent of total assets). The analysis is based on the "Surveillance of Systemic Risk and Interconnectedness" approach. See Segoviano and Goodhart 2009 and IMF 2016. The sample comprises 17 banks, 7 insurance companies, 4 finance companies, and 4 securities or investment companies

THE BANKING SECTOR'S RESILIENCE TO SHOCKS

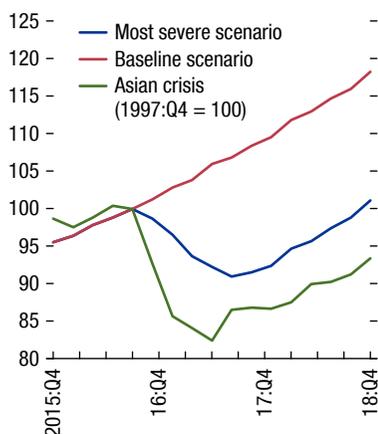
The banking system appears broadly resilient to shocks even under a very severe macroeconomic scenario (Box 13.1). The stress test results presented in Figure 13.8 are based on a severe scenario in which real GDP deviates by 17 percentage points from the baseline by 2018 (equal to 2.4 standard deviations). Under this scenario, and as analyzed later, the corporate sector would experience significant stress and contribute to an increase in the NPL ratio to almost 19 percent in 2018. The banking system would experience sizable losses (13 percent of risk-weighted assets), driven by credit losses. Thirty-eight banks accounting for a third of banking system assets would fail to meet the hurdles (minimum capital requirements, and Pillar II and D-SIB surcharges, as

Box 13.1. FSAP Stress Test Scenarios

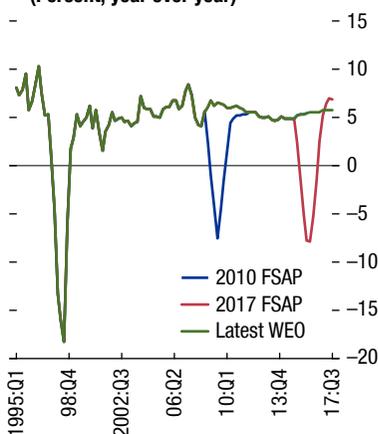
The 2017 Financial Sector Assessment Program (FSAP) analysis of financial sector resilience focused on banks, given their dominant role in the financial system, and it was underpinned by three adverse macroeconomic scenarios. The scenarios are driven mainly by external shocks that may affect the Indonesian economy through cross-border trade and banking links and international financial markets, and the shocks are amplified by domestic structural factors (particularly shallow capital markets with a strong presence of large foreign investors) and existing vulnerabilities, such as weak corporate balance sheets and banks' reliance on short-term deposits. Initial stress could spread through contagion across banks, which would face liquidity stress as a result of withdrawals of retail and wholesale funding. Capital outflows would amplify stress through currency depreciation. In the most severe scenario, real GDP would deviate by 17 percentage points from the baseline by 2018 (Figure 13.1.1).

Figure 13.1.1. Macrofinancial Scenarios for the Risk Analysis

1. Real GDP under Scenarios, 2015–19 (2016:Q4 = 100)



2. Real GDP Growth under FSAP's Most Severe Scenario (Percent, year over year)



Sources: IMF, World Economic Outlook database; and IMF staff estimates.

Note: The baseline scenario is based on October 2016 *World Economic Outlook* (WEO) projections. The adverse scenarios are simulated using the Global Macrofinancial Model (Vitek 2015). FSAP = Financial Sector Assessment Program.

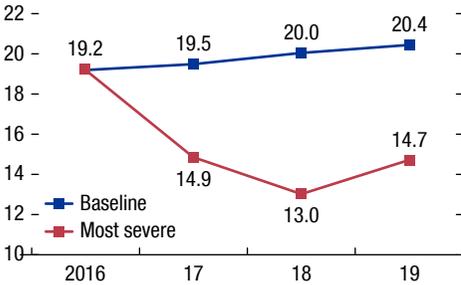
relevant).³ However, the aggregate capital shortfall would be relatively small at 0.7 percent of GDP.

These results are, however, sensitive to the stress tests' concept of problem loans and the assumption about net interest rate margins. As mentioned earlier, headline

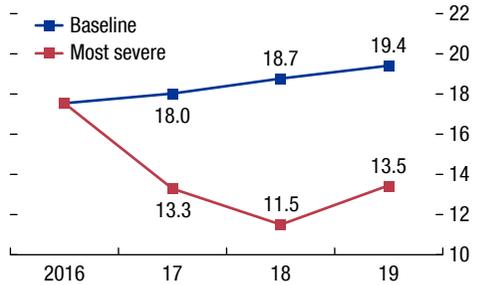
³Under Basel Core Principles for Effective Banking Supervision, Pillar II, supervisors can require banks to hold additional capital if they are not satisfied with results of a bank's own risk assessment and internal capital allocation process, complementing Pillar I (minimum capital requirements) in achieving a level of capital commensurate with a bank's overall risk profile.

Figure 13.8. Solvency Stress Test Results

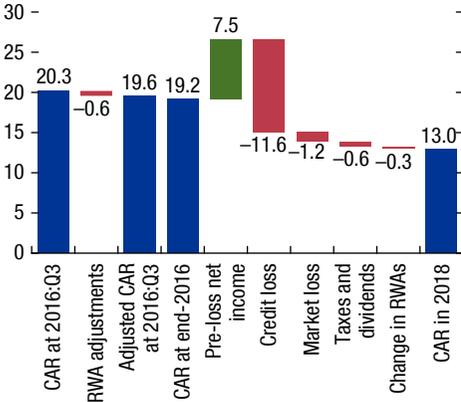
1. Total Capital Adequacy Ratio (Percent)



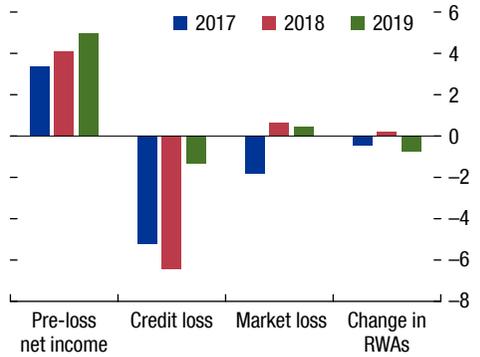
2. CET1 Capital Adequacy Ratio (Percent)



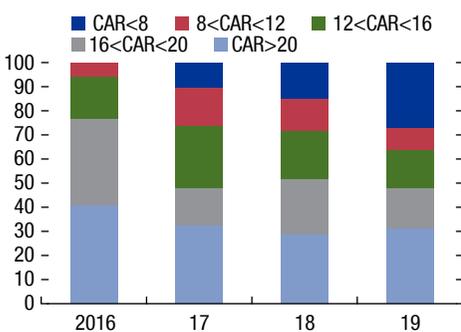
3. Contribution to Changes in Total Capital Adequacy Ratio: Most Severe Scenario (Percent)



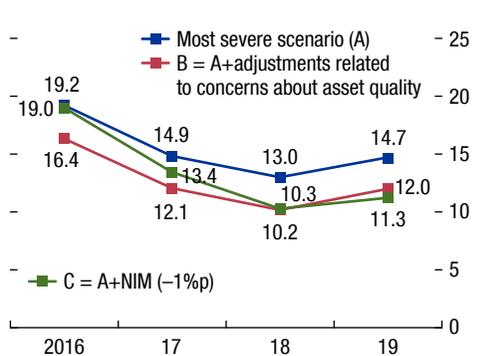
4. Contribution to Changes in Total Capital Adequacy Ratio by Segments: Most Severe Scenario (Percentage points of total CAR)



5. Distribution of Capital Adequacy Ratio: Most Severe Scenario (Percent of banks)



6. Total Capital Adequacy Ratio: Most Severe Scenario (Percent)



Source: IMF staff estimates.

Note: CAR = capital adequacy ratio; CET1 = common equity Tier 1; NIM = net interest margin; RWA = risk-weighted asset.

NPLs may understate the extent of asset quality deterioration. Under an additional test (Table 13.3), which assumes that all restructured loans not classified as NPLs, as well as all special-mention loans, become NPLs, and brings the loan-loss reserve coverage of loans to the high level observed in 2009, eight more banks would fail to meet the hurdles, and the capital shortfall would increase from 0.7 to 1.3 percent of GDP. Furthermore, to test the sensitivity of the results to the assumption of continued high net interest margins, a second test assumes these margins narrow by 100 basis points throughout the forecast horizon. In this test, 12 additional banks (added to the 38 in the previous paragraph) would fail to meet the hurdles, bringing the overall capital shortfall from 0.7 to 1.2 percent of GDP.

Although liquidity is ample at the systemwide level, stress tests show that many banks may experience liquidity shortfalls, including in foreign currency (Table 13.4). Banks exhibit important differences in their capacity to withstand significant liquidity shocks. The simplified liquidity coverage analysis, which covers all banks, shows that in a severe scenario many banks (most of them small) would face difficulties meeting a deposit withdrawal of 30 percent (comparable to the most severe idiosyncratic shocks experienced by some parts of the banking system over the past decade), but the aggregate liquidity shortfall would be small (5 percent of system assets). D-SIBs, for which three liquidity tests were conducted, would be able to manage overall liquidity stress, but their foreign currency liquidity buffers may not be sufficiently large. Nonetheless, the aggregate foreign currency liquidity shortfall under stress would represent only 2.7 percent of system assets, or only about 6 percent of BI's foreign currency reserves.

Domestic contagion through interbank or common exposures is limited. On the basis of the interbank network analysis, the hypothetical failure of a large bank would have a limited impact on other banks. When credit losses related to interbank exposures are incorporated into the solvency stress test (the most severe scenario), the additional reduction in the total capital ratio is about 0.3 percentage point in 2018 (Figure 13.9). The banking system does not appear to be vulnerable to common exposures.

Corporate stress tests show that the sector would experience significant distress in an adverse scenario.⁴ Under the most severe scenario, the median default probability could rise above the levels observed during the global financial crisis (Figure 13.10). As in the bank stress tests, heightened financial volatility together with a decline in economic activity would have an adverse effect on corporations.

Overall, the banking system appears generally resilient under extreme events. Solvency resilience comes mostly from banks' high capital and strong profitability, which allow them to absorb sizable credit and market losses. Although aggregate capital shortfalls relative to the hurdles appear manageable, many banks (including some D-SIBs) would experience a significant reduction in capital, which could trigger a broad-based credit crunch if banks were to deleverage aggressively to rebuild capital buffers. Under the most severe liquidity stress test, many (mostly smaller) banks may not have sufficient liquidity to meet potential deposit

⁴See Chapter 12.

TABLE 13.3.

Sensitivity Test Results

	Banks That Would Fail to Meet Hurdle									
	Most Severe Scenario				Scenario + Adjustment Related to Concerns about Asset Quality				Scenario + NIM (-1%p)	
	Share of Assets in Each Group (Percent)	Share of Assets in the System (Percent)	Capital Shortfall (Percent of GDP)	Share of Assets in Each Group (Percent)	Share of Assets in the System (Percent)	Capital Shortfall (Percent of GDP)	Share of Assets in Each Group (Percent)	Share of Assets in the System (Percent)	Capital Shortfall (Percent of GDP)	Share of Assets in the System (Percent)
Total	34.2	34.2	0.7	37.7	37.7	1.3	51.0	51.0	1.2	51.0
D-SIBs	34.9	22.7	0.4	34.9	22.7	0.7	56.1	36.5	0.7	36.5
Medium-sized banks	30.9	6.1	0.1	40.2	7.9	0.3	37.6	7.4	0.2	7.4
Small banks	39.8	4.7	0.1	51.2	6.0	0.3	50.8	6.0	0.2	6.0
Micro banks	20.8	0.7	0.0	30.6	1.0	0.1	32.5	1.1	0.0	1.1

Source: IMF staff estimates.

Note: D-SIBs = domestic systemically important banks; NIM = net interest margin.

TABLE 13.4.

	Liquidity Stress Test Results ¹					
	Banks with Inadequate Liquidity Buffers (Percent of banking system total assets)			Liquidity Shortfalls (Percent of total assets in each category)		
	Rupiah	FX	Overall	Rupiah	FX	Overall
Simplified liquidity coverage analysis						
Total	62.8	66.9	52.3	-3.1	-2.7	-5.2
D-SIBs	39.4	39.5	28.1	-1.0	-2.2	-2.8
Medium-sized banks	15.7	15.8	15.5	-8.2	-2.9	-10.6
Small banks	5.9	9.3	6.6	-4.7	-4.7	-7.9
Micro banks	1.7	2.4	2.0	-9.0	-3.0	-11.2
Banks subject to the LCR Requirement	55.9	55.3	45.1	-2.8	-2.6	-4.9
Cash-flows-based analysis²						
D-SIBs	0.0	46.5	16.6	0.0	-2.8	-0.3
LCR-based analysis						
Total	...	...	9.1	...	...	-0.5
D-SIBs	...	...	5.0	...	...	-0.3

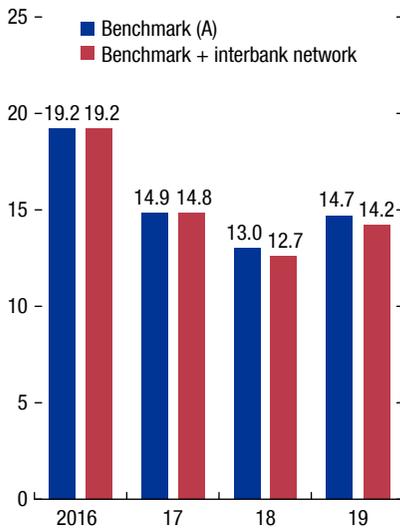
Source: IMF staff estimates.

Note: D-SIBs = domestic systemically important banks; FX = foreign currency; LCR = liquidity coverage ratio.

¹The Financial Sector Assessment Program conducted three liquidity tests. The cash-flows-based analysis, the most sophisticated test, captures all cash inflows and outflows. The LCR-based test, while accounting for some cash inflows, focuses on cash outflows based on overall liquidity with no currency differentiation up to 30 days. The simplified liquidity coverage analysis, which demands the least amount of data and could thus be carried out for all banks, considers only cash outflows as a proportion of outstanding liabilities.

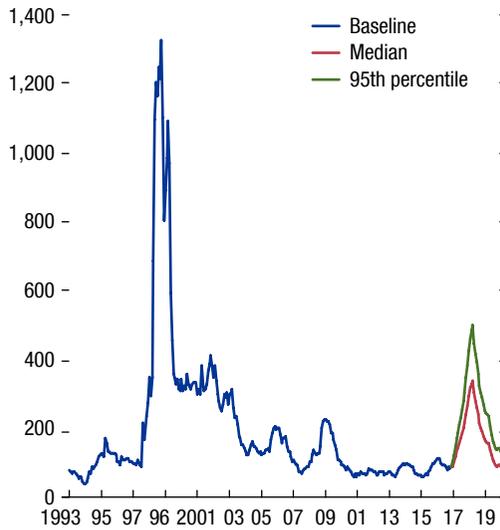
²Up to a six-month horizon.

**Figure 13.9. Capital Adequacy Ratio
(Percent)**



Source: IMF staff calculations.

Figure 13.10. Corporate Probability of Default
(Basis points)



Sources: National University of Singapore; and IMF staff estimates.

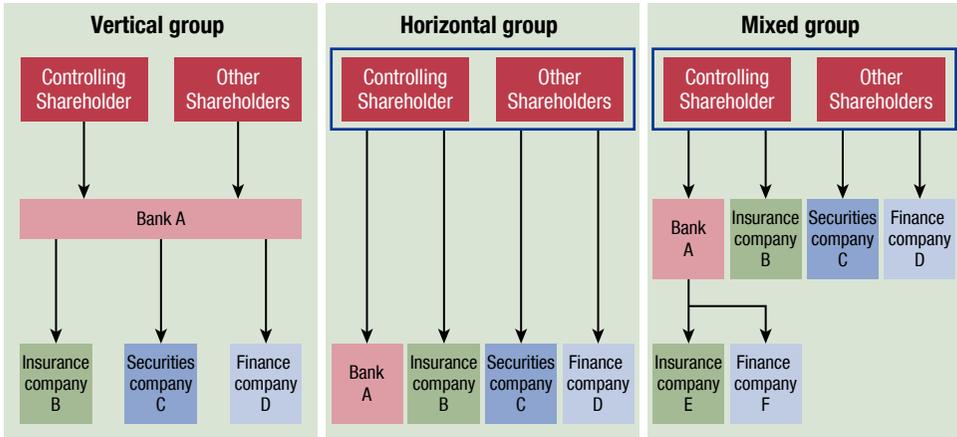
outflows, but it is reassuring that the tests show that the needed amounts, including in foreign currency, are manageable. Still, to contain liquidity risk, the authorities should consider introducing a liquidity coverage ratio requirement for significant currencies. The authorities should also induce smaller banks to strengthen liquidity risk management capacity.

However, it will be important for the authorities to continue strengthening their capacity to monitor systemic risk. BI should continue strengthening its capacity to conduct systemic risk analyses, and the Financial Services Authority (OJK) should further strengthen the analytical basis of its supervisory stress tests. For stress tests, key priority areas are (1) strengthening data management systems to improve the timeliness of the exercises, (2) adapting the stress testing models to an expected-loss approach, (3) continuing to strengthen the liquidity stress testing framework, and (4) further improving monitoring of the corporate sector, especially nonlisted subsidiaries of conglomerates.

FINANCIAL SECTOR OVERSIGHT

Main Institutional Challenges

Indonesian authorities have made important changes in the supervisory architecture since the 2010 FSAP. In 2011, OJK was established as an integrated regulator to oversee the entire financial sector. OJK assumed oversight responsibilities over capital markets and NBFIs at the end of 2012, and over banks at the end of 2013;

Figure 13.11. Types of Financial Conglomerates

Source: Financial Services Authority (OJK).

these responsibilities were previously held by Bapepam-LK (the Financial Services Authority of Indonesia) and BI, respectively. As the integrated financial sector supervisor, OJK's responsibilities include prudential and conduct oversight of banks, insurers, pension funds, finance companies, and securities firms. Furthermore, since the last FSAP, Basel III implementation has begun, a new insurance law has been adopted, and supervisory practices have been strengthened across sectors.

The main challenges to effective supervision stem from the complex structure and weak governance practices of financial conglomerates, and the still-evolving organization of OJK. The size, complexity, and diversified activities of financial conglomerates, which span several financial sectors, make them difficult to manage and oversee. Furthermore, although OJK has been making meaningful progress in improving conglomerate supervision, the processes required to assess financial conglomerate risks are still evolving.

The structure of financial conglomerates inhibits OJK's ability to regulate them and understand their risk profile on a groupwide basis. Most conglomerates have a horizontal structure with an unregulated holding company controlling the group (Figure 13.11). The lack of a regulated entity with clear eminence over all the entities that form the conglomerate poses important challenges to consolidated supervision. OJK has been trying to address this problem by nominating a financial institution, usually a bank, as the lead entity of such groups, but this approach has limitations. The lead entity lacks legal authority to impose OJK's regulatory requirements on the group, and company law requirements may hinder information flows. The authorities should consider amending the law to provide OJK, in such cases, the power to require the

Box 13.2. Integrated Corporate Governance in Financial Conglomerates

The Financial Services Authority (OJK) has made progress in promoting good governance in the banking industry. OJK regulations have accomplished the important objective of requiring the boards of commissioners (BoCs) and boards of directors (BoDs) of financial conglomerates to reform how financial conglomerates' risks are governed, measured, and managed. Still, financial conglomerates have a long way to go to effectively implement consistent good governance.

Governance shortcomings remain across several areas. Reputational risks, as well as related-party and intragroup transaction risks, for example, are not well understood in many financial conglomerates, and plans to address these risks remain unclear. Scenario analysis and contingency planning for possible business interruption or failure in the group are also not well developed. Such analysis and planning are key for complex financial conglomerates. Also, financial conglomerates should consider how the financial arm of the group, or surviving companies, would respond and be safeguarded in case of failure of another entity.

These challenges are compounded by weaknesses in the legal framework:

- *Lack of regulated holding companies:* The lack of a regulated entity with clear legal eminence over all the other financial institutions that form the conglomerate hinders the implementation of groupwide policies, creating challenges not only for supervisors but also for managers.
- *Blurred roles of administrative bodies:* The legal framework for companies introduces challenges regarding the responsibility and accountability of the administrative bodies (that is, BoCs, BoDs, and shareholders) with the effect that their roles are blurred.

Specifically, the Company Law (No. 40 of 2007) restricts the BoC's authority to appoint the BoD, to approve and supervise key BoD decisions, and to hold the BoD accountable. Although the law defines the duties of BoD and BoC members, in practice the role of BoCs is not in line with international best practices, particularly regarding the nomination, choice, and performance evaluation of members of the BoD as well as holding the BoD accountable for the prudent day-to-day management of the entity.

It is important to note that risk management functions and the internal auditor formally report to both the BoD and the BoC, but in practice their relationships are stronger with the BoD than with the BoC. This compromises the independence of critical control functions and undermines the BoC's ability to independently evaluate management performance and be apprised of risk issues. Consequently, the capacity of both OJK and the financial conglomerate itself to ensure consistent groupwide oversight and risk management is further diminished.

establishment of, and to license and supervise, a nonoperating financial holding company above the financial institutions to give it supervisory reach over the financial group.

Weak governance within financial conglomerates further complicates the supervisors' task (Box 13.2). Despite the adoption of regulation establishing a minimum corporate governance framework for financial conglomerates and subjecting the entities to integrated risk and capital management, conglomerates do not yet have effective groupwide risk management structures. Also, the legal framework blurs the roles of the boards of commissioners (BoC) and boards of

directors (BoD) of companies, thus weakening the responsibility and accountability of these bodies.⁵ In practice, BoCs do not seem to be charged with or have the capacity to oversee the risk management framework. It would be important to elevate and strengthen corporate governance practices within the financial system, including the BoCs' oversight roles and responsibilities. Financial conglomerates should be required to create plans to ensure integrated governance, risk management, and capital management across the group.

OJK has made good progress toward integrated supervision, but transition challenges remain. OJK successfully managed the initial settling-in period and avoided the loss of supervisory continuity and the culture clashes that can weaken supervisory efforts in transitions to integrated supervision. However, OJK lost one-third of its bank supervisors because they exercised the option of returning to BI at the end of 2016, and although OJK has been proactively recruiting staff with industry experience, the departures suggest a loss of important human resources. Furthermore, the current overlap in supervisory activities among OJK, BI, and the Indonesia Deposit Insurance Corporation (Lembaga Penjamin Simpanan, LPS) risks straining resources and blurring accountability lines. Also, agreement across agencies on supervisory data management and sharing is important for effective oversight.

To become a more effective integrated supervisor, OJK needs to address the silos in its organizational and governance structure. Although OJK has aimed at developing an integrated supervisory approach, supervision is still effectively undertaken separately for banks, NBFIs, and securities, and this practice is rooted in the Law of the Republic of Indonesia Concerning Deposit Insurance Corporation, No. 24 of 2004 (OJK Law), which gives responsibility for these three sectors to three different commissioners. This approach shapes the organization of the agency, so that activities such as regulation, licensing, and supervisory framework development are performed mostly independently for banks and NBFIs. To become a more effective integrated supervisor, OJK needs to develop a supervisory approach that penetrates the structure of financial entities. Fulfilling this objective and providing greater organizational flexibility require the removal of the responsibilities of individual commissioners for the supervision of specific sectors and the creation of cross-sector teams, harmonized regulations, and integrated supervisory processes that treat similar risks in a similar manner across sectors.

A clearer mandate for OJK and strengthened legal protection would help ensure timely supervisory action. OJK's mandate and practices place priorities on macroeconomic management, financial development, and financial stability goals. Financial sector supervisors should have financial stability clearly established as their primary goal to ensure timely action when needed. Moreover,

⁵The BoD is the organ responsible for managing the day-to-day operations of a company, thus akin to senior management. The BoC is the organ responsible for supervising the BoD in performing its duties and responsibilities.

inadequate legal protection of OJK and its staff undermines conditions for effective supervision. Revising the OJK Law to establish financial stability as OJK's primary goal and to improve legal protection of supervisors in line with global standards would be important.

Sectoral Supervision

Banks

Progress has been mixed in implementing the recommendations of the 2010 FSAP on banking supervision. Important regulatory improvements include implementation of Basel III and a new set of regulations to improve risk management and corporate governance. Nevertheless, recommendations on issues such as related-party exposures, asset classification and provisioning regulation, legal protection of supervisors, and interest rate risk in the banking book were only partially implemented.

Although OJK's supervisory approach is broadly adequate, further improvements are needed in the following key areas:

- *Intensity of supervision:* There is scope for supervisors to further enforce regulations by more consistently and rigorously challenging industry practices in areas such as risk management, corporate governance, the credit classification process, and capital adequacy.
- *Holistic view of risk management controls:* In some cases, the results of supervisory reviews of the effectiveness of a bank's risk control systems are not adequately integrated into the conclusions about the adequacy of the control environment and the ability of the BoC and BoD to effectively oversee their firm's operations.
- *Validation of banks' supervisory information:* The processes that generate such information should be more regularly reviewed during on-site examinations, and the information and risk control process should be explicitly tested and validated. The results of such testing and validation should feed into the supervisor's assessment of the adequacy of corporate governance oversight and the supervisory strategy for the institution.
- *Focus of supervisory examinations:* Examinations are not always clearly linked to the key risks identified in the risk assessment and do not consistently evaluate the bank's ability to identify and address emerging risks.

Regulations on credit risk are appropriate, but implementation and enforcement need to be strengthened. OJK regulations require banks to have all the elements of a sound risk management system. Nevertheless, review of banks' implementation of the regulations revealed shortcomings such as inadequate oversight by the BoC and weaknesses in the assessment of the accuracy and integrity of credit-quality reports generated by business lines. In this regard, the functional and organizational position of credit risk management in banks needs to be strengthened to guarantee accurate loan classification and provisioning. These shortcomings raise concerns about the accuracy of the current headline NPL

numbers and the appropriate classification of the increased amount of restructured loans. Against this backdrop, the authorities should closely monitor restructured and special-mention loans and their proper classification to guard against evergreening.

Insurance

Insurance regulation and supervision have improved since the establishment of OJK and the enactment of the new Insurance Law in 2014. OJK has gradually introduced risk-based supervision through active use of its supervisory powers, and it has taken decisive actions against several insurers with material deficits. OJK has also enhanced regulations for corporate governance and risk management (see the “Report on the Observance of Standards and Codes: International Association of Insurance Supervisors [IAIS] Core Principles for Effective Supervision” in Annex I of the IMF Financial System Stability Assessment).

However, important weaknesses remain, particularly in the regulation and supervision of insurance companies that belong to financial conglomerates. Some deficiencies are due to the lack of effective group regulation and supervision of insurance groups discussed earlier. Given the interconnectedness and contagion risks through conglomerates and domestic reinsurance programs, enhancing macroprudential surveillance by integrating conglomerate analysis would be important. Also, a more comprehensive consideration of intragroup transactions would help preclude possible double gearing within financial conglomerates. Furthermore, OJK's supervisory capacity would be strengthened by addressing skills shortages in some areas, such as actuarial assessments. In addition, the supervisory framework should allow for corrective measures to be required more promptly and to ensure timely supervisory actions more broadly. Last, suspending mark-to-market valuation, as the authorities did in 2015 for some companies, should be allowed only under extreme conditions and should be accompanied by enhanced oversight. The authorities are encouraged to review what was done and develop strict criteria for suspension of mark-to-market valuation to strengthen credibility and certainty in the marketplace.

Macroprudential Oversight

The current macroprudential policy framework is broadly adequate, but some aspects need to be strengthened. The current setup derives from the OJK Law of 2011, which makes BI responsible for macroprudential policy. BI has (1) issued regulations to guide macroprudential policy; (2) made organizational changes, including creating a macroprudential policy department; (3) developed analytical tools to assess systemic risk; and (4) introduced macroprudential instruments, such as limits on loan-to-value ratios and on loan-to-funding-ratio-linked reserve requirements, over which it has direct control by regulation. It recently introduced a countercyclical capital buffer on banks, with value currently set at zero, in line with credit developments. However, the framework has shortcomings. It is important to note that the

Bank Indonesia Law (BI Law) should be amended to include a macroprudential mandate focused on systemic risk and covering the entire financial system, not just banks. Provisions should be made to grant BI access to the nonbank financial data needed for systemic risk monitoring.

Close cooperation between BI and OJK is important. BI and OJK currently coordinate their operations in the context of a technical micro-macroprudential forum. Effective coordination between BI and OJK is required to ensure that the implementation of each institution's respective mandate and tools does not lead to conflicting or counterproductive policies. To this end, BI and OJK should finalize the operating procedures for implementing their respective tasks and should enhance coordination. Over the medium term, the authorities should consider elevating the micro-macroprudential forum to a policy-level forum. BI would be responsible for providing regular assessments of systemic risks, proposing macroprudential policy actions, and reporting to the Financial System Stability Committee (KSSK) periodically on macroprudential issues.

Financial Integrity

The authorities have made substantial progress in addressing deficiencies in the Anti-Money Laundering/Combating the Financing of Terrorism (AML/CFT) laws identified in the 2008 Mutual Evaluation Report of the Asia/Pacific Group on Money Laundering (APG 2008). Amendments to the anti-money laundering law in 2010 and passage of the combating the financing of terrorism law in 2013 broadly addressed key deficiencies, including by criminalizing money laundering and terrorism financing in line with the revised Financial Action Task Force (FATF) standard, and extending AML/CFT requirements to money value transfer services (including remittances service providers). New procedures for freezing terrorist assets under United Nations Security Council resolutions contributed to Indonesia's exit from FATF monitoring in 2015. The authorities also completed a comprehensive national risk assessment of money laundering and terrorism financing in 2015 with broad participation from relevant stakeholders, and co-led a multicountry risk assessment on terrorism financing for the southeast Asian region. The Asia/Pacific Group on Money Laundering assessed Indonesia's AML/CFT regime in November 2017.

However, some shortcomings remain, including aligning the AML/CFT framework more closely with the revised FATF standard. Specifically, AML/CFT supervision should be conducted on a risk basis, and relevant agencies need to align their AML/CFT priorities with the identified money laundering and terrorism financing risks. The authorities should enhance the capabilities of law enforcement agencies to conduct financial investigations and strengthen mechanisms for exchanging information with foreign counterparts. The authorities are also encouraged to introduce a legal requirement for reporting entities to identify, assess, and understand their broader money laundering and terrorism financing risks. Last, the targeted financial sanctions regime against terrorism and terrorism financing should be implemented without delay.

FINANCIAL SAFETY NET AND CRISIS MANAGEMENT

Institutional Setting

The authorities have revamped the framework for crisis management and resolution. In 2016, Parliament approved the PPKSK Law, which clarifies the responsibilities of the agencies involved in crisis management. It also establishes the KSSK, composed of the finance minister (coordinator) and the heads of BI, OJK, and the LPS (as a nonvoting member). The KSSK has responsibility for, among other matters, determining and coordinating the response to the distress or failure of a D-SIB and to systemic banking crises, and recommending to the president of Indonesia that a status of financial system crisis be declared that, in turn, would open up a wider range of resolution powers (particularly bail-in). The framework is still a work in progress, and at the time of the 2017 FSAP the authorities were working on regulations required under the new law, including on emergency liquidity assistance (ELA), recovery planning, systemic bank resolution, the Bank Restructuring Program, and nonsystemic bank resolution.

The new framework is a substantial improvement over previous arrangements but requires important adjustments to support its effectiveness in crisis management and resolution. To this end, the framework should be better aligned with international principles (particularly the Financial Stability Board Key Attributes of Effective Resolution Regimes for Financial Institutions):

- *Mandates:* The agencies involved in crisis management and resolution should have strong and clear financial stability mandates established in their respective laws. To this end, the OJK Law should give unambiguous primacy to OJK's financial stability objective (consistent with the PPKSK Law); the LPS Law should specify more clearly LPS's statutory objectives, focusing on the maintenance of financial stability and continuity of critical functions, protection of insured depositors, and minimization of the costs associated with resolution; and the BI Law should include financial stability assessment and macroprudential policy as part of BI's mandates.
- *Legal protection:* Inadequate legal protection creates a risk that crisis management decisions will be delayed or even avoided because of concerns over potential liability. Although the PPKSK Law has strengthened legal protection across the agencies involved in crisis management, further strengthening is needed, including in the relevant agencies' laws, to provide legal protection to the extent advocated in the Financial Stability Board Key Attributes of Effective Resolution Regimes for Financial Institutions, the Basel Core Principles for Effective Banking Supervision, and the Insurance Core Principles. The main shortcomings in the PPKSK Law are that the test for legal protection is "misuse of authority" rather than "good faith," that it applies only to actions taken in situations of near crisis or crisis, and that it does not extend to the institution itself and persons acting on its behalf.
- *Role of the KSSK:* It appears that not only is the KSSK a coordinating body, but it also has the role of designing the resolution strategy and guiding and directing member agencies in their implementation of that strategy. This

creates a risk of diluted responsibility and accountability for each agency and the potential for delays in decision making. It is recommended that the PPKSK Law be amended to limit the role of the KSSK to solely that of a coordinating body, removing its power to direct member agencies in their respective areas of responsibility. It would also be desirable to set out more detailed guidance on the role of the KSSK and each agency in a decree, as the authorities have proposed.

- *Role of the president:* The PPKSK Law gives an important role to the president of Indonesia in crisis management. The president, on the KSSK's recommendation, decides whether Indonesia is experiencing a financial system crisis and whether the LPS should be allowed to use a broader set of resolution tools. Involvement of the president risks diluting the responsibility of the LPS and the KSSK to deal swiftly and effectively with resolution issues and could also create a risk of politicizing resolution decisions. Thus, the authorities should consider revising the PPKSK Law to focus the role of the president on decisions on the use of public funding (as discussed later).

Crisis Management and Resolution

OJK is able to respond promptly to emerging stress, and it has new powers to implement regulations for D-SIB recovery planning. OJK has many of the elements needed to respond promptly to emerging stress in banks, insurers, and financial market infrastructure (central clearing counterparties and custodians), including a range of corrective action powers. It has developed early warning indicators to detect emerging stress in banks and, to some degree, insurers and financial market infrastructure. Refinement of this framework would include further integrating early warning indicators into corrective action frameworks and extending them to financial conglomerates. Furthermore, as required by the PPKSK Law, OJK has implemented the regulation on recovery planning for D-SIBs. Over the medium term, it would be important to extend such planning to financial conglomerates and medium-sized banks and, in the longer term, also to large and medium-sized insurers, financial market infrastructure, and remaining banks.

The LPS has many of the powers needed for the resolution of banks, but the framework can be improved in several areas. The PPKSK Law and the LPS Law should specify triggers for invoking resolution, empower LPS to require banks to implement changes to facilitate resolution in accordance with resolution plans, and enable LPS to apply a bail-in without presidential approval. Resolution powers over financial conglomerates also need to be strengthened, and robust safeguards need to be established for the application of resolution powers (including compensation for creditors left worse off than under a winding-up). Moreover, attention needs to be given to the framework for using a bail-in. At present, D-SIBs and medium-sized banks rely on deposits for funding, with only a small amount of market funding that would better support a bail-in. This funding structure and the lack of a clear creditor hierarchy will make bail-ins challenging to implement. The recovery planning regulation for D-SIBs will help reduce this problem by requiring D-SIBs to issue debt capable of a contractual bail-in. Building on this, the authorities will need

to develop guidance on how bail-in powers might be applied in respect of deposits and other instruments without bail-in clauses. More broadly, the authorities should develop guidance on resolution options applicable to banks (differentiating by size as appropriate) and develop policy and operational frameworks for implementing resolvability assessments and resolution plans for D-SIBs.

Safety Nets

Indonesia has an established system of deposit insurance, managed by the LPS, but there is a need to improve the payout process and to reduce the high deposit insurance coverage ceiling. The LPS has the power to make payouts to insured depositors. However, it needs stronger legal and technical capacity to be able to reliably and quickly calculate the eligible amounts for payout and to process the payouts rapidly. Moreover, at Rp 2 billion (about US\$150,000), the deposit insurance limit is excessively high relative to average retail deposits and per capita GDP, giving rise to moral hazard risks and weakening market discipline of banks. The high limit also increases the risk of funding shortfalls relative to LPS obligations and reduces the scope for bail-ins. The FSAP team recommends that the authorities reduce the deposit insurance limit to a level more consistent with international norms while still covering the majority of household deposits.

The authorities should consider changes to the framework for resolution funding of banks. The new crisis management framework rules out the use of public funding in resolution, other than in a limited context related to LPS funding. Instead, the new framework will involve a new LPS-administered funding mechanism (under development) that would be used for systemic bank resolution situations once the bank restructuring program has been triggered and that would be based on a bank levy. While the FSAP team shares the moral hazard concerns that motivated precluding the use of public funds, eliminating this option altogether is overly constraining. Although the development of an industry-financed resolution-funding mechanism is desirable, a public funding mechanism, subject to robust safeguards, recognizes that some systemic bank resolutions could require public funding or the provision of guarantees. The authorities should consider amending the PPKSK Law to allow for the use of public funding in limited circumstances justified by systemic stability considerations and subject to the president's approval and robust safeguards, including preconditions for use and processes for recovery from the banking industry. In addition, to increase the practical feasibility of a levy-funded systemic resolution fund, the PPKSK Law should enable levies to be made on the banking industry to build up a systemic resolution fund without the need for the bank restructuring program to be invoked.

The ELA framework will need to be modified to ensure its effectiveness. An effective ELA framework is important given the liquidity risks discussed earlier. BI can, under the BI Law and the PPKSK Law, provide ELA to any solvent bank, but the criteria for providing liquidity to banks experiencing funding difficulties are too restrictive and risk making the framework ineffective. Consideration needs to be given to changing the ELA eligibility criteria to allow extending emergency lending to a bank that is assessed by OJK as viable even if its capital is temporarily below the minimum requirements. Further work is also needed on

coordination among agencies (OJK, BI, and LPS) on solvency assessment and on eligible collateral to ensure that ELA is practicable when it is likely to be needed. In this connection, the framework should also enable BI, in situations in which it is not satisfied with a bank's solvency and viability, or with the collateral, to request an indemnity from the government, subject to appropriate safeguards.

CONCLUSION

Systemic risk is low in Indonesia, and the banking system appears generally resilient to severe shocks. Market-based indicators point to relatively low levels of systemic risk. Under severe stress test scenarios, banks experience sizable credit losses, particularly from corporate exposures, but high capital and strong profitability help to absorb most of these losses, and the resulting capital shortfalls are modest. Many banks face relatively small shortfalls in liquidity stress tests, including in foreign currency, and these shortfalls appear manageable for BI. Domestic contagion seems limited, although the banking system is exposed to international financial market volatility. Corporate vulnerabilities have remained broadly in check, but risks remain in some sectors, particularly commodity-related ones.

The authorities' ambitious financial sector reform agenda has strengthened financial oversight and crisis management, but further improvements will be needed in several areas:

- *Mandates and legal protection:* The mandates for OJK and BI should be amended to give clear primacy to financial stability over development objectives. Clearer division of labor and responsibilities across agencies would also help reduce redundancies and foster collaboration across agencies. Furthermore, although legal protection for staff, agencies, and contractors involved in oversight and crisis management has been strengthened with recent reforms, it still needs to be brought in line with best international practices.
- *Supervision:* OJK has managed its initial transition period well, but further effort is needed to break internal silos in OJK, which will require a change in the structure of its board of commissioners. OJK also needs to promote a more intrusive supervisory approach across sectors, including rigorous evaluation of financial institutions' risk management and internal audit functions. For effective oversight of financial conglomerates, it needs to be able to oversee conglomerates regardless of their organizational structure. Governance and risk management in financial conglomerates also need to be improved.
- *Crisis management and safety nets:* The new crisis management and resolution framework, particularly creation of the high-level KSSK, is an important improvement. However, the KSSK should focus on coordination, and it should not have the power to direct member agencies in their respective areas of responsibility. Also, the new framework rules out the use of public funding in resolution, which might be overly constraining. Furthermore, the current central role of the president in crisis management risks diluting the responsibility of the relevant agencies in dealing swiftly with resolution and should be narrowed. Last, the ELA framework needs to be adjusted to ensure its effectiveness.

ANNEX 13.1. FINANCIAL SOUNDNESS INDICATORS

ANNEX TABLE 13.1.1.

Financial Soundness Indicators (Percent)							
	2010	2011	2012	2013	2014	2015	2016:Q3
Capital adequacy							
Regulatory capital to risk-weighted assets	16.2	16.1	17.3	19.8	18.7	21.3	20.6
Regulatory tier-1 capital to risk-weighted assets	15.1	14.7	15.7	18.3	17.8	18.8	20.6
Capital to assets	10.7	11.0	12.2	12.5	12.8	13.6	15.0
Large exposures to capital	1.4	0.5	0.5	0.8	1.0	0.4	0.6
Net open position in foreign exchange to capital	3.0	3.0	3.3	1.7	2.4	0.9	1.8
Gross position in financial derivatives to capital	3.8	3.5	3.2	8.7	4.9	5.1	3.8
Asset quality							
Nonperforming loans to total gross loans	2.5	2.1	1.8	1.7	2.1	2.4	3.0
Specific provisions to nonperforming loans	57.1	60.7	52.0	50.9	50.8	51.5	51.8
Nonperforming loans net of provisions to capital	6.1	4.7	4.7	4.6	5.5	5.9	6.1
Sectoral distribution of total loans (percent of total)							
Domestic economy	99.6	99.6	99.6	99.6	99.6	99.5	99.5
Depository institutions	1.4	1.2	1.1	1.3	1.6	1.5	1.4
Other financial institutions	4.4	4.8	4.7	5.0	4.9	4.9	4.5
Nonfinancial corporations	43.5	42.3	43.7	46.1	45.6	47.8	48.2
Other domestic entities	49.6	50.6	46.4	44.6	44.3	44.4	44.4
Earning and profitability							
Return on assets	2.7	2.9	3.1	3.1	2.7	2.2	1.7
Return on equity	25.9	25.4	25.3	24.5	21.3	17.3	11.7
Net interest income to gross income	60.5	59.8	65.0	68.8	69.0	70.3	68.4
Trading income to gross income	4.6	3.5	3.2	3.2	2.7	2.8	4.0
Noninterest expenses to gross income	49.2	49.0	48.8	49.2	50.3	50.0	46.3
Personnel expenses to noninterest expenses	37.3	36.0	40.5	41.3	40.0	40.7	44.4
Liquidity and funding							
Liquidity assets to total assets	27.2	26.2	25.7	23.5	22.9	23.9	22.1
Short-term liabilities to total liabilities	95.2	94.2	80.2	87.9	78.7	78.8	79.5
Liquid assets to short-term liabilities	32.1	31.2	36.4	30.5	33.3	35.0	33.1
Non-interbank loans to customer deposits	81.6	85.5	94.1	100.5	99.9	100.4	99.2
Sensitivity to market risk							
Foreign-currency loans to total loans	15.6	16.6	15.2	17.0	16.3	15.6	14.2
Foreign-currency liabilities to total liabilities	16.5	16.3	18.6	24.4	22.9	24.1	20.5
Exposure to real estate activity							
Real estate loans to total loans	13.8	14.2	13.8	14.3	15.1	15.6	16.2

Sources: Bank Indonesia; IMF, Financial Soundness Indicators database; and IMF staff estimates.

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