

How has Indonesia fared in the Age of Secular Stagnation?¹

Mitali Das
International Monetary Fund
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Abstract

In the years since the Asian financial crisis, Indonesia has retrenched from the global economy both in terms of trade and financial integration. A perhaps unanticipated consequence of its rising insularity has been a remarkable stability of growth. More recently, the inward-looking stance may have limited the transmission of secular stagnation from advanced economies to the domestic economy. But the gains from higher insularity could have lowered the growth rate of potential output by limiting the positive spillovers from global integration. To achieve its ambitious growth objectives—and generating quality jobs for the expanding labor force—Indonesia will require higher investment and technological innovation that would benefit from higher global integration.

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I. INTRODUCTION

In advanced economies, the long-lasting slowdown in output growth, along with underemployment, disinflation dynamics, and negative market-clearing real interest rates have raised questions about whether these economies are in secular stagnation. At the heart of this debate are questions about whether the weak growth environment reflects transitory factors associated with the financial crisis, deeper structural factors, or transitory factors that have become permanent from the scarring effects of hysteresis. Competing explanations have emerged, ascribing secular stagnation to aggregate demand deficiency (Summers 2013, 2014), the result of a debt super-cycle (Rogoff 2016), a global saving glut (Bernanke 2015) and structural supply-side weaknesses, most prominently put forward by Gordon (2016).

While there remains little consensus about whether advanced economies are in secular stagnation or its proximate causes, still less is known about secular stagnation in the context of emerging markets. Increasingly, however, following successive markdowns of actual and potential growth rates in emerging markets (IMF 2015), commentators have noted that macroeconomic dynamics in these economies are unlikely to have decoupled from those of advanced economies amid the deep trade and financial linkages between them. This has raised questions about how strongly secular stagnation has transmitted from advanced to emerging economies, what the likely transmissions channels are, and how quantitatively significant the impact on output dynamics have been. Such questions are important for at least two reasons.

First, emerging markets are now a significant and growing fraction of the global economy, rising from around 36 percent of global GDP and accounting for some 43 percent of global GDP growth in 1980, to 56 percent of global GDP and 79 percent of global growth in 2010-15.² Consequently, stagnation—or even a temporary slowdown—in emerging markets presents a serious risk that could reinforce the weak growth dynamics in advanced economies, and raise the likelihood of a global deflationary spiral.

Second, these questions are important for emerging markets themselves. Many have seen a sharp deceleration in trend growth since the global financial crisis, despite strong

² Source: June 2017 World Economic Outlook Database. Measured in purchasing power parity (PPP) terms and PPP weights, respectively.

counter-cyclical stimulus and, in some cases, favorable demographics (IMF 2015). This has occurred at much lower levels of income per capita than in richer economies (IMF 2017). If the slowdown in advanced economies proves to be permanent, emerging economies reliant on export-led growth may need significant structural adjustments to offset the weaker growth impulse from a slowdown in external demand. For those that face significant domestic headwinds, a durable external slowdown could be the catalyst that precipitates a crisis.

The implications of these global changes could be significant for policy frameworks in emerging markets. Following the financial crisis, advanced economies deployed a range of conventional and unconventional policies to counter the protracted demand slump, with mixed results domestically and large and often disruptive implications globally (IMF 2015; Fischer 2015). Emerging market policy responses to these spillovers were by and large counter-cyclical, including nominal exchange rate adjustment, some use of foreign exchange reserves, and capital flow management measures (Sahay et al 2014). In part, this reflected a perception that the volume and volatility of capital flows spurred by unconventional monetary policy were transitory ahead of an imminent normalization, requiring effective stabilization policies but not deeper structural responses.

To the extent that the slowdown in advanced economies is now perceived as durable, emerging markets will need to adapt policy frameworks accordingly. These will need to be tailored to country-specific considerations, and may require changes to both traditional policy frameworks (fiscal, monetary and prudential) as well as deeper reforms to institutions. Some may need to reorient the structure of their economies so that growth in the future is more reliably linked to domestic factors. To effectively limit their exposure to lower volumes and higher volatility of capital flows, prudential buffers that raise resilience to external shocks and greater financial depth that lower the dependence on external financing may be necessary. To boost competitiveness, limit dependence on external demand, and raise potential growth may require, inter alia, changes in the regulation of product and factor markets, educational reforms and improvement in technological know-how. To successfully reorient from external to domestic demand, institutional changes that improve the business climate and speed up the process of structural transformation will also be required.

Against this background, this chapter will analyze the implications of secular stagnation in advanced economies for macroeconomic dynamics and policy trade-offs in one

of the largest emerging market economies in the world, which is Indonesia.

In the years since the Asian financial crisis, Indonesia appears to have forged a unique economic path, retrenching from the global economy both in terms of trade and financial integration. A perhaps unanticipated consequence of its rising insularity has been a remarkable stability of output. Indonesia was among the few emerging markets that successfully decoupled from the recessionary impact of the global financial crisis that regional peers could not escape (Blanchard, Das and Faruqee 2010). More recently, the inward-looking stance may have limited the transmission of secular stagnation from advanced economies to the domestic economy.

But such gains from its rising insularity could be ephemeral. Since the global financial crisis, the potential growth rate of output in Indonesia has been on a downward trend, driven entirely by lower total factor productivity (TFP) growth (see Section III). While the causes of slowing TFP growth can be wide-ranging, including both domestic and external factors, it is likely they at least partly reflect the ongoing decline in Indonesia's trade and financial engagement with the global economy, include a sharp rise in protectionism since the crisis, which may have limited the transfer of technology, technological know-how and best practices—the well-known productivity raising benefits of trade and financial integration. Looking ahead, policies will need to carefully calibrate the trade-off between short-term gains from retrenching from a slowing world economy and the long-term costs that an increasingly inward-looking stance may entail.

The rest of this chapter is organized as follows. Section II presents a retrospective analysis of the impact of secular stagnation on Indonesia. It briefly reviews the channels by which secular stagnation can spill over to growth, presents the evolution of trade and financial exposure in Indonesia to advanced economies, and quantitatively decomposes the contributions of domestic and external factors to Indonesia's output dynamics. Section III presents a prospective analysis, discussing the policies which can limit the impact of secular stagnation on potential growth. It begins with a decomposition of the contributors to the potential growth rate, then considers some illustrative scenario analysis on how potential growth may evolve under policies that raise total factor productivity growth to its pre-crisis trend. Section IV concludes.

II. RETROSPECTIVE ANALYSIS: SPILLOVERS OF SECULAR STAGNATION TO OUTPUT DYNAMICS IN INDONESIA

A. *Output Dynamics in Indonesia: Stylized Facts*

A key motivation for this chapter is given by Figure 1. After a period of high output growth in 2005-08, marked by a commodity boom, cheap global credit and strong performance in trading partners, the Indonesian economy began growing at a decelerating rate after the global financial crisis. Because this slowdown occurred contemporaneously with secular stagnation in advanced economies, it is tempting to conclude that the two are inextricably linked.

The historical evidence, however, suggests that Indonesia's output dynamics can evolve distinctly from global output dynamics. Between 2004 and 2009, for instance, the growth rate of real GDP rose steadily in Indonesia, averaging 5.7 percent, while it steadily declined in the United States, averaging 1.4 percent (Figure 2).³ The divergence of growth paths was reflected in a correlation -0.73. Although the growth rate of output in Indonesia and the United States have co-moved more closely since the financial crisis, it is not clear that this implies greater synchronicity of Indonesia and global output dynamics rather than responses to common global shocks.

One fact that supports the insularity of Indonesia's output dynamics from global output dynamics is the remarkably low volatility of real output growth in Indonesia. The stability of Indonesia's output growth in 2000-16 stands out among its regional peers but also emerging markets more generally (Figures 3A, 3B). It is especially notable considering the profound changes that took place in the global economy in this period, including the steep rise and subsequent sharp decline in commodity prices, the severity of recessions in many of its trading partners following the financial crisis, and the large swings in capital flows, including the taper tantrum which was especially significant for Indonesia.

This stability of output in Indonesia is, however, unsurprising once one takes account of the structure and evolution of the economy. First, domestic demand is one of the highest

³ The growth rate in the United States is taken as a proxy for the growth rate of the global economy.

among its peers, leaving it less vulnerable to the vicissitudes of external demand. Fueled by a large and growing population, domestic demand averaged 97 percent of GDP in 2000-16, with the large domestic base accounting for consumption expenditures of about 67 percent.⁴ It has also been helped by the fact that external demand is a relatively small contributor to aggregate demand, and both the export basket and export destinations are sufficiently diversified (see Figure 4c). The declining importance of external demand may however also reflect weaknesses in the business environment, which has dissuaded investment for a long period of time, particularly in the export sector (IMF 2010, IMF 2015B).

Policies have also played an important role in the low volatility of output. A strong fiscal framework, supported by caps on the fiscal deficit and public debt, has given authorities the fiscal space to maintain demand in downturns (OECD, 2016). Greater exchange rate flexibility and prudent use of foreign exchange reserves have helped absorb large external shocks and smooth output dynamics (IMF 2014). In the years since the Asian financial crisis, stronger supervisory oversight in the financial sector has improved governance and curtailed balance sheet exposures to foreign-currency borrowing, limiting the growth impact of episodic slowdowns in capital flows and currency depreciation.⁵

Will the stability of output dynamics continue in the new economic environment? How will secular stagnation in advanced economies affect the growth of output in Indonesia and what role will policies play? The next section analyzes whether secular stagnation in advanced economies has transmitted to Indonesia's output dynamics. A first step is in briefly reviewing the channels by which this can occur.

B. *Channels of Transmission*

A large body of work has analyzed the channels by which economic developments and policies in the north spill over to countries in the south (IMF 2013; IMF 2014B). Recently, Eggertsson, Summers and Mehrotra (2016) have considered monetary and fiscal policy spillovers specifically in the context of secular stagnation, arguing that these spillovers

⁴ Data are from the June 2017 World Economic Outlook database.

⁵ Drawn from several IMF Country Reports, including IMF (2007), IMF (2009) and IMF (2013).

are accentuated relative to those which occur in more normal circumstances. The spillovers from secular stagnation are not materially different from the spillovers of a temporal slowdown, with the key difference being that spillovers associated with secular stagnation are likely to be persistent (Eggertsson et. al. 2016).

Drawing on this literature, we briefly review the key channels by which secular stagnation in advanced economies can spill over to emerging economies. These channels do not necessarily act distinctly, and could be either reinforcing or offsetting.

Trade: Trade linkages are a direct source of transmitting the spillovers of secular stagnation. A deceleration of demand in advanced economies' will lower import demand from emerging markets. Indeed, the global trade slowdown is commonly viewed as symptomatic of secular stagnation in advanced economies (IMF 2016). The impact of weaker external demand from advanced economies could be amplified if it is accompanied highly accommodative monetary policy in advanced economies, leading to larger capital outflows to emerging markets and an appreciation of their nominal exchange rates.

The trade-related spillovers of secular stagnation to Asian economies may also be affected by their exposure to China, given its weight in regional trade. On the one hand, China has also been affected by slowing external demand from advanced economies. Given China's role as a hub in the regional supply chain, even in those economies with low trade links to advanced economies the impact of secular stagnation in advanced economies may transmit to their economies through China. On the other hand, China has recently begun to rebalance its economy from investment toward consumption. Because the import-intensity of investment is significantly higher than that of consumption (Kang and Liao 2016), exporters of investment goods—such as those in the euro area—may have been affected negatively, whereas exporters of consumption goods—many of which are in Asia—may have benefited.

Ultimately, the trade-related spillovers of secular stagnation will vary across countries, reflecting how high is their exposure to demand from advanced economies, their trade links with China and how significant external demand is in overall domestic demand.⁶

⁶ Furthermore, external demand in countries that are more exposed to the sectors slowing most sharply in advanced economies (such as construction and manufacturing) may be more affected than exporters of consumption goods (IMF 2016).

Financial: Financial linkages are a second source of transmitting spillovers from secular stagnation, either directly or indirectly. Emerging markets' financial linkages to advanced economies include the net inflows of foreign capital that supply credit and finance investment in their financial, non-financial and official sectors; and their stocks of external assets and liabilities.

Financial spillovers of secular stagnation can come from the weakness in demand in advanced economies that will generally lead to lower exchange rates abroad due to weaker demand for exports (Eggertsson et. al. 2016). Weaker exchange rates may benefit trade, but they can have large and deleterious balance-sheet effects and adverse growth consequences when the foreign currency exposure of external liabilities is high (Eichengreen, Hausmann and Panizza 2007).⁷ Both the size of the external balance sheet and its foreign currency denomination are important: for a given scale of the external balance sheet, the exchange rate impacts will be larger the greater is foreign currency exposure, and for a given foreign currency exposure the impact will be larger the bigger is the external balance sheet.

Financial linkages also have the potential for self-fulfilling prophecies to transmit secular stagnation from advanced to emerging market economies. This can occur if financial markets expect a permanent slowdown in advanced economies to lower the growth prospects of emerging markets, resulting in either lower capital inflows to emerging markets, or an increase in the risk premium for new lending, or both. Ultimately, the financial spillovers of secular stagnation may have highly heterogeneous impacts across emerging markets depending, inter alia, on the foreign-currency exposure of external balance sheets, the dependence on external credit and fundamentals that affect the risk premium (Blanchard et. al. 2010).

C. How exposed is Indonesia to secular stagnation in advanced economies?

To assess whether secular stagnation in advanced economies has affected macroeconomic dynamics in Indonesia, this section examines the strength of the transmission channels

⁷ By contrast, external assets denominated in foreign currency, would improve in local currency value. For a net creditor, the net impact of a depreciation on the external balance may be to raise the value of the net international investment position (NIIP). For a net debtor like Indonesia, however, the negative revaluation of liabilities would likely exceed the positive revaluation of assets, leading to a lower NIIP.

described above. To put its exposure in perspective, Indonesia is compared with a large group of emerging markets including regional peers in ASEAN-4 (Malaysia, Thailand and Philippines). As the historical perspective is also useful, we also examine the evolution of these exposures from the Asian financial crisis to the current time.

- Trade-related exposure:

Several indicators can shed light on Indonesia's trade-based exposure to secular stagnation: (a) the size of the external sector in relation to the overall economy; (b) the diversity of exposure to exports and imports across regions; and (c) the contribution of net exports to output growth.

Starting in the early 2000s, the size of Indonesia's external sector has steadily declined in proportion to the economy (Figure 4A). While exports were 40 percent and imports were 32 percent of GDP in 2000, both had declined to under 20 percent by 2016. Remarkably, barring a short-lived uptick in 2003-05, these declines have been steady through the domestic business cycles, the commodity price boom before the financial crisis, the commodity price bust starting in 2013, and the expansion of global value chains in Asia since the early 2000s.⁸

Figure 4B illustrates how these trends compare with average openness among emerging market peers. The data reveal two facts: first, there is tremendous heterogeneity in external sector exposure across emerging economies. Second, while Indonesia is more closed than all its regional peers, it has been more exposed than other large economies, including among them Brazil and Turkey.

A natural question is whether the extent of Indonesia's declining external exposure is heterogenous across its trading partners. To shed light on this question, Figures 4C and 4D present the evolution of Indonesia's export and import shares by region. A striking feature is that all of the decline in Indonesia's external sector exposure has resulted from lowering trade with advanced economies. Between 2000 and 2016, the share of Indonesia's exports to

⁸ Although it is beyond the scope of this chapter's analysis, these trends suggest that deeper structural factors are behind the rise in insularity. By some accounts, they reflect long-standing institutional weaknesses in the regulatory framework, the judiciary and in tax administration that have dissuaded private investors, particularly in export sectors (IMF 2005).

advanced economies declined about 25 percentage points, and the share of imports from advanced economies declined an even larger 45 percentage points. The region that absorbed those declining shares from advanced economies was predominantly emerging Asia, rising by about 20 and 30 percentage points respectively.⁹

These trends are important to note since if secular stagnation is to result in lower external demand, the compositional evolution of Indonesia's trading partners indicates it is likely to have been significantly insulated from weaker export demand. Indeed, not only has exposure to advanced economies been on a declining trend, but Indonesia's exports to these economies is modest in percent of GDP as well, averaging about 6 percent in 2000-16.¹⁰

The conclusions we draw from Figures 4A-4D is that Indonesia has moderate to low exposure to external demand from advanced economies, with a declining trend. Furthermore, the external sector has been falling as a share of the economy and its contributions to output growth have been small (Figure 4E).

- Financial exposure:

Turning to Indonesia's global financial linkages, both stock and flow indicators shed light on the channels by which secular stagnation abroad can transmit to the domestic economy. A key stock indicator is the size and (currency) composition of its external balance sheet, while the main flow indicators are the volume and volatility of non-official international capital flows that supply credit and finance investment in the economy.

In the years between the Asian financial crisis and global financial crisis, Indonesia steadily lowered its financial integration with the global economy, as reflected in the declining sum of external assets and external liabilities (Figure 5A). By this measure, financial integration fell from 118 percent of GDP in 2001 to 80 percent of GDP in 2007.¹¹ This lay in marked contrast with one of the major trends of the last quarter century in the

⁹ As shown in Figures 4C and 4D, the rise in trade with emerging Asia is not driven by China.

¹⁰ Source: World Economic Outlook Database, June 2017.

¹¹ The trough of the sum of foreign assets and liabilities in ratio to GDP is 42% in 2008. However, the 2008 level may be well be sui generis, reflecting large valuation effects from both the steep depreciation of the Rupiah and the large drops in asset prices.

world economy (as well as in newly-industrialized Asian economies and developing Asia), which has seen record cross-border transactions and a concomitant rise in financial integration (Obstfeld 2015).

One reason for the low and declining exposure to external liabilities is a regulatory environment that has impeded foreign direct investment (FDI). As per one measure of regulatory restrictiveness, Indonesia has among the most significant limitations within ASEAN 9, including outright bans, on foreign participation in certain sectors.¹² Another factor is the rapid decline in foreign currency liabilities by banks and non-financial corporates, amid tighter supervision that has sought to address corporate governance problems that proved so damaging in 1997. Debt liabilities declined from 90 percent of GDP in 2000 to under 30 percent of GDP in 2013.¹³ Since the global financial crisis, Indonesia's financial integration has reversed course, climbing to about 93 percent of GDP in 2015, a level last seen in 2002. The data reveal that this has resulted from a nearly equal increase in external assets and liabilities

Nevertheless, as of 2015, Indonesia remained one of the least financially integrated economies among emerging market peers (Figure 5B). The discrepancy with its regional peers is especially noticeable, as their external assets and liabilities each lie well in excess of 100 percent of GDP in Philippines and Thailand.

An important fact about Indonesia's external balance sheet is that since the Asian financial crisis, the foreign currency denomination of external liabilities has steadily declined; Figure 5C. While 83 percent of foreign liabilities were denominated in foreign currency on the eve of the Asian financial crisis, this had fallen to about 42 percent in 2012.¹⁴

¹² Source: OECD FDI Regulatory Restrictiveness Index database. ASEAN 9 is Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Viet Nam.

¹³ Source: External Wealth of Nations database.

¹⁴ Data are from Benetrix, Lane and Shambaugh (2015). Indonesia is not unique in this respect, as the decline of "original sin" (as the foreign currency exposure of liabilities is referred to in Eichengreen et al 2007) has been observed in emerging markets across the world.

From Figures 5B and 5C we conclude that the combination of a small external balance sheet and moderate foreign currency exposure limits the financial channel of transmitting secular stagnation from advanced economies to Indonesia.

These conclusions are supported by the flow indicators of financial linkages. Despite some episodic retrenchment, most notable during the taper tantrum of 2013, net and gross international capital flows to Indonesia have been steady since the global financial crisis (IMF 2016B). As shown in Figure 5D, the volatility of net non-official flows is moderate among emerging market peers and compares favorably to regional peers. There is no evidence, either, that the cost of external financing has changed (Figure 5E), suggesting little evidence of financial market self-fulfilling prophecies described in Section 2.A.

In conclusion, Figures 5A-5E suggest that with low to moderate financial linkages with the rest of the world, and steadily falling foreign currency denomination of external liabilities, Indonesia is not heavily exposed to financial-related spillovers from advanced economies.

D. Analytic decomposition of the domestic and external contributions to growth

We now turn to a quantification of the contributions of external and domestic factors to real GDP growth in Indonesia. The analysis is based on a vector auto-regression (VAR) analysis, using quarterly data from the first quarter of 1999 to the second quarter of 2016. To limit the number of estimable parameters relative to the number of observations, the VAR is limited to ten variables, comprising four external factors and six domestic factors. All variables enter the VAR with three lags.

To assess the impact of secular stagnation in advanced economies, the external factors include U.S. real GDP growth (a proxy for advanced economy demand shocks), U.S. inflation (a proxy for advanced economy supply shocks, once U.S. growth is controlled for), and the U.S. 1-year treasury bond rate (to capture the advanced economy monetary policy stance). In addition, the VAR includes the real growth rate in China, given China's growing significance in the region. Domestic factors include the real output growth rate in Indonesia, domestic consumer price inflation, the rate of real exchange rate appreciation versus the U.S. dollar, the EMBI spread (to proxy external financing conditions), the change in terms of trade

(capturing factors other than changes in external demand or financing conditions), and the short-term interest rate proxied here by the JIBOR. Terms of trade are arguably either a domestic or an external factor. Results were not sensitive to this choice.¹⁵

Table 1 gives the correlations between domestic real GDP growth and external and domestic factors over the entire period and the period after the global financial crisis. One correlation stands out: while U.S. real GDP growth has negligible correlation with Indonesia's real GDP growth over the entire period (consistent with Figure 2), this correlation has strengthened considerably since then. This is *prima facie* evidence that since the global financial crisis, secular stagnation in advanced economies may be transmitting to domestic output dynamics.

Using the VAR estimates, we compute what fraction of Indonesia's real GDP growth (relative to its estimated average growth over the sample period) that can be attributed to external versus domestic factors. The results are summarized in Figure 6.

Domestic factors explained over three-fourths of the deviation of Indonesia's growth from the estimated sample mean from 1999 through the end of 2004. The contribution of external factors to deviations from average growth started rising intermittently in 2006, imparting positive contributions for most quarters in 2006 through the second quarter of 2008. Growth dynamics during the global financial crisis are dominated strongly by external factors, with domestic factors re-emerging to play a role late in 2009.

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

¹⁵ In estimating the VAR, the key restriction is that shocks to the external block are assumed to be exogenous to shocks to the internal block. Thus, the external variables do not respond to the internal variables contemporaneously. Furthermore, within the external factors, identification of the shocks is based on a recursive scheme: U.S. growth affects all variables within a quarter, whereas shocks to other variables can affect U.S. growth only with a lag of at least one quarter. U.S. inflation shocks may affect all variables other than U.S. growth within a quarter, and the U.S. 1-year treasury rate is placed last in the recursive ordering which implies that it contemporaneously to all external factors, but not to any of the domestic shocks. Among the internal block, shocks are not explicitly ordered. These assumptions follow closely the VAR exercise in IMF (2014C).

estimated mean.

In conclusion, taking the post-crisis years as broadly indicative of the start of secular stagnation, the VAR results are consistent with secular stagnation in advanced economies transmitting negatively to output dynamics in Indonesia. However, the quantitative impact of the drag from external factors are not large in historical perspective, although they are not insignificant either. Since late 2013, they have been strong enough to partially or even fully offset the strength of domestic factors. That this has occurred despite fairly low and declining linkages between Indonesia and the global economy points to the complexity of spillovers, including possibly reinforcing channels and indirect transmission through regional trade partners.

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

III. PROSPECTIVE ANALYSIS: COUNTERING THE SECULAR STAGNATION HEADWINDS

Assessing the medium-term path of output is critical for the conduct of monetary, fiscal and structural policies. To the extent that demand weakness in advanced economies is temporary, counter-cyclical stabilization policies may suffice in addressing the short-term deceleration of domestic growth. A longer-term, structural decline in the growth rate of advanced economies will require a clearer understanding of whether it will impact the path of potential growth in Indonesia, and thus inform whether policies are needed to raise it.

A. Potential Output Dynamics in Indonesia: Stylized Facts

Since the global financial crisis—and broadly coinciding with the slowdown in advanced economies—potential growth in Indonesia has been on a downward trend. Between 2000 and 2008, the potential growth rate rose from about 4 percent to 5.7 percent. It has since edged down to 5.4 percent in 2009-16, and is projected to trend down further over the

medium term.¹⁶ This trend is not unique to Indonesia. IMF (2015) finds in emerging markets as a whole the potential growth rate declined by about 2 percentage points after the global financial crisis. From that perspective, the declining trend is mild in Indonesia.

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

Using a standard growth accounting framework, Figure 8 presents a decomposition of the growth rate of potential output into the growth rates of factor inputs and total factor productivity.¹⁷ This decomposition reveals that potential output dynamics in Indonesia can be traced predominantly to TFP dynamics.

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

Since the global financial crisis, the decline in potential output growth rate is largely attributable largely to the decline in the growth rate of TFP. The contribution of employment and capital growth helped have helped offset some of the decline in TFP growth between

¹⁶ Source: World Economic Outlook Database June 2017

¹⁷ The decomposition is of potential growth rate into the actual capital growth rate, *potential* employment growth rate reflecting the working age population,

2009-10 and 2011-14, reflecting in part a modest stimulus that Indonesia implemented as external demand softened in 2009. The role of TFP in lowering potential output is widespread in emerging markets, where it has been found to account for the entire post-crisis decline in potential growth rates for emerging markets as a whole (see Cubeddu et. al. 2014 and IMF 2015). Before turning to a prospective discussion of policies to raise potential output, the next section briefly reviews some of the factors that may be contributing to the deceleration of TFP in Indonesia.

B. *Sources of Changes in Total Factor Productivity*

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

Declining TFP growth may also be a result of convergence to the technological frontier. It has been argued that after over a decade of rapid factor accumulation during the process of catch-up, it was inevitable that the growth rate of factor utilization¹⁸ and human capital growth—an important component of TFP—would slow down (IMF 2015). In contrast to the spillovers from a slowdown in technological innovation abroad, these arguments imply a role for only domestic factors. Stylized evidence shown below suggest both could have played a role in the deceleration of TFP growth in Indonesia.

- Human Capital Growth

¹⁸ In traditional growth decomposition, factor utilization—such as hours worked, capacity utilization and the quality of labor and capital inputs, as distinct from the volume of labor and capital inputs—are traditionally accounted for in TFP rather than labor or capital inputs.

Human capital accumulation—distinct from labor input—is argued to affect total factor productivity by reflecting the quality of human capital incorporated in production (Manuelli and Seshadri 2014). It is argued that the human capital component of TFP can decline during downturns because of lower learning-by-doing in recessions (Martin and Rogers 2000). Moreover, uncertain future growth prospects may temporarily or permanently lower the desire for higher educational attainment.

Figures 9A and 9B illustrates the growth rate and level of high-skill human capital accumulation (proxied by completion of tertiary education) in Indonesia. Figure 9A shows that the growth rate of human capital accumulation was gradually rising until the global financial crisis, and has since declined.¹⁹ The decline is not severe, but taking into account the low levels of tertiary education in the population (Figure 9B), a slowdown in human capital accumulation could present bottlenecks for high value-added employment.

- Trade restrictions

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

Data from the World Bank Temporary Trade Barriers database show a steady increase in protectionism in Indonesia. Figure 10 presents the percent of imported goods which face a domestic tariff. These protectionist measures were on a downward trend before the global financial crisis, but rose sharply thereafter. More recently, they have edged down but remain high relative to the pre-GFC years.

- Institutions

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

¹⁹ Data on human capital accumulation are from the Barro-Lee dataset which only go through 2010.

As per some indicators, Indonesia has not fared well in the ease of doing business (World Bank, 2017). International financial institutions have similarly noted such structural impediments, including a weak investment climate, complex regulations and shallow financial markets (IMF 2016B). Indeed, after improvements between the Asian financial crisis and global financial crisis, measures of regulatory quality indicate that the regulatory environment has weakened in Indonesia (Figure 12). They also lie somewhat lower than in regional peers as of 2015. The declining path of regulatory quality may also have fed into lower TFP growth.

C. *Baseline and Alternative Paths for Potential Output Growth Rates*

Looking ahead, what role is there for policies if the deceleration in TFP continues to present headwinds to the growth rate of potential output? To answer this question, this section considers the evolution of potential growth through a scenario analysis, assuming a path for each of its components—labor, capital accumulation and TFP.

The scenarios are only illustrative, considering the high uncertainty of projections. For labor, the future paths are derived from projected demographics for Indonesia along with assumptions about future labor force participation rates. For the foreseeable future, Indonesia has the opportunity to reap large demographic dividends, given the projected increase in the working-age population through 2060 (Figure 12A). However, although labor force participation rates were rising steadily before the financial crisis, they have been volatile since 2010 registering a negative average growth rate in 2010-13 (Figure 12B).²⁰ Taking the working-age projections as given, the scenario analysis assumes that the labor force participation rate reverts to its pre-crisis growth rate and stabilizes at the level in OECD and EU 28 (Figure 13).

For capital, the assumption is that the capital stock continues to grow at its post-crisis average rate. This assumption is more optimistic than the scenario analysis in IMF (2015) which notes that less favorable external financing conditions, infrastructure bottlenecks and softer or flat commodity prices will likely lead to a decline in emerging market capital

growth over the medium term. Finally, TFP growth is assumed to rise to its pre-crisis mean owing, inter alia, to an increase in human capital accumulation, the removal of trade restrictions, greater foreign participation in industry through FDI and a better business climate, by simplifying regulations and increasing financial depth.

This scenario analysis suggests that potential growth in Indonesia can increase from the about 6 percent projected over the medium-term under the baseline, to a slightly higher rate of 7 percent, under this specific scenario (Figure 12). These scenarios are intended to be qualitatively illustrative, and are subject to high uncertainty. Potential growth in Indonesia could evolve differently for several reasons, such as an upward revision to the forecast of commodity prices (which could spur investment and capital growth), or a more rapid easing of barriers to FDI inflows (which could raise TFP) or a downward revision to global growth, which could result in a less benign outlook.

IV. CONCLUSIONS

In the years after the Asian financial crisis, Indonesia's engagement with the global economy weakened in terms of both trade and financial integration. This retrenchment is extremely unusual among regional peers and emerging markets more generally. The low exposure to global economic and financial developments, a large and strengthening domestic base, a strong fiscal framework, and prudence in managing international capital movements has insulated Indonesia significantly against the vicissitudes of global developments, reflected in a remarkable stability of output growth. The analysis of this chapter indicates that its inward-looking stance has limited the transmission of secular stagnation from advanced economies to the domestic economy.

But low exposure to global developments has likely also brought with it costs, most notably limiting the diffusion of technological advance and productivity-enhancing spillovers of global economic integration. Indeed, potential output growth has declined in recent years despite strong demographic tailwinds and steady capital accumulation, precisely due to lower TFP growth. This chapter identifies a slowdown in human capital accumulation, a pronounced rise in protectionism and some weakening of the regulatory environment as potential contributors to the TFP growth slowdown. Accordingly, structural supply-side

policies that enhance productivity may help Indonesia raise potential growth and weather the negative impulse from a slowing world economy.

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FIGURES

Figure 1. Real GDP growth rates
(percent, 1990-2016)

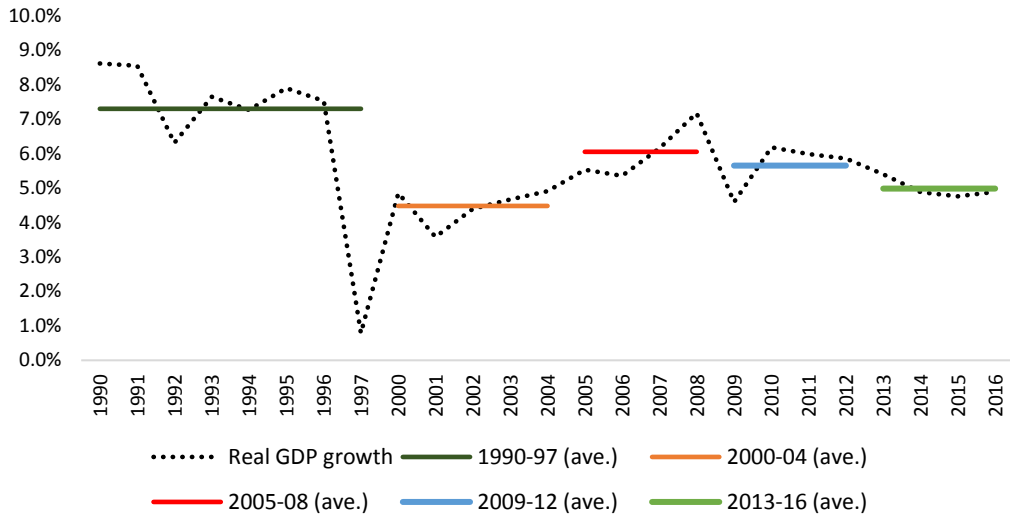


Figure 2. Real GDP Growth Rates: Indonesia and the United States
(percent, 2000:1 - 2017:1)

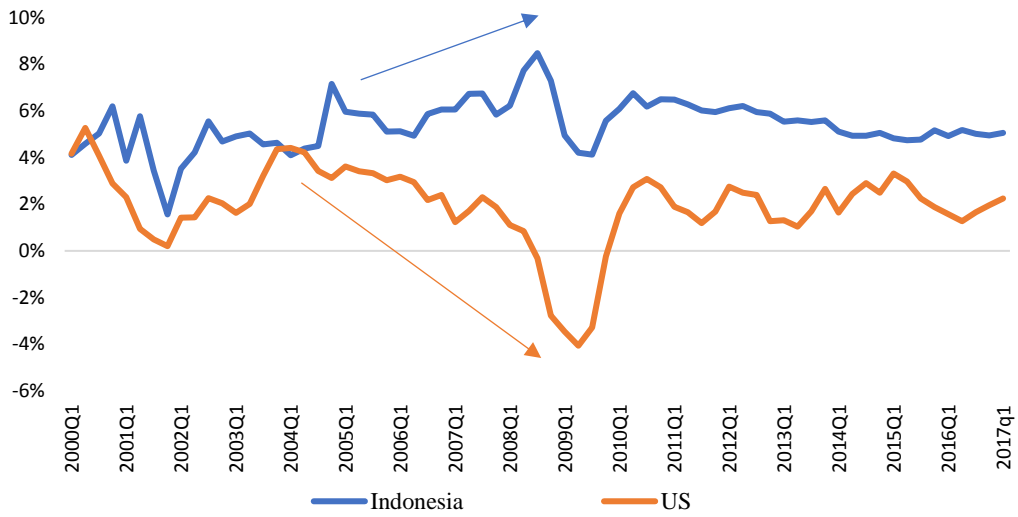


Figure 3A. Real GDP growth relative to ASEAN-4
(percent, 2000-16)

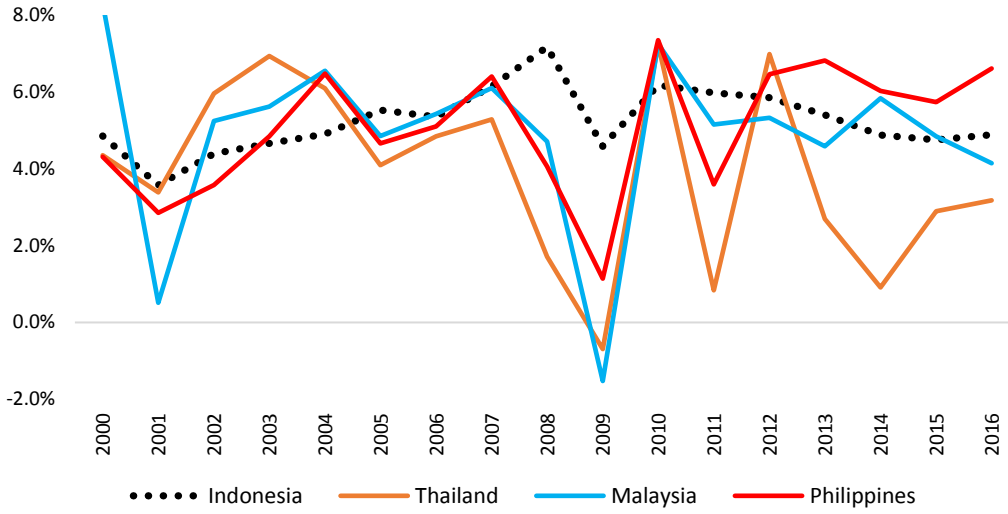


Figure 3B. Real GDP volatility relative to emerging market peers
(percent, 2000-16)

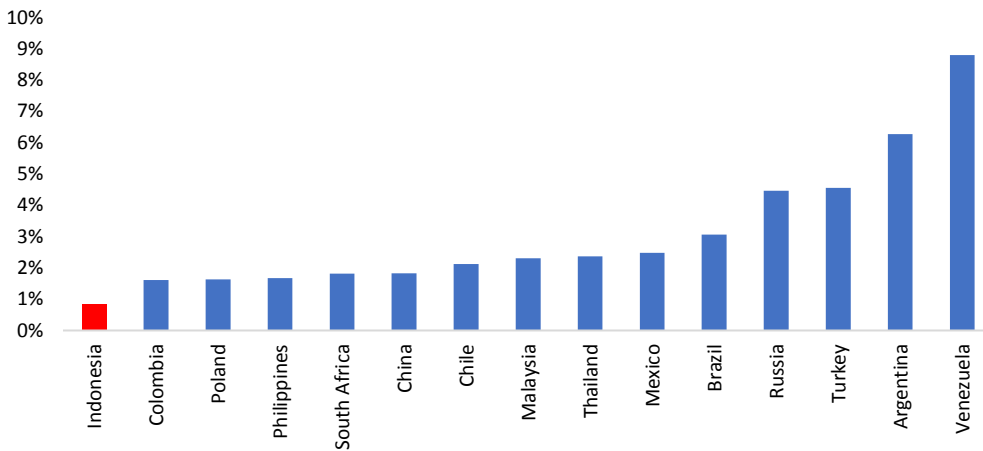


Figure 4A. Evolution of Indonesia's External Sector
(percent of GDP, 2000-16)

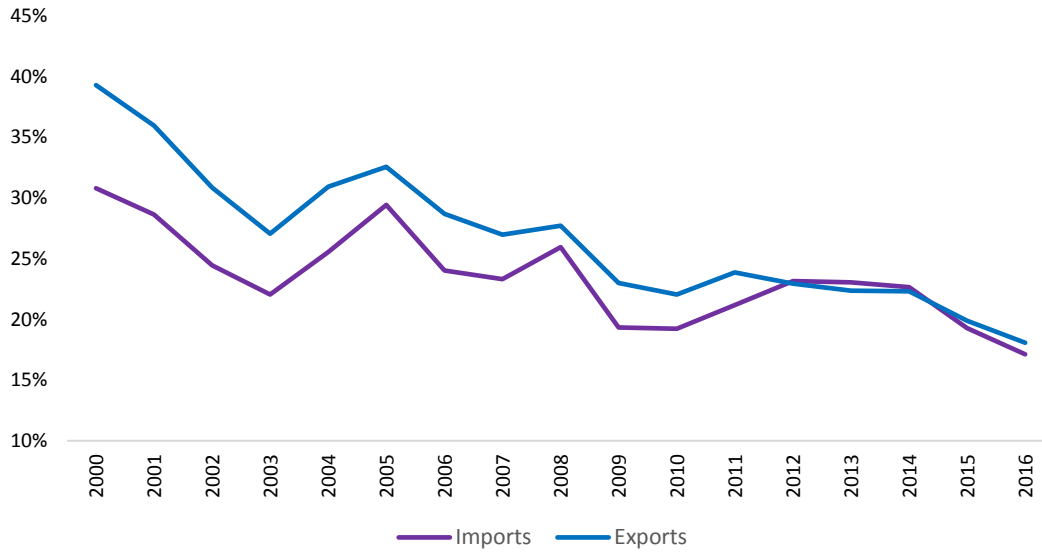


Figure 4B. Average Openness
(Export + Imports in % of GDP, 2000-16)

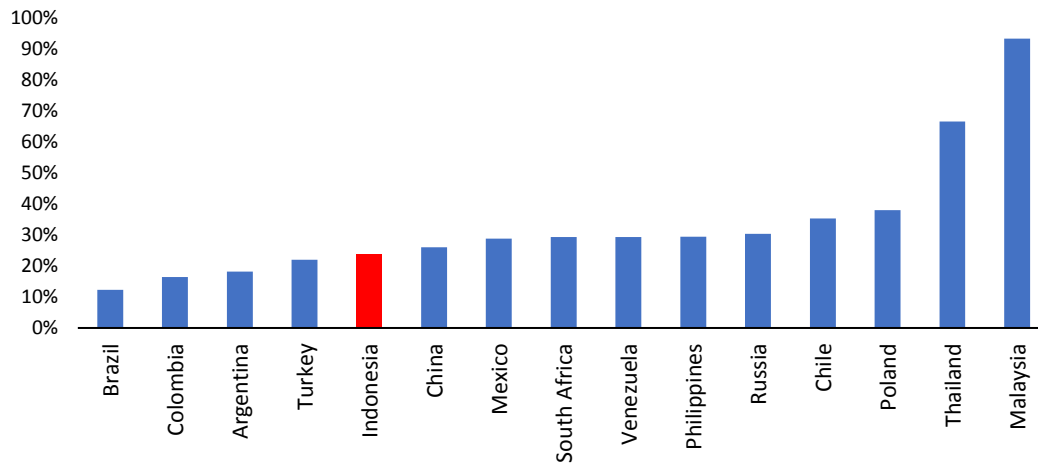
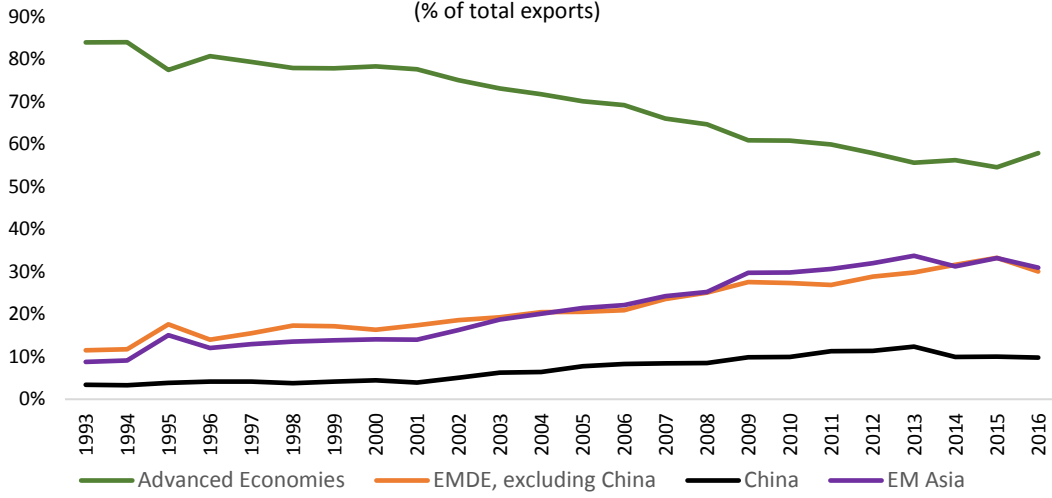


Figure 4C. Indonesia exports, by region
(% of total exports)



Source: Direction of Trade Statistics and Author's Calculations

Figure 4D. Indonesia imports, by region
(% of total imports)

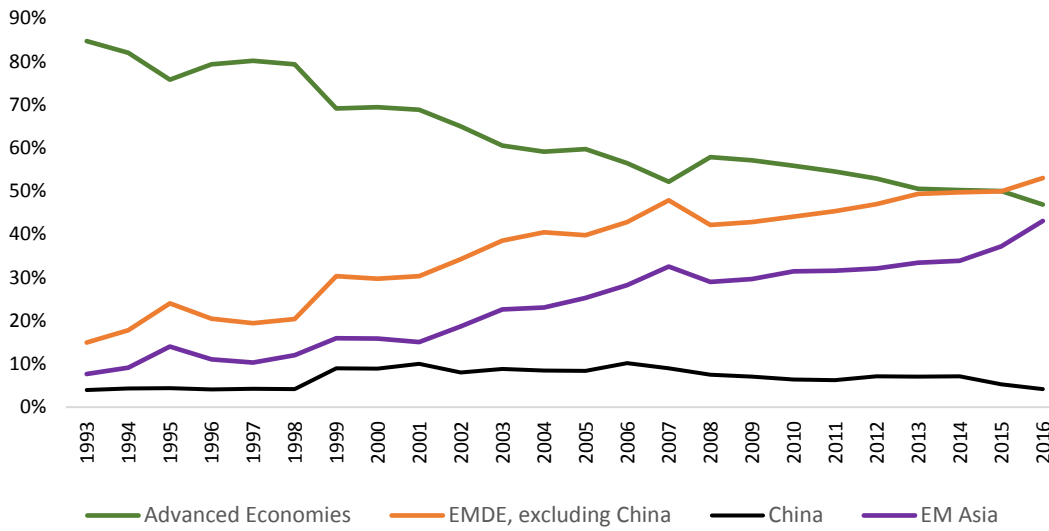


Figure 4E. Contributions to Real GDP Growth
(percent change, y/y)

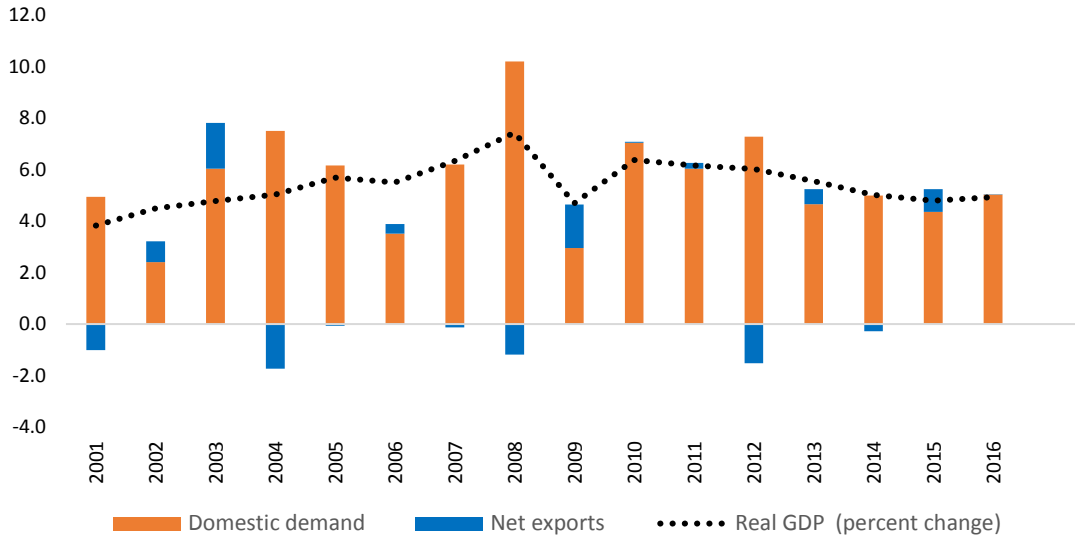


Figure 5A. Indonesia' Financial Integration with the Global Economy
(External Assets + External Liabilities, % of GDP)

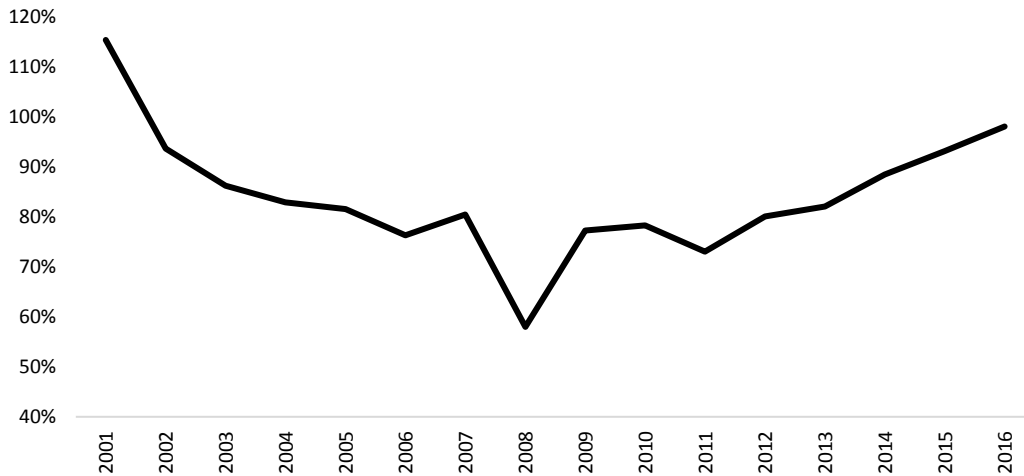


Figure 5B. Global Financial Integration of Emerging Markets
(2015 and Average 2000-15)

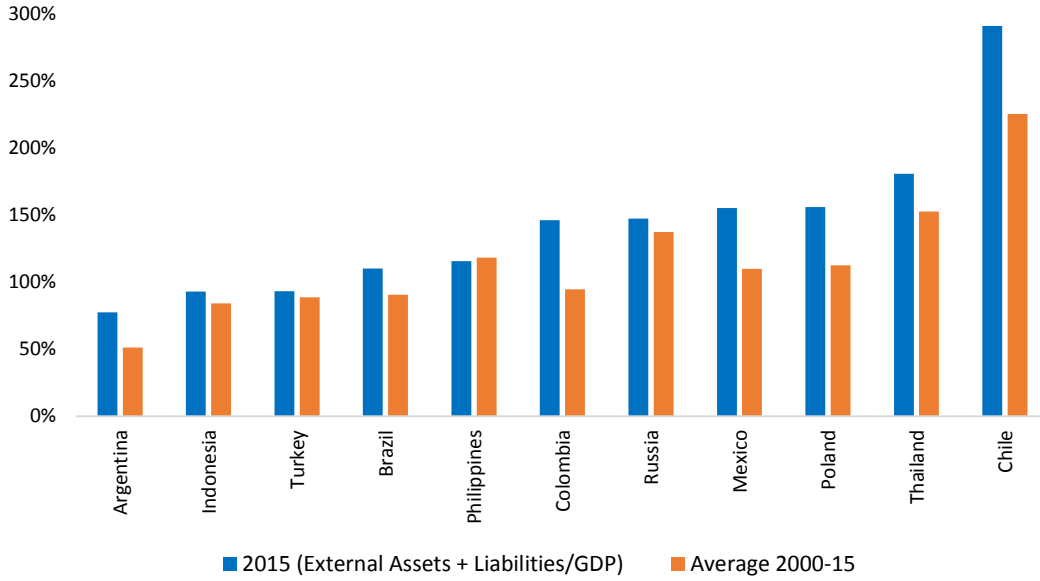
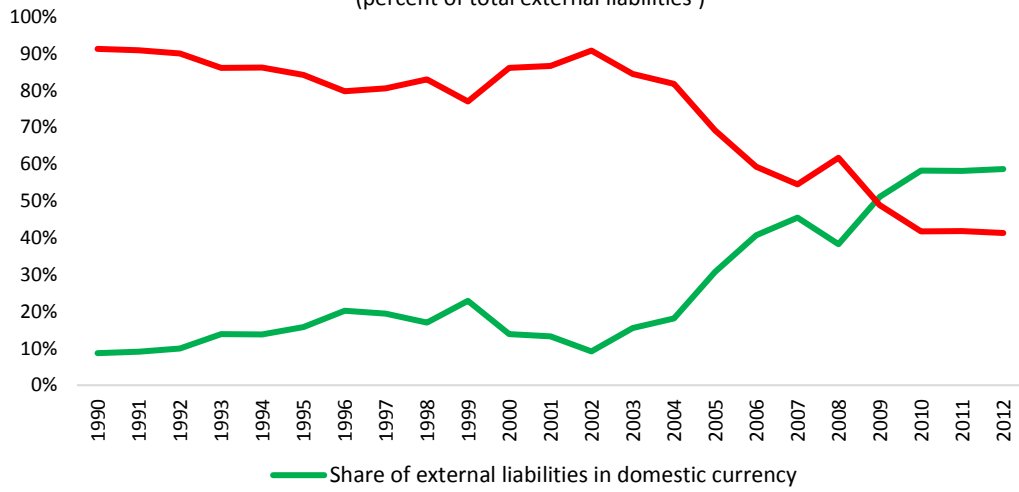


Figure 5C. Foreign currency exposure of external liabilities
(percent of total external liabilities)



Source: Benetrix, Lane and Shambaugh (2015)

Figure 5D. Volatility of the Supply of Foreign Capital
(net non-official inflows, % of GDP 2000-15)

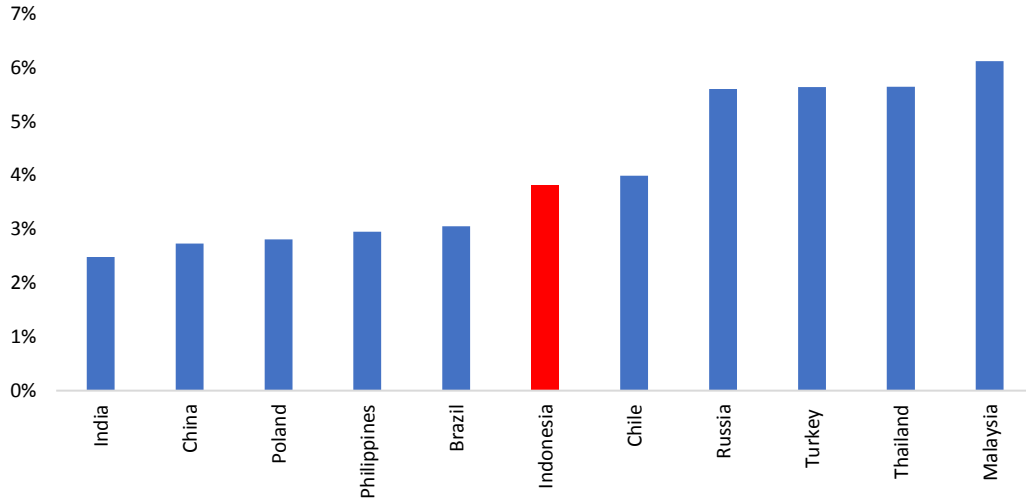


Figure 5E. Indonesia EMBI spread
(bps, 1998-2016)

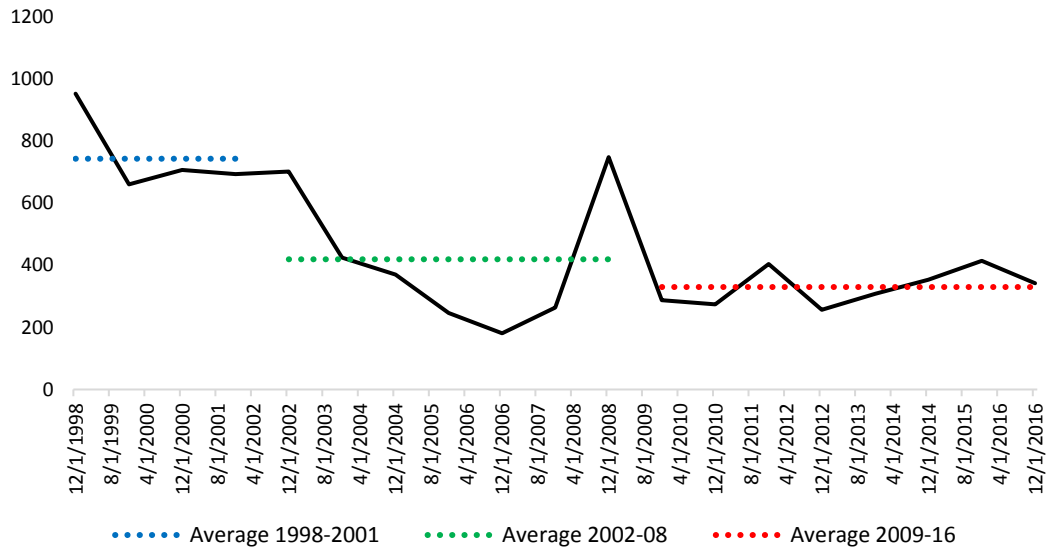


Table 1. Correlation of domestic real GDP growth with domestic and global factors

	2000-16	2009-16
U.S. real GDP growth	-.03	.45
U.S. inflation	.20	.04
U.S. 1-year Treasury bond rate	-.18	-.18
China real GDP growth	.04	.24
Domestic inflation	-.05	.11
Terms of trade growth	.03	-.01
EMBI spread	-.66	-.51
REER change (increase is depreciation)	.11	.07
Domestic Monetary Policy	-.05	.11

Figure 6. Contribution of Domestic and Global Factors to Real GDP Growth Deviations (percent)

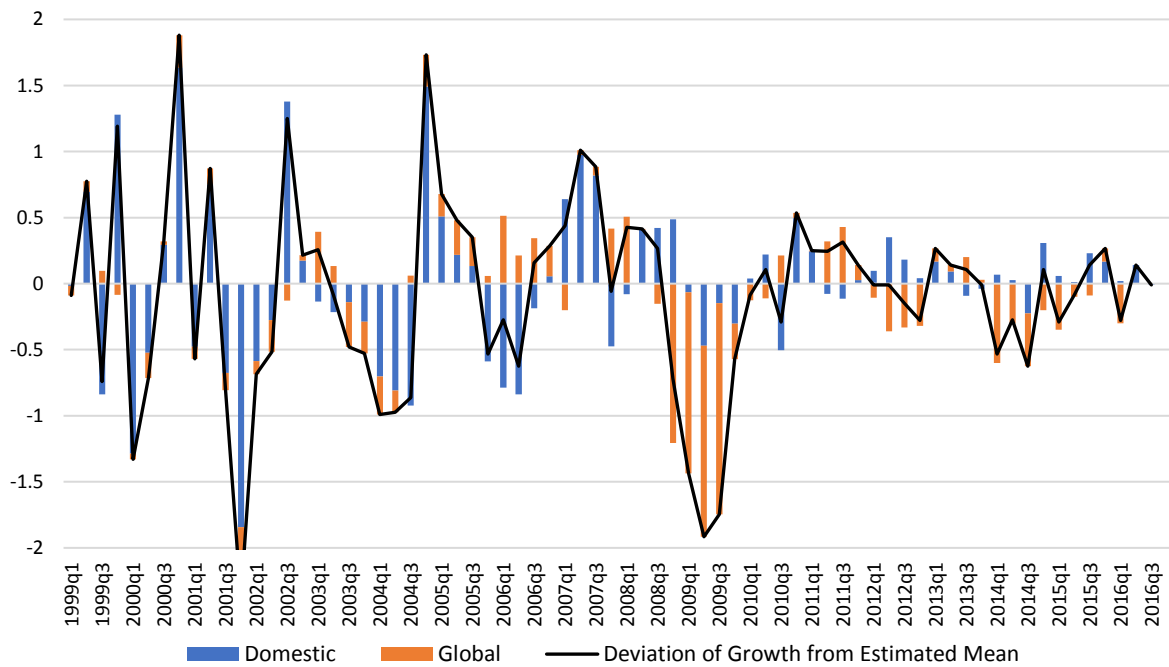


Figure 7. Potential Output Growth Rates, Actual and Forecast (percent, 2000-22)

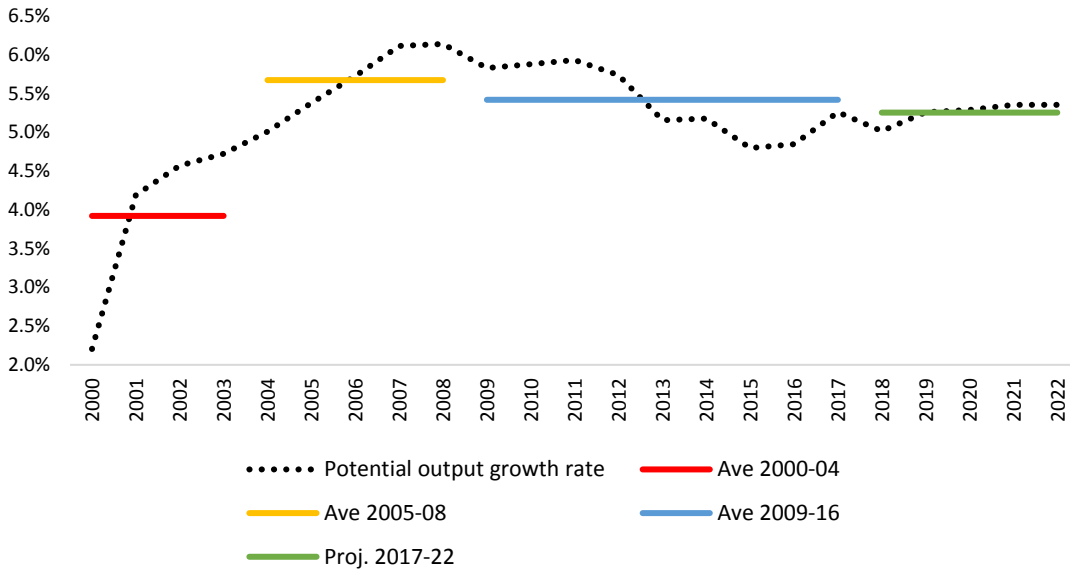
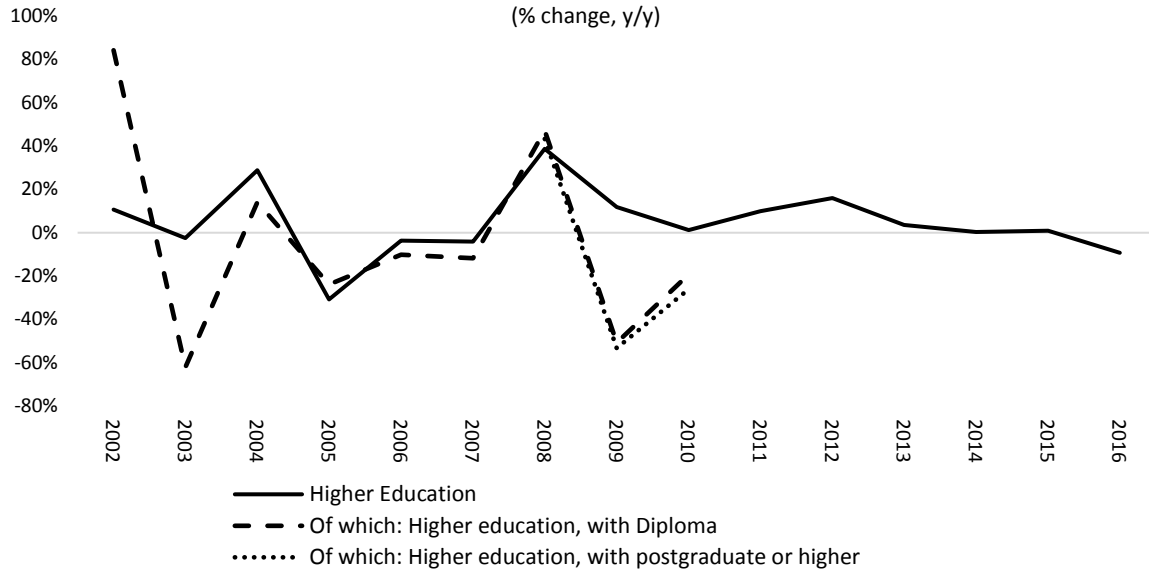


Figure 8. Potential Growth Rate Decomposition (percent)

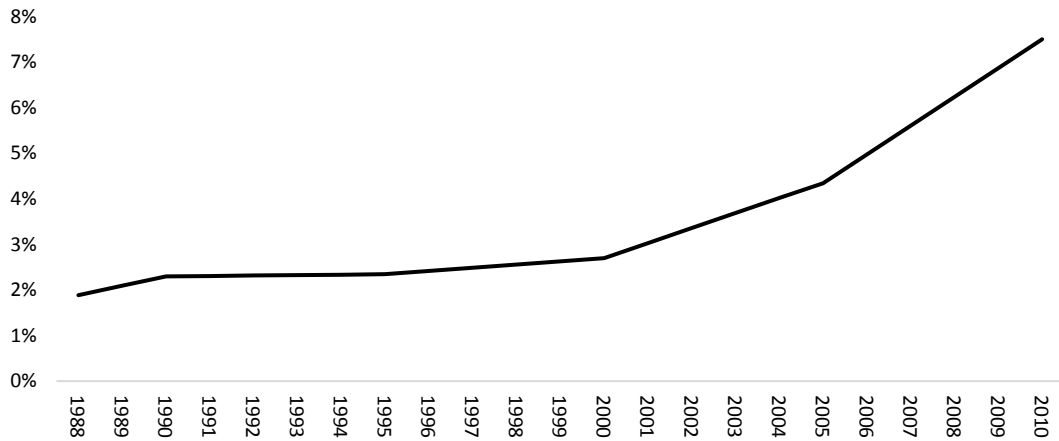


Figure 9A. Students Completing Higher Education
(% change, y/y)



Source: Central Statistics Bureau and Author's calculations

Figure 9B. Tertiary Education Completed
(percent of population)



Source: Barro-Lee database

Figure 10. Temporary Trade Restrictions on Imports
(percent of total imports)

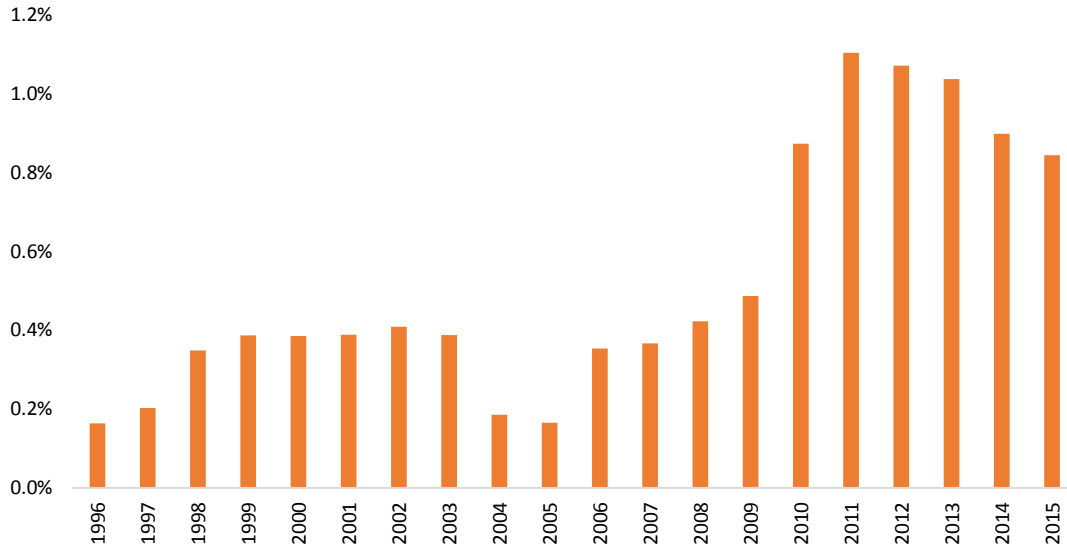
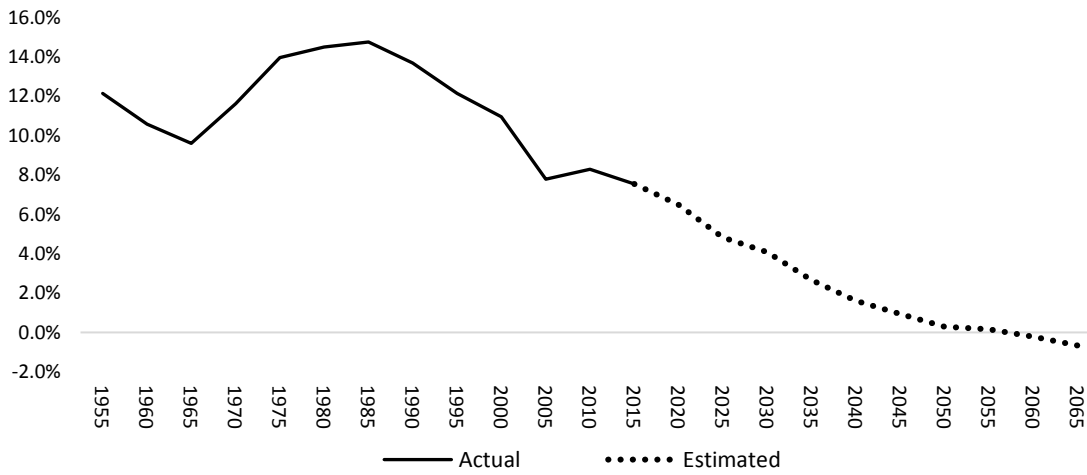


Figure 12A. Growth rate of the working-age population
(percent, 5-year intervals)



Source: U.N. Population Division and Author's calculations

Figure 12B. Labor force participation rates
(percent)

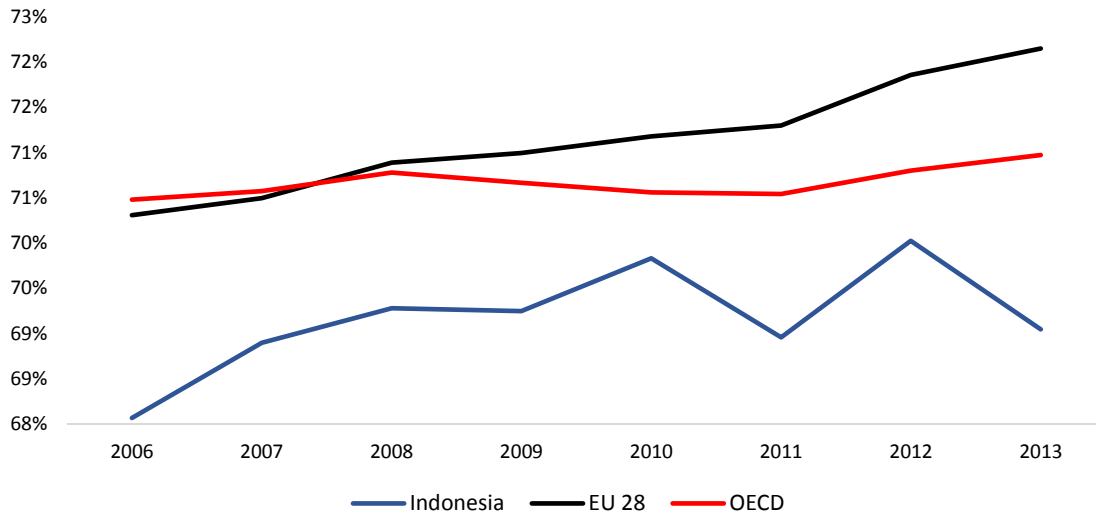
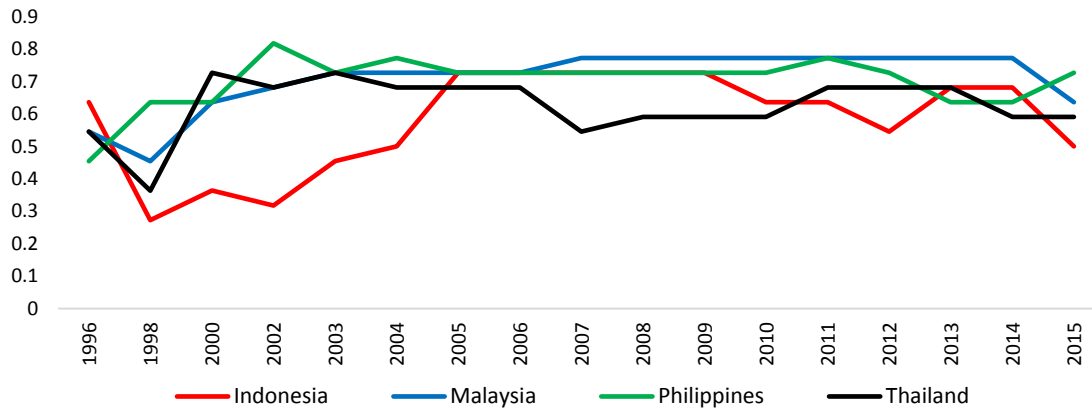


Figure 12. Regulatory Quality
(Index: 1=highest; 0=weakest)



Source: International Country Risk Guide 2015

Figure 13. Illustrative Scenario Analysis

