

Indonesia: Selected Issues

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INDONESIA

Selected Issues

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Approved by the Asia and Pacific Department

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I. ESTIMATING INDONESIA'S POTENTIAL GROWTH RATE¹

In the recently unveiled Master Plan, the Indonesian government targets a growth rate of 7–8 percent after 2013 and aims to become one of the world's largest economies by 2025. This growth target is much higher than the growth rate achieved in 2006–2010 (5.7 percent) as well as the short-term consensus growth forecast (around 6.4 percent). This study estimated Indonesia's potential growth rate and examined its underlying determinants. According to the growth accounting method, we expect Indonesia's potential growth rate in the baseline scenario to gradually rise to 7 percent, mostly reflecting the increase in capital accumulation and productivity. For a downside scenario, moderate investment growth and slow progress in structural reforms would result in a slower growth rate of about 6 percent. Raising Indonesia's potential growth to 8 percent would require substantial enhancements in capital and efficiency. This implies the need for greater efforts to address many long-standing constraints to growth.

A. Introduction

1. **Potential output provides a useful measure of the productive capacity for an economy and plays an important role in policymaking.** Using growth accounting methods,² we have estimated Indonesia's potential growth rate and decomposed the change in output into the contributions of capital, labor accumulation and the efficiency with which the factors are combined. Estimating potential growth, however, is highly dependent on the quality of underlying data, especially in Indonesia where the economy has been undergoing many structural changes.
2. **Indonesia's potential growth and its main sources have fluctuated in the past two decades.** Prior to the Asian crisis (1991–1997), estimated potential growth was robust at 6.5 percent and predominantly input-driven, specifically by capital accumulation. After becoming negative immediately after the Asian crisis, estimated potential growth recovered to 4 percent during 2000–2005 with productivity gains dominating contributions to growth owing to institutional reforms and growth enhancing policies. Since 2006, potential growth resumed its structural momentum and picked up to around 6 percent, again being driven by higher labor and capital inputs.

¹ Prepared by Sarah Zhou.

² The standard growth accounting approach is extensively used by industrial countries for estimating potential growth and doing cross-country comparisons; and is the chosen approach of the U.S. Congressional Budget Office (CBO), the European Commission, and the OECD. Despite all its flaws, it is a simple and internally consistent intellectual framework for organizing data. And as stated by CBO, is preferable to any of the alternatives so far to gain valuable insights into the process of economic growth.

3. **We estimate Indonesia’s potential growth rate in the baseline scenario to gradually rise to 7 percent, mostly reflecting the increase in capital accumulation and efficiency.** Although the chance of a significant slowdown or reversal in the reform process is minimal, if the pace of progress does not advance, growth would stagnate around 6 percent over the medium term. Alternatively, a bigger than assumed increase in private and foreign investment on improved growth prospects, along with greater public infrastructure spending, and higher productivity growth from faster structural reforms could boost potential growth by 1 percentage point to around 8 percent.

4. **To achieve a higher potential growth rate, Indonesia must try harder to reduce long-standing constraints to growth.** It needs to implement more fundamental reforms to address the key impediments to higher investment and productivity growth. Structural reforms to enhance efficiency and supportive policies to promote infrastructure development will be crucial to translate the current favorable demographic trend and buoyant investment demand to an even higher potential growth rate.

Table I.1. Indonesia: Contribution to Potential Growth Under Three Scenarios, 2016
(In percent)

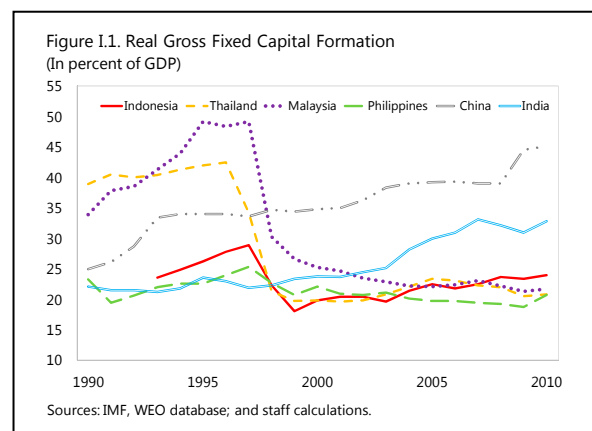
	Delayed Reform	Baseline	Intensive Reform
Potential growth	6.0	7.2	8.2
Capital services	4.4	5.2	5.5
Stock of capital	4.1	4.8	5.2
Capacity utilization	0.3	0.3	0.3
Labor services	1.3	1.4	1.5
1-NAIRU	0.2	0.2	0.3
Labor force participation rate	0.3	0.3	0.4
Average hours worked	0.0	0.0	0.0
Working age population	0.8	0.8	0.8
Total factor productivity	0.2	0.7	1.1

Sources: IMF staff estimates.

B. Determinants of Potential Growth: Capital, Labor and Productivity

Capital and Investment

5. **Capital accumulation is the fundamental determinant of growth.** As a dominant contributor to potential growth, increasing the investment-GDP ratio and/or reducing the relative price of investment goods can speed up the capital stock. It is also clear from Asia’s own experience that capital accumulation has been a key driver of fast growth. Despite an increase from the post-Asian financial crisis low in 1999, the current rate of investment is inadequate to meet official long-term growth objectives. To achieve the similar growth trajectory of China and India, Indonesia would need to boost its investment spending.



6. **Investment returns in Indonesia are expected to be high, supported by favorable terms of trade and strong regional demand for commodities.** Despite some correction during the global crisis, Indonesia enjoyed a sizable gain in its terms of trade (TOT) (of an average about 3 percent over 2002–08). In fact, the favorable TOT in Indonesia is one of the driving factors for the recent investment pick up, especially in the commodity sector where high returns are expected. In a neoclassical model, higher TOT could offset diminishing returns to capital, boosting investment. Moreover, Indonesia’s export destinations have shifted from slow-growing advanced economies to fast-growing emerging market economies like China and other developing Asia countries, which will further boost Indonesia’s investment and growth prospects.



Table I.2. Indonesia: Exports by Destination (In percent of total)

	2006	2010
Singapore	8.86	8.70
United States	11.17	9.06
Euro Area (aggregate)	9.88	9.16
China, P.R.: Mainland	8.27	9.95
Japan	21.55	16.34
Developing Asia	22.90	30.27
Others	25.65	26.48
World	100.00	100.00

Sources: DTTS database; and staff calculations.

7. **A lower cost of capital may further facilitate investment.** Indonesia’s cost of capital is on a structural decline, with a prudent and stable macroeconomic environment leading to an improved credit rating.³ As a result, the credit default swap (CDS) spread has been falling and Indonesia’s long-term government bond yield has also declined remarkably. Improved public finances would also enable the government to undertake a more active role in providing funds to support infrastructure investment.

8. **Pressing infrastructure bottlenecks and a slow pace in improving the investment environment, however, are widely viewed as impeding investment.** Since the Asian crisis, the infrastructure sector has suffered from protracted under investment, leading to inadequate as well as poorer quality infrastructure in Indonesia than in regional peers. In the latest World Economic Forum global competitiveness index (GCI) (2010–11), Indonesia ranks 82 out of 139 economies in infrastructure.⁴ The key issues holding back infrastructure

³ All the three rating agencies (Moody’s, Fitch, and Standard & Poor’s) are now rating Indonesia just one notch below investment grade now. And both Standard and Poor’s and Fitch have positive ratings outlooks.

⁴ Despite notable improvements, its roads and railroads remain in poor condition, and the capacity of seaports remains limited (Geiger, 2011).

spending include land acquisition and funding. Indonesia's infrastructure spending⁵ is considerably lower than China's 10.4 percent of GDP in 2010 and India's 7.5 percent of GDP. This in turn points to a need to speed up reforms such as improving the investment climate and reducing barriers to entry, including barriers to foreign investment in key sectors.

Population and Labor

9. **Endowed with the fourth largest population in the world, Indonesia enjoys favorable demographics.** Indonesia has enjoyed a demographic premium since the 1970s as the dependency ratio has declined. This is likely to continue in the next decade as the working-age population is projected to start peaking and the dependency ratio bottoms out. However, this demographic premium needs to be accompanied by more job creation and better quality education to produce high skilled workers and to productively absorb the additions to the workforce.

10. **Inflexible labor market policies, however, hinder a more productive use of Indonesia's labor and are detrimental to higher long-term growth.** For most emerging market economies with a huge population and a large labor force, the labor constraint is not usually emphasized as restraining growth. That being said, an efficient labor market could boost potential growth through productivity gains. The current labor law was originally introduced to protect formal-sector workers, in the absence of unemployment insurance, through generous severance payments and high minimum wages. However, such protection is a deterrent to hiring workers on formal contracts and encourages informality.⁶ Indonesia ranks a low 84 in this pillar in the *Global Competitive Index (GCI)*, a position that has been continually deteriorating since 2007, when it ranked 34. Indonesia's labor markets now are assessed as less efficient than those of Thailand (24), Vietnam (30), Malaysia (35), and China (38).

11. **Policies that enhance labor force participation would also help employment and boost potential growth.** The participation of women in the labor force remains very low, with a participation rate of 52 percent compared with 86 percent of working age men. Expanded social safety nets and better education and health service would help to increase labor force participation, employment and potential growth.

⁵ Prior to the Asian crisis, total public and private infrastructure spending reached 7 percent of GDP but declined to 2.5 percent in 2000. It has only partially increased since, to around 3.8 percent in 2008.

⁶ The informal sector represents around 70 percent of total employment and women have a higher probability than men to be employed in the informal sector.

Productivity

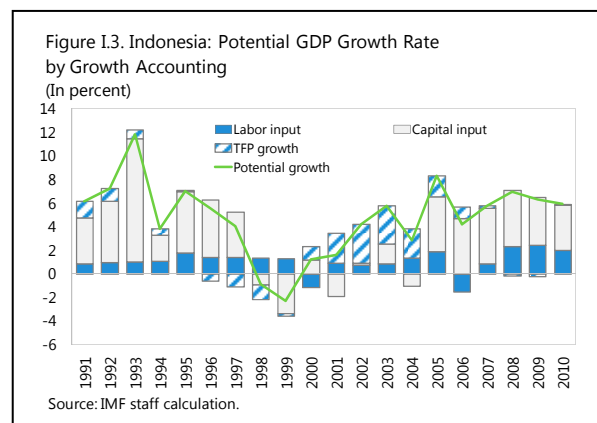
12. **Improvements in efficiency are crucial to increase Indonesia's potential growth.**

Efficiency, or total factor productivity (TFP), is an unexplained residual in the production function. It not only represents a measure of technical progress; it also captures the effects of many other determinants of the efficiency of factor usage: government policy, institutions, structural reforms, etc. It is therefore best interpreted as a measure of gains in the efficiency with which the factor inputs are used. Increasing the factor inputs (capital stock or labor) has a diminishing return. So it is desirable to increase output through improvements in the quality of labor (education), or institutional changes and structural reforms. There are also sizable gains from reforms that allow the existing factors of production to be utilized more effectively. For example, problems with land acquisition in Indonesia has long been viewed as constraining the use of land for more productive uses (such as infrastructure).

13. **Infrastructure, labor and general regulatory reforms are recognized as critical to higher efficiency in Indonesia.** There was a slight drop in Indonesia's ranking in the 2011 Doing Business Report⁷ from 115 in 2010 to 121 in 2011. Indonesian firms are currently constrained by infrastructure bottlenecks, which increasingly affect their efficiency. Indonesia's infrastructure, ranked 82 in the latest GCI, requires improvements across many areas. It is well behind other ASEAN members Singapore (5), Malaysia (30), and Thailand (35), and also less developed than China (50) and India (62). In the latest GCI, Indonesia ranks 98 for the flexibility of wage determination, a sharp drop from 2007. Moreover, Indonesia must continue strengthening its institutional framework (ranks 61).

C. Estimation Results⁸

14. **After falling during the Asian crisis and its immediate aftermath, potential output growth gradually recovered after 2000.** It has been little affected by the global crisis and achieved an average growth rate around 6 percent over 2006–10. Capital accumulation and labor input growth have been the main drivers of potential output during this period. In contrast, gains in TFP accounted



⁷ World Bank (2011).

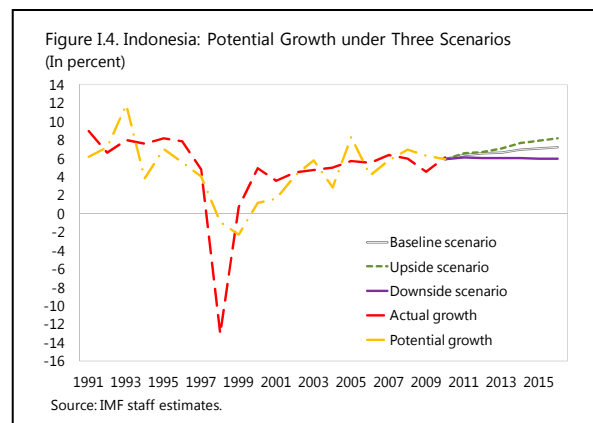
⁸ Descriptions of the model and the detailed path of variables will be included in a forthcoming working paper and are available from the author by request.

for less than 5 percent of potential output growth before the Asian crisis. The TFP component appears to have deteriorated steadily since 2006, contributing only 0.2 percent to growth in the 2006–10 period.

15. **Capital accumulation is the dominating contributor to Indonesia’s growth** (Figure I.3). This was evident even before the Asian crisis. Following the Asia crisis and the decline in the investment, the contribution of capital accumulation, not surprisingly, declined to negative. The contribution of growth in capital has steadily increased over the past five years owing to strong investment growth, especially to the commodity sector.

16. **Various assumptions are necessary to estimate future potential growth. In the baseline, higher investment, employment and efficiency gains can lead to 7 percent growth in the medium term.** Our baseline assumptions include: infrastructure spending will accelerate, easing infrastructure constraints and drive investment growth to 12 percent in 2016; the rate of labor force participation growth is expected to increase moderately because of various structural reforms; the unemployment rate is assumed to come down to 5.0 percent, consistent with the government’s medium term development plan; and TFP is assumed to increase by about three fold from the recent average of 0.2 percent to 0.7 percent. This set of assumptions would lead Indonesia to a higher potential growth rate of around 7 percent by 2016, with the investment to GDP ratio increasing from 24 percent in 2010 to 29 percent in 2016, and labor and capital contributing respectively 1.4 percentage points and 4.4 percentage points to growth.

17. **Both upside and downside risks exist, mainly depending on different assumptions on investment growth and efficiency improvement.** In the “downside” scenario, infrastructure development proceeds slowly and there is little progress with structural reforms compared with the baseline. We take roughly the historical averages for investment and TFP growth and assume the unemployment rate stabilizes at about 6 percent. This produces growth of around 6 percent (roughly in line with the recent trend), with the investment to GDP ratio rising slightly to 26.6 percent in 2016 and the respective growth contributions of labor and capital of 0.9 percentage points and 2.4 percentage points. In the “upside” scenario, most of the infrastructure and other structural reforms are implemented and drives investment growth up to 14 percent and, together with structural reforms, leads to higher TFP growth (1.1 percent) and lower unemployment (4.5 percent). Potential growth



in this scenario would reach 8 percent by 2016, with an investment to GDP ratio of 30 percent, and labor and capital contributing 1.6 percentage points and 5.3 percentage points to growth.

	1991–97	1998–99	2000–05	2006–10	Downside Scenario		Baseline Scenario		Upside Scenario	
					2011–13	2014–16	2011–13	2014–16	2011–13	2014–16
Potential growth	6.5	-1.6	4.0	5.8	6.1	6.0	6.5	7.1	6.8	7.9
Capital services	5.1	-2.1	0.8	4.4	4.4	4.4	4.5	5.0	4.6	5.3
Stock of capital	5.7	-0.6	0.7	4.1	4.1	4.1	4.2	4.7	4.3	5.0
Capacity utilization	-0.5	-1.5	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Labor services	1.2	1.3	0.8	1.2	1.4	1.4	1.5	1.4	1.6	1.6
NAIRU	-0.3	-0.3	-0.4	0.3	0.3	0.2	0.3	0.2	0.4	0.3
Labor force participation rate	-0.1	0.3	0.5	1.0	0.3	0.3	0.4	0.3	0.4	0.4
Average hours worked	0.0	0.0	-0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Working age population	1.6	1.3	0.7	-0.3	0.8	0.8	0.8	0.8	0.8	0.8
Total factor productivity	0.3	-0.7	2.4	0.2	0.2	0.2	0.4	0.7	0.6	1.1

Sources: Statistics Indonesia; Haver Analytics; IMF, WEO database; IMF staff estimates.

D. Conclusions and Policy Implications

18. **According to our estimates, rising investment and productivity would lead to a baseline potential growth rate of 7 percent for Indonesia in the medium term.** The estimates are filled with considerable economic uncertainties: in an upside scenario, we expect Indonesia’s potential growth to gradually rise to around 8 percent—about 1 percentage point higher than the baseline scenario, with the increase mostly reflecting higher capital accumulation, increasing labor participation and productivity. In contrast, slow progress in structural reforms and infrastructure development would reduce the baseline projection by about 1 percentage point, and lead to potential GDP growth remaining around 6 percent.

19. **For Indonesia to achieve the upside scenario, it will need greater efforts to address long-standing constraints to higher investment and efficiency growth.** Indonesia has achieved an impressive growth performance recently as a result of solid fundamentals through prudent macroeconomic policies pursued over the last decade. This study shows, however, that a number of challenges remain, which must be addressed to ensure that Indonesia sustains the current positive momentum and reaches a higher growth path in the future. Ample investment is needed so that growth in the capital stock can contribute to

raising potential growth. Supportive policies for infrastructure development, such as a more effective fiscal policy through improved budget execution would be crucial to this effort.

20. **In sum, Indonesia's outlook for a high and sustainable potential growth appears favorable.** A sound and stable macroeconomic and political environment, together with resilient growth prospects, provide Indonesia a unique opportunity to pursue its reform agenda and achieve higher, sustainable, and more inclusive growth in the medium term. Nevertheless, the pace of structural reforms will have to accelerate considerably to achieve the government's Master Plan targets. Limited progress has been made since 2006 in establishing public private partnerships (PPP) to fund infrastructure investment. In this regard, subsidy reform and revenue mobilization will be needed to provide the fiscal space necessary for higher public infrastructure and act as a catalyst for private investment.

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II. MONETARY OPERATIONS, LIQUIDITY MANAGEMENT AND MONEY MARKET DEVELOPMENT¹

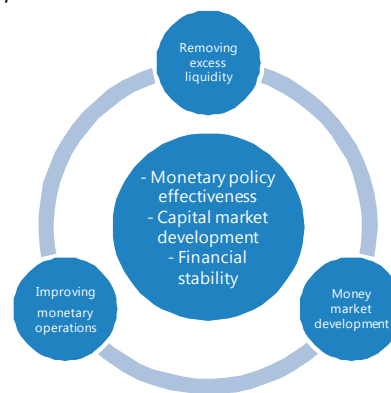
Over the past six years, Bank Indonesia (BI) has taken a series of measures to improve its liquidity management and monetary operations, and to promote the development of the interbank money market. However, it continues to face difficulties in reducing excess liquidity arising from capital inflows, achieving its interest rate target, strengthening the transmission from short-term rates to bank deposit and lending rates, and improving the functioning of the money market. These issues are highly interlinked, and therefore must be examined and addressed jointly. Key measures include establishing the infrastructure for the interbank repo market, restructuring BI's balance sheet and monetary operations to remove excess liquidity and expand the supply of collateral for repo transactions, and providing incentives for banks to take the lead in money market development. Implementing a comprehensive program to address these issues can only be achieved in the medium term, but ultimately should improve the effectiveness of monetary policy, increase financial stability, and support capital market development.

A. Introduction

1. **The framework for monetary operations, the management of system liquidity by the central bank, and money market development are all interlinked, and all contribute to the effectiveness of monetary policy.** The proper design and use of monetary instruments can allow the central bank to maintain stable liquidity conditions, and keep short-term interest rates at or near its operational target. This in turn can provide banks with incentives to manage their liquidity more tightly by participating in the money market, using some of the instruments issued by the central bank. A virtuous cycle may develop, where the credibility of the central bank is enhanced, transmission from short-term rates to deposit and lending rates is strengthened, and the overall effectiveness of monetary policy is improved.

Figure II.1. Money Market Reforms and Financial Market Development

All aspects of money market reforms are interlinked and contribute to broader financial market development



2. **A well-functioning money market can provide broader benefits for financial development.** Short-term rates will provide a better indication of monetary policy expectations. Financial stability and efficiency will also be enhanced, because banks will

¹ Prepared by Geoffrey Heenan.

have more instruments to manage their liquidity, and yields will better reflect underlying liquidity and credit risk. A liquid money market can support capital market development, especially the government securities market, by improving the ability of dealers to fund their market-making activities.

3. **In 2005, as part of its adoption of an inflation targeting framework, Bank Indonesia (BI) introduced a new framework for its monetary operations.**² This was based on having an operational target for the one-month central bank bill rate that would be adjusted as BI's forward-looking assessment of inflationary pressures changed. In 2008, the operational target was changed to overnight interbank rates and was to be achieved using open market operations in combination with standing facilities. Since then, BI has continued to refine the use of its monetary operations. From 2010 onwards, most of these changes were aimed at managing rising foreign inflows and reducing their impact on domestic liquidity conditions.

4. **This paper proceeds by providing a brief overview of BI's operational framework and recent reforms, and goes on to outline the development of the Indonesia interbank money market.** It discusses issues arising from the inter-linkages between BI's operations and money market functioning, and concludes with some recommendations for a comprehensive approach for improvements to both.

B. Evolution of Bank Indonesia's Operational Framework

5. **While BI has a wide range of monetary instruments, up to mid-2010 open market operations were primarily implemented by auctioning 1- and 3-month central bank bills (SBIs).** While only banks could participate in the primary auction, these instruments were freely tradable in the secondary market, and potentially could have served as collateral for secured lending. SBIs were also attractive to foreign investors seeking exposure to relatively high local nominal rates and expectations of rupiah appreciation. In an effort to sterilize its mounting foreign exchange purchases from mid-2009 onwards, BI expanded the supply of SBIs, but these were increasingly purchased by foreigners. This raised concerns that BI's sterilization efforts were themselves leading to more portfolio inflows.

6. **BI has made some major changes to the framework for its monetary operations over the past 15 months, in part to reduce foreign demand for their sterilization instruments.** Starting in July 2010, BI imposed a one-month holding period on SBIs and began lengthening the tenor of securities it auctioned from 1–3 months to the 9 months now on offer. It also has introduced nontradable term deposits available only to banks and up to six months tenor. BI increased the primary reserve requirements on both foreign and local currency deposits to 8 percent, from previous levels of 1 percent and 5 percent, respectively, and introduced a supplementary reserve requirement for banks with loan to deposit ratios above or below defined limits. In May 2011, it lengthened the SBI holding period to six

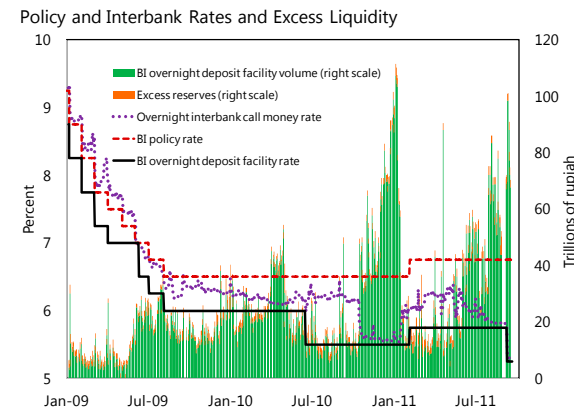
²For more detail regarding BI's monetary policy framework, see <http://www.bi.go.id/web/en/Moneter/Kerangka+Kebijakan+Moneter/>.

months. In September 2011, it lowered the rate on its overnight deposit facility to 150 bps below its policy rate, making its interest rate corridor asymmetric. The current status of BI's liquidity management framework is summarized in Box II.1.

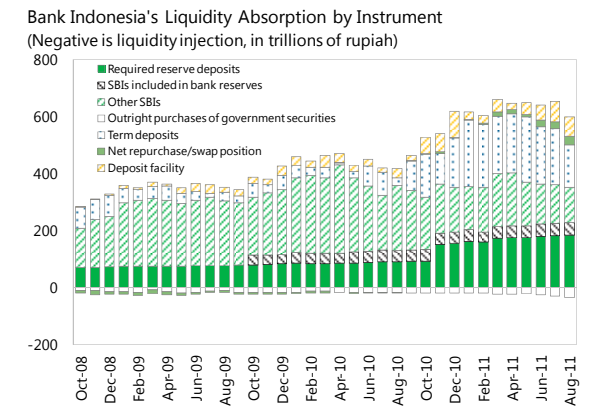
7. **The announced BI rate is the operational target, which is expected to be reflected in interbank overnight rates.**³ However, historically the BI rate was interpreted as the target for the 1-month SBI auction rate. From end-2005 to early 2010, the 1-month SBI rate tracked the BI Rate more closely than overnight rates. However, as BI began lengthening the tenor of its SBI auctions from March 2010 onwards, the BI rate became the anchor for the longer tenor SBIs.

Figure II.2. Bank Indonesia Monetary Operations and Interbank Rates

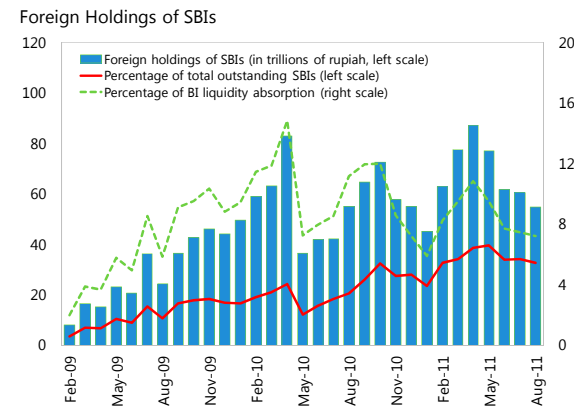
Excess liquidity arising from foreign inflows has made it difficult for BI to achieve its interest rate target.



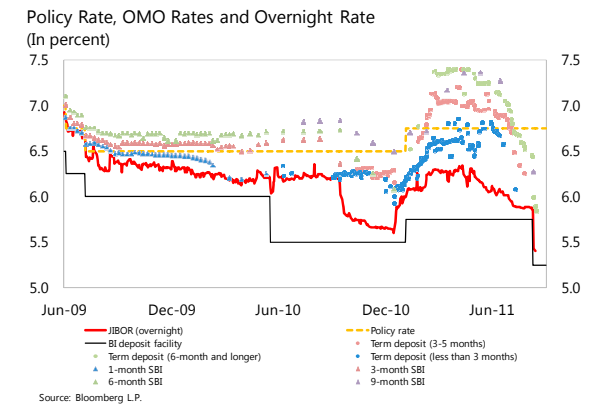
BI has altered the composition of its liquidity absorption instruments towards nonmarketable instruments.



The SBI holding period and increased term deposit issuance have lowered foreign holdings of SBIs as a proportion of BI's liquidity absorption.



OMO rates have fallen well below the BI rate as well.



Source: Bloomberg LP., CEIC Data Co. and IMF Staff estimates.

³ See <http://www.bi.go.id/web/en/Moneter/BI+Rate/Penjelasan+BI+Rate/>.

Box II.1. Summary of Bank Indonesia's Current Framework for Liquidity Management

Announced operational target. BI Rate, which until recently was expected to be reflected in interbank overnight rates. However, BI currently seeks to steer overnight rates near the bottom of its interest rate corridor.

Interest rate corridor. Deposit and lending standing facilities available to banks and brokers have been effective in containing overnight rates within an asymmetric band around the BI Rate (currently +100 bps/-150 bps). The tenor of both deposit and lending facilities are overnight, and are available to the close of the interbank market.

Reserve requirements (RR). Local currency third party funds (TPF, deposits excluding interbank borrowing) attract a primary RR of 8 percent, which must be fulfilled on a lagged daily basis. The first five percentage points of the RR are unremunerated, and the remaining 3 percentage points are remunerated at 2.5 percent p.a. A secondary RR of 2.5 percent can be fulfilled by holdings of SBIs. Foreign currency third party funds face a RR of 5 percent (which will be raised to 8 percent in June 2011). In both cases, there is no averaging of the RR. Shortfalls attract a penalty rate of 100 bps over the BI rate. Since March 1, 2011, BI has imposed higher RRs on banks that have loan to deposit ratios (LDR) below 78 percent or above 100 percent. Banks with LDRs outside the range of 78–100 percent will need to add RR according to the following formula:

- (i) If LDR is below 78%, the additional RR = $0.1 \times (78\% - \text{LDR}\%) \times \text{rupiah TPF}$.
- (ii) If LDR is above 100% and CAR below 14%, additional RR = $0.2 \times (\text{LDR}\% - 100\%) \times \text{Rupiah TPF}$.
- (iii) If LDR is above 100% but CAR is above 14%, no additional RR required.

Open market operations. The main liquidity withdrawing instruments are:

- The monthly variable rate auction of SBIs, currently of 9-months tenor. Only banks may bid at the primary auction. There is a 6-month holding period, during which the SBI cannot be traded or repoed. However, the SBI can be used as collateral to access BI's lending facilities.
- Daily variable rate auctions of term deposits of varying maturities up to six months. Typically, three maturities are offered, a short tenor of up to 14 days, another around three months and the six month.
- Outright sales of government securities.
- Foreign exchange sales and swaps.

Shariah-compliant instruments: BI has a range of shariah-compliant facilities that allow Islamic banks and Islamic units of conventional banks to manage their liquidity. However, the amounts outstanding are relatively small.

C. Indonesian Money Market

8. **Despite the growth of the banking system and improvements to BI's liquidity management, money market activity remains low.** Transaction volumes in the rupiah call money market rose steadily in the three years leading up to the global financial crisis, but fell sharply during 2008 as banks cut interbank credit limits and hoarded liquidity. Volumes have since recovered but remain below the peak levels of 2007. Most trading is in overnight lending, with little activity beyond two weeks. Moreover, banks are deploying less of their funds into the interbank market, choosing instead to place more of their liquidity with the central bank.

9. **Persistent excess liquidity is a major impediment to money market development in Indonesia.** Banks' placements in BI's overnight deposit facility have been trending upward, and are the equivalent of over 10 percent of the monetary base. Further, at least some part of banks' holdings of term deposits could also be considered excess liquidity, given their relatively low yields. This means on many days that most banks have excess liquidity, and few banks, if any, have liquidity shortfalls. As a result, interbank money market volumes have remained low. This excess liquidity will need to be absorbed before interbank activity can take off, driven by liquidity mismatches among banks.

10. **Concerns about counterparty risk, and a lack of market pressure have also limited interbank activity.** Smaller banks that are considered to involve higher credit risk have little or no access to credit limits from larger banks with surplus liquidity. Therefore, these banks are forced to bid aggressively for deposits to secure funding, leading to a wide dispersion of deposit rates among banks. In addition to their reluctance to take unsecured exposures to smaller banks, some of the banks with large deposit bases have not taken the lead in promoting the interbank market, because their lending and trading businesses are highly profitable and they see little need to provide their competitors with cheaper funding.

11. **The interbank repo market remains small, due to the scarcity and cost of eligible collateral and some structural impediments.** In the eight months to August 2011, interbank repo transactions totaled just under 19 trillion rupiah, down from nearly 30 trillion rupiah in the same period of 2010. Some of the decline in repo volumes was due to the extension of the holding period for SBIs to six months; this effectively removed these securities as eligible collateral for repos of less than six months tenor. This left government securities as the only eligible collateral for interbank repo transactions.

12. **The current low yields on government securities have also reduced their attractiveness to banks as a part of their liquid asset portfolio.** The longer holding period for SBIs has channeled demand from offshore investors looking for rupiah exposure to short-term government bonds and the much smaller treasury bill market. As a result, rates at the near end of the government yield curve fell well below money market rates, with the 12-month treasury bill yield falling to 4.0 percent in September, or 275 bps below the

policy rate. This meant that banks faced the choice of making a negative carry if they held treasury bills and short-term bonds as collateral for any interbank borrowing they undertook, or bearing increased duration risk if they bought long-term bonds to raise the return on their portfolio of liquid assets.

13. **Bank Indonesia has taken several measures in the past year to promote interbank market development.** It has improved the calculation of JIBOR reference rates by restricting membership of the banks providing quotations to those active in the money market, and disseminating individual and average rate quotations electronically on a daily basis. It has expanded the volume of reserve repo operations it conducts to promote interbank repo usage. Finally, it is pressing forward with the adoption of a proposed Global Master Repurchase Agreement that was developed in coordination with the Ministry of Finance, Bapepam-LK and market participants.

D. Challenges for Money Market Development and Monetary Policy Implementation

14. **Bank Indonesia's control over overnight interbank rates has weakened since 2009.** Overnight rates are now 145 bps below the announced BI target. Money market rates have remained persistently lower than the BI rate because:

- **There is significant excess liquidity in the banking system, as evidenced by the high level of overnight and short-term deposits held by banks at BI.** Even though the recorded level of excess reserves are low, the high volume of BI liabilities maturing within a month represent a liquidity overhang that will continue to put downward pressure on interbank rates.
- **There may be confusion in the market about BI's operational target.** BI has signaled that it will allow overnight rates to remain near the bottom of its interest corridor. The auction rate of the 9-month SBI has converged to the BI rate. Given broad expectations for further monetary policy tightening in 2011, and more general term premia, the 9-month SBI rate should be trading maybe 30–50 bps higher than the cash rate. In addition, the rates prevailing on the 6-month term deposit auctions had been generally higher than the BI rate until September 2011, but are now around 100 bps lower. This has also contributed to confusion about the target interest rate. Treasury bill rates have been depressed by demand from foreign investors expecting further exchange rate appreciation.
- **Liquidity forecasts provided by BI may not be that useful in guiding market expectations.** Further detail regarding autonomous flows and projections for longer horizons would improve banks' ability to manage their liquidity with longer-tenor instruments.

15. **While recent changes to SBIs and term deposits have been somewhat successful in stemming the growth in foreign holdings of SBIs, they have not improved the conditions for liquidity management and money market development.** SBIs can no longer be used in repo operations, and the increasing use of term deposits by BI is limiting the supply of instruments that can be traded in the interbank market. Further, BI is no longer actively managing system liquidity, since the term deposit auctions effectively function as a standing facility. BI is now providing many different instruments, with tenors ranging from overnight to 9 months and varying constraints on early termination and tradability. The resulting wide range of rates that BI is transacting its open market operations results in market confusion over its operational target, and increases uncertainty over the future path of short-term rates. This uncertainty in turn inhibits the development of the money market for tenors beyond one month, and weakens the transmission of short-term interbank rates into deposit and lending rates.

16. **The growing overlap in maturities of government treasury bills and BI open market operations could complicate the coordination of BI's liquidity management and public debt management.** There have been cases in some countries where relations between the central bank and public debt manager have become strained due to the perceived competition between their issuance programs.

E. Policy Options

Improving Monetary Operations and Liquidity Management

17. **The structure of BI's OMOs should be simplified, and nontradeable instruments phased out.** Nontradable term deposits and SBIs should be phased out, because their illiquidity affects their pricing, complicates banks' liquidity management, and impedes money market development. Instead, BI should expand its use of reverse repos to manage liquidity. This would supply securities to banks that would be eligible collateral for interbank repo transactions. Structural operations should be conducted using variable rate auctions on a regular calendar and preannounced volumes. For example, 3- and 6-month auctions could be conducted each month. One-month repos could be auctioned each week. Eventually these rates will serve as useful benchmarks and provide indications of market expectations regarding the policy rate. Fine tuning operations of less than one month tenor could be conducted more frequently, even daily, at the policy rate. Open market operations should be used more aggressively to bring overnight rates in line with the BI rate.

18. **Bank Indonesia's holdings of nontradable government securities should be replaced as soon as possible with tradable government securities bearing a market rate of interest.** The existing government obligations, which total 250 trillion rupiah, could be swapped for long-term government bonds and then used by BI as collateral for reverse repo transactions. This could double the level of eligible collateral available to banks. It would also alleviate the need for banks to hold long-term government bonds for liquidity purposes, and thus reduce the interest rate risk borne by banks.

19. **A large part of the structural liquidity excess could be withdrawn by raising reserve requirements.** This would allow BI to lower the volume of its other liquidity-absorbing positions, thereby reducing the potential for interest rate volatility associated with the rollover of these positions. Given that the remuneration on required reserves is below market rates, higher reserve requirements will increase the implicit tax on deposits, and potentially raise the spread between deposit and lending rates. Therefore, any decision to increase reserve requirements should weigh the impact on financial intermediation, and adjusting reserve remuneration closer to market rates should be considered.

20. **Bank Indonesia should provide more detailed projections of system liquidity, with longer horizons and indications of the expected volume of future operations.** This would allow banks to better plan their own liquidity management, and provide more certainty regarding the supply of longer-term central bank instruments, allowing banks to commit to extending the tenor of their transactions with the central bank and other market participants. Longer rates would become responsive to monetary policy expectations, strengthening the transmission of the policy rate to banking rates and credit growth.

Fostering Money Market Development

21. **A strong interbank repo market could be the cornerstone of future money market development.** The eventual replacement of SBIs and term deposits with repos as the primary monetary operations instruments will increase the amount of eligible collateral and directly promote the use of repos by commercial banks for managing their liquidity. In the meantime, the proposed Global Master Repurchase Agreement should be adopted as soon as possible.

22. **The authorities should consider establishing a central clearinghouse for treasury security transactions that could also provide dealing systems and other market infrastructure.** This would mitigate counterparty risk and allow for anonymous trading by providing a central counterparty for repurchase and outright transactions in the bond market. This could overcome the current reluctance of some banks to participate in the repo market. A good example of the benefits of a central counterparty for money market development was the success of the Clearing Corporation of India Limited (CCIL). In 2003, the CCIL introduced its Collateralized Borrowing and Lending Obligation (CBLO), which is similar to a General Collateral Repo. This instrument has provided a benchmark for overnight rates and increased liquidity by improving the ability of market participants to unwind their positions. By 2009–2010, trading in CBLOs, and other money market instruments handled by CCIL reached six times annual GDP, up from 69 percent of GDP five years earlier. The CCIL also supports trading in other markets, including foreign exchange and derivatives.

III. REVENUE MOBILIZATION IN INDONESIA¹

The tax revenue to GDP ratio in Indonesia is one of the lowest in the G-20 and among emerging markets. Revenue mobilization requires strengthening broad-based taxes and improving tax compliance. Efforts should lead to a more efficient and fairer tax system that enhances economic growth. The Indonesian government has set ambitious targets for the medium term of raising the tax to GDP ratio by 2–6 percentage points. This paper reviews the level and structure of tax revenues in Indonesia compared to other countries, estimates tax effort and tax efficiency for Indonesia, and discusses potential areas of revenue mobilization.

A. A Strategy for Revenue Mobilization

1. **Many economies face the challenge of mobilizing revenue to provide space for poverty relief and infrastructure improvement.** Revenue mobilization however goes beyond raising tax rates. Simply increasing revenue by further taxing compliant taxpayers can cause distortions and increase inequalities. Raising revenues in an increasingly globalized economy requires strengthening broad-based taxes and improving tax compliance. Revenue mobilization efforts should lead to a more efficient and fairer tax system that enhances economic growth. Distributional effects are also very important for two reasons. Poverty relief is one of the major objectives financed by public revenues, but perceived equity also has an important impact on tax compliance.
2. **In 2000 Indonesia launched an economic reform program to achieve stability and growth.**² As oil production was projected to decline in the coming years, an increasing buoyancy of non-oil and gas tax revenues was becoming necessary. Alongside tax change proposals, the authorities also sought to improve tax administration to generate higher revenues.
3. **Tax policy has been stable in the last decade.** The structure of the tax system remained unchanged as only small-scale changes took place, such as decreasing the corporate income tax and personal income tax rates and increasing the personal allowance in the PIT system.

¹ Prepared by Dora Benedek.

² A summary of this program can be found in Brondolo and others (2008).

Box III.1. General Recommendations on Revenue Mobilization 1/

Although each tax system is different, some of the most effective recommendations for revenue mobilization are the following:

- Building administrations that limit incentives and opportunities for rent seeking and are capable of implementing the voluntary compliance needed to extend the tax base;
- Adopting and making readily available clear laws and regulations embodying strong taxpayer protection;
- Eliminating exemptions that forgo revenue to little useful end;
- Implementing a broad-based VAT with a fairly high threshold;
- Establishing a broad-based corporate income tax, at rates competitive by international standards;
- Extending the PIT base, and ensuring a coherent treatment of alternative forms of capital income;
- Levying excises on a few key items that address revenue needs and wider social concerns;
- Implementing simple but coherent regimes for taxing smaller businesses;
- Strengthening real estate taxes; and
- Developing capacity for tax expenditure and wider policy analysis.

1/ For a comprehensive discussion of issues, prospects and recommendations on revenue mobilization see International Monetary Fund (2011).

4. Progress with tax administration reform, however, remains slow and uneven.

Achievements include a new organizational structure implemented in early 2007, the creation of 19 medium taxpayer offices, 300 small taxpayer offices, and high-wealth individual offices between June 2007 and 2009. Furthermore, improvements in the taxpayer registration process resulted in an almost four-fold increase in the number of registered taxpayers between 2006 and 2009. There was some progress with the implementation of more effective methods for tax filing, simplification of tax forms, and introduction of new audit policies and procedures. Although improving, tax administration remains relatively weak with poor enforcement procedures and low voluntary compliance. Progress in the audit area and in arrears collection has also been slow. This contributes to the low collection of non-oil and gas revenues.

B. Level and Structure of Tax Revenues in Indonesia³

5. **Continued efforts are needed to raise the share of tax revenue from its current low level.** The tax revenue to gross domestic product (GDP) ratio in Indonesia—11.5–13.3 percent during 2002–10—is one of the lowest in the G-20 and among emerging countries. The tax to GDP ratio was increasing until 2008, but dropped in 2009, mostly due to cuts in the corporate income tax rate; and it is not expected to increase substantially in 2011. The authorities however have ambitious targets for the future. The government set a goal above 14 percent for 2014. The low tax burden is the result of several factors. Tax bases for major taxes are very narrow in Indonesia, and tax compliance is very weak. These weaknesses will have to be corrected to mobilize additional revenues.

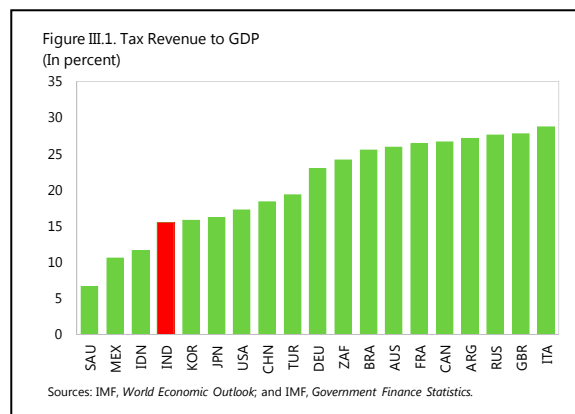


Table III.1. Selected Countries: Tax Revenue, 2002–10

(In percent)

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Indonesia	11.5	11.8	12.2	12.5	12.2	12.4	13.3	11.1	11.6
Brazil	23.2	22.6	23.2	24.0	23.7	24.2	24.1	22.9	25.5
China	14.7	14.7	15.1	15.6	16.1	17.2	17.3	17.5	18.4
India	13.9	14.4	15.2	15.6	16.8	17.7	16.8	15.9	15.5
Philippines	12.8	12.8	12.4	13.0	14.3	14.0	14.2	12.8	12.8
Thailand	15.5	16.9	17.4	18.1	18.5	17.3	17.5	16.4	16.8
Turkey	16.7	18.2	17.9	18.2	18.9	18.3	18.1	18.5	19.4
Vietnam	18.4	20.9	21.7	22.8	24.3	23.5	24.4	22.3	23.6
Unweighted average	15.8	16.5	16.9	17.5	18.1	18.1	18.2	17.2	17.9

Source: IMF, *World Economic Outlook*.

6. **The overall design of the Indonesian tax system is broadly in line with international best practices.** It consists of corporate and individual income taxes, value-added tax (VAT), excise taxes, international trade taxes, and a property tax. However,

³ Comprehensive discussion of the Indonesian tax system can be found on the Directorate General of Taxes of the Republic Indonesia webpage and Price Waterhouse Coopers (2010).

it yields low revenue, and important elements are complex and hard to administer. The standard value-added tax rate in Indonesia is 10 percent, somewhat lower than neighboring countries' standard VAT rates of 7–20 percent, or around 12 percent on average. The corporate income tax rate is 25 percent for resident and 20 percent for nonresident companies, which is in the range of countries in the region, but at the lower end. All countries in the region have progressive personal income tax systems with several tax rates. The highest marginal PIT rate in Indonesia (30 percent) is within the range of neighboring countries (20–45 percent) (Table III.2).

7. **Income taxes (corporate and individual) were 5.7 percent of GDP in 2009.** It is lower than the average of Asia-Pacific or lower-middle income countries, but broadly in line with neighboring, comparable countries. Official statistics do not split-up income tax revenues between corporate and individual taxpayers, but estimations show that about 80 percent (4.4 percent of GDP) of income tax revenues came from corporate taxpayers, which is somewhat above the average of comparable countries. Based on the estimation, personal income tax revenues are as low as 1.3 percent of GDP.

8. **Taxes on goods and services (4.8 percent of GDP) are lower than the average of comparable countries.** The majority of these revenues come from VAT, 3.8 percent of GDP. However, it also includes a luxury tax applied to an extensive range of goods. Excise tax revenues are below the level of comparable countries, at only 1 percent of GDP.

Table III.3. Selected Countries: Tax Structure and Tax Levels

(In percent of GDP)

	Year	Tax Revenue	Direct Taxes			Indirect Taxes			Trade Taxes	Property Taxes
			Total	PIT	CIT	Total	Sales, Turnover, & VAT	Excises		
Bangladesh	2008	8.3	2.0	1.3	0.7	3.0	2.9	0.0	2.8	0.0
Brazil	2009	15.6	7.0	1.6	4.1	7.6	6.0	0.4	0.5	0.0
Cambodia	2006	8.2	1.1	0.2	0.9	4.6	2.9	1.4	2.5	0.0
China (P.R.)	2009	17.5	4.5	3.4	1.2	9.5	7.1 1/	1.5 1/	0.8	0.3
India	2008	12.5	6.5	2.3	4.1	3.9	0.0	2.5	2.2	0.0
Indonesia	2009	11.5	5.7	1.3 1/	4.4 1/	4.8	3.8	1.0	0.3	0.5
Malaysia	2009	15.7	10.7	2.3	8.4	3.7	1.3	1.5	0.5	0.0
Pakistan	2007	9.8	3.7	3.6	0.0	4.4	3.6	0.8	1.5	0.1
Philippines	2008	14.2	6.5	2.0	3.9	4.1	1.9	0.8	3.5	0.0
Sri Lanka	2008	13.3	2.9	0.5	1.4	6.9	4.6	2.3	2.2	0.0
Thailand	2008	16.5	7.9	2.1	5.8	7.4	3.7	3.4	1.1	0.0
Turkey	2009	18.5	5.9	4.0	1.9	11.2	6.1	4.6	0.3	0.9
Vietnam	2004	21.5	8.2	0.5	7.7	9.7	5.8	2.0	3.0	0.5
Unweighted Average		14.5	5.6	1.9	3.4	6.2	3.8	1.7	1.6	0.2

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

1/ Split up based on estimation.

Table III.2. Selected Countries: Value-Added Tax, Corporate, and Individual Income Tax Rates

	Current as of	Standard rate	VAT Rates		Corporate Income Tax Rates		Individual Income Tax Rates
			Other positive rates		resident compan	Nonresident companies	
			Reduced	Increased			
Bangladesh	January 1, 2011	15	0; 1.5, 2.25; 4; 4.5; 5.0025; 5.5 ¹	20–350 ²	27.5; 37.5; 42.5; 45 ³	37.5; 42.5 ⁴	0; 10; 15; 20; 25
Bhutan	December 1, 2010	n/a	...	...	30	30	0; 10; 15; 20; 25
Cambodia	January 1, 2010	10	...	...	20	20	0; 5; 10; 15; 20
China (PR)	July 1, 2010	17	0; 3; 13 ⁵	...	20; 25 ⁶	25	5; 10; 15; 20; 25; 30; 35; 40; 45
India	January 1, 2011	... ⁷	...	...	30	40	0; 10; 20; 30
Indonesia	January 1, 2011	10	0	...	25	20	5; 15; 25; 30
Lao PDR	June 1, 2010	10	0	...	25	25	0; 5; 10; 15; 20; 25
Malaysia	November 1, 2010	...	...	...	25	25	0; 1; 3; 7; 12; 19; 24; 26
Nepal	December 1, 2010	13	0	...	20; 25; 30 ⁸	5; 10; 20; 25; 30 ⁹	1; 15; 25 ¹⁰ 0; 0.75; 1.5; 2.5; 3.5; 4.5; 6; 7.5; 9; 10; 11; 12.5; 14; 15; 16; 17.5; 18.5; 20 ¹² 0; 7.5; 10; 15; 20; 25 ¹³
Pakistan	November 1, 2010	17	0; 2	18.5; 21; 25	20; 35 ¹¹	20; 35 ¹¹	
Philippines	January 1, 2010	12	0; 5	...	30	20	5; 10; 15; 20; 25; 30; 32
Sri Lanka		20	...	20	15; 35	15; 35	
Thailand	January 1, 2010	7	0	...	30	30	0; 10; 20; 30; 37
Vietnam	February 1, 2010	10	0; 5	...	25	25	5; 10; 15; 20; 25; 30; 35

Source: International Bureau of Fiscal Documentation (IBFD).

1/ Reduced rates apply to land development and building construction firms (1.5 percent); medical and dental care centers (2.25 percent); procurement providers (4 percent); legal advisors (4.5 percent); motor vehicle garages and workshops (4.5 percent); electricity distributors (5.0025 percent), and construction firms (5.5 percent).

2/ Increased rates apply to luxury goods and "socially undesirable goods."

3/ 27.5 percent rate applies to publicly-traded companies; 37.5 percent rate applies to other closely-held companies; 42.5 percent rate applies to banks, insurance, and other financial institutions; 45 percent rate applies to mobile phone operating companies (except if converted into publicly-

4/ 42.5 percent rate applies to banks, insurance, and other financial institutions.

5/ 3 percent rate applies to small-scale taxpayers; 13 percent rate applies to essential goods.

6/ 20 percent rate applies to low-profit enterprises.

7/ VAT collected at the state level.

8/ 20 percent rate applies to entities engaged in specific industries or projects, or export income; 30 percent rate applies to banks, general insurance, and other financial institutions, as well as petroleum businesses; 25 percent rate applies to all other entities.

9/ 5 percent rate applies to shipping, air transport, and telecommunications; 10 percent rate applies to repatriated income of a foreign PE of a nonresident person situated in Nepal.

10/ A 1 percent social security tax is imposed on the first bracket of salary earners' taxable income.

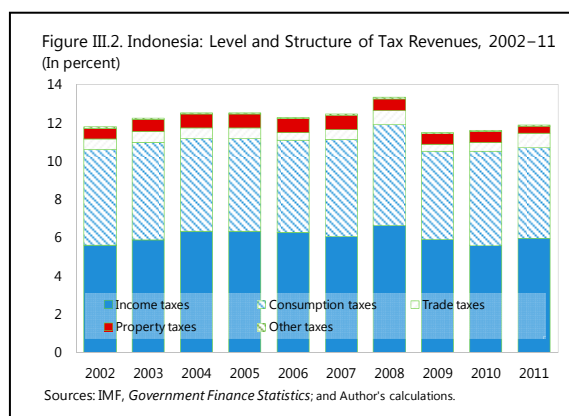
11/ 20 percent rate applies to small companies; a presumptive tax regime applies in specific cases.

12/ For individuals whose salary is more than 50 percent of taxable income.

13/ For individuals whose salary is less than 50 percent of taxable income.

9. **The level and structure of tax revenues have been very stable in the last decade.**

Tax revenues remained between 11.4–13 percent of GDP since 2001, with a slight increase in the first few years and a decrease from 2008 to 2009. The structure of revenues also remained very stable in the last 10 years: income taxes comprise around 50 percent of all tax revenues, consumption taxes around 40 percent, property taxes 4–6 percent and trade taxes around 3–5 percent. Compared to the 1990–1999 period the role of income taxes decreased and the share of consumption taxes increased by a small amount. Property taxes also became more important in the last decade (Figure III.2).



10. **The taxpayer population is narrow in Indonesia, but has been steadily increasing in the last decade.**

In 2009 the number of registered individual taxpayers was around 5 million and further improved in 2010 and 2011. The number of registered corporate taxpayers has also been gradually increasing, but is only around half a million. The authorities currently face the challenge of raising the number of tax files returned by the registered taxpayers, therefore, increasing their compliance. It also entails a greater administrative burden. To cope with these new challenges, further improvements are necessary in data processing capacities, training of staff, and simplifying procedures for handling returns and audits.

C. Tax Effort and Tax Efficiency

11. **There is evidence that tax efficiency is relatively low by regional standards.** The tax efficiency ratio, measured as tax revenue as a percentage of GDP or consumption, divided by the standard tax rate, is relatively low compared to the average for East Asia and for other middle-income countries, in particular for corporate income tax (CIT) and VAT. The low overall tax to GDP ratio is partly a result of tax rates lower than the regional average. Tax rate differences explain some of the divergence in tax revenues as a percentage of GDP. Income tax revenues are in line with comparable countries, whereas consumption tax revenues are somewhat below average.

12. **As noted earlier, low revenue mobilization limits the fiscal resources available for physical and social infrastructure development.** Therefore, it is essential to assess what, at the present level of development, is a realistic revenue target for Indonesia. To address this point, we make estimates based on several tax efficiency measures.

13. **Improving tax efficiency raises tax revenues in two ways.** “Policy gap” is the difference between collections under current law and those obtained if all exemptions not consistent with best practice and all reduced rates were eliminated. Policy gap can be reduced by broadening the tax bases. As can be noted in Table 3, VAT efficiency is very high in Thailand. The reason is that Thailand has very few exemptions in their VAT system, no reduced rate and the zero VAT rate is limited to a very few items (exports, diplomats, NGOs). “Compliance gap” is the difference between current tax collections and those that would be obtained if the existing tax law was perfectly enforced. Compliance gap can be reduced by revenue administration reforms. As Table III.1 showed, China has been able to continuously increase its tax revenues in the last decade through a comprehensive tax administration reform. Tax administration reform efforts, however, usually yield their results over an extended period of time.

	Indonesia 2009	Philippines 2009	Thailand 2007	China 2006	India 2009	East Asia and the Pacific	Low- and Mid-Income Countries	World
Total tax revenues to GDP	11.5	12.8	17.4	16.1	15.9	19.6	20.5	20.0
VAT								
Rate	10.0	12.0	7.0	17.0	...	10.8	15.6	15.8
Revenue share of GDP	3.8	2.2	3.8	5.8	...	5.2	7.4	6.4
Revenue share of consumption	5.6	2.6	5.8	11.1	...	48.2	47.4	40.3
Tax efficiency	38.3	18.3	54.3	33.9	...	48.2	47.4	40.3
C-efficiency 1/	56.0	21.6	82.7	65.0				
Corporate income tax								
Rate (maximum)	25.0	30.0	30.0	25.0	30.0	27.6	25.5	26.4
Revenue share of GDP	4.4	3.3	5.2	1.2	3.9	5.5	3.3	3.5
Tax efficiency	17.6	11.0	17.3	4.6	13.1	20.0	12.7	13.1

Sources: IMF, *Government Finance Statistics*; IMF, *World Economic Outlook*; and Budina and Tuladhar (2010).

1/ C-efficiency is tax efficiency calculated based on consumption.

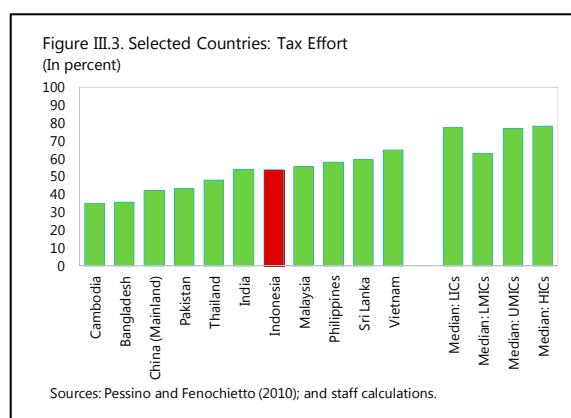
14. **Corporate income tax efficiency is below the average of Asia Pacific countries, but above the average of lower middle-income countries.** There is space for improvement in income tax revenues from corporations. The 2009 CIT revenues are estimated at 4.4 percent of GDP which, together with the CIT rate of 25 percent, gives a tax efficiency of 17.6 percent. This is higher than some of the neighboring countries. If Indonesia could reach the average level of Asia Pacific countries through substantial base broadening and greater enforcement, CIT revenues would increase from the current estimated 4.4 percent to about 5 percent of GDP.

15. **Value-added tax efficiency is somewhat below average.** VAT efficiency in Indonesia is around 38 percent based on GDP and 56 percent based on consumption. If VAT efficiency was raised to the average of lower middle-income countries (47.4 percent), VAT

revenues would increase by an additional 1 percentage point of GDP. If Indonesia could reach the efficiency level of Thailand, VAT revenues would increase by 1.8 percent of GDP. Increasing VAT C-efficiency to 100 percent—which means that all exceptions are removed, and full compliance is achieved—would increase revenues by 3 percent of GDP. This is only a theoretical tax revenue indicator however, and not an actually achievable target. Following an earlier exercise that divided the VAT gap into policy and compliance gaps (IMF, 2010), we estimate that closing the VAT policy gap could raise revenue of 1.6 percent of GDP while closing the compliance gap could raise revenue of 1 percent of GDP.

16. **Statistical techniques are also available to estimate the tax capacity and tax effort of the overall tax system.** Tax capacity represents the maximum tax revenue that a country can collect under its level of economic and social development and demographic characteristics. Based on estimated tax capacity, a country's tax effort can be measured by the ratio of actual tax revenue collected to the estimated tax capacity.⁴

Figure 2 presents the estimated tax efforts for a sample of Asia-Pacific countries and median values for countries of different income groups. Indonesia is around the middle of the group, with tax efficiency of 53.8 percent. This figure means that the country collects about 53.8 percent of the



maximum tax revenues that it could achieve. Although, in Indonesia, tax effort is higher than in several neighboring countries, it is lower than the median value of low and lower middle income countries, indicating substantial space for improvement.

17. **Based on the actual tax-to-GDP ratio of 11.6 percent in 2010 the tax capacity of Indonesia is estimated at around 21.5 percent of GDP.** This is a theoretical value, however, as reaching 100 percent of the potential tax capacity is unprecedented. More realistic targets are median values of lower middle-income countries or an ambitious target could be the median value of upper middle-income countries. These give a range of potential revenue targets for the medium term of 13.4–16.4 percent of GDP, which is a 2–5 percentage point improvement of tax revenues. This target of potential revenue is based on broadening tax bases and increasing tax compliance.

⁴ For example, Pessino and Fenochietto (2010) estimate a stochastic frontier function as tax effort function, based on a sample of 96 countries, using economic, social, institutional, and demographic characteristics as explanatory variables. The author is very grateful to Ricardo Fenochietto for re-estimating the tax effort function of Indonesia using more recent data.

D. Potential Areas for Improving Revenue Mobilization

18. **As emphasized above, low revenue mobilization hinders economic development by limiting investment in infrastructure and social development.** Therefore, it is essential to identify areas where greater revenue could be mobilized without limiting economic growth. A general recommendation is to eliminate exemptions of all taxes and hence broaden tax bases. This generally results in a fairer and simpler tax system.

Indirect Taxes

19. **The design of the VAT system is generally sound.** There is a single positive rate of 10 percent, and zero-rating is limited to exports. There is a simplified regime for small taxpayers. However, an extensive group of goods and services are not subject to VAT. These are goods resulting from mining or drilling (crude oil, natural gas, coal, tin, etc.), basic necessities (rice, grain, corn, sago, soybean, salt, etc.) and food and beverages served in hotels and restaurants. VAT exempt services include some medical and social services, postal services, banking, insurance and other financial services, religious services, services in education, art, entertainment, broadcast advertising, public transportation, employment services, training for workers, government services, etc. There are administrative shortcomings related to the VAT system too, involving refunds and audits. These inefficiencies should be reviewed and reconsidered to allow Indonesia to move closer to its potential VAT revenues from the current level.

20. **VAT revenues can be increased without raising the tax rate by removing inefficiencies.** A common argument for VAT exemptions is based on equity objectives. The reasoning is that poor households spend a greater share of their income on basic necessities, and reduced rates and exemptions, therefore, will benefit these income groups. However, higher income groups typically spend more on these consumption goods in absolute value, and therefore, receive a higher share of these benefits. Thus, targeting of this subsidy is often very poor, making it an inefficient instrument that erodes the tax base.

21. **Removing VAT exemptions clearly improves the efficiency of the tax system while poor households can be compensated with targeted transfers at lower fiscal costs.** In addition, improved tax compliance through better revenue administration and tax audits can also increase VAT revenues. The following measures could increase efficiency:

- Taxing mining, hotel and restaurant services, postal services, art, entertainment, broadcast advertising, public transportation, employment services, training for workers, and government services at the standard VAT rate;
- Narrowing down exemptions to financial services, religious services, health, education and basic foods; and

- Limiting zero rate to exports, and international obligations

22. **Next to the VAT system there is also a luxury sales tax.** This is paid on top of the VAT with rates of 10–75 percent with some 350 tariff codes. The luxury sales tax is very complex but yields little revenue, and administrative costs are disproportionately high. It has been recommended before that this tax should be eliminated and integrated into the VAT system.

Personal Income Tax (PIT)

23. **The personal income tax system is well-designed and reasonably simple including a general withholding of tax at source.** The progressive scheme consists of four tax brackets with rates of 5–30 percent. Taxpayers are eligible for personal deductions, whose amount depends on the marital and family status of the taxpayer. Capital income is taxed at 15 percent (dividends and interest) or 20 percent (capital gains). Income earned from specific services (lawyers, accountants, architects, doctors, consultants, notaries, appraisers, and actuaries), however, are not included in the tax base but are taxed at a single rate of 15 percent. A major source of income exempt from the PIT is fringe benefits, which are currently tax free. A potential drawback of the tax regime is that every taxpayer must make a tax return, even with a single source of income, which puts a great administrative burden on the tax authority. Revenues from PIT are well below comparable averages, mostly due to the narrow taxpayer population. Potential areas for raising personal income tax revenue, in addition to including fringe benefits in the PIT system, are increasing compliance by expanding the taxpayer population and simplifying administration.

Corporate Income Tax (CIT)

24. **The standard corporate income tax rate (25 percent) is in line with other countries.** Several companies receive preferential treatment. Discounted tax rates apply to publicly listed companies (5 percentage point discount) and small enterprises (50 percent discount). Main contractors of government projects funded by foreign aid are exempt from import duties and VAT. Free trade zones are set up to attract foreign direct investment, and Indonesia provides several types of tax incentives for corporations in certain regions and industries:

- An investment allowance of 5 percent for six years;
- Accelerated depreciation and amortization;
- Reduced dividend withholding tax rate of 10 percent, unless the rate provided in the relevant tax treaty is lower;

- A loss carry-forward period of 8 years or 10 years as opposed to the standard five years; and
- Special tax rates to certain industries

International experience shows that tax holidays are not effective compared to their fiscal cost.⁵ They are open to abuse and provide many opportunities for tax avoidance, eroding the tax base. CIT revenues could greatly be increased by removing most inefficiencies and incentives of the corporate income tax system over a pre-set period of time.

25. **Indonesia also provides investment facilities in the form of Free Trade Zones (FTZ).** Goods entering into the FTZ are exempt from import and export duties, excises, VAT, and luxury tax. The tax free status of the FTZ endangers VAT and other tax revenues by making revenue leakage possible.

The following measures could be considered to increase efficiency of the CIT system:

- Limiting discounted tax rates to small enterprises;
- Eliminating exemptions on government contractors;
- Eliminating reduced dividend withholding tax rate;
- Narrowing down special tax rates on certain industries; and
- Reviewing and limiting other incentives (preferential loss-carry forward, depreciation and amortization rules, and tax allowances).

E. Conclusion

26. **Indonesia faces the challenge of mobilizing revenue to provide fiscal space for poverty relief and infrastructure improvement.** However, simply increasing revenue by further taxing compliant taxpayers can cause distortions and increase inequalities. Raising revenues in an increasingly globalized economy requires strengthening broad-based taxes and improving tax compliance. While the number of personal income taxpayers increased substantially in the last decade, it is still narrow; and furthermore, only a small share of registered taxpayers actually return a tax file. Accordingly, tax efficiency is relatively low by regional standards, both for the CIT and VAT. Overall tax effort—measured as the ratio of actual tax revenue to the estimated tax capacity—is around 54 percent. Realistic targets are in the range of 13.4–16.4 percent of GDP in the medium term, which is a 2–5 percentage

⁵ International experience is described in detail in Guin-Siu (2004) and Zee *and others* (2002).

point improvement from current levels. This target of potential revenue is based on broadening tax bases and increasing tax compliance.

27. **The overall quality of the tax system is the most important factor.** In general, the number of taxes should be small and should be applied with moderate rates on broad bases. Tax exemptions and incentives cost revenue with little gain. Therefore, efficiency can be increased by broadening the base of all taxes by limiting and removing exemptions. Tax policy is a costly instrument for social purposes. It is more efficient to have higher-yielding taxes to finance well-targeted pro-poor expenditure programs. Also, simple and transparent rules and simple administration increases compliance and efficiency.

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IV. CROSS-BORDER FINANCIAL LINKAGES AND SPILLOVERS TO INDONESIA¹

Over the last decade, Indonesia's financial linkages to the rest of the world have become stronger and more diversified. This phenomenon theoretically benefits Indonesia through risk diversification of financing sources, but also increases its exposure to systemic risks. In this regard, Indonesia was greatly impacted by the global crisis in late 2008, but has improved its buffers and fundamentals since then. This paper focuses on the evidence of financial spillovers in a more recent period. The recent market turmoil in 2010 appears to have been systemic but had a short-lived effect on Indonesia. Policy announcements in the United States, including quantitative easing, do not appear to have significant effects on the correlations between Indonesian and U.S. asset prices. Euro area policy announcements, however, appear to have tightened the link between core euro area and Indonesian sovereign risk. Such evidence shows that despite the relative stability in Indonesia's financial markets since early 2010, potential spillovers from global events could still be significant.

A. Cross-Border Financial Linkages

1. **Indonesia's international investment position has changed significantly over the last decade, both in level and composition.** After the crisis in the late 1990s, Indonesian banks and corporates as well as the public sector have deleveraged over time, resulting in declining external liabilities to the rest of the world. Indeed, Indonesia's net foreign liabilities (NFLs) moved from 70 percent of GDP in 2001 to 40 percent of GDP in 2009. It was achieved largely through reduction in liabilities, as foreign assets accumulation had not kept up with economic expansion over the years. Reduction in other investment liabilities—mainly foreign loans—was responsible for most of the NFL dynamic.²
2. **Other ASEAN-4 countries experienced similar (and even larger) reductions in their NFLs.** Compared to Indonesia, Malaysia and Thailand reduced their NFL position mainly through foreign asset accumulation in reserves assets, FDI, and portfolio assets while the Philippines's experience was similar to Indonesia's. Indeed, Indonesia's reduction in external loans was the highest among the four countries while portfolio and FDI liabilities picked up by about 10 percent of GDP each. ASEAN-4 countries' composition of foreign liabilities have become more balanced between the three types of liabilities, unlike in the period right after the Asian crisis where foreign loans represented more than 50 percent of total foreign liabilities.

¹ Prepared by Mali Chivakul with contributions from Heiko Hesse and Trung Bui.

² Owing to data limitations, the data on international investment position for Indonesia is only up to 2009. During 2010–11, Indonesia also had a significant increase in its net foreign assets.

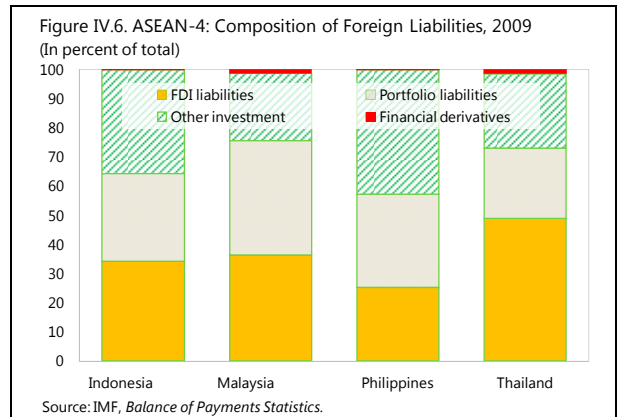
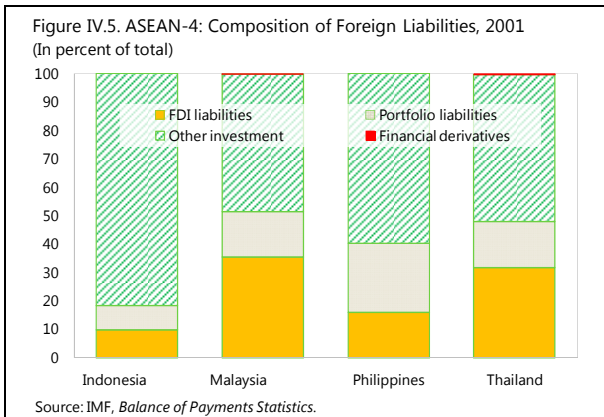
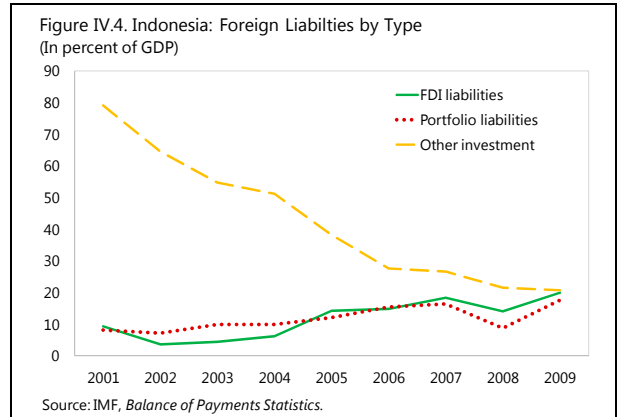
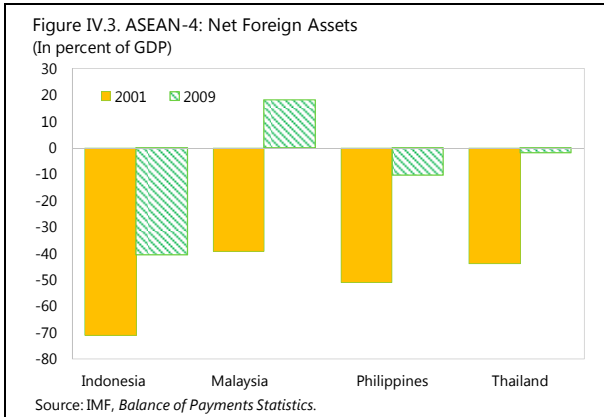
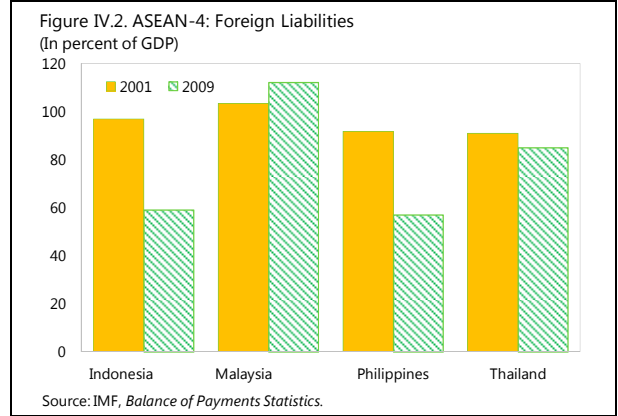
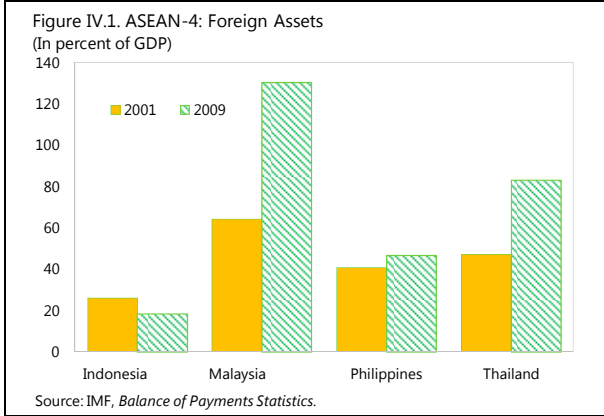
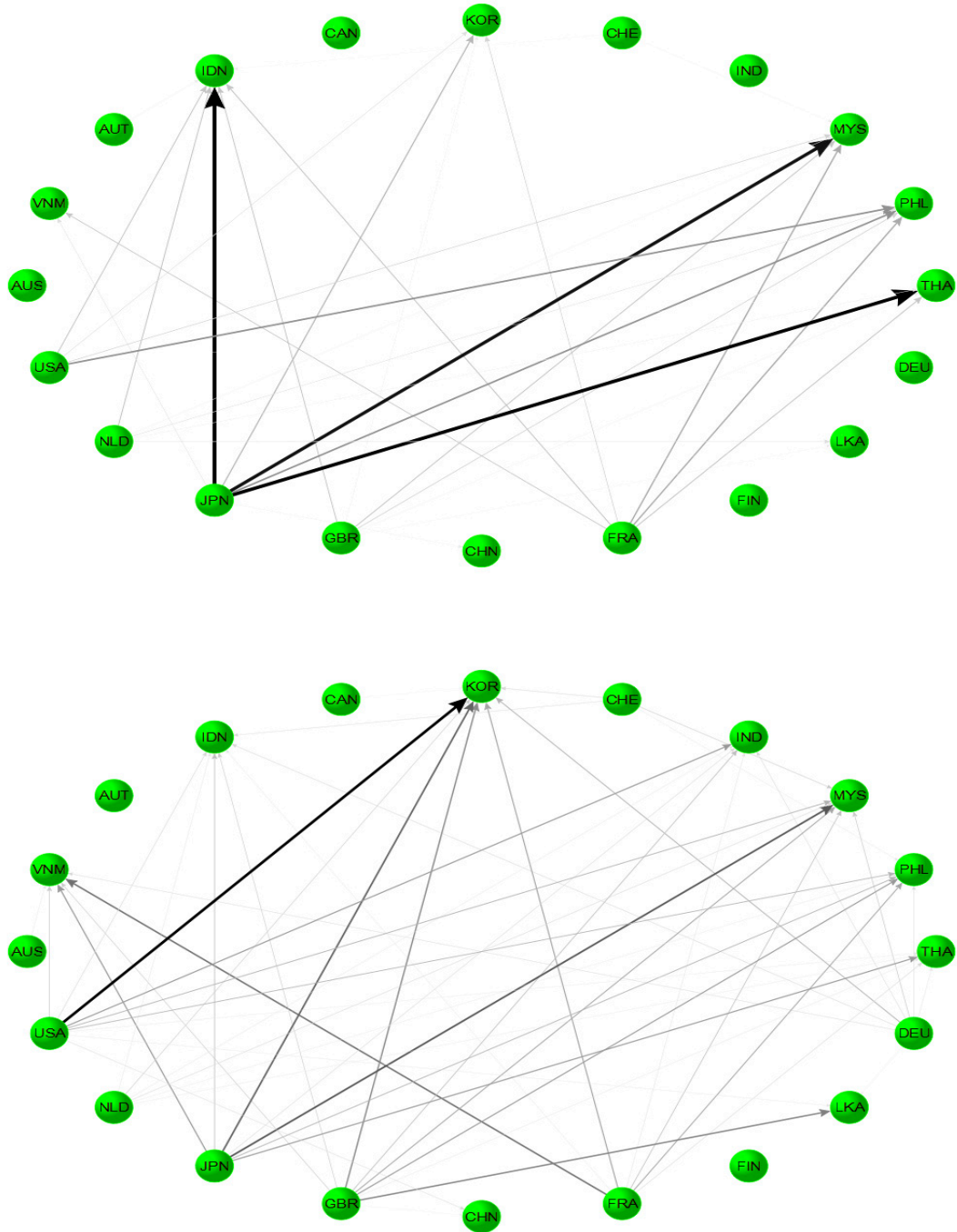


Figure IV.7. Cross-Border Bank Claims Between Selected Advanced Countries and Asia, 1999 and 2009 1/

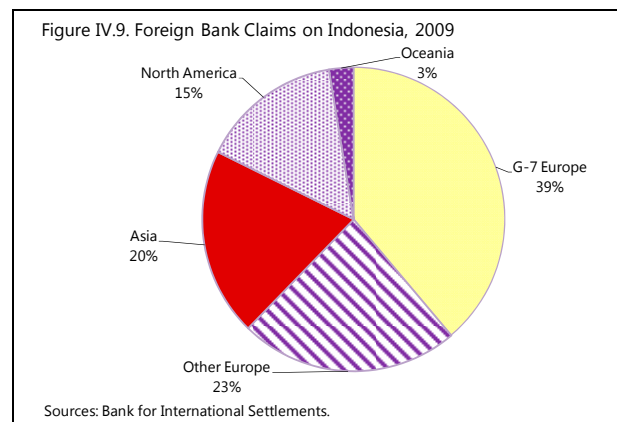
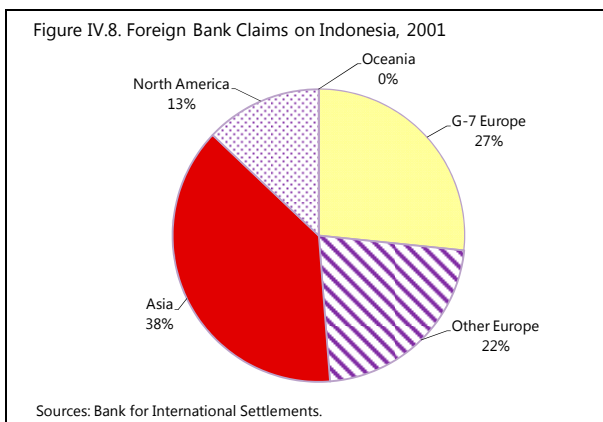


Sources: Bank for International Settlements; and IMF staff calculations.

1/ The Figures show foreign bank claims among a subset of advanced economies and Asian countries in 1999 and 2009. The origin of the arrows indicates the country of origin of the banks holding the claims, while the arrows' thickness is proportional to the size of the claims scaled by the recipient's GDP.

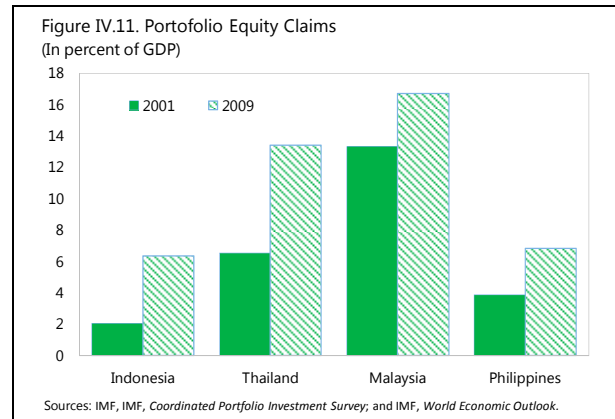
3. **The geographical landscape of Indonesia's financial linkages to the rest of the world has also changed over time.** Similar to other ASEAN-4 economies, foreign loans from the 1990s, mainly funded by Japanese banks, have been unwound. In addition, Indonesia's source of bank and portfolio funding has become more diversified in terms of country sources.³

4. **Within a smaller bank lending pie, European banks have increased their share at the expense of Japanese banks.** Claims by banks headquartered in Europe increased from almost half of total claims to more than 60 percent. German and Italian banks in particular experienced the largest increase. This trend of European banks becoming more important in bank funding has also been observed in other ASEAN-4 countries.

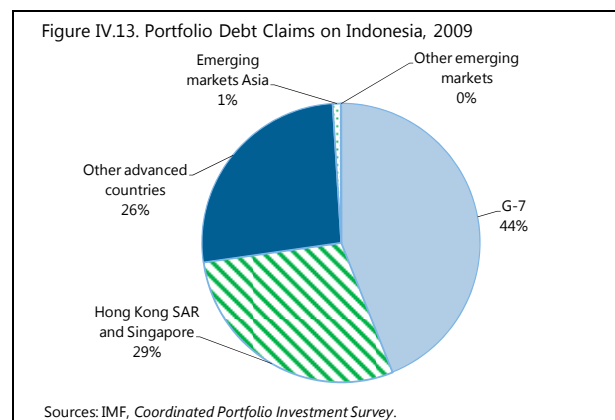
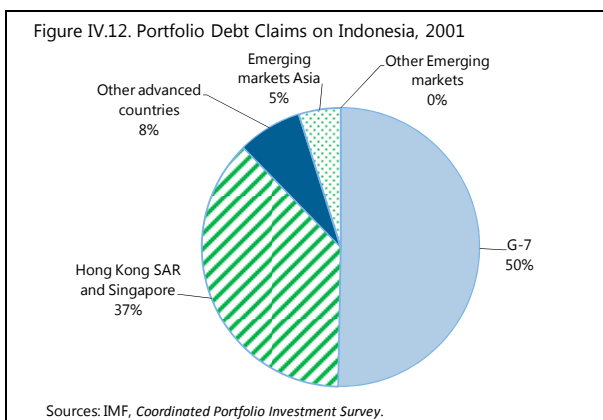


³ This chapter does not consider foreign direct investment (FDI), an investment class generally viewed as relatively stable and driven by longer-term considerations. One caveat is that the increased use of special purpose vehicles and other financial conduits by direct investors may suggest that not all FDI may be as stable as normally held.

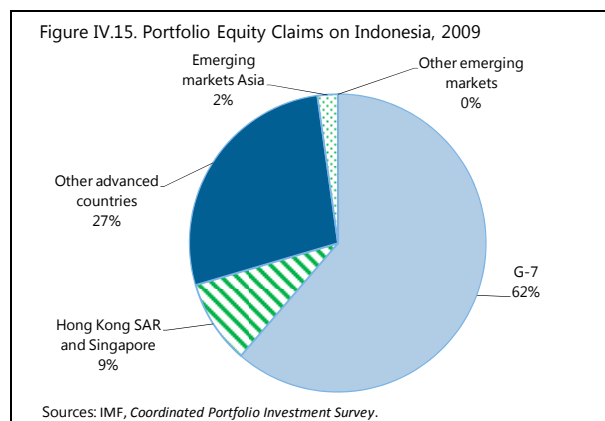
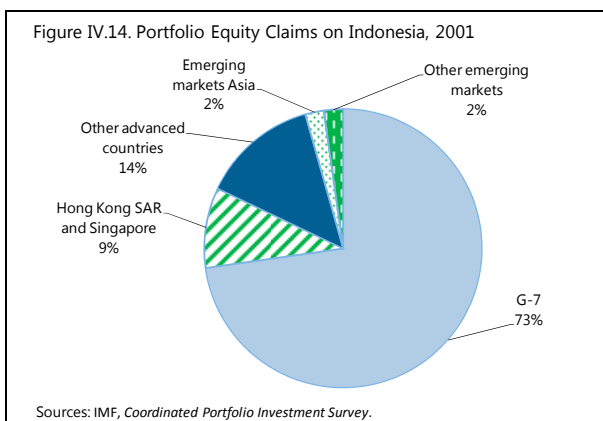
5. **While bank lending has become less important, portfolio financing has picked up.** Both portfolio debt and equity claims on Indonesia have exhibited significant growth from 2001 to 2009, albeit from small bases.⁴ With strong capital inflows towards rupiah debt instruments in 2010–11, portfolio debt claims on public sector instruments alone are already about 6 percent of GDP. Only Malaysia seemed to have experienced a similar increase in portfolio debt claims, while all ASEAN-4 countries saw strong growth in portfolio equity claims.



6. **Similar to bank funding, the composition of portfolio claims on Indonesia has also become more diversified.** On the portfolio debt side, the United States and Singapore stayed as top investors, together accounting for 55 percent of total investment. However, while the bulk of the claims remained within G-7 countries, there has been a significant increase in investment from small European financial centers such as Luxembourg, the Netherlands, and Ireland. This trend was also seen in other ASEAN-4 countries. This may suggest a larger pool of advanced countries' investors (and funds) diversifying their portfolio into emerging markets, including Indonesia and its neighbors. Portfolio debt holdings within emerging Asian countries, however, have not increased. Similar trends were observed for portfolio equity claims.



⁴ CPIS data are only available through end-2009.



B. More Diversified = Less Vulnerable?

7. **There are two sides to the diversification of the sources of funding.** On the one hand, having more sources of funding helps diversify risks from source countries. It could also help reduce concentration risks which arise when recipient countries have unusually large concentration of exposures to only a few sources. If a large shock hit a main funding source, the recipient country could experience a more severe cross-border deleveraging. On the other hand, if the new sources of funding are also highly connected to other “core” source countries, the benefit from risk diversification may not be high and the recipient country may become more vulnerable to systemic risks.

8. **Insight from network theory indeed suggests that financial linkages are a double-edged sword.** As explained in IMF (2011a), financial interconnectedness has the potential of making the network (of source and recipient countries linked by financial claims) more robust (through risk diversification) but it may raise the network’s fragility to systemic breakdowns. If a localized shock hit a single source country, the resulting cross-border deleveraging can be manageable for the recipient country. However, if a highly interconnected source country is hit by a large shock, the shock can be propagated widely via its linkages to the rest of the network. In practice, financial shock transmission can be seen through comovement of financial and risk indicators as well as evidence of shift in exposures to different markets.

C. Recent Evidence of Financial Spillovers to Indonesia

9. **Empirical evidence from the Lehman crisis period suggests that spillovers from the external environment were important.** In a spreads model incorporating external financial, as well as domestic macroeconomic, financial and political variables, Goyal and Ruiz-Arranz (2009) show that external factors, including global risk aversion and international liquidity, accounted for over 50 percent of the increase in Indonesia’s EMBI spreads during 2009. The model fit the increase in Indonesia’s spreads well.

10. **Indonesia’s external financial conditions have improved markedly since 2009.** Improved fundamentals, including political stability, a stronger external position and robust

growth prospects, have helped lower market perceptions of Indonesian risks. As of August 2011, despite a renewal of global risk aversion and a subdued growth outlook in the advanced economies EMBI and CDS spreads remained below their 2010 peaks during the Greek turmoil around April to June 2010. Simple charts do show evidence of spillovers from the euro area debt crisis. Figure IV.16 shows spikes in Indonesia's EMBI and CDS spreads during the 2010 turmoil, similar to spikes in other large EMs. More recently, a shift towards global risk aversion in July–August 2011 has also translated into increases in spreads across EMs and falls in equity prices.

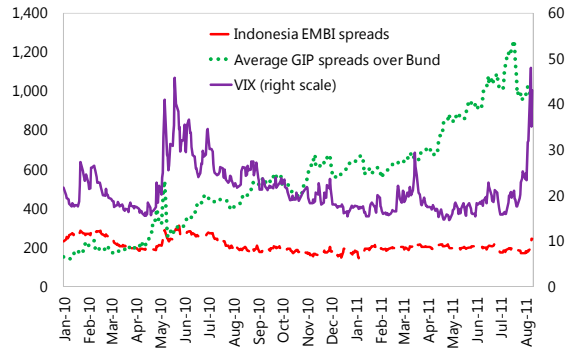
11. Simple correlation plots show evidence of spillovers from the European periphery distress in 2010. Asset price comovement is one indicator of financial spillovers. In its simplest form (Figure IV.17), Indonesia's equity prices appear less correlated with the U.S. equity price indices compared to Turkey or Brazil. Spillovers from the euro area debt crisis were observed through correlation with Greece-Ireland-Portugal (GIP) CDS spreads and more recently, German CDS spreads. The period of high correlation appear to last for about three months in 2010.

12. Results from a dynamic conditional correlation model suggest that spillovers from the euro area problems in 2010 were short-lived. To correct a potential bias in the presence of time-varying volatility, a dynamic conditional correlation GARCH model is used to infer correlations between Indonesian and other market indicators. Results from the model show a more stable (with movements being short spikes) relationship between Indonesian, German and GIP CDS spreads (Figure IV.18).⁵ The same holds for other EMs in the sample. The results also show that on average, Indonesia and other EMs are more linked to Germany (representing the core euro area) than the European periphery.

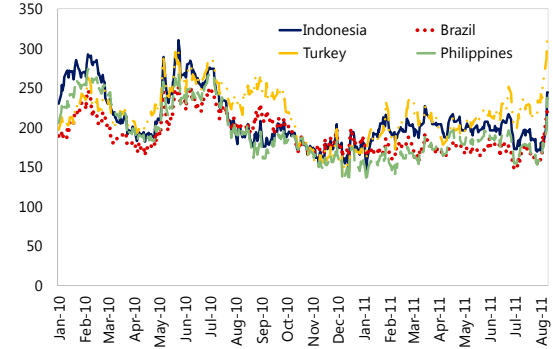
⁵ The model setup can be found in Frank and Hesse (2009). The estimates were done through April 2011.

Figure IV.16. Indonesia and Selected Countries: Recent Financial Indicators

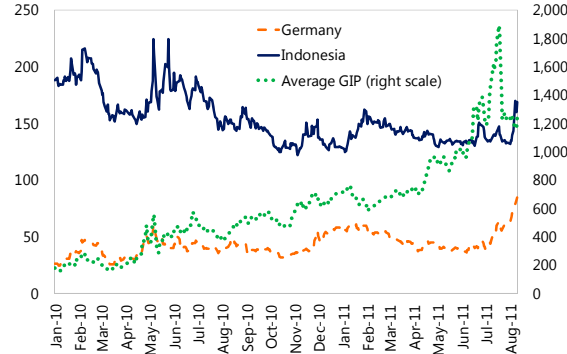
Selected Financial Indicators
(In basis points)



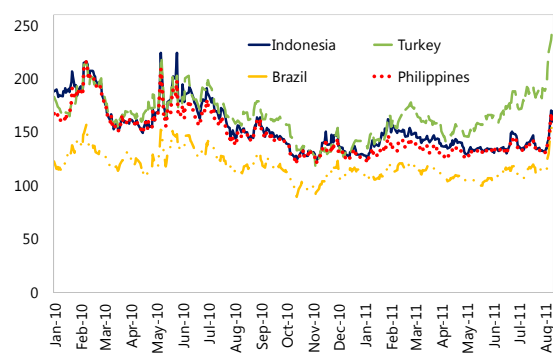
Selected Emerging Markets: EMBI Spreads
(In basis points)



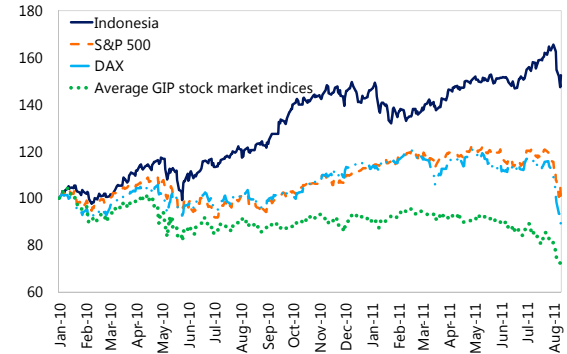
Selected Countries: CDS Spreads
(In basis points)



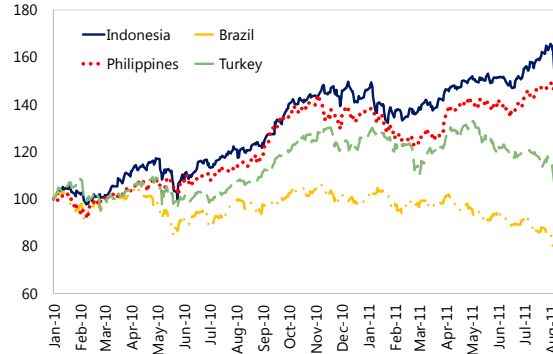
Selected Emerging Markets: CDS Spreads
(In basis points)



Selected Markets: Equity Market Performance
(Jan 2010=100)



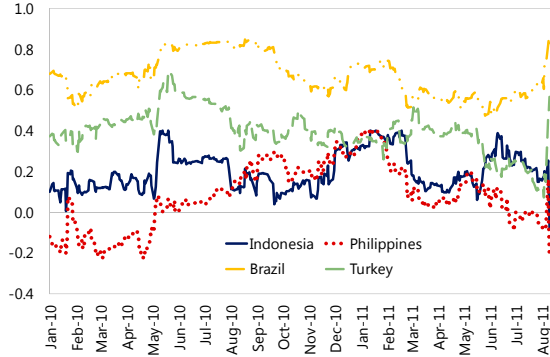
Selected Emerging Markets: Equity Market Performance
(Jan 2010=100)



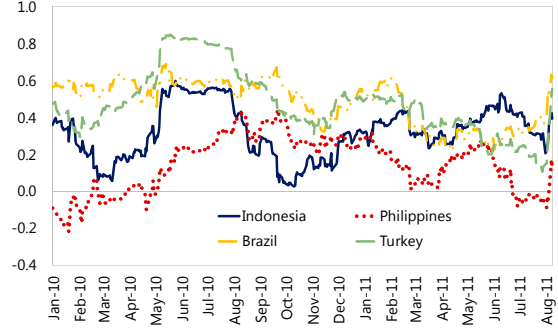
Sources: Bloomberg L.P.; Haver Analytics; Datastream; and staff calculations.

Figure IV.17. Selected Emerging Markets: Simple Correlation

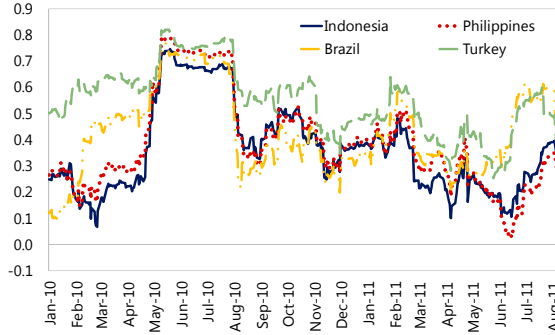
Selected Emerging Markets: Simple Correlation with S&P 500
(60-day rolling correlation of daily percentage changes)



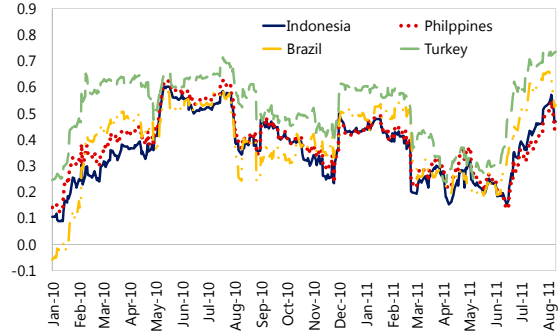
Selected Emerging Markets: Simple Correlation with German Stock Indices
(60-day rolling correlation of daily percentage changes)



Selected Emerging Markets: Simple Correlation with Average GIP CDS Spreads
(60-day rolling correlation of daily percentage changes)

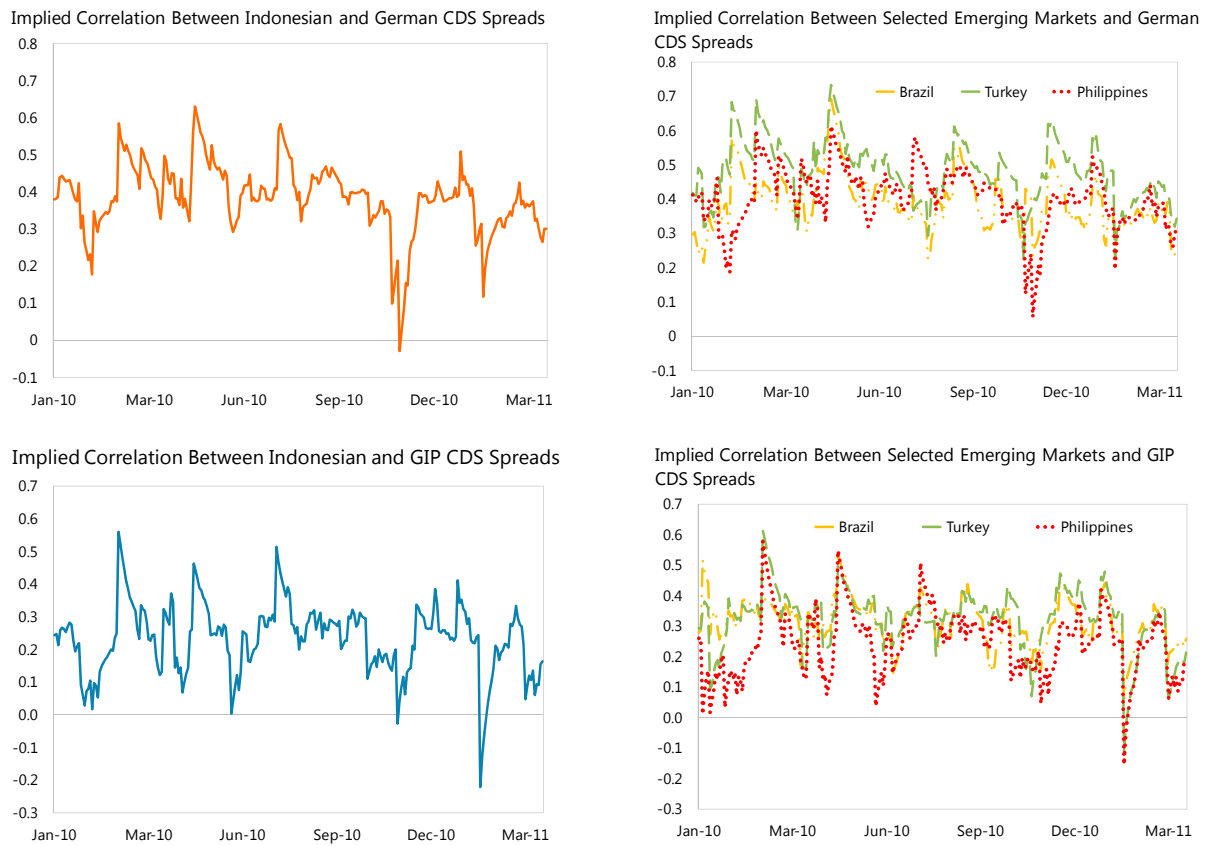


Selected Emerging Markets: Simple Correlation with German CDS Spreads
(60-day rolling correlation of daily percentage changes)



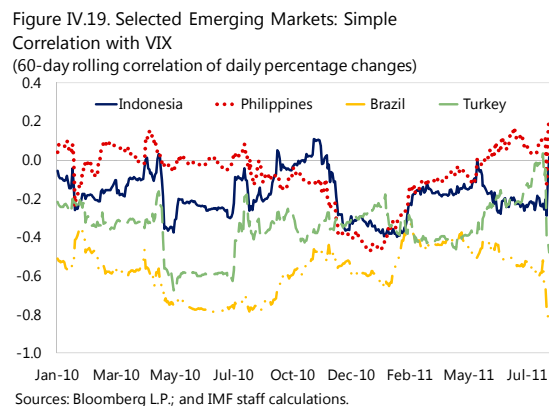
Sources: Bloomberg L.P.; Haver Analytics; Datastream; and staff calculations.

Figure IV.18. Implied Correlation



Source: IMF staff estimates.

13. **Indonesia’s equity prices also appear to be less correlated with global risk aversion, compared to Brazil or Turkey.** Both simple correlation and implied correlation from the model suggest that Indonesia exhibited a smaller degree of correlation with VIX, an index widely used to capture global risk aversion.



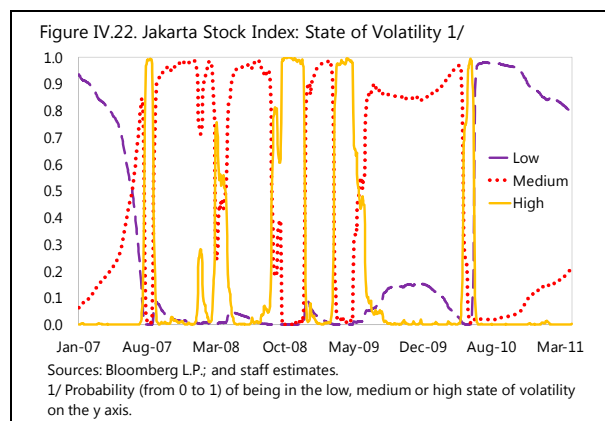
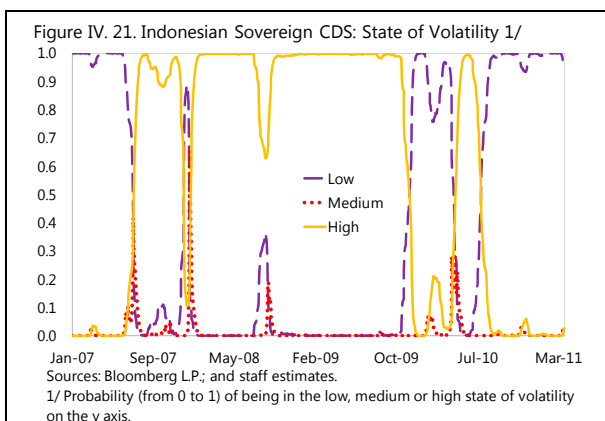
Sources: Bloomberg L.P.; and IMF staff calculations.



Source: IMF staff estimates.

14. **A model employing regime switching techniques confirms the presence of strong spillovers post Lehman and a modest one associated with euro area debt crisis in 2010.**⁶

The model basically identifies when the market conditions signal a regime change from tranquil periods to medium or high volatility states. As expected, the results using Indonesian CDS spreads and equity prices show a long period of high volatility from late 2008 to mid 2009. The spike in volatility associated with the 2010 Greek turmoil was rather short-lived and the markets returned to a tranquil state quickly thereafter.



15. **Spillovers that originated from core countries' policies are also investigated.** The impact of G-3 policy on others is difficult to measure in general. However, looking at the responses of key financial market prices to changes in asset prices in the G-3 countries around the policy announcement days is one way of capturing market perception of the impact of the announced policy. Following Bayoumi and Bui (2011), event studies are used to analyze the impact of U.S. fiscal and monetary policies on Indonesian asset prices.⁷ In particular, yield (external bond yield) and equity price spillovers are analyzed on days of significant U.S. policy announcements and checked to see whether such announcements change the typical bilateral relationship between the U.S. and Indonesian yields and equity prices.

16. **Results show some impact of U.S. policy announcements on Indonesian equity prices but no significant impact on bond yields.** Controlling for other global and domestic conditions, Indonesian equity prices are significantly and positively linked to U.S. equity prices. The relationship, however, has become less strong post 2007. The U.S. fiscal stimulus package in 2008 appears to have increased the link but the 2009 and 2010 package shows the

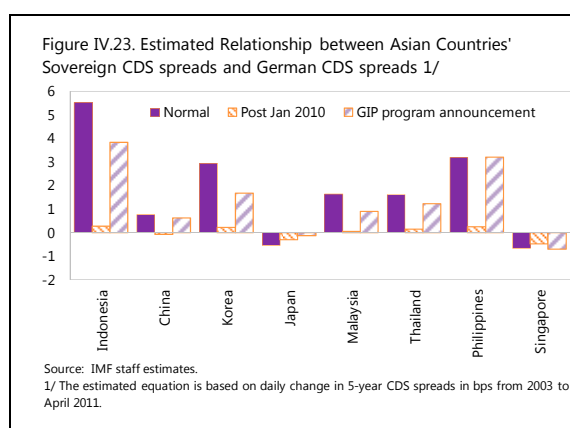
⁶ The model setup can be found in Gonzalez-Hermosillo and Hesse (2009). Data used for estimation start in 2003 for equity prices and 2004 for CDS.

⁷ In Bayoumi and Bui (2011), Indonesia is included in the estimates, but grouped with India and Russia. Here Indonesia is analyzed separately. The impact of euro area policy announcements are studied separately but follow similar specifications.

opposite effect and no effect respectively. The results are consistent with Bayoumi and Bui (2011) which does not find systematic impact on the correlations between the U.S. and foreign markets. Contrary to Bayoumi and Bui (2011) findings that bond yields in emerging markets and advanced countries in the G-20 appear to have strong correlations with U.S. treasury yields, Indonesia's link is not statistically significant. In addition, quantitative easing (both QE1 and QE2 announcements) appears to have had no significant impact on equity price and yield correlations between Indonesia and the United States.

17. **Recent Euro Area policy announcements appear to have statistically significant impacts on Indonesia's sovereign risk.** Controlling for other global conditions, Indonesian CDS spreads are significantly and

positively linked to German CDS spreads over the period 2003 to mid-2011. Similar to other Asian countries, Indonesia seems to have delinked from Germany starting from the beginning of the distress in the euro area periphery. Announcements of IMF-EU programs in Greece, Ireland and Portugal, however, appear to bring back the link between the two CDS spreads, suggesting that Indonesia as well as other emerging Asian economies remain exposed to euro area debt crisis developments. The results are consistent with the recent rise of Indonesian CDS spreads in August and September 2011.



18. **These results confirm the findings that an intensification of the euro area debt crisis could have major global consequences and thus large spillovers to Indonesia.**⁸ Small real and financial linkages (including direct banking and portfolio linkages) between Indonesia and the European periphery as well as strong growth prospects and improved domestic fundamentals have kept spillovers short-lived and contained within the financial markets so far. If the core euro area is affected, spillovers could already be larger due to a larger historical correlation with the core. Deleveraging by core euro area countries through the banking and portfolio linkages could be significant, with further deleveraging by others possible if global risk appetite disappears.

⁸ See IMF (2011b).

D. Conclusion

19. **Indonesia has become more financially interconnected over the last decade.**

Indonesia's sources of funding have broadened both in a geographical sense and in the type of funding. This phenomenon in theory should add the benefit of risk diversification, but it could also increase Indonesia's exposure to systemic shocks.

20. **There is evidence that spillovers from the recent market turmoil in 2010 have been short-lived.**

Distress in the euro area periphery in 2010 through mid 2011 did affect Indonesian financial indicators; however the effects were not lasting. This evidence is shown through simple correlation, implied correlation and empirical identification of high volatility periods. Indeed, Indonesia's growth prospects and improved fundamentals as well as search for yield in emerging markets have led to subdued yields and risk indicators up to August 2011.

21. **Further distress in the core euro area could have significant spillovers to Indonesia.**

Evidence from the event studies show that the comovement of sovereign risk measure has become tighter between the core euro area and Indonesia during important policy announcements related to the euro area debt crisis. This suggests that spillovers from the euro area debt crisis could be large as markets become more linked during a more distressed period. Such spillovers can already be identified with the recent increases in Indonesian risk indicators in August and September 2011.

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