# グローバル金融危機から 10 年

## 変貌した世界経済、その背景と今後の展望

# 10 years after the Global Financial Crisis

－ How has the World Economy changed and where will it go? －

Occasional Paper No.36

公益財団法人 国際通貨研究所
Institute for International Monetary Affairs

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## はじめに

リーマン・ショックと言われた 2008 年 9 月の金融危機から間もなく 10 年を迎えます。世界経済はようやく安定成長軌道に乗った模様ですが、一方でインフレ圧力は依然総じて弱く、市場金利はかつての好況期と比べて大幅に低い水準にあります。また、日本にとどまらず米国や欧州でも、賃金の伸び悩みがみられるようになっています。

こうした、低いインフレ、低い賃金上昇率、低い金利といった 3 つの低さ（3 低）について、日米欧の先進国、また中国や ASEAN などの途上国の立場からどのように考えればよいのでしょうか。また、このような環境変化を踏まえ、金融規制のあり方についてはどう考えるべきでしょうか。この点については、金融業界を変えつつあるフィンテックの問題も含めて考える必要がありそうです。

以上の問題意識をもとに、国際通貨研究所では 2 月 22 日に「グローバル金融危機から 10 年 ～変貌した世界経済、その背景と今後の展望～」と題するシンポジウムを開催いたしました。本シンポジウムでは、国内外から著名な専門家をお招きし、各国・地域の現状を踏まえたうえで議論していただきました。

本稿は、同シンポジウムにおける各パネリストのスピーチおよびパネル・ディスカッションでの議論を記録にまとめたものです。ご関心のある皆様方の今後のご考察への一助になれば幸いです。

2018 年 7 月
公益財団法人　国際通貨研究所

## Preface

It is almost 10 years since the Lehman Brothers went bankrupt in September 2008. The world economy seems to have finally gotten on a stable track but inflation pressure is still weak generally and market rates have been on a dramatically low level compared to the previous boom periods. Growth of wages has been slow not only in Japan but also in the US and Europe.

How should we understand and address this situation of “three lows” of low inflation, low wage increase, and low interest rate from the standpoint of advanced economies like Japan and Western countries and emerging economies like China and other developing countries? Under these circumstances, how should we modify financial regulation? In this regard, we will also have to take into account the issues of Fintech which is changing the whole picture of financial world.

With these points in mind, the Institute for International Monetary Affairs held on February 22 a symposium titled “10 Years after the Global Financial Crisis – How has the world economy changed and where will it go? –.“ We invited prominent experts from home and abroad and we had the pleasure to have very active discussions on the basis of current situations that the panelists represent, namely, Japan, the US, the EU, and Asia including China.

This is a record of speeches of the panelists of the symposium and discussions in the panel discussion session. We would be happy if this will be of some help to those who are interested in the issues concerned.

July 2018
Institute for International Monetary Affairs

## パネリストの略歴／Profiles

**浅川　雅嗣**
**財務省財務官**

**Masatsugu Asakawa**
Vice Minister of Finance for International Affairs,
Japanese Ministry of Finance

1981年大蔵省（現財務省）入省。2008-9年、麻生太郎内閣で総理大臣秘書官。総括審議官、国際局長などを経て、2015 年 7 月より財務省財務官。2011 年から 2016 年まで OECD 租税委員会議長を務めた。ADB・IMF へ出向経験あり。1985 年プリンストン大学にて行政学修士取得。

**Mr. Asakawa** is Vice Minister of Finance for International Affairs, Japanese Ministry of Finance. Since he joined the ministry in 1981, he had held many senior positions, including Director-General of the International Bureau. He previously served as Executive Assistant to the Prime Minister (2008-09). He also held senior roles at the IMF and the Asian Development Bank. Besides, he served as Chair for the Committee on Fiscal Affairs, OECD (2011-16). He obtained his MPA from Princeton University in 1985.

**ディワ・C・ギニグゥンドゥ**
**フィリピン中央銀行副総裁**

**Diwa C. Guinigundo**
Deputy Governor for the Monetary Stability Sector,
Bangko Sentral ng Pilipinas

フィリピン中央銀行副総裁（金融安定セクター担当）。同中央銀行に40年にわたり勤務し、これまで東南アジア諸国中央銀行グループ（SEACEN）や ASEAN 金融統合フレームワークの共同議長、IMF フィリピン理事代理等を歴任。

**Mr. Guinigundo** is Deputy Governor for the Monetary Stability Sector, Bangko Sentral ng Pilipinas, which he has been serving for 40 years. He has since 2000, co-chaired the South East Asian Central Banks (SEACEN) Experts Group on Capital Flows with Bank Negara Malaysia and in 2010-13, the ASEAN Senior Level Committee on Financial Integration and again co-chairs in 2016-18. In 2009-12, he chaired the EMEAP Central Bank Deputies Monetary and Financial Stability Committee. He was Alternate Executive Director at the IMF in 2001-03 and also chairs the SEACEN Task Force on SEACEN membership.

**ランダル・K・クォールズ**
**米国連邦準備理事会副議長**

**Randal K. Quarles**
Vice Chairman for supervision,
Federal Reserve Board

2017 年 10 月米国連邦準備理事会副議長（金融規制担当）に就任。1991 年以降、米国財務省にて要職を歴任。また、投資会社サイノシュア・グループを創業、カーライル・グループのパートナーを務めるなど官民多方面で活躍。

**Mr. Quarles** was sworn in as Vice Chairman for Supervision for the Federal Reserve Board on October 13, 2017. Prior to his Board appointment, he was founder and managing director of the Cynosure Group, and before that, a partner at The Carlyle Group. From September 2005 to November 2006, and from January 1991 to January 1993, he held a number of positions in the United States Treasury Department. Prior to, and in between, his service at the Treasury, he was a partner at Davis Polk & Wardwell.

**クラウス・レグリング**
**欧州安定メカニズム総裁**
**欧州金融安定基金ＣＥＯ**

**Klaus Regling**
Managing Director, European Stability Mechanism
CEO, European Financial Stability Facility

欧州安定メカニズムの初代総裁および欧州金融安定基金の初代 CEO（ともに現職）。過去 40 年にわたり欧州・アジア・米国の官民セクターでエコノミストとして活躍。2001～2008 年には欧州委員会経済金融総局長を務めるなど要職を歴任。

**Mr. Regling** is the current and first Managing Director of the European Stability Mechanism. He is also the CEO of the European Financial Stability Facility (EFSF), a position he has held since the creation of the EFSF in June 2010. Mr. Regling has worked for 40 years as an economist in senior positions in the public sector (IMF, German Federal Finance Ministry) and the private sector (Moore Capital Strategy Group, German Bankers' Association) in Europe, U.S., and Asia. From 2001 to 2008, he was Director General for Economic and Financial Affairs of the European Commission.

**アンドリュー・シェン**
**香港大学アジアグローバル研究所特別フェロー**
**中国銀行業監督管理委員会首席顧問**

**Andrew Sheng**
Distinguished Fellow, Asia Global Institute, The University of Hong Kong
Chief Adviser, China Banking Regulatory Commission,

香港大学アジアグローバル研究所特別フェローおよび中国銀行業監督管理委員会首席顧問。カザナ・リサーチ・インスティチュート会長の他、中国投資有限責任公司、中国国家開発銀行等の諮問委員会メンバーを務める。アジアにおける各種雑誌への定期的寄稿も多数あり。

**Mr. Sheng** is Distinguished Fellow of Asia Global Institute, The University of Hong Kong. He is Chief Adviser to China Banking Regulatory Commission, Chairman of Khazanah Research Institute, a Board Member of Khazanah Nasional Berhad and a member of the international advisory councils of China Investment Corporation, China Development Bank, China Securities Regulatory Commission, Securities and Exchange Board of India and Bank Indonesia Institute.

He writes regularly commentary on global issues for AsiaNewsNet, Project Syndicate and for Caijing and Caixin Magazines in China.

(アルファベット順／In the alphabetical order)

**渡辺　博史**
**国際通貨研究所　理事長**

**Hiroshi　Watanabe**
President,
Institute for International Monetary Affairs

1972 年東京大学法学部卒業、同年大蔵省（現財務省）に入省。主税局税制第三課長、同第二課長、大臣官房秘書課長、大蔵大臣秘書官などを経て、国際局長、財務官などを歴任。2007 年退官後、一橋大学大学院教授、日本政策金融公庫代表取締役副総裁、2013- 2016 年国際協力銀行総裁。2016 年 10 月より現職。
**Mr. Watanabe** after graduating from the University of Tokyo joined the Ministry of Finance (MOF) in 1972. Before retiring as Vice Minister of Finance for International Affairs in 2007, he occupied various senior positions in the Taxation Bureau and others at the MOF. He later took high positions in the Japan Policy Bank and the Japan Bank for International Cooperation (JBIC) before his appointment as the President of JBIC in 2013. Since October 2016 he has been the President of the IIMA.

**倉内　宗夫**
**国際通貨研究所　専務理事**

**Muneo Kurauchi**
Managing Director,
Institute for International Monetary Affairs

1978 年慶應義塾大学卒業後、東京銀行（現三菱 UFJ 銀行）入行。国際プロジェクト部、ニューヨーク勤務などを経て、常務執行役員名古屋営業本部長、専務執行役員国際部門副部門長などを歴任。2014 年 7 月より国際通貨研究所専務理事。
**Mr. Kurauchi** joined the Bank of Tokyo (presently MUFG Bank, Ltd.) in 1978. He took up many important posts including Deputy Chief Executive of Global Business Unit of the Bank as Senior Managing Executive Officer. Since July 2014, he has been Managing Director of the IIMA.

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本シンポジウムは主に英語で行われました。日本語版は英語での記録を当研究所で翻訳したものです。内容については、英語版が日本語版に優先します。
The Japanese version is based on the transcript of the speeches and discussions which were mainly conducted in English. Regarding the contents, the English version takes precedence over the Japanese version.

英語版

English Version

Occasional Paper No.36

The 26th International Financial Symposium

# 10 years after the Global Financial Crisis

－ How has the World Economy changed and where will it go? －

February 22, 2018
Keidanren Kaikan

Institute for International Monetary Affairs

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## 1. Opening Remarks
## Muneo Kurauchi, Managing Director, IIMA

Good afternoon, ladies and gentlemen,


Thank you very much for coming to our international financial symposium, titled “10 years after the Global Financial Crisis—How has the world economy changed and where will it go.” Today we are pleased to have a privilege to share a moment with you to reflect on the changes of the world economy and their backgrounds that took place in the past 10 years and explore some clues for possible transformations of the world economy in the coming years.

In the first place, to provide some common perceptions for the discussion, let me start by reviewing briefly the global financial crisis and the developments of the world economy in the 10 years that followed.

1. Backgrounds of the Global Financial Crisis

Looking back at the global financial crisis that took place 10 years ago, a direct trigger of the crisis was obviously the burst of subprime bubbles in the United States. However, it can be pointed out as a more fundamental cause that there was inappropriate risk management of financial institutions as well as insufficient regulation and supervision of the financial regulators, in spite of a rapid expansion of international capital flows and the development of financial technology, such as securitization and credit derivatives. Specifically, the handling was poor in addressing the risks inherent in new financial products such as collateralized debt obligations (CDO) and credit default swaps (CDS). Against these backdrops, the structure of financial markets had been very vulnerable to against the falls of asset prices triggered by the subprime shock.

2. Policy Responses to the Global Financial Crisis

Responding to the start of the global financial crisis, especially to the collapse of Lehman Brothers in September 2008, policy-makers in advanced economies successively implemented emergency stabilization measures for the financial markets trying to prevent a spread of the crisis. Firstly, to save the financial institutions with damaged balance sheets, governments injected public funds into such banks and purchased bad assets from these banks. Secondly, in order to restore the market liquidity, central banks provided ample liquidity and governments gave guarantees to the debts of market participants. Thirdly, protection of depositors was enhanced. Subsequently, to avoid another financial crisis, reforms of global financial regulations were implemented with the leadership of G20 and Financial Stability Board (FSB)

Separately, in many economies and regions, large expansion of fiscal expenditures and monetary easing were implemented to shore up their real economies. The biggest measure of the kind was the "Economic stimulus measure of 4 trillion yuan" taken by the Chinese government. 4 trillion yuan, that is about 600 billion US dollar, is an enormous amount, and the measure was a grand investment project which covered improvement of infrastructure including railways, roads, power plants, etc. and provision of reconstruction support to the earthquake-damaged regions in Sichuan. Through these measures, the Chinese economy was shored up, which helped to support the recovery of the world economy as a whole.

**Policy Measures to the Global Financial Crisis**

- Measures to stabilize financial markets
  - ✓ Capital injection into private financial institutions
  - ✓ Purchase of bad assets, and provision of liquidity to financial markets
  - ✓ Protection of depositors
- Global financial regulatory reform
- Expansionary fiscal policy
  - ✓ 【China】Economic stimulus measure of RMB 4 trillion (= about USD 600 billion)

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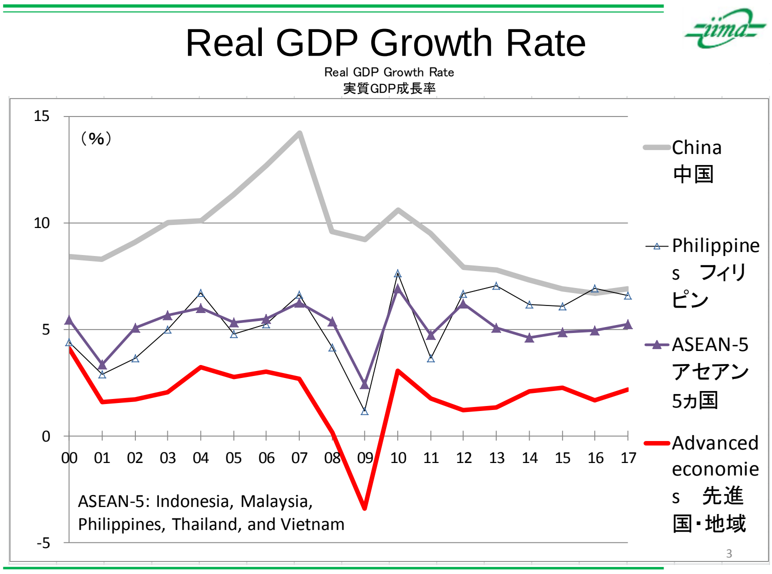
3. Dragging Recovery of the World Economy until Early 2016

Supported by the measures on both fiscal and monetary sides, the world economy took a turn for a recovery out of the global financial crisis. Its path up to now was not always even, however. In the Euro area there occurred sovereign debt crises in 2011 and 2012, while "secular stagnation" was a favorite theme for discussion from the end of 2013 to

2015 as the full-scaled recovery was hard to be seen in advanced economies. Further, as a side effect of big stimulus measures of 4 trillion yuan, problem of excess production capacity had worsened markedly in China, especially in steel, cement and coal industries, bringing a slowdown of annual growth rate of GDP for six consecutive years from 2010 to 2016, although the growth rate maintained still on a high level.

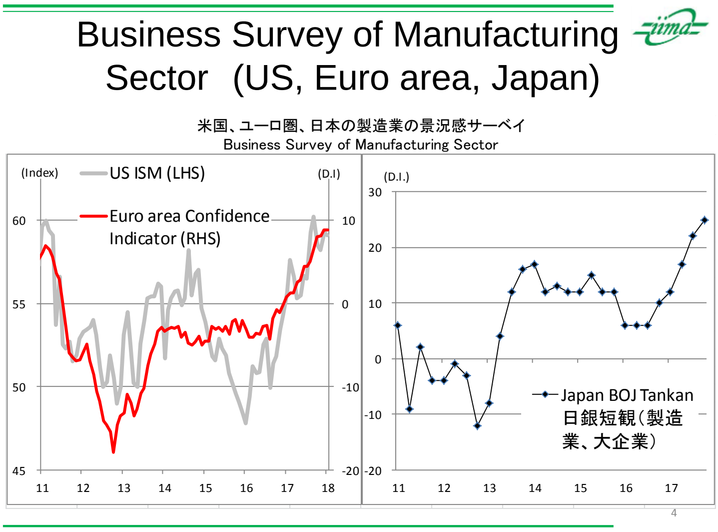
On the other hand, it was Southeast Asia that continued to enjoy a healthy expansion of the economy. The combined growth rate of the ASEAN 5 countries, namely, Indonesia, Malaysia, the Philippines, Thailand and Vietnam, remained at around 5% since the early 2010s, with the Philippines showing a higher growth rate of 6~7% among them.



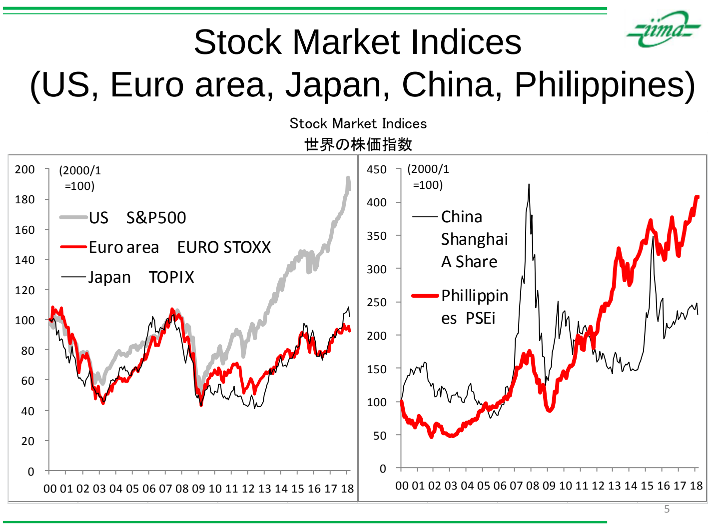

4． World Economy on a More Expansionary Trend

Recently, the expansionary trend of the economy has become clearer also in advanced economies. After touching the bottom in the first half of 2016, the growth rate of the world economy has gradually accelerated, which has strengthened the people's confidence in the future business activities. The Business Surveys of manufacturing sector in the U.S., the Euro area and Japan show a rapid improvement of the confidence in the past year or so. Thus the period of business expansion has entered into the 9th year in the U.S., and the 6th year in the Euro area and Japan.

Also it should be specially mentioned that in China, the growth rate for 2017 registered 6.9%, exceeding the rate of the previous year for the first time in 7 years.

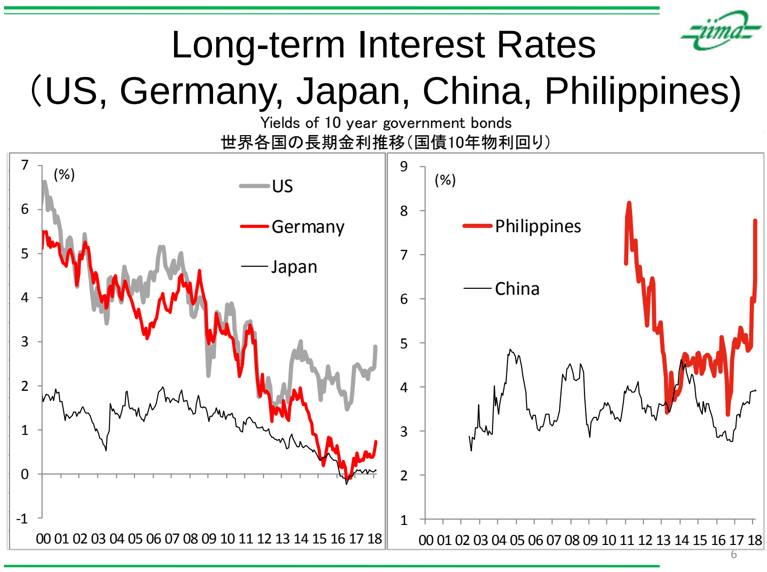



It may be the stock markets in spite of the drop in early February, that have most eminently reflected the recent economic expansion. Plotting the price movements with the beginning of year 2000 set at 100, stock market indices for the U.S., the Euro area and Japan indicate a clear upward trend since the first half of 2016 after experiencing an adjustment process during 2015 to the first half of 2016. Also in China and the Philippines, stock prices generally tend to rise in the past year or two.




5. Long-term Interest Rates Stabilized at a Low Level

One of the characteristics of the current expansionary phase is the stabilization of inflation rate and interest rates at lower levels as compared to the previous expansionary phases, especially in advanced economies. The 10 year government bond yields excluding in the Philippines, are at a historic low after they hit the bottom in the middle of 2016, although there is a sign of an increase starting this year. The direct background of this low rate will be found in the low rate of wage increase and low inflation rate thereof. In addition, a fall of natural rate of interest may be pointed out as a more fundamental reason.




6. Reforms of Global Financial Regulations in the Past Decade

Global regulatory reforms to prevent recurrence of financial crises have made a substantial progress in the past 10 years. It was in 2010 that the Basel III was published as an international standard on bank regulation, and most of the large banks in major countries have almost completed an increase of their own capital and secured the needed liquidity. So-called "Basel III finalization" was endorsed in December 2017 to revise the method of calculating the denominator to get capital adequacy ratio, but the reforms have not been fully implemented. Yet, taking into account the progress made on other fronts, including the regulations for global systemically important financial institutions (G-SIFIs) and over-the-counter derivatives transactions, we can be fairly assured that there will be no possibility for a recurrence of a financial crisis in the shape and scale as was seen a decade ago.

Now, a new focal point on the financial regulations would be the need to evaluate the effects of a series of regulatory reforms and to promptly address any adverse effect if they may come up. In some countries, there is a concern over an expansion of shadow banking due to strengthened banking regulations. The possible decline of liquidity in the bond markets due to enhanced regulations is also pointed out persistently. Further, in the U.S., review of the Dodd-Frank Act enacted 2010 is now under consideration from a standpoint that it has been impeding economic growth.

### Global Financial Regulatory Reforms

- Implementation of the global financial regulatory reforms
  - ✓ Basel III
  - ✓ Regulation for Global Systemically Important Financial Institutions (G-SIFIs)
  - ✓ OTC derivatives regulatory reforms
- New challenges
  - ✓ Expansion of shadow banking
  - ✓ Lower liquidity in the bond markets

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Having seen these, what will be the risks for the world economy and financial market over the next 10 years? Even if there will be no recurrence of traditional type of financial crisis, new risks may be hidden in, say, the Fintech development. For instance, Japan has seen active transactions in crypt currencies, but last month there was an accident that a crypt currency amounting to more than 50 billion yen, about a half billion US dollar, was stolen from an exchange. So, in the coming days, how to control the risks relating to crypt currencies may become an important theme in the financial world.

There seems to be no end to the themes for discussion concerning the world economy and financial activities, but I will stop my remarks here and would like to listen to the presentations by the panelists. Ladies and gentlemen, please enjoy the symposium to the end of it. Thank you for your kind attention.


Policy Measures to
the Global Financial Crisis
Measures to stabilize financial markets
Capital injection into private financial institutions
Purchase of bad assets, and provision of
liquidity to financial markets
Protection of depositors
Global financial regulatory reform
Expansionary fiscal policy
【China】Economic stimulus measure of
RMB 4 trillion (= about USD 600 billion)

## 2. Opening of Symposium
### Hiroshi Watanabe, President, IIMA


Good afternoon ladies and gentlemen. It has been great pleasure to receive such a good audience and also excellent speakers today. Unfortunately the weather outside is not so good but I think if you look at the conditions of the market 10 years ago, it was much worse but I believe it has made good recovery up till now.

I don't need to introduce all the panelist but as a courtesy I am going to anyway. From my left-hand side, from your side on my right, Mr. Randal K. Quarles, the Vice Chair for Supervision, Board for Governors of the Federal Reserve System, next to him is Mr. Klaus Regling, Managing Director of European Stability Mechanism, next to him is Mr. Andrew Sheng, Distinguished Fellow of Asia Global Institute, the University of Hong Kong, next to him is Mr. Diwa C, Guinigundo, Deputy Governor of Bangko Sentral ng Pilipinas and the final panelist is Mr. Masatsugu Asakawa, the Vice Minister of Finance for International Affairs of the Japanese Ministry of Finance. I am so glad to have very good team of the speakers today, I think you can enjoy their talks and our discussions.

From here I am going to ask every speaker for 10 minutes to show their insight and their analysis on the current situation.

## 3. The U.S. Economy after the Global Financial Crisis
**Randal K. Quarles, Vice Chairman for Supervision, Federal Reserve Board**

I am very happy to be participating in this symposium on taking stock of the global economy a decade after the Global Financial Crisis, and I thank Hiroshi Watanabe for the invitation[1]. I have been asked to provide an overview of the U.S. economy since the advent of the crisis in no longer than 10 minutes, so I could either talk very quickly or focus my comments on more recent developments, perhaps throwing in a bit of historical context when appropriate.

To cut to the bottom line, the U.S. economy appears to be performing very well and, certainly, is in the best shape that it has been in since the crisis and, by many metrics, since well before the crisis. Recent volatility in equity markets is a reminder that asset prices can move rapidly and unexpectedly. However, it is my assessment that the underlying fundamentals of the U.S. economy are sound and much improved relative to earlier in the decade.

One easy and important place to see that improvement is in the labor market. After peaking at 10 percent in October 2009, the unemployment rate fell rather steadily to 4.1 percent in January--the lowest level, outside of a period from 1999 to 2000, since the 1960s. Job gains in recent months have continued at a pace that would be pushing the unemployment rate even lower if the labor participation rate had not stabilized in recent years, a welcome development and a sign that the strength of the labor market is pulling in or retaining workers who might otherwise be on the sidelines. Broader measures of labor market slack--for example, those that include individuals who are out of the labor force but say they want a job as well as those working with a part-time job but who would like to work full time--have largely returned to pre-crisis levels.

While the labor market has shown steady improvement over the past decade, the post-crisis performance of gross domestic product (GDP) growth has been more disappointing, averaging just 2 percent per year over the past seven years. However,

[1] The views I express here are my own and not necessarily those of the Federal Reserve Board or the Federal Open Market Committee.

beginning with the second quarter of last year, growth has shown some momentum. Over the past three quarters of 2017, real GDP increased at an average rate of almost 3 percent. While headline growth stepped back a bit in the fourth quarter, largely on account of increased drag from higher imports and lower inventories, underlying final private domestic demand--which is a better indicator of economic momentum--grew at its fastest pace in more than three years.

Recent survey data reveal a growing sense of economic optimism. Consumer confidence has returned to pre-crisis levels. Business optimism is also apparent in survey data as well as in the strength of investment. In 2017, investment in capital equipment increased at the fastest pace since 2011, accelerating through the year to a double-digit rate in the second half. It might be early, but it is possible that the investment drought that has afflicted the U.S. economy for the past five years may finally be breaking.

The tax and fiscal packages passed in recent months could help sustain the economy's momentum in part by increasing demand, and also possibly by boosting the potential capacity of the economy by encouraging investment and supporting labor force participation.

While the recent performance of the economy has been solid relative to much of the pre-crisis period, one area that continues to lag is productivity growth, a condition that has been common across the advanced economies. Beginning in 2011, the annual growth rate of labor productivity has averaged only 3/4 percent, compared with anaverage 2-1/4 percent pace in the two decades leading up to the financial crisis. Why productivity growth has been so weak defies easy explanation. The weak pace of business investment is likely part of the story. In addition, some have argued that there has been a decline in business dynamism following the crisis; others do not link the slowdown to the crisis but rather to an exogenous slowdown in the rate of technological progress; and still others believe that productivity growth has not really slowed much at all and, instead, is just not being measured correctly in the official statistics. Regardless, given the importance of productivity growth for the long-run potential of the economy and living standards, it is vitally important that policymakers pursue policies aimed at boosting the growth rate of productivity.

Another aspect of the economy that has attracted a lot of attention is the apparent low level of inflation despite the tightness in labor markets. The 12-month increase in headline PCE prices was 1.7 percent in December, a touch below the Fed's 2 percent objective. After assessing the recent data, my take is that the current shortfall in inflation from target as most likely due to transitory factors that will fade through 2018, pushing inflation back up to target. Suffice to say, a deviation from our target of a few tenths of 1 percentage point, especially one I expect to fade, does not cause me great concern.

Against this economic backdrop, with a strong labor market and likely only temporary softness in inflation, I view it as appropriate that monetary policy should continue to be gradually normalized. An important component of this normalization was initiated in October, when we started to gradually scale back our reinvestment of proceeds from maturing Treasury securities and principal payments from agency securities.

With the balance sheet normalization plan set to remain on autopilot, barring a material deterioration in the economic outlook, the federal funds rate remains our primary tool for adjusting the stance of monetary policy. At our January meeting, the Federal Open Market Committee decided to maintain its target range for the federal funds rate between 1-1/4 percent and 1-1/2 percent[2]. In this range, monetary policy remains accommodative. I anticipate further gradual increases in the policy rate will be appropriate to both sustain a healthy labor market and stabilize inflation around our 2 percent objective. Of course, it should go without saying that I will keep a close eye on economic indicators--and their implications for the outlook for inflation and real activity--and adjust my views on appropriate monetary policy accordingly.

I would like to wrap up with a word on the financial sector. The Federal Reserve and our colleagues at other agencies have now spent the better part of the past decade building out and standing up the post-crisis regulatory regime. At this point, we have completed the bulk of the work of post-crisis regulation. As such, now is an eminently natural and expected time to step back and assess those efforts. It is our responsibility to ensure that they are working as intended, and--given the breadth and complexity of this new body of regulation--it is inevitable that we will be able to improve them, especially with the benefit of experience and hindsight.

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[2] See Board of Governors of the Federal Reserve System (2018), "Federal Reserve Issues FOMC Statement," press release, January 31, https://www.federalreserve.gov/newsevents/pressreleases/monetary20180131a.htm.

## 4. Europe’s Policy Package after the global financial crisis
## Klaus Regling, Managing Director, European Stability Mechanism


It is the role of the ESM to safeguard the financial stability of the euro area. And likewise, the research of the Institute for International Monetary Affairs - and the debate it fosters – contribute to the stability of your region. That is why I happily accepted the invitation to speak here today.

As we discuss the decade after the global financial crisis – the subject of this symposium – let me remind you that Europe went through two crises during this period, not just one. The global financial crisis rapidly spread to Europe, but started in the U.S. This was followed by the euro debt crisis - entirely of Europe’s own making - which brought to light a number of design flaws in the monetary union.

Europe came up with a broad policy package to fix these shortcomings. Many innovations took place that would have been unthinkable only a few years earlier. The main examples are the Banking Union – with the Single Supervisory Mechanism and the Single Resolution Fund – and the ESM, a lender of last resort for sovereigns, a function that did not exist before the crisis.

That crisis period is now firmly behind us. The euro area has come out of the crisis stronger than it was before: economically and institutionally. Now the euro area is thriving again, which would not have been possible without these efforts.

In the fourth quarter of last year, the economy expanded by 2.7 percent compared to a year earlier. This is a very good rate, given our poor demographics. At the per-capita level, the euro area is now forecast to grow at a faster pace than the U.S. for four consecutive years, from 2016-2019. Growth is well-balanced, driven by private consumption and investment. All 19 euro area countries are expanding. The world economy, experiencing its broadest synchronized upsurge since the crisis, is, of course, helping.

At its current speed, euro area growth is nearly twice as high as potential growth, and will therefore inevitably slow. There is some evidence in a few euro area countries that labour and housing markets already risk overheating. Still, forecasts project only a gradual slowdown and above-potential growth into 2019.

Will politics throw a spanner in the wheels? I do not believe so. The election of President Emmanuel Macron in France marked a decisive turn against populism, in favour of Europe. It is true that Europe has seen a rise of populist parties across the board. Most are Eurosceptics. They will not disappear any time soon and that has made politics more complicated. Soon, elections in Italy will be a next test. But such moments will always occur in our democracies. Personally, I am heartened by the popularity of the euro. Support for for the euro is at the highest level since 2004. I think politicians throughout Europe will take good note of that.

Let me say a few words on Brexit. I regret the departure of Britain from the EU. Politically, it is a severe loss. Economically, Europe may also feel some impact, but the UK will suffer far more. Already, the uncertain outcome of the negotiations with the EU is casting a shadow over the UK economy.

And so - as always - a few risks remain despite the bright outlook. That is why it is good to think ahead and to better prepare for when the next crisis hits. And Europe is doing that, through promoting investment and structural reforms in all countries and through fiscal consolidation. With an aggregate fiscal deficit of less than 1 % of GDP the euro area has more fiscal space than most other countries and regions in the world. Finally, our work on deepening monetary union will make the euro area less vulnerable. Politicians have agreed to work on two issues during the next four months: completing Banking Union, and developing the ESM. Fiscal policy issues will be looked at later, because so far there is less consensus there.

To complete Banking Union, two further steps are needed. The Single Resolution Fund, which I already mentioned, needs a financial backstop, so that it has enough firepower to be prepared for even a very large crisis. This is a role that the ESM will probably play. The other step to complete Banking Union is a common deposit insurance for banks. This is a controversial topic, because existing national deposit insurance schemes differ substantially and because banks in some countries suffer from legacy problem. These national asymmetries need to be dealt with first. Once that is done, a European-wide deposit insurance is the best guarantee against the risk of devastating nation-wide bank runs.

Now let me turn to developing the ESM. A stronger, more powerful ESM is not a goal in itself. But it can be an element to make monetary union more robust, and for Europe to take on more responsibility to solve its own problems.

I already mentioned a possible new role as a backstop for the SRF. There is also a growing consensus that the ESM should play a bigger role in euro area assistance programmes, and we are reviewing the toolkit of the ESM.

One possibility could be to provide new fiscal facilities, such as a macroeconomic stabilisation function. There are also ideas for a Sovereign Debt Restructuring Framework, to make debt negotiations with private creditors more predictable, without introducing rigid rules. The ESM could be tasked with organising these negotiations. But this requires more work and won't be agreed by June.

Finally on the fiscal side, there are also more far-reaching ideas, ranging from an annual budget for public goods like defending our common borders, fighting terrorism and climate change or defence, to a euro area budget for investments, revolving funds to tackle asymmetric shocks, reforming the fiscal rules, and a euro area finance minister. Like I said, this debate is still controversial and will require more time.

Ladies and gentlemen. The euro area economy is thriving today. Still, we know that one day, there will be a next crisis, and we can prepare for when that moment comes. More financial stability in the euro area is important for Europe, but also for the world economy. Since the crisis, Europe has travelled a long road towards that goal. A few small steps would complete it.

Thank you for attention.

## 5. China's Transformation to Digital Economy

**Andrew Sheng, Distinguished Fellow of Asia Global Institute, The University of Hong Kong, and Chief Adviser, China Banking Regulatory Commission**

I want to thank Watanabe-san and Kurauchi-san for inviting me to this very important meeting. This is a very important meeting so we must start with a joke and end with an apology. The joke is that all the panelists here are crisis managers who have handled crises over the last 20 years or so, therefore we must all be preparing for the next crisis. The good news, however, is that Mr. Quarles said the American economy is doing well, Klaus has said that Europe is doing very well and I would say that China is doing well. Of course the bad news is that I have 30 slides and I have to speak very very fast. Many of my friends from Bank of Japan and Ministry of Finance would know that I talk a lot - I learned this from former Fed Chairman Greenspan - if you speak very fast and you understand what I mean, you got it wrong. That is the apology. So let me start.

I think the main issue is that this last crisis of 2007 has witnessed the rise of China to become the second largest economy, but this also brings many risks and opportunities. But the Chinese are adapting to this very fast and this is something that you need to appreciate - the adaptation of Chinese policies to new risks is actually quite remarkable. Now the trends you all know - such as geopolitics, demography, financialization, disruptive technology, climate change, governance etc. - mean that all the business models are under stress. I do not need to remind all of you that the global supply chain is changing very fast indeed. If I may make a prediction, in the next 20 years global demand will be driven by the emerging markets. It is the growth (not the steady growth from advanced markets even with the recovery of America and Europe) coming from China, India, ASEAN and the other emerging markets when they move to middle class and advanced country status that will drive global consumption.

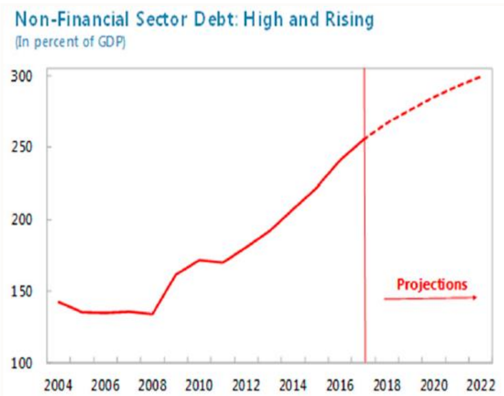
**Key Points**

- 20 Years after Asian Global Financial Crisis, China has emerged as 2nd largest economy
- Huge global major transformation from Trumpian Geo-politics, QE, Technology, Climate Change, Demographics, Social Inequalities, regulation and intense competition
- China adapting with 19th Party Congress roadmap towards Quality and People-centred Growth
- Major correction of imbalances in Debt model through system-wide regulation and transformation through technology and innovation, at all levels
- Internet+ and Made in China 2025 will be game-changer for all

Kurauchi-san has already talked about the Chinese stimulus program. The stimulus program was a remarkable exercise which actually gave opportunities and was also, if I may put it bluntly, somewhat mishandled. If you go to China today the fantastic infrastructure you will see in the airport, the high speed rail, the subway, new cities, all came from the stimulus package. There is also the new technology platforms which came after that; and of course that was the beginning of the Chinese outward FDI and RMB internationalization. But the bad news is of course unfortunately the local government finance overshoot, shadow banking and corruption issues which are all well known. So the Chinese economy has moved from high-speed 10% growth down to a more normal 6%. I think everybody agrees the new normal was to change general expectations that there will be no more fast growth but more realistic growth. You should interpret that as more people-oriented and quality-oriented growth. The IMF has already given various factors on what the Chinese is doing, which I don't need to go into this in great detail. The Chinese are now adapting to this new normal by reducing the debt growth, reducing the excess capacity, inventory de-stocking, reducing costs and focusing on environmental clean air, water conservancy, agriculture, etc. The recent good news is that industrial profit has risen by 21.9%. Exactly because of the revival of the U.S., Europe and also emerging markets, China is reviving also.

**Positive and Unexpected Consequences**

- Rapid acceleration of upgrading of city and high-speed rail infrastructure
- Growth spillover from coastal to inland areas, as export sectors hurt by GFC
- Emergence of new Tech Platforms and FinTech
- Beginnings of Outward FDI and RMB internationalisation
- Local government financing overshoot
- Shadow banking credit accelerated
- Corruption emerges as major social issue



Source: IMF Country Report No. 17/247.

Domestic demand is helping to reduce China's external imbalance, but they need to address excessive corporate debt which is mainly due to SOEs and local governments. But they have the fiscal capacity to deal with the deleveraging. I think many people who think China is going to collapse because of internal debt issue didn't get it right. So, where is the main change coming from? The answer is that Chinese have focused on issue of technology as the driver of change; and the digital transformation is remarkable. The main recommendations in the 2016 reform package were to accept the slowdown, guard against financial risk and make progress towards more floating exchange rate and enhancing transparencies. McKinsey has shown that there are five areas where China's growth can improve: serve the middle class, digitize new business processes, move up the value chain, improve operating efficiency and go global.

The main thing you need to understand about China is scale, scale and scale. They are one-fifth of mankind. There are 300 million middle class emerging, and by the next 10 to 20 years another hundred million middle class will emerge. And so, that scale plus the fact that they have leap-frogged from the PC straight into the smart mobile, means that they have moved faster than any other country, including the U.S., into internet payments. So the joke was, one of my friends came to Shanghai, and a beggar asked for some money but he didn't want cash. Instead, he said, please give me your phone to transfer the cash.

The digital economy is very challenging. The Chinese have been able to use super apps to give one-stop user-friendly help. Government policy enabled these platforms to experiment, using a very flexible regulatory environment. The new platforms themselves are now providing new capital to research and development and creative start-ups. In a sense, the big giants, just Alibaba plus Tencent with nearly a trillion dollars market capitalization, are now financing the venture capital for new growth and new technology. They are going to shift the capital funding and revenue pools, where the impact is going to be very large and it will be largely productivity driven. That comes from the Chinese adopting what they call the European Industry 4.0 program into a Made-in-China 2025 program, with an Internet Plus program to speed-up digitization of the economy. Because of the emergence of the Chinese middle class, the consumption growth will continue into 2018 and the good news is that with excess savings, they still have spending capacity to spare.

I have rushed through a very complicated story at a very fast pace. To conclude, the

Chinese economy is transiting into a very complex policy environment, both internal as well as external. What Mr. Xi has done in the 19th Party Congress with a comprehensive reform package and speech that lasted three and half hours. But it was actually a very comprehensive explanation of what China needs to do to get to people-based and quality growth. It will be underpinned by financial stability. Within the next two weeks, there will emerge a new leadership at the technocrat level and you will see that they will focus on financial stability as well as sustainable and equitable growth.

If properly managed and given the good recovery that's coming from the U.S. and Europe and emerging markets, particularly ASEAN, China should be able to manage this transition period but there are many risks out there. I just want to remind everyone, China is one-fifth of mankind. That means one-fifth of the world's problems statistically exist in China. Therefore, it is very difficult to manage these risks and the fact that they have managed this for the last 40 years itself is almost a miracle. They have done this so far because they have continued to adapt to change. This is one aspect about Chinese growth strategy that you need to focus on.

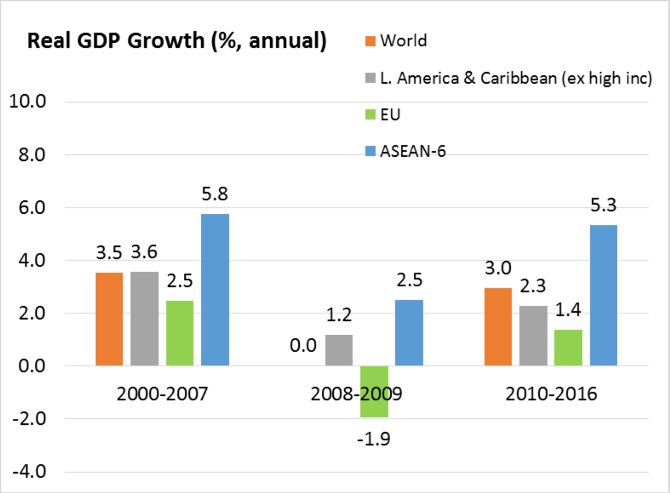

On that note, thank you very much indeed.

## 6. Deepening Cooperation of ASEAN in a Highly Integrated World

**Diwa C. Guinigundo, Deputy Governor for the Monetary Stability Sector, Bangko Sentral ng Pilipinas,**


Thank you very much, Watanabe-san and Kurauchi-san. It would be easier for me to talk about the Philippines but I was invited to talk about ASEAN which covers 10 countries. I would like to springboard my discussion on a popular network theory known as 6 degrees of separation which suggests that, on average, anyone can be connected with anyone else in just six steps. I hope I can do it in six minutes.

The idea that everything is connected is increasingly becoming an economic and financial reality. Hence, I would like to update you on the ASEAN economic integration agenda which is a very fitting role as the Philippines hosted and chaired the ASEAN last year.

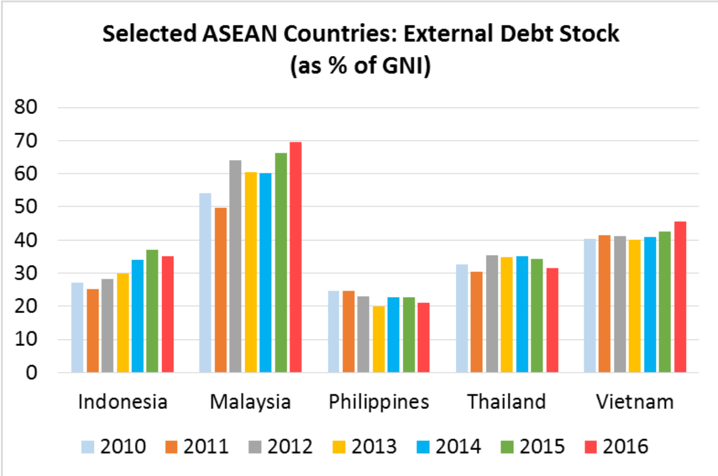



Let me start with ASEAN's progress through the years. ASEAN has evolved and advanced into a community focused on economic integration, growth and development. Despite the global contraction that ensued after the Global Financial Crisis (GFC), ASEAN economies exhibited remarkable resilience, with the exception of Brunei which was adversely affected by the plunge of world commodity prices, particularly that of petroleum.

After the GFC, GDP for the region grew at an average of 5.2 % for the period of 2010 to 2016. This was higher than the average for the global economy of 3%. Moreover, the share of ASEAN in world GDP also grew from 5% to 6% in 2016. Two years ago the ASEAN's economy was the fifth largest in the world and the third largest in Asia. These were both in terms of growth in output and in terms of international trade, including exports and imports. The level of foreign direct investment within the region, both inflows (of about 100 billion dollars a year since 2009) and outflows (of about 50 billion dollars per year) was also significant.


A key strength and opportunity for the economies in the ASEAN region is its growing intra-regional trade and investment. This has been a boon to the ASEAN region. In short, while ASEAN is engaging with the rest of the world, the region is at the same time increasingly engaging its members internally, in terms of both foreign direct and portfolio investment, as well as both exports and imports. In 2016 intra-ASEAN trade accounted for 23% of the total ASEAN trade, and in 2016 intra-ASEAN FDI accounted for nearly a quarter of the total ASEAN FDI. Engagement with key neighboring economies were also significant and given importance, with India in 2004, China in 2007, Japan in 2008, South Korea in 2009, and of course Australia and New Zealand in 2010.

We might ask, what conditions led ASEAN to where it is now? What is behind this new found optimism? I can abstract from different public announcements, as well as from official statements of governments of the 10 ASEAN countries. Basically, they focus on building infrastructure and establishing good political and economic institutions. This reminds me of the book “Why Nations Fail?” by Acemoglu and Robinson (2012).




According to the authors, nations fail due to the failure to put up appropriate political and economic institutions. In my view, ASEAN was able to put up these very institutions. There could be some imperfections but in general they have led to resiliency and robustness despite the Global Financial Crisis. Most ASEAN economies have adapted policy configurations involving, among others, greater exchange rate flexibility, greater monetary policy independence, and more prudent fiscal policies.

These played very important roles in anchoring inflation expectations and keeping inflation low and stable. Such policy refinements also increased resiliency in terms of reducing both external debts as a percent of GDP and the deficit to GDP ratio.
What else can we see? There are enough buffers in the external sector of the ASEAN community. For instance, accumulation of ample reserves serves as an important buffer in terms of cover for imports of goods and payments of services, as well as for the reduction in external debt as a percent of GDP, that provides ASEAN communities more resources for pursuing infrastructure as well as social spending. Ample reserves also serve as a first line of defense along with flexible exchange rates.

On the banking side, present measures sustained the banking system’s stability and profitability. For one, there has been compliance with international best practices. Second macro-prudential measures have been increasingly relied upon. Third, financial stability has become a more explicit objective of public policy. Moreover, ASEAN’s resiliency also benefits from greater monetary policy independence and greater exchange flexibility, thereby allowing the exchange rate to serve as an automatic stabilizer. Better external debt management has provided resources for infrastructure and social safety nets. Of course, timely prudential measures have also brought manageable fiscal balance.


Moving forward, the ASEAN is envisioned to develop the region into a highly cohesive economy. This is the vision for 2025, achieving the three pillars of financial integration, inclusion and stability held together by the aim to pursue macro-economic and financial stability. We want to make sure that despite the challenging world, the ASEAN continues to contribute to the stability in the region.

What are the mechanisms expected to amplify the ASEAN's resiliency? First is enhanced surveillance and capacity building. This is pursued across different forums including ASEAN and the ASEAN+3, in relation to our dialogue partners of China, Japan and Korea. Second is revisiting the regional financial arrangements, including CMIM (Chiang Mai Initiative Multilateralised). Third involves fortifying support of existing regional initiatives including the ASEAN Banking Integration Framework (ABIF), which is the integration of banking within the ASEAN community, and of course ABMI or the bond market initiative in the context of the ASEAN +3. Finally, there is the expansion of regional cooperative arrangements with focus on Regional Comprehensive Economic Partnership (RCEP).

Of course, we also have to take note of the various issues and challenges. First, there is the uncertainty in the pace of the US Fed policy normalization which casts uncertainty on the conduct of monetary policy in many jurisdictions in the region. Second, there are also the spillovers from the Chinese economy. Third, financial volatility is still an issue.

And, lastly, there is the threat of inward looking policies alongside geopolitical tensions, particularly in the Middle East.

What are the risks and vulnerabilities? We believe that there could be tighter global financial conditions which could accentuate capital outflow risks from the ASEAN economies as advanced economies continue to normalize their monetary policy. There could be restrictive policies on trade. Keeping jobs at home could also hurt ASEAN growth. Nonetheless, ASEAN stands in a good position to face the global head winds. We have very robust and resilient economies and if we take a look at the risk of sudden stop, this has been muted given the very tight credit default swaps among the ASEAN community.

In retrospect, here are some key takeaways. First is the refinement of policy framework behind the fine resilience of ASEAN. We have seen how more resources have played up to pursue infrastructure projects and extended both the business and credit cycles. Second is the adoption of a more flexible exchange rate regime, macro-prudential policies, and the accumulation of foreign reserves to serve as cushions against the buildup of vulnerabilities. Lastly, close monetary development, calibration of policy instruments and tighter cooperation among peers are indispensable.

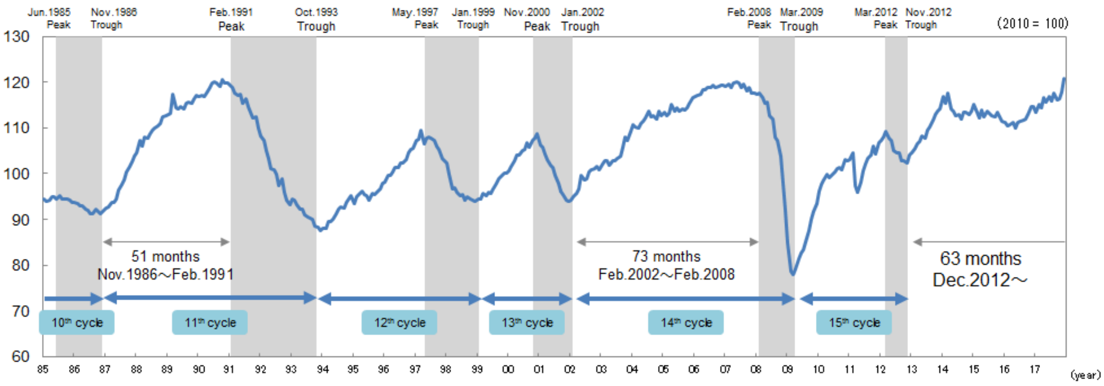
Thank you very much.

## 7. Japanese Economy and Policy Measures for the New Growth Strategy

**Masatsugu Asakawa, Vice Minister of Finance for International Affairs, Japanese Ministry of Finance**

Thank you for giving me this wonderful opportunity, Watanabe-san. It is my pleasure to be here with these distinguished panelists and guests at this reputable Symposium.

Let me start by sharing my assessment of the Japanese economy. Since the Japanese economy got out of the Global Financial Crisis, it has been on a long recovery trend with a brief contractionary period in 2012. The current recovery session started in December 2012, and its duration has surpassed that of the late 1960s boom, making the current recovery the second longest expansion in the post-war period.




Roughly speaking, this expansion started when the current Prime Minister Abe took office and unveiled the comprehensive economic policy so-called Abenomics whose centerpiece has been well-known three "policy arrows," aggressive monetary policy, flexible fiscal policy, and growth strategy. In the beginning, the stock price soared and the consumer confidence improved on the back of high expectation for Abenomics among the public and domestic as well as foreign investors. These fed into higher consumer spending which, together with public investments set in the fresh stimulus package of the new Abe Administration, kick-started the current expansionary period. In addition, the Bank of Japan, in cooperation with the government, intensified its efforts to overcome deflation in the name of QQE (Quantitative and Qualitative Monetary

Easing), and as a result, we witnessed correction of yen's excessive appreciation that had persisted before PM Abe came to office. Yen depreciated from around 80 yen/dollar level in the previous administration era to around 110 yen/dollar level these days, which has pulled up Japanese companies' yen-based profits.

Though the economy went through a temporary drop in the wake of the consumption tax hike in 2014, it picked up again afterwards and the real GDP has recorded positive growth for eight quarters in a row from 2016 Q1 to 2017 Q4, for the first time in 28 years. Let me give you some numbers to illustrate the solid fundamentals of the Japanese economy. First, corporate profits shot up from 48.5 trillion yen (9.8% of GDP) in FY2012 to the record high of 75.0 trillion yen (13.9% of GDP) in FY2016. Second, on the labor market, the ratio of active job openings to applicants in December 2017 was 1.59 and it was above one in all the prefectures for 15 consecutive months. The unemployment rate in December 2017 was 2.8%, the lowest in about 24 years. Third, wage has continued to increase at around 2% for four consecutive years. Overall, I would say that a virtuous cycle of the economy has been put in place.

| | Units | Pre-Abenomics | Current | Notes |
|---|---|---|---|---|
| Nominal GDP | JPY (trillion) | 493.0 (Oct.-Dec. 2012) | 548.7 (Oct.-Dec. 2017) | Record high level |
| Consumption (Private consumption integrated estimates) | 2011=100 | 102.3 (Dec. 2012) | 104.2 (Dec. 2017) | |
| Unemployment rate | % | 4.3 (Dec. 2012) | 2.8 (Dec. 2017) | Lowest level in about 24 years |
| Active job openings to applicants ratio | times | 0.83 (Dec. 2012) | 1.59 (Dec. 2017) | More than 1.0 in all prefectures |
| Corporate profits | JPY (trillion) | 48.5 = 9.8% of GDP (FY2012) | 75.0 = 13.9% of GDP (FY2016) | Record high level |
| Capital investment | JPY (trillion) | 34.4 = 6.9% of GDP (FY2012) | 42.7 = 7.9% of GDP (FY2016) | Recovering the pre-global financial crisis level |
| Business conditions (Large enterprises, Manufacturing) | Diffusion index, %pt | -12 (Dec. 2012) | 25 (Dec. 2017) | Highest level in 11 years |
| Indices of industrial production | 2010=100 | 94.7 (Dec. 2012) | 106.5 (Dec. 2017) | |
| Nikkei 225 Stock average | JPY | 10,230 (Dec. 26th 2012) | 21,970 (Feb 21st 2018) | |

One question which comes naturally is: what is the driving force of this recovery? It is hard to specify at this stage, but I would name investments including capital, residential and public investments as a main driver of this recovery. When we look at contribution of each expenditure component to real GDP growth, investments account for roughly half of the accumulated growth of 7.1% between 2012 4Q and 2017 4Q.

That said, I also think that investments, especially the capital investments, could have increased more, given drastic improvement of corporate profits, and that this growth driver could have been stronger. While corporate profits increased by 26.5 trillion yen (4.1% of GDP) between FY2012 and FY2016, the capital investments rose only by 8.3 trillion yen (1.0% of GDP) over the same period. Cautious attitudes of the corporate sector due to several challenges such as persistent deflation, the dwindling domestic market and low potential growth might underlie this sluggish investment growth. I hope that our aspiration to overcome these macro-economic challenges will lead to higher investment and overall growth.

OK, the next question I have is: is this expansion sustainable? It's difficult to answer, but at least we are currently observing a few favorable tailwinds. First, the global economy is on solid footing. So we can expect greater contribution of the external demand to growth. Second, the private consumption has shown a sign of pick-up against the backdrop of continued wage hike and the wealth effects from elevated stock prices.

So what is the forecast? In December 2017, the government came out with its latest economic outlook and projected solid near-term growth of 1.9% for FY2017 and 1.8% for FY2018, respectively. This is based on the prospect that the economic recovery will continue driven primarily by private demand amid a solid global economy and an improving job market and income environment. Also, in the latest World Economic Outlook, IMF revised up its growth forecast for the Japanese economy from 0.7% to 1.2% for 2018 and from 0.8% to 0.9% for 2019, reflecting stronger external demands, implementation of the sizeable supplementary budget and carryover from stronger-than-expected recent activity.

Going forward, in preparation for Olympic Games and Paralympic Games to be held in Tokyo in 2020, the economy is likely to enjoy boosts including strong construction demands and increasing inbound tourists.

| | FY 2016 Actual (%) | FY 2017 Estimate (% Approx.) | FY 2018 Forecast (% Approx.) |
|---|---|---|---|
| Real GDP | 1.2 | **1.9** | **1.8** |
| Private consumption | 0.3 | **1.2** | **1.4** |
| Private non-residential Investment | 1.2 | **3.4** | **3.9** |
| Domestic demand | (0.4) | **(1.6)** | **(1.6)** |
| Private demand | (0.3) | **(1.3)** | **(1.5)** |
| Public demand | (0.1) | **(0.3)** | **(0.1)** |
| External demand | (0.8) | **(0.3)** | **(0.1)** |
| Nominal GDP | 1.0 ¥539.3 tio | **2.0 ¥550.3 tio** | **2.5 ¥564.3 tio** |
| CPI | - 0.1 | **0.7** | **1.1** |
| Unemployment rate | 3.0 | **2.8** | **2.7** |

One thing to note is that the output gap has already turned positive. According to the latest quarterly GDP figures, the GDP gap is positive 0.7%. Now that we have overcome the period of demand shortage, we should turn our attention to the supply constraint. While the potential growth rate has stopped declining and slightly turned upward in the current recovery cycle mainly due to higher labor participation of women and the elderly, we will face supply constraints due to dwindling birthrate and an aging population in the medium to long term.

This challenge from the supply side takes me to the last question which is about our new growth strategy. The Cabinet decided the New Economic Policy Package on December 8, 2017. Through this initiative, we aim to double the annual productivity growth rate to 2% from 0.9% which is five-year average between 2011 and 2015. Let me touch upon two pillars of the aforesaid Package, namely Human Resources Development Revolution and Supply System Innovation.

Free early childhood education is the cornerstone of the first pillar "Human Resources Development Revolution." Expanding human capital investment from the early childhood stage is expected to improve the quality of human resources and boost the productivity.

At the same time, we plan to raise the labor supply through Work Style Reform. Specifically, the government promotes fathers' participation in child-care and working mothers' flexible workstyle and accelerates implementation of the government's plan to eliminate the waiting list for childcare centers.

As for the second pillar "Supply System Innovation," the government has designated the next three years as "Period of Supply System Innovation and Intensive Investments," during which the government strongly encourages companies to enhance their capital and human resource investments in order to realize innovation in areas such as Internet of Things, big data, robots, and artificial intelligence. Numerical goals are also set, which are 10% increase of firms' capital investment by FY2020 in comparison to FY2016 and over 3% annual wage increase on and after FY2018. In line with these endeavors, the draft FY2018 Tax Reform included tax measures to incentivize companies to spend their profits on wage increase and capital investment.

All in all, I believe that these initiatives will play a key role in jacking up the Japan's potential growth rate and putting the ongoing economic expansion on a more sustainable path. I stop here. Thank you.

## 8. Panel Discussion


**Watanabe:** Thank you all for coming back on time and we would like to start the second session.

In this session I am going to ask some questions to the panelists about today's issues, but before that I would like to just look back upon the 10 years and see what had happened. In 2008, I think on January 21st, the Tokyo Stock Exchange Market had declined by 535 Yen, the next day the Fed raised federal funds rate by about 3 quarters of a percent and this had impacted, not only Japan, but also many Asian stock markets which all collapsed on that day. On February 18th, the British Government nationalized Northern Rock, which was a kind of very unique type of monetary operation at that time. Also on March 13th, the Yen was very strong, it was less than 100 Yen against the U.S. dollar and this caused a kind of big volatility in the market. The next day March 14th, JP Morgan Chase rescued Bear Stearns, in other words Bear Stearns had collapsed. Of course the largest impact came in September, on September 15th, Lehman Brothers filed for Chapter 11. The U.S. Government proposed some legal program but it was denied by Congress, and on the same day the Dow 777 suffered their largest decline. This is what had really happened.

If you compare 2008 to 2018, as we have already heard from each of the panelist they have much, much, brighter views, we have more strength and resilience than then, but from now on, the change in the monetary market and the change in the structure of society will be a very critical factor. These days we have a situation of three lows, low-inflation, low-wage increase, and low-interest rate. I think we would like to have some good insights and views from each of the panelist on this.

Since around last year, many people have asked Japanese people, "You have an employment condition that is hard but why Japan doesn't have wage increases?" and it is not an easy question to answer. But since the end of last year, not only are they asking Japanese "why don't you raise wages?" but they are also asking Europeans and Americans, even in those regions they don't have good increase of wages. I think that in recent years wage increases are somewhat not common in the market. That is quite different from our understanding of economics and theories. The supply of fund is very much abundant which means that you may have low interest rates and, as many of today's panelists have mentioned about, even though countries have the targets of inflation no one has been able to reached the target. I think the three-lows, these three different things are quite correlated? That is one of the big issues we are going to discuss and I would like comments on each issue. Especially on the interest rates, the so-called natural interest rate is dropping or may drop more than ever before. This is one of the opinions, how do you think of such a kind of opinion. I would like to ask Mr. Quarles and Mr. Regling, also Mr. Asakawa on the issues. Randal first, please.

**Quarles:** Thank you. With respect to the natural rate of interest, I think there is good evidence that in the post-crisis period the natural rate of interest had declined substantially in the United States. But, for a number of the reasons which I gave in my opening comments -- including increased business investment, increasing growth in our productive capacity, which I think will be further stimulated by the tax bill at the end of last year --there is a variety of reasons to think that the natural rate of interest is increasing again, to the extent that the natural rate of interest has been a factor and a story over the course of the last decade. I think it is obviously a little difficult to precisely measure what the natural rate of interest is. There is a little bit of an intellectual conundrum that sometimes just whatever is left over, when you cannot explain what is happening, you say the natural rate of interest must have declined. But, to the extent that we can measure from independent variables what the natural rate of interest is, I think it is probably increasing, and that is in itself part of the reason why at least in the US we see there are increases in policy rates.

**Watanabe:** Thank you. What about you Klaus?

**Regling:** I would agree that the natural rate of interest may be increasing again. But at the same time, in Europe it probably remains lower than it used to be. I think there are some clear factors which we probably all agree on. Productivity growth is slow for the time being. Demographic trends play a role, because they have an impact on potential growth. I think income inequality may also play a role, because the distribution of income impacts overall savings. The rich are becoming richer. They have a higher savings rate, which would add to the savings glut. The accumulation of reserves, something we have been observing in emerging market since the Asian crisis, basically also adds to the savings glut. But these things may be coming to an end and I support the view that there may be a turning point that may already be behind us. I still would expect the natural rate of interest to be lower than what we saw before the crisis. The question of what is permanent or what is transitory, of course, is fundamentally important - but very difficult to answer.

Also on your first point on the three lows, we may be seeing a turning point. Of course these are difficult issues. In Europe, and I think also in the US - you didn't talk about wages, Randy - they may be trending up again, coming from a very low level. Of course it is surprising to see this disconnection between inflation, wage developments and real activity because everybody on the panel said growth is above potential in Japan, the US and Europe, all these advanced economies. Output gaps are closed or already positive, and still prices are not going up, wages are going up not as much as they used to, or less than productivity gains. But there may be also a turning point here. In Germany, which is 1/4 of the Euro area economy, I see that wage agreements happening right now, in the beginning of 2018, they are substantially higher than what we have seen in the last 5 years. They are about 1-1.5 % higher on an annualized basis than what we saw in recent years, which is good and is encouraged by the government, by the central bank. So this would help to restore the connection between the real economy, real activity and inflation. And I think that monetary policy will also help the adjustment process within the monetary union, although we have come a long way there and most recent signs are positive.

**Watanabe:** So how about you Masa?

**Asakawa:** I almost agree with what Randal and Klaus just mentioned. This sharp drop in the natural interest rate is observed in every advanced country in the world. I think this phenomenon is mainly discussed from two perspectives. One is from I-S balance, investment-savings balance and the other is from perspective of the potential growth rate.

However, these two perspectives are deeply intertwined because most factors that affect IS balance are structural and addressing those structural issues will eventually amount to enhancing potential growth.

There could be many elements that have brought the shifting of I-S balance. To name a few, on the investment side, first, deleveraging, i.e. balance-sheet adjustment in the corporate sector everywhere in the wake of the financial crisis, second, reluctance of the corporate sector to invest in view of the heightening uncertainty and thirdly declining price of investment goods. On the savings side, higher savings could be attributed to, first, decline in propensity of consumption stemming from a rise of so called "sharing economy", need for precautionary savings and other various reasons, second, more globally, as Diwa mentioned in his opening remarks, accumulation of foreign exchange reserves in many countries, and last but not least, low birthrate and longevity are a very important element not only from the saving perspective but also from investment side because dwindling population generally corresponds to diminished expected return of investment.

Many of the aforementioned factors are structural in nature and it cannot be solved in a snap-of-a-finger. So we need to work on down-to-earth structural reforms to encourage investments and reduce unintended or precautionary savings. And, as I mentioned earlier, these efforts will boil down to boosting the potential growth rates.

**Watanabe:** Thank you very much. In the situation of the low interest rates there is the discussion of supply of savings and demand for the money. The balance of these are quite different from what it was two to three decades ago, and at this moment there are two quite opposite views on this that has been mentioned. One is for example, we are going to have long term longevity. Last year a British scientist said babies who were born in Japan in 2017 would reach the age of 107, which means if they retire at the age of 60 or 65 they will still have another 40 years to go. I in order to cover for the living costs of that period, they have to save more. More supply of saving is coming to the market, this is one situation. Another situation, which Andrew has already raised the issue, is the case of China which was the source of savings of the market. Quite different from the Western hemisphere, China's capacity of savings is decreasing but the Philippines are still growing. Overall I think this capacity can be kept, what kind of impact of the demographic change can have on savings and the money market. Andrew and Diwa I would like to have your comments on this.

**Sheng:** Thank you very much. I am going to be very controversial and make some outrageous statements so as to wake everybody up. I'm going to say the reason why we got into two financial crises, the Asian financial crisis and global financial crisis, is because of bad economics, bad theory and defective statistics.

Now let me tackle the statistics issue first, let's take for example productivity. How can productivity be still so low when our productivity today is controlled by the iPhone? I mean I can manage a very complex meeting in Kuala Lumpur, coordinating three countries' invitees to Kuala Lumpur using WeChat, without being in Kuala Lumpur. I can do the video conferences, I can do the organizing, I can send the documents, my productivity has increased 100-fold, but the statistical capture of this productivity is zero. It's nonsense, right? We know if I marry my house keeper, GDP goes down because my house keeper has a wage and can be measured in GDP, but my wife's contributions are not captured in GDP. It's nonsense, right? These two very simple examples show that the current statistics methodology (in a new technology age) is very defective. Statistics is very defective because the politics, the money and the capital are biased towards debt. If I have a liability, I can move it off-balance sheet and if you want to regulate my liability, I can move it offshore. So a large part of real activities are not measured and completely ignored, which means that the theory is completely defective.

Now, when Watanabe-san mentioned about the savings rate issue, you need to understand the natural rate of interest is a function of what the old political economy called the rate productivity. But productivity also is affected by the demographic cycle. If all of us were 80 year old, productivity would definitely be lower (unless it is compensated by robotics). The point is that if we are, like in the Philippines, where the average age is 23 years old and moving to 35, which is what is happening in China, you have a demographic dividend. But if you have bad governance, you get instead a demographic deficit. What we are now really seeing is that we need to get out of this very simple reductionist general equilibrium model that we use to describe global growth. Instead, we need to factor in issues like history, demographics, geography, institutions that add to the complexity of growth.

To explain Asia we need to go back to Akamatsu's flying geese theory. Because if you really understand Akamatsu-san, what he was basically saying is that the "flying geese" is a long historical and demographic cycle. And when you are flying very young, you fly very fast, because demographically you can do it. The people who follow learn from the leader and actually get the knowledge and then there is a cluster effect because the leader and the flock itself get better, from the economies of scale from the slip stream that give rise to the growth zone in East Asia. What are we seeing in Asia? Japan started industrialization, followed by the Four Dragons (South Korea, Taiwan, Hong Kong and Singapore), then the Four Tigers (Indonesia, Malaysia, Thailand and Philippines), followed by China. But people forget that behind China is India. India is only 15 to 20 years demographically behind China.

The world has never seen 1.3 billion people moving into middle income and eventually into high income. This will be followed 15 years later by Vietnam, Bangladesh and the Philippines each with a population of over 100 million. Indonesia has 250 million which is included in 600 million people in ASEAN alone. This adds up to 8% of world population, plus 20% in India and 20% in China - nearly half of mankind are moving into middle class income levels. There will be no shortage of savings.

Of course, we had a labour supply shock when China's cheap labor moved into the global economy in the 1980s, which (together with technology-led productivity) led to little wage increase in the advanced economy. That was a huge shock. But China is now moving out of the Lewis turning point in 2012, when the labor force is now beginning to decline. The interesting point is that China is now moving into what I call the Ford turning point. What is the Ford turning point? You know, Mr. Ford invented the assembly line for the cars. One point in time when he was very successful, he started paying his workers better. Why was that? Because he said, now my workers can afford to buy my cars.

The same thing is happening in Asia. The reason why China's savings will still continue in absolute terms, although in relative terms of decline, is that China in the last 10 years there is a steady increase in real income and wages. When you pay your workers more, they have more income, they move into middle class and they will buy your products, so you get a self-sustaining consumption effect. This is exactly what is happening. You know of course the Chinese government has invested heavily in infrastructure etc., but at the same time the middle class is now beginning to consume more. This is not just China, look at ASEAN. The ASEAN middle class is the hope for the future. Of course this makes environmental sustainability a major challenge. We see the same pattern in India.

What we are now beginning to see demographically is that we, from a policy point of perspective, need to get out of this very, I'm sorry to use this word, "stupid," because it defies common sense - reductionist model that does not explain history, does not explain demographics, geography and institutions. If you take all these factors into consideration including climate change and technology evolution, you will realize we need to move out of this bad current theory into a new, more complex, adaptive system theory to explain the evolution of interest rates, wages and inflation. I am sorry to spend so much time in explaining this but I think it's time for us to get out of this old bad theory model into a more complicated model, not easier to explain but effectively make more sense.

**Guinigundo:** Well I think we have a long way to go because our median age is only about 23 or 24 years old. Five years ago it was about 21, so it takes a period of about five years to increase the median age by one or two years. This could mean that we will still be reaping demographic dividends until 2030. Our pension system therefore must also be well-established. There is also the fact that inflation has become low and stable since 1999, particularly in 2002 after the introduction of inflation targeting. Moreover, the growth of the economy has been sustained for 76 consecutive quarters since 1999. I believe these elements namely, higher income, higher savings, and low inflation would explain why interest rates even in the Philippines have remained low.

While demographics play a big part, for us there is a long way to go. Other factors are also at play. For instance, with respect to the decline of inflation, aside from the fact that in many ASEAN countries where appropriate monetary policy frameworks have already been established, globalization could also be one of the key factors. Many countries in the ASEAN community have become a part of global value chains and, over time, also contributed to a low and stable inflation. Technological innovation is also a very important element. In fact, networking products have gone down by 18% in the last few years. Likewise, the price of computer servers has gone down by 26% and personal computers by 24%. Of course the decline in oil prices also contributed. New technologies have allowed US oil companies to get more shale oil in a cheaper way; unlike the traditional orthodox way of getting oil from offshore sources. Finally, there is the China factor. China's exports have grown by 700% from 2001, when it entered the WTO. From 2001 to 2016 it's exports increased more than three times from 4% to around 13%. All of these have actually contributed to the decline in inflation and, as is observed in the ASEAN region, also contributed to a reduction in interest rates.

**Watanabe:** OK, thank you. Andrew has given very controversial points. Is there anyone who is going to respond to him? Masa?

**Asakawa:** Yes, thank you Andrew and very interesting. What you said is a so-called virtuous cycle which everybody is aiming at achieving. That is true on the macro-economic basis. If you know companies pay more salaries to employees, that would encourage more consumption, then profitability of companies would be improved, which encourages more investment, and so on, but everybody knows that on a micro basis, especially in Japan, we still have been observing such a situation that companies are so reluctant to do so. It is typical example of fallacy of composition. Why so? We really do have to look at micro level of phenomenon rather than focusing on only macro discussion you have mentioned. On a micro level of discussion, it is true that there are some factors globally common to explain why wage level is so low in real terms, such as sluggish productivity, decline in the labor share partly due to technological innovation, but especially in the case of Japan, Japan has a couple of additional unique factors.

For example, both firms and workers are more and more risk averse due to our experiences of the bubble burst, and actually we are experiencing deflationary situation for more than 15 years now, and as a consequence of financial crisis the workers have come to prioritize the job security over wage increases. This is sometimes called traumatized workers hypothesis. Also we should not underestimate the impact of the structural shift in the labor market, which is an increase of non-regular workers. I don't know if the same things are happening in China or not, but in Japan the number of non-regular workers increased more than that of full time workers during the expansionary period starting 2012. This increase in non-regular workers which are around 37 % of the total labor force not only put a downward pressure on average wages but also might bring an invisible slack in the labor market.

This is related to the Andrew's first point, some deficiency in the current statistics and let me mention one thing. Let's assume that when some of the non-regular workers are willing to work more but unable to do so. Then we might be underestimating unemployment rate because their willingness to work more is not properly reflected in the unemployment figures. So in this light our government is going to release new indicators for unutilized or underutilized workers from January this year, which will be made public in March in an effort to get hold of the labor market situation better. But I would like to tell you, once again, that in addition to the macro-economic argument, like Andrew discussed, we do need to look into micro elements in the labor market structure.

**Watanabe:** OK, Thank you. Klause?

**Regling:** Yes, just to add on that. I think that is also true for the other advanced economies. Because something has happened in the labor market, we may not measure underutilization correctly. For instance in many countries there has been a rising employment rate in Europe. We know that a rising employment rate is good, but the share of people who only work part time or fewer hours than they would like to is also rising. Plus, the wage bargaining process has changed over time. The crisis may have an impact, people are afraid. These aspects are quite common among the advanced economies. But I had a question to Andrew. I like the model he proposed, but what does it mean for the future of the natural interest rate? Does it mean that it would go up again? As Randy and I said, for Europe we may have seen a turning point. You talked about wages in China, they are no longer low, but going up quite strongly. I seem to remember that the producer price index, which had been falling in China for many years, has been going up quite substantially for the last 12 -18 months. There was a turning point. So are we in a transition period, and will inflation be higher, will wages be higher, will the natural interest rate be higher? What is the conclusion of your model?

**Sheng:** Well the conclusion that one must understand from theory is that the low interest rate is good for the 1% and very bad for the 99%. Furthermore, the low wage policy is good for the 1 % and very bad for the 99% and that's why we now have very bad politics. Because the population has realized that if you pay me zero on my savings and I am a good saver, if you pay me also very low wages, what am I going to eat on? At the same time the technology is destroying jobs. We all know that at the least, it is destroying the lowly paid jobs.

The politics is now getting very polarized, which is the political issue to your question. Even on the theoretical basis - this is where those people who are pure theorists get it wrong - there is no one single interest rate, there's no one natural interest rate. There may a natural interest rate for a particular country, but it is very different between different countries. The trouble is that the nominal interest rate which is controlled by each country's central bank responds to each country's own needs and this is very different between different countries. There is not just a term structure of interest rates, there are geographical structures of interest rates which has not yet converge to one price. Basically in a world with local and global inefficiencies, we do not have a theoretical one price for interest rates globally.

In the current situation of what is essentially a dollar dominated world, the dollar interest rate determines world interest rates and we totally accept this as a normal condition because the dollar is the global benchmark. But what effectively we are going to see going forward, and this depends upon central bank policies, is that as the U.S. to begin to adjust its nominal interest rate, the emerging market risk spread against the U.S. long term yield curve will widen, which will then have impact on the savings, investments and consumption in the emerging markets. The emerging markets have no solution to solve this non-linear increase in interest spreads. This boils down to current international monetary system where we cannot get agreement on how to deal with global monetary policy because there is no world government, no world fiscal policy and no world central bank. Given that reality, you'll then see a transition period of very complex dynamics evolving in the emerging markets.

What effectively every emerging market now faces is that if you try to have an independent monetary policy, you will be subject to very large capital flows. So the EMEs face substantial constraints to adopt an appropriate interest rate policy to their own country, to try to trade-off between the interest rate and exchange rate. If you allow the exchange rate to depreciate too fast you get even more capital outflows. If you try to defend the exchange rate, using higher interest rates, you will get killed through deflation. This was the Asian financial crisis solution. So we now are in a very complex area whereby the nominal interest rate for a particular country can no longer be totally effectively controlled by domestic monetary policy without huge exchange rate implications.

That is the conversation that we need to have. The reason why we need to have a very good conversation is that the advanced country have their own problems, and we totally accept that. This was not the case before the 2007 global crisis, but now they are emerging out of it. As the world, not normalizes, but goes back to the situation whereby advanced countries will begin to grow and then emerging markets will be split between the slow growers and the fast growers, then a lot of tensions will occur. These are where the accidents are going to happen.

Why I want to be very controversial is that I want to shock emerging market policy makers out of their complacency. They can no longer rely on the old theory. That is the point I really want to make.

**Watanabe:** Thank you, Andrew. I got the point that natural interest rate would be specifically very unique to each country but as you later mentioned the current situation is that banks are globally operating wider, even for some of the money investors, the situation is somewhat changing. That is why I would like to have the next item, what kind of regulations on the financial sector would be effective to this regard, in general. How is it in the leading financial market of the U.S. and Europe, how do you see it in the future? Maybe you are the key person on the issues, how you see the future, what works do we need to do, Randal?

**Quarles:** With respect to financial regulations in the post crisis period, our position at least in the US is that the fundamental changes that were put in place are important to preserve --particularly those that increased the amount of capital that is in the system, but, perhaps equally important is to have a focus in regulation on liquidity: both on liquidity management at the institutions themselves and to focus on regulating liquidity in the regulatory system. It is a little surprising that liquidity had never been major focus in regulation before.

Those are the changes that, in the US at least, we do not see stepping back from. There is a more highly capitalized system and some other regulatory objectives that we will continue to support. What I think was --perhaps for understandable reasons because the things that had been done by the Federal Reserve needed to be done quickly --there was not much focus on achieving these objectives in the most efficient way. And, so what we are doing in the US and what we will be encouraging our international regulatory peers to do as well in the international regulatory bodies, is to look now with a decade-worth of experience at how to be more efficient in achieving these objectives.

There are ways to do this that reduce burden on the industry -- and that therefore create more opportunities for the industry to support and realize economic growth -- without reducing capital, without stepping back from appropriate regulatory improvements in the post crisis era.

**Watanabe:** Thank you. Klaus, Europe has the regional harmonization issue and is also a leading economy, how do you see the future on these issues?

**Regling:** I think that's why we are here looking back at the 10 years since the crisis. There were many reasons for the crisis, otherwise it would not have been so deep. But one of the reasons was that regulation was not good enough. I think that is the clear conclusion of the G20 in its financial stability report. So that we have today's tighter system. I think it's the clear consequence of the crisis. That is good, and it means sometimes one may go a bit too far. But as Randy said, it is a question of fine tuning, to make sure that the regulation needed to make the banking system safer doesn't affect the real economy too negatively. Compliance costs for the banks are higher today than they used to be. That is very clear.

Capital levels are much higher. In Europe, banks added 700 billion euros to their capital buffers over the last 10 years, raising them to more than double what they had in 2007 and 2008. Profitability is lower, but I don't consider that be a problem in itself, because we want banks to be less risky. It's very clear that would go hand in hand with lower profitability. In the past, they might be too risky to try to be more profitable, and that led to problems. So to have more capital, less risky banks, lower profitability, I think all of that make sense.

So today, as I said before, the European banks are in better shape with their higher capital, non-performing loans are still high but they are falling every year. Last year the non-performing loan stock outstanding came down by 17 %, we had good progress for one year and despite low profitability in 2017, the European banks as a whole had the highest net income since 2007. So things are moving to the right direction. On the fine tuning of regulation, I fully agree with Randy, we should not go back to where we were before 2007.

**Watanabe:** Thank you. Diwa, you are on the emerging economy side and how do you see these recent discussions?

**Guinigundo:** Let me talk about our experience with wage formation. In the Philippines we moved away from legislated minimum wage to the so-called regional productivity and wage board. In other words, the adjustment for each region depends on two things. One is on productivity and second is the cost of living. Productivity, however imperfect, is measured and provides at least one to two percentage points. Meanwhile, cost of living depends on the provincial or regional inflation rate as gathered by the Philippine Statistical Association. So basically, given almost 19 years of continued economic growth, the share of labor to the total income has slowly gone up, at least in the Philippines. I cannot talk about the other nine ASEAN countries.

Secondly, with respect to advanced countries, particularly the US, adjustment in their interest rate can have implications on exchange rates, on capital flows and of course on the interest rates of emerging economies. It is true that many emerging markets do not have the means to be independent in terms of monetary policy given the so-called trilemma, but I guess there is no corner solution to this.

Instead of central bank adjusting the policy rates, we relied on macroprudential as well as microprudential measures. I think some members of the ASEAN have relied on outright capital controls which, in the past, the IMF, did not want to recognize as a legitimate form of crisis response. But things have changed. The IMF, as it is now, considers capital controls as measures of last resort. I think this has provided a means or a modality for responding to destabilizing threats of capital inflows and outflows.

For us, we have moved away from the previous practice. Militant labor actions on determination of wages are now a thing of the past. We are now moving into regional productivity and a supply and demand oriented kind of settling of issues about wages. The other point is that inflation is brought down and kept steady. It is not only one percent of the population that benefits from low inflation and low interest rates, but everyone. After all, at least in our case, the inflation rate of the bottom 30% is lower compared to headline inflation. That means, on the basis of the consumer basket normally consumed by the bottom 30% of the population, the rate of increase of prices for the basket of currency for those at the bottom is actually lower compared to the headline inflation.

**Watanabe:** Thank you. I think currently low interest rate prevails, that means for the banking business the difference between funding rate and lending rate is very small and some people say that banking business is no more a profitable business. Also, as Mr. Asakawa had mentioned, we are going to have a sharing economy, which means we don't need to buy things. For example, in the case of buying house you buy in a one-shot payment which you finance by a housing loan, even for automobile you buy it and you rely on automobile loans. But in a totally sharing economy you don't need to do this, you only have to pay some small amount. This could be a big impact for the banking sector. Do you have any good ideas, was there something wrong with my comments. I would appreciate your good comments, Asakawa-san?

**Asakawa:** I have no clear answer to that, but at least I have a strong feeling that it is not the low interest rate environment itself, but the flattening of the yield curve that compresses financial institutions' margins and profitability. According to the data compiled by the Japanese FSA (Financial Service Agency), net interest income of both major banks and regional banks combined decreased by roughly 5% in the FY 2016, mainly driven by compressed margins.

As a result at least in Japan we are seeing a rise of so-call "search for yield" activities by the financial institutions. One example is increasing exposure of Japanese financial institutions to the real estate sector. According to the report by FSA, on average, approximately 27% of new loans committed by regional banks in FY2016 headed towards real estate sector.

That said, I would like to emphasize that overall Japanese financial institutional system is safe and sound. This is exemplified by the fact that Tier I ratio of Japanese major banks far exceed the required levels and NPA (non-performing asset) of Japanese banks remains very subdued. So this looks like the Japanese financial regulations are working very effectively.

Looking ahead let me emphasize two things the Japanese banks are expected to play. First is the provision of risk money and equity financing. Simply lending to highly creditworthy borrowers or those with solid collaterals and guarantees in a grueling interest rate competition might not be suitable under this low interest rate environment. On the other hand, potential funding needs are certainly there in the corporate sector, particularly among SMEs. For example, many SMEs have strong appetite to start new businesses, or expand their IT or other investment in response to labor shortage. Banks are expected to satisfy those needs through providing risk money or money for growth on a truly customer-oriented approach, which will bring in a sustainable revenue stream even under the current untoward environment.

Second is for banks to contribute to solidifying the governance of their client companies. We already introduced corporate governance code and also stewardship code a couple of years ago for listed companies. Meanwhile it is banks, especially regional banks, which could play a key role in improving the governance of unlisted SMEs and thereby enhancing their productivity. I hope the Japanese banks make their business models more sustainable by fulfilling those functions which I just laid out.

**Watanabe:** Thank you, Andrew and Klaus?

**Sheng:** I am going to continue to stir the pot. First point is about regulation. You will find me strange that I am saying this, but I actually totally support the U.S Treasury in what they are doing about financial regulation. If you want to read the best papers on the financial sector, read the U.S. Treasury's reports on banks, asset management, capital markets etc., all freely published on the web. These are excellent papers - there is no need to look at the earlier papers. Just concentrate on the current ones - they explain the current dilemmas very well, but what they don't say is the fundamental issue that finance needs to rethink about.

That is (again I am going to make a very controversial statement), the impact of technology, which Bill Gates said in 1990, "in the 21st century banking will be important but not necessarily banks". And now it is actually happened. Let me give you an illustration of what is now possible. You wake up in the morning and you tell Alexa or Echo (the smart speaker by Amazon or Google), "please make me coffee in 10 minutes time, call the Uber cab in half an hour, order flowers for my wife, order food for tonight, call a meeting, etc.,". All this can be done through technology. Artificial Intelligent and robotic technology is already happening.

So with zero interest rates, why should you put your money in a bank? You put it with Amazon.com, why? Because Amazon.com does not need to violate any banking laws because it tells you if you buy 100,000 dollars or 3,000 dollars from me every year, I will give you a rebate. And you put money with me or you through me buy shares of Amazon.com, you can get a return far better than any bank and more convenient.

The competitor to a bank today is not another bank, it is going to be the Alibabas, the Facebooks and the Amazons of this world. Frankly speaking, the regulations don't know how to deal with this. Because these techno-platforms do not need to comply with capital adequacy ratio, some of them don't have to comply with AML or terrorist financing; they don't have to comply with Basel 3 or 4, they just give consumers and investors good service. The reason is that we are now technologically facing the fact that finance is only one part of a complex set of consumer needs. Alibaba can help you on manufacturing, on logistics, on payment and also on investments.

If they do so, who need banks? So I think, the extinction threat is not just for the banks, but also for regulators. The regulators at the moment are like deers in the night looking at the headlights of the on-coming car. They have no clear, strategic response to this, just like they have no response to the rise of cyber-currency. I think this is why I say that we are already in the 21st century, but still wearing 20th century glasses with a 19th century mind set. Until we change, we are going to be too late or too little too late. I think the point is that in Asia we still have growth, I think we can be flexible enough to make that mental change.

You know, if we still accept the old policies and the old ideas, which often defy common sense, don't adopt the theory, don't adopt the policy recommendations, go back to common sense. I think Asians are pragmatic enough to be able to adopt policies that suit ourselves. It is no longer about one-size fit-all. It is not about best practice, because we don't know what is best practice today. It is what is best fit our own conditions. So I think we need to rethink whole game, how do we fit global standards. Basically I agree with standards, but I don't agree with very detailed rules, because the detailed rules don't fit our local conditions.

**Watanabe:** I see many depressed and bitter faces among the audiences because we have many participants from the banking sector. I believe Klaus has some comments.

**Regling:** Yes, Andrew on what you just said I don't think it is controversial actually but I want to comment on that in a moment. But also what Mr. Asakawa said, because you asked the question if banks are suffering because of negative interest rates. There's also a debate in Europe on banks complaining about negative interest rates. But I agree with you that the relatively flat yield curve has an impact. At the same time, I would like to agree with Andrew that what banks need to watch out for much more is technological change. The business runs a risk of being taken over by non-financial institutions like Amazon, Alibaba and Facebook. I think that's a real change that's coming. I think many of the traditional banks as we know them today will not survive. And that is not because of negative interest rates, that's just a marginal point in this very dramatic development.

Also Europe of course is different from the US. There is overbanking in many countries, there are too many banks, and certainly far too many branches given internet banking and all of that. Technological change and the unregulated non-financial institutions increasingly taking on the business, that really is affecting banks much more. I don't think regulators are much behind as you indicated. I think they are fully aware of this and they are looking into it. Randy can tell us more because he is doing it I hope. But from what I hear my expectations are these unregulated non-financial institutions will be regulated, and I see no other alternative.

**Watanabe:** OK, Randal?

**Quarles:** I would say I completely agree with Andrew, that the evolution of financial services -- you can call it a "threat to banks" or a positive opportunity for the system as a whole -- will be from what are currently non-banks including the large technology companies. But for them, right now that's really in its infancy. I think it is very interesting to see how that will evolve, but for it to evolve in a way that those technology firms really could replace a significant part of the current banking industry, it would have to evolve in a way that took on some of the reasons that the current banking industry is regulated, In particular, these entities would have to have as a significant part of what they did, some form of fractional reserve operation that made them susceptible to runs. And if they did not evolve in such a way, then they wouldn't displace a significant chunk of the current banking industry. To the extent that happens, the nature of appropriate regulation would be a perfectly appropriate discussion to have in the US, in many jurisdictions you would have to have legislative changes to do it. But, you would say for the same reasons that regulations of the banking industry evolved 100 or 150 years ago, as it did in the US, the same causes would push us towards looking at regulating at least those activities of new, nonbank entrants to the financial sector. Maybe we wouldn't look at regulating the whole entity, if that was only one function or a portion of what they did.

But, I agree with Klaus, you are absolutely right about the future, but I don't think that we are so far behind in preparing for the future at least on the regulatory side. The banking side maybe a little different.

**Watanabe:** Thank you. I think in the developed economies we have accumulated so much in the system and mechanism. We usually want to stick to that, maybe the depreciation is not yet completed and we want to keep it. As Andrew said, maybe in China the wire and communication system is not completed and the banking system is not perfected yet. In this case new technology would be easily introduced. Maybe the African countries they are going to have 2 billion people in the future and it maybe a similar situation like China. Diwa, what is the case in the Philippines, how fast are you going to move from the current system to new system?

**Guinigundo:** Crypto currency and Fintech companies are basically bypassing the banking system. So the government needs to do something. Let me just clarify though that this is not always the Central Bank's responsibility because different regulatory frameworks are observed in different countries. For example, the Monetary Authority of Singapore regulates Singapore's entire financial system. Bank Negara Malaysia also regulates everything except securities.

In our case we don't regulate insurance, we don't regulate non-bank financial institutions without quasi banking functions. Hence, we established a financial sector forum consisting of the Central Bank, Department of Finance, Insurance Commission, and Securities and Exchange Commission. In this forum, issues about Fintech, as well as regulatory technology, or regtech, are discussed. Basically, we have assumed a more sandbag regulatory approach to this issue of Fintech and crypto currency. I think something that really occupies, not only regulators, but also the government itself is that there really is a need to regulate Fintech as well as crypto currency, since there is no accountability, or transparency, and even no clear guidelines to be shared.

This has been in our jurisdiction. In the next few months, appropriate regulations will be announced. We are rolling this out to the banks and other stakeholders. Once it is finalized we will announce the new regulations. I think it is really important that this is discussed within the ASEAN as well as in the EMEAP. In all of the meetings it's always Fintech and Fintech. So the regulators are very much aware of the issues, the risks and challenges of Fintech.

**Watanabe:** OK, thank you very much. We have to think about this issues and the coverage of regulation is not catching up to this. Diwa referred to the crypto currency and I believe next year Japan is going to host G20 meeting and I think we will choose the crypto currency as one of the discussion points. Do you have any comment on this, Mr. Asakawa?

**Asakawa:** Yes, definitely we have no other choice and have to discuss it. Frankly speaking in the context of G20 we have never discussed crypto currency issue or we would rather call it crypto asset than currency because it is not a currency at all. I am quite sure when we are going to meet among Finance Ministers and Central Bank Governors next month, this issue will be raised and taken up under the Argentinian presidency and also this discussion might continue into 2019 under the Japanese presidency.

The Fintech issue, underlying crypto asset, has actually a potential to bring about innovative changes to the financial sector and market in the future, and we should look at the developments not only as risks but also as opportunities for the global economic growth. To this end, we need to reach common understanding about the importance to strike right balance between financial innovation and risks such as consumer protection, and promote further cooperation on this issue.

Also, it is very important to assess impact of crypto asset on the financial system as well as market as we witness sudden surge in the volume of crypto asset transaction and volatilities in its trading. Last April, Japan already revised the so-called Payment Service Act to introduce a registration system for crypto asset broker-dealers. I think the U.S. did the same thing and Australia did the same thing. This regulation was established not only in accordance to the FATF guidance to respond to AML/CFT requirements but also to protect consumers by introducing additional rules to oblige broker-dealers to provide necessary information to customers and to separately hold and manage the customers crypto asset holdings. I expect this issue is discussed in the coming G20 in Buenos Aires and I am going to be actively engaged in that discussion.

**Watanabe:** Yes, I think you will need to discuss this issue. But still many people don't understand the real situation. There is some kind of confusion between, the Fintech issues, the mechanism of blockchain, and the impact of the crypto currency, also ICO (Initial Coin Offering) would be another difficult issue. Maybe no one clearly understands the situation. What would be the most important issue we have to discuss, at least in the coming one or two years? Do you have any thought on this, anyone?

**Sheng:** I feel that maybe crypto currency is not going to be fatal for advanced countries but it is a weapon of mass destruction for emerging markets. I do not say this lightly, I say this because the problem is "what is a currency?" A currency is a symbol of trust of the state and if anybody can create currency and if I then lose money in the currency, I lose faith in the state because the state did not protect me. Currently, the regulators are saying "cyber-currency is not a currency; it is a commodity or a token, which we do not fully understand." I am sorry to say this, but that attitude is exactly what caused the last two crises. The regulators didn't understand the full implications of financial innovation. There is nothing in the law which says that the regulators need to do anything about the consequences of such financial innovation and when you lose money it is your (investor's) fault.

Put it this way. Those of us who have some understanding know that crypto currency has no technical ownership, no registration, no legal protection and if you believe that a blockchain technology cannot be cracked, you have to believe in fairies. There is no technology that cannot be cracked. Things can be stolen and things can be manipulated. We do not know who manipulate how the price goes up and down, somebody just says blockchain prices go up and down.

Now let me just tell you how we lose trust in the state, because the market value of all crypto currencies is now US$600 billion or more, depending on the price. Tomorrow, if anybody in your country is investigated for unexplained wealth, it is very easy to explain: they won it on crypto currency. Can you check? You can't check. Previously the explain wealth would have to say they won the large sum in a casino. In the old days, the regulators can go to the casino and ask whether this guy really did gamble? Today, there are no records because the winnings and losses are booked in so-called un-crackable blockchain.

The whole issue of crypto currency has created the problem of crime that justify the earnings of the people who have a technological knowledge advantage over innocent investors who do not understand the implications of what they are buying. In my view, any regulator who says, "the regulation is outside my jurisdiction" really need to understand that maybe this is the existential problem: the world is now evolving so fast in technology that it is a systemic problem. We cannot regulate an arm in order to regulate the whole body. Every regulator is partial, saying I only regulate this part - the rest is not my problem. But this is a fundamental problem of the state and the individual. The individual expects the state to regulate the whole and not just one part.

US$600 billion dollars kept in cyber-currency is already 40% of the official value of total reserves in gold for the whole world. This is not chicken feed - it's not a small item that can be ignored. I totally support the idea of discussion at the G20 level, but I am urging many countries to start banning this and coming out to tell small savers, "don't be fooled by these phony schemes and scams that are going on." Because if you don't, many people will lose serious money. It is not the rich that are going to lose the serious money, it would be the poor, and the people that cannot afford to lose. This is what scares me. Because if they lose, then we will have the same political problem that we found the last time when the regulators did not react in time. Then regulators will over-react and over-regulate, we have seen this before. I think this is where it is very important that for the emerging market regulators push very very fast in this area.

**Watanabe:** Klaus?

**Regling:** I have only one sentence to add to what Andrew said. In my view it's not just an initiative of emerging markets, but also of the advanced economies, and that is why it's right it is on the agenda of G20.

**Watanabe:** On the issue of the crypto currency, some of the small European countries' central banks are going to discuss possibilities of introducing a special type of the virtual or crypto currency, this is one case. Also there is another case where one of the largest Latin American countries, which have some financial difficulties, is going to create a new currency called "Petro". These are a kind of crypto currencies. There are so many different and somewhat dangerous ideas that have been prevailing recently. how should we manage them and how should we try to keep them under control. Some people, also Andrew and Diwa, have said that we have the regulation but the money is moving outside of the range of these regulations. The regulatory coverage is getting smaller and smaller. And in the end only one bank is moving and just only one percent of the total money transaction is done by that bank, which is regulated by the big supervisions of the regulatory institution. This is what we will not want to see. How should we manage the situation? In the case of the US, the banking sector is controlled and regulated by the federal government but the insurance companies have a somewhat different situation. A consolidated system is much more important, or do we need some kind of allied monitoring by institutions? Is this a little bit touchy for you Randy?

**Quarles:** I think that a lot of regulatory experience both in the US and around the world has shown that there is some benefit in a balance between completely centralizing regulation and having some diversity of regulators depending on the function. And, the risk is always excessive fragmentation.

In the US we have a particularly fragmented system. I think if you were drawing it ideally you would have it more centralized, because there are costs to fragmentation of the regulatory system. Things can fall outside, as Mr. Regling has been talking about now. For example, we in the U.S. don't currently have a law that empowers any of various regulators to regulate crypto currencies. But, we are in a process of addressing that. I think if you push everything into one regulator, the argument against that is that there are benefits to competition in every area of human endeavor, and there is a certain benefit to regulatory competition as well, as long as it doesn't turn into fragmentation.

So, in the US, we are putting a fairly heavy emphasis on coordination of our system so that various regulators work together. But, I wouldn't argue that we really should push all into one that would regulate everything. As for US, I think that would create many problems as well.

**Watanabe:** OK, Diwa?

**Guinigundo:** I think we should make a distinction between so-called crypto currency or crypto assets and financial tech. I think Fintech is something that can really benefit consumers because it allows convenient, cheaper, faster, and more efficient mode of doing financial transactions. It leverages on a technology to lower costs, which should benefit ordinary consumers; even in terms of raising funds, crowd funding, deposit and lending. In other words, leveraging of technologies could facilitate the conduct of financial transactions. Crypto currency as Andrew had very well clarified is something else. There is issue on its value since no central bank guarantees it. There is also opacity in terms of pricing, you don't know what happens from, let's say from \$500 to \$15,000, and no one can explain this. It is open to fraud, it is open to hacking, and there is also loss of value, loss of money in the process that nobody can explain. Hence, this should be the thrust of regulation. Consumer protection to me is of paramount importance.

Therefore I share the view that regulations should really be forthright in terms of this very important digital development. With respect to Fintech, central banks in ASEAN should be engaged because, to the extent which Fintech firms provide additional services, let's say payments, they actually receive credits from central banks and other monetary authorities. By virtue of this, they are regulated, and are within the regulatory ambit of the government, either the Central Bank, the Securities Exchange Commission or even the Insurance Commission.

**Watanabe:** Masa?

**Asakawa:** Thank you, Watanabe-san. I completely agree with Diwa in a sense that the Fintech issue and crypto asset issue should be separately discussed although crypto currency element is one of the very important elements of the Fintech technology. For example blockchain, very famous technology in the Fintech, may not be necessarily suitable for currency, but it may be suitable to protect property right, so blockchain should be separately discussed in the context of Fintech on a more broad perspective. Having said that, discussion on crypto currency or crypto asset among Finance Ministers so far mainly focuses on how to regulate it, in order to protect investors, deal with possible money-laundering activities, possible tax evasion activities.

That's what we are right now discussing and I am quite sure the next month G20 Finance Ministers meeting will address this. But quite separately from that, as Watanabe-san mentioned, there is another issue where or how the central bank be involved in the crypto asset and one extreme argument is how about issuing digital currency by central banks. Venezuela is doing this and Estonia is moving toward it. But I understand most of the central banks in the developed countries will not go ahead with the direction. There is another possibility, which is the situation where the central bank would not go that far issuing digital currency by itself. But simply because the large chunk of private sector transactions is now being conducted by crypt assets, then we have to consider seriously what kind of the impact would that have on the monetary policy directions, which is another issue maybe inevitably coming up in the G20 discussion in the future.

**Watanabe:** I think still we have many issues to discuss but the time is almost running out. The final question is: this symposium is titled "10 years after the world financial crisis" and what do you see happening in 2027 and 28? Almost every 10 years we have had some financial crisis. In 1987 we had Black Monday, in 1997 the Asian currency crisis, also the Brazilian and Russian crisis, and in 2007and 2008, as you already know, we also had some difficulties. This year we are still facing the difficulties which had started in 2007. We are not easily getting out of this, but hopefully we will be able to recover totally. What would happen in 2027 or 28? Maybe, as Andrew said, we cannot have another 10 years, in two or three years we might be changed totally, a different world. Do you have any thoughts, expectations you can give us. We can go by order, Randel it's OK.

**Quarles:** I think one thing that we can say confidently, even from the examples that you gave, is "Yes, we will have a crisis periodically". But, the genesis of that crisis is always different. So, we can say confidently that whatever we say today would not be correct as to what the nature of a crisis ten years from now will be.

Certainly right now, and it's a fairly common view, I think that where we need to look forward in the future as regulators is cyber risk, such as a cyber-attack on the industry as a whole. The nature of the evolution of the industry is the result of financial change. But, I think that as a regulator in general -- and that is certainly true in the US -- we are very aware of that is an issue. But, we have not been extremely good so far in getting it on the top of that issue. And, I think that would likely be where the next real risk to the sector would come from.

**Watanabe:** Klaus?

**Regling:** Yes, it's a good question. Because I manage a crisis resolution fund, I think about these questions frequently. We know something will happen one day. I think we all agreed earlier that the current good economic situation cannot continue forever. US, Japan, and Europe cannot grow at twice the potential growth, so these rates must come down. That doesn't necessarily mean there will be a big crisis. But it's something to keep in mind, and to be aware of. There are political risks of course that we as economists don't focus on at all. At the Munich security conference last weekend in Germany, many of the security experts said the risk of war is bigger today than any time in the sixty years. But I leave that, as I am just an economist.

Then what we discussed earlier and what is relevant here are non-regulated financial activities, non-banks, technology groups, shadow banking, that's where something might happen. Then very much on the top of my list as Randy said, there are cyber security risks. Things are quite worrying, we know that cyber-attacks have stopped British Airways from operating for three days, they stopped the British health system from operating for a week. If one of the big financial institutions, whether a real bank, a technology group or an asset manager, is stopped from operating for months, it cannot settle any deals. That would have a tremendous impact on everybody given their interconnectedness. CCPs (Central Counterparties) could be affected. They are being attacked almost every day. We are looking here at tail risks, of course I'm not forecasting it will happen. But if we try to identify tail risks we should put this on top of the list.

**Watanabe:** OK. Andrew.

**Sheng:** As a former securities regulator, the rule was never to predict the market, never predict about the future. But I am going to, since I've retired from being a securities regulator. Let me make two forecasts, No.1 is in 2027 the chances of me living beyond 100 will have improved because of medical technology, if I can afford it. The pace of medical technology is improving very very fast, which is the good news. Second forecast is that by 2027, I agree with what both Randal and Klaus said, I think there will be some kind of crisis. I think it will be very silly of us not to say there “would” be a crisis, because it is a matter of when, not “if”.

My personal view is that financial crisis will be a byproduct of some other crisis. The reason why I say this is that after 40 years of being a regulator, I realized that crisis never happens when we are all watching and talking about it. Crisis always happens where you are not watching. I think this is why I say the theory at the moment is very bad because it assumes other things being equal. Actually other things are not equal. The point I really want to make and the risk that most people do not see is climate changes risks. In my view a lot of our problems today, demographics, terrorist and civil war come from climate change conditions.

We have also been very lucky that since the Second World War, there has been very few big natural disasters. But those who study history would know that natural disaster of one kind or another has always hit us. This is completely my personal view. If inflation is going to come back, it is not due to the central banks, but due to a big natural disaster or climate change effects on food production. And when that happens the food prices will dramatically change leading to very serious civil unrest and that will lead to other problems which we were not able to see because we look at mainly economic issues as economists, rather than as a holistic system-wide issue.

**Watanabe:** Diwa.

**Guinigundo:** Well by 2027 I will be retired, if I am still healthy I will be very happy. Anyway someone summarized the lessons of the global financial crises in seven points. The first one must be that financial crises occur frequently. I think we still remember Robert Barro who documented 148 crises since 1870 and Reinhardt and Rogoff who in 2009 identified the occurrence of 104 banking crises since World War II. In short, there will always be a crisis. Second, the bigger the mistake, the heavier the punishment. We in the ASEAN learned this lesson the hard way. But given the different policy and structural reforms that we have undertaken since then, I think that there is a sense of proficiency as we have seen during the global financial crisis where the ASEAN community was basically unscathed. Third, financial innovation does not appear to have led to greater financial stability but instead has become a potential source of financial instability. Lending to subprime borrowers, for example, who cannot afford to pay back the money unless property prices keep on rising. The creation of very complex financial derivatives, which very few really understood but because first-class sellers, who actually and eventually went under, were selling those products so that everybody bought in.

Fourth, the growth of the shadow banking system contributed to financial instability. Earlier, we were talking about Fintech, crypto currency, bypassing the banking system, which are big challenges to regulators. Things that are outside the ambit of the regulatory framework should be given more focus. Five, given the monetary market events during the global financial crisis, it is now widely recognized that self-regulation or self-correction of financial market is not enough to prevent excesses and malpractices in the system. This means that regulations are not bad. In fact, we need to strengthen it as necessary. Number six, the qualities of regulators is as important as the regulatory structure itself. We may have a very good set of regulations but if the regulators are not up to it, the regulatory structure can only be as good as the regulators themselves.

And finally, financial stability work must not be allowed to fall between cracks. I think this is the reason why there is an explicit recognition of the need for financial stability. No matter how one defines financial stability or the lack of it, it is an explicit mandate not only for the central bank but for relevant government agencies. I think these seven lessons of the global financial crisis should define the work of the regulators and even the markets themselves. To increase our resiliency when crisis strikes, these can be handled squarely by the markets as well as by the regulators. Thank you very much.

**Watanabe:** So Asakawa-san.

**Asakawa:** For the next ten years I would like to briefly mention three things. One is a geopolitical risk. Right now we are facing a real threat from North Korea. I don't expect the threat coming from North Korea will last as long as 10 years. But more generally, for example, how to address money laundering activities of any country, how to deal with cyber security, those issues have become really most urgent and most important challenges for us policy makers. Definitely we need to address these issues more seriously in the forthcoming years.

Second one is about the capital flow issue that both Andrew and Diwa mentioned a couple of times. And if we look back, whenever the U.S. raised its policy rate, not always but sometimes, we saw financial crisis or debt crisis especially in the emerging economies, like in the late 1980s we experienced very serious crises in Central and South America, and also in the 1990s we experienced so called tequila crisis. Is this time different? Actually despite the fact that the Fed raised FF rate five times, it is amazing that so far capital inflow into emerging markets looks very stable except one that did happen in 2013 in the context of tapering tantrum. But we cannot be complacent at all and we should always be vigilant and monitoring closely what is happening in the emerging markets.

In this context I am a little bit concerned about the Chinese case in a sense that in 2015 and 2016 we saw a huge capital outflow from Chinese capital market. Chinese authorities initially tried to control the pace of depreciation of the RMB by heavily intervening in the FX market. Right now it looks like their currency has got stabilized because of the enhanced capital outflow control and I am not opposing to it. Sometimes capital control is very much necessary as Diwa mentioned, but it cannot last forever. What kind of measures should be really necessary for China to stabilize its capital flow is a big challenge for everybody.

Lastly, for the next 10 years, obviously China and India will become a super power. We need seriously consider how to integrate these super powers into various multilateral systems we have established so far in terms of trade, investment, taxation, and also currency.

**Watanabe:** OK. Thank you very much. The excellent panelists have delivered so many challenges and I fully agree with them on every point.

I really want to ask the younger participants today, are you working hard to solve these issues? If you are not so much confident in the coming 10 years that you will be living in, please convey the messages of today's discussions to your younger colleagues. I think this is quite important. It is not good to have some disasters every 10 years, this will eroded the confidence of people and, as Andrew said, maybe 10 years is rather too long, every five years we may have some difficulties, the situation changes very rapidly and we don't have any time to waste. Today's discussion was very fruitful and I believe we have had very good panelists, all five of them. Please raise your hands to them.

Thank you very much for joining the IIMA symposium today and we would like to have a much more interesting and better symposium next year. Please join us next year too, and thank you very much for your participation.

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