Managing Stability and Growth under Economic and Monetary Divergence

August 1, 2016 – Bali, Indonesia
This page is intentionally left blank
Contents

iii Contents
v Foreword
viii Background
x Seminar Summary

xix Welcome Remarks
Agus D.W. Martowardjo
Governor of Bank Indonesia

xxv Keynote Speech
William C. Dudley
President, Federal Reserve Bank of New York

1 Session 1:
Pursuing Growth Objectives After The Crisis
2 William C. Dudley
President, Federal Reserve Bank of New York
6 Raghuram G. Rajan
Governor, Reserve Bank of India
17 Zeti Akhtar Aziz,
Former Governor, Bank Negara Malaysia
39 Luncheon Speech
Boediono
Former Vice President, Republic of Indonesia
41 Session 2: Monetary Policy Trade-offs in an Open Economy

Mitsuhiro Furusawa
Deputy Managing Director, International Monetary Fund

Thomas J. Jordan
Chairman, Swiss National Bank

Ravi Menon
Managing Director, Monetary Authority of Singapore

Veerathai Santiprabhob
Governor, Bank of Thailand

81 Session 3: Achieving Financial Stability in Periods of Monetary Policy Divergence

Halim Alamsyah
Chairman, Indonesia Deposit Insurance Corporation (LPS)

Amando M. Tetangco, Jr
Governor, Bangko Sentral Ng Pilipinas

Closing Remarks One
Simon M. Potter
Executive Vice President, Federal Reserve Bank of New York

Closing Remarks Two
Perry Warjiyo
Deputy Governor, Bank Indonesia

112 Glossary
114 Committees
115 Speakers Profile
FOREWORD

The current global economic environment presents numerous important challenges to policymakers. The world is now facing declining commodity prices, persistent global imbalances, and a synchronized slowdown in emerging economies with global consequences. From a central banking perspective, however, an obvious challenge in the last several years has been the divergence between the monetary policy stance in the U.S. and other major advanced economies. Against that backdrop, the global economy is currently facing three major challenges. The first challenge is how to pursue a strategy of growth targets after the global financial crisis. Second is how optimal monetary policy can be pursued in an open economy. And third is how to achieve financial stability in the midst of world monetary policy divergence.

According to an IMF survey report in the World Economic Outlook (WEO), April 2016, global growth is forecasted at 3.2 percent in 2016, accelerating to 3.5 percent in 2017. The recovery remains too slow and too fragile, with the risk that persistent low growth could have deleterious effects on the social and political fabric of many countries. Persistently slow growth has scarring effects that themselves reduce potential output and with it, demand and investment. Growth in advanced economies is projected to remain modest at about 2 percent. The recovery is hampered by weak demand, partly held down by unresolved crisis legacies, as well as unfavorable demographics and low productivity growth. While emerging markets and developing economies will still account for the lion’s share of world growth in 2016, prospects across countries remain uneven and generally weaker than over the past two decades.

Moving forward, nurturing growth is still a priority through more aggressive policy actions to stimulate demand and raise supply potential in order to foster stronger growth in both the short and longer term. The WEO emphasizes a three-pronged approach of mutually reinforcing policy levers. These include (1) structural reforms; (2) fiscal support, with a growth-friendly composition of revenue and spending, and fiscal stimuli where there is a need and where fiscal space allows;
and (3) monetary policy measures. This approach should be supported by further financial sector strengthening to create a context in which monetary, fiscal, and structural policies can be most effective.

In an open economy, spillovers from the monetary policy of one country to other economies are a corollary of globalization. This entails that policymakers have to rise to the challenge of conducting monetary policy in the presence of these unintended side-effects. While a traditional textbook approach would focus on trade as the main channel of monetary policy spillovers, recent literature suggests that financial channels – through exchange rates and capital flows – are more important, especially when departing from a stylized world with frictionless financial markets.

The abovementioned condition makes the formulation of monetary policy in each jurisdiction increasingly complex. There is almost always a dilemma in monetary policymaking for domestic and external conditions that are not always consistent. This is coupled with the growing strength of the spillover effect of advanced countries’ monetary policies that affects other countries’ economies through the financial channel rather than the trade channel. Such conditions have accelerated the propagation of external influences to the domestic economy over the last several years. Therefore, efforts to achieve an optimal monetary policy are a serious challenge for central bankers.

In the midst of world monetary policy divergence, maintaining financial stability in the domestic economy is becoming more convoluted. Central banks have domestic mandates for price and financial stability, but they also have a role to play in stabilizing the global financial system. Many economists have argued that simply keeping their own houses in order is no longer sufficient to ensure stability in the new, globalized world. Thus, global challenges require both domestic and global responses and caution against complacency.

Aligned with that issue, to build a safer financial system, it is of paramount importance that the responsible authorities enhance financial sector surveillance while, at the same time, financial institutions play a decisive role by enhancing their risk management practices. A key challenge for policymakers will be to design appropriate responses to enhance financial system stability, including improving the detection and understanding of risks and vulnerabilities and translating those into
concrete risk warnings and policy recommendations, without imposing restrictions that would unnecessarily hamper financial innovation and reduce the efficiency of the system.

The Bank Indonesia – Federal Reserve Bank of New York Joint International Seminar with the theme “Managing Stability and Growth under Economic and Monetary Divergence” facilitated the exchange of views and opinions among central banks of advanced and emerging countries with regards to those issues. This seminar was organized by Bank Indonesia and FRBNY as an additional program to being host of the EMEAP central bank annual meeting in Bali. At the seminar, general and specific issues were discussed relating to the existence of a new chapter in the development of a global economy characterized by the growing variety of economic recovery conditions and policies undertaken by countries around the world, as well as the Brexit impact on the global and regional economies.

I sincerely hope EMEAP members can take lessons from other member states to strengthen financial cooperation in the future. Through this seminar, we emphasized the importance of central bank policymaking, as well as the need for efforts to address vulnerabilities and strengthen the foundations of the financial system.

Finally, I would like to extend my heartfelt gratitude to Federal Reserve Bank of New York as co-host of the seminar with Bank Indonesia. Also, I would like to thank all speakers for contributing their ideas and experiences at the seminar. The active participation of audience members was also highly appreciated as it contributed to the fruitful discussions during the seminar.

Jakarta, March 2017

Dr. Perry Warjiyo
Deputy Governor
BACKGROUND

The U.S. Federal Reserve has been tightening monetary policy by increasing rates over the past several months. This represents an opposing policy to the Bank of Japan and European Central Bank, who have shown little concern about overly high inflation and are likely to continue easing through various measures, including deeper or broader negative rates, expanded or extended quantitative easing and central bank stock purchases or currency intervention. Divergent actions by central banks reflect divergent economic performance. The U.S. is operating at near capacity and its growth is expected to accelerate, while the euro area and Japan still have significant slack and growth is expected to slow or, at best, stabilize at a lower rate than the U.S. Divergent global growth cannot last for long, however. As monetary policies continue to diverge, policymakers face ongoing challenges and risks in pursuing economic growth and maintaining financial stability.

Against this backdrop, Bank Indonesia and the Federal Reserve Bank of New York (FRBNY) jointly held an international seminar entitled “Managing Stability and Growth under Economic and Monetary Divergence” in Nusa Dua, Bali on August 1st, 2016. The seminar organized by BI and the FRBNY was part of the executive meeting of the central banks in East Asia and Pacific (Executives’ Meeting of East Asia-Pacific Central Banks - EMEAP). There are 11 jurisdictions as members of EMEAP, namely Australia, New Zealand, Indonesia, Thailand, Malaysia, Philippines, Singapore, Hong Kong, China, Korea and Japan. Bank Indonesia took the initiative to organize the seminar together with the FRBNY in order to enrich the discussions and provide added value for EMEAP.

The seminar was a forum to exchange views between developed and developing economies in the face of economic and financial turmoil after the global crisis. Furthermore, EMEAP members could take away lessons from other member states to strengthen financial cooperation in the future. The seminar also emphasized the importance of central bank policymaking, as well as the need for efforts to address vulnerabilities and strengthen the foundations of the financial system.
Governor Agus D.W. Martowardjo welcomed the seminar participants when delivering his opening remarks, which also triggered further discussion. In his keynote speech, thereafter, President William C. Dudley expressed his views regarding the steps in formulating policies aimed at supporting growth and mitigating risk, while maintaining monetary and financial stability.

In order to obtain deep insights concerning the theme, the seminar was designed to explore three salient issues, divided into three sessions. The first session extracted the issue of pursuing growth objectives for advanced and emerging economies after the crisis. In this session, the speakers and discussants as well as the participants probed the factors impeding the global recovery and how to balance structural reform, while supporting short-term growth. In addition, the strategies to achieve sustained economic growth were also discussed along with the unique challenges faced by small open economies in the era of divergent monetary policies, as well as how to deal with that environment.

The second session was designed to explore the monetary policy tradeoffs in an open economy. The challenges stemming from divergent monetary policies, linkages between economic and financial cycles, and the role of the exchange rate in external adjustment were discussed more deeply in order to seek clear insight into monetary policymaking. The final session focused on how to achieve financial stability in periods of monetary policy divergence. Intensive discussions ensued and views were exchanged among the policymakers at this forum in terms of formulating policy responses to promote financial stability, handling the tradeoff between financial sector reforms and growth, and learning from countries that have been using macroprudential tools to promote financial stability.
The Bank Indonesia and Federal Reserve Bank of New York Joint International Seminar entitled “Managing Stability and Growth under Economic and Monetary Divergence” held in Nusa Dua, Bali, Indonesia on 1st August 2016 was officially opened by Mr. Agus D.W. Martowardojo, Governor of Bank Indonesia, followed by a keynote address presented by Dr. William C. Dudley, President of the Federal Reserve Bank of New York.

Governor Martowardojo kicked off the seminar with his welcoming remarks addressing the portrait of current global economic uncertainty that undermines growth prospects due to the divergent economic recovery and monetary policy among major global economies. Such conditions have been exacerbated by the UK’s decision to leave the European Union, which adds to the gloomy global economic outlook. Brexit has changed the nature of global concerns regarding increased vulnerability that has led to a new era of political uncertainty.

Against that inauspicious backdrop, Governor Martowardojo outlined three current economic policymaking challenges, namely financial growth strategies following the economic crisis, the optimal monetary policy and financial stability in a world of monetary policy divergence. The prime challenge has been how to nurture sustainable growth while keeping monetary and financial stability in check, including mitigating the risk of capital reversal. Maintaining stability has become more important as a foundation to support growth. However, too much focus on stability will lead to trade-offs with economic expansion itself. Therefore, in line with the magnitude of the challenges facing the economy, the policies should be formulated in a coordinated way and not just rely on one instrument.

In that context, Bank Indonesia no longer relies solely on interest rate policy as an instrument of monetary policy, but also applies a variety of policy instruments, which are often referred to as the ‘policy mix’. In addition to using interest rate policy as an instrument of monetary policy to anchor inflation expectations, Bank Indonesia also uses flexible exchange rate policies to alleviate pressures on the external sector, manages short-term capital flows to reduce exchange rate volatility, institutes

**Seminar Summary**

The Bank Indonesia and Federal Reserve Bank of New York Joint International Seminar entitled “Managing Stability and Growth under Economic and Monetary Divergence” held in Nusa Dua, Bali, Indonesia on 1st August 2016 was officially opened by Mr. Agus D.W. Martowardojo, Governor of Bank Indonesia, followed by a keynote address presented by Dr. William C. Dudley, President of the Federal Reserve Bank of New York.

Governor Martowardojo kicked off the seminar with his welcoming remarks addressing the portrait of current global economic uncertainty that undermines growth prospects due to the divergent economic recovery and monetary policy among major global economies. Such conditions have been exacerbated by the UK’s decision to leave the European Union, which adds to the gloomy global economic outlook. Brexit has changed the nature of global concerns regarding increased vulnerability that has led to a new era of political uncertainty.

Against that inauspicious backdrop, Governor Martowardojo outlined three current economic policymaking challenges, namely financial growth strategies following the economic crisis, the optimal monetary policy and financial stability in a world of monetary policy divergence. The prime challenge has been how to nurture sustainable growth while keeping monetary and financial stability in check, including mitigating the risk of capital reversal. Maintaining stability has become more important as a foundation to support growth. However, too much focus on stability will lead to trade-offs with economic expansion itself. Therefore, in line with the magnitude of the challenges facing the economy, the policies should be formulated in a coordinated way and not just rely on one instrument.

In that context, Bank Indonesia no longer relies solely on interest rate policy as an instrument of monetary policy, but also applies a variety of policy instruments, which are often referred to as the ‘policy mix’. In addition to using interest rate policy as an instrument of monetary policy to anchor inflation expectations, Bank Indonesia also uses flexible exchange rate policies to alleviate pressures on the external sector, manages short-term capital flows to reduce exchange rate volatility, institutes
macroprudential policies to manage procyclicality, and strengthens coordination with the Government, while pursuing clear communication channels with the public.

In his keynote address, President Dudley presented a summary of the US economic outlook, incorporating recent US economic data, as well as global and financial market developments. He then discussed the implications of the outlook for US monetary policy and explained the international and financial market developments influencing his thinking.

He emphasized two key points that must be considered when formulating an appropriate monetary policy strategy in the US, namely to consider the expansive global economic ecosystem and to consistently and clearly communicate to the public. He then argued that the two key points are very important as US monetary policies have consequences for other countries and global economic growth as a whole, while the purpose of monetary policymaking could be accurately interpreted by financial market agents. The Fed has made progress in these two areas, providing an insightful view of the various factors that influence the course of US economic growth. Various other speeches, statements and actions have also provided greater understanding into its operations.

He added that to be effective and attain the goals, the policymakers would need to develop policies to support economic growth and mitigate the risks as well as be capable of maintaining monetary and financial stability. The Fed cannot make projections of monetary policy and then let implementation be static because if there are changes in economic developments, monetary policy would also need to be adjusted. If not, the goal of the policy would not be achieved. Nonetheless, he did not clarify the possibility of further tightening of US monetary policy in response to global economic developments that continue to moderate because such conditions are dependent on the data, which is not something that could be accurately predicted.

In the first session, two eminent speakers, namely William C. Dudley and Raghuram G. Rajan, Governor of the Reserve Bank of India (RBI), explored the issues of pursuing growth objectives after the crisis. In this session, Zeti Akhtar Aziz, former Governor of Bank Negara Malaysia, acted as a discussant to respond the speakers’ arguments.

President Dudley emphasized his views on the reasons why the global economic recovery has been so sluggish after the financial crisis in 2008. Economic growth in
the United States, Europe, Japan and China is below pre-crisis levels. Other countries have also experienced the same trend. There are many causes for these persistent growth shortfalls and they vary across regions and countries. However, he focused on the reasons affecting the United States in the post-crisis period.

He also argued that despite disappointing economic growth at home, the US has made significant progress towards achieving the monetary policy objectives, especially in terms of reducing unemployment and inflation. This was achieved because of several factors. First, in the United States household balance sheet repairs occurred relatively quickly. Second, the US banking system was recapitalized and deleveraging occurred quite quickly following the financial crisis. Third, the Federal Reserve was particularly aggressive early on in its pursuit of accommodative monetary policy to anchor inflation expectations.

In relation to promoting global growth in the future, President Dudley offered two recommendations. First, each country should undertake the necessary structural reforms to enhance economic efficiency and to boost productivity growth. Second, ensure that financial systems are well functioning by implementing higher capital and liquidity standards.

In his presentation, Governor Rajan highlighted the slow global economic recovery that relates to the debt taken by advanced economies in the pre-crisis period and the efforts of those countries to reduce it in the post-crisis period. This condition has also been experienced by emerging economies, which are now being advised to deleverage their foreign debt.

Efforts to simultaneously stimulate world demand have been hampered, however, by the deleveraging process. The problem of an aging population in developed countries has further complicated efforts to increase global demand, which is often suspected to be the cause of declining productivity. However, he believes that declining productivity, especially in developed countries, is not the result of an aging population. He argued that one of the causes of declining productivity is the low interest rates imposed by central banks for a long period after global financial crisis, which makes poorly performing firms remain resilient, so that the emergence of new investment is less encouraging.

Furthermore, Governor Rajan expressed his belief that current world economic growth would not reach the pre-crisis level. In fact, he suggested that we should
be content with slower rates of growth while we implement the necessary reforms to boost growth. However, he also conceded that it would not be politically easy to implement structural reforms with limited fiscal capability as well as weakened global coordination and cooperation.

In her comments, Zeti Akhtar Aziz emphasized the most pressing task that is currently confronting central banks, that is, to engineer a strong and sustainable global recovery. She believed that the task has become particularly more challenging given the current and future environment that the global economy is facing. The environment has become highly dynamic and there are now divergent policies as well as significant structural shifts on the commodity markets as opposed to the previous cyclical shifts and this has fiscal policy implications for many countries. There are also geopolitical tensions, climate and environmental factors, as well as non-economic factors, including changes in political leadership, emerging dangerous diseases, terrorism as well as changes in economic relations, for example the Brexit.

Concerning policy divergence, Zeti argued that the economic policies of each country should certainly consider what is also happening in other parts of the world. However, the main basis of the economic policy of a country should focus on domestic considerations or national interests. If the policy of a country provides a positive result then it will have a positive impact for other countries as well. Therefore, all countries have an obligation to make their respective economic policies contribute to maintaining global stability and growth. She agreed that the central bank’s policy is no longer enough simply in terms of monetary policy but must also be combined and mixed with financial policy, other macro policies, structural reforms, institutional factors and so on.

Regarding the debt levels that inhibit growth, Zeti stated that the concern is not only public debt, which has implications on more limited fiscal space, but also private debt. She stressed the importance of restructuring private debt, including corporate debt, small businesses and households, as the drivers of consumption. Zeti also highlighted the importance of policy coordination with other agencies within a country as a consequence of implementing a policy mix. Managing the relationship between agencies is the most challenging problem for a central bank. Therefore, institutional leadership is becoming more important for the central bank. It is becoming increasingly challenging politically for the central bank too because it must contemporaneously retain its independence.
The second session of the seminar addressed the issue of monetary policy tradeoffs in an open economy. The session was chaired by Deputy Governor of Bank Indonesia, Perry Warjiyo, and featured four prominent speakers, namely Mitsuhiro Furusawa, Deputy Managing Director, IMF, Thomas J. Jordan, Chairman, Swiss National Bank, and Ravi Menon, Managing Director, Monetary Authority of Singapore, and Veerathai Santiprabhob, Governor, Bank of Thailand.

At the beginning of the second session, Mitsuhiro Furusawa revealed the upcoming global risks according to the new norm. Output gaps are getting larger in both emerging and advanced economies, accompanied by relatively high inflation, particularly in emerging economies. Moreover, real GDP around the world is experiencing uneven growth dynamics, with Asian countries still enjoying the highest growth. Interest rates are expected to remain low until 2020 in the US and the UK, and remain negative in the euro area and Japan. The negative rates in several advanced countries have brought about negative sovereign bond yields, totaling USD12 trillion for all maturities. Meanwhile, capital flows in emerging markets remain volatile as reflected by the movements of portfolio flows and CEMBI (corporate emerging markets bond index) spreads. This volatility has affected financial conditions in emerging markets, as shown by more volatility in financial market indexes and equity prices. This condition is exacerbated by the high leverage debt-at-risk and corporate external bonds maturing in emerging markets.

He, then, suggested several monetary and financial policy toolkits to address those sorts of challenges. First, interest rates should be the key tool to boost inflation and support growth. Second, unconventional monetary policy, such as QE and balance sheet policies, is sometimes needed to speed up economic stabilization. Third, exchange rates remain a major shock absorber to defend financial stability and economic growth. Fourth, forex intervention and capital flow measures (CFMs) are also helpful in times of disorderly market conditions. Fifth, macroprudential policies have an important role to complement monetary policy based on financial stability considerations. At the end of his presentation, Mitsuhiro Furusawa concluded that a three-pronged policy approach is needed to support growth and financial stability, namely 1) monetary policy to support growth and inflation; 2) structural reforms underpinned by fiscal support; and 3) regulatory reforms (banking and insolvency frameworks) and macroprudential policies.
The second speaker of the session, **Thomas Jordan**, addressed the issue of the monetary policy tradeoff from the Swiss perspective. As a small, open economy with a safe haven currency, Switzerland has also suffered from global spillovers caused by the financial crisis. The Swiss franc tends to be strong and appreciates further if there are safe-haven flows. Exchange rate flexibility has not always been optimal and, in fact, was an amplifier of shocks and yet more spillovers after the financial crisis. Consequently, since the beginning of the financial crisis, the Swiss franc has appreciated against the euro, from Fr.1.7 per euro before the crisis to just above parity currently.

The spillovers were so strong because the traditional interest rate differential of 100 to 150 basis points between the euro and Swiss franc before the crisis not only vanished but was even inverted by 10 to 15 basis points. That was the tipping point at which the Swiss National Bank had to change its policy and introduce negative interest rates, currently standing at -75 basis points (bps). The Swiss National Bank also abandoned its minimum exchange rate policy to the euro in order to maintain competitiveness. Since abandoning the minimum exchange rate, policy has been to maintain a -75bps interest rate and ensure willingness to intervene. That is the two-pronged approach to monetary policy, which is absolutely necessary given the overvaluation Switzerland is dealing with.

The third speaker, **Ravi Menon** emphasized the tension between the exchange rate as a shock absorber and a shock amplifier or shock transmitter. Theoretically, a flexible exchange rate can be a shock absorber when there is a large capital inflow because the interest rate falls and the exchange rate appreciates so that it would squeeze the subsequent capital inflow. However, changes in the global financial system have made the flexible exchange rate act more as a shock amplifier rather than a shock absorber in the event of large capital flows. Stylized evidence has confirmed this.

*First*, the capital account has become much more important than the current account in influencing outcomes. The rise in cross-border capital flows plays a bigger role than current account shifts in terms of driving exchange rate movements. Consequently, the link between economic fundamentals and the exchange rate has been weakened because of the increasingly dominant role being played by the capital account. *Second*, there have been some structural and behavioral changes in the global financial architecture that may have amplified some of the exchange
rate volatility. This mainly affected markets that do not have sufficient depth of liquidity. Third is the continued dominance of the US dollar and the global impact of US monetary policy. This may trigger spillover effects on emerging markets and their exchange rates, particularly when there are shifts in the monetary policies of advanced economies.

Such evidence makes it more difficult for the central banks to manage the policy trilemma. Ravi mentioned four tools that could be used by the central bank to confront the policy trilemma through policy innovation. First is the deployment of a variety of so-called capital flow management measures that would manage inflows at the border. Second are macroprudential policies that would deal with the effects of the inflows within the country. Third is to put in place a system of global financial safety nets to anticipate the spillover effects of monetary policy shifts in advanced economies to restore financial market confidence. The final idea was even more radical, namely targeted exchange rate zones that could be set internationally through an international coordination mechanism.

The last speaker of the session, Governor Santiprabhob talked about the changing nature of monetary policy trade-offs in emerging economies, followed by discussing the implications on monetary policy conduct and on monetary policy frameworks for emerging market central banks.

He mentioned three changing points of monetary policy trade-offs in emerging economies. First is the impact of global inflation dynamics on domestic inflation dynamics. Inflation has become more sensitive to the global output gap in emerging market economies. This condition gives a signal for emerging countries to rely more on international factors as opposed to the domestic output gap. Second is the increasing contribution of the services sector to economic growth. This phenomenon has different implications on inflation and unemployment compared to the manufacturing sector, which certainly changes inflation dynamics. Third is the trade-off between economic growth and financial stability. He argued that the monetary policy trade-offs will be more on growth versus financial stability and not so much on growth versus inflation as countries continue to see extended periods of low inflation (lowflation).

Governor Santiprabhob continued his presentation by highlighting the challenges of what the monetary policy trade-offs mean for monetary policy conduct in emerging market economies, namely how to formally incorporate financial stability
analysis into the monetary policy framework and the ability to mix or combine the tools in an optimal way when the environment is changing over time. At the end of his presentation, he stressed the importance of coordination among central banks to prevent the undesirable spillover consequences of unconventional monetary policies in advanced economies and the impacts over the medium term.

In the third session, two eminent speakers elaborated the issues of achieving financial stability in periods of monetary policy divergence, namely Halim Alamsyah, Chairman of Indonesia Deposit Insurance Corporation, and Amando C. Tetangco, Jr, Governor of Bangko Sentral Ng Pilipinas. This session was chaired by Simon M. Potter, Executive Vice President of New York Fed.

Opening the session, Halim Alamsyah delivered his presentation on maintaining financial stability in a volatile environment, especially in Indonesia. Recent financial crises have shown that incorporating a financial stability mandate is a necessary prerequisite for solid macroeconomic stability, including financial stability. Nevertheless, countries must be aware that financial stability encompasses broad aspects and interlinkages, hence it should be seen as a shared responsibility. For example, in Indonesia, responsibility is currently distributed across Bank Indonesia, the Financial Services Authority (OJK), Ministry of Finance and Indonesia Deposit Insurance Corporation (LPS). Moreover, a good understanding of what is going on in the financial, monetary, fiscal and real sides of the economy is critical to achieve financial stability, notwithstanding good coordination and collaboration among the financial authorities.

Furthermore, he illustrated what occurred in Indonesia during the last upturn in the financial cycle. Halim revealed that Indonesia’s financial sector was characterized by three phenomena, namely very high loan growth in the property sector, accelerating property prices, and foreign borrowings. At the time, Bank Indonesia, as the regulator, seemed to rely on macroprudential regulation to contain these phenomena. The monetary policy goals were to smooth out volatility and maintain economic growth momentum. Moreover, he argued that the package of macroprudential measures would need to be reversed when the global economic situation changed dynamically, but unfortunately this would not be easy to implement.

Lastly, Halim closed his presentation by highlighting potential synergies and avoiding conflicts between micro and macroprudential policies. He argued that each policymaker must have a common understanding about the effectiveness and
limits of policy and he recalled his statement about the importance of coordination to achieve financial stability.

Governor Tetangco shared three policy areas that are important to central banks but may be seen as having a trade-off with financial stability. The areas are financial inclusion, market development and interest rate policy. He also outlined the Philippine experience.

Governor Tetangco shared BSP’s research to indicate any evidence that financial stability and financial inclusion are trade-offs. BSP tested whether the smallest deposits, as a measure of financial inclusion, are more prone to bank runs than large deposits. The results showed no evidence of a trade-off between inclusion and stability. Moving on to financial stability and market development, he explained that financial stability cannot be oblivious to certain market conditions. In fact, the attainment of financial stability largely depends on how these idiosyncratic conditions in all jurisdictions are accounted for. Moreover, he suggested that central banks should pursue specific initiatives that allow risks to be managed.

Lastly, he explored financial stability and interest-rate policy. He explained them by differentiating at two levels. At one level, the low-interest rate environment has nurtured the chase for higher yields among investors. In hindsight, these investors were not properly positioned to absorb the risks that they may not have known they were exposed to. Financial education and consumer protection initiatives are, therefore, central to the attainment of financial stability. At another level, interest rates have stayed below historical trends for a protracted period. If rates reverse, however, the higher cost of financing would likely stoke inflation. Therefore, central banks should be critical and positioned vis-a-vis of other objectives and advocacies. At the end of his presentation, he argued that for stability to be achieved, all components of a vibrant and functioning financial system must be in place.
WELCOME REMARKS

Bank Indonesia – Federal Reserve Bank Of New York Joint International Seminar
Bali, 1st August 2016

Agus D.W. Martowardojo
Governor of Bank Indonesia

It is such a privilege for Bank Indonesia and the Federal Reserve Bank of New York to welcome you all to this international seminar. Together with President William C. Dudley of Federal Reserve Bank of New York, I am very grateful to host this event here in Bali, Indonesia, where we can mix some meaningful discussions with the beauty of nature and culture of this island of Gods.

Today we have an excellent line of speakers, who will be deliberating a current and important issue in the global economy: an increasingly divergent global recovery paths in growth and policies, particularly from central bank perspectives. In particular, I would like to welcome Mr. Boediono, a former Vice President of the Republic of Indonesia who is also a former Governor of Bank Indonesia, for taking time to join us in this seminar. Later we will have an honour to learn from his vast experience and wisdom by listening to his luncheon speech.

This is a timely seminar given that we all acknowledge the global economy is still in high uncertainty which influences its growth prospects. The divergence in economic recovery and monetary policy among major economies are still the focus of global issues. The normalisation of US monetary policy is underway, while the Euro area and Japan have been proceeding with monetary easing. At the same time, the
development in China has seen gradual slowdown as a consequence of its economic rebalancing. Some countries have adopted negative interest rate policies, with some jurisdictions going even more negative.

The recent UK decision to leave the European Union adds another complication to the already bleak global economic outlook. Moreover, Brexit, which some have said has produced a seismic political shock, has shifted the nature of global concerns from heightened vulnerabilities towards a new era of political uncertainty.

The previous episode of heightened vulnerability was characterised by rising risk of weakening growth, unresolved legacy issues at banks from Advanced Economies, leveraged and increasingly fragile corporates from Emerging Markets, and the existence of systemic liquidity. All of these urgently require more balanced and potent policy mix.

Now, in the new era of political uncertainty, there seems to be a strong link between political uncertainty and market confidence. A political shock results in economic and financial fallout, and has tremendous financial stability implications. Therefore, in this new episode, apart from addressing vulnerability, we need also to strengthen the foundations of the global financial system. Otherwise, there is a likelihood that we will be trapped in a vicious circle, in a way that policy uncertainty undermining confidence will instil slower and stagnant growth, which will erode political cohesion, making the crisis legacy challenges harder to resolve and will later induce further policy uncertainty.

Such new dynamics and concerns have given rise to a new set of policy challenges, not only on how to simultaneously maintain stability and revive growth, but also on how to strengthen the foundations of the global financial system. Against this backdrop, Bank Indonesia and the Federal Reserve Bank of New York have decided to co-host a seminar that will look deeper and expand the boundaries of thinking, nurturing and offering new insights pertaining to these challenges, with the spirit of putting both East and West perspectives on the table.

In our opinion, the boundaries would encapsulate three areas. First, pursuing growth objectives after the crisis, where factors impeding the global economy will be discussed, and initiatives to balance structural reform and support for growth will be deliberated. Topics surrounding challenges that are unique to small open economies, along with strategies to achieve sustained economic growth, will hopefully make
this seminar very relevant and interesting. Second, monetary policy trade-offs in the open economy, where challenges stemming from divergent monetary policies, linkages between economic and financial cycles, dealing with capital flow reversal risks, and the new roles of exchange rate in external adjustment, will be discussed. Third, achieving financial stability in periods of monetary policy divergence, in which important issues such as policy responses to promote financial stability, trade-offs between financial sector reform and growth, and country experiences with macroprudential tools, will be deliberated.

Recent global developments have tested the creativity and innovation of central banks to the limit. A number of unconventional monetary policies have been put forward. Acting boldly in the midst of a massive crisis, central banks have moved forward to prevent the world from a depression that would have far reaching negative effects.

It turns out that such creativity and innovation did not stop with the success of central banks in calming a financial crisis that had brought the global economy to a virtual standstill. Subsequently, central banks have assumed the tasks to continue with the next stage of recovering the economy and maintaining its stability.

However, the challenges for central banks remain. The concern should not be about upcoming inflation fuelled by the expansion of central bank balance sheets and enormous liquidity injections. Instead, the real concern is about stimulating economic momentum, unemployment and capacity, along with excessive financial risk-taking, resource misallocation and threats to market stability. Moreover, in the new normal world today, central banks have not been able to completely resort to reliable insights and information from historical precedents, analytical models or past policy experiences.

Courageously but prudently, central banks took the helm on unprecedentedly large responsibilities for the economy as a whole. Central banks felt a moral and ethical obligation to expand their policy toolkits in response to such challenges. In my opinion, there has come a time for central banks to move forward, by taking the role of institutional leadership, on top of the policy excellence they have always delivered.

Looking from a central banker’s perspective, to stay relevant, resilient and agile, I agree that policymakers should be more inventive in tackling global challenges. The prime challenge has been how to nurture growth sustainability while keeping
monetary and financial stability in check, including mitigating the risk of capital reversals.

Naturally, stability should serve as the basic foundation for growth to flourish. Having said that, focusing too much on stability could negate economic expansion, which in turn could risk negative spillback through the financial channel and hence stability itself. In other words, we need to balance the long-term objective of strong, sustainable and inclusive economic growth with the near-term concerns of stability, in its numerous facets.

The situation truly explains many countries’ challenges, including Indonesia. In this regard, Bank Indonesia cannot solely rely on the policy rate as a single monetary policy instrument. In fact, we employ a variety of policy instruments that we call “the policy mix.”

The “policy mix” consists of (a) policy rate to anchor inflation expectations complemented by; (b) exchange rate flexibility to lessen pressure on the external sector; (c) capital flow management to mitigate excessive short-term volatility; (d) macroprudential measures to manage procyclicality; and (e) we also continue to strengthen policy coordination with the Government and ensure good communication with the public.

This year the policy mix focuses on maintaining macroeconomic and financial system stability, while stimulating economic momentum. In the monetary sector, gradual monetary easing remains consistent with efforts to maintain macroeconomic and financial system stability. Such policy is supported by measures to maintain exchange rates in line with economic fundamentals, strengthen the position of reserve assets and manage flows of foreign capital. Bank Indonesia also maintains accommodative macroprudential policy, while continuing financial market deepening efforts.

In terms of macroprudential policy, Bank Indonesia has been implementing a number of regulations, namely the loan-to-deposit ratio (LDR) linked to the reserves requirement (RR) and loan-to-value (LTV) ratio on property loans and automotive loans. We adjust the rate according to the needs of the real sector.

In the midst of continuing global challenges, Bank Indonesia always strives to advance its central banking practices, particularly its policy frameworks. In order to improve the effectiveness of monetary policy transmission, Bank Indonesia has
reformulated the policy rate from the BI Rate to the 7-day (Reverse) Repo Rate, which will become effective on 19th August 2016. Such enhancement does not imply a change in the prevailing monetary policy stance.

During the transition period prior to 19th August 2016, the BI Rate shall remain Bank Indonesia’s policy rate. Within that timeframe, however, BI has started to announce the BI 7-day Repo Rate as part of the term structure. Such enhancements to the monetary operations framework has three objectives. **First**, to improve the signalling of the policy rate as a primary reference for interest rates on the financial markets. Second, to strengthen the effectiveness of monetary policy transmission through a stronger impact on short-term money market rates and bank rates. **Third**, to support financial market deepening, especially by encouraging transactions and developing the interbank rate structure for 3- to 12-month terms.

In line with the enhancements, Bank Indonesia has also accelerated the implementation of financial market deepening by pursuing the following steps: (i) strengthening the role of the Jakarta Interbank Offered Rate (JIBOR) in shaping the interest rate structure of the money market across tenors from overnight to 12 months; (ii) accelerating repo transactions on the money market by promoting bank participation in the General Master Repo Agreement (GMRA); and (iii) alleviating market segmentation and boosting the market’s transaction capacity by encouraging banks to open more access to counterparties.

It seems that under current global dynamics, the only certainty is the uncertainty itself. And therefore the focus of central banks should be on nurturing economic growth, while maintaining stability. Across the globe, central banks are pressured into continuously pulling a rabbit from a hat, offering a formula to tackle the important issues of economic slowdown. Nonetheless, we should be mindful that in an era of a new normal with political uncertainty, all of us should relentlessly and collectively strengthen the foundations of the global financial system.

In this spirit, we are bringing all the relevant stakeholders to the table to continue the policy dialogue. Hence, I am pleased to have the presence of the participants from East and West: central bankers, financial regulators, global policymakers and market players. I sincerely believe that sharing perspectives and experiences among stakeholders will equip us with additional significant insights to enhance mutual understanding between authorities and industries towards sound
policy responses and implementation. Moreover, the presence of all distinguished participants shall strengthen communication and collective action commitments in facing the challenges of economic and monetary divergence.

Finally, once again I would like to express my appreciation to the Honourable Governors, Heads of Financial Supervision Authorities, distinguished speakers and all guests for your participation at this seminar, and wish you an enjoyable and fruitful deliberation. I also hope that in the middle of the seminar’s tight schedule, some of you are able to enjoy Bali and experience its picturesque view and unique cultural identity. After all, this is the place where the movie “Eat, Pray and Love” was shot. So please make some time.

Thank you.
It is a pleasure to have the opportunity to speak here in Bali. Today I plan to provide a brief summary of the U.S. economic outlook, incorporating recent U.S. economic data and global and financial market developments. I will then discuss the implications of the outlook for U.S. monetary policy, and explain how international and financial market developments influence my thinking. I will emphasize two key points.

First, financial market conditions do matter in determining the appropriate stance of monetary policy. Financial conditions affect households’ and firms’ decisions, so that the transmission of U.S. monetary policy to the real economy depends, to a large extent, on how changes in monetary policy help deliver the appropriate financial market conditions to support our objectives of price stability and maximum employment. But financial conditions also evolve in response to domestic and international developments. Thus, when I reiterate that U.S. monetary policy is data dependent, that includes not just the information gleaned from important economic releases such as payroll employment and retail sales, but also how financial market conditions react to economic and financial market developments in the global economy.
Second, external events—such as Brexit—can have effects that go far beyond just their impact on global trade. Conversely, what we do in the United States has an impact far beyond our borders, and we need to take that into consideration in how we conduct and communicate monetary policy in the United States. Put simply, monetary policy is a two-way street, and we all need to be cognizant of that.

As always, what I have to say today reflects my own views and not necessarily those of the Federal Open Market Committee (FOMC) or the Federal Reserve System.

The U.S. Economic Outlook

Despite the many twists and turns in the road so far, my baseline outlook for growth and inflation in the United States has not changed much in recent months. After a weak first quarter, real GDP continued to grow sluggishly in the second quarter. On the positive side, consumer spending rose more quickly during the second quarter. On the negative side, business fixed-investment spending continued to disappoint, residential investment was weak and inventory investment was a substantial drag on growth.

Looking forward, I expect economic activity to expand at roughly a 2% annualized pace over the next 18 months, appreciably above that of the past three quarters. Over the remainder of this year, the economy should continue to get some lift from consumption and from a fiscal policy stance that remains mildly stimulative. Moreover, I anticipate that residential investment, which was weak in the second quarter, will rebound. This pace of growth would likely be sufficient to continue to absorb any remaining slack in the labour market and to support inflation moving back to our 2% objective.

However, any forecast is uncertain and growth could end up higher or lower. Let me turn to an assessment of the balance of risks around my growth outlook. I believe that a sizable pickup in the rate of growth of economic activity relative to that in my forecast seems unlikely for a number of reasons. Although consumer spending strengthened substantially in the second quarter, that stronger pace is unlikely to be sustained going forward. That is because the fundamentals supporting consumption have softened somewhat. Real income growth moderated in the second quarter as the pace of job gains slowed and inflation rose, boosted by somewhat higher energy prices. Even with the surprisingly large addition of 287,000 payroll jobs in June, the
pace of improvement in the U.S. labour market appears to have slowed somewhat. For example, over the past three months, payroll gains have averaged about 150,000 per month, as compared to an average of more than 200,000 per month over the course of 2015 and the first quarter of this year. But even 150,000 job gains per month would be consistent with gradually using up any remaining slack present in the U.S. labour market.

Although I expect business fixed investment to begin to grow again in the second half, it will likely remain soft as profits have stagnated and election year uncertainty could act as an additional depressant. All else equal, investment tends to be weaker when uncertainty rises because this creates an incentive for businesses to delay decisions until the uncertainty is resolved.

Also, trade seems likely to exert a net drag on growth. There are two factors at play here: the sluggish growth rate of aggregate demand abroad and the continuing impact of earlier dollar appreciation on U.S. export competitiveness.

With respect to downside risks to the growth outlook, one that is hard to gauge is the potential fallout from the result of the recent U.K. referendum. It is widely anticipated that U.K. growth will slow as a consequence. Although the direct impact of slower U.K. growth on U.S. trade will almost certainly be very small—total U.S. exports to the U.K. are only about 0.7% of U.S. GDP—there are a number of other channels that could amplify the impact of the Brexit decision on U.S. economic activity. These include the potential adverse effects on European economic activity, on the perceived health of the global banking system, and on broader financial market conditions.

To date, the global financial market fallout from the Brexit vote has been short-lived, and U.S. financial market conditions remain supportive to economic growth. Nevertheless, I believe that the potential aftershocks pose medium-term downside risks to the global economy, and that these risks need to be monitored.

With respect to inflation, I think the outlook has not changed much recently. Headline inflation, as anticipated, has climbed a bit this year as earlier energy price declines have fallen out of the year-over-year inflation calculations. In contrast, core inflation has been broadly stable, with the core PCE deflator rising by 1.6% over the past four quarters, moderately below our 2% objective.
The fact that core inflation has been broadly stable over recent months in the face of the earlier declines in energy and non-energy import prices is notable. It makes me somewhat more confident that overall inflation will return to our 2% inflation objective over the medium term as long as the economic growth that I expect actually materializes. If the economy were to grow at the pace I discussed earlier, this would likely translate into sufficient job gains to continue to remove any remaining slack in the labour market—which, by my assessment, is already operating quite close to a level that is consistent with what is achievable on a sustainable basis. This would likely lead to further pressure on labour resources, higher wages and, over time, somewhat higher inflation.

In contrast, if growth were instead to fall below my forecast, then I would be less confident that inflation would return to our 2% objective. In addition, I put some weight on the fact that surveys from both the University of Michigan and the New York Fed indicate that household longer-term inflation expectations have declined somewhat over the past year and are in the lower end of their historical ranges. Nevertheless, I am not unduly worried because the magnitude of these declines has been modest, and because the New York Fed’s three-year-ahead inflation measure has been gradually increasing since January and has reversed much of the decline observed in the second half of 2015. Low longer-term inflation expectations, if allowed to become entrenched, would act as a restraint on actual inflation making it more difficult for us to meet our inflation objective.

In contrast, I put less weight on the significantly larger declines in market-based measures of inflation compensation over the past two years. From my perspective, these declines seem driven more by changes in bond term premia and the relative liquidity characteristics of nominal versus inflation-protected Treasury securities than by sharply falling inflation expectations.

**Implications of the Outlook for U.S. Monetary Policy**

If, as I have indicated, the U.S. growth and inflation outlooks have not changed notably, then why have expectations about U.S. monetary policy shifted so much? Compared to the start of the year, the expected timing of any further Fed interest rate hikes has been pushed back, and the expected upward trajectory of U.S. short-term rates is now much flatter.
There are several reasons to explain these shifts. First, assessments of the neutral real short-term interest rate have declined as economic growth has consistently fallen short of consensus forecasts. With the U.S. economy having grown at only a 2.1% annual rate over the past seven years, it has become harder to sustain the view that the neutral real short-term interest rate is close to, or will soon be close to, its historical level of around 2%. Estimates of the neutral real short-term interest rate obtained from many of the DSGE models used within the Federal Reserve System are currently clustered around zero, and this seems reasonable to me. An implication is that at present there is only a small gap between the actual real short-term rate of about -1% and the neutral real short-term rate. In other words, U.S. monetary policy is accommodative, but only moderately so.

In addition, I suspect that many have come to question the view that headwinds from the financial crisis are temporarily depressing the neutral short-term rate, and that the neutral short-term rate will significantly rise in the near-future as these headwinds dissipate. If the headwinds have not dissipated to a meaningful degree in the seven years since the recession ended, then why should one expect them to necessarily diminish quickly over the next couple of years? Evidence is accumulating that some of the headwinds are likely to prove more persistent. For example, the reduced availability of mortgage financing for those with lower credit scores seems likely to continue. Lenders now appreciate that home prices can decline significantly. Thus, they cannot rely as much on the value of the housing collateral in securing their mortgage loans, and consequently now put more weight on the credit histories of the borrowers.

Market participants may also be taking some signal from the gradual decline in the median long-run federal funds rate projection of FOMC participants shown in the FOMC’s Summary of Economic Projections (SEP). I think this indicates a growing consensus that the neutral real short-term rate will not return anytime soon to its historical norm of 2%.

A second reason for the downward adjustment in U.S. interest rate expectations is that U.S. financial market conditions depend, in part, on the stance of U.S. monetary policy relative to monetary policies abroad. If the economic outlook abroad deteriorates and this causes foreign countries to pursue a more accommodative set of monetary policies, then the dollar would likely appreciate—other things equal—reflecting expectations of lower interest rates abroad relative to
U.S. interest rates. In this case, the U.S. may need to adjust its own monetary policy path. If the FOMC did not make this adjustment, the stronger dollar could result in an undesired tightening of U.S. financial conditions. The expected forward interest rate paths in Europe and Japan have fallen considerably this year. If the FOMC had followed the median federal funds rate path from the December 2015 SEP projection, then the U.S. dollar would likely have appreciated much more significantly. Instead, the U.S. interest rate path has come down in tandem with the foreign interest rate paths and the dollar has appreciated only modestly.

This is a crucial point and I want to make sure there is no misunderstanding. The Federal Reserve is not targeting the exchange value of the U.S. dollar. What the FOMC considers are financial conditions broadly defined, because they affect the saving and investment decisions of households and firms. The dollar is but one component of these financial conditions. The level of short- and long-term rates, credit spreads and equity prices are also important components of the financial conditions that we closely monitor. If international developments shift U.S. financial market conditions-including the dollar-then we need to take this into consideration in our U.S. monetary policy decisions.

Third, I have found that market participants broadly appreciate that the FOMC needs to take a risk management approach in its conduct of monetary policy. There are at least two important aspects of this approach. The first is whether the balance of risks to the outlooks for either economic growth or inflation are skewed to the upside or downside. The second is whether the efficacy of monetary policy itself is asymmetric when monetary policy is at, or close to, the zero lower bound for interest rates. In this situation, it may be easier to implement a tighter monetary policy through raising rates, than it would be to implement a looser policy using unconventional tools. Also, the effects of a policy of raising rates may be more predictable compared to the effects from using unconventional tools.

As I noted earlier, I think the medium-term risks to the U.S. economic growth outlook are somewhat skewed to the down side. Thus, this needs to be taken into consideration in terms of the appropriate stance for U.S. monetary policy. With respect to the efficacy of monetary policy, given how close we remain to the zero lower bound for interest rates, I also think the risks are asymmetric. Therefore, we need to be a bit more careful about the risk of tightening monetary policy in a manner that proves to be premature, as compared to the alternative risk of being a
little late. If we were to realize that we were slightly late, policy can be adjusted by raising short-term interest rates more quickly.

All three of these reasons—evidence that U.S. monetary policy is currently only moderately accommodative, the fact that U.S. financial conditions have been influenced by economic and financial market developments abroad, and risk management considerations—argue, at the moment, for caution in raising U.S. short-term interest rates. So, directionally, the movement in investor expectations towards a flatter path for U.S. short-term interest rates seems broadly appropriate.

That said, to my eye, market expectations derived from futures prices—which price in about one 25 basis point rate hike through the end of 2017—appear to be too complacent. If the incoming information validates my view of the outlook, then I believe that U.S. monetary policy will likely need to move at a faster pace than implied by futures prices towards a more neutral posture as the labour market tightens further and U.S. inflation rises. Moreover, market expectations may be putting insufficient weight on the possibility that the economy could outperform our expectations, that financial conditions could ease, or that the risks to growth from Brexit and other international developments could fade away. If such events were to occur, this might necessitate a faster pace of adjustment.

For these reasons, I think it is premature to rule out further monetary policy tightening this year. As I said before, it depends on the data, broadly defined, and, as we all know, that is not something one can predict with any accuracy.

It’s a Two-Way Street

The U.S. economy plays a large role in the global economy. Most significantly, the U.S. economy represents a sizable share of world GDP—roughly 25% at current exchange rates—and the U.S. dollar is the most important international reserve currency. More than 60% of central bank reserve assets are denominated in dollars, and that share has been stable to rising in recent years. Most foreign trade is denominated in dollars and most of the foreign currency debt issued by corporations abroad is denominated in dollars. Thus, what happens to the U.S. economy, U.S. financial asset prices and the exchange value of the dollar has important implications for the global economy.
At the same time, prosperity is very much a two-way street. Developments outside the United States affect our domestic economic outlook through their impact on trade and financial market conditions, and we have to take such developments into consideration in our monetary policy decision-making.

In many ways, international linkages have become more important over time. This is because international trade has increased rapidly over the past few decades as the world economy has become more developed and globalized—notwithstanding the flattening of the global trade-to-GDP ratio over the past few years. And, global trade interactions have become more complex as supply chains have become more extensive and intricate, often involving many different countries.

Financial markets across the globe have also become more integrated. Developments in one market now appear to have larger effects on other markets than was generally the case historically. Consider, for example, how European and Japanese central bank quantitative easing activity has helped drive the sharp decline in long-term U.S. Treasury yields this year. Or, in the other direction, consider the global bond market taper tantrum in 2013. In this case, markets reacted to then-Chairman Bernanke’s musing that the Federal Reserve was beginning to evaluate when the time would be right to begin the tapering of the Fed’s asset purchase program. Or, in a similar vein, consider the international financial market reaction to China’s decision to alter its foreign exchange rate regime and how the RMB is managed relative to the dollar versus a broader basket of foreign currencies.

The growing interdependence can be seen in the increased correlation of market movements both across countries and across asset classes. Periods of “risk on” versus “risk off” trading now occur on a global basis. For example, equity market movements in developed and emerging markets have exhibited a 76% positive correlation over the past six months. This is only slightly below the all-time peak of 82% in 2009, and significantly above the 57% correlation that prevailed from 1995 through 2007.

Correlations across asset classes have also been increasing. For example, consider the set of assets comprised of the 10-year U.S. Treasury, U.S. equities, international equities, oil, the VIX, a trade-weighted dollar index and the BAA credit spread. We can construct a variable—called a common factor—to capture as much of the overall movement and co-movements for the series in this set. The more closely
the series’ movements are tied together, the greater the explanatory content of the common factor. Currently, the derived common factor accounts for 50% of the variation in these financial variables, up from 30% in early 2014.

Oil, in particular, has become more correlated with other assets. Prior to 2008, oil was virtually uncorrelated with equities and Treasuries. Whereas, in 2016, its correlation with these two asset classes has been more than 45%.

These effects are transmitted via many linkages, not just through trade and financial markets. Consider, the many different channels of potential Brexit influence—not only the impact on international trade and global interest rates and currencies, but also on bank equity prices and on political uncertainty.

Given this interdependency, what should we do about it? Interdependency and linkages do not mean that U.S. monetary policy should subordinate its domestic goals for international ones. The Federal Reserve has a clear domestic-oriented mandate that was set by the U.S. Congress. Instead, I believe that setting U.S. monetary policy to best achieve our domestic mandate will help to support sustainable growth and development abroad. As I see it, there are two key steps that are essential in the design of an appropriate monetary policy strategy.

Step one is to take an expansive view of the global eco-system in which we all operate. We need to take into consideration that our decisions have broad consequences for the global economy and, conversely, that international developments can have significant consequences for the U.S. economic outlook and therefore the appropriate stance of U.S. monetary policy. As part of this, we need to be nimble in incorporating new developments into our monetary policy decision-making.

Step two is to communicate clearly and consistently. That means clarity about the objectives of monetary policy, how the Fed plans to meet those objectives in light of the economic and financial market environment, and how it formulates its responses to unforeseen circumstances that lead to revisions to its economic forecast.

In my view the Federal Reserve is making progress in both of these areas. With respect to the first step, I believe we do take an expansive view of those factors that might affect the U.S. outlook and we revise our views accordingly. Our speeches, statements, and actions this year illustrate this is how we operate. For example, after
the market turbulence at the start of the year, we kept monetary policy on hold at the March FOMC meeting and explicitly referenced “readings on financial and international developments” in the FOMC statement. Similarly, in speeches prior to the Brexit vote and in the FOMC minutes, we raised our concerns about the risks of disorderly outcomes associated with the U.K. referendum. For instance, the June FOMC minutes state: “Most participants noted that the upcoming British referendum on membership in the European Union could generate financial market turbulence that could adversely affect domestic economic performance.”

In addition, we are doing a reasonably good job incorporating the flow of new information into our forecasts. The fact that the federal funds rate projections from the SEP have changed significantly from quarter to quarter indicates that FOMC participants are responsive to new information.

Now, some have expressed an alternative view that the movement in these rate projections is an indication that the FOMC’s reaction function is unstable and unmoored. I do not see it that way at all. The forecasts of FOMC participants with respect to growth and inflation have not changed much this year. What have changed are expectations about the monetary policy stance that would be appropriate in order to achieve those outcomes. It is important to emphasize that these interest rate projections are not commitments. They are point-in-time views of the appropriate interest rate path and are updated as economic circumstances and financial market conditions change and evolve.

With respect to communication, in recent years the Federal Reserve has shifted towards much greater transparency. This includes quarterly press conferences by the Fed chair following FOMC meetings; publishing growth, inflation and short-term interest rate forecasts of FOMC participants on a quarterly basis; and a concerted effort to lay out the guideposts that the FOMC will look at in assessing progress towards our dual mandate objectives.

On the communication front, although we have come a long way, I would admit that there is still room for further improvement. For example, the focus of the SEP on each participant’s modal forecast does not convey how much uncertainty there is about the economic outlook. Similarly, language used in FOMC statements can become stale over time. We tend to make relatively few changes to the statement language each meeting because of the acute market sensitivity to such changes.
One could argue that this might not be the best practice to follow, but we should recognize that there would also be significant transition costs if we were to make more extensive revisions to the statement at each meeting.

For monetary policy to be effective, it is important to have clarity about what the FOMC can be clear and consistent about—its manner of responses to mitigate the potential harmful effects of disturbances and the goals of policy. In contrast, our monetary policy projections and the actions we take cannot be static. If economic circumstances change, then monetary policy needs to change too. Otherwise, we will not be able to achieve our objectives.

Thank you for your kind attention. I would be happy to take a few questions.
SESSION 1

Pursuing Growth Objectives After The Crisis

Speakers:

William C. Dudley,
President, Federal Reserve Bank of New York

Raghuram G. Rajan,
Governor, Reserve Bank of India

Discussant:

Zeti Akhtar Aziz,
Former Governor, Bank Negara Malaysia

Moderator:

Martin Soong,
CNBC
In this session I would like to focus on why global growth has been so anaemic since the global financial crisis and what we can do about it. I think it is fair to say that the global recovery following the financial crisis has been disappointing. Growth is still below pre-crisis levels in the United States, Europe, Japan and China. For example, in the US GDP growth has only averaged 2.2% per year for the period from 2010 to 2015, which is below the pre-crisis average for the five years through to 2008. Slower growth performance has also been accompanied by persistently low inflation, persistently below the objectives of the monetary authorities in the United States, Europe and Japan. The way I see it, there are many causes for these persistent shortfalls in growth but they do vary across regions and countries.

I would like to focus on the reasons why growth in the US has been subpar in the post-crisis period. I think there are a number of reasons for this. The first reason is that the financial crisis was a searing experience that damaged household and business confidence in a profound way with a much more lasting effect than a typical economic downturn. The housing bust created a large housing supply overhang and a large number of household that were underwater on their mortgages, in other words their houses were worth less than the mortgage debt that they had on their homes. Households needed to repair their balance sheets and bring down their debt service burdens to more manageable levels and the fact that we had higher levels of unemployment further depressed demand.

Furthermore, credit availability contracted quite sharply during the early stages of the downturn recovery and occurred quite broadly, not just in housing but also in terms of consumer credit cards and business lending. Some of the credit supply
Constrictions were imposed by banks that needed to repair their balance sheets and they delevered so that they could build up their capital and work down their bad assets. Fiscal outlays were not high enough for long enough to compensate for the contractionary impulse from these first three sources. The crisis led to a very serious deterioration in the US federal budget deficit and put pressure on state and local budgets as well. After the federal budget deficit in the United States peaked at around 10% of GDP, the view was that the US needed to undertake fiscal consolidation, which occurred at the state and local levels. That further restrained economic activity rather than support economic growth. Productivity growth has also been quite low. In the period before the crisis, US non-farm productivity growth averaged around 2% per year. Since 2010, however, productivity growth has been closer to just 1%. Some of this decline can be explained by less investment and less capital deepening but a lot of the decline is actually hard to explain.

Another explanation some have offered is that there is a measurement problem with respect to productivity growth, namely that we are understating output and overstating price inflation. This type of issue, which has caused a hedonic adjustment problem, seems credible in some areas like healthcare. Alan Blinder was perhaps not the first to pose this question but he asked me whether I would rather have 1970s healthcare at 1970s prices or 2016 healthcare at 2016 prices? Based on the measurement of prices, 1970s healthcare is a much better deal. When given such a choice, however, most people tend to prefer 2016 healthcare. Why? Because people highly value the advances that we have seen in healthcare technology. Cardiac care has extended life expectancy, especially in males, and other procedures that are practical today simply did not exist in the 1970s, including hip and knee replacements. People are willing to pay a lot more for those services than what they are actually charged for them. That is why people are generally more prepared to buy 2016 healthcare at 2016 prices. That is a good example of why a productivity growth may actually be understated a little bit.

US economic performance has also been held back by developments in the rest of the world. Growth has not only slowed in the US but also throughout the world. In the euro area, comparing 2003-2008 to the period of 2010-2015, annual real GDP growth has slowed by more than half to 0.8% per year from 1.9%. Japanese growth has remained muted over that entire period. China has experienced a significant slowdown from 11.3% to 8.3% on average over the past five years to around
6.5% this year. These developments, along with policy and risk, have also had the effect of increasing demand for US assets and that has contributed to significant US dollar appreciation over the last two years. Dollar strength has created competitive challenges for US exporters, especially in manufacturing. This has caused the trade sector to be a drag on US economic activity.

Looking forward, despite the fact that US growth has been disappointing, we have actually made considerable progress towards our monetary policy objectives. The US is quite close to its employment and inflation objectives. This still appears to be a little bit of slack in the US labour market but that margin has shrunk greatly over the past few years. Payroll gains have been at least as robust as anticipated.

In terms of inflation, we are still somewhat below our 2% objective but even here I feel we have been making progress despite the strengthening of the dollar and the declining energy prices. Core PC inflation has been pretty stable over the past year, currently running about 1.6%, which is not tremendously different from our 2% objective.

Why has the US done a little better than Europe and Japan in terms of achieving monetary policy objectives? There are a number of contributing factors. First, in the United States household balance sheet repairs occurred relatively quickly. This happened in part due to the fact that the housing foreclosure process wiped out many mortgage debts. Consequently, people’s debt burden fell because after they lost their homes the debt was wiped out. The household balance sheet was also repaired by a very long period of very slow growth in household debt. In part, this was accomplished by the fact that interest rates fell very sharply and that helped cut debt servicing costs significantly. Second, in the US the banking system was recapitalised and deleveraging occurred quite quickly following the financial crisis. Capital from the Troubled Asset Relief Program (TARP) was put into the large banks in the spring of 2009 and soon, many of them replaced the TARP capital by going out and raising new equity. The S-CAPS Stress Test in 2009 and is the annual CCAR Stress Tests that followed worked to constrain the rate of bank capital distributions and that helped banks build up their capital ratios relatively quickly. US banks worked hard to clean up their balance sheets. Poor assets were managed down or run off and underwriting standards were tightened significantly. Third, I think the Federal Reserve was particularly aggressive early on in its pursuit of monetary policy accommodation in order to keep inflation expectations well anchored. Keeping inflation expectations well anchored is a necessary condition, in my view, when
maintaining efficacy in terms of monetary policy. If expectations had gone more to the downside, then it would have been much more difficult for us to actually make monetary policy stimulative and achieve our objectives.

Could things have been done differently in the United States in such a way that could have led to even better outcomes? Absolutely! With the benefit of hindsight, we could have been and should have been even more aggressive on the monetary policy side. While we made some progress with some of the innovations on monetary policy that we eventually introduced, such as the open-ended purchase of $85 billion of Treasury and mortgage-backed securities per month, it probably would have been better if we had gotten to that policy a bit sooner.

There is also a lot outside of the Fed’s purview that could have also been done to make the US economy performed better. That includes tax reform, job retraining programs and infrastructure investment. I think we could have done more on all of those fronts.

What can we do to bolster global growth in the future? The first thing is to undertake the necessary structural reforms to make our economies more efficient. Productivity growth is not preordained. The steps we take as countries to lessen and eliminate bottlenecks and improve our human and physical capital are important. The second is to ensure that our financial systems are well functioning. Tremendous progress has been made globally in terms of implementing higher capital and liquidity standards following the crisis but we still see some important banking systems that are impaired by bad loans, low profitability and inadequate capital. The population ageing in the developed world does imply that purely from a productive factor side, less of the global growth’s contribution is likely to come from Japan, the United States and Europe in the future. As they say, demographics are destiny. Economies like China are likely to continue to grow a bit more slowly as poor income per capita increases and they make the transition from investment-led growth to consumption-led growth. This does not necessarily imply a bad outcome. There are many other countries with tremendous potential for growth in areas such as Africa, Asia and South America. Take, for example, the surging growth we are seeing right now out of India.

I am an optimist. To a large degree we do control our destiny and it is up to us to seize those opportunities.
Pursuing Growth Objectives After the Crisis: An EM Perspective

Raghuram G. Rajan
Governor, Reserve Bank of India

I am going to cover some of the grounds that Bill has covered but I will avoid making the same points. Starting, of course, with why the global recovery is so slow and clearly some of it has to do with the debt that was taken on pre-crisis and the deleveraging that is taking place in country after country, including the fact that emerging markets themselves expanded leverage post crisis and some of them are now deleveraging in response to the excess debt taken on.

Across the world, demand has been held back by a spate of, first, a boost in demand through debt and then deleveraging. One has to ask why we boosted debt and why that was so important. Here we perhaps come to most structural factors that may be showing up across the world today. The very poorly understood effects of population ageing on both investment and savings that Japan showed us was very complicated to understand and Japan has been dealing with the problem for over 20 years. A number of other countries are now entering that problem, including China, and we do not fully understand what the consequences are. That is probably part of the effect. Part of the effect is also what Bill talked about, namely that productivity has slowed down and here again we do not fully understand why. Is it a mismeasurement problem? Are we not measuring the fact that the quality of goods has also improved? Bill talked about healthcare but one can also talk about cars. Today’s car is so much better than yesterday’s car but it is still counted as a car. Therefore, measurement is a problem. The second problem is monetisation. There are so many goods and services today that are produced over the Internet that are not monetised but can provide substantial benefits. Therefore, in some sense, value added in the economy is higher but it is not being measured as dollars and cents. Those are factors that would suggest we are better off than we think and we undercount GDP, productivity growth is actually stronger.
Some people have argued that there are other reasons why productivity growth may have slowed down. The big changes in invention, namely the aeroplane, motorcar or electricity, were at the beginning of the 20th century and Twitter is a pale comparison in terms of invention. There are other versions of this. For example, some worry about the fact that many of our knowledge intensive industries, such as drugs and pharmaceuticals and the information sector, are increasingly becoming oligopolistic and that the extent of competition in those areas is much lower than in other parts of the economy. Due to the rents that are got through property rights and occupying certain spaces, perhaps competition is too little and productivity is also too little in those areas. That is an emerging area of concern, especially with some of the new industries.

One explanation for low productivity could be that the monetary policy reaction that was justified and warranted immediately after the crisis in order to rescue economies from what could have been a second Great Depression but as monetary policy has stayed low for a long time because of the compulsion to raise inflation, perhaps the pressure on poorly performing firms to get out of business has been lower than otherwise. This is certainly more visible in some parts of the world than others. For example, a concern that perhaps in Europe there has been much less exit than might have been warranted given the conditions of firms. As a result, there isn’t that much entry or investment and, therefore, productivity is lower than it might have been. What was called the zombie problem by some economists in Japan may be more prevalent in certain other areas in the world because of easy access to finance. Nevertheless, whatever the reasons, I think it is clear that some of these reasons predate the global financial crisis and that some of these reasons for slow growth were masked by the extreme amount of debt that was taken on, which boosted growth but is now holding it back.

The question that we have to ask ourselves is: is it possible to go back to the pre-crisis levels of growth and should we try very hard to get there? One answer is that it is not possible or sustainable. Perhaps we should be content with slower rates of growth while we do the reforms that are necessary to boost levels of growth. That could certainly be one answer but it is an answer that electorates are much less willing to accept, especially given rising inequality, the failing of middle-class jobs and so on in the industrial world. As a result, there is tremendous pressure on policymakers to do what it takes. Typically, with fiscal policy being limited and with structural reforms being politically difficult, this has brought a lot of pressure on
central banks across the world to do what is necessary. One of the worries, of course, is that many of the responses have been country-by-country responses. At this point, one of the biggest concerns has to be that with the slow growth and the political developments in country after country, we need a cross-country response but not necessarily ways in which to boost growth, more in terms of ways to preserve the global open trading and financial system that we have otherwise we might even see that contract, leading to even more constraints on growth moving forward.

Let me summarise two or three factors that this raises. In terms of some of the causes predating the global financial crisis, solutions are hard to come by, even while electorates are becoming impatient. Therefore, one of the things we need to do is preserve what we have. This would suggest that one of the biggest efforts of the G-20 and other multilateral organisations should be to look at why global interactions are in fact shrinking and why trade has been so sluggish. Is it because global supply chains are shrinking or are global supply chains shrinking because it is economically easier now to produce in the source countries or are global supply chains shrinking due to political considerations as cross-border barriers are increasing. That is something to think about. If it is the latter, can we do something to preserve the kind of trade that we had pre-financial crisis. This does not mean that we need to have extremely coordinated efforts but we should at least not work with cross purposes and we should certainly preserve what we have.

In terms of bank regulation, there were clearly a lot of vulnerabilities pre-financial crisis that led to the crisis and we needed to fix them. A lot of such efforts have come from international organisations like BIS to fix it. Are we going far enough in certain directions and have we gone too far in other directions? For example, we have limited banks in their ability to intervene on markets to act as market-makers and there have been a number of good reasons to do that. But have we left markets too exposed without market-makers of last resort? Are there possibilities that we could get large liquidity shifts, especially because increasingly monetary policy action might have the effect of moving prices away from fundamentals. Are we exposed to large shifts in asset prices, both in terms of exchange rates and also fixed income securities? Second, as we regulate the banking sector, are we moving capital as well as human capital away from the banking sector into less regulated areas and is that a good allocation of resources? It would be ideal if we could regulate everybody with an even hand but certainly we cannot and as a result there will be distortions in allocation but is that the right choice for society? Is a regulation hampering activity?
Sitting in an emerging market, I can see that the foreign banks in India are pulling back on their activities and clearly India is one of the fastest-growing countries in the world. Therefore, there are a lot of investment opportunities. Cross-border investment would be good but at this point we see a pullback and I can also see this happening in some countries where real riskier activities, like small and medium sector financing, are suffering as a result. Is some of this because of regulation? Should we reconsider some of the regulations? That is worth thinking about.

In terms of monetary policy, which central banks are responsible for, have we reached a point where we have reached the limits of beneficial effects and we may be treading instead on negative effects. Certainly in Europe, a big concern is whether in fact lower and lower rates are increasing savings rather than decreasing savings as people think about an end-of-life requirement for their savings. The lower rates are making people think that they need to increase their savings rather than decrease their savings. Most economists would think that lower interest rates would reduce savings, encouraging people to go out and spend, but we may be reaching the point where the opposite effect is actually taking place. These are certainly concerns that we are central bankers should have.

I would like to close with this central banker dilemma that we have right now. Clearly, many central bankers are convinced that there are a limited number of rabbits that can be pulled out of a hat at this point but at the same time, we have an inflation mandate and if, for the reasons we talked about earlier, including demographics, productivity and so on, the world is in somewhat of a deflationary environment such as Japan was 20 years so it may be hard to reflate that easily. In that case, should we keep going more innovative policies or at some point should we say we have done what we can it is up to the rest now to step up? Unfortunately, given the mandate that central bankers have, it is very hard to say that we have done what we can. In some sense, the public holds central banks responsible and there is always one more innovative policy. Currently, the favourite innovative policy is helicopter money but I find it hard to understand how helicopter money adds significantly to a strong fiscal expansion added to Quantitative Easing (QE). I think it achieves exactly the same thing and we have reached the limits of fiscal expansion and certainly, QE has had the effect that it has had. It does not seem to me that helicopter money is the panacea that everybody is looking for. Nevertheless, there is always something more that the central banks can do.
The bottom line is that central banks, to my mind, have done what they could. They certainly reacted appropriately to the crisis and have taken us far away but now we have to look for other policies, many domestic the some internationally, and we should certainly make sure that while we try to enhance growth we shouldn’t take actions that reduce growth and growth potential by reducing the international trading system as well as the international cross-border investment system that we already have.
PURSUING GROWTH OBJECTIVES AFTER THE CRISIS: AN EM PERSPECTIVE

Raghuram G. Rajan
Governor, Reserve Bank of India
Pursuing Growth Objectives After the Crisis: An EM Perspective

Raghuram Rajan
Governor
Reserve Bank of India

Why is the global recovery so slow?

• Final demand in industrial countries
  - Boosted by debt pre-crisis
  - Held back by subsequent deleveraging
  - Deleveraging shifting to EMs that leveraged post crisis
• Poorly understood effects of population ageing on investment and savings.
• Hard to fathom slowdown in productivity
  - measurement/monetization problem
  - Oligopoly problem
  - Zombie problem
The Current Consensus: Restore Growth

- While monetary policy may be losing its potency, keep foot firmly on the accelerator.
- Whoever can do more fiscal stimulus, should do so.
- In the meantime, undertake structural reforms that have quick payoffs (i.e., politically more palatable).
  - Grab bag of reforms in G-20
- Problem: Country by country responses
  - Documentically, political promise that past growth will be restored
    - need new models and reforms to go even party way
  - Globally, free market consensus breaking down
    - Trade, capital flows, markets
    - What level of Intervention is permissible?
  - Who is the champion for an integrate market-based world

A different take

- What structural reforms at G-20 level?
  - Is it more possible there are common factors slowing down the world?
    - Should we understand them better and devote scarce political capital to resolving those?
      - Global supply chains shrinking-good or bad?
    - Not coordinated effort but not at cross-purposes
    - Example: Oligopolistic industries built around
      - Intellectual property protection
      - Network effects
      - Tax minimization
      - Can we dialogue on best regulatory practices to introduce more competition globally?
A different take

- Bank regulation: Obviously needed post GFC and work has to be completed. But has it opened new vulnerabilities?
  - Regulation may have limited bank market making and thus market liquidity, even while monetary policy has increased potential asset price shifts
    - Large possible asset price movements away from fundamentals
  - Regulation may be shifting activity and human capital to the shadow banking sector
    - Is a less smart bank less of a risk?
  - Is our regulation hampering needed activity? Are banks capable or willing to take needed real sector risks any more?
    - SMF Lending
    - If there is a liquidity shortage, do the right players have access to central bank windows?

A different take

- Easy and unconventional monetary policy—could it increasingly be part of the problem?
  - Lack of exit of inefficient capital in some countries: contributes to low productivity and low new investment
  - High savings
    - End of life desired quantum
    - Worry about viability of pension/government funded schemes
    - Fear of eventual asset price volatility increases savings
  - Spillover effects
The Central Bank Dilemma

• Well accepted monetary policy cannot substitute for structural reforms.
• But inflation is flirting with the lower limit of the inflation mandate and threatens to stay lower for long.
• With interest rates already very low, and with pundit constantly reminding us that “inflation is always and everywhere a monetary phenomenon” central bankers have to go beyond ordinary monetary policy, or lose credibility and risk violating their domestic mandate.
• No central banker can claim they are out of tools, For after all, if all else fails, there is the “helicopter drop” (is it really more than coordinated QE + fiscal expansion)?
• Expectations formations in a structurally disinflationary environment

Conclusion

• Need to undertake reforms that may take time to pay off
  - How to keep political pressure contained
  - Preparing electorate for slower growth over the medium term
  - Undertaking necessary institutional reform in a difficult political environment
• EMs need to focus on preserving macro stability, even as they encourage domestic demand
  - Try to take sensible measures: economics still works
  - Don’t get too ambitious
  - Take on the responsibility for preserving openness
• We are all muddling through!
Conclusion

• Need to undertake reforms that may take time to pay off
  - How to keep political pressure contained
  - Preparing electorate for slower growth over the medium term
  - Undertaking necessary institutional reform in a difficult political environment
• EMs need to focus on preserving macro stability, even as they encourage domestic demand
  - Try to take sensible measures: economics still works
  - Don’t get too ambitious
  - Take on the responsibility for preserving openness
• We are all muddling through!
We have heard two excellent presentations from two very eminent personalities from the central bank community on the most pressing task that is currently confronting central banks, namely to engineer a strong global recovery that is sustainable. Actually, it is almost one decade now since the eruption of the global financial crisis in the major advanced economies and while there has indeed been a recovery, particularly in the US, it has been modest and growth has been significantly less than what has been expected given the very aggressive policy response that has taken place. Our speakers have provided reasons and highlighted some of the impediments that have limited the potential for achieving more enhanced growth performance. The task, I believe, has become particularly more challenging given the current and future environment that the global economy is facing. The environment has become more highly dynamic than previously. In other words, there are major shifts taking place within short periods of time and developments that have generated significant uncertainty with implications on growth and stability. This has been one of the issues compared with previously. There are now divergent policies as well as significant structural shifts in the commodity markets as opposed to cyclical shifts previously and this has fiscal policy implications for many countries. There are also geopolitical tensions, climate and environmental factors, as well as non-economic factors including changes in political leadership, emerging dangerous diseases, terrorism as well as changes in economic relations, for example the Brexit. Therefore, there are economic developments, structural changes and non-economic factors. It becomes highly challenging for policymakers in such a highly dynamic environment that has generated this high level of uncertainty.

The factors that have been mentioned include limited policy space and legacy issues related to private and public sector indebtedness. In Europe and in some other
parts of the world, there is still the financial stress that exists even though there has been tremendous restructuring and repair. All these factors have cumulatively contributed to an erosion in confidence and protracted financial market turbulence. I just wanted very briefly to say, because the theme of this conference is divergent policies because of divergent economic and financial conditions that have precipitated divergent policy responses. While, of course, economic convergence and policy convergence is desirable because it can be mutually reinforcing, I think divergent performance should not be of such a great concern. We have seen it before and now, it is more, especially with respect to the US, a change in policy direction. I think that is the one that everyone focuses on more rather than divergent policies in different parts of the world. While Bill has highlighted that the US, the Fed, has taken into account not only their domestic conditions but also external developments. Of course, this is important. We have always wanted to be taken into account and take into account what is happening in other parts of the world but, I think, the primary basis of policy always needs to be based on domestic considerations or national considerations. If the US is recovering, it is positive for the rest of the world. The change in direction of policy would be positive because it signals that recovery and therefore it is positive for the rest of us. If policies generate positive outcomes, they will create positive spillover effects on others and, therefore, it is incumbent on all policymakers in all parts of the world to be responsible in their own jurisdiction in order to contribute to global stability and growth.

Finally, in terms of the policy actions that have been taken, I would just like to highlight some additional factors on top of what has already been mentioned. The experience in Asia in particular have shown that the policies need to be comprehensive. We cannot rely on monetary policy alone to do the job. We need an optimal policy mix of macroeconomic policies. I think the Governor of Bank Indonesia mentioned the wide range of policies within Bank Indonesia itself; not just monetary policy alone. Beyond monetary and financial policy, the needs to be a wide range of other macroeconomic policies along with structural reforms as well as institutional factors and so on.

I would like to comment on one point that Bill mentioned and one of the issues mentioned by both speakers, I think it is the level of indebtedness that is constraining growth. This is not just public indebtedness and the implication on fiscal space but also the private sector. Bill mentioned that in the US, there were foreclosures that immediately reduced the debt. That is one way of doing it but it is a
little bit harsh on the asset owner. For us, we took a less harsh approach but maybe we had the time and space to do that. We implemented debt restructuring so that people wouldn’t lose their assets. This is something that we can do in the current environment. In Malaysia, we have very extensive policies and mechanisms in place to restructure debt, not only of the corporate sector but also of small businesses and the household sector because they are the driver of consumption. Therefore, restructuring their debt is important along with financial literacy. That goes hand-in-hand with the issue of reducing inequality because rising inequality is another dampener on consumption because those with the highest propensity to consume have the least potential to consume.

To continue, another aspect is interagency coordination within our respective countries because if we are not going to rely on monetary policy, this is something that we must do. Managing these relationships is a most challenging issue facing central banks, while we want to provide institutional leadership, which is important because central banks have that capability but it is very challenging for us to do so politically while retaining our independence. This is something that needs to be developed and forums such as this, with central banks share their experiences, have been very useful in this area. Capacity building and institutional development are key contributors towards strengthening the foundations that will allow for future growth.

My final point is about balancing the short term and medium term policies. In other words, this means that while liquidity is being provided along with other short-term measures, it is also important to undertake economic transformation and financial transformation, which are vital to provide resilience and also to support growth. There are no shortcuts to doing this. Some of them, may even be a constraint to growth. For example, China is undertaking major structural reforms, some of which incur a cost to growth but over the medium term it will support a more sustainable China.

In terms of financial and economic integration, while we are all integrated in the global economy, each region can play an important role when they unlock their economic potential and this is happening in Asia through integration. Even today, Indonesia and Malaysia are signing an agreement in Jakarta about financial integration. This will unlock tremendous potential for the ASEAN economies in particular. Of course, we look at the process of integration in Europe, which has provided tremendous benefits and challenges as well. We also look at other parts of the world, like Latin America, the Middle East and Africa and what they are all
working towards in terms of integration. Thus far, the most successful and most advanced of all the emerging world has been Asia. I believe that this will be a major contributor to unlock our growth potential. Although we are talking about slow growth around the world, we still remain an important growth centre in the global economy.
Question No. 1 from Martin Soong

It strikes me that this conclave we are at, with the Fed New York, Bank Indonesia and, concurrently, the EMEAP central bank governors. Plucking one of Governor Zeti’s remarks that while you guys struggle to find answers to the main problem, which is how to get growth and stability at the same time when economic and monetary policy are going in opposite directions. Governor Zeti’s answer was that primarily, you have to look after your own house first, which leaves me to wonder, at this kind of gathering, along with investors and markets, how much room or scope is there for cooperation, globally and regionally, at this juncture given the fact that central banks are under pressure from governments?

Response by William C. Dudley

I think that there is actually quite a bit of cooperation during stress environments. For instance, look at the reaction around the world to the surprise Brexit vote. It was not expected that Britain would vote to leave the European Union, yet the very next day there were coordinated messages out of central banks and other authorities around the world showing that people are taking this seriously, monitoring the situation and is prepared to respond as necessary. As it turned out, the financial market reaction was very violent but also very short lived so I think that that shows you there is a lot of scope for cooperation, which tends to manifest itself more during periods of crisis and stress than when in a more benign environment.

Question No. 2 from Martin Soong

That raises the question, should it be reactive and crisis driven as opposed to something that is already more or less formalised, if not institutionalised, and already there?
Response by William C. Dudley

I think it already is there in the sense that the ability to respond quickly is there. The central banking community is very close. We spend a lot of time together and we get to know each other very well. Most central bankers go to BIS five or six times a year to talk about global issues and get to know one another. That fosters the kind of rapid response that you saw to what was a very surprising vote in Brexit. At the same time, it is important to recognise that our mandates are domestic. The Federal Reserve’s mandate does not mention fostering global economic growth it talks about fostering maximum sustainable employment in the United States and price stability. Obviously, if growth in the rest of the world is doing better it is easier for us to obtain our objectives. Therefore, we have a commonality of interests even as we cannot subordinate our US goals for international goals.

Response by Raghuram Rajan

If I may say so, observing from the outside, the US Fed has moved quite a bit in terms of its communication. The explicit recognition of the effects of US policy on the rest of the world as well as, sometimes, holding off on policy moves partly because of the concerns about the rest of the world being in turmoil and what the consequences would be. I think that the language and the communication have certainly changed considerably. Even if, implicitly, it was already happening, the explicit recognition of this has changed over time. The words cooperation and coordination are used a lot of people don’t actually mean that the central banks should call each other to see if it is okay to do this or that. Nobody does that. We certainly meet frequently at BIS and talk a lot there but what I think people really mean is that central banks must take their responsibilities as part of an integrated world seriously and act on that basis. It is important to act together in terms of crisis but in more ordinary times it is important to calculate the spillover effects, while keeping your domestic mandate in mind. A greater recognition of that has emerged over the past few years and that is certainly a positive development.

Question No. 3 from Martin Soong

As far as the Fed is concerned, without actually changing the mandate, I am wondering whether the Fed’s ability to look at the rest of the world and think about how that is going to impact US policymaking as well as the US economy, whether
that ability has improved because of the physical manpower mix in the Fed, I am thinking about Lael Brainard who comes with a wealth of international experience?

**Response by William C. Dudley**

I can only judge on my own experience and I think that international consideration looms large. The best example is how we have conducted policy this year. As I mentioned in my speech, in March this year we explicitly mentioned in the statement that international developments were important as a reason why we were not moving forward at that time with more steer monetary policy. Then, in the June FOMC minutes, even though the Brexit vote had not happened yet, we had already flagged that as a potential risk to the US economic outlook, while not even expecting the Brexit outcome as it occurred. We did, however, recognise that it was a potentially significant event.

**Response by Zeti Akhtar Aziz**

I just wanted to add one area of cooperation that is less discussed and known, namely surveillance. There is tremendous cooperation in the area of surveillance and also of understanding risks. This allows us, therefore, to take action early because of this knowledge from the surveillance and understanding of risk. It also sometimes allows us to even be pre-emptive. This is an important area of cooperation.

**Response by William C. Dudley**

In terms of banking regulation, a lot of the Basel standards on capital and liquidity are being imported around the world. Another example is a project that I worked on known as the Principles for Financial Market Infrastructures, which apply to significant financial market utilities, such as payment settlement services. Those common set of standards are adopted around the world because financial market infrastructures are very important to financial stability. I think there has been a tremendous amount of progress on the financial stability front and the banking regulation front internationally. It is not just about monetary policy.

**Question No. 4 from Martin Soong**

Are there any new or fresh initiatives in terms of cooperation or coordination that are mushrooming from such meetings as this that you have been having?
Response by Raghuram Rajan

I think that the International Monetary Fund is looking at its facilities and is certainly considering whether countries approached the Fund well in advance rather than at the time of the crisis and whether crises can be averted by taking on such facilities. Clearly, there is some concern across the member countries that perhaps countries approach too late. How do we fix that problem and make people take adequate precautions? That is certainly a concern of the IMF and they are working on that currently.

Question No. 5 from Martin Soong

How big of a change is that for the Fund to start doing things more proactively?

Response by Raghuram Rajan

I think that the Fund has always tried to be useful to its membership. I think it is looking for ways and I think some parts of the membership have said that the international safety net is inadequate. There are lots of members of the Fund, some feel that the safety net is more than adequate and there is a risk of moral hazard if we go much further. The Fund, therefore, has to navigate these different views and come up with something that is broadly acceptable. My own personal sense is that in the longer term, we need some sort of agreement between the Fund and the major central banks that allows the Fund to be the backstop to a liquidity facility from a central bank. This would not be done on a bilateral basis but through multilateral consensus. The problem, of course, is that right now central banks have already been asked to do so much. Consequently, there is very little political appetite in a number of countries for their central banks to do any more. In the longer run, however, this is something that we will have to explore.

Question No. 6 from Martin Soong

Distilled down, the big thing is that people around the world are literally waiting on the Fed. When is that second hike coming? I know you cannot give anything away on that but I found your speech particularly interesting this morning because it kind of covered both sides. Nearer term, around November, what could the next presidency mean for the economy and also policy?
Response by William C. Dudley

The Federal Reserve is completely apolitical. We do not pick sides or try to pursue a policy that helps one side rather than other and that will continue to be the case. We are basically going to assess the economy.

Question No. 7 from Martin Soong
But surely you are thinking about possible outcomes, no?

Response by William C. Dudley

I think it is fair to say that it is a consequential election and I think that the outcome is uncertain. The consequences of the election are also uncertain but we have to take the world as it is rather than how the world might evolve depending on the election. I would not say that the election is going to be a significant factor in driving US monetary policy. In fact, I do not think it will be a factor at all. I think what is really going to drive monetary policy is whether we are growing at a pace sufficient to use up excess slack in the labour market. If that happens, are we going to be confident enough that inflation is going to return towards our 2% objective? If that does happen, we are going to gradually raise short-term interest rates. The timing of when that is going to happen is uncertain because we do not know how fast we are going to grow and we do not know what is going to happen to the modest slack in the labour market. If such conditions occur very quickly, I could definitely see the Fed raising interest rates even prior to the election. If this happens very slowly, however, then we are also going to go much more slowly. People want the Federal Reserve to give them forward guidance about when we are going to raise rates but to have effective forward guidance you would need to have a crystal ball in order to forecast the economy and financial markets perfectly. Unfortunately, the Federal Reserve does not have a crystal ball. We are very much data dependent. You cannot say you are data dependent and then offer forward guidance. Those two things are in contradiction. If you really are data dependent you have to wait and see the data, which drives your actions.
Question No. 8 from Martin Soong

The $64,000 question is after you, who? Your tenure will finish next month in September. In terms of the changes that you have managed to institutionalise, what is the most precious to you that you would insist on being preserved?

Response by Raghuram Rajan

I cannot really insist on anything but I think there is such momentum for a new monetary policy framework that focuses primarily on inflation, which has a monetary policy committee determining policy rather than it being solely the prerogative of the governor. I think this creates an institution that many other countries in the world have adopted, but India was slow to adopt, which will stabilise expectations about inflation in the future and essentially bring us on par with every other country. It is very important that this framework be in place. We are working very hard to get it in place before I leave.

Question No. 9 from Martin Soong

Before you left, Governor Zeti, there was a bit of a struggle, the outcome of which I imagine you are quite pleased about in terms of who your successor was? In your mind what are the things that you have achieved in your 17-year tenure at BNM, which you would be most happy to see preserved?

Response by Zeti Akhtar Aziz

Ten pieces of legislation were enacted that legally provide certainty and predictability regarding the functioning of the central bank. That is one aspect. The institutional transformation of the central bank represents another aspect. In the early 2000s, we instituted the monetary policy framework and then we deregulated and liberalised towards greater market orientation to have a more competitive financial system. All of this allowed Malaysia to become more resilient. We have succession for two generations now, not only the current but also the next generation as well. We have a solid central bank.

Question No. 10 from Martin Soong

To paraphrase, BNM, now that the handover has taken place, independency is safe?
Response by Zeti Akhtar Aziz

Yes.

Question No. 11 from Martin Soong

The US is in a much more enviable position. In India, it is not so much legalised and formalised independence, it is more independence that you managed to establish or assert for the central bank, no?

Response by Raghuram Rajan

Yes, but I think a succession of central bank governors have asserted their independence and I think the government has respected the independence. A book by the previous central bank governor was released recently, where he talks about the government trying to persuade him to follow certain policy but he followed his own policy. There were disagreements, some of them public but nobody ever told him what he must do. Therefore, there is independence that is respected. In the Act, the government actually has the right to give a directive to the central bank but that right has never been exercised in the history of the central bank. Consequently, I consider it de facto independence, if not de jure independence.

Response by Zeti Akhtar Aziz

That is very true because we legislated our independence in 2009 but before that I had always said you earned your independence. We have also never been told what to do, in my 35-year career with the central bank. The central bank has always been respected.

Question No. 12 from Martin Soong

With all this increasing pressure on central banks now, do any of you worry about central bank independence anywhere around the world?

Response by William C. Dudley

It is definitely an issue in the United States. Some people have even proposed that the Federal Reserve follow a monetary policy rule (the Taylor Rule) and if we deviated from the rule we would have to go to Congress to explain why. I think that would be very dangerous. The Taylor Rule, as it is typically used, assumes a
neutral Federal Funds Rate of 2%. Under the current environment, therefore, at full employment the Federal Funds Rate should be 3%. That is quite a long distance from where we are at today. I would argue that that would be completely inappropriate for the Federal Reserve to have a 3% funds rate any time soon. Following a mechanical rule is not a good outcome for monetary policy. The world changes and you have to take the world as it is. Furthermore, financial market conditions also evolve, while demographic and productivity trends change. All of those things require judgement so I think it would very much be a mistake to overly constrain the central bank.

**Response by Raghuram Rajan**

I think versions of that play out across countries. There is sometimes this view that central bankers merely decide whether interest rates should go up or down, a decision that cannot be particularly difficult. Criticism often comes from some corners that only see one part of the whole decision, the part that affects them. They need to look at the whole picture. It is far more complicated than following simple rules. Projections are made and the consequences are observed over time and across sectors. Given that it is far more complicated and cloaked in a lot of murkiness, I think we are exposed to political attack at all times. Part of the job is to defend policies explicitly but it is also important to have political cover.

**Response by Zeti Akhtar Aziz**

The central bank can never take independence for granted, that it is always going to be there. Respecting confidence is built up in the central bank over many years but it can be taken away in just one day. Therefore, independence should not be taken for granted. The central bank needs to cover itself by providing explanations and the rationale for policy decisions. Communication also plays a very important role by reaching out directly to the industry, the financial markets and the public at large so that they understand why you are doing what you are doing.

**Question No. 13 from Martin Soong**

For the man in the street, central bank policy and decision-making is very much behind the veil. Nobody really quite understands what is going on. Rate either go up or they go down. For governments, there is a political mandate and there is also a moral mandate. I am very curious what it is like for policymakers such as yourselves, how do you make monetary policy under military rule for example? The former
governor of the Bank of Thailand spoke about one year ago about the difference between operational independence and trust and credibility with the public, which is the bedrock of credibility. It does not matter if you have operational independence if the man on the street doesn’t trust you. Do you think central banks need to make a great effort to communicate, not just with the industry in the markets, but with the man in the street?

Response by William C. Dudley

Absolutely. Since I have been President of the Federal Reserve Bank of New York, we have made a concerted effort to visit the whole district that the New York Fed covers. This is done partly to explain what you are doing and why you’re doing it as well as what resources you can provide to the local community but it is also to get information back on the challenges and opportunities in the region and how our local businesses and educational establishments can work together. This outreach effort goes directly to your point that there must be some connection to households and businesses. One of the challenges for the New York Fed is that we are located in New York City. Everyone looks at us as on the side of Wall Street but we are not there for Wall Street at all, we are there for Main Street but we have to actually act in our actions to make that clear to people.

Question No. 14 from Raj, Bank of America Merrill Lynch, Hong Kong

The fall of the Berlin Wall was supposed to be a turning point that led to globalisation and now people are saying that the Brexit is yet another turning point in the opposite direction. What are your thoughts on that?

Response by William C. Dudley

I think it is way too soon to tell and I would not like to put too much mass on the Brexit decision. First of all, it was a very narrow margin. Second of all, it had to do with Britain’s relationship to the European Union, which I think is a much narrower issue than whether globalisation is good or bad. When I think about globalisation and the hundreds of millions of people who have been lifted out of poverty over the past several decades, I just can’t see how someone can legitimately argue that globalisation has been a bad thing. I would not like to over-weight one data point that might go a little bit in the opposite direction.
Question No. 15 from Raghuram Rajan

It seems to me though that one thing has changed, in the traditional supporters of globalisation, namely the Anglo-American economies, the electorate seems a little bit more ambivalent about the benefits of globalisation in these countries. This then raises the question, who is going to be the champion for preserving or even advancing globalisation in the future? In my sense, the Asian region, which has benefited tremendously from globalisation, should be at the forefront of preserving the current system and perhaps even expanding it while there is more muted leadership from the Anglo-American economies.

Question No. 16 from Rob Ramon, Namura

My question is directed towards the whole panel. Thinking back over the past 25 years or so, with hindsight do you feel that monetary policy was to asymmetric in the sense that when we had asset price and credit booms, interest rates were not raised enough. Then when they bust, we cut interest rates are a lot and we ended up at zero. If so, what does that mean going forward?

Response by William C. Dudley

People ask me a lot about the causes of the crisis and the argument that the Federal Reserve kept interest rates too low from 2004 to 2006, even though the Federal Reserve was raising interest rates 20 basis points per meeting over and over again. When I look at the causes of the financial crisis, I would put the monetary policy of the Federal Reserve quite far down the list. To me, the crisis was more about financial regulation, leverage in the investment banking business, structured finance products (CDOs), really poor mortgage underwriting practices, as well as a housing boom and bust. Tighter monetary policy may have made the housing boom slightly less booming, but only by a small increment of magnitude. In my opinion, I really think that monetary policy was quite far down the list.

Response by Raghuram Rajan

My views on this are quite well known. It does seem to me that the nature of monetary policy could be distinguished from the ‘put’ that you’re talking about. If there is a sense that there is a put, that if markets fall the central bank will come to the rescue, that creates a certain dynamic in markets themselves, including the creation of exotic products that rely on liquidity. Consequently, there is greater confidence that
such products will sell and have value because liquidity will be available at all times, even in really bad times because the central bank will come to the rescue. That kind of expectation could also build up, even if monetary policy is being conducted with the best of intent, simply because you can never say never. You cannot say that you will not come to the rescue of the financial system, you will be obliged to do it. To my mind, that is perhaps even structural in nature and we need to figure out how to deal with that. People have said that we need to make policy more symmetric by being more willing to tighten in normal times. I do not know whether that is the answer but there is a real worry that we have become too liable to the put.

**Question No. 17 from Bank of Korea**

My question is addressed to Raghuram Rajan. I remember you mentioned about the demand-shifting and demand-creating effect of easing monetary policy. If the central bank eases monetary policy, it creates indirect effects on the exchange rate. Do you have any idea which is bigger or which determines each effect?

**Response by Raghuram Rajan**

I think that in ordinary times, the demand-creating effects of monetary policy are clear, namely lower interest rates, the interest rate sensitive sectors tend to expand and that creates demand that could pull in imports, which outweighs the demand-shifting impacts as currencies appreciate when interest rates are cut. If the interest rate sensitive sectors are levered up and are not able to expand and if the banking system is clogged up with bad loans and unable to expand, then a cut in interest rates may not have the same transmission effects in domestic terms of increasing domestic demand and may have more of an external effect. Clearly, both effects are present but to different degrees at different times. The argument is more, at times, when there is more of a demand-shifting effect, more concern is required regarding the external effects of monetary policy. In recent times, however, the effect of policy on exchange rates has become very complicated because they rely on expectations of investors. Even by following a very accommodative policy, the exchange rate may actually appreciate because people are bringing in money who are worried about something or other. It is not clear-cut but it is an area that we have to worry about, especially when the interest rate sensitive sectors in the domestic economy have become clogged up.
Question No. 18 from Perry Warjiyo, Deputy Governor, Bank Indonesia

Certainly, a central bank can do many things to stimulate growth and stability but, as you mentioned, there is a limit for monetary policy. We have talked about the central bank in terms of institutional leadership as well as interagency cooperation. The central bank could do more to have an optimal mix of monetary policy, fiscal policy and structural reform despite the last two being outside of the central bank, especially from an emerging perspective. What is your experience on how the central bank can take institutional leadership and interagency coordination within the country?

Question No. 19 from Zeti Akhtar Aziz

The central bank is definitely represented in many forums in government, in economic planning, in the management of the rising costs of living and so on. There are many committees at which the central bank is represented. At those forums, the central bank must assert its views. In Malaysia, we did that continuously, including capacity building for SMEs because we feel that they are the backbone of the economy. Initially, banks were not lending to SMEs because they thought they were poorly managed with a low level of performance. In that case, SME development was key and the central bank played a major role in this area and we worked with the government but the challenge remains how close can you get while preserving your independence? You have to work closely but maintain distance also in order to maintain independence. Therefore, the central bank will be respected as a technocrat as well as a compiler of knowledge to be shared. You don’t look to take the credit because the positive outcome is for the agency which is the lead agency that drives, for example SME development or trade or tourism or whatever. One area where we talk about promoting growth, for example, is promoting domestic tourism. That is an important area that promotes consumption and generates almost immediate growth because there is no need for additional investment. This will be a continual challenge and the central banks have to learn how to manage that relationship constructively and positively.

Response by Raghuram Rajan

I agree, we talk a lot to the government. Behind closed doors, we advise and generally we try to work together on macro stability, which is very important. What more can we do? I think monetary policy does what it can but beyond that, as the central bank in a developing country, we can undertake development, especially of
the financial sector because there are so many things we can do, including creating an institutional environment for more SME lending, namely the informational environment, the collateral requirements and so on. We can create structures for that. There is a lot we can do and we continue trying to do that but clearly acting as a confidential adviser for the government is part of what you do. I was intrigued at learning yesterday that Bank Indonesia also participates in managing food inflation directly by coordinating food management. In India, we do not do that but food inflation is a big part handled by the government and we merely advise them on how prices are moving. There is certainly substantial room for coordination in an emerging market.

**Question No. 20 from Goldman Sachs**

I’m curious on your thoughts about areas of research, things that would help you do your job?

**Response by Raghuram Rajan**

Since I’m transitioning back into academia, this seems like an appropriate question. One of the things that I understand very little about, and I think more generally the academic literature hasn’t spoken a lot about, is the process of expectations formation. How do we, as central bankers, affect expectations, namely how do those expectations get formed and how do they then, in turn, affect things like the real interest rate because, after all, that relies on expectations of inflation and, therefore, activity? This is an area where we need far more understanding than we have right now. Forward guidance, for example, and the way it was supposed to operate; did it operate as advertised? Did it affect expectations? There was some old literature that said forward guidance is impossible due to the problem of dynamic consistency. When the central bank gets to the point of needing to raise interest rates, no matter what you may have said in the past, the central bank will actually raise interest rates. In some parts, forward guidance was attempting to say that we will be low for long, even beyond that point. Did we succeed or not? That is an empirical question but also if we did want to succeed in the future, what would we have to do in order to convince the public? And what other channels through which we can convince them. Analysts, of course, follow every move that the central banks take through the financial press but what about the union worker, does a union representative internalise what you’re saying about inflation and wage
demand? Does the average Joe internalise that? Are we having an effect on wage setting, for example? Or is it being driven by other economic conditions and not by central bank talk? These are particularly interesting things to me and we have only explored the fringes.

Response by Zeti Akhtar Aziz

I would like to add one other area, understanding better the implications of developments in financial technology on the financial system and for policy, otherwise known as FinTech.

Response by William C. Dudley

I would like to add developing a macroeconomic model that actually really incorporates the financial sector in a meaningful way because the economy did not perform at all in a way that the big macroeconomic models suggested going into the financial crisis because there was no financial sector in those models. There is a lot of work that needs to be done in that area.
First of all, I would like to say that I enjoyed very much this morning’s session. It has made me more aware how complex the world we live in today has become. It also makes me more aware how far behind I am after seven years out of touch with central banking.

It is my great pleasure to speak to this assembly of very distinguished central bankers, policy makers and practitioners from various parts of the world. For me, a gathering like this always rekindles memories of my times as central banker.

Central bankers have an honorable but unenviable duty to be the very first in the firing line when a financial crisis hits the country. That is what transpired from our experience during the two recent great crises – the Asian Financial Crisis of 1997-98 and the Global Financial Crisis of 2008. I am sure such an experience is not unique to us here in this country. Looking back, I am almost tempted to say that central bankers do have a more difficult and more nerve-wracking job than does a vice president of the country. It certainly carries more truth in times of financial crisis.
I thought it might be useful for the topics you are discussing in the seminar today if I use this lunch-time session to recount for you some of the lessons from those turbulent times. The lessons that I am presenting to you may be specifically Indonesian, but some of them may resonate with you in your experience to deal with those crises. I would like to underline five of them.

The first lesson worth recalling is that each of the two crises had caught us by surprise. By “us” I mean the majority of economic actors, including the policy makers at the highest levels. The surprise element, I dare to conjecture, will continue to be part of the future crises. My understanding is that as it stands now, the science of anticipating crises is not so much more advanced than the science of predicting earthquakes.

Yes, we could continue striving to raise our capacity to read the crystal ball, but there may be natural limits to that. And those limits reside with the policy makers themselves (and the politicians overseeing them): they are not immune against the attacks of the virus of irrational exuberance when they infect the society.

In my view, the optimum strategy should be like that of maintaining our personal health: live a balanced life, closely monitor the state of your “general health” at any time, take inoculation whenever possible and prepare as best as you can for contingencies. Such efforts are indeed worth taking. Thus while in both crises we were equally caught by surprise, in the first crisis our readiness was almost zero and the consequences were devastating - Indonesia was the hardest hit country. I will not go into the details, but in the second one we were somewhat better prepared and the damages were minimized.

The second lesson from our experience is that appropriate first or initial responses are the most important - a message crucial for those who have to be first to go to the firing lines. It is a good real-life example of a situation in which the phenomenon of what economists call path-dependency applies. In the first crisis, for various reasons including inaccurate and even non-existent information, we made missteps in our first responses to the evolving crisis. For the sake of objectivity I must say that in this case both the Indonesian side and the IMF were implicated. A couple of months later the policies were corrected, but only after great damages were done. In the second crisis we made appropriate and more timely responses right from the start (I might add that this time the Fund was not implicated) and the damages were minimized. Indonesia was one of the countries least affected by the crisis and was one of the quickest to recover.
The third lesson is that in the middle of a crisis do not assume that coordination among institutions would be as smooth as it should be or as normally is in the more benign times. In fact, one senses of the emergence of an unhealthy tendency that institutions are pulling back to their comfort zones. They incline to minimize their respective roles in taking charge of the situation and in making the necessary decisions, presumably in order to minimize the political risks of being a target of the blame game later, especially when things did not turn out well.

I have to say that such a tendency was being acutely felt here during the height of both crises. And yet one cannot put the blame wholly on the decision makers. The fact is that what our American friends call “Monday morning quarter backing” is not alien in real-life politics here and I suspect in many other countries. Such a phenomenon may be more common in the case of emerging countries whose institutions are still in the making and where institutional division of responsibilities are not yet well established. We still do not have sufficient knowledge about how and why institutions behave differently in times of crisis. But if such phenomenon is not simply an institutional aberration but originates from the deeper root, such as the psyche of whoever the officials in charge, then even developed countries may not be totally immune from it.

Lesson number four is that institutional memories, most essential in supporting good decisions in time of crisis, are often very thin or non-existent. The problem becomes more acute when the few decision makers in happen to be command have had no first-hand experience in dealing with a crisis, perhaps because a high turnover of officials.

In our first crisis the institutional memories were virtually zero as the country experienced no precedent of a crisis of that kind. Consequently we had to fall back on the less than optimal option by relying on the international experience as distilled by multinational agencies. In the second crisis we had learnt some lessons from our own experience in the past crisis and we fared better. Alas, that process was still not truly institutional, relying largely on the personal memories of the few standing officials who happened to had direct experience in the last crisis.

Things should be made better than that. The pertinent question is: how should we preserve and accumulate the institutional memories and knowledge in-house and make them readily available and accessible for the future officials who may not have had first-hand experience in dealing with crises? Regrettably, the practice of
maintaining and developing institutional memories and knowledge systematically in-house is not yet common among institutions in this country. It should be an integral part of long-term institutional building strategy.

The last lesson that I wish to convey is more general, and applies equally in times of crisis as in the more benign times, and one many of you, I am sure, are well acquainted with. It is that in the last resort it is supportive politics that determine the effectiveness of economic policies. Good economics can only be founded on good politics. Let me recount our experience. During the first crisis there were political complications right from the start and they continued to linger through the long six years during our effort to put back the economy on track. In the second crisis we were a bit more fortunate that during the height of the crisis political complications were minimal. Within less than nine months the economy was essentially back on track. Political complications still arose, but only later after the crisis was fully under control. Yes, it was the “Monday morning quarter backing“ type.

There are of course lessons to be learnt on the more technical levels. But we leave the stuff for other venues.

Let me close my talk by making short remarks on the broader debates about other kinds of, but quite related, divergence. Just as in many other countries, here recently has emerged a growing uneasiness about the rising inequality. There have been lively public discussions on the issue. There is factual basis for that. In the past fourteen years or so, our Gini index has worryingly shown a persistent rise. The concern has been intensified with Tomas Piketty’s recent findings that point to the possibility that the flaws may lie deep in the system. As in other countries, observers here have also talked for quite some time now about still other kinds of divergence (some even call them decoupling), that is the divergence between growth and employment, between the financial sector and the real economy. And, especially after 2008, economists here also began to talk about the inherent instability of our market economy and that of the global economy.

These debates are ongoing and views still diverge. If I may be allowed here to express my own views on these: the identified problems are indeed real and urgent and will not go away any time soon. But I think they need not be construed to reflect a system falling apart beyond help. I still hold some faith that good policies, good regulations and other enlightened interventions by the state could correct and save the situation.
The fact is that the market economy (a term that in many countries provokes less emotive response than the more matter-of-factly one, capitalism) is basically driven by self-interest or some people call it greed. Such a system is never morally attractive to many here and I think too many in other countries. But, whether we like it or not, it has proven itself to be one that could deliver improvements in the lives of the many. But there is an important proviso. The improvements are possible and sustainable if and only if one crucial condition is fulfilled, namely the system must be complemented with the effective exercise of the appropriate role of the state. To make it work for the common good, the market economy must be anchored on good institutions and good politics.

And here lies the true challenge. For many developing countries, like ours, that condition cannot be taken for granted. It is not uncommon to find the necessary role of the state is not well implemented or that the role actually implemented is not the appropriate one, or both.

The condition necessarily also applies to the global economy. The challenge of countries of the world today is together to create and develop the needed global institutions and benign political environment in the midst of divergences, uncertainties and the lurking threat of instability and insecurity. It appears, though, that presently the global community is not quite ready to take up the challenge.

I stop here and I hope I have not wasted these last twenty minutes of your time and leave you with some food for thought. Now let us go back to our tables and enjoy the real foods being served by our host.

Thank you for listening.
This page is intentionally left blank
SESSION 2

MONETARY POLICY TRADE-OFFS IN AN OPEN ECONOMY

Speakers:

Mitsuhiro Furusawa,
Deputy Managing Director, International Monetary Fund

Thomas J. Jordan,
Chairman, Swiss National Bank

Ravi Menon,
Managing Director, Monetary Authority of Singapore

Veerathai Santiprabhob,
Governor, Bank of Thailand

MODERATOR:
Perry Warjiyo,
Deputy Governor, Bank Indonesia
Good afternoon everyone. It is a great pleasure to be here. I would like to thank Bank Indonesia and the Federal Reserve Bank of New York for inviting me to speak at this session. I would like to focus on the outlook and the challenges associated with divergent monetary policy in major economies and talk about the policy tools and its assessment.

About 10 days ago we updated out Word Economic Outlook and, once again, we have revised the global outlook downwards to 3.1% for this year, followed by 3.2% for 2017. As you can see on this slide, growth remains uneven among the regions. The GDP growth forecast for Asia exceeds 5% at 5.3% this year and 5.2% next year, which still remains 2-4% higher than that forecasted for other regions. Furthermore, Asia’s growth still accounts for more than two-thirds of global growth. Therefore, Asia is still the global economic engine. We have forecasted growth in the US at around 2-2.5% and at 1.5% in Europe. Latin America will move from negative growth this year to positive growth next year. In total, global growth remains weak and uneven. In addition to the uneven outlook, there is also significant slack in many major advanced economies as well as major emerging economies.

The economies with a larger negative output gap generally have lower inflation. The combination of low inflation and negative output gap has led to the prospect of low nominal growth and reduced the incentives to invest, which could have a sizeable impact on productivity.

In the current low-growth environment, markets currently expect the policy rates in major advanced economies to remain low for the foreseeable future, at least until 2020. As you can see on the left chart, the market expects lower interest rates due to the negative changes in the UK, Euro area and Japan and just a small
increase in the US by the end of this year. In addition, the markets expect policy rates to remain low at less than 1% in the US and UK and negative rates in the euro area and Japan even at the end of 2020.

The percentage of sovereign debt, with a yield of negative rates, has continued to climb with stock at US$12 trillion. All these developments are likely to lead to volatile financial conditions. Portfolio flows have been volatile and have contributed to the volatility in corporate spread. This has led to tighter lending conditions in major emerging markets.

All those factors have led to divergent economic prospects. Low growth and policy uncertainty have contributed to significant asset price volatility as well. Currency volatility, however, has lessened significantly, including during the Brexit referendum but also during the major policy announcements in China. While equity prices remain relatively high in the US, they remain much more subdued in other major advanced economies and emerging market economies, partly reflecting divergent economic prospects. In addition to volatile financial conditions, other vulnerabilities remain in emerging markets. For example, the debt that is owed by firms with earnings insufficient to cover the interest obligations is relatively high in China and emerging Asia. The amount of corporate external debt maturing over the next five years is expected to jump from the current levels in 2017 and 2020. Nearly one-third of the loans are high yield, which means they are rated below BBB or not rated. Such loans carry a higher risk of default.

All those developments have created challenges for policymakers. What other toolkits we have to address those challenges? First, interest rates will remain an important monetary policy tool to boost inflation and support growth. Conventional monetary policy and the experience of the past few years show that such policies are spurring borrowing by lowering borrowing costs and boosting asset prices, collateral value and improving balance sheets. Exchange rates should remain the first line of defence and FX intervention and capital flow measures could also be used to address sobering market conditions. Macroprudential policies are also useful as a complement to monetary and fiscal policies to enhance financial stability and deal with the asset price and credit booms.

The first tool is the exchange rate. This chart shows the role of FX intervention in emerging markets. The increase in the index indicates more intervention. Emerging market economies have relied less on FX intervention. In other words, EMEs have relied more on exchange rate flexibility than in the past to do with external shocks. Such
conditions are certainly welcomed. In terms of the role of macroprudential policies, capital flows create feedback loops, while capital inflows inflate asset prices, increase collateral and credit, which leads to further increases in credit. This powerful feedback loop sometimes masks underlying risks as maturity and currency mismatches arise. The feedback loop also operates in reverse. Capital outflows lead to low credit and low asset value, triggering a fire sale, default and forced deleveraging in some cases. This, in turn, will lead to further outflows and credit contractions with potentially severe effects on economic conditions. This underscores the role of macroprudential policies to help tame capital flows in the financial cycle and shore up financial stability.

Looking at Asia’s experience, our research suggests that macroprudential policies have been more effective than capital flow measures in slowing credit growth but both have contributed to arresting housing price increases. While more research is needed to fully understand the reasons for this, macroprudential policies are more targeted and more directly increase the cost of borrowing and access to financing. On the other hand, the effectiveness of capital flow measures on credit growth could also be influenced by other factors, such as interest rate differentials.

To conclude, central banks have been using an expanded set of tools to face the current economic challenges. Determining the right tool for the particular situation requires looking at the country’s specific conditions, including the economic and financial cycle, the level of international reserves, the exchange rate and asset price trends. There are no fixed rules but some principles can guide the determination. First, monetary policy is best aimed at inflation taking into account the output gaps. Exchange rate flexibility is a powerful instrument to mitigate the impact of external shocks but FX intervention can be used to prevent disorderly market conditions provided that the level of reserves and the central bank’s balance sheet allow for it. Macroprudential policies are best directed at preserving financial stability by addressing asset bubbles and credit booms. Finally, capital flow measures can contribute to preventing very short-term and volatile capital inflows and also mitigate a large capital outflow in moments of intense stress. However, I think we all agree that those toolkits cannot substitute a sound policy framework that provides the foundation for inclusive growth and stability. In today’s uncertain and volatile economic environment, I think that this is more important than ever.
BANK INDONESIA NY FEDERAL RESERVE JOINT INTERNATIONAL SEMINAR

“MANAGING STABILITY AND GROWTH UNDER ECONOMIC AND MONETARY DIVERGENCE”

Mitsuhiro Furusawa, Deputy Managing Director, International Monetary Fund
Uneven growth dynamics

Global: Real GDP Growth
(Year-on-year; percent change)

Source: IMF World Economic Outlook database.
Large Output Gaps and Low Inflation

Output Gap and Inflation
(In percent)

Source: IMF World Economic Outlook database.

From Low for Long ... to Low Forever?

Expected Policy Rate Changes
(end-2016, basis points)

Expected Policy Rate
(end-2020, percent)

Sovereign Yields Deeper Into Red
(as percent of total outstanding)

Maturity

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>95</td>
<td>85</td>
<td>85</td>
<td>73</td>
<td>68</td>
<td>49</td>
<td>58</td>
<td>68</td>
<td>54</td>
<td>63</td>
<td>26</td>
</tr>
</tbody>
</table>

Total negative

$12 th.

Positive

- Negative rate increase since April GFSR

October 2016  
April 2016  
July 2016

United Status

Japan

United Kingdom

Euro

Area

Japan

United Kingdom

1 2 3 4 5 6 7 8 9 10 15

40

20

10

0

-10

-20

-30

-40

-50

-60
**Capital Outflows Volatility in Emerging Markets**

**Portfolio Flows and Corporate Spreads**
(In billions of US$)

Sources: EPFR via Haver Data Analytics; and Bloomberg L.P.

---

**Volatile Financial Conditions**

**Financial market volatility**
(Indexes; Jan 1, 2007=100)

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

**Equity prices**
(Indexes; Jan 1, 2007=100)

Sources: Bloomberg, L.P.; Haver Analytics; and IMF staff calculations.
Emerging Market Vulnerabilities Remain

Note: Interest coverage ratio (ICR) = Earning before interest, taxes, depreciations and amortization (EBITDA) / interest expense.

The Toolkit of Monetary and Financial Policies

- Interest rates key tool to boost inflation and support growth
- Unconventional monetary policy (QE and balance sheet policies) also needed
- Exchange rate remains major shock absorber
- FX intervention and CFMs are also helpful
  - Disorderly market conditions
- Markoprudential policies as a complement
  - Financial stability considerations
**Exchange rates as first line of defense**

Emerging Markets: Resistance Index
(Large = more intervention; three-month moving average)

Source: IMF staff calculations.

**Role for macroprudential policies**

*Capital inflow create feedback loops*

- **Asset price**
  - Risk (Liquidity, FX, Solvency)
  - Credit

- **Capital inflow**

- **Asset price**
  - Fire sales
  - Defaults
  - Deleveraging

- **Credit**

---

[50]

[9]

[10]
Macroprudential measure can help tame the cycle, notably in house prices.

Asia: Credit Growth 1/
(Average across all episodes; yoy percentage change)

Asia: Housing Prices 1/
(Average across all episodes; yoy percentage change)

1/Relevant tightening policies introduced over the period 2000:Q1-2013:Q1. Excludes overlapping episodes within four quarters.

Closing remarks

- Central banks have expanded their toolkit to face the current economic challenges.
- Determining which tool to use requires assessing
  - Monetary policy
  - Exchange policy and foreign exchange intervention
  - Macroprudential policies and capital flow measures
- However, even an improved toolkit cannot substitute for having in place a sound macro policy framework.
Let me first thank Bank Indonesia and the Reserve Bank of New York for inviting me to this seminar. It is a great pleasure and honour to be here and let me especially thank Governor Agus for his hospitality that we can enjoy here.

The topic of this panel is the different trade-offs and I would like to present the Swiss perspective. The Swiss perspective means that it is a small, open economy and our speciality is that we have a safe haven currency that tends to be strong and even stronger if there are safe haven flows. I would like to address some of these trade-offs by taking this perspective. I would also like to argue that, in our case, we have suffered from spillovers in recent years, especially since the beginning of the financial crisis. In our case, exchange rate flexibility was not always optimal and, in fact, was an amplifier of shocks and yet more spillovers than before the financial crisis. This may be similar to some of the emerging markets but we are a little bit on the other side of the situation, where we do not suffer from depreciation but from appreciation.

Let me start by looking at the exchange rate. The Euro-Swiss exchange rate is presented on this slide. It was Fr.1.7 per US dollar before the crisis and today it is just above parity. That is huge appreciation. The euro is also presented on the slide because the euro is the most important currency for us. Roughly 40 to 50% of trade goes into the Eurozone so a large part of the effective exchange rate is influenced by the euro. As I mentioned before, you can basically split the period between the year 2000 and today into two shock periods. The first until the beginning of the crisis, where we had quite a stable exchange rate, some moderate volatility but no sign of an appreciating Swiss franc. Then, however, the second shock period was very different with sharp appreciation up to parity or even below parity for
some time. The result of the second period was that the Swiss franc is significantly overvalued, even given the different measures in recent years. The adjustment role of the exchange rate has changed since the beginning of the financial crisis. This may be the result of divergent monetary policy elsewhere but it is also the impact of unconventional monetary policies taken elsewhere and the fact that everywhere we achieved a zero lower bound.

Before I go into more detail, let me just mention two things. I would like to look at the first shock period between 2000 and 2007, including inflation in Switzerland and inflation abroad, the nominal exchange rate and the real exchange rate. I will then do the same for the second shock period. In the eight years prior to the crisis, we had roughly 1% inflation in Switzerland and there was roughly 2% inflation abroad. Furthermore, the Swiss franc appreciated roughly 1%. Therefore, the real exchange rate remained almost unchanged. During this period, there were almost no spillovers into the Swiss franc, the exchange rate was mainly an absorber of inflation differential so that the real exchange rate remains more or less the same. At that time, we were in a very good situation where the exchange rate acted as a shock absorber, especially in terms of absorbing the inflation differential.

Conditions changed quite dramatically during the crisis. We had roughly no inflation in Switzerland and more or less the same inflation abroad (2%) but we had huge appreciation in nominal terms at close to 5% per year. Then we experienced real appreciation of the Swiss franc at more than 3% per year over the last eight years. We had huge spillovers transmitted through the exchange rate to Switzerland and, as I mentioned before, the exchange rate became an amplifier or an enhancer of shocks rather than an absorber. This had a huge impact on monetary conditions in Switzerland because, as a small open economy, the exchange rate has a big impact on monetary conditions.

Why were these spillovers so strong? I am now showing you the key policy rates of the Swiss National Bank as well as the policy rate of the European Central Bank. Under normal times, there is an interest rate differential of between 100 and 150 basis points. Looking at the two aforementioned periods, the Swiss National Bank was able to increase and lower this rate but the differential was always there; sometimes a little bit larger and sometimes a little bit smaller but we had enough room with conventional monetary policy to react to external shocks so the impact on the exchange rate was rather limited in this period. That changed dramatically after 2008. We had to lower rates a lot and the same was done by the ECB but the
ECB then continued to lower rates even when we achieved the zero lower bound. Then both rates approached zero and something very special happened, namely a period when the European interest rate, the key policy rate, was even lower than the policy rate of the Swiss National Bank. Therefore, the traditional interest rate differential of 100 to 150 basis points did not only vanish but was even inverted by 10 to 15 basis points. That was the point at which we knew we had to change our policy to go into negative interest rates, which currently stands at -75 basis points.

Given the fact that conventional monetary policy space vanished, this is, as I explained before, really the reason why we suffer more from spillovers today than we used to before the financial crisis. We had to find ways, next to the ordinary interest rate policy, to steer monetary conditions in Switzerland. Since the outbreak of the financial crisis, the implementation of policy can be divided roughly in a stylised order. After 2008, we mainly implemented monetary policy in a conventional way by moving interest rates up and down. Then in 2009, we lowered interest rates to zero but we also injected a lot of liquidity in order to alleviate monetary conditions. In 2011, when the Swiss franc appreciated tremendously and the existing measures no longer helped, we introduced a minimum exchange rate for a little bit more than three years and then in January 2015 we had to abolish the minimum exchange rate because it became unsustainable due to the international environment. Since then we have implemented monetary policy with negative rates, namely -75 basis points, and had a willingness to intervene on FX markets as necessary.

Let me just explain the current policy, especially to explain why we were impacted quite strongly by the divergence of monetary policy, particularly in Europe but also between Europe and the US. My next slide shows euro exchange rates vis-à-vis the Swiss franc vis-à-vis the US dollar and vis-à-vis the British pound. Everything is fixed at 100 at the beginning of 2011. If the line goes up, it means that the euro is relatively strong vis-a-vis the other currencies. If the line goes down, it means that the euro becomes weaker vis-a-vis the other currencies. From the year 2000 to 2011, the Swiss franc was very strong vis-a-vis the euro but at the same time the euro was relatively strong vis-a-vis the US dollar and the pound. Such conditions meant that the Swiss franc was super strong even vis-a-vis those currencies. That was exactly at the time when we introduced the minimum exchange rate and then the blue line becomes more or less flat until January 2015. At the end of 2014, however, there was divergence between US policy and policy in Europe, which then led to a general weakening of the euro against all major currencies and we had to realise
in early 2015 that the minimum exchange rate was no longer sustainable because of the divergence. Therefore, we abandoned the minimum exchange rate, which triggered a relatively prompt and strong adjustment of the exchange rate but then it is more or less in the same magnitude as the appreciation of the dollar and the pound but it just started a little bit earlier. Since then, the pound has weakened further because of the Brexit decision not so long ago. The point is that because the euro is so important for Switzerland, the real effective exchange rate appreciated and the Swiss franc became quite overvalued. The policy since abandoning the minimum exchange rate has been to maintain a -75bps interest rate and ensure willingness to intervene. That is our two-pronged approach to monetary policy, which is absolutely necessary given the overvaluation that we have at the moment.

I would like to show you the impact of this relatively complex environment that we have at the moment both on inflation and the output gap. The output gap has always been negative since 2011. Every time we experience new appreciation we have a more negative output gap, which over time gradually returns to zero but in 2011 and again in 2015, because of the strength of the Swiss franc, the output gap became bigger. Therefore, the policy that we have is really not an enabler policy because we have this significantly overvalued currency, for which we are trying to limit the impact on monetary conditions, at least somewhat.

A similar picture is given for the inflation rate. We had periods of strong negative CPI inflation, beginning in 2011 and then again in 2012, when the Swiss franc appreciated a lot and the same then again in 2015 because of the appreciation of the Swiss franc. I’m also showing the contributions to CPI inflation, where the red part of the bars comes from exchange-rate appreciation, the yellow part shows the contribution from the oil price. In 2015, lower oil prices also contributed to CPI inflation.

The willingness to intervene on the FX market also had a big impact on the balance sheet of the Swiss National Bank. Relative to GDP, this slide shows the size of different central bank balance sheets of major currencies, while the blue line at the top represents the Swiss National Bank, showing that in the meantime we have achieved roughly 100% of the balance sheet. We usually do not comment on the development of the interventions or the development of the balance sheet, except in special circumstances, including the Greek crisis in 2015 and the Brexit, where we made specific comments in order to give signals to the markets that we try to stabilise the situation. The balance sheet is big but we still have room to intervene but
we always look at the costs and benefits of the interventions. That was one of the elements that was very important when we abolished the minimum exchange rate because the cost-benefit analysis pointed clearly to the fact that we should change the policy but that does not mean that we do not have room. We still had room because there is no limit for the balance sheet but we always apply a cost-benefit analysis for the interventions.

I would like to now talk about a trade-off that has been mentioned several times. On this slide, I am showing different interest rates. The blue line, the lowest line, is the policy rate and the money market rates are almost exactly where the policy rate is. The green line, the top line, is the mortgage rate in Switzerland. It is clear that there is quite a difference and it points to the fact that the transmission is not any more exactly the same when you go into negative interest rates. There is an impact on money market rates, namely on bank credit and on specific loans, but the transmission is not exactly the same. The impact of negative interest rates may be more on capital flows than on credit growth. This is an important element at least that is what happened in Switzerland. For us, it is not a bad sign because through that we could also avoid a further increase in mortgage growth.

In general, the environment through divergent monetary policy became more difficult to implement monetary policy. We currently have negative rates and a willingness to intervene, which is very important because these are the main tools that we now have at our disposal to implement monetary policy. The banishing of the interest rate differential created a situation where spillovers became stronger than they had been in the past so we suffered more from the spillovers. In terms of the link between the economic and financial cycles, a new specific situation emerged where interest rates no longer functioned exactly the same as they used. Let me conclude by saying we are convinced that given the difficult situation with the overvalued currency, the negative output gap and negative inflation, the current approach is the right one, namely expansionary monetary policy with negative rates and a willingness to intervene.
MONETARY POLICY TRADE-OFFS IN THE OPEN ECONOMY

Thomas J. Jordan
Chairman, Swiss National Bank
Monetary policy trade-offs in the open economy

Thomas J. Jordan
Chairman of the Governing Board
Swiss National Bank

Bank of Indonesia - Federal Reserve Bank of New York Joint Seminar
Bali, 1 August 2016

Swiss franc appreciation after the onset of the financial crisis

NOMINAL EXCHANGE RATE
CHF per EUR

01/08/2016 Monetary policy trade-offs | Thomas Jordan | © Swiss National Bank
Exchange rate used to absorb inflation differentials:

\[ \pi - \pi^* = \Delta e, \Delta e^r = 0 \]

2000-2007 averages

Today, spillovers transmit through exchange rate:

\[ \pi - \pi^* \neq \Delta e, \Delta e^r < 0 \]

2008-2016 averages
SNB/ECB interest rate different and the zero lower bound

**POLICY RATES**

<table>
<thead>
<tr>
<th>Year</th>
<th>SNB</th>
<th>ECB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>1%</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Bloomberg, SNB

---

Time line of Swiss monetary policy

- **2000** Standard monetary policy
- **2009** At the zero lower bound, inject liquidity
- **2011** Minimum exchange rate
- **2015** Negative interest rates and readiness to intervene in FX market
From Swiss franc strength to euro weakness

NOMINAL EXCHANGE RATES
Foreign currency per EUR
Index, January 2011 = 100

Sources: Bank for International Settlements, SNB

01/08/2016 Monetary policy trade-offs | Thomas Jordan | © Swiss National Bank
Appreciations push output below potential

OUTPUT GAP
Production function approach

\%

-1.75
-1.50
-1.25
-1.00
-0.75
-0.50
-0.25
0.00
0.25


Appreciations push inflation below zero

INFLATION AND COMPONENTS
% contribution of components in pp


Domestic
Foreign, excluding oil products
Oil products
Inflation rate
International comparison of balance sheet size

CENTRAL BANKS’ TOTAL ASSETS-TO-GDP RATIO

Sources: BIS, Bloomberg, SNB

Change in policy transmission to mortgage market

INTEREST RATE TRANSMISSION
Monetary policy trade-offs in the open economy

- Divergent monetary policies
  - Increased spillovers because of zero lower bound

- The role of the exchange rate in external adjustment
  - Exchange rate used to absorb shocks—today a channel that transmits spillovers

- Linkages between economic and financial cycles
  - Change in policy transmission to mortgage market

Thank you for your attention!

© Swiss National Bank
First I would like to thank Bank Indonesia and the Federal Reserve Bank of New York for the kind invitation and also, in particular, to Governor Agus and your colleagues at Bank Indonesia for the excellent arrangements and very warm hospitality.

I would like to focus on a critical aspect of the monetary policy dilemma in an open economy. The main theme of what I would like to talk about is the tension between the exchange rate as a shock absorber and as a shock amplifier or shock transmitter. I would like first to say a few words about the exchange rate becoming increasingly a shock amplifier in some cases and then I will go on to talk about the role of the exchange rate as a shock absorber and cite the recent Asian experience, where Asia overcame the fear of floating and allowed the exchange rate to become a shock absorber. I would like to then close with some policy innovations that we are currently seeing across the world in terms of how to deal with this dilemma.

Exchange rates, what we do about them? Most of us in this room who might have done a course in economics back in school would probably have answered an essay question that asked whether countries should fix or float their exchange rates. We probably all memorised a list of pros and cons and put them in the answer. Well into our professional lives, that fundamental question remains and, in fact, we still do not know the answer. We all agree with Barry Eichengreen that the exchange rate is the most important price in economy but we’re still not quite sure what to do about it. The attitudes towards the exchange rate have been almost schizophrenic between its role as a shock absorber and its role as a shock amplifier. The trick is to figure out which is which and when because they cannot be both at the same time.
Let me start with a traditional approach to what we do with large and volatile capital flows. The textbook prescription is that capital mobility is a good thing and I think that experience has borne that out. Capital mobility is generally a good thing but given the need for an independent monetary policy, therefore, in the face of capital mobility, we learn in our models that central banks should adopt a flexible exchange rate and, in a sense, live with the consequences of that. In the face of large capital inflows, the prescribed optimal response is to let interest rates fall as the exchange rate appreciates, which will reduce the incentives for further inflows. This approach has its limitations, however, because exchange rate movements today are much larger than before as well as much more frequent and volatile. Furthermore, the capacity to withstand some of the shocks, while it has improved, has not quite kept pace in all cases. Some key characteristics of the global financial system have changed, which has given rise to increased stresses and frictions in the face of capital flows and exchange rate movements. It may, therefore, be worthwhile to rethink some of our old paradigms as Keynes famously said “The facts change, I change my mind”.

Let us look at some of those facts. Some of the stylised evidence has been presented that basically the exchange rate has become a bigger shock due to three forces at play. First, the capital account has become much more important than the current account in influencing outcomes. Second, there have been some structural and behavioural changes in the global financial architecture. Third, the continued dominance of the US dollar and the global impact of US monetary policy. I would like to take each of these in turn.

First is the rise in cross-border capital flows. This has meant that capital flows play a bigger role than current account shifts in driving exchange rate movements. This is a fact. Gross capital inflows to emerging markets have risen as a percentage of their GDP. They have also exhibited greater volatility and there are many measures for this even as current account imbalances have started to actually shrink over the last decade, which is counterintuitive. In a sense, the link between economic fundamentals and the exchange rate have been weakened because of the increasingly dominant role being played by the capital account.

Second, I mentioned the structural and behavioural changes in the global financial architecture, which may have amplified some of the volatility in exchange rates. First, global banks are increasingly giving way to asset managers and other by-sight players in financial markets. Fund managers can accentuate herding behaviour because typically they fear underperforming relative to benchmarks or their peers. In
markets that do not have sufficient depth of liquidity, those kind of behaviours can lead to significant overshoots in the exchange rates during periods of exuberance with a similar herd like stampede for the exit when negative information mounts and sentiments deteriorate. Two years ago, the Fund published a study which showed that despite all the efforts, herding behaviour has actually intensified since the Asian financial crisis. Despite all the efforts to reduce that, it has increased. Unlike other prices, the exchange rate can also take on asset price, like properties. This is observed in the housing market and sometimes in the stock market. An appreciation of the exchange rate raises expectations of further appreciation and, I think, in many cases in several ways. The Swiss experience is testament to that. It does not lead to a self-calibrating correction in the opposite direction but actually leads to further increases. This is a feature that can be seen in asset markets during a phase of build-up, where there are larger inflows and further appreciation.

Third is the continued dominance of the US dollar and the global impact of US monetary policy. Here, if we take the advanced economies as a whole, zero interest rate policies and the quantitative impact have spillover effects on emerging markets and their exchange rates. The shifts in advanced economies’ monetary policies have driven carry trade, have driven search-for-yield activities and safe haven flows. There is no assurance that the exchange rate movements in response to capital flows would be consistent with the underlying macro fundamentals in many of these emerging market economies even if the advanced economy monetary policies make perfect sense for their domestic situation. The fact is, there are the spillovers.

Why should all this matter? They matter because the exchange rate has multiplier effects on many economies, particularly for emerging market economies but also for advanced economies. First, there is an impact on economic growth. There are significant, non-trivial compositional shifts that large exchange rate movements give rise to an impact on economic growth and some of this can be non-reversible. Again, the standard prescription is that when you are faced with large capital inflows you should allow the exchange rate to appreciate. That still remains, I think, a sound piece of advice but if this persists over a period of time there are going to be compositional shifts in the domestic economy, basically a movement away from export-oriented industries, this is usually accompanied by a period of low interest rates, towards non-tradeables, especially non-tradeables that rely on credit-fuelled growth. This is not a good situation to be in and if this situation persists hysterious effects start to set in. That is, again, not something that many emerging economies
can withstand. Second, there is also an impact from his large movements on financial stability. There can be significant balance-sheet effects arising from extended periods of currency misalignments, which can amplify the outcomes. The large inflows in the post-global financial crisis period have indeed led to a rise in leverage in many emerging economies and balance sheets started to worsen. As advanced economies were deleveraging, there was a situation where emerging economies were releveraging because of the divergent monetary policies.

Bottom line, the exchange rate has pretty serious shock amplifying and shock transmitting features and characteristics that we need to be mindful of. Having said that, I do not want to exaggerate the adverse effects of exchange rate flexibility because exchange rate flexibility remains an important feature for most of our economies. There is still quite a lot to be said about this function that exchange rates play.

Let me now take the other tact and briefly recount the Asian experience of letting the exchange rate actually be a shock absorber up to a certain point in dealing with the turmoil in financial markets. In the Asian financial crisis, Asia’s response was different and in the global financial crisis, Asia’s response was different again. Part of that difference in outcomes is due to greater exchange rate flexibility. Before the Asian financial crisis, there was a fear of floating. Most Asian economies would say that they had a flexible exchange rate but in reality they were controlling it through a variety of means. Post crisis, I think there was much greater recognition of the open economy trilemma that in the face of open capital markets you can choose to target either the interest rate or the exchange rate but not both. It was a painful lesson learnt during the Asian financial crisis. Following that, many Asian Emerging Market Economies (EMEs) adopted inflation targeting regimes with an interest rate centred monetary policy and is progressively allowing greater currency flexibility. Therefore, the fear of floating began to wane, starting from the early 2000s. That was very good timing because when the global financial crisis hit, this came in very handy. It is not simply a matter of adopting the interest rate as your primary instrument and letting the exchange rate adjustable often, there are a lot of other institutional reforms that need to be in place in order to withstand the impact of volatile exchange rates. Public finances must be put on a sounder basis, private sector balance sheets, especially in the financial system, must be strengthened, supervision and regulation must be more robust and FX reserves strengthened in general. All of this helps economies to
better withstand the impact of exchange rate volatility. With the global financial crisis and sharp monetary easing in the advanced economies, the 2013 Taper Tantrum and now the initial phase of the US monetary policy normalisation, in general, Asian economies have done better. I think exchange rate flexibility and shock absorption has been a good part of the story.

I have given both features of the exchange rate, going forward, there are policy innovations in place but how do we manage this policy trilemma better? I would like to put forward four tools that central banks are increasingly adopting in the toolkits. At least two of them are being adopted but I would also like to put forward to more ideas on the table, which may sound a little radical. The first is the deployment of a variety of so-called capital flow management measures. This is really to manage the inflows at the border. Several economies have tried these measures with varying effects and I believe this is a fertile area for further study because better designed policies that are incentive compatible seem to have better effects. Second macro prudential policies and this is something that has been used a bit more widely. Here, the approach is not to deal with the inflows at the border but to deal with the effects of the inflows within the border. For such economies, like Hong Kong and Singapore, whose economic models rest a great deal on open capital markets, our approach has been to allow the flows to come in and then to address the negative effects through macroprudential policies in specific asset markets where they create stresses and bubbles. Third is to put in place a system of global financial safety nets. I think that this is really critical. The spillover of monetary policies is a fact of life and I agree with Bill Dudley that monetary policy still ultimately has to follow domestic mandate even while recognising the spillover effects. So what do you do? There are spillover effects but you cannot put the rest of the world completely in your reaction function. Global safety net arrangements are required, where these spillover effects can be addressed. The Fund has been working on it and so has BIS. It is not an easy thing to pull off for the reasons that Raghu mentioned this morning but I think that this is going to become a very important part of the equation. One of the best things that happened during the global financial crisis, which averted disaster was the network of central banks’ swap lines, which the US Federal Reserve provided. I think they played a big role in restoring confidence and we need to think of some way of institutionalising those kinds of arrangements. I think it is best done across central banks because of the speed at which central banks can move. There are many challenges, however, to making it work.
The final idea is even more radical but has been touted in some circles. I am personally not sure it will work but this is the time when we need to explore all innovative ideas on the table. The idea is targeted exchange rate zones. Even if a certain amount of flexibility is allowed in the exchange rate, are there target zones that could be set internationally through an international coordination mechanism to make sure that exchange rates stay within those zones. This would also condition market expectations and prevent undershooting and overshooting. That is the theory. In practice, there would be many challenges because misalignments for which the target zones do not accommodate could lead to more serious problems later on. I thought I should just mention this because we are at a time when we are looking at how to round off the corners of the open economy trilemma. Some macro measures have worked reasonably well and others are worth exploring later on.
Monetary Policy Trade-Offs
In An Open Economy

Veerathai Santiprabhob
Governor, Bank of Thailand

First of all, I would like to thank Pak Agus and his BI colleagues as well as the Federal Reserve Bank of New York for hosting this very important conference and giving me the honour to share my views on monetary policy trade-offs in emerging economies.

I would like to discuss two big questions today. I will start by sharing my views on the changing nature of monetary policy trade-offs in emerging economies. Secondly, I will look at the implications for the conduct of monetary policy and implications for monetary policy frameworks for emerging market central banks.

Let me start by talking about how I see the traditional trade-offs of monetary policy changing over time. When we talk about the traditional trade-offs of monetary policy, we always go back to the Phillips curve that we are all familiar with, which is basically the trade-off between growth and employment and inflation. In my view, however, given the changes happening globally, and particularly in emerging markets, there are three issues that I would like to highlight that have implications on the trade-offs of monetary policy. The first change relates to the effect of the global economy on the dynamics of domestic inflation with trade linkages increasing over time, particularly over the past two decades. We have seen global inflation dynamics playing increasing roles in determining domestic inflation in emerging market economies. Obviously, we have seen the effects of the recent decline of oil prices and commodity prices on inflation dynamics of many emerging market economies. Lowflation is going to stay with us for quite some time, which resulted from the stagnant oil price as well as structural changes in a number of areas. Some of the speakers have discussed the effects of an ageing society as well as technological advancement, which will also have implications on inflation dynamics for emerging market economies. These are all important components.
Structural transformation in the global supply chains, particularly what is happening in China, will have big implications on inflation dynamics in emerging market economies in Asia. Domestic inflation dynamics could be further complicated because we do not have clear visibility of what is actually happening in a country like China, where a large transformation is ongoing. Various studies have confirmed that inflation has become less responsive to the domestic output gap. Inflation has become more sensitive to the global output gap lately, which has been confirmed by number of studies in emerging market economies. Various studies have also shown that the effects of foreign exchange pass-through on inflation have declined over time in both advanced economies and emerging market economies. In Thailand, the FX pass-through effect has come mainly through the energy price channel and not the other goods channel. That is the first aspect that I would like to highlight, namely that the impact of global inflation dynamics on domestic inflation dynamics is changing over time. We tend to rely more on international factors as opposed to the domestic output gap.

The second factor that would impact the traditional trade-offs of monetary policies is the increasing contribution of the services sector to economic growth. Over the past three or four years in Thailand, the supply-side contribution to growth has been dominated by the services sector because the manufacturing production sector has been badly affected by the decline in exports as well as international trade. When there is a greater contribution coming from the services sector, it has different implications on inflation and unemployment, unlike the traditional impact from the manufacturing production sector that we are used to. Services is a very broad sector, ranging from the traditional labour-intensive services sector, like tourism and construction, to the modern services sectors, including the technology (IT) based services sectors. Some services sectors have also become more tradable, they are not merely non-tradable services sectors. Certain studies have found that service prices have a higher degree of rigidity than the prices of goods. So where the services sector has become more important in an economy, it certainly changes the inflation dynamics. Certain services sectors have become less capital intensive compared to manufacturing sectors. Therefore, the transmission mechanisms of monetary policy have also changed with the increasing contribution coming from the services sector.

The third aspect that I would like to highlight, which is perhaps very important in the current world, is a new trade-off in the conduct of monetary policy, namely the trade-off between economic growth and financial stability. We have heard
a lot about financial stability at this conference and this has become a growing concern for central banks when making monetary policy decisions. With inflation remaining subdued for quite some time, advanced economies increasingly relied on unconventional monetary policy, leading to excess global liquidity and very low interest rates globally. An important trade-off that emerging market economies will have to take into account when making monetary policy decisions is the trade-off between growth and financial stability. This is also an important question in advanced economies. We have seen the impact of negative interest rates on the financial system and the banking sector as well as life insurance companies in particular, pension funds and asset management companies. For emerging market economies, however, we are on the receiving end of capital inflows that put pressures on the exchange rate and can at times affect the fragile economic recovery as well as create long-term distortions or situation that we might not appreciate at the receiving end of capital inflows when the inflows are disproportionate and have a very short-term nature. If interest rates remain low for a long period of time, which is likely to be the case, the search-for-yield behaviour could create fragility across the financial system and cause medium to long-term financial risks. This trade-off is further complicated in countries where the central bank may not have full supervisory powers across different segments of the financial system. When we talk about search-for-yield behaviour, excess liquidity can go anywhere but the central bank’s jurisdiction on supervision may be limited to just commercial banks. The trade-off between growth and stability will become, I think, even more challenging when we look at possible scenarios ahead of us. The first potential scenario ahead of us is the normalisation of US interest rate policy. Why? Central banks in other advanced economies may continue to inject more and more liquidity into the system. As a result, we could see a correction of asset prices in emerging market economies in Asia. The pressure on exchange rates might decline, which may be a good thing because even though trade between emerging markets in Asia and the US may not be that large, the US dollar is a major invoicing currency for our economies. This is a scenario most central banks in Southeast Asia are facing and have prepared themselves for, namely the possibility of a capital reversal as a result of normalisation in the US.

The second scenario is that the Federal Reserve may not be able to normalise its policy and advanced economies will continue to pump in more and more liquidity into the system. As a result, emerging markets in Asia will continue to receive disproportionately large capital inflows, leading to the major risks of asset price bubbles in our emerging market economies. In some countries, domestic bond yields
could become even lower than the policy interest rate, compromising the effectiveness of domestic monetary policy. Financial systems, banks, life insurance companies and pension funds in both advanced and emerging market economies may be subject to even more earning pressures, affecting the profitability. The risks might change because of the changing profitability pattern. If we see expansionary policies coming from major emerging market economies in the region, that would complicate further the conduct of monetary policy. Emerging market central banks in Asia are limited in terms of what they can do under such a scenario, when the environment within which monetary policy is conducted gets complicated and cluttered with excess liquidity coming from abroad. Certain central banks may have limited stabilisation capability and be subject to balance sheet constraints. Interest rates on emerging market banking systems could drop much further and bank behaviour might change. Bank earnings could become vulnerable. Search-for-yield behaviour could become even more widespread and the financial systems could become fragile over the medium term. Obviously, countries with ageing populations, could be subject to social pressures when the deposit rates continue to decline further.

With these scenarios in mind, I think the monetary policy trade-offs for the medium term, not only in emerging markets but also in advanced economies, will be more on growth versus financial stability and not so much on growth versus inflation when we continue to see extended periods of low inflation (lowflation).

Moving onto the second part of my presentation, what do the monetary policy trade-offs mean for the conduct of monetary policy, particularly in emerging market economies? I think that there are three salient issues I would like to highlight. Firstly, I fully echo what President Dudley talked about this morning; how to formally incorporate financial stability analysis into the monetary policy framework. This is an increasingly important issue and a new area of research. Different central banks are exploring different methods of incorporating financial stability considerations into the conduct of monetary policy. Central banks would definitely need to expand their datasets across different types of financial systems, looking at different pockets of the financial system. The traditional standards model will also need to be amended. Policy targets will need to be set in order to incorporate financial stability. The communication framework of central banks will also need to be changed. This will become a new challenge because when we talk about financial stability, there are different moving parts, unlike inflation targeting, which is very well established and well understood. Financial stability, on the other hand, with increasing capital flows coming from abroad involves many moving parts that the central bank needs to take
into consideration. Therefore, communication to the public and to the markets on how to incorporate financial stability into the framework will definitely be a challenge. Recent research by President James Bullard of FRB St. Louis argues that central banks may have to rely on scenario analysis to arrive at monetary policy decisions rather than the standard steady-state interest rate path that we are used to when we talk about financial stability and the conduct of monetary policy. That in my opinion is the first challenge on how to include financial stability into the framework.

The second challenge relates to the policy tools that central banks need to have. Central banks definitely need to be able to understand how to mix or combine those tools in an optimal way when the environment is changing over time. We might also need to think about more targeted tools, monetary policies may need to become more targeted towards the segments that need to be addressed as opposed to the macro perspective. Macroprudential tools definitely contain an element of targeting, for example targeting credit cardholders, household debt or mortgage prices. Furthermore, capital flow management tools would also need to be more targeted. In emerging markets, where central banks do not have full regulatory power over the whole financial system, there needs to be a national financial stability framework covering different regulators. Therefore, the issue is about coordination across agencies, which will become very important in emerging markets as mentioned by the speakers this morning. As we heard at lunch, coordination under normal conditions is one thing but coordination during stress is a real challenge. Lately, research by Professor Olivier Blanchard has argued for looking at capital account management tools to see if they can be used in a more proactive way. Capital account management tools will definitely have to be included as part of the toolkits for central banks as part of the macroprudential policy framework dealing with flows at the border. I think central banks will definitely need a broader set of tools that can be better targeted towards specific segments.

Lastly, what are the implications of policy coordination across central banks, particularly among emerging market central banks as well as between advanced and emerging market central banks? As we heard this morning, policy coordination has always been a challenge for central banks and, at times, fairly ineffective because countries are different and central banks have to respond to the domestic concerns rather than regional or global concerns. But I think with the changing nature of monetary policy trade-offs and new challenges in the period ahead of us, there should be more, not less, coordination, cooperation and collaboration among central banks.
I feel there are a few priority issues that central banks could get together around and become more forceful. Firstly, emerging market central banks could coordinate their worries or concerns on undesirable spillover consequences of the unconventional monetary policies of advanced economies and the impacts of such unconventional policies over the medium term. Our worries and concerns should definitely be better heard and taken into consideration when advanced economies think about potential spill back into their own countries. Central banks could also work with international organisations to step up analysis on global financial stability and this should be an important part of the surveillance work. The issue of global financial stability in the period of prolonged unconventional monetary policy will have implications for all countries, including advanced economies and emerging market economies. The key questions that we should ask are not so much on whether unconventional monetary policy is effective. I think most advanced economies that have adopted unconventional monetary policies have concluded that, at present, the effect has been net positive but in the medium term, the focus should be on the negative consequences of these prolonged policies as well as if and when such policies will lead to financial instability and how to prevent the global economy from falling into this trap. These are important areas that emerging market central banks could get together and perhaps be a little bit more vocal in our views.
Question No. 1 from Deputy Governor Hendar

As you may be aware, many observers have raised concerns that with the reduction to the neutral rate, this is the time for Central banks to revisit growth targets for stability, for example inflation, in order to provide more space for growth. What are your views on that issue? We are talking about the trade-off between growth and stability. One possibility to boost growth is by revisiting our inflation target.

Response by Thomas Jordan

In our case, we do not really use an inflation target but rather a definition of price stability, namely below 2% but positive. We are happy if inflation is positive but below 2%. The question of whether we should raise this and have a broader definition, or an inflation target above that, I have to say that personally I am critical because the aim is nevertheless price stability. If we go to 3 or 4%, it becomes very difficult to speak about price stability and this is a mandate that has broad public support in Switzerland. If we moved away from the current situation, it would be very difficult to explain why we have higher inflation. I personally believe that it would be much better to have enough flexibility in the economic system to allow adjustments when inflation is a little below. What we have observed in Switzerland is that even negative inflation is not the same as a deflationary spiral, it is merely part of the adjustment process. Maybe we do need to have a more medium-term view and not focus too much on the short-term negative inflation. Our goal is clearly to have positive inflation below 2%. I am not convinced, however, it would be a good idea to shift the definition or target.

Response by Ravi Menon

You asked the two economies with negative inflation that question. Like Switzerland, Singapore has also been facing negative inflation now for more than one year. I agree completely with Thomas Jordan. Like Switzerland, we do not have an inflation target but a strong commitment to price stability, which is usually understood
to be a rate that is close to and below 2%. Indeed, since 1980, the average inflation rate in Singapore has been just under 2%. That is a very strong expectation that is our comfort zone. We are now in negative territory and I think it would be a bad idea to raise an inflation target that is higher we have experienced in the past. It would potentially unhinge a lot of the credibility that has been built up over many decades and alter the expectations formation pattern. Raghuram Rajan mentioned this morning that we need to be very careful how expectations are being formed when these discreet changes in monetary policy regimes are made. Therefore, I would be very cautious with respect to raising an inflation target.

**Question No. 2 from No Name Given**

My question is addressed to Thomas Jordan. There is a lot of talk around how effective and the cost-benefit analysis of negative interest rates and we have seen in the last two policies, Bank of Japan (BOJ) has resisted further cuts to its policy rate. Where we are in terms of a smaller country with standing negative interest rates but the costs are much more in a larger country? Where are we in terms of the cost-benefit analysis of the negative interest rate?

**Question No. 3 from Iskandar, Bank Indonesia**

The conduct of monetary policy does not just rely on monetary policy itself but also takes into account capital flow policies. For me, if you conduct capital flow policy on one hand it is good in order to lower volatility of the exchange rate but on the other hand for countries with a current account deficit, they need to finance their current account deficit. How do you balance monetary policy and capital flow measures?

As Mr Jordan mentioned, in the past the exchange rate in Switzerland was used to absorb inflation but recently only partially you absorbed the inflation differential using exchange rate. My question is, what if inflation comes from a supply-side shock? Would the interest rate differential absorb a supply-side shock or just a demand-side shock? And do you have monetary condition index to be used in this rule?
**Question No. 4 from Kahlil Rowter, Danareksa Sekuritas**

Indonesia recently received a lot of money coming in as a result of policies outside Indonesia. Furthermore, Indonesia is now currently in the process of, through the tax amnesty regulation, attracting money into the country with a three-year lock-up period. Indonesia is clearly trying to do something in terms of capital flow management but that is from the fiscal side. I have not seen anything done from the monetary side. Should Bank Indonesia also look at this other leg of the trilemma, instead of just the inflation and interest rate policies?

**Response by Thomas Jordan**

In general, we also look at the monetary condition index because that is something which has a big influence on monetary conditions in general. We can only steer inflation in the medium term so we cannot offset supply shocks immediately. In 2015, for example, we had a large drop in inflation due to the oil price, which was obviously unavoidable. Therefore, we had to absorb or accept that and then tried to move back towards zero or positive inflation over the medium term. We accept that short-term supply shocks may have an impact on inflation but we do not try to offset it completely. We always try to adjust monetary conditions so that in the medium term, we are still within the definition of maintaining price stability.

In terms of the cost-benefit analysis of negative policy rates, it depends. In the case of Switzerland, it is clearly absolutely necessary to have a negative interest rate so the costs are lower than the benefits. This is the specific situation of Switzerland, although today we already have a much lower interest rate differential. If we did not have this kind of differential we would suffer even more from a stronger Swiss franc and that would have an even more negative impacts on the economy. This is basically the capital flow channel where the interest rate differential may play a role and negative interest rates, especially under the current circumstances, have a big impact.

The other question is whether the cost-benefit analysis for the credit channel is exactly the same. In this case, the evidence is a little bit mixed. In Switzerland, because of negative rates there is a lot more investment or more loans and credit created. The case here raises the more difficult question, do we achieve a point where because of negative rates, consumption and investment may not be as high? This
is basically a question that is more relevant for the big currency areas, they would need to see whether this channel is the crucial one. Smaller currency areas, such as Switzerland, would need to look more at the capital flow channel, where we see how to use negative rates in order to maintain an interest rate differential such that the exchange rate does not appreciate too much.

Response by Mitsuhiro Furusawa

In terms of the capital flow measures, it is important to understand which measures are appropriate and whether they work or not. It depends on the specific conditions of each country. At the Fund, we are now assessing and reviewing our institutional view regarding capital flow management based on the various country experiences. I think we will share that view at the end of this year. Regarding global financial safety nets, I completely agree that there are two aspects. One is the facility. At the Fund, we are now discussing the facility to provide the backstop against liquidity shocks. It is not easy but I hope that we will make progress. The second aspect is coordination with the regional financial safety net. This fall, we will have a test run with Chiang Mai, which I think represents a very important step and we would like to continue making great strides in this area.

Response by Perry Warjiyo

Concerning the final question, I think Governor Agus clearly stated that Bank Indonesia has a clear mandate and policy framework. We adopted the inflation targeting framework but we complement that policy with what we call a policy mix: interest rate policy, exchange rate flexibility and capital flow management as well as macroprudential policy. We remember from the global financial crisis to the taper tantrum, we experienced huge capital inflows coming to Indonesia, not only a current account surplus. We have already dealt with that. How do we set our interest rate policy to achieve the inflation target? This is also complemented with exchange rate flexibility. In the past, our exchange rate appreciated but this was complemented with capital flow management and risk management of external debt. We also use macroprudential policy measures, including the loan-to-value ratio (LTV). Therefore, we have a solid framework along with sound experience to deal with the tax amnesty. We hope that the tax amnesty is successful, not only in terms of providing tax revenue but also providing financing for better Indonesian economic prospects as well as financial deepening. Bank Indonesia stands ready to support such tax policies. This is our commitment to work hand-in-hand with the government towards a better domestic economic outlook.
SESSION 3

ACHIEVING FINANCIAL STABILITY IN PERIODS OF MONETARY POLICY DIVERGENCE

Speakers:

Halim Alamsyah,
Chairman, Indonesia Deposit Insurance Corporation (LPS)

Amando M. Tetangco, Jr
Executive Vice President, Bangko Sentral Ng Pilipinas

MODERATOR:
Simon Potter,
Executive Vice President, Federal Reserve Bank of New York
Let me begin by thanking Bank Indonesia and the New York Fed for having me to speak in front of such a distinguished audience. My presentation today will cover Maintaining Financial Stability in a Volatile Environment. I would like to begin with a brief discussion about how to operationalise financial system stability objectives along with monetary stability, whether there are trade-offs and how deep is our understanding on these issues? I will then proceed to describe the recent experiences in Indonesia in terms of achieving financial stability. I will close my presentation with my thoughts on some issues, especially on potential synergies and avoiding conflict between micro and macroprudential policies.

Let me now explain how to operationalise financial system stability objectives along with monetary stability objectives. Are there trade-offs? After the Asian financial crisis, 16 years ago, much of the research and analytical focus of central banking, at least in Asia, has been on revamping the banking sector and putting a stronger legal basis, especially on exit policy and crisis management in the financial sector. At the same time, most central banks in Asia put serious efforts into strengthening surveillance on the build-up of financial risks coming out of financial imbalances from the balance sheets of the financial firms as well as non-financial firms, including households. Asian central banks were more inclined to use macroprudential policy, which is effectively macroprudential regulations, with a view to maintaining financial stability. The global financial crisis in 2007-2008 has just compounded those inclinations, especially when a lot of the research has shown that monetary policy alone is a sufficient condition for achieving financial stability. In fact, the research has found that low inflation, especially in advanced economies, with low yields on financial assets, tend to induce excessive risk-taking and dangerous financial
imbalances. In a globalised financial landscape, the search for yield has induced an influx of inflows into many emerging market economies with less-developed financial markets, creating excessive assets price volatility and, in turn, could create financial instability.

The recent experiences have shown that incorporating a financial stability mandate is necessary if we would like to have solid macroeconomic stability, including financial stability. Nevertheless, we have to be aware that financial stability has very wide aspects and interlinkages. In my opinion, it is almost impossible if those matters are being born only by one institution. Increasingly, I would say that financial stability is seen as a shared responsibility. Despite some debates on whether a financial stability mandate should be given to the central bank, it is important to be aware about the strengths and limitations of each policy. Monetary policy instruments are well known for their broader impact on the economy but it will be less capable of dealing with sectoral risk and financial imbalances, while macroprudential instruments are more direct and can be targeted to specific risks or financial imbalances. Unfortunately, as some speakers in previous sessions have already touched, there are still many unknowns concerning the efficacy of macroprudential regulation, notwithstanding our knowledge on its transmission mechanisms, trade-offs and optimal combination of these instruments on the effective output, prices as well as financial stability itself. On the issue of sequencing for example, it will depend on our understanding on the efficacy of the macro regulations. It also reveals another aspect on the institutional arrangements, especially coordination. Many central banks play a significant role in the financial stability mandate but in many countries it also involves other relevant financial authorities, such as the Financial Services Authority, Indonesia Deposit Insurance Institution and Ministry of Finance.

I would now like to describe our recent experiences in terms of maintaining financial stability. When the unconventional monetary policy, or QE, rattled the global financial landscape, it created spillovers to many countries with high volatility, especially in emerging market economies. Many emerging market economies in Asia in particular, had to resort to capital flow measures, as has been explained in previous sessions. One of the key reasons for doing this was because the monetary authority would like to maintain the competitiveness of their country, while adopting a monetary policy stance conducive to manage economic growth momentum. Instruments such as regulations to manage foreign exchange maturity and denomination mismatches, caps on external debt, taxes on foreign asset holdings or even lengthening the
holding period are commonly used. In several countries, these instruments are also commonly accompanied by stricter prudential regulations on the banks’ liquidity position, caps on property and consumer loans in an effort to manage a safer and resilient banking system as well as a more productive composition of output in their economies. These policy responses are coming out of research and close surveillance on the sources of financial vulnerabilities. Discussions on these topics also flourishing in many regional groupings including the EMEAP Group. In the Indonesian context, as a small and open economy, sources of financial instability may come from external factors as well as internal ones. The external factors are notorious as the financial sector is becoming more integrated with the global financial system, with heightened volatility as well as contagion, herding behaviour, risk-on and risk-off, which are the familiar buzzwords right now. On the internal front, home-grown vulnerabilities out of the balance sheets of financial and non-financial firms, including households, may need to be taken seriously. Furthermore, financially risky behaviour, such as excessive risk-taking, both from the demand side, especially households and deficit firms, and from the supply side, such as low lending standards and low loss absorption capacity or a low Capital Adequacy Ratio (CAR), also needs to be monitored. Last but not least, shocks related to policies taken in the financial area should also be closely watched when those policies are deemed not in line with market consensus or market expectation, thus it may have some unintended consequences.

With hindsight, a framework of analysis is very useful in identifying the source of financial imbalances and a possible risk register that needs to be analysed. Clearly, a financial stability mandate needs extensive information and data mining, covering not only financial firms but also non-financial corporations and households. A good understanding of what is going on in the financial, monetary, fiscal and real sides of the economy is critical, notwithstanding good coordination and collaboration among other financial authorities. In the Indonesian case, it means between Bank Indonesia, the Financial Services Authority (OJK), Ministry of Finance and Indonesia Deposit Insurance Corporation (LPS).

I would now like to give a useful illustration of what was going on in Indonesia during the last upturn in our financial cycle. This analysis is based on the so-called financial cycle rather than the business cycle or GDP cycle. Using the previous framework, it was found that, especially during 2010 to 2013, Indonesia’s financial sector was characterised by at least three phenomena: very high loan growth, especially in the property sector, accompanied by an acceleration in property prices and foreign borrowings. Mortgage loan growth for example, was high at above
40% per annum and we saw this during the expansionary phase of the economy in 2010 to 2013. It was also accompanied by an acceleration in property prices. When GDP is above the trend and, in the case of property loans, it also shows that the growth is also above the trend. During this period, the capacity of households to repay the debt was still higher as the national ratio of household debt to their assets was still quite low at around 16 or 17%. Nevertheless, there was clearly some excessive risk-taking and it created price bubbles in the property sector. For example, it was quite common in Indonesia at that time to find one debtor with more than one mortgage. In fact, there were quite a significant number of debtors who had more than two mortgage loans. Another source of concern relates to private sector foreign borrowings that have also accelerated over the same period.

A tight-bias domestic monetary policy and low international interest rates have clearly induced the private sector to tap international capital markets. When the Indonesian economy slowed down following the downturn in international commodity prices and major global economies, concerns over the strength of domestic corporate balance sheets came to the fore. Many big firms suffered weaker financial performance, especially for firms engaged in the commodity business. Faced with these developments, the central bank took a combination of policy responses, ranging from traditional monetary policy responses and a series of macroprudential regulations. I will not pursue the policy responses further because Deputy Governor Perry previously explained along with Governor Agus in his welcoming remarks. It was clear that this policy package was aimed at maintaining growth momentum while, at the same time, affecting the composition of output and mitigating financial risks should they emerge from the balance sheet vulnerabilities. In brief, Bank Indonesia seemed to rely on macroprudential regulation to contain the acceleration in property and consumer loans as well as putting prudential measures on private sector foreign borrowings, through hedging requirements for example. This monetary policy seems to have been used to smooth out volatilities and to maintain economic growth momentum. When the global economic situation changed dynamically and with an uncertain outlook, many of those macroprudential measures needed to be reversed. Unfortunately, as we have also seen in many countries, taking the downturn, especially relaxing the macroprudential regulations, does not seem as easy as when adopting them. Partly because prudence may already be so long embedded in the mind of central bankers as well as bankers but the other important reasons are likely because we as the policymakers do not have enough experience with the effectiveness of the measures when they are being relaxed.
As an illustration, I present to you the chart concerning the LTV regulations. It seems that the loan-to-value ratio (LTV) has been able to contain the surging property loans as well as contain the property price acceleration but has thus far failed to have the intended stimulant effect to revive property loans again in recent periods. We may have to see some more periods in order to draw conclusive conclusions. This illustration is just an example of how we still need to deepen our understanding of so-called macroprudential regulations. We do not have enough data series to judge the efficacy of macroprudential policies. And we simply do not exactly know how to plan an optimal sequencing or mix between monetary, macroprudential as well as microprudential policies, notwithstanding our lack of understanding about the transmission channels of macroprudential policy in affecting output and prices.

Before I end my presentation, let me pinpoint some final notes that I have found quite useful in understanding the interaction between monetary policy, macroprudential and microprudential policies in achieving financial stability. Research in the area of financial stability has accelerated and new findings and understanding have been quite encouraging. There is still yet much that we do not know. The mandate to achieve financial stability is rarely given now to only one institution. If coordination arrangements lean towards a distributed model, a complicated and fragmented decision-making process should be avoided as it will create confusion and a lack of credibility. In the Indonesian context, where the financial stability mandate is currently distributed across Bank Indonesia, OJK, LPS and MoF under the financial stability committee, strong coordination and collaboration are needed to hone the potential synergies among those policies. The shape of coordination will depend on the effectiveness of government processes and structures, the instrument choices as well as the coordination culture. Nevertheless, one thing is clear, each policymaker must have a common understanding about the effectiveness and the limits of policy. For example, monetary policy is to focus on price stability, while macroprudential policy is to limit the build-ups of system-wide financial risks and microprudential regulations focus on the safety and soundness of individual financial firms. The so-called trade-off may, in fact, be minimised if those policies could be designed as mutually complementary. Success in achieving financial stability during normal periods may not be taken for granted as has been explained by our former vice president. We should not take for granted that success during normal periods will also work
during stress and crisis situations. Clear guidance on crisis management protocol and a lead institution will be critical in ensuring effective and fast policy responses. When dealing with financial stability matters, our experience suggests that prompt corrective actions are desirable as prevention is much better than resolution.

Lastly, achieving financial stability is not as clear-cut as delivering monetary targets, such as the inflation target. Legal and political shields, in my opinion, are a must in ensuring our decisive and objective policy response.
This page is intentionally left blank
MAINTAINING FINANCIAL STABILITY IN A VOLATILE ENVIRONMENT: THE EXPERIENCE OF INDONESIA

Halim Alamsyah
Chairman of Indonesia Deposit Insurance Corporation
Maintaining Financial Stability
In A Volatile Environment:
The Experience of Indonesia

By Halim Alamsyah
Chairman of Indonesia Deposit Insurance Corporation

August 1, 2016

Presentation Plan

- Maintaining Financial System Stability (FSS) versus Monetary Stability: are there trade-offs?
- Recent Indonesia experiences in maintaining financial stability
  - Understanding The Sources of Financial Instability in Indonesia
  - Policy Responses to Mitigate FSS Risks
- Some notes on harnessing potential synergies between micro and macroprudential policies
Maintaining FS Stability vs Monetary Stability: are there trade-offs?

- FS Stability is a much broader mandate than monetary stability
- FS Stability is seen as a shared responsibility among financial authorities
- FSS Policy instruments - the so-called macroprudential - are more direct and well targeted on specific financial imbalances or risks, while Monetary Policy instruments are broader and less capable to deal with sectoral risks
- Yet, there are still many “unknown” on the efficacy, transmission channels, or optimal combination of these macroprudential in affecting output and prices, as well as maintaining FS Stability.
- Coordination issues come to the fore when discussing an optimal sequencing of these macroprudential instruments.

Recent Indonesia Experience in Maintaining Financial Stability
What are the sources of Financial Instability in Indonesia?

...may come from:
- External Factors
  - Contagion, herding behavior, risks off/on...
- Internal Factors
  - Balance Sheets Vulnerabilities: low loss absorption capacity, significant financial imbalances and mismatches, etc....
  - Behavioral Related: excessive risk taking, low lending standard...
  - Policy Related Shocks: incompatible policies responses, coordination failures...

...procyclicality may exacerbate the situation...

A Framework of Analysis: Linking FSS Policies with Macroeconomic policies...focus on key sources of imbalances...

Sources of Imbalances
- Financial Sector
- Household
- Corporations
- Monetary Sector
- Fiscal Sector

Risks
- Excessive loans growth and liquidity risks
- Concentration Credit Risk
- Property price bubbles
- Balance sheet mismatches
- Low loss absorption capacity (CAR)
- High Debt to Income Ratio
- High Debt Service Ratio / Debt to Equity Ratio
- Excessive lending behavior
- Debt Overhang
- Lower capacity to repay (ROA/REO)
- Price developments
- Interest rates
- Appropriate Tax policy

Coordination: BI-OJK
Indonesia Experience:

Analysis on Sources of Financial Imbalances during the last financial cycle upturn in Indonesia shows that at least 3 phenomena took place about the same time:

**Sources of Vulnerabilities and Financial Risks**

- **Excessive Lending Growth**
  - Potentially can increase credit risks and liquidity risks in the banking sector. Consequently, interest rates may also increase.

- **Price Bubbles In Property Sector**
  - Loans to property sector tends to follow the increase in property prices, thereby encouraging further risk taking in the property sector.

- **Acceleration in External Debts**
  - Tight Monetary Policy (TMP) and stable exchange rate has encouraged domestic firms to borrow money from abroad. It may create maturity and currency mismatches.

**Indonesian Experience:**

Procyclicality of loans growth, incl. mortgage (KPR)

[Graph showing pro-cyclical trends in loans and GDP growth]

Source: Bank Indonesia
Very high growth of property loans since mid 2010 has been accompanied by bubble in property prices...

Indonesia Experience:

Speculation is rampant during this very high property loan growth...

- Many Debtors have more than 2 mortgage loans at the same time.
- Property price shot up, leading toward price bubbles..

<table>
<thead>
<tr>
<th>No of Loans</th>
<th>No of Debtors</th>
<th>Share</th>
<th>No of House</th>
<th>Loan Outstanding (Rp Bio)</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>31,368</td>
<td>62,736</td>
<td>72.1%</td>
</tr>
<tr>
<td>3 - 6</td>
<td>2,937</td>
<td>88.9%</td>
<td>8,811</td>
<td>5,796</td>
<td>16.8%</td>
</tr>
<tr>
<td>6 - 9</td>
<td>947</td>
<td>2.7%</td>
<td>4,092</td>
<td>3,211</td>
<td>9.3%</td>
</tr>
<tr>
<td>9 - 12</td>
<td>39</td>
<td>0.1%</td>
<td>292</td>
<td>496</td>
<td>1.4%</td>
</tr>
<tr>
<td>12 - 15</td>
<td>5</td>
<td>0.0%</td>
<td>54</td>
<td>73</td>
<td>0.2%</td>
</tr>
<tr>
<td>15 - 18</td>
<td></td>
<td>0.0%</td>
<td>-</td>
<td>-</td>
<td>0.0%</td>
</tr>
<tr>
<td>&gt;18</td>
<td>2</td>
<td>0.0%</td>
<td>38</td>
<td>49</td>
<td>0.1%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35,298</td>
<td>100.0%</td>
<td>76,023</td>
<td>34,503</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

* As of April 2013 before the progressive LTV implemented
**Indonesia’s External Debt, esp. private, is accelerating during 2009-2012 ...**

- Total external debts have increased from 24% (2012) to 36.5% of GDP (Q1 2016)
- The ratio of private sector over total external debt is soaring from 36% (2004) to 52% (Q1 2016)
- The private sector external debt is slowing sharply since 2012. It might indicate the slowing growth of business expansion

**Balance Sheet of Domestic Corporations show weakening performance**

Source: BI FSR, Mar 2016

<table>
<thead>
<tr>
<th>No.</th>
<th>Sektor</th>
<th>RAO (%)</th>
<th>RAE (%)</th>
<th>DER</th>
<th>TA/TL</th>
<th>Current Ratio</th>
<th>Inventory TO</th>
<th>Asset TO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Coal</td>
<td>34.4%</td>
<td>13.0%</td>
<td>27.1%</td>
<td>1.16</td>
<td>1.01</td>
<td>1.86</td>
<td>1.99</td>
</tr>
<tr>
<td>2</td>
<td>CPFO</td>
<td>7.1%</td>
<td>7.9%</td>
<td>13.9%</td>
<td>3.59</td>
<td>3.37</td>
<td>1.25</td>
<td>0.70</td>
</tr>
<tr>
<td>3</td>
<td>Rubber</td>
<td>10.4%</td>
<td>5.6%</td>
<td>14.0%</td>
<td>0.37</td>
<td>0.45</td>
<td>1.71</td>
<td>2.67</td>
</tr>
<tr>
<td>4</td>
<td>Oil/Gas</td>
<td>0.7%</td>
<td>0.6%</td>
<td>1.8%</td>
<td>0.92</td>
<td>1.01</td>
<td>0.92</td>
<td>0.88</td>
</tr>
<tr>
<td>5</td>
<td>Metal</td>
<td>12.1%</td>
<td>12.1%</td>
<td>13.9%</td>
<td>0.88</td>
<td>0.70</td>
<td>1.24</td>
<td>0.70</td>
</tr>
<tr>
<td>6</td>
<td>Agregat</td>
<td>5.8%</td>
<td>4.0%</td>
<td>12.2%</td>
<td>1.36</td>
<td>1.17</td>
<td>1.89</td>
<td>2.28</td>
</tr>
</tbody>
</table>

**Domestic corporations are weakening. Financial performance is getting worse, reflected by lower ROA, ROE, TA/TL ratio, CR and Assets Turnover. At the same time, DER is increasing, implying higher leverage risk. The plunge on commodity price has caused corporations in commodity sector to suffer during the last several years. In general, repayment capacity of corporations are weakening as indicated DSR and ICR**
Policy Responses

Monetary Policy affects the magnitude and pace of output and prices while Macroprudential Policy handles the “composition” of output and imbalances as well as some imprudent behavior.
Policy Responses Taken

- Aside maintaining tight-biased Monetary Policy during 2012-2015 and adopting a more flexible exchange rate regime, BI tried to administer stricter macroprudential regulations in the area of a.o:
  - Liquidity of the banking sector to enhance the quality of banks’ liquidity
  - Foreign exchange transaction to stem short term capital flows
  - Property and consumer loans (using LTV)
  - Balance sheet leverage through hedging requirements on foreign borrowings

- BI switched to a laxer monetary policy since the last quarter of 2015, accompanied by relaxations of some macroprudential regulations such as
  - Higher LTV ratio
  - Lower reserve requirements

- A more comprehensive research is needed to gauge the effectiveness of these macroprudential instruments and harnessing the potential synergies with microprudential regulations in maintaining financial stability and economic growth momentum.

An Illustration: LTV Implementation... Effective during upturns?..

![Graph showing LTV implementation and effectiveness during upturns.](image-url)
What Have We Learned?
Some notes …

Some Final Notes (1)

- So much we have done, yet si much still we don’t know ..
  - Some research shows promosing directions but we may need more robust results to corroborate our convictions
- Harnessing potential synergies between micro and macroprudential regulations will need a strong coordination and collaboration among policymakers
  - The shape of the “real” coordination depends on the institutional arrangements, the instrument choice, and the exiting “coordination culture
- Coordinaioan needs to understand the primary objective of each policies
  - Monetary Policy is to focus price stability
  - Macroprudential is to limit build up of system wide financial risks
  - Macroprudential is thus a complement, not subtitute, for sound monetary and other macroeconomic policies
- Yet, we may need a clear guidance/protocol and a lead institution, especially during stressed or crisis situations
Some Final Notes (2)

• Provention is necessary...with prompt corrective actions when needed
  - The importance of *the right* early warning indicators and effective surveillance
• Legal and political shields are “a must” in ensuring decisive policy responses
  - FSS objectives are less clear cut (like inflation or GDP growth) and sometimes controversial
Let me start by thanking Bank Indonesia and Governor Agus as well as the Federal Reserve Bank of New York for organising this high-level seminar. Aside from the very important topics as well as the excellent presentations that we have so far seen, what makes this seminar striking and memorable is the fact that we are still here, in this room, despite the beauty and all the distractions that Bali has to offer outside this hall.

The issues in this session have been raised on several occasions but somehow one gets the impression that there is much more that requires attention. The global experience over the last decade now requires our policy lens to be equipped for a wider angle and more zoom at the same time. It is through this lens that we view financial stability and it starts to hover more and be sensitive to the granular nuances of market change. However, we do find ourselves asking whether more breath comes at the expense of more death. In other words, if we instead decide on the lens that has greater focus are we losing out on the bigger picture? This question is relevant to our pursuit of financial stability. Given all that we are asked to know and monitor, one has to ask whether we face a natural trade-off between increased focus and broader coverage. More importantly, since we pursue a number of objectives and advocacies, can this be attained only at the expense of stability? In my remarks, allow me to focus on the latter, in particular I will consider three policy areas that are important to central banks but may be seen as having a trade-off with financial stability. The areas will be financial inclusion, market development and interest rate policy. Concerning each of these issues, let me also share briefly the Philippine experience.
Financial stability essentially asks financial markets to perform their inherent role of redistributing resources and allocating risks, while being resilient enough to withstand the not-so-evident systemic shocks. If finance is to be a facilitator for mobilising savings, intermediating credit and maturing savers to investors, then it certainly must be inclusive. There are apprehensions, however, that inclusion compromises the strength and resilience of the overall market. The perception is that we are combining different constituencies with different financial capacities within the same system. This concern, however, in my opinion is rather myopic. Leveraging on our financial technology, electronic bugging simply allows the creation of markets that would otherwise have been deemed unviable by fiscal presence. Within the unbeatable well-articulated IT risk framework, regulators can manage FinTech but this applies both to the mainstream market and to those whom we may reach out under our financial inclusion agenda. Thus, the technology that creates formal markets is no different from the technology that allows us to pursue financial inclusion. There is KYC, credit evaluation, good governance and so on. The governance principles are unchanged and, thus, inclusion and stability in this context are complements not substitutes.

Recently, BSP co-authored a paper where we tested whether the smallest sized deposits, which is a measure of financial inclusion, are more prone to bank runs than large deposits. The results show that there are no statistically significant differences between the behaviour of small deposits versus large deposits in the event of a shock such as a bank closure. While further work is being contemplated, the results are another indication that there is no a priori reason to believe inclusion and stability are trade-offs. We, at the BSP, are committed towards financial inclusion. We believe that financial inclusion complements financial stability by responding to the needs of a broader set of financial consumers. This can be made possible by providing consumers with greater access so that they can benefit from financial products and services from the formal system. This is not to suggest that prudential controls should not be in place. Financial inclusion invites innovative solutions for specific constituencies. The BSP has supported this by using a sandbox approach. Within the sandbox, stakeholders can design, test, use and learn within defined policy parameters. We also partner inclusion with financial literacy and consumer protection so that the financial consumer is able to make informed decisions. To be sure, the financial well-being of investors is equally at stake when we speak of financial
stability. We believe the financial inclusion, financial literacy and consumer protection form a triumvirate. To achieve financial stability, markets need to institutionalise this triumvirate.

To put all of this in concrete terms, because the national strategy for financial inclusion that outlines the principles and policy direction of our inclusion agenda. The BSP has also issued the financial consumer protection framework, which, among others, requires banks to initiate financial literacy programs for their clients and enhance disclosure and client suitability standards. Under this new financial consumer protection framework, we will rate our banks on a scale of 1 to 4 separate from their CAMELS rating.

Moving on to financial stability and market development. Financial stability is not just about responding to the needs of those traditionally excluded, it is about strengthening institutions, markets and processes. This is, in fact, the point of the global reform agenda, the components of which are at various stages of completion. There is no debate about the potential objectives that underpin them, however. We all want risk to be better managed and clearly identified so that the system-wide dislocations are mitigated before they materialise. That said, one can also see that there could be tension between the aspiration of resilience and the necessity of market efficiency. For example, one could set regulatory capital ratios at the extreme of 100% so that banks are covered for the full amount of risk-adjusted assets. This sets the bar high for resilience but it is highly unlikely that it is efficient for the banking industry. Another example, the setting of financial market infrastructures for OTC derivatives and other tradable instruments is envisioned to enhance transparency and mitigate risks, however, this initiative is not without costs, which can only be justified with a trading volume and market depth that covers the lump investments for such FMIs. Recent surveys conducted in the EMEAP jurisdiction concluded that this is not the case for all of us. These examples remind us that financial stability cannot be oblivious to certain market conditions. In fact, the attainment of financial stability largely depends on how these idiosyncratic conditions in all jurisdictions are accounted for. With respect to market development and financial deepening, we support the principles that underpin the global initiatives. We certainly want to be better able to monitor, measure and mitigate risks, both stand-alone and systemic. We also believe, however, that domestic market conditions are necessary considerations. We should not pursue change for the sake of change. We should pursue specific initiatives that allow risks to be managed. This would include those that arise in transition or where proportionality concerns are overlooked.
Financial stability and interest-rate policy is the third area. Of course, our discussion is not complete without this. At one level, the low-interest rate environment has nurtured the chase for higher yields among investors but it also appears to have brought greater exposures through higher risk instruments. Whether investors are in a position to effectively manage the high risks remains to be seen. What we do not want is to find that client suitability has been compromised during this period of low interest rates. Studies from the OECD take the view that the extent of the crisis was exacerbated because of the significant losses borne by retail investors. In hindsight, these investors were not properly positioned to absorb the risks that they may not have known they were exposed to. Financial education (FinEd) and consumer protection initiatives are, therefore, central to the attainment of financial stability. They are natural complements, however, we know that FinEd and consumer redress initiatives are not cost free. We also know that the entity best positioned to undertake this is the financial institution itself. This is because they also directly relate to their clients. As such, they are expected to know the specific circumstances, especially when offering different financial consumers different financial products and services. Thus, we have a scenario where financial stability and financial literacy are complementary initiatives, however, there may be a wedge between the social gains derived from them and the private costs that are needed to execute the financial literacy campaign. At another level, any discussion of interest rates will have reference to our stance on monetary policy. Interest rates have stayed below the historical trends for a protracted period. If rates reverse, the higher cost of financing would likely stoke the flames of inflation. Higher rates also attract cross-border flows and could cause the currency to appreciate beyond economic fundamentals. This is not our view of financial stability. Our financial stability initiatives are critical but they also have to be positioned vis-a-vis our other objectives and advocacies as a central bank. It is easy to argue that for stability to be achieved each and every component of a vibrant and functioning financial system has to be in place. That means an inclusive system that provides for the needs of financial consumers, whether it be banking, securities, insurance products or through an efficient financial market infrastructure. However, there will also be challenges, either because social and private objectives don’t always align or because the policy triggers may have different consequences on different facets of the market and the behaviour of its stakeholders. While these are challenges that we must face, they do highlight that the financial stability agenda is very critical, it is an initiative that we simply have to invest in and draw from each other’s experiences.
Question No. 1 from Dian Ediana Rae, Bank Indonesia

My first question relates to the alignment of macro and micro policies. The way I see it, aside from coordination and so on, there is a need for coherent and cohesive regulations to reinforce rather than undermine each individual policy from the different agencies. How do you see that?

My second question relates to the gap between the legal mandate of the central bank and the instruments given. With the new financial and economic challenges as well as public expectations, central banks are always required to innovate on the fly. This is not without risk, politically and legally. How should we proceed in the future in terms of dealing with such situations?

My third question relates to global discipline for the monetary sector. There is always the possibility that beggar-thy-neighbour policy could be implemented through monetary policy. Therefore, why do we not think about setting up some kind of institution that has the power, such as the WTO, to control and reinforce international commitments, while avoiding regulations that have an adverse effect on the global economy and individual economies?

Response by Halim Alamsyah

The first question relates to the macro and micro policy package. As I touched upon in my presentation, the first requirement is the need to understand the effectiveness of each policy as well as the limitations. Without knowledge of which macro or micro prudential policies that are more effective in affecting, let say, the composition of output, trying to reduce excessive lending in property sector or controlling excessive behaviour in foreign exchange transactions, it will be difficult to have a discussion, especially between different authorities using different instruments. Secondly, if you are unsure of the effectiveness of policies then it would be better to have a kind of forum; not to make your vision the same as the other institutions but at least to understand how a combined vision to achieve financial stability. This
is known as coordination and collaboration. Whether we like it or not, if there is a distributed model amongst financial authorities, this becomes a must do. Without effective coordination it will be very difficult. It is not only costly for the economy, it may also delay the right responses.

Secondly, concerning the gap between instruments given to financial authorities, if you don’t know, then you have to do some research. Most central bankers are still grappling with this new macroprudential knowledge.

Regarding the third question, I am not sure if we need another IMF. I think that if you look at what happened in the EU, it is quite clear that it is not very easy to have global monetary policy institutions. My only comment is that it is better to make sure we have implemented sound macro policies as well as effective micro policies.

**Response by Amando Tetangco**

Regarding the first question on macro and microprudential policies, I think we have to go back to the micro objectives, namely to make sure that individual financial institutions are safe. On the macro side, we take into account that there is growing interconnectedness among different banks so that if one bank in the financial system gets into trouble that can affect the other banks as well as the other institutions in the system. Basically, the regulations affecting the whole financial system, not just individual banks, specifically address an identified issue. For example, emerging market economies have seen a surge of capital inflows over the years and, in the case of the Philippines, the inflows were coming in to the NDF market. Therefore, what we did was not to ban banks from engaging in non-deliverable forward transactions but rather increase the risk weight for the banks open on their position. The product was still there and available but because the product was associated with risks the banks were forced to set aside more capital to engage in NDF transactions. Consequently, the macro risk coming from capital inflows, in other words large liquidity and the risk of a credit boom, was addressed by a macroprudential measure but at the same time, the banks themselves (micro) were required to set up additional capital to address the risks. In that particular case, one can say that there was some alignment between micro and macroprudential policies.

On the second question of tools, it is a well-known fact that central banks have had to expand their toolkits. Since the Asian financial crisis in 1997/98, central banks in the region have had to look at other tools rather than being dependent upon one policy instrument such as interest rates. The global financial crisis further
necessitated the use of additional tools. For instance, prior to those two crises, capital controls were not optimal, especially if the country had an IMF program in place or is planning to have an IMF program. To be a good member of the Fund at that time, according to the articles of agreement, countries were not supposed to impose restrictions on capital flows. Given the changes in the dynamics of the global economy, however, capital flow management tools are now acceptable. Of course, they changed the name from capital controls to capital flow management measures. They sound different but in reality they mean the same thing.

Concerning the beggar-thy-neighbour policy, it is a new idea but as we have heard from the speakers since this morning, monetary policies basically aimed at addressing domestic concerns. Therefore, trying to align monetary policy across jurisdictions is going to be very difficult, if not impossible altogether. What we can do is have closer cooperation, not even coordination because coordination is more demanding than just cooperation. To be realistic, it is not easy to achieve that. We have seen this in the case of certain regional groups, which have experienced the difficulties and complexities of this approach.

**Question No. 2 from [No Name Given]**

Governor Tetangco, I was very pleased to hear about your research at BSP on the relationship between financial stability and financial inclusion and the fact that financial inclusion does not necessarily create additional financial instability. What about the other causality, namely the fact that the pursuit of financial stability at all costs, including a dramatic increase in financial regulation for retail banks that were not necessarily the cause of the financial crisis, may create additional financial exclusion? What about going to the terms of regulating retail banks and what might the impact be on financial inclusion?

**Response by Amando Tetangco**

A major principle of financial inclusion, as far as regulatory requirements are concerned, is proportionality. Financial inclusion initiatives are very different in nature compared to regular commercial transactions. They are small, in particular micro-finance loans, and have high-frequency repayments but they do pose any real systemic risk to the banking system. Therefore, regulations can be adjusted according to the degree, level or amount of risks that are faced by institutions engaged in these transactions. For instance, KYC requirements our little less demanding for
small borrowers because most of these people, especially in rural areas, do not really have an ID card. Therefore, we have looked at ways to accommodate such people according to the KYC requirements. Consequently, we started to allow other forms of identification to access loans from micro-finance institutions. Proportionality is key. With regards to your question about too much regulation and possible financial exclusion, this is emerging from the risk at banks that is being experienced now. The impact is particularly significant when it comes to countries that have remittance industries, or where remittances count for a significant part of the economy. This can actually lead to more risks in the form of migration to the informal banking system because banks would no longer be willing to service the remittance requirements of these people, who would probably turn to the unmonitored informal sector where the risks are greater. This would also result in financial exclusion because the individual beneficiaries would be excluded from the financial system and actually not be able to take advantage of the other financial products and services. There needs to be balance.
I am pleased and honoured to have this opportunity, with Perry, to conclude this joint international seminar. I first wish to thank our host, Governor Agus, and all the staff at Bank Indonesia who have worked in the seminar or creating what has proved to be an important event, to meet and exchange ideas on significant global macroeconomic and monetary policy issues. Looking back on today's discussion, I'm impressed by the amount of ground we have covered. We have been privileged to hear from governors and senior policy officials of both EMEAP and non-EMEAP countries. On a daily basis, global markets and economic developments remind us of the challenges policymakers face in maintaining growth and enhancing financial stability. Our panellists, discussants and officials have demonstrated a very practical awareness of the need to analyse and understand the market forces influencing our economic and financial environments. Today's sessions explored the key macroeconomic and financial stability issues with which policymakers in all economies, both large and small, advanced and emerging, must contend. The first session address challenges to growth after the financial crisis. This session featured views from different parts of the globe on the challenges hindering global economic growth and strategies to address them. The second session focused on monetary policy trade-offs in an open economy. In our current environment, the role of the exchange rate in trade and current-account adjustments becomes more critical as monetary policy stances diverge across the major economic areas. Our speakers showed a great appreciation for the need to understand monetary policy spillovers, the need to understand the transmission of both the policy implementations themselves as well as the ensuing spillovers and spillbacks as the IMF likes to call them, and the need to understand the effectiveness of the policy options available to the authorities. The third session, which I moderated, addressed financial stability issues in the global economy. The presenters focused on policy responses that seek to promote
financial stability, trade-offs between financial sector reform and macroeconomic growth and country experiences with various tools. Here too, the speakers you just heard demonstrated an understanding of a variety of perspectives and appreciation for different views, while acknowledging the complexities of balancing competing priorities and formulating effective policy. We are also fortunate to have Governor Agus and President Dudley here to share with us their perspectives on the current global macroeconomic environment and the implications for monetary policy.

In closing, I wish to thank all the participants, panellists, discussants and moderators for sharing your knowledge, offering your candid observations and understanding of different perspectives. I also extend our sincere appreciation to Bank Indonesia for your very generous hospitality. It has been a beautiful event and we have all enjoyed it. I would also like to thank the organisers from Bank Indonesia and the New York Fed for coordinating all the moving parts to make the event such a success today.
CLOSING REMARKS TWO

Perry Warjiyo
Deputy Governor, Bank Indonesia

It is a great honour for Bank Indonesia to co-host this seminar. This seminar has not only provided the questions, we have also tried to provide some answers. I have to admit that I have agreed with everything you have said today. The salient questions to which we try to provide answers today can be summarised as follows. First, I think that this conference has placed us on the same footing, whether you are from the West or the East, we need to work together to stimulate growth. We need to create demand. We need to deal with the supply-side aspects. We need to deal with low productivity as well as the deleveraging process. We also need to deal with demographic issues. This is where East and West can work together to stimulate economic growth.

The second aspect we should take away from this conference is that central banks need to have support for economic growth, while maintaining the mandate of price stability. Central banks already do that through accommodative monetary policy in the West and some of the emerging market economies in the East. We also need to complement monetary policy with fiscal policy, fiscal stimuli and fiscal reform as well as structural reforms. The optimal policy mix of monetary, fiscal and structural reforms. This is what we need to work together on in the East and West in order to support growth. This is where the central bank takes on the leadership and interagency cooperation can leverage the expertise to support the policy mix of monetary, fiscal and structural reforms.

The third aspect, from the central bank’s perspective, the interest rate policy is the main instrument to support price stability but in this interconnected global economy as well as for small open economies, exchange rate flexibility can be both a transmitter and an absorber. We need to complement interest rate policy with exchange rate management as well as capital flow management and macroprudential policy. That is the third aspect that we can take away from this conference.
The fourth aspect is the need to incorporate financial system stability, not only at the central bank, but also how we need to facilitate better cooperation between macro and microprudential policies. This is what we talked about in the last session. We need to not only look at the macroeconomic, but also macro-financial linkages. We also need to look at aspects of stress testing to ensure financial stability. This is where interagency cooperation and coordination become very important between countries, authorities and agencies. Financial safety nets are also important. It is better to prepare for a crisis than resolve a crisis.

The final aspect is the scope for further global and regional cooperation. IMF reforms for multilateral surveillance along with IMF reforms of global financial safety nets are needed. Cooperation under the IMF as well as cooperation among emerging market economies are also important in order to work together towards better global economic prospects.

Last but not least, communication, which is challenging, is very important in order to transmit their expectations. I hope this will become a new platform we can take forward into the future.
<table>
<thead>
<tr>
<th>Glossary Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN</td>
<td>Association of South-East Asian Nations</td>
</tr>
<tr>
<td>BIS</td>
<td>Bank for International Settlements</td>
</tr>
<tr>
<td>BNM</td>
<td>Bank Negara Malaysia</td>
</tr>
<tr>
<td>BOJ</td>
<td>Bank of Japan</td>
</tr>
<tr>
<td>BPS</td>
<td>Basis Points</td>
</tr>
<tr>
<td>Brexit</td>
<td>Britain Exit</td>
</tr>
<tr>
<td>BSP</td>
<td>Bangko Sentral Ng Pilipinas</td>
</tr>
<tr>
<td>CAR</td>
<td>Capital Adequacy Ratio</td>
</tr>
<tr>
<td>CAMELS</td>
<td>Capital Adequacy, Asset Quality, Management, Earnings, Liquidity, and Sensitivity</td>
</tr>
<tr>
<td>CDOs</td>
<td>Collateralized Debt Obligations</td>
</tr>
<tr>
<td>CEMBI</td>
<td>Corporate Emerging Markets Bond Index</td>
</tr>
<tr>
<td>CFMs</td>
<td>Capital Flow Measures/Management</td>
</tr>
<tr>
<td>CPI</td>
<td>Consumer Price Index</td>
</tr>
<tr>
<td>CR</td>
<td>Current Asset</td>
</tr>
<tr>
<td>DER</td>
<td>Debt to Equity Ratio</td>
</tr>
<tr>
<td>DSGE</td>
<td>Dynamic Stochastic General Equilibrium Modeling</td>
</tr>
<tr>
<td>DSR</td>
<td>Debt Service Ratio</td>
</tr>
<tr>
<td>ECB</td>
<td>European Central Bank</td>
</tr>
<tr>
<td>EM</td>
<td>Emerging Market</td>
</tr>
<tr>
<td>EMEs</td>
<td>Emerging Economies</td>
</tr>
<tr>
<td>EMEAP</td>
<td>Executives' Meeting of East Asia-Pacific Central Banks</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FED</td>
<td>Federal Reserve</td>
</tr>
<tr>
<td>FinEd</td>
<td>Financial Education</td>
</tr>
<tr>
<td>FinTech</td>
<td>Financial Technology</td>
</tr>
<tr>
<td>FMI's</td>
<td>Financial Market Infrastructures</td>
</tr>
<tr>
<td>FOMC</td>
<td>Federal Open Market Committee</td>
</tr>
<tr>
<td>FRB</td>
<td>Federal Reserve Bank</td>
</tr>
<tr>
<td>FRBNY</td>
<td>Federal Reserve Bank of New York</td>
</tr>
<tr>
<td>FSS</td>
<td>Financial System Stability</td>
</tr>
<tr>
<td>FX</td>
<td>Foreign Exchange</td>
</tr>
<tr>
<td>G-20</td>
<td>An International Forum for the Governments and Central Bank Governors from 20 Major Economies</td>
</tr>
<tr>
<td>Acronym</td>
<td>Full Form</td>
</tr>
<tr>
<td>---------</td>
<td>-----------</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>GFC</td>
<td>Global Financial Crisis</td>
</tr>
<tr>
<td>GMRA</td>
<td>General Master Repo Agreement</td>
</tr>
<tr>
<td>ICR</td>
<td>Interest Coverage Ratio</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>JIBOR</td>
<td>Jakarta Interbank Offered Rate</td>
</tr>
<tr>
<td>KPR</td>
<td>Kredit Pemilikan Rumah (Mortgage Loan)</td>
</tr>
<tr>
<td>KYC</td>
<td>Know Your Customer</td>
</tr>
<tr>
<td>LDR</td>
<td>Loan-to-Deposit Ratio</td>
</tr>
<tr>
<td>LPS</td>
<td>Lembaga Penjamin Simpanan (Indonesia Deposit Insurance Corporation)</td>
</tr>
<tr>
<td>LTV</td>
<td>Loan-to-Value</td>
</tr>
<tr>
<td>MPP</td>
<td>Macroprudential Policy</td>
</tr>
<tr>
<td>NDF</td>
<td>Non-Deliverable Forward</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>OJK</td>
<td>Otoritas Jasa Keuangan (Financial Services Authority)</td>
</tr>
<tr>
<td>OTC</td>
<td>Over-the-Counter</td>
</tr>
<tr>
<td>PCE</td>
<td>Personal Consumption Expenditures</td>
</tr>
<tr>
<td>QE</td>
<td>Quantitative Easing</td>
</tr>
<tr>
<td>RBI</td>
<td>Reserve Bank of India</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Asset</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>RR</td>
<td>Reserves Requirement</td>
</tr>
<tr>
<td>S-CAPS</td>
<td>Supervisory Capital Assessment Program</td>
</tr>
<tr>
<td>SEP</td>
<td>Summary of Economic Projections</td>
</tr>
<tr>
<td>SMEs</td>
<td>Small Medium Enterprises</td>
</tr>
<tr>
<td>SNB</td>
<td>Swiss National Bank</td>
</tr>
<tr>
<td>CCAR</td>
<td>Comprehensive Capital Analysis and Review</td>
</tr>
<tr>
<td>TA</td>
<td>Total Assets</td>
</tr>
<tr>
<td>TARP</td>
<td>Troubled Asset Relief Program</td>
</tr>
<tr>
<td>TL</td>
<td>Total Liabilities</td>
</tr>
<tr>
<td>U.K.</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States</td>
</tr>
<tr>
<td>VIX</td>
<td>Volatility Index</td>
</tr>
<tr>
<td>WEO</td>
<td>World Economic Outlook</td>
</tr>
<tr>
<td>WTO</td>
<td>World Trade Organization</td>
</tr>
</tbody>
</table>
## COMMITTEES

### Steering Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sugeng</td>
<td>Executive Director</td>
<td>Bank Indonesia</td>
</tr>
</tbody>
</table>

### Organizing Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yura A. Djalins</td>
<td>Coordinator</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Idah Rosidah</td>
<td>Vice Coordinator</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>G.A. Diah Utari</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Sudiro Pambudi</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Irwan</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>R. Aga Nugraha</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Himawan Putranto</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Rizma Magribhi</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Widya Rani Hapsari</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
<tr>
<td>Pebri Haryanto</td>
<td>Member</td>
<td>Bank Indonesia</td>
</tr>
</tbody>
</table>
Agus D.W. Martowardojo was born in the Netherlands in 1956. He is a graduate of economics at the University of Indonesia and deepened his knowledge further through various programs at the State University of New York, Harvard Business School, Stanford University, and Wharton Executive Education. His career began in the banking industry at the Bank of America and then Bank Niaga in 1986. In 1995, he was appointed Managing Director of Bank Bumiputera and in 1998 as the Managing Director of Bank Ekspor Impor Indonesia. From 1999-2002, he served as the Managing Director of Bank Mandiri. In October 2002, after working as an advisor to the Chairman of IBRA (Indonesian Bank Restructuring Agency), he was installed as the Managing Director of Bank Permata. From May 2005 until May 2010 he led Bank Mandiri as its Managing Director. He won, among others, Indonesia’s Best Executive in 2009 from Asia Money, The Indonesian Banker Leadership Achievement Award 2010 from The Asian Banker, and was chosen as Finance Minister of the Year 2012 on a global and Asia-Pacific level for The Banker in February 2012. Prior to his selection as the Governor of Bank Indonesia, he was the Minister of Finance of the Republic of Indonesia as of 20th May 2010. Subsequently, pursuant to Presidential Decree No. 45/P of 2013, he was sworn in as the Governor of Bank Indonesia on 24th May 2013. His tenure as Governor of Bank Indonesia will run for the period from 2013 – 2018.
Boediono was born 25 February 1943 was the Former Vice President of Indonesia from 2009 to 2014. He became Vice President in 2009 after winning the 2009 presidential election with President Susilo Bambang Yudhoyono. He received his early education in primary school in Blitar, East Java. In the early 1960s he enrolled at Gadjah Mada University in Yogyakarta before being awarded a scholarship to study at the University of Western Australia in Perth. In 1967, he graduated from the University of Western Australia with an economics degree and continued his studies for a master’s degree in economics at Monash University in Melbourne, which he completed in 1972. Later, he undertook further studies towards his doctoral degree from the Wharton School of the University of Pennsylvania, which he completed in 1979. He was a Bank Indonesia deputy governor in charge of monetary policy from 1997 to 1998 and served as State Minister of National Planning and Development from 1998 to October 1999. In 2008, a commission of the People’s Representative Council elected him as the Governor of the Indonesian central bank, Bank Indonesia. After he was selected by Yudhoyono as a running mate in the 2009 presidential election, he submitted his resignation from the central bank post.

Perry Warjiyo

Perry Warjiyo, Deputy Governor. Born in Sukoharjo in 1959. Perry graduated from Gajah Mada University in 1982. He continued his education at Iowa State University, and in 1991, received his doctorate in monetary and international financial economics. He started his career at Bank Indonesia in 1984 and focused on the areas of economic research and monetary policy, foreign exchange management, international issues and organizational transformation. From 2007 to 2009, he held a mandatory strategic role as Executive Director at the International Monetary Fund (IMF), representing the 13 members of the South-East Asia Voting Group (SEAVG). He continued his career as Head of the
Economic Research and Monetary Policy Directorate at Bank Indonesia. Early in 2013, he was appointed Assistant Governor of Bank Indonesia in the area of international and monetary policy. He is a lecturer of monetary and international financial economics in several notable universities in Indonesia. He has also written numerous economics books and journals. He was appointed as Deputy Governor of Bank Indonesia pursuant to Presidential Decree No. 28/P of 2013, dated April 5th, 2013, and officially sworn as Deputy Governor of Bank Indonesia on April 15th, 2013.

William C. Dudley

William C. Dudley became the tenth president and chief executive officer of the Federal Reserve Bank of New York on January 27, 2009. He also serves as the vice chairman and a permanent member of the Federal Open Market Committee (FOMC). He was born in Springfield, Massachusetts. Although he spent his freshman year of college at Columbia University in New York City he received his bachelor’s degree from New College of Florida in 1974. He received his doctorate in economics from the University of California, Berkeley in 1982. Prior to joining the New York Fed, he was a partner and managing director at Goldman, Sachs & Company and was the firm’s chief US economist for a decade. Before he joined Goldman Sachs in 1986, he was a vice president at the former Morgan Guaranty Trust Company. Prior to that, he was an economist at the Board of Governors of the Federal Reserve System in Washington, DC, from 1981 to 1983, so he was not a stranger to the Federal Reserve System when he joined the New York Fed in 2007. In 2012, Dudley was appointed chairman of the Committee on the Global Financial System at the Bank for International Settlements (BIS). He is currently a member of the board of directors of the BIS, a vice chairman of the Economic Club of New York, and a member of the Council on Foreign Relations.
Ravi Menon

Ravi Menon was appointed Managing Director of the Monetary Authority of Singapore (MAS) in 2011. He is a member of the Financial Stability Board (FSB) Steering Committee and chairs the FSB Standing Committee on Standards Implementation. He holds a Master’s degree in Public Administration from Harvard University. He began his career at MAS in 1987. During his 16 years at MAS, he was involved in monetary policy; econometric forecasting; and organizational development. He spent a year at the Bank for International Settlements in Basel, Switzerland, as a member of the secretariat to the Financial Stability Forum. He served as Deputy Secretary at the Ministry of Finance (2003-2007), where he was responsible for fiscal policy and government reserves, before becoming Permanent Secretary at the Ministry of Trade & Industry (2007-2011).

Zeti Akhtar Aziz

Zeti Akhtar Aziz was the 7th Governor of Bank Negara Malaysia, Malaysia’s central bank. She was governor from 2000 to 2016, and was the first woman in the position. She was born in Johor Bahru, Johor on 27 August 1947. She began her career as an economic analyst for the Southeast Asia Central Bank Training & Research Center, remaining at that post from 1979 to 1984. She was then appointed Deputy Manager of the Economics Department at Bank Negara Malaysia. In 2009, Global Finance magazine named her as one of the world’s best central bank chiefs. In 2013, She was again accorded “Grade A” among the heads of central banks for the 10th time by the Global Finance magazine. She was awarded alongside Philippines’ central bank Governor Amando C. Tetangco, Jr. and Taiwan’s Central Bank Governor Perng Fai-nan, from a list of central bank governors of more than 50 key countries.
**MARTIN SOONG**

**Martin Soong** (born 1959 in Hong Kong) is a CNBC business presenter based in Singapore. He is now a co-anchor with Oriel Morrison on CNBC Asia’s Street Signs. Before that, he was a longtime co-anchor of CNBC’s trademark morning program, Asia Squawk Box. He was part of the team that launched Asia Business News in 1993 (prior to the channel’s merger with CNBC in 1997). During his distinguished tenure, Martin has anchored almost all of CNBC’s flagship business shows, he left CNBC in 2004 to join CNN in their Hong Kong office before returning to CNBC the following year (2005). He began his full-time journalistic career in 1983 with The Business Times in Singapore as a reporter, and then he worked for Singapore Broadcasting Corporation as a producer/anchor and The Straits Times as a correspondent. After 9 years as co-anchor of Asia Squawk Box, Soong began co-anchoring a then-new program, Street Signs (based on the CNBC US program of the same name).

**MITSUHIRO FURUSAWA**

**Mitsuhiro Furusawa** assumed office as Deputy Managing Director of the International Monetary Fund on March 2, 2015. He joined the IMF after a distinguished career in the Japanese government, including several senior positions in the Ministry of Finance in recent years. Immediately before joining the Fund, he served as Special Advisor to Japanese Prime Minister Shinzo Abe and Special Advisor to the Minister of Finance. Among his recent ministry postings, he served as Vice Minister of Finance for International Affairs (2013-2014), Director-General of the Financial Bureau (2012-2013), and Senior Deputy Director-General of the International Bureau (2009-2010). His overseas postings for the Japanese government have included IMF Executive Director (2010-2012), and Minister (Finance) at the Embassy of Japan in the United States (2007-2009).
THOMAS J. JORDAN

Thomas J. Jordan has been the Chairman of the Governing Board at Swiss National Bank since April 2012 and serves as its Head of Department I. He has been a Member of the Governing Board at Swiss National Bank since May 1, 2007. He has been a lecturer in monetary theory and monetary policy at the University of Berne since 1998. Moreover, he served as an Editorial Assistant for the Swiss Journal of Economics and Statistics from 1991 to 1994. In addition, he has acted as reviewer for various leading journals. Dr. Jordan belongs to the Committee on Monetary Policy and Monetary Economics of the Verein für Socialpolitik and is a member of the Swiss Society of Economics and Statistics and of the American Economic Association. He graduated from the University of Berne in 1989 and studied in economic science at the University of Berne in 1985. He received his Doctorate in Economics (Dr. rer. pol.) from the University of Berne in 1993.

RAGHU RAM GOVIND RAJAN

Raghuram Govind Rajan (born 3 February 1963) is an Indian economist who served as the 23rd Governor of the Reserve Bank of India, and is currently serving as the Vice-Chairman of the Bank for International Settlements. He was chief economist at the International Monetary Fund from 2003 to 2007, the youngest to occupy the position. He was a Distinguished Service Professor of Finance at the University of Chicago Booth School of Business from 1991 to 2013, when he went on public service leave. At the Federal Reserve annual Jackson Hole conference in 2005, he warned about the growing risks in the financial system and proposed policies that would reduce such risks. Former U.S. Treasury Secretary Lawrence Summers called the warnings “misguided” and Dr. Rajan himself a “luddite”. However, following the 2008 economic crisis, his views came to be seen as prescient and he was extensively interviewed for the Oscar-winning documentary Inside Job (2010). In 2003 Dr. Rajan received the inaugural Fischer Black Prize, given every two years
by the American Finance Association to a financial economist younger than 40 who has made the most significant contribution to the theory and practice of finance. His book, Fault Lines: How Hidden Fractures Still Threaten the World Economy, won the Financial Times/Goldman Sachs Business Book of the Year award in 2010. In 2016, he was named by Time (magazine) in its list of the ‘100 Most Influential People in the World.

VEERATHAI SANTIPRABHOB

Veerathai Santiprabhob, Ph.D., has been the Governor at Bank of Thailand since October 1, 2015. He has 15 years of work experience as a Policy Economist in public, private and international institutions. He served as the Chief Strategy Officer of the Thailand Stock Exchange since January 26, 2009 and also served as its Executive Director of Capital Market Development Fund and Capital Market Research Institute since January 26, 2009. He served as the Chief Strategy Officer of Corporate Strategy & Development at The Stock Exchange of Thailand since January 26, 2009. From 1994 to 1998, he served as an Economist at the International Monetary Fund and from 1998 to 2000, served as a Co-Director of the Policy Research Institute, Fiscal Policy Office. He served as a Director of Thanachart Capital Public Company Limited from April 4, 2013 to August 8, 2014. He served as an Independent Director of Univanich Palm Oil Public Company Limited until January 23, 2009.

HALIM ALAMSYAH

Halim Alamsyah was born in Bangka, March 6, 1957. He graduated with a Bachelor of Economics from the Islamic University of Indonesia, Yogyakarta, and a degree in Law from the University of Gadjah Mada University, Yogyakarta, a Master of Arts in Development Economics, Boston University, Massachusetts, USA and obtained his doctorate in Economics from the University of Indonesia, Jakarta. He started his career
at Bank Indonesia in 1982 as a staff member of credit analysis, the Cooperative of Credit Affairs. In 1985, he served as a staff researcher at the Economic Affairs and Statistics. In 1999, he was appointed as Deputy Director of the Directorate of Economic Research and Monetary Policy. One and a half years later, in July 2000, he was appointed as Director in the Office of the Governor of Bank Indonesia. In July 2002, he was installed as the Director of the Centre of Education and Central Bank Studies. In January 2003, he successively held the post of Director of the Directorate of Economic Research and Monetary Policy, before transferring to Director of the Directorate of Strategic Planning and Public Relations in April 2005, and Director of the Monetary and Statistics Directorate in February 2006, before finally serving as Director of Banking Research and Regulation in March 2007.

**AMANDO M. TETANGCO, JR.**

Amando M. Tetangco, Jr. assumed office as Governor of the Bangko Sentral Ng Pilipinas in July 2005. He is a career central banker, occupying different positions in the organization in a span of over three decades. Immediately prior to his appointment as BSP Governor, he was Deputy Governor, in charge of the Banking Services Sector, Economic Research and Treasury. As BSP Governor, he is also the Chairman of the Monetary Board, Anti-Money Laundering Council (AMLC) and Philippine International Convention Center (PICC); Vice-Chairman of the Agriculture Credit Policy Council (ACPC); Member of the Capital Market Development Council (CMDC), Export Development Council (EDC), PhilExport Board of Trustees (PHILEXPORT), Philippine Export-Import Credit Agency (PHILEXIM); and Director of Philippine Deposit Insurance Corporation (PDIC), National Development Council (NDC) and National Home Mortgage Finance Corporation (NHMFC).
**Simon M. Potter**

*Simon M. Potter* is an executive vice president of the Federal Reserve Bank of New York, head of the Markets Group and manager of the System Open Market Account for the Federal Open Market Committee (FOMC). He oversees the implementation of domestic open market and foreign exchange trading operations consistent with FOMC directives, the execution of fiscal agent support for the U.S. Treasury, and the provision of account services to Foreign and International Monetary Authorities. He has played a prominent role in the New York Fed’s financial stability efforts, including contributing to the design of the Supervisory Capital Assessment Program and as a member of the Bank for International Settlements Macroeconomic Assessment Group that supported the Basel Committee’s work to strengthen bank capital standards.
This page is intentionally left blank