



中国人民银行
THE PEOPLE'S BANK OF CHINA



INTERNATIONAL
MONETARY FUND
国际货币基金组织

PBC and IMF Joint Conference
**Financial Liberalization,
Innovation, and Stability**
International Experience and
Relevance for China

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中国人民银行·国际货币基金组织联合研讨会
金融业开放，创新和稳定
国际经验和对中国的借鉴

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SUMMARIES AND PRESENTATIONS
总结与报告

This is the official English version. For the Chinese translation please see:
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INTRODUCTION

GUA Kai and Alfred Schipke¹

Finding the right balance between financial sector liberalization, opening up of the financial services sector, innovation, and safeguarding financial stability is a challenge for many countries. In this respect, some of the international experience is useful as China advances its comprehensive reform agenda to improve the allocation of resources, strengthen the monetary policy framework, and safeguard financial sector stability. This, in turn, will also facilitate the internationalization of the RMB.

These issues were discussed at a joint People's Bank of China (PBC) and International Monetary Fund (IMF) Conference on March 16, 2015, which brought together local and international policymakers, regulators/supervisors, and academics, as well as PBC and IMF staff focusing on four key areas:

CHINA'S FINANCIAL AND EXTERNAL SECTOR REFORMS AND RMB INTERNATIONALIZATION

China's financial and external sector reforms will not only lead to a better allocation of resources, but facilitate the internationalization of the RMB and ultimately the inclusion of the RMB in the SDR basket. Contributions to Session I take stock of China's RMB internationalization process and how it has advanced over the past couple of years and discuss further reform options.

¹ Editors and conference organizers>

OPENING UP OF THE FINANCIAL SERVICES SECTOR

China's financial services sector has the potential to significantly contribute to the country's future economic growth, facilitate the rebalancing of the economy, and improve people's access to financial services. As both advanced and emerging economies show, this calls for an opening of the sector to both domestic and foreign competition in the context of a strong regulatory framework. These are the topics of Session II.

INTEREST RATE LIBERALIZATION, SHADOW BANKING, AND MONETARY TRANSMISSION MECHANISM

Financial liberalization and innovation can have substantial effects on the monetary transmission mechanism as well as the efficiency of capital markets, and such developments may also pose significant challenges for the conduct of monetary policy. These issues are clearly relevant for China in the context of ongoing financial reforms and the use of interest rates as the primary tool of monetary policy. Contributions to Session III take stock of China's monetary transmission mechanism, identify potential impediments (including the role of shadow banking), and discuss reform options in light of the international experience.

MACROPRUDENTIAL POLICY COORDINATION: INTERNATIONAL EXPERIENCE

Financial innovations, a rapidly changing financial system, and the surge in nonbank activities bring benefits to both investors and savers. At the same time, they call for constant upgrading of policy and regulatory frameworks and require effective coordination among regulatory agencies. Given the current diverse set of institutional arrangements that exist globally, contributions to Session IV identify key principles to safeguard financial sector stability that could be useful for China.

The following provides short summaries of key messages and policy recommendations followed by an appendix with the respective presentations. The authors would like to thank LI Jing for doing an outstanding job in putting the e-book together and being responsible for the logistics of the conference.

Both the English and Chinese electronic versions can be found at

<http://www.imf.org/external/np/seminars/eng/2015/pbc/>.

OPENING REMARKS

Markus Rodlauer²

Ladies and Gentlemen,

Colleagues and Friends:

Following Deputy Governor Yi Gang's welcome dinner last night, it is an honor for me to open the Third Joint Conference organized by the People's Bank of China and the IMF on *Financial Liberalization, Innovation, and Stability*.

I welcome our distinguished Chinese and foreign experts and policymakers, and esteemed colleagues from the Chinese regulatory agencies and the State Administration of Foreign Exchange (SAFE) to this annual event. The event has already become a tradition. I am also pleased to welcome our keynote speaker, Lars Svensson, a well-known academic with ample policy experience, including as deputy governor of the Swedish central bank.

Governor Zhou himself wanted to open this conference, but because of a last-minute commitment is unable to join us. Instead, Deputy Governor Pan will be here later and will give closing remarks.

Our timing today is quite propitious. The National People's Congress—held only a week ago—reaffirmed China's commitment to reforms in 2015. These are, building on an acceleration of reforms in 2014, in line with the Third-Plenum Reform Blueprint. Reforms so far have ranged from further interest rate liberalization, a strengthening of macro prudential oversight and regulation, widening of the exchange rate band, and a continued gradual opening of the capital account.

² Markus Rodlauer is Deputy Director of Asia and Pacific Department, IMF

As China advances this comprehensive agenda, it is important to find the right balance between financial sector liberalization, opening up of the financial service sector, and innovation while safeguarding financial stability. Here China can benefit from the experience of other countries, the focus of this conference.

Today's event will focus on four key areas:

- Our first topic, on **RMB internationalization**, discussed among academics and policymakers, has also attracted strong public interest, including social media. The session will review progress and discuss reform options.
- The second session will focus on the **opening up of the financial services sector**. Combined with strong regulation and supervision, the sector has great potential to significantly contribute to China's economic growth, facilitate the rebalancing of the economy, and improve access to sound and more diverse financial services.
- Financial liberalization and innovation can have substantial effect on the **monetary transmission mechanism** as well as the efficiency of capital markets. The third session will take stock of transmission channels of monetary policy in China, identify potential impediments, and discuss reform options in light of the international experience.
- The Global Financial crisis has highlighted the importance of **macro prudential policy**, which calls for close coordination among regulatory agencies. This can occur under different institutional arrangements, each with its benefits and limitations. Our fourth session will look at different arrangements and try to identify key principles to safeguard financial sector stability that could be useful for China.

Our roundtable will then draw on the key insights from the day's discussions. And, as last year, we plan to publish an e-book (after consulting with each presenter) with short summaries and the respective presentations.

I am confident that this will be a very productive conference and am looking forward to a lively discussion.

SESSION I
CHINA'S FINANCIAL/EXTERNAL SECTOR
REFORMS AND RMB
INTERNATIONALIZATION

INTERNATIONALIZATION OF THE CHINESE CURRENCY (RMB)

LI BO³

BACKGROUND

After its accession to the World Trade Organization, China underwent nearly 10 years of rapid development; the size of its economy and the volume of its trade and investment expanded significantly (*please see the corresponding presentations, including figures and tables*). As a result, the country has become the world's second largest economy and measures second in import/export volume. Meanwhile, together with a fast developing financial market and stable RMB exchange rate, this laid a good foundation for the international use of the RMB. In the aftermath of the financial crisis in 2008, the value of US dollar and other major international currencies fluctuated significantly and global trade shrank. The need of Chinese importers and exporters rose rapidly for RMB-denominated settlement in cross-border trade and investment. Some central banks have proposed engaging in currency swaps the People's Bank of China. In this context, international use of the RMB began. The policy objective for international use of the RMB is to facilitate cross-border trade and investment as well as to sustain economic development. In this process, China will seek to gradually lift unnecessary restrictions on the cross-border use of the RMB, while continuing to respect the role of the market and observe the basic principle of gradual and orderly progress with good risk control.

³ Li Bo is Director General in the Monetary Policy Department, People's Bank of China. At the time of the conference, he was the Director General of the Monetary Policy Department II.

POLICY FRAMEWORK AND OPERATIONAL STEPS

TRADE SETTLEMENT

In July 2009, a trial run on the use of the RMB for cross-border trade settlement began in Shanghai and four cities in Guangdong Province (Guangzhou, Shenzhen, Zhuhai, and Dongguan). In June 2010 and again in August 2011 the scope of this trial run was expanded and finally included the entire country, covering trade in goods and services as well as other current account transactions. There were no restrictions on nationality of foreign counterparts. In June 2012, all entities engaged in the import and export of goods and services and other current account transactions had the option of conducting pricing, billing, and payment in the RMB. In 2014, cross-border trade settled in the RMB amounted to 6.55 trillion yuan.

DIRECT INVESTMENT

Starting in January 2011, domestic institutions were permitted to use the RMB for overseas direct investment (ODI); as of October of 2011, foreign investors could use the RMB for foreign direct investment (FDI) in China. For 2014, ODI and FDI settlement in RMB amounted to 186.56 billion yuan and 862.02 billion yuan, respectively.

RMB FINANCING

Beginning in October 2011, domestic banks were able to extend RMB loans for overseas projects. As of July 2013, domestic banks could conduct cross-border RMB trade finance and cross-border transfer of business assets, while domestic nonfinancial institutions could engage in offshore RMB lending and provide external guarantees. At the same time, the limits on maturities and amounts of RMB financing offered by offshore RMB participating banks were relaxed. As of September 2014, foreign nonfinancial corporations were permitted to issue RMB debt financing instruments in domestic interbank bond market subject to the relevant rules and regulations; the proceeds from such financing may be remitted abroad, and offshore RMB could be used to service the resulting debt.

PORTFOLIO INVESTMENT

Starting in August 2010, overseas institutions, such as central banks, RMB clearing banks, and RMB participating banks, were allowed to invest in the interbank bond market in China. In December 2011, a trial run was launched whereby the Hong Kong SAR subsidiaries of domestic fund-management companies and securities companies were allowed, subject to certain eligibility criteria, to use RMB funds raised in Hong Kong SAR to carry out transactions as RMB Qualified Foreign Institutional Investors (RQFIIs) within approved RMB investment quotas. In March 2013, the People's Bank, the China Banking Regulatory Commission, and the State Administration of Foreign Exchange revised the rules on the RQFII trial run by expanding the range of institutions allowed to participate and by relaxing the restrictions on investment structure. As of the end of May 2015, RQFII transactions totaled 920 billion yuan. In November 2014, the People's Bank introduced an RMB Qualified Domestic Institutional Investor (RQDII) system, whereby qualified domestic institutions were permitted to invest in overseas securities products denominated in RMB. In November 2014, the Hong Kong SAR–Shanghai Stock Market Trading Interconnection Mechanism was officially launched.

CURRENCY SWAP AGREEMENTS

As of the end of May 2015, the People's Bank of China has signed bilateral currency swap agreements with 32 central banks or monetary authorities of relevant countries and regions, with a total size of more than 3.1 trillion Yuan. Use of such agreements has increased significantly. By the end of 2014, the RMB had been used in direct trading with currencies such as the euro, the yen, the pound, the Australian dollar, the Singapore dollar, the Russian ruble, and the Malaysian ringgit.

THE OFFSHORE RMB MARKET

The offshore RMB market has become a healthy network, with Hong Kong SAR as the center of operations, connected to multiple other locations, including Taiwan Province of China, Singapore, London, Frankfurt, and Seoul. At the end of 2003, with the approval by the State

Council of China, the People's Bank of China began providing clearing arrangements for banks in Hong Kong SAR for their individual RMB business, making Hong Kong SAR the first location to officially launch the offshore RMB business. In 2007 the People's Bank of China and the National Development and Reform Commission jointly issued the Interim Regulations on Bond Issuance in Hong Kong by Domestic Financial Institutions. Domestic banks and the Chinese Finance Ministry began to issue RMB bonds in Hong Kong SAR. In 2011 and 2013, the Hong Kong Financial Markets Association introduced the Spot USD/CNY (HK) Fixing and the CNH Hong Kong Interbank Offered Rate Fixing, respectively.

As a result of the above, cross-border outflow of the RMB is essentially unrestricted, while inflow is still subject to some limits. For instance, inbound financing is limited to certain trial locations (including the Shanghai Free Trade Area, the Shenzhen Qianhai Area, Kunshan in Jiangsu Province, the Suzhou Industrial Park, the Tianjin Eco-City, and the Guangxi and Yunnan Border Financial Reform Pilot Area), and portfolio investment is subject to a quota.

OUTLOOK

BUILDING THE CHINA INTERNATIONAL PAYMENT SYSTEM (CIPS)

The People's Bank plans to put the CIPS (I) online in Shanghai by the end of 2015. CIPS (I) will adopt the internationally accepted standard for text (ISO20022), and intends to set 9:00–20:00 as the hours of operation, to meet the needs to be able to conduct RMB transactions in various time zones in Asia, Oceania, and Europe. The CIPS will become an important piece of infrastructure for the Chinese financial market and will be in compliance with regulatory requirements in the Principles on Financial Infrastructure and other international standards. It will play an important supporting role in the internationalization of the RMB.

TOWARD FREE USE OF THE RMB

We will accelerate the pace of progress toward capital account convertibility of the RMB, focusing next on the establishment of the

Qualified Domestic Institutional Investors program, a study of the establishment of an international section of the stock market, and revision of the Regulations on Foreign Exchange. At the same time, we may also consider further relaxing the qualification for qualified domestic institutional investors and qualified foreign institutional investors, increasing the investment limits, and expanding the trial run to allow more domestic entities to borrow in RMB in overseas locations.

CHALLENGES

With the increasing international use of the RMB, we need to study the establishment and improvement of management systems for external debt and capital flows that are based on a sound macroprudential framework, so as to step up our risk management in a fully convertible environment. It is imperative for us to control the level of foreign debt, optimize the structure of such debt, and exercise risk prevention by taking into account the matching of assets and liabilities in terms of currency and duration. It is also important that regulation of short-term speculative capital flows be intensified, particularly the regulation of derivative transactions.

GLOBAL IMPLICATIONS OF THE RENMINBI'S ASCENDANCE

Eswar Prasad⁴

INTRODUCTION

Popular discussions about the renminbi's emergence on the international stage tend to conflate three related but distinct aspects of a currency's role in international finance (*please see the corresponding presentations, including figures and tables*).

- *Internationalization*—its use in denominating and settling cross-border trade and financial transactions, that is, its use as an international medium of exchange.
- *Capital account convertibility*—the country's level of restrictions on inflows and outflows of financial capital. A fully open capital account has no restrictions on cross-border capital flows.
- *Reserve currency*—whether the currency is held by foreign central banks as protection against balance of payments crises.

A currency's international usage and its convertibility are different concepts, and neither one is a necessary or sufficient condition for the other. The renminbi is a prime example of a currency that is increasingly being used in international transactions even though China keeps capital flows restricted. And of course there are many countries that have fully open capital accounts but whose currencies do not have broad acceptance in global markets. An additional wrinkle is that a fully open capital account does not necessarily imply a floating exchange rate. Hong Kong SAR, for instance, has an open capital account but, through a

⁴ Eswar Prasad is Professor of Economics, Cornell University, Brookings Institution, and NBER

currency board arrangement, its currency is in effect pegged to the U.S. dollar.

It turns out that all of these conditions—capital account convertibility, floating exchange rate, and internationalization—are necessary for a currency to become a reserve currency.

RMB INTERNATIONALIZATION

China has begun to promote the international use of the renminbi through a number of policy initiatives:

- Permitting the settlement of trade transactions with the renminbi
- Easing restrictions on cross-border remittances of the renminbi for settlement
- Allowing the issuance of renminbi-denominated bonds in Hong Kong SAR and the mainland
- Permitting selected banks to offer offshore renminbi deposit accounts.

All of these steps are gaining traction, although they are still modest in scale. Still, the initiation and rapid expansion of different elements of the offshore renminbi market signal that the currency is gaining a significant foothold in the Asian region's trade and financial transactions.

CAPITAL ACCOUNT LIBERALIZATION

China still has a large number of restrictions on the free flow of capital across its borders. Many of the restrictions on both inflows and outflows have been loosened over time, consistent with the active promotion of the renminbi as an international currency. In most cases, constraints on outflows and inflows have been made less stringent rather than being eliminated entirely.

Despite various moves to make the renminbi's exchange more flexible, including a widening of the daily fluctuation band around the previous day's midpoint to plus or minus 2 percent, the renminbi continues to be tightly managed against the U.S. dollar.

Is China putting the cart before the horse by pushing forward with capital account opening before freeing up its exchange rate? There is considerable evidence that opening up the capital account without a flexible exchange rate is risky. A fixed or tightly managed nominal exchange rate makes it harder to cope with capital flow volatility because the exchange rate cannot act as a shock absorber. However, China's low level of external debt and large stock of foreign exchange reserves mitigate these risks.

The bigger risks may be domestic ones. The combination of a tightly managed exchange rate and an increasingly open capital account impedes the ability of the central bank to use monetary policy instruments such as interest rates to maintain domestic price stability. Moreover, lifting restrictions on capital flows could also be risky for the financial system. Freeing up outflows further while maintaining a cap on deposit interest rates could cause households and corporations to shift deposits out of the banking system.

How worried should China be about these risks? The government has enough control of its financial markets and enough resources to back up its banks that these risks are probably not likely to result in a full-blown banking or broader financial crisis. Nevertheless, a lot of government money could be required to keep the system stable in difficult times.

RESERVE CURRENCY STATUS

No clear template exists for what it takes for a currency to become a reserve currency but, based on historical evidence, a few criteria matter. It is worth considering each of these criteria to see how China measures up.

- *Economic size*: A country's size and its shares of global trade and finance are important, but not crucial, determinants of the status of its reserve currency. China now accounts for 10 percent of world gross domestic product (15 percent if measured by purchasing power parity rather than market exchange rates) and 9 percent of world trade. In 2011–12, it is estimated to have accounted for about one-quarter of world GDP growth.
- *Open capital account*: Reserves must be acceptable as payments to a country's trade and financial partners, which requires that the currency be easily tradable in global financial markets. This is difficult if a country imposes restrictions on capital flows and if its foreign exchange markets are thin and subject to direct control by the government. China is gradually and selectively easing restrictions on both inflows and outflows. The capital account has become increasingly open in de facto terms, but extensive capital controls still remain in place.
- *Flexible exchange rate*: Reserve currencies are typically traded freely and their external value is market determined, although this does not preclude occasional bouts of intervention by the country's central bank in foreign exchange markets. China still has a tightly managed exchange rate, which will become increasingly hard to manage as the capital account becomes more open.
- *Macroeconomic policies*: Investors in a country's sovereign assets must have faith in its commitment to low inflation and sustainable levels of public debt, so the value of the currency is not in danger of being eroded. China has a lower ratio of explicit public debt to GDP than most major reserve currency economies and has maintained moderate inflation in recent years.
- *Financial market development*: A country must have broad, deep, and liquid financial markets so that international investors will have access to a wide array of financial assets denominated in its currency. China's financial markets remain limited and underdeveloped, with a number of constraints such as a rigid interest rate structure.

Financial market development in the home country is one of the key determinants of a currency's international status. Without a sufficiently large and liquid debt market, the renminbi cannot be used widely in international transactions. To make the currency attractive to foreign central banks and large institutional investors, those entities will need access to renminbi-denominated government and corporate debt as "safe" assets for their portfolios. At the same time, both importers and exporters may be concerned about greater exchange rate volatility resulting from an open capital account if they do not have access to derivatives markets to hedge foreign exchange risk. Thus, depth, breadth, and liquidity are all relevant considerations in assessing the readiness of a country's financial sector to cope with an open capital account and elevate its currency to reserve currency status.

China's financial system remains dominated by banks with the state directly controlling most of the banking system. Policies that favor the banking sector relative to the rest of the financial system—including the interest rate structure that sets a ceiling for deposit rates—are detrimental to broader financial market development.

One dimension in which China has made progress is the development of its equity markets. However, by most measures, the size and liquidity of China's debt market lag far behind those of existing reserve currency economies.

China falls short on many key dimensions of financial market development, and its steps to aggressively promote its currency's international role are likely to be impeded over the medium term by the weaknesses of its financial system. China's financial markets have improved in some respects during the past decade, but significant gaps remain, especially in achieving sufficiently large and liquid debt markets. More important, the structure and quality of debt markets will also need to be changed to fully prepare for a currency used widely in international financial transactions and reserve holdings. Effective regulation of corporate debt markets is an important priority so these markets can expand without generating financial instability. Moreover, to satisfy their demand for relatively safe renminbi-denominated assets, foreign investors—both official and private—will eventually need to be given

greater access to China's debt markets if the renminbi is to become a true international currency.

CONCLUSION

The renminbi's prospects as a global currency will ultimately be shaped by broader domestic policies, especially those related to financial market development, exchange rate flexibility, and capital account liberalization. As Chinese financial markets become more developed and private investors increase the international diversification of their portfolios, these shifts in China's outward investment patterns are likely to become more pronounced. Thus, the various policy reforms that are needed to support the international role of the renminbi could also create significant changes in China's economy and the patterns of its capital inflows and outflows.

China is striking out on its own path to a more open capital account. This effort is likely to involve removing explicit controls even while attempting to exercise "soft" control over inflows and outflows through administrative and other measures. This approach will allow the renminbi to play an increasingly significant role in global trade and finance, but in a manner that allows the government to retain some control over capital flows.

The renminbi is beginning to play a role in international trade transactions and also starting to appear in the reserve portfolios of certain emerging market central banks. These shifts, which are more symbolic than substantive at present, will develop critical mass over time and have the potential to start transforming the global monetary system.

The renminbi is already well on its way to becoming a widely used currency in international trade and finance. It is likely that the renminbi will become a competitive reserve currency within the next decade, eroding but not displacing the dollar's dominance.

THE RMB AND CHINA'S CAPITAL ACCOUNT

MK Tang⁵

Cross-border RMB flows are becoming more fluid (*please see the corresponding presentations, including figures and tables*). RMB internationalization has proceeded rapidly in the last half decade. A main mechanism through which the offshore RMB (CNH) market originated was through injections of RMB into the hands of offshore market participants, first primarily through trade settlement and later through direct investment settlement in RMB. Over the years, there had been considerable offshore demand for RMB, prompting a large net flow of RMB from onshore to the rest of the world. And as offshore entities received more and more RMB currency, their claims on Chinese assets increased. Therefore, while physically RMB had typically flown out of China, economically speaking, the rest of the world's holdings of more Chinese assets (RMB currency) contributed to the pressure of capital inflow to the country.

With regard to market dynamics, the direction and scale of the net flow of RMB is partly driven by the exchange rate gap between onshore CNY and offshore CNH, which may suggest that the internationalization process is largely a result of cross-border arbitrage. At the core, however, this is a natural and arguably expected reflection of a market-driven approach to the RMB reform. This is a key principle embraced by the People's Bank of China, and one that is likely to produce far better outcomes than if blunt administrative measures are used to push RMB internationalization. In recent months, as RMB sentiment has shifted and the CNH has often traded at a weaker level than CNY, we have seen some reversal of the net RMB flow (coming back from offshore to onshore). However, the scale has been fairly moderate and the

⁵ MK Tang is Executive Director of Global Investment Research Asia, Goldman Sachs

reversed flow represents still only a limited share (about 10 percent as of January 2015) of the cumulative net flow of RMB to offshore over the years through RMB settlement in trade and foreign direct investment.

RMB internationalization holds enormous promise. Looking beyond cyclical noise, the role of the RMB as an international store of value clearly has very strong growth potential. International debt securities and international claims on banks (excluding bank-to-bank claims) denominated in the RMB were still less than 5 percent of GDP (as of 2013). This is a far cry from the popularity of key global reserve currencies, such as the U.S. dollar, the euro and British pound. More strikingly, though, usage of the RMB in the international financial system also significantly lags behind that of the currencies of even much smaller countries, such as Australia, Canada, and Sweden. Looking forward, on the back of global investors' strong diversification motive, there is undoubtedly very substantial scope for the RMB's role in the global marketplace to expand.

From China's perspective, a highly internationalized currency and more generally a more liberalized capital account would confer multiple benefits—for example, indirectly, freer capital flows would foster incentives for better risk management. More directly and probably more importantly, a key benefit of RMB internationalization is that it could lessen the burden on domestic intermediaries to finance Chinese GDP growth and could also facilitate an upgrading of the credit system.

The Chinese economy's rebalancing drive toward consumption will likely continue to make headway, but progress will be gradual. Meanwhile, growth will remain very much reliant on investment, which is by nature credit intensive. Based on our projections for China's leverage ratio (the size of nongovernment credit stock as a share of GDP), even under optimistic scenarios of rapid consumption rebalancing, we will likely see leverage continue to edge higher during the next several years. Yet, domestically sourced financing could become more constrained. At the macro level population aging and a higher propensity to consume may weigh on domestic savings; and at a micro level, financial institutions' balance sheets are already bloated and uncertainty about nonperforming loan risks from the outstanding debt may linger, trimming

their capacity to lend. In this context, foreign capital to RMB assets could be a welcome source of funding to support China's continued investment needs.

More liberalized foreign inflow to RMB bonds would support a needed upgrading of the domestic credit system. Looking across various asset classes, bonds are clearly the most underinvested Chinese assets by foreigners and correspondingly likely hold the most promise of attracting global capital going forward. In the United States, for example, non-U.S. investors hold as much as 50 percent of GDP worth of U.S. bonds (counting both U.S. Treasuries and corporate bonds). Similarly large foreign investment in Chinese bonds could facilitate a dramatic, favorable transformation of China's credit system. The existing stock of nonbank loan and nonbond total social financing (most of which is shadow banking credit) is about 45 percent of GDP, according to our estimate. There are clear regulatory and accountability benefits in moving this debt stock to more transparent credit channels such as the bond market—the logic is partly echoed by the ongoing local government debt reform and the associated municipal bond program. However, a main bottleneck is the size of the domestic bond market, which currently stands at only about 50 percent of GDP. Migration of a significant chunk of the shadow banking credit stock could therefore cause serious bouts of indigestion in the bond market. This points to the benefit of allowing more foreign investment in Chinese bonds, which can significantly scale up the market's capacity and facilitate a meaningful swap of shadow banking credit to transparent bond financing.

In the past several years, efforts to liberalize foreign investment in bonds have largely been focused on developing the offshore RMB bond market. Compared with expanding foreign access to the onshore bond market under quota systems, this liberalization could permit a much wider pool of global investors access to Chinese/RMB bonds and with essentially no restrictions, as well as offer a high degree of insulation to the onshore financial system against external volatilities. On the other hand, though, the offshore market is disadvantaged by being much less deep and liquid than the onshore bond market, and also by more uncertain enforceability of bond investors' claims on onshore assets.

Even more important, the funding cost for the onshore bond market is largely anchored by the People's Bank of China's monetary stance, while that for the offshore market can be significantly decoupled (given the segregation between the on- and offshore markets), and is thereby more volatile and heavily swayed by foreign exchange-related factors. Going forward, a continued complementary, two-track approach (promoting the offshore market while increasing foreign access to the onshore market) may best capture the benefits and limit the costs of liberalizing the Chinese bond market.

SESSION II
OPENING UP OF THE FINANCIAL SERVICES
SECTOR

OPENING CHINA'S FINANCIAL SECTOR TO THE OUTSIDE WORLD AND PROPOSED NEXT STEPS

ZHANG Zhengxin⁶

FEATURES AND ACHIEVEMENTS IN LIBERALIZING CHINA'S FINANCIAL INDUSTRY SINCE THE BEGINNING OF THE REFORM AND OPENING UP

Liberalizing China's financial sector means opening it up both domestically and internationally. Domestically, opening up mainly involves the encouragement of private investment in foreign service sector, that is, permitting private capital meeting conditions to sponsor the establishment of small and medium-sized banks and other financial institutions (*please see the corresponding presentations, including figures and tables*). With the blessing of the third plenum of the 18th Central Committee of the Chinese Communist Party, the pace of opening up the financial sector to domestic participants is accelerating. The outward liberalization of the sector has been going on since China's implementation of reform and opening up policies and has been a two-way process of inviting outsiders in and allowing domestic businesses to go global.

The liberalization process has yielded some positive results. After the reform and opening up, the number and assets of foreign financial institutions in China have grown rapidly. Their presence has to some extent helped their Chinese counterparts improve their own corporate governance structure and managerial skills as well as enhance their assets, profitability, and resilience. At the same time, liberalization has made reform a necessity. As the financial sector becomes increasingly

⁶ ZHANG Zhengxin is Deputy Director General, International Department, People's Bank of China

open, the exchange rate and interest rates are ever-more market-based, while the degree of capital account convertibility has also expanded gradually. Today, only 5 of the 40 capital account items designated by the IMF remain nonconvertible.

CHALLENGES CHINA FACES IN MAKING HER FINANCIAL SECTOR MORE OPEN

With the ever-higher degree of globalization of the Chinese economy, the pace of opening up the financial sector is becoming **incompatible with the country's status as a leading economic power**. It has even been reported recently that the presence of foreign financial institutions in China, particularly the share of foreign funded bank's assets in total banks' assets in China, has decreased in recent years instead of increasing. In addition, the pace of financial liberalization **has not kept up with the opening of the Chinese economy**. China has become the largest trading country in the world, accounting for a growing share of global GDP. Yet the openness of the financial sector in China remains at a low level among the world's nations. Specifically, the percentage of assets allocated overseas at Chinese financial institutions is small, as is that of the assets of their foreign counterparts allocated to China. In addition, the stock of her overseas investment stands at some distance from the top of the global rankings (eleventh place as of the end of 2013).

In today's highly integrated global economy and financial markets, China's opening up model based on administrative management and approval can no longer to meet the need of further development of the Chinese financial market. Specifically, such a model limits the role of the market and competition, overprotects domestically funded financial institutions to a certain extent, and undermines efforts to enhance the competitiveness of China's financial market. Therefore, the current model of opening up the financial sector needs urgent adjustment and creating a totally fair level playing field for everyone must be adapted.

Since 2005, joint-stock reform has been adopted at state-owned commercial banks. Some of them, including China Construction Bank

(CCB), Bank of China (BOC), Bank of Communications (BoCom), and the Industrial and Commercial Bank of China (ICBC), have taken on foreign strategic investors and successfully issued shares at home and abroad. As a result the size of their assets grew rapidly. Some of them, including ICBC, BOC, and the Agricultural Bank of China (ABC), have become global systemically important financial institutions, while others, such as Ping An Insurance, joined the ranks of global systemically important insurers. In general, however, these financial institutions are “big but not competitive” and urgently need to enhance their international competitiveness. Most Chinese-funded financial institutions lack a strategic vision on globalization. Many deficiencies exist in their corporate governance, risk control, and operational management. Their business lines tend to be traditional, with heavy reliance on advantages afforded by their domestic networks and a lack of capability for product innovation and marketing in the international market.

IDEAS ON FURTHER OPENING UP THE FINANCIAL INDUSTRY

In recent years, various parties in Chinese society have noted the necessity, urgency, and importance of accelerating the opening up of China's financial industry. Some media and scholars also put forward specific policy recommendations, such as relaxing entry control, abolishing restrictions on percentage of ownership, and simplifying approval procedures. We believe that the key to further opening up China's financial industry lies in changing the existing concept and model of how external relations are handled, by phasing in a model based on national treatment prior to access, and negative list, to achieve a high level of openness in financial services.

Specifically, this process should feature the following elements:

- Active efforts must be maintained in opening up the marketplace. A model based on national treatment prior to access and negative list will be adopted for the purposes of adhering to market principles, giving greater play to competition, and enhancing the ability of allocating resources to a higher level in a broader scope. This will help

raise the quality of financial services and strengthen the competitiveness of the financial institutions, so that they become “both big and competitive.” As a matter of course, we also need to create the corresponding mechanisms for prudential supervision and risk management.

- We must also advance the two-way opening up of the financial markets, which will cover the following aspects: China needs to both offer open access to the Chinese market by foreign financial institutions and allow domestic institutions to enter overseas markets under the same conditions; Chinese residents (companies and individuals) need to be able to access overseas markets (we have launched the QDII and RQDII programs and are studying the introduction of QDII2), while nonresidents need to be allowed to enter the Chinese market by receiving national treatment (we have launched the QFII and RQFII programs); we should permit both inflows and outflows of capital (while also improving the corresponding mechanism for prudent macroeconomic management and intensifying the monitoring of short-term speculative capital flows); and the two-way opening does not only include only capital but also the free movement of human resources (especially the hiring and firing of senior managers).

In the past, we focused on stimulating reform through opening up. Going forward, we will pay more attention to the mutual enhancement of these two aspects. A more open financial sector is conditioned upon completing certain necessary domestic reforms, which will include the following:

- **A higher degree of capital account convertibility.** Changes need to be made to the way cross-border capital flows are managed so that such flows and cross-border financial transactions (especially for personal capital items) are increasingly conducted on a convertible basis. This process will be completed in an orderly fashion, accompanied by an improved macroprudential policy framework.
- **Continued efforts will be made to make exchange and interest rates market determined. For the exchange rate,** we will continue to

reform the mechanism for setting the RMB exchange rate and maintaining a generally stable exchange rate at a reasonable and balanced level. For interest rates, we are now very close to finally lifting the ceiling for deposit rates, making this the final stage in interest rate reform. As we saw, different clusters of commercial banks emerged in terms of the floating range for deposit rates after the ceiling for such floating was recently raised to 1.3 times. This indicates that commercial banks are acquiring the ability to offer differential pricing.

To sum up, China is on a clear path to further opening up the financial sector. This reflects both past lessons learned and confidence in the future of the global economy and China's economic development. However, to achieve greater openness of the financial industry, we will need redoubled efforts on the part of the policymakers as well as active participation by all types of financial market players, both domestic and foreign. Let us work together to allow market forces to play a decisive role in the allocation of resources, because we believe the market works.

OPENING UP OF THE FINANCIAL SECTOR: AUSTRALIA'S EXPERIENCE

Philip Lowe⁷

In the 1960s and 1970s, Australia had a very heavily regulated financial sector. In contrast, today, the system has been opened up and, by international standards, is relatively liberalized (*please see the corresponding presentations, including figures and tables*). The exchange rate floats freely, there are essentially no capital controls, interest rates are market determined, and foreign banks are able to operate on the same basis as domestic banks. At times, the journey from a highly regulated to a liberalized system has been difficult and mistakes were made. But, overall, the journey has been a positive one; it has improved the efficiency with which capital is allocated, the degree of competition in the financial system, and the cyclical management of the economy.⁸

This note sets out six relevant observations about the nature of this journey and the current financial landscape.

WELL-MEANING FINANCIAL REGULATION BECAME INCREASINGLY DISTORTIONARY

In the 1960s and 1970s, Australia had the full range of financial controls: ceilings on interest rates, quantitative and qualitative controls on lending, strict limits on foreign ownership of banks, a fixed (or highly managed)

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⁸ For a fuller discussion of Australia's experience, see Battellino and McMillan (1989), Grenville (1991), Edey and Gray (1996), Gizycki and Lowe (2000), Davis (2011), and Lowe (2013). For a comparison with financial reform in China, see Ballantyne and others (2014).

exchange rate, and extensive capital controls. Several of these controls were the main tools of monetary and macroeconomic policy and they were used actively to help manage the business cycle. Many of these controls had their origins in financial regulations introduced during World War II.

For some years, these controls were relatively successful in achieving macroeconomic stability. But, as time passed, the distortions in the financial system grew larger. New institutions emerged in an attempt to get around the regulations and provide finance to those who were unable to obtain it from the banking sector. These new institutions typically operated outside the regulatory net. Businesses and financial institutions became very inventive in circumventing the exchange controls.

At various points, policymakers responded by tightening up regulations and introducing new rules in an effort to close “loopholes.” However, the results were typically disappointing and these efforts were often followed with some targeted liberalization. It was often two steps forward, one step back.

As the distortions grew, some commentators began calling for a different approach, although there was no consensus. By the mid-1970s the voice of those arguing in favour of liberalisation had become louder. The inflexibility of the exchange rate, in particular, had become a major issue. Among other things, the inability of the exchange rate to move in response to large shocks to the terms of trade contributed to macroeconomic volatility as well as the large swings in capital flows. Increasingly, domestic monetary control was compromised by the combination of the exchange rate arrangements and other constraints on domestic interest rates.

THE USE OF INQUIRIES TO BUILD PUBLIC SUPPORT FOR REFORM

In Australia, the main way that governments have built the political and broader public case for reform has been the use of major public inquiries.

Since the late 1970s, there have been three such inquiries (as well as a number of smaller ones). These major inquiries are the following:

- 1979–81: Australian Financial System Inquiry (Campbell)
- 1996–97: Financial System Inquiry (Wallis)
- 2014: Financial System Inquiry (Murray)

The Campbell Inquiry provided the basis for the removal of remaining interest rate ceilings, the entry of foreign banks, and the floating of the Australian dollar, all of which were done within a decade of the inquiry delivering its final report.

The Wallis Inquiry provided the basis for the current regulatory framework in Australia. Under this framework, the Australian Prudential Regulation Authority (APRA) is responsible for prudential supervision. The Australian Securities and Investments Commission (ASIC) is responsible for market conduct. And, the Reserve Bank of Australia (RBA) is responsible for the payments system and has broad responsibility for financial stability.

The Murray Inquiry has just been completed and its key recommendations have focused on the overall capital strength of the banking system, arrangements for investor protection, and the operation of the pension system.

These inquiries have shared a number of important attributes. They have all been very public in nature and sought submissions from the community. The panel members have all been people of high standing from either business or academia and have been seen to be independent and apolitical. In each inquiry, a draft report was prepared and released for consultation before a final report was delivered to the government.

Each inquiry also had wide, but specific, terms of reference that were the subject of consultation before being finalized.

These inquiries have provided valuable stocktakes of the financial system, as well as setting out a clear path for the future. They enjoyed a very high level of credibility with both businesses and the public. Importantly, they helped build the case for reform in the community and they gave government clear recommendations. The vast bulk of the recommendations of the first two inquiries were accepted and implemented. The government is currently considering the recommendations of the Murray Inquiry.

THE INITIAL EXPERIENCE WITH LIBERALIZATION WAS NOT GOOD

Australia's initial experience with financial liberalization was not good. Within less than a decade following the major reforms of the 1980s, the banking system had experienced its worst losses in almost a century.

The increased competition among financial institutions resulted in very rapid credit growth, rising corporate leverage, and large rises in asset prices, especially for commercial property. There was also a very large construction boom in commercial property. This boom was eventually followed by a very damaging crash.

The largest losses were incurred by provincial government-owned banks, with their losses amounting to double their then existing shareholders' funds. Very large losses were also incurred by the foreign-owned banks that had entered just a few years earlier. Some of the privately owned banks also suffered losses, while the problems experienced by the largest government-owned bank (the Commonwealth Bank of Australia) were less substantial.

The concentration of losses in banks owned by provincial governments and by foreign banks reflected the fact that these institutions were the most aggressive in chasing market share following liberalization. The provincial banks faced little external scrutiny. They

enjoyed state guarantees and they were not listed on the equity market. Corporate governance was also poor. In the case of the foreign-owned banks, they sought to rapidly establish a presence in the Australian market, and in so doing attracted the relatively risky borrowers who were having difficulty obtaining finance from the already established banks.

The provincial banks were “rescued” by their government owners at considerable cost to taxpayers. (There are no longer any government-owned banks in Australia.) And the foreign-owned banks were supported by their parents, which either recapitalized the Australian operations or withdrew from the market.

No banks failed during this episode, although there were runs on some nonbank financial institutions, as well as on a number of public trusts investing in either commercial property or commercial mortgages.

The effect on the domestic economy was severe, with the deep recession in the early 1990s being prolonged by reduced credit supply as financial institutions dealt with problem loans and sought to put their balance sheets on a stronger footing.

THE GRADUAL DEVELOPMENT OF THE REGULATORY ENVIRONMENT

When the financial system was first opened up, neither financial institutions nor regulators had experience in operating in a liberalized system. Both risk management and supervisory systems were underdeveloped and were not up to the task. This contributed to the problems discussed above.

Since the problems in the early 1990s, there has been an ongoing maturing of the regulatory environment. This process continues today.

Following the losses in the early 1990s, there was an extensive overhaul of prudential supervision. This overhaul included the introduction of targeted, risk-based, on-site reviews by the RBA; the strengthening of consolidated supervision; the development of rules for

reporting impaired losses; the transfer of supervision of state-owned banks to the RBA; and clarification of the role of auditors and board directors with respect to risk management.

Following the Wallis Inquiry in 1996, bank supervision was transferred from the RBA to the newly established APRA. APRA also became responsible for prudential regulation of most other financial institutions.

The current regulatory model—with APRA, ASIC, and the RBA—is widely judged to have worked well. During the recent Murray Inquiry, only a few submissions argued that the model should be changed and the inquiry strongly supported the continuation of the current arrangements.

Three aspects of these arrangements are worth noting.

The first is that APRA has a strong focus on financial **supervision** and not just **regulation**. As part of the organizational culture, it has long been recognized that risk in an individual institution cannot be understood without understanding developments in the financial system as a whole. Similarly, it has long been recognized that risk cannot be controlled through regulation alone. APRA spends considerable resources understanding the governance, risk appetite, and culture of the institutions it supervises. It also engages directly with the boards of financial institutions and is prepared to take discretionary supervisory measures where it is deemed appropriate, including requiring an institution to hold more capital or restrain from certain activities. The prevailing culture is one in which the supervisory process is as important as the regulatory process.

The second is that the distinction between macroprudential and microprudential supervision is much less stark in Australia than it is in many other countries, with macro considerations embedded into the standard supervisory approach. The judgment that has been reached is that it is more effective to have a macro culture embedded in the regulator, with the relevant powers, than to establish another entity responsible for macroprudential decisions. The fact that by legislation, APRA is responsible not just for the safety and soundness of individual

institutions, but shares responsibility for financial stability, has helped here.

The third is that the three regulatory agencies have worked very well together. The institutional rivalries that sometimes exist in other countries are largely absent in Australia. There is a strong culture of cooperation, and efforts have been made to institutionalize this by making individual staff accountable for productive relationships between the institutions. Issues of common interest, including developments in the overall financial system, are discussed by a group known as the Council of Financial Regulators, which includes the heads of the RBA, APRA, ASIC, and the Treasury. This group meets at least quarterly and is chaired by the Governor of the RBA. It has no decision-making power but, on occasion, provides collective advice to government. It also serves as a forum to discuss issues of common interest. Again, it is largely viewed as having worked very effectively.

DEVELOPING AND SUSTAINING MARKETS

During the reform process, a frequent argument against change was that now was not the appropriate time to liberalize because the preconditions were not yet right. Not only did banks not have the credit assessment skills, but the hedging instruments did not exist, and the relevant markets were not deep or liquid. However, ultimately, these arguments did not prevail.

We found that it was the restrictions themselves that were often preventing the supporting infrastructure from developing. A system in which prices did not move much was not conducive to the development of hedging instruments or deep and liquid markets. When the restrictions were lifted, the system responded and markets developed.

The biggest challenges were in the foreign exchange market. In the initial days of the floating exchange rate, there were concerns that large movements could be destabilizing and cause difficulties for balance sheets. Partly in response, the RBA was frequently in the market in this

early period, conducting "smoothing and testing" operations. But, the upside of the sometimes relatively large movements was that they created a strong incentive for hedging markets to mature quickly. Embryonic forward exchange markets had existed for some time in the regulated world and these developed quickly. Within a couple of years, both financial market participants and the central bank had become less worried about the potential implications of large price movements.

Today, Australia has the full range of financial markets and financial infrastructure, including well-developed futures markets and supporting central counterparty and settlement infrastructure.

One area that has been relatively slow to develop is the corporate bond market.⁹ While nonfinancial firms are able to issue bonds domestically, many Australian businesses still find it more attractive to issue in the U.S. markets. Australian markets remain relatively illiquid, and the appetite for corporate bonds by pension funds is muted. To some extent, this reflects the defined-contribution nature of the pension system, which has led to a preference for equities over fixed-interest-rate investment.

Despite Australia having deep and liquid financial markets, during the global financial crisis of 2008, Australian banks lost access to international capital markets. Notwithstanding their high ratings, strong profitability, and sound capitalization, banks were unable to raise new funding in global markets, with these markets effectively shut. This episode was dealt with by using a combination of central bank liquidity support and the government's balance sheet. In particular, for a fee the government temporarily guaranteed bond raisings by the banks for maturities of up to five years. Once the guarantee arrangements were in place, the global capital markets reopened to the Australian banks.

⁹ Compared with other advanced economies, this is not all that unusual; in some respects the U.S. bond market is the exception.

This episode provided a salutary lesson about the behaviour of markets during times of stress when risk appetite is diminished. The Australian system dealt with this relatively well, but in the aftermath of this experience, both capital and liquidity buffers have been enhanced.

OPENING UP HAS BEEN NET POSITIVE

For Australia, the process of opening up the financial system has been a positive one, despite some problems along the way.

Exchange rate flexibility has perhaps been the single most important factor contributing to overall macro stability in Australia, particularly given the large movements that occur in Australia's terms of trade. The floating exchange rate has also allowed an independent monetary policy focused on achieving a medium-term flexible inflation target.

Australia's experience also suggests that it is possible to have an open and competitive system that is not excessively fragile. Since the early 1990s, the system has been quite profitable, and while strains emerged in 2008–09, Australia did not experience the financial problems seen in many other advanced economies. There are a variety of factors that explain this, with APRA's focus on supervision certainly among these.

The Australian system has benefited from having a strong competitive fringe that is able to promote innovation and bring competitive pressure to the existing institutions whenever margins are high. In the 1990s, mortgage securitizers entered the market, leading to a noticeable reduction in residential mortgage margins. Later in the decade, new online stockbrokers led to a marked reduction in charges for equity trades. And in the past decade, the entry of online foreign banks resulted in much more attractive interest rates being offered to depositors.

Despite early challenges, foreign banks have found their place in the financial system. They provide competition for domestic financial

institutions and have helped improve market liquidity and expand corporate access to financial markets.

The liberalization of the system has also promoted the more efficient allocation of capital. While increased access to borrowing has led to a significant increase in some asset prices, it also increased the availability of credit to businesses, particularly at the more risky and innovative end of the spectrum. Although this carries extra risks for lenders, this extra risk, at least to date, has been managed well. More broadly, today Australians enjoy the full range of financial services. About 99 percent of Australians have a bank account (many with online access) and credit is widely available. While the financial system remains bank focused, there is a healthy equity market and the Australian pension system is the fourth largest in the world. Australia also has a strong domestic securitization market, which has withstood disruptions to global securitization markets.

Managing today's liberalized system certainly has its challenges, although they are less than those of managing a system in which key prices cannot move, markets are shallow, credit is restricted to low-risk borrowers, and almost everybody has an incentive to circumvent the rules.

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FINANCIAL MARKET OPENING: LESSONS FROM KOREA

Dongchul CHO¹⁰

Korea's financial market was severely repressed for many years (*please see the corresponding presentations, including figures and tables*). During the government-led development period from the 1960s to the 1980s, financial institutions were regarded as tools for supporting policies. Beginning in the 1990s, however, the Korean government began to liberalize the financial market. Internally, the main focus was interest rate deregulation, and externally, the capital account was gradually opened. However, until 1997, when Korea's financial markets plunged into a currency crisis, many legacies from the regulation era remained.

- Both policymakers and the market continued to believe that the exchange rate should (and could) be controlled and stabilized by the government. Under this environment, exchange rate risks could not be perceived; thus, huge incentives to borrow from abroad were generated given the large gap between domestic and international interest rates (domestic interest rates were 12–15 percent, while LIBOR was about 5 percent at that time). This behavior in the market magnified the adverse effects when the exchange rate abruptly depreciated during the 1997–98 currency crisis period.
- Moral hazard was increased in association with chaebol that were believed to be too big to fail. The market supplied cheaper capital for chaebol, out of which they made aggressive investments. When the aggressive investments turned out to have been reckless, the market began to realize that the Korean government could not rescue them all. This collapse of the belief in “too-big-to-fail” brought about panic

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in the market and 15 out of the top 30 chaebol failed during the crisis period.

- It was extremely difficult to balance the pace of deregulation across sectors, which inevitably caused regulatory arbitrage. Small merchant banks were deregulated faster and thus enjoyed the arbitrage gains. During the currency crisis period, however, virtually all merchant banks failed.
- The infrastructure was not prepared for a liberalized financial market. During the regulation era, market demand for transparent and accurate statistics was weak, and relevant institutions (credit-rating agencies, accounting firms, and the like) were not developed. However, transparency of and trust in statistics are key to the proper functioning of liberalized financial markets.
- Policymakers were not ready, either. It takes time and hands-on experience for policymakers to adapt to new environments. However, Korea's policymakers were not used to being unable to directly control individual market prices and the behavior of financial institutions. For example, although they learned about the "trilemma" from textbooks and understood it intellectually, when it came to action, they still treated the foreign exchange market separately from the domestic financial market.

Korea's experiences in the 1990s can provide important lessons for China, which is currently going through a similar transition from a controlled to a liberalized financial market. During the transition, potential risks need to be controlled because financial liberalization can increase the risks stemming from moral hazard. In this regard, China seems to need to do the following:

- Reduce the market's expectation that the exchange rate will be stably managed by the government forever
- Reduce the too-big-to-fail expectation in relation to state enterprises
- Reduce regulatory arbitrage opportunities that can be exploited by

relatively less regulated financial institutions or shadow banking

- Reduce macroeconomic risks such as housing market bubbles.

In addition, infrastructure must be strengthened as early as possible. Financial market opening is just one necessary (supply-side) step toward RMB internationalization. The true challenge is how to increase demand for the RMB by private investors in the international financial market. In this regard, China seems to need to do the following:

- Enhance the transparency and reliability of statistics by strengthening the legal underpinnings and market discipline of relevant agencies
- Strengthen capacity of policymakers so that they can implement policies suitable for liberalized financial market.

OPENING UP OF THE FINANCIAL SERVICES SECTOR: THE CASE OF THAILAND

Tarisa Watanagase¹¹

Opening up a country's financial sector is highly beneficial to the country (*please see the corresponding presentations, including figures and tables*). It leads to higher competition, resulting in more efficient financial intermediation with lower costs for investment and higher returns on savings. The increased number of market players should also lead to broader financial access. With such improvement in its breadth and depth, the opened up financial sector can better support economic development and growth. For China, increasing the number of market players may help facilitate the rebalancing of the economy from relying excessively on investment to services and consumption, the demand for funding of which may not have previously been met. Of course, these needs must not be crowded out by the demand for funding by the government and state-owned enterprises.

However, opening up needs to be carefully implemented amid the right initial conditions and proper sequencing to avoid the risk of a financial crisis. Many studies have provided the theoretical underpinnings of the appropriate paths for opening up; however, empirical studies have shown that in reality different countries have followed different paths with varying degrees of success. These findings highlight the fact that there is no one size fits all and that financial sector opening up is a demanding task. However, it is important to emphasize that a country must not reject opening up for fear of the potential risk of financial instability but must seek to manage and mitigate the risk. Learning from other countries' experiences, especially their mistakes, can provide invaluable lessons toward this end.

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Thailand's painful experience with financial sector opening in the early 1990s, which contributed significantly to the 1997 crisis, provides some useful lessons. In 1992, the financial sector was opened up for the first time in 27 years. Forty-eight offshore banking units were approved to channel funds from countries with excess resources either to deficit countries, including Cambodia, Lao P.D.R., Myanmar, and Vietnam (out-out business) or to the business sector in Thailand (out-in business). This was thought to be a small step in opening up since these financial institutions were not allowed to mobilize deposits from the domestic market, hence, would not be competing head on with existing financial institutions. It turned out that things went terribly wrong because of wrong initial conditions and the sequencing of opening up. Foreign borrowing through these financial institutions led to a massive buildup of property bubbles and eventually a crisis when these bubbles burst. Huge capital inflows were attracted by a few factors: the enticing reduced withholding tax rate applicable to borrowing through these financial institutions; high domestic interest rates after the lifting of interest rate ceilings two years earlier, which widened the interest rate differential vis-à-vis foreign interest rates; the adoption of the IMF's Article IIIIV with the removal of all restrictions on capital flows; and the fixed exchange rate, which removed exchange risk for borrowers and added even more appetite for foreign borrowing. The fixed exchange rate regime also rendered monetary policy an ineffective tool in tightening the economy since higher interest rates would bring in even more inflows.

Both the financial sector and the supervisory institution were weak. Banks and their borrowers had high maturity and currency mismatches. Governance and banking laws and regulations, especially with regard to loan classification and provisioning, were weak. Lending was based on collateral, with increasingly higher values caused by the higher property prices at a boom time. Financial infrastructure was also weak. There were no credit bureaus and no deposit insurance, but an implicit guarantee was expected.

After the crisis, the first priority was to deal with crisis resolution, followed by macroeconomic, financial sector, and supervisory reforms, which sought to increase the flexibility and resilience of the economy and

the financial sector, focusing on the need for risk management in both the public and private sectors, including financial institutions, businesses, and households. The required financial arrangements and infrastructure were also put in place, including the credit bureau, deposit insurance agency, and asset management corporation.

Only after we were reasonably satisfied with the reform results did we start to gradually open up the financial sector in the following steps:

- Rationalization of the financial sector was started to build resilience and prepare it for more competition. Financial institutions were required under the One Presence Policy to consolidate or absorb their nonbank subsidiaries into their financial group so that the same financial services were not offered by multiple types of financial institutions in the same group. For example, a finance company—a bank with a different name given that it accepted deposits and made loans with slightly different instruments from a bank—had to be absorbed into its parent bank. This policy was to reduce fragmentation, improve efficiency with economies of scale, and eliminate regulatory arbitrage, since banks and nonbank financial institutions had previously been subject to different laws. Necessary legal and tax changes as well as incentives were put in place to accommodate mergers and acquisitions. As a result, the number of financial institution decreased from 83 to 41.
- More competition was introduced among existing market players. Existing foreign banks with branches were allowed to have more branches, and even more branches were granted to those who agreed to convert themselves to subsidiaries. In addition, the limit of foreign strategic investment in a Thai bank has since been increased to 49 percent from 25 percent with the approval of the Bank of Thailand, and even higher than 49 percent with the approval of the Minister of Finance.
- New foreign banks have been granted entry. Going forward, new players will be added when appropriate or needed. Telecom companies and Qualified ASEAN Banks within the ASEAN Banking Integration Framework are a few examples.

In conclusion, I'd like to reiterate that in opening up its financial sector, while maintaining financial stability, a country needs to carefully map out its strategies, timing, and sequences, taking into consideration its initial conditions and country-specific context. Its financial sector and supervision must be reasonably strong before opening up, and the necessary mechanism or system for orderly exit must be in place before and after the opening up. One cannot and should not wait until all conditions are ready and timing is perfect since it will be a futile wait and will only lead to inaction. A useful approach is gradual opening since it is easier to manage risks along the way.

KEYNOTE SESSION

MONETARY POLICY AND FINANCIAL STABILITY*

Lars E.O. Svensson¹²

In this speech, I will make a few general points about monetary policy and financial stability (*please see the corresponding presentations, including figures and tables*). I believe these points may be relevant for the future development of monetary policy, the financial system, and financial-stability policy in China. I will also make some specific points about the recent Swedish experience of tightening monetary policy, “leaning against the wind,” because of concerns about increasing housing prices and household debt. These may also be relevant for related issues in China.

I will discuss three questions. First, what can—and cannot—monetary policy achieve? Second, what is the relation between monetary policy and financial-stability policy? Third, should monetary policy, as promoted by the Bank for International Settlements (2014), lean against the wind, for instance, against increases in housing prices and household debt, in an attempt to promote financial stability?

A short answer to the first question is that one should not ask too much from monetary policy. Monetary policy can really only stabilize inflation around an inflation target and resource utilization around an estimated long-run sustainable rate of resource allocation. In particular, monetary policy cannot achieve and maintain price stability; a separate

* Written version of a speech at “Financial Liberalization, Innovation, and Stability: International Experience and Relevance for China,” the Third Joint Conference, People’s Bank of China and International Monetary Fund, Beijing, March 16, 2015. The views expressed in this presentation are those of the author and do not necessarily represent those of the IMF or IMF policy.

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financial-stability policy (micro- and macroprudential policy) is needed for that.

A short answer to the second question is that monetary policy and financial-stability policy are very different, with different objectives and different suitable instruments for achieving the objectives. In particular, the instruments suitable for achieving the objectives of monetary policy are not suitable for achieving the objectives of financial-stability policy, and vice versa. My view is that in normal times, these two policies are therefore best conducted separately, even when the same authority is in charge of both. But each policy should be fully informed about and take into account the conduct and impact of the other policy.

A short answer to the third question is that, at least in Sweden, the cost (as evidenced by worse macroeconomic outcomes in the next few years) of leaning against the wind to limit the increase in housing prices and debt may be about 250 times larger than the benefit (an expected better future macroeconomic outcome). This supports the conclusion that monetary policy should normally be the very last line of defense for financial stability.

WHAT CAN—AND CANNOT—MONETARY POLICY DO?

Monetary policy can stabilize inflation around a given inflation target and resource utilization around an estimated long-run sustainable rate. Since the inflation rate over the longer term is primarily determined by monetary policy, a fixed target for the inflation rate and for the monetary policy can be selected to achieve an average inflation rate over a longer period in line with the target.¹³

In contrast, the long-run sustainable rate of resource utilization (measured by, for instance, potential output or [the negative of] the long-

¹³ This section builds on Svensson (2015b).

run sustainable rate of unemployment) is largely determined not by monetary policy but by nonmonetary factors that affect the structure and working of the economy. These factors may change over time and may not be directly observable and measurable. Thus, it is not appropriate to set a fixed monetary-policy target for the long-run rate of resource utilization. Instead, the long-run rate of resource utilization must be estimated, and such estimates are necessarily uncertain and subject to revision.

Thus, monetary policy cannot improve the long-run sustainable rate of resource utilization; for that, structural policies must be used. Generally, monetary policy cannot solve structural problems.

Furthermore, monetary policy cannot achieve financial stability; this requires financial-stability policy (micro- and macroprudential policy). Price stability does not lead to financial stability. Interest policy is not sufficient to maintain financial stability. In particular, as discussed below, leaning against the wind cannot solve debt problems.

Stein (2013) has put forward arguably the strongest argument in favor of leaning against the wind for financial stability purposes: “while monetary policy may not be quite the right tool for the job, it has one important advantage relative to supervision and regulation—namely that it gets in all of the cracks [of the financial system].” But to this I would like to add that a modest policy rate increase would barely cover the bottom of those cracks. To fill the cracks, the policy rate would have to be increased so much that it would kill the economy.

In my mind, if there are financial-stability problems, there is no choice but to develop and apply a better financial-stability policy.

WHAT IS THE RELATION BETWEEN MONETARY POLICY AND FINANCIAL STABILITY?

To answer this question, we need to distinguish between monetary policy and financial-stability policy.¹⁴

In general, when we discuss different economic policies, we distinguish policies according to their objectives, their suitable instruments, and the authorities that control the instruments and are responsible for achieving the objectives. For instance, fiscal policy and monetary policy have distinct and different objectives, instruments, and responsible authorities. Still there is considerable interaction between the policies, in that the objectives of fiscal policy are affected by monetary policy and vice versa. Therefore, good fiscal policy has to take the effects of monetary policy on the fiscal policy objectives into account, and vice versa. But the policies are clearly separate policies. Similarly, financial-stability policy and monetary policy are separate, with some interaction.

Regarding monetary policy, for flexible inflation targeting, the objective is price stability and real stability. More concretely, the objective is to stabilize inflation around an inflation target and resource utilization around a long-run sustainable rate. In normal times, the instruments are the policy rate and communication. Communication includes publishing forecasts of the target variables, such as inflation and unemployment, and possible forward guidance, such as publishing a policy rate path, that is, a forecast for the policy rate. In crisis times, the set of instruments include balance sheet policies, such as asset purchases (quantitative easing), fixed-rate lending at longer maturities, and foreign exchange interventions and exchange-rate floors. The authority controlling the instruments and responsible for achieving the objectives is the central bank.

¹⁴ This section builds on Svensson (2014).

Regarding financial-stability policy, the objective is financial stability. The definition of financial stability is not as clear as the definition of price stability. A definition that I prefer is that the financial system can fulfill its three main functions (transforming saving into financing, managing risk, and transmitting payments) with sufficient resilience to disturbances that threaten these functions. The crucial part of the definition is sufficient resilience. Future disturbances and shocks to the financial system, very likely from unexpected directions and of unexpected kinds, are unavoidable. Sufficient resilience to these disturbances is crucial.

In normal times, the instruments of financial-stability policy are supervision, regulation, and communication, including capital and liquidity requirements, loan-to-value caps, banking-resolution requirements, financial-stability reports, and so on. In crisis times, additional instruments include lender of last resort, variable-rate lending at longer maturities (credit easing), guarantees, bank resolution, capital injections, asset purchases, and so on.

The authority or authorities controlling the instruments vary across countries and may include the financial supervisory authority, the central bank, the ministry of finance, the national debt office, a separate bank-resolution authority, and so on.

Clearly, from the above perspective, monetary policy and financial policy are different and distinct, even when the same institution, the central bank, is in charge of both policies.

Importantly, price stability does not lead to financial stability. Monetary policy can achieve price stability, but it cannot achieve financial stability. Monetary policy cannot achieve sufficient resilience of the financial system; for instance, monetary policy obviously cannot ensure that there are sufficient capital and liquidity buffers in the financial system.

Furthermore, financial-stability policy cannot achieve price stability. Financial-stability policy can achieve financial stability, but it cannot stabilize inflation around the inflation target and unemployment around a long-run sustainable rate.

Thus, both policies are needed so that both monetary-policy objectives and financial-stability objectives can be achieved.

Still, there is interaction between the two policies. Financial-stability policy affects financial markets, spreads between different interest rates, and lending by banks. In this way it indirectly affects inflation and resource utilization. Monetary policy affects resource utilization, credit losses, and asset prices. In this way it indirectly affects balance sheets and leverage. Thus, there is interaction between the two policies, just as there is interaction between fiscal policy and monetary policy. But the instruments suitable for achieving the objectives of monetary policy are not suitable for achieving the objectives of financial-stability policy, and vice versa.

My view is that, in normal times, it is therefore best to conduct monetary policy and financial-stability policy independently, with each policy taking the conduct of the other policy into account to best achieve its objectives. This is similar to how monetary policy and fiscal policy are conducted. In game-theory terms, it corresponds to a noncooperative Nash equilibrium rather than a cooperative equilibrium. This is best for two reasons: First, monetary policy is much more effective than financial stability in stabilizing inflation around the inflation target and resource utilization around a long-run sustainable rate, whereas financial-stability policy is much more effective than monetary policy in achieving financial stability. Second, it clarifies the accountability of the authority responsible for each policy. Bean (2014) provides a thorough discussion of why and how a good outcome can be achieved by each policy focusing on its objective.

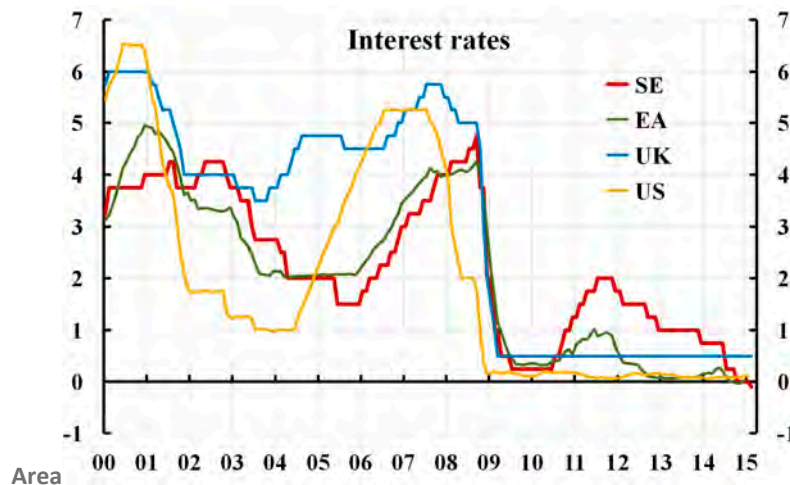
In crisis times, full cooperation and coordinated policies by the relevant authorities are warranted. These authorities may include the financial supervisory authority(ies), the central bank, the ministry of finance, the banking-resolution authority, and so on.

SHOULD MONETARY POLICY LEAN AGAINST THE WIND TO PROMOTE FINANCIAL STABILITY?

Regarding the question of whether monetary policy should lean against the wind (that is, be tighter than justified by stabilizing inflation around the inflation target and resource utilization around a long-run sustainable rate) to promote financial stability, the Swedish experience is very relevant.

The Riksbank, that is the Swedish Central Bank, provides a very clear example of leaning against the wind, having tightened policy aggressively, beginning in the summer of 2010, to limit the growth of household debt. Figure 1 shows the increase in the Riksbank policy rate from 0.25 percent in the summer of 2010 to 2 percent in the summer of 2011. Policy was tightened in spite of an inflation forecast below the Riksbank's inflation target and an unemployment forecast far above the Riksbank's estimate of a long-run sustainable rate of unemployment.¹⁵

Figure 1. Policy Rates in Sweden, the United Kingdom, and the United States; The Eonia Rate in the Euro

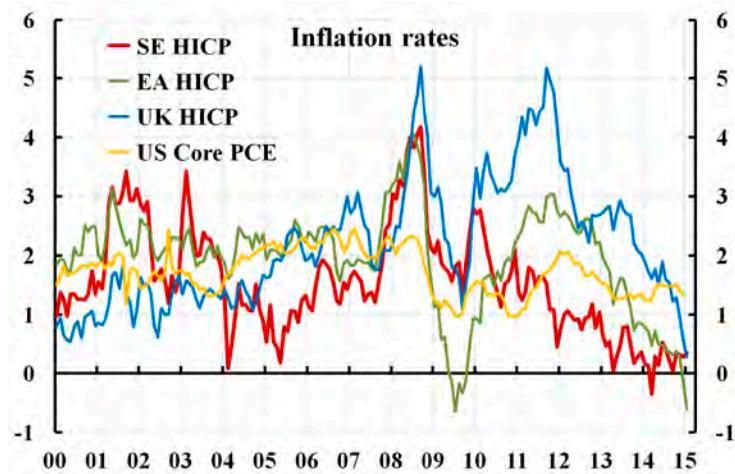


Source: Datastream.

¹⁵ This section builds on Svensson (2015a), to which I refer for details.

Following the tightening, inflation fell quickly. Figure 2 shows inflation for Sweden, the euro area, the United Kingdom, and the United States (measured by HICP for the first three economies to be more comparable across countries, and by core PCE for the United States).

Figure 2. Annual HICP Inflation in Sweden, the Euro Area, and the United Kingdom; Core PCE Inflation in the United States

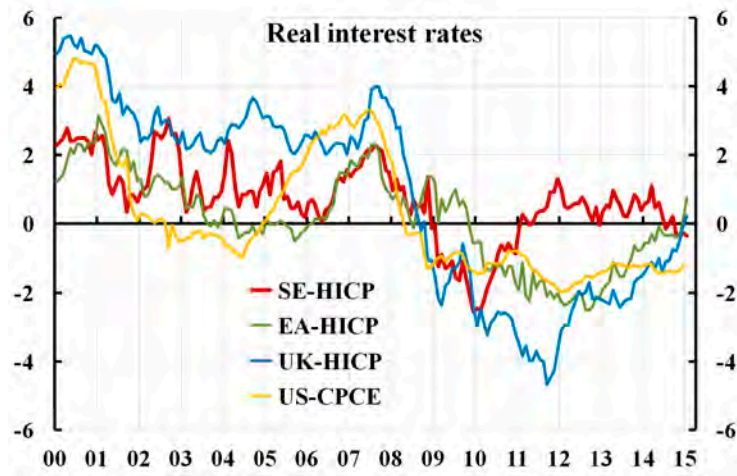


Source: Datastream.

Note: HICP = Harmonised Index of Consumer Prices; PCE = Personal Consumption Expenditures.

An increasing policy rate and falling inflation meant that the real policy rate, measured as the policy rate minus inflation, increased more than the policy rate, as shown in figure 3. The real policy rate in Sweden increased from about -2.5 percent in the beginning of 2010 to about 1 percent at the end of 2011, 3.5 percentage points, a very dramatic tightening of policy. The policy led to a zero or even negative CPI inflation (figure 4, the grey line) and an unemployment rate that has stayed around 8 percent, much above a long-run sustainable rate.

Figure 3. The Real Interest Rate in Sweden, the Euro Area, the United Kingdom, and the United States



Source: Datastream.

Note: HICP = Harmonised Index of Consumer Prices; CPCE = Core Personal Consumption Expenditures.

The Riksbank afterward provided a framework for its policy (Sveriges Riksbank 2013). It acknowledges that there is a cost to the policy, in that a higher policy rate leads to a higher unemployment rate for the next few years. But it argues that a higher policy rate leads to lower real household debt and a lower debt-to-income ratio, and that this, in turn, reduces the probability of a future crisis and reduces the severity of a crisis if one should occur. The benefit is then an expected lower unemployment rate in the future.

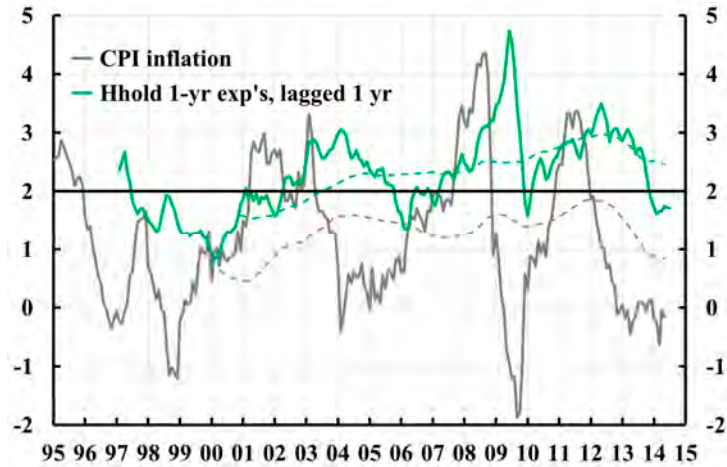
The Riksbank has not published any numerical estimates of the tradeoff between costs and benefits of the policy. However, it has published estimates of the impact of the policy rate on unemployment, real household debt, and the household debt-to-income-ratio (Sveriges Riksbank 2014). The effect on real debt and the debt-to-income ratio is very small and not significantly different from zero. Combining these Riksbank estimates with estimates in the literature of the impact of real debt growth on the probability of a financial crisis (Schularick and Taylor 2012) and the impact of a lower debt-to-income ratio on the increase in the unemployment rate in a crisis (Flodén 2014), and a Riksbank assumption of an on average 5 percentage point increase in the unemployment rate in a crisis (Sveriges Riksbank 2014), it is possible to

calculate the cost and benefit of tighter policy. It turns out that the benefit is miniscule compared with the cost. The benefit (that is, the lower expected future unemployment rate) is about 0.4 percent of the cost (the higher unemployment rate during the first few years). Put differently, the cost is about 250 times the benefit.

Furthermore, the Riksbank experience points to an inherent flaw in a policy of leaning against the wind to limit indebtedness, a policy that, as mentioned, is supported by Bank for International Settlements (2014). As mentioned, leaning against the wind means a policy that is tighter than justified by stabilizing inflation around the inflation target and resource utilization around a long-run sustainable rate. It thus means running inflation, on average, below the inflation target. But inflation targets have become credible in many economies, in the sense that inflation expectations are anchored to the targets. Thus, inflation below the inflation target also means inflation below inflation expectations. This outcome will tend to increase households' and other agents' real debt burdens. It will also increase unemployment and reduce employment and incomes, which will, in turn, reduce the debt-service capacity of indebted agents. The conclusion is that leaning against the wind is generally likely to be counterproductive as a way of managing debt problems.

In particular, in Sweden, actual inflation in the past few years has been running much below the inflation target and households' expectations. Figure 4 shows annual CPI inflation (grey line) and households' expectations of annual inflation one year ahead (green line). One can see that households have generally expected inflation to be somewhat higher than the inflation target of 2 percent. In the figure, households' expectations are lagged one year, so the gap between the grey and the green lines shows the inflation surprise relative to expectations held one year earlier. Inflation has fallen much below expectations during the past few years. One can show that the real value of a loan taken out in November 2011 is about 6.5 percent higher in the spring of 2015 than if inflation had equaled 2 percent.

Figure 4. Annual CPI Inflation and Households' Expectations of Inflation One Year Ahead, Lagged One Year



Source: Datastream.

CONCLUSIONS

Thus, my conclusion is that one should not ask too much from monetary policy. Monetary policy can really at best just stabilize inflation around a given inflation target and resource utilization around an estimated long-run sustainable rate, thereby keeping average inflation on target and average resource utilization equal to the economy's long-run sustainable rate. In particular, monetary policy cannot achieve financial stability; a separate financial-stability policy is needed.

Monetary policy and financial policy are very different, with different objectives and different suitable instruments for achieving the objectives. In normal times, they are best conducted separately, even when the same authority is in charge of both. But each policy should be fully informed about and take into account the conduct and impact of the other policy.

In Sweden, the cost of the Riksbank leaning against the wind may be as much as 250 times the benefit. Furthermore, leaning against the wind is an inherently flawed policy for managing debt problems, since running inflation below credible inflation targets increases households' real debt burden and reduces agents' debt-service capacity. This supports

the notion that monetary policy should be the very last line of defense of financial stability.

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SESSION III

INTEREST RATE LIBERALIZATION, SHADOW BANKING, AND MONETARY TRANSMISSION MECHANISM

INTEREST RATE TRANSMISSION UNDER CHINA'S NEW MONETARY POLICY FRAMEWORK

MA Jun¹⁶

INTEREST RATE TARGETING UNDER THE NEW MONETARY POLICY FRAMEWORK

A main issue of China's current monetary policy framework is its emphasis on monetary aggregates, such as monthly year-over-year M2 growth or loan growth, as the intermediate target (explicitly or implicitly). Against the backdrop of financial innovation and capital account liberalization, strict adherence to money supply growth targets tends to result in excessive interest rate volatility because money demand has become unstable. The author's view is that in the new monetary policy framework, the intermediate target should be a short-term policy rate target, while some monetary aggregates (based on, for example, revised M2) can be used as a medium- and long-term reference. In the short term, there should be only one target, that is, the policy rate; simultaneous pursuit of two different targets (a policy rate and the growth rate of a monetary aggregate) on a monthly basis would be conflicting and may cause market confusion and interest rate volatility.

The new monetary policy framework in China should retain some reference to quantitative indicators, even if the official intermediate target becomes an interest rate, for two reasons. First, about 60 percent of the total social financing in China is still sourced from bank loans. This ratio is similar to that in Europe, where M3 is still used as a medium-term reference for monetary policy, but far higher than that in the United States, where monetary policy operations have abandoned M2 and M3.

¹⁶ Ma Jun is Chief Economist, Research Bureau, People's Bank of China

Monetary aggregates are still useful in a financial system that is dominated by bank lending because they can be part of the measure for monetary condition indices and they can be used for prudential (risk-control) purposes. Second, after some revisions to the current M2 (for example, inclusion of repos, short-term Treasuries, and money market funds), the new broad monetary aggregate could be better correlated with real economy indicators such as GDP and the consumer price index.

In the actual use of the new M2 target as a medium- and long-term reference under the new monetary policy framework, policymakers should avoid making it a “strict” or “serious” target for the short term. In other words, monthly M2 growth rates should be allowed to deviate from the M2 reference rate for extended periods, as long as the long-term moving average of M2 growth is reasonably close to the reference rate. In addition, to enhance the central bank’s ability to stabilize short-term interest rates an interest rate corridor should be established and the bank’s capacity for projecting liquidity should be improved.

IMPROVING POLICY RATE TRANSMISSION

A main task in the reform of China’s macroeconomic management during the next five-year plan is the transition from a quantity-based monetary policy framework to a price-based one. The key to this transition is to shift the intermediate target from quantity targets (such as M2 growth) to the policy rate. International experience shows that there are three conditions for this transition: First, the correlation between quantity targets (such as M2) and real economy indicators (such as GDP and the consumer price index) has substantially weakened; therefore, getting the M2 growth rate right would no longer guarantee achievement of desired growth and inflation rates. Second, adherence to the money supply target tends to generate excessive interest rate volatility as money demand becomes unstable and less predictable. Third, changes in the policy rate can be effectively transmitted to medium- and long-term rates (such as bond yields, and deposit and lending rates) as well as to the real economy.

Our research suggests that China largely meets the first two conditions. However, whether China fulfills the third condition—that is, an effective policy rate transmission mechanism—is still a major question. Based on theoretical and empirical models we assess the interest rate transmission mechanism in China, and make a number of recommendations on how to further improve the transmission. Our key findings include the following:

- The transmission of short-term rate changes to medium- and long-term bond yields in China is largely effective, although slightly weaker than in some developed countries during normal business cycles. These conclusions are based on our event analyses, beta analyses, and no-arbitrage models.
- The loan-to-deposit ratio cap, quantitative restrictions on lending, the very high reserve requirement, soft budget constraint on borrowers, lack of bond market liquidity, and restrictions on bond issuance tend to weaken the effectiveness of policy rate transmission. This result is demonstrated by a static general equilibrium model, and largely confirmed by the dynamic simulation of our dynamic stochastic general equilibrium model.
- The extent of the soft budget constraint on local government financing vehicles (LGFVs) may not be as severe as many observers believe. Our empirical analysis, based on data on more than 1,000 bonds issued by LGFVs, demonstrates that their financing costs do reflect credit risks, and that many LGFVs are sensitive to funding costs.
- Our overall judgment is that interest rate transmission from short-term to long-term rates on the bond market is largely effective, but transmission from short-term market rates to lending and deposit rates is less so.

The main policy implication of this study is that a number of reforms will be needed in the coming years to ensure that the transmission from the policy rate to other interest rates is effective. These reforms include:

First, remove or reduce various policy restrictions (which are largely legacies of the quantity-based policy framework) that weaken

interest rate transmission. Specifically, the cap on the loan-to-deposit ratio and quantitative restrictions on lending should be removed, and the reserve requirement should be gradually reduced, partly to accommodate the need for liquidity creation and partly to improve interest rate transmission. The removal of quantitative restrictions on lending should begin with financial institutions that specialize in lending to small and micro firms and to agriculture, a strategy that is consistent with the government's intention to promote sectoral adjustment. In addition, because the economy is currently facing some downward pressure, some banks are reluctant to lend and the quantitative restrictions are less binding, so we believe that now is a good time to kick off this reform.

Second, take more aggressive measures to harden budget constraints on LGFVs and state-owned enterprises (SOEs). Implementation of the new budget law, substitution of local government bonds for LGFV loans, and disclosure of local government balance sheets will help strengthen budget constraints on local governments and LGFVs. These reforms will help contain the desire of and the ability for local governments and LGFVs to borrow, thereby reducing the need for the central bank to use quantitative restrictions on lending. In addition, acceleration of the mixed ownership reform for SOEs, listing of SOEs on stock exchanges, and removal of implicit guarantees can help harden budget constraints for SOEs. Finally, credit ratings on local government bonds, disclosure requirements, market-based pricing, and improved liquidity will introduce market discipline on local governments.

Third, improve the products, liquidity, and openness of the bond market to facilitate better monetary policy transmission. Our specific recommendations include increasing the size and frequency of issuance of Treasury bonds with maturities of less than two years; allowing banks to participate in the Treasury bond futures market; developing inflate-linked bonds; relaxing controls on qualified foreign institutional investors (QFII), renminbi qualified foreign institutional investors (RQFII), and foreign access to the interbank bond market; relaxing restrictions on bond issuance; and further developing the Negotiable Certificates of Deposits market securitization market, and corporate bond market to

strengthen the linkage between market rates and deposit and lending rates.

INTEREST RATE LIBERALIZATION AND MANAGEMENT

Simon Gray¹⁷

GOALS

The central bank needs to keep in mind its long-term goal—such as achieving and maintaining a low and stable level of price inflation—as well as its short-term operating target (for example, a short-term market interest rate) (*please see the corresponding presentations, including figures and tables*).

- Central banks that use interest rate levers to affect the economy typically target a short-term (mostly overnight) wholesale market interest rate.
- In most cases, a policy-rate open market operation guides short-term market rates, while the standing facilities act as a backstop. (The overnight standing credit facility may function most importantly as a backstop for the payment system.)
- Market arbitrage (competition) allows short-term wholesale market rates to be transmitted from the short-term wholesale markets to the rest of the economy.

The central bank also needs to communicate its goal and its “policy reaction function” (that is, how it is likely to respond to macroeconomic developments). Historically, many central banks kept markets guessing, to some extent, about their policy intentions; but most central banks have found that policy operates more efficiently and effectively if 1) the

¹⁷ Simon Gray, Monetary and Capital Markets, IMF, March 2015.

policy is clearly and simply communicated and (2) implementation clearly supports the stated policy.



Why keep the market guessing?

INCENTIVES

A central bank's goals differ from those of commercial banks: the former seeks to manage inflation and the broader economy; the latter want to make profits. If the central bank's operational framework takes account of commercial bank incentives, it will deliver the policy goal more effectively.

- **Market-based tools** (for example, interest rate instruments) should motivate banks—and the wider financial market—to respond in line with the central bank's intentions.
- **Administrative tools**—such as unremunerated reserve requirements, direct lending, and the like—typically motivate the market to evade the controls. In many countries, this has led to the growth of a “shadow” banking sector.

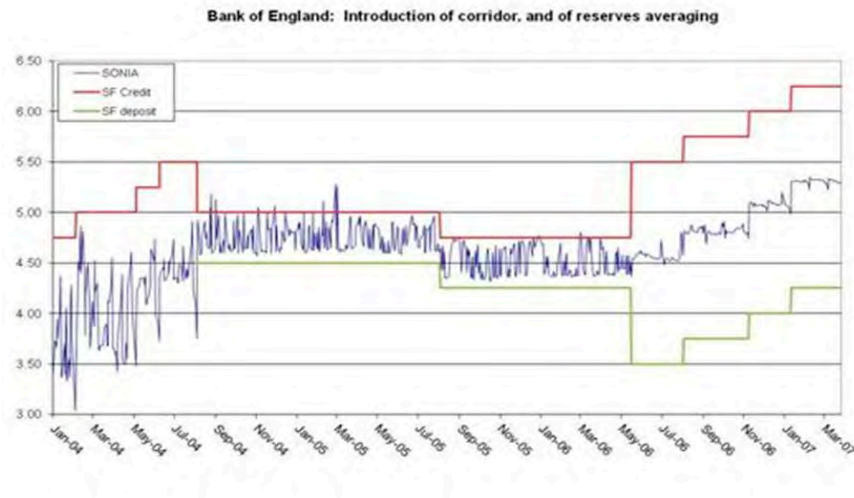
Administrative tools may fail to deliver the central bank's real goals. As an example, controls on deposit rates in the United States (Regulation Q, which prohibited remuneration of checking accounts until 2011) was an important factor in the migration of deposits from banks to money market mutual funds (a market that gave rise to significant systemic risk and required a \$3 trillion government guarantee in 2008). In Iraq before 2004, deposit rates had been fixed by the central bank at the same level for decades. Because the rate was too high for profitable on-lending, banks effectively refused to take some new deposits. Potential customers

were thus deprived not only of a return on funds, but also of access to banking services. Fixing deposit rates administratively meant either that customers did not want the banks, or banks did not want the customers. Neither reaction served the central bank's goals.

BALANCE SHEET

The central bank must move from a policy decision (for example, on a short-term market interest rate target) to implementation if it is to affect the real economy: this takes place through the central bank's balance sheet. It is therefore important to understand the structure of the central bank's balance sheet, which may impose constraints on its operations. Moreover, the central bank should ideally ensure that the size of its transactions with the market, conducted at or around the policy rate target, are sufficiently large to have the desired impact; and in practice it will make a difference whether the central bank is lending to the market or draining surplus reserve balances. (Doing both simultaneously is an indication of market fragmentation.)

The operational framework makes a difference. The chart of overnight interest rates in the United Kingdom from 2004 to 2006 covers a period in which there was no change in the monetary framework: the Bank of England followed inflation targeting, with a 2 percent target, throughout, and there were no interest rate controls or directed lending. But a more effective operational structure—notably, introducing in May 2006 the averaging of remunerated reserve balances over a one-month period—resulted in a major reduction in interest rate volatility. This boosted competition and enhanced monetary policy transmission.



CONTEXT

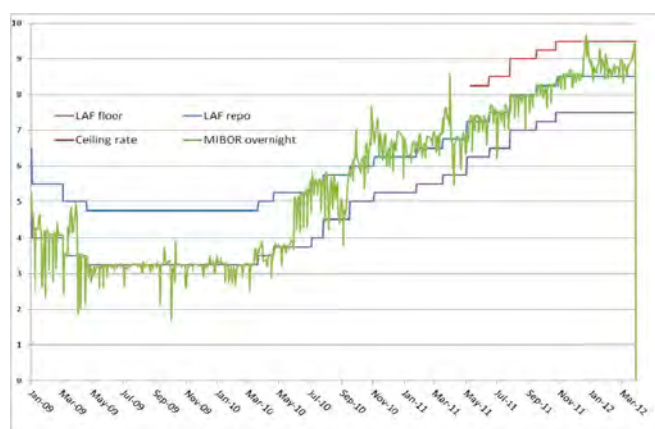
Interest rate liberalization alone is not sufficient to provide a fully effective interest rate transmission mechanism.

- If price controls have been in place for a prolonged period, the “right” price (for example, the appropriate slope of the yield curve, or of credit spreads) cannot be known; the market needs to learn.
- Similarly, the speed and persistence of the market’s response to policy changes (and the subsequent response of inflation) will need to be learned by the central bank.
- Policy transparency is crucial: if the policy is not clear, the central bank’s operational framework will have a hard time implementing it clearly, and markets will find it even harder to transmit it clearly.
- The authorities’ fiscal and exchange rate policies, and subsidiary policies regarding, for example, housing investment, will affect the market’s expectations about the future policy stance of the central bank and the appropriate slope of the yield curve.

“Safety barriers” will be needed, both as the market learns and on an ongoing basis.

- An interest rate corridor may be part of the safety barrier, preventing

market rates from swinging too far as the central bank and commercial banks learn better liquidity management; but over time they will become much less important (see chart of Indian rates during 2009–12: a change in the operational framework was introduced in 2011).



- Appropriate regulation and supervision, to ensure banks (and other financial intermediaries) do not undertake excessive risks, are essential.

CONCLUSION

It is appropriate for the central bank to guide short-term interbank rates, and to do so clearly. If the central bank judges, at a given monetary policy committee meeting, that the appropriate policy rate is X percent, this would normally imply that interbank and wholesale market rates from overnight until the next policy meeting should be stable at close to this level. The central bank's operational framework should then implement this policy, injecting or draining reserve balances as necessary, at the appropriate rate to deliver the targeted market rate. Reserve requirement averaging can provide a useful liquidity buffer to the banks, so that unanticipated fluctuations in reserve money flows do not lead to spikes in market rates.

But longer-term rates should be market determined, reflecting expectations of the central bank's future policy rates, future inflation,

and others. Longer-term interbank rates, out to 12–24 months, should ideally reflect both the current central bank policy rate and market expectations of future policy rates over that period. The clearer the policy framework, the easier it will be for the market to establish a yield curve. Longer-term yields will reflect expectations for inflation and for the real interest rate.

Transmission of a central bank’s policy rates via its interface with the banks to market rates more broadly functions most effectively when there is competition in the markets. Since banks aim for profit maximization, an element of competition is needed to give them an incentive to respond to changes in central bank policy rates. In the absence of competition, banks may be slow to raise deposit rates when the central bank tightens policy, and slow to cut lending rates when there is policy easing. Additionally, arbitrage between different parts of the market—by banks and by their customers—should help bring various market rates in line with each other and with the central bank’s policy rate.¹⁸

Safety barriers—policy rate corridor, good regulation, competition, and transparency—are important both during liberalization and in normal times. As a central bank improves its interest rate and liquidity management, some instruments may be used less, but can, and indeed should, be kept in place. Standing credit and deposit facilities form a useful safety barrier as the central bank improves its liquidity management, preventing market rates from moving too far from the policy target. Although very little use may be made of them later on, they should still be kept in place. In a transition to more liberalized interest rates, regulation and supervision are important to ensure that banks do not take excessive risks in the new environment; but even when banks

¹⁸ For example, if the central bank cuts policy rates and is expected to keep them at a low level, then 6–12 month security returns will seem more attractive. As market participants increase demand for these securities, the price should rise, bringing down the yield so that it is in line with expected future short-term policy rates.

are more familiar with fully liberalized rates, regulation and supervision of interest rate risk remains essential.

Interest rate liberalization does not mean that the central bank loses control; indeed, the transmission from policy setting to market impact should be strengthened. Clear policy setting coupled with market-based instruments that give intermediaries an incentive to respond to the central bank's policy, rather than an incentive to evade controls, is, in the medium term, more effective and more supportive of market development.

FINANCIAL INNOVATION AND REGULATION AND THE MONETARY TRANSMISSION MECHANISM: SOME LESSONS FROM THE U.S. EXPERIENCE

Andrew Levin¹⁹

In formulating monetary policy strategy and communications, one crucial element is to assess the characteristics of the monetary transmission mechanism, that is, how do adjustments in the monetary policy stance affect aggregate spending and consumer inflation? What are the specific channels through which those effects are conveyed? And how is the transmission mechanism affected by financial innovation and by changes in financial regulation? *(Please see the corresponding presentations, including figures and tables).*

For the U.S. economy, this topic has been considered in a large number of macroeconomic studies. The FRB/US model—the workhorse macroeconomic model at the Federal Reserve Board—provides a useful set of benchmark results. For example, a persistent reduction of 1 percentage point in the level of the target federal funds rate has been estimated to raise real GDP by about 1¾ percent and to push up consumer inflation by about 0.6 percent over the course of two years. The channels for those effects include a decline in borrowing rates for consumers and businesses, a rise in prices of equities and other financial assets, and depreciation of the foreign exchange value of the U.S. dollar.

In addition, the expectations of households and businesses play a key role in influencing the near-term effects of monetary policy actions.

¹⁹ Andrew Levin is an adviser in the Research Department at the International Monetary Fund. This document is a synopsis of his presentation at a conference organized by the IMF and the People’s Bank of China that was held in Beijing on March 16, 2015. The views expressed herein are solely the responsibility of the author and should not be interpreted as reflecting the views of the IMF or of any other individual or institution.

The U.S. historical experience with financial innovation and regulation also provides a number of potentially valuable lessons that policymakers at the People's Bank of China may wish to consider.

Bank Runs. Throughout the 1800s and early 1900s, the U.S. banking system experienced recurring episodes of bank runs in which depositors withdrew their funds and held cash until the panic had subsided. Such bank runs were associated with sharp contractions in the supply of bank credit to homeowners and small businesses, most notably during the onset of the Great Depression. There have not been any runs on U.S. banking institutions since the deposit insurance system was established in 1933. The recent financial crisis was associated with runs in the shadow banking sector, and hence the U.S. government provided certain temporary guarantees to stem such runs.

==> Implement a deposit insurance system and clarify the conditions under which the government will provide guarantees to large depositors or shadow banking institutions.²⁰

Deposit Rate Ceilings. In the mid-1960s, the U.S. government imposed interest rate ceilings on savings deposits and prohibited banking institutions from paying interest on demand deposits. Those ceilings contributed to the rapid growth of money market funds (MMFs), which only held Treasury securities and commercial paper and hence were exempt from banking regulations. Thus, whenever the Fed pushed up interest rates, depositors would shift funds from banks to MMFs, resulting in a "credit crunch" for homeowners and businesses; that is, monetary tightening was mainly reflected in credit quantities rather than lending rates. Such ceilings were phased out during the 1980s.

==> Deposit rate ceilings distort the monetary transmission mechanism and should be phased out.²¹

²⁰ China's deposit insurance system became effective in May 2015.

²¹ China is set to fully liberalize deposits rates by the end of 2015.

Maturity Mismatches. U.S. savings and loan institutions (S&Ls) thrived during the 1950s and 1960s by using short-term deposits to finance long-term mortgages with fixed nominal interest rates. However, S&Ls' balance sheets were subsequently eroded by high inflation and deteriorated further when the Federal Reserve tightened monetary policy sharply in 1979–82, causing a severe contraction in residential construction. The U.S. government sought to mitigate these problems by allowing S&Ls to sell off their mortgage holdings and purchase other assets, which in turn triggered a “search for yield” that resulted in even riskier S&L balance sheets. Ultimately, about one-third of all S&Ls were liquidated at substantial cost to U.S. taxpayers.

==> *Supervision and regulation is crucial for ensuring that financial institutions appropriately manage the extent of maturity risk on their balance sheets.*

Mortgage Securitization. In the 1980s, S&Ls began selling mortgage loans on the secondary market, contributing to the rapid expansion of mortgage pools held by government-sponsored enterprises (GSEs), which financed those mortgage pools by issuing mortgage-backed securities. Consequently, the share of U.S. mortgage debt intermediated by GSEs rose from 10 percent in 1980 to nearly 50 percent by 2000. Empirical analysis indicates that these market developments have generally facilitated smoother adjustments of residential construction in response to shifts in the stance of monetary policy. However, securities markets are also susceptible to “credit crunches,” which became evident during the intensification of the U.S. financial crisis in 2008.

==> *The securitization of mortgages and other types of bank lending can have beneficial effects on the monetary transmission mechanism but also poses crucial macroprudential challenges.*

The Expectations Channel. The U.S. experience over the past several decades underscores the benefits of clear central bank communications, which enhance the effectiveness of the monetary transmission mechanism by helping financial market participants and the general public understand how the monetary policy stance is likely to evolve. In particular, there are clear benefits of establishing a medium-term inflation goal that provides a firm anchor for inflation expectations.

==> Specify a fixed numerical goal for inflation over the medium run that can serve as the cornerstone for the central bank's monetary policy strategy and communications.

SESSION IV
MACROPRUDENTIAL POLICY
COORDINATION: INTERNATIONAL
EXPERIENCE

FINANCIAL SECTOR OPENING AND MACROPRUDENTIAL POLICY COORDINATION: THE EXPERIENCE OF INDONESIA

Halim Alamsyah²²

INDONESIAN FINANCIAL SYSTEM

Since the early 1980s, Indonesia has embarked on far-reaching deregulation measures in both its monetary and financial systems (*please see the corresponding presentations, including figures and tables*). Declining oil revenues in 1983 led Indonesia to introduce the first monetary deregulation measures, among them the abolishment of interest rate controls and the reduction of the reserve requirement ratio from 30 percent to only 2 percent of deposits. The deregulation measures continued in 1988 when the government effectively lifted barriers to entry in several sectors, including banking, capital markets, and the nonbank financial sector, in efforts to promote alternative sources of funding. However, deregulation measures without commensurate efforts to strengthen prudential oversight, risk management, and corporate governance, especially in the financial sector, are known to be perilous. Doing so put the banking sector in a vulnerable position when the Asian financial crisis took place in 1997–98. The crisis pointed out some important lessons, specifically that reforming the Indonesian banking system and strengthening surveillance of financial system stability are critical to ensuring that the financial system can meet the needs of Indonesian economic development. In hindsight, the banking reformation following the Asian crisis had positive impacts on the Indonesian financial system and the economy as a whole. The nation subsequently weathered the global financial crisis in 2008 relatively unscathed.

²² Halim Alamsyah is Deputy Governor, Central Bank of Indonesia.

In the aftermath of the Asian crisis, Bank Indonesia (BI) as the central bank was made an independent state institution in 1999. The Central Bank Act provided for the establishment of a separate banking supervisory authority. After more than a decade, Indonesia established a new financial system supervision body, known as Otoritas Jasa Keuangan (OJK or Indonesian FSA) in 2011. OJK's earliest function was to supervise nonbank financial institutions (NBFIs) and the capital market; banking supervision was transferred from BI by the end of 2013. Based on the experiences of other countries, Indonesia had adopted a unified financial system authority responsible for microprudential regulation and supervision, while Bank Indonesia as the central bank retains its responsibility for macroprudential regulation and surveillance. Both institutions, however, are also responsible for maintaining the stability of the financial system as a whole.

The banking sector is still the largest sector in the Indonesian financial system, holding approximately 71 percent of total financial assets. Accordingly, movements in the Indonesian economy are mainly affected by the ups and downs in the banking sector, as shown by economic and banking indicators. For instance, in 1998 when Indonesia was hit by the Asian crisis, the capital banking industry's capital adequacy ratio plunged to -15.70 percent, while GDP growth dropped to -13.1 percent. When the Indonesia economy grew during 2010 to 2014, the banking industry also increased its capital base along with the expansion in the GDP growth.

FINANCIAL SYSTEM AUTHORITIES ARRANGEMENT IN INDONESIA

In Indonesia, there are four financial system authorities—BI, OJK, LPS (Indonesian Deposit Insurance Corporation (DIC) and the Ministry of Finance (MoF). BI and OJK are the only authorities that conduct direct supervision over the financial system. Each institution has its own role, as follows:

- BI is responsible for the monetary and payment systems and

macroprudential policy, and is also the lender of the last resort. Given its scope and mandate, BI has the broadest area of supervision, which encompasses not only financial institution, but also corporations and households.

- OJK is in charge of microprudential policy and consumer protection. Its area of supervision mainly focuses on financial markets and institutions.
- LPS is responsible for providing deposit insurance and has a significant role in banking resolution. Presently, deposit insurance coverage is limited to banking deposits.
- Through its mandate in fiscal policy, the MoF can influence the development of the financial system. Additionally, the MoF is the only financial authority that has the power to propose a bill to Parliament, including proposed laws regarding financial sector.

The four institutions regularly meet and discuss financial system issues in the so-called Financial System Stability Forum (FKSSK), in which the MoF acts as coordinator. This arrangement is a work in progress, with a view to having a more rigorous and stronger legal foundation when addressing and tackling financial system stability issues, for example, crisis management and prevention.

Conceptually, BI focuses more on financial system stability while OJK focuses more on the soundness and safety of individual financial institutions, which at the end will also affect financial system stability. Nonetheless, some overlapping of BI and OJK authority and power is inevitable, in particular because they have the same objectives of supervision, making close coordination and collaboration between the two institutions crucial.

MACRO- AND MICRO-PRUDENTIAL COORDINATION

The governance structures of BI and OJK are different from one another, which consequently raises some issues in relation to coordination between the two organizations:

- The Governor of the BI has the right of veto; while the Chairman of OJK does not.
- All Board members of the BI are responsible for overseeing BI's operations. Each deputy governor, as well as the Governor, is personally in charge of some specific areas or sectors (for example, monetary, payment system, macroprudential, internal management). In OJK, only the Chief Executives, who are also members of the Board of Commissioners, have direct power to oversee the banking, NBFIs, or capital market sectors, while the other members of the Board of Commissioners handle internal and external arrangements.

BI and OJK have agreed on the necessity to build strong coordination. First, as mandated by OJK law, one Deputy Governor of BI is also assigned to be a member of OJK's Board of Commissioners; that official's title is Ex-Officio Commissioner from BI. The ex-officio member shares similar responsibility with the other Board members, that is, a collective and collegial decision-making process and the same mandate to oversee the Chief Executives operational jobs. Second, BI and OJK have also established a Macro- and Micro-Prudential Coordination Forum to discuss and solve any coordination issues, from technical to high-level issues.

Nevertheless, the characteristics of the governance structures of the two institutions sometimes still raise some coordination issues. First, the different timing and speed of their decision-making processes may inhibit a speedier process. The decision-making process thus becomes more time consuming and may delay implementation of some important recommendations. Second, the institutions may have different priorities, making it necessary to carefully, yet flexibly, plan their scheduled meetings even when urgent solutions may be necessary. Third, the governance structures, especially in OJK, are not ideal. The separate

compartments with relatively well-contained mandates for banking, NBFIs, and the capital market may create internal coordination issues in OJK and may have some impact on coordination with the rest of the FKSSK members.

PROPOSED METHODOLOGY TO IDENTIFY MACRO- AND MICRO-PRUDENTIAL POLICY INSTRUMENTS

According to the law, BI has the power to formulate and issue macroprudential regulations. However, because macroprudential policy instruments are basically identical to prudential regulations, it is not easy to determine which policy instruments or regulations are more closely akin to macro- or micro-prudential instruments. Any prudential regulation can basically be assumed to be macro- or micro-prudential, depending on the perspective used.

BI and OJK are trying to build a framework to facilitate the identification of regulations or instruments as macro- or micro-prudential. The proposed methodology is to try to identify the macro and micro impacts of the regulations in advance, along with the effectiveness of the regulations in affecting the behavior of the financial institutions (banks). If a proposed new regulation has more macro impacts and may affect the behavior of all banks, then it may be appropriate for BI to take the lead in the formulation of the regulation. However, if the regulation has more micro impacts and is targeted to the behavior of individual banks, including different regulation for different class of banks, then OJK should take the lead. The process may arguably be tedious, however, the impacts of these new regulations need to be thoroughly understood before determining which institution has the ruling power, to avoid any unintended consequences. For example, for time-varying regulations such as reserve requirements or loan-to-value ratios, BI should have more power to formulate and issue the policy instrument, whereas for structural policy (for example corporate governance, risk management, ownership, product licensing), OJK should be the sole authority.

Nevertheless, the segregation of macro- and micro-prudential is still not clear cut. For regulations such as capital adequacy and foreign exchange transaction, BI and OJK may need to coordinate their plans because those types of regulations will have both macro (financial stability) and micro (individual bank) impacts. The two institutions need to discuss policy segregation with a good understanding of each other's role and a mutual understanding of the problems being faced by the financial system and the economy as a whole. As an illustration, the net open position (NOP) regulation has elements of both macro- and micro-prudential instruments. As a tool for managing exchange rate risk and stability, NOP can be viewed as a macro-prudential instrument; but at the same time, because it can limit an individual bank's currency risk exposure, it can also be viewed as a micro-prudential instrument. In this case, both institutions should be able to regulate the instrument: the mechanism or method of calculating NOP may be determined by OJK, while the timing of settlement for the NOP calculation (for example, every 30 minutes or end of day only) can be determined by BI. The liquidity coverage ratio, the net stable funding ratio, and the loan-to-income ratio have similar issues.

In addition to coordination in regulating the system, BI and OJK must also work hand in hand in some other areas, such as the market deepening program and establishing financial system safety net (FSSN) framework.

THE CHALLENGES AHEAD

Good coordination will prove to be invaluable in times of crisis. Therefore, BI, OJK, and other relevant authorities have to strengthen their coordination framework, especially during the crisis period. The four authorities are still in the process of formulating the new Crisis Management Protocol (CMP) and will propose an FSSN law in the near future. The proposed CMP and FSSN law should resolve some critical issues, such as which institution should determine systemically important bank designation and how to differentiate illiquid but solvent banks from insolvent banks.

Furthermore, BI and OJK have to ensure that the financial sector is not overburdened by heavy, not to mention counterproductive, regulations from both authorities. Another important issue is the regulation gap between financial industries, such as banking and NBFIs. This gap also needs to be reduced to minimize regulatory arbitrage.

SOME KEY LESSONS

In a distributed system of financial authority, in which macro- and microprudential authorities are separated, strong coordination and collaboration become indispensable to achieving each institution's mandate as well as the overarching objective of maintaining financial stability. Some lessons to be taken away are as follows:

- The overlapping area between macro- and microprudential is inevitable based on the same objects of supervision and the similarity of policy instruments. To segregate policy instruments into macro- and microprudential categories is both difficult and time consuming. It may never be a clear-cut process, thus good communication and understanding between the two institutions will be critical in finding a real solution.
- Good coordination will pay off in times of crisis. Therefore, the authorities need to build a strong commitment and well-designed arrangements that will serve not only during normal times, but also during crisis times.
- The trade-off between the cost of financial crises and the cost of macroprudential policy requires authorities to thoroughly understand other institution's mandate and to increase their knowledge of macroprudential policies, including how the policies are transmitted to the financial system.

MACROPRUDENTIAL POLICY FRAMEWORK: PRINCIPLES AND PRACTICE

Ratna Sahay²³

WHY MACROPRUDENTIAL POLICY?

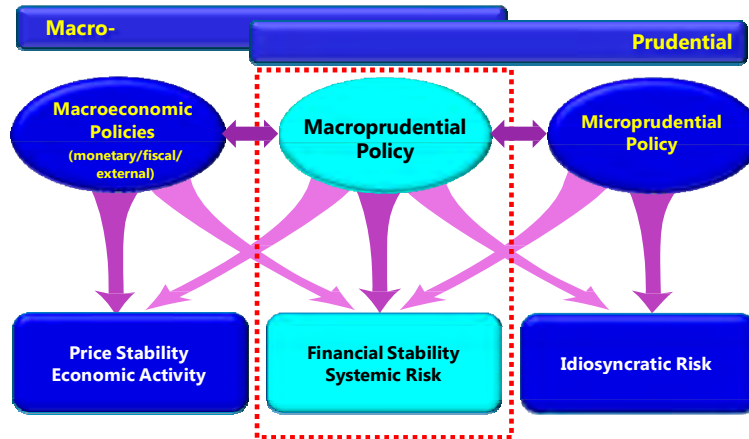
- **We define macroprudential policy as: the use of primarily prudential tools to limit systemic risk, to achieve the stability of financial system as a whole.**
 - Or in other words: to reduce risk of disruptions to the provision of financial services that can cause serious negative consequences for the real economy.
- **This chart illustrates the primary objective of macroprudential policy in relation to that of monetary and microprudential policies.**
 - **Microprudential policies** are aimed at ensuring the good health of individual financial institutions and contribute to a stable financial system. This is in the interest ultimately of depositors and those who have claims on financial institutions (including banks, insurance companies and pension funds).
 - **Macroprudential policies** are intended to ensure the good health of the financial system as a whole. In particular, they are intended to limit systemic risk—that is, the risk of disruptions to the provision of financial services due to impairment of all or parts of the financial system, which can have serious adverse consequences for the whole economy.
 - **Monetary policy**, of course, is the use of policy interest rates and other levers to keep inflation close to (an implicit or explicit) target

²³ Ratna Sahay is Deputy Director of Monetary and Capital Markets Department, IMF

and output close to potential.

- Each policy has to do its own job well but also complement the others. This is not an easy task because there are difficult trade-offs.

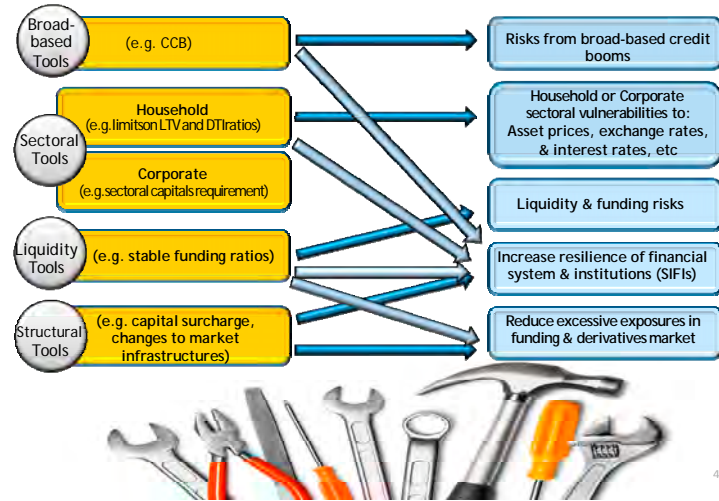
Why Macroprudential Policy?



WHAT TOOLS?

- A range of tools are at the authorities' disposal.
 - **Broad-based tools** are targeted at lenders and include the countercyclical capital buffer that protects the system from overall credit booms and increases the resilience of financial systems.
 - **Sectoral tools** are targeted at the **household and corporate sectors**. Sectoral tools increase the resilience of households or firms to asset price busts by reducing their leveraged and increase the resilience of financial institutions by making them hold more buffers.
 - **Liquidity tools** aim to mitigate systemic liquidity risks by reducing the exposure to vulnerable noncore funding
 - Finally, **structural tools** address risks of contagion transmitted through interlinkages within the financial system.

What Tools?

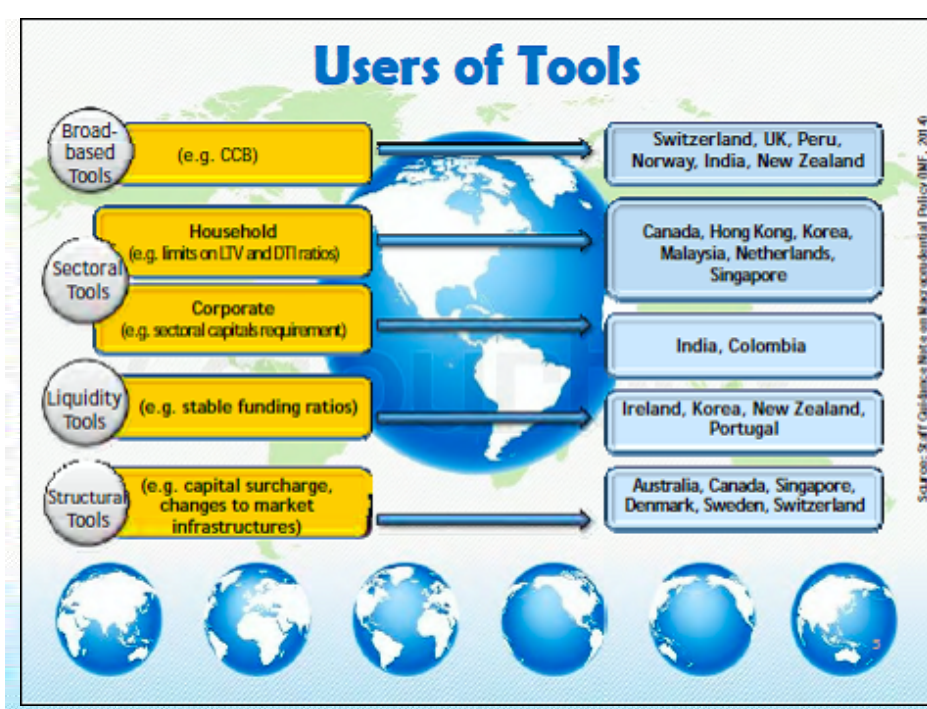


WHO ARE THE USERS OF TOOLS?

- These are just a few **examples** of users of these measures. Many other countries are adopting similar measures. In addition, phasing-in of international requirements under the Basel III framework are being phased in.
 - A growing number of countries are implementing a countercyclical capital buffer framework, following the Basel guidance. Some early adopters are India, New Zealand, Norway, Peru, and Switzerland.
 - Instruments targeting the **household sector** are widely used globally. Examples from Asia are Hong Kong SAR, Korea, Malaysia, and Singapore.
 - Examples of measures targeted at **corporate exposures** are risk weights on exposures to commercial real estate in India, and dynamic provisioning for commercial loans in Colombia.
 - **Liquidity tools** in the form of stable funding requirements were introduced in Ireland, Korea, New Zealand, and Portugal. Other

liquidity tools, such as reserve requirements or limits on foreign exchange positions, are more widely used.

➤ A number of countries require major banks to maintain additional **capital surcharges**, for example, Australia, Austria, Canada, Denmark, Singapore, Sweden, and Switzerland. In a survey conducted by the IMF, 35 additional countries reported plans to introduce capital surcharges on systemically-important financial institutions (SIFIs) within the next two years.



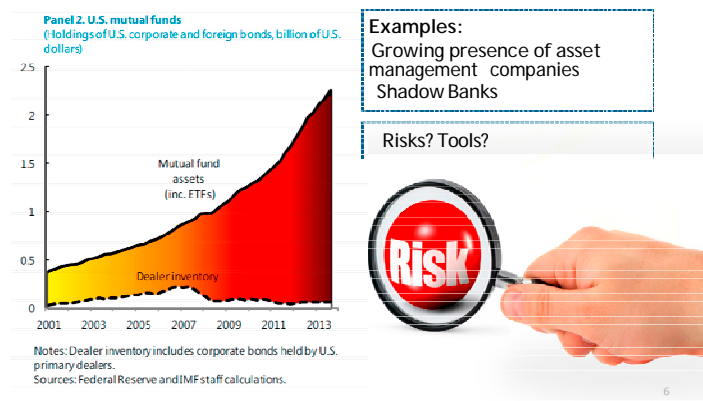
TOOLKITS NEED TO KEEP UP WITH INNOVATIONS

- An important implication of applying prudential measures is that activities will migrate to **parts of the financial system that are not, or are less intensively regulated**, often referred to as shadow banking.
 - Example: **An increase in credit market investments via mutual funds and exchange-traded funds (ETFs)**. The concern is that if investors seek to withdraw massively from mutual funds and ETFs

focused on relatively illiquid high-yield bonds or leveraged loans, the pressure could lead to fire sales in credit markets (Stein, 2013). Indeed, heavy outflows from corporate bond mutual funds and ETFs in May–June 2013 were accompanied by significant distortions in the U.S. high-yield corporate bond market.

- So not only should sufficient information from regulated entities, be obtained to detect the buildup of systemic risk, but the migration of activities should also be monitored to prevent developments elsewhere in the financial system from remaining undetected and new information gaps from arising.

Toolkit Needs to Keep Up with Innovations



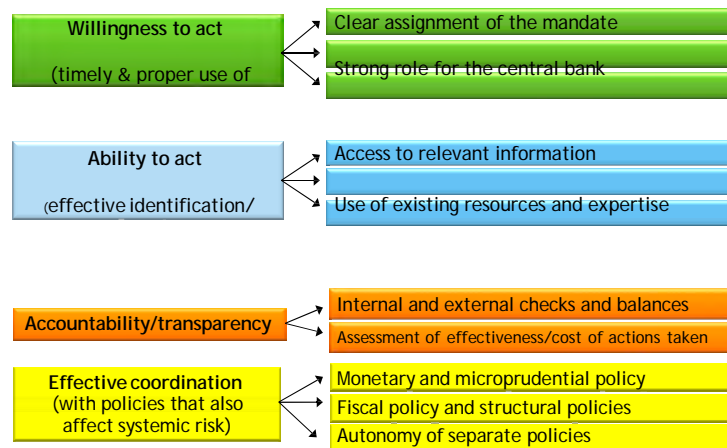
WHAT PRINCIPLES ARE NEEDED FOR STRONG INSTITUTIONS?

- No one-size fits all, but there are some **basic principles**:
 - To strengthen “**willingness to act**,” it is important that the macroprudential mandate be assigned to **someone** - a body (an existing institution) or a committee.
 - The **central bank** should play an important role.
 - To achieve “**ability to act**,” the macroprudential authority should have clearly defined **objectives** and **powers** that should preferably be

established in law;

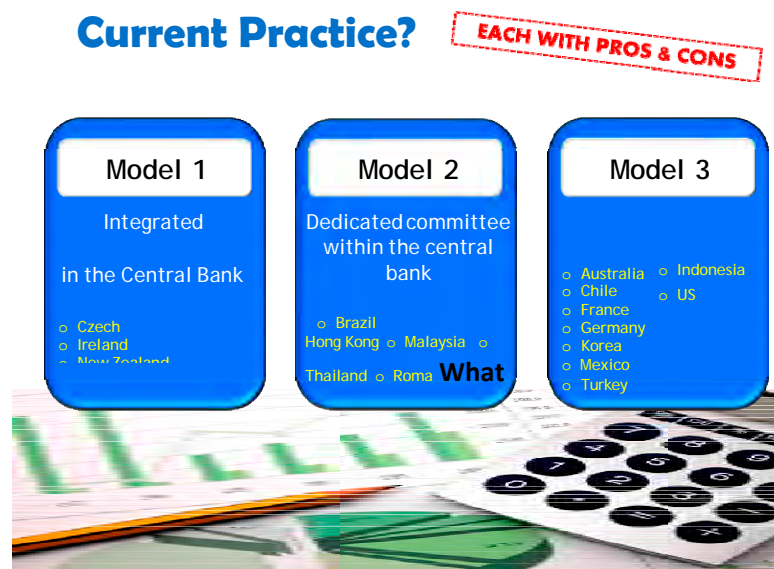
- These **powers** should allow the authority to wield policy tools; obtain information; and expand the range of action beyond established prudential tools, and beyond the existing regulatory perimeter.
 - They can usefully combine **hard powers** over specific macroprudential tools, **powers to recommend**, coupled with **comply or explain**, and **soft powers** (advisory role). But soft powers alone are unlikely to be sufficient to enable action.
 - To guide their use, these powers should be complemented by a range of **accountability** and **communication** mechanisms.
 - The framework needs to **foster cooperation** on the part of other supervisory and regulatory agencies.
- A lack of effective institutional arrangements can pose **material risks** for domestic and global stability.

What Principles for Strong Institutions?

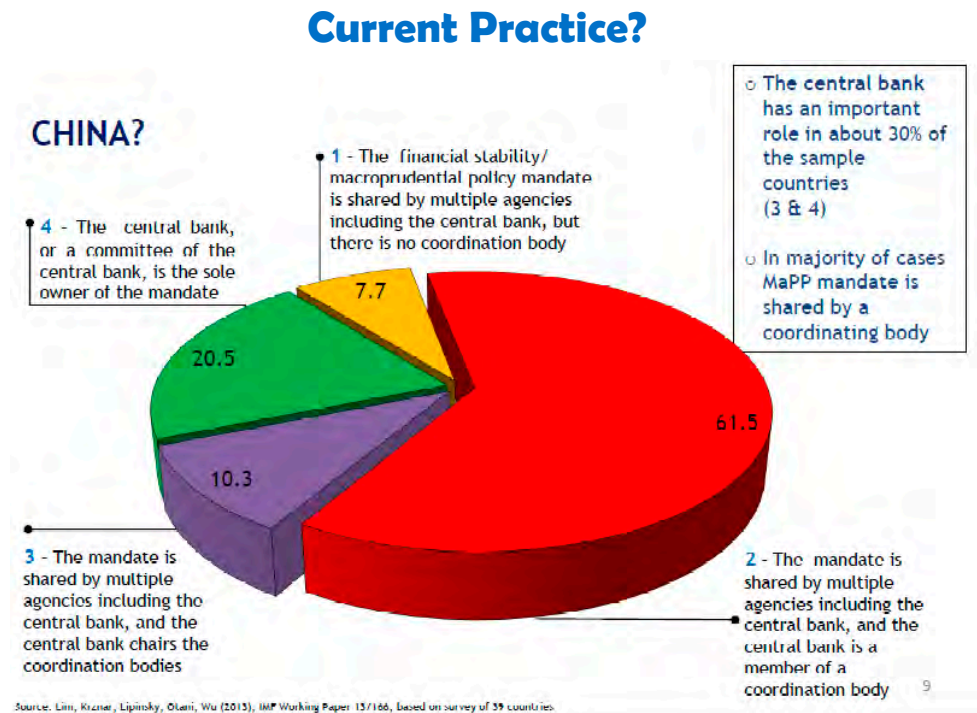


WHAT IS THE CURRENT PRACTICE?

- Three models are increasingly prevalent for macroprudential policymaking.
 - Model 1 is a natural arrangement in which the relevant regulatory and supervisory powers are concentrated in the central bank.
 - Model 2 helps counter the risk of dual mandates for the central bank. It also allows for participation of separate supervisory agencies and external experts on a decision-making committee.
 - Model 3 brings together separate supervisory agencies. This model can accommodate a stronger role for the Ministry of Finance.



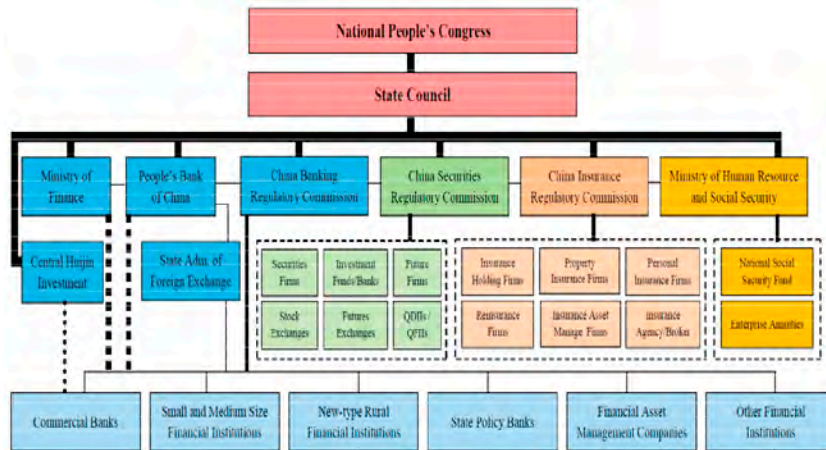
- More than half of the responding countries indicate that macroprudential policy is a shared responsibility, involving the central bank together with a number of other authorities, often through a committee structure.



CHINA'S MACROPRUDENTIAL FRAMEWORK

- China's framework demands a high degree of coordination to limit a supervisory blind spot.

China: Macroprudential Framework

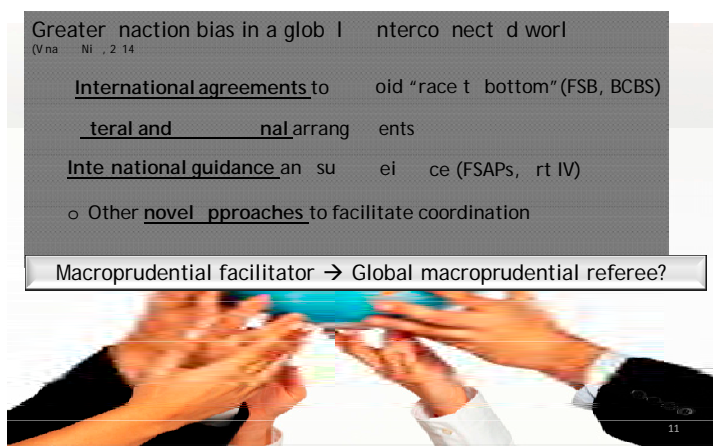


Source: IMF (2011)

WHEN IS CROSS-BORDER COORDINATION REQUIRED?

- In a globally interconnected world, problems related to inaction bias for macroprudential policy is magnified:
 - Absence of a global macroprudential authority
 - Differences in the phase of financial cycles across countries
 - Conflict of interest between home-host authorities of global banks
 - Leakage of measures adopted at the national level
 - Race to the bottom.
- For effective coordination of macroprudential policy actions, national arrangements can be buttressed by
 - International agreements on the standards
 - Bilateral and regional arrangements
 - International guidance and surveillance.

When Should Cross-Border Coordination Be Pursued?



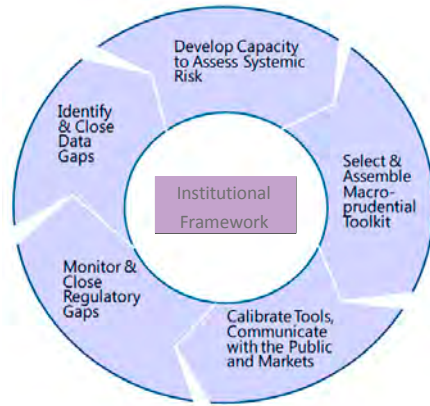
CONCLUSION: MACROPRUDENTIAL POLICY IS AN EVOLVING PROCESS

- Operating macroprudential policy is the **turning of a policy wheel**, consisting of five continuous steps that needs to be turned and supported by a strong institutional framework.
- Strong institutional frameworks are crucial because **macroprudential policy is subject to a strong bias toward inaction**. The costs (impact on parts of society, or on parts of the financial system) are immediate and real, whereas the benefits lie in the future and are uncertain.
- Strong institutions will
 - Guard against political and industry pressures to delay action
 - Provide the legal foundation for using macroprudential policy
 - Avoid using macroprudential policy beyond its call of duty
- Also, **someone needs to be in charge of filling data gaps and regulatory gaps**. Otherwise, risks will fall through the cracks.

Conclusion: Macroprudential Policy Is an Evolving Process

GOALS

- ✓ Overcome inaction bias
- ✓ Avoid regulatory blind spots
- ✓ Avoid using macroprudential policy beyond its call of duty



A STATE FINANCIAL STABILITY COMMISSION FOR CHINA?

HUANG Yiping²⁴

Since the global financial crisis, many governments have tried to incorporate macro-prudential policies into the broad economic and financial policy framework. An important lesson learned from the “Greenspan put” is that extraordinarily loose monetary policy could lead to an asset bubble and cause a financial crisis, as a result of the moral hazard problem. Later, both the G20 and the Financial Stability Board designed macro-prudential policy mechanisms, applying instruments such as capital requirements, provisioning, and leverage ratios.

China’s first macro-prudential policy may be traced back to the “People’s Bank of China Law,” enacted in 1995, which granted the responsibility of maintaining financial stability to the PBC. Since then, China has formulated a relatively complete macro-prudential policy framework, in terms of both institutions and instruments. However, this industry-segmented regulatory framework also suffers from a major setback, that is, lack of effective coordination. Without clear division of labor and accountability, it could generate problems of either a regulatory vacuum or overregulation. Therefore, one top priority for reform of China’s regulatory system is to establish a high-level State Financial Stability Commission to promote information sharing and policy coordination.

Without a doubt, the Chinese government has already achieved a great deal in constructing the macro-prudential policy framework. First, there is already a comprehensive organizational system, consisting mainly of the PBC, the China Banking Regulatory Commission (CBRC), the China Securities Regulatory Commission (CSRC), and the China Insurance Regulatory Commission (CIRC). In addition, the Ministry of Finance and

²⁴ HUANG Yiping is Professor of National School of Development, Peking University.

the National Development and Reform Commission also play a part in macro-prudential policy. A key feature of this segregated system is that individual organizations operate independently. But there is an interdepartmental coordination committee among PBC, CBRC, CSRC, and CIRC.

Second, there is already a relatively rich box of policy tools. The Chinese authorities have built a relatively complete macro-prudential regulation procedure comprising entry, and on-site and off-site inspection. Various regulatory bodies routinely use tools such as capital adequacy, provisioning, liquidity requirements, and leverage ratios. Both PBC and CBRC conducted various rounds of stress tests for commercial banks. The regulatory bodies also formulated an early-warning system and provided risk advice on property markets, shadow banks, and local government investment vehicles (LGIVs). CBRC also improved the CAMEL system and, in 2012, proposed additional capital requirement for countercyclical purposes and for systemically important financial institutions. In 2009, when commercial banks' balance sheets started to expand dramatically, CBRC raised the capital adequacy ratio from 8 percent to 10–11 percent and loan provisioning from 100 percent to 150 percent, in anticipation of rising financial risks.

Finally, the regulatory bodies are also innovative in the face of new businesses. Since the global financial crisis, China's financial system has seen a number of new developments: shadow banking grew rapidly; internet finance emerged; and cross-selling and cross-investment also occurred among banking, securities, and insurance industries. Regulators quickly proposed new methods for regulating these new businesses. For instance, CBRC devised regulatory tools for trust and wealth management products. PBC formulated five principles for regulating internet finance.

However, the current macro-prudential policy framework may not be sufficient going forward given that the Chinese economy faces the tough tasks of “de-bubble, de-leverage, and de-production capacity.” On the one hand, the economy has accumulated a lot of financial risks. Property bubbles are significant in most cities as measured by vacancy rates, price-income ratios, or rental yields. Total borrowing by

nonfinancial firms is equivalent to 240 percent of GDP, an astonishing 80 percentage point increase since 2007. Excess capacity in many manufacturing industries average 30–40 percent, due to both rapidly rising labor costs and the slowing economy. In addition, local government investment vehicles (LGIV) have accumulated more than RMB 18 trillion in borrowing; more than three-quarters of the LGIVs cannot cover their interest payments using cash flows. The nonperforming loan ratios of commercial banks are also growing rapidly. Although the official data still only report NPLs at about 2 percent, market analysts point to a more realistic range of 7–8 percent.

In addition, financial instability could worsen in the coming years because of slowing economic growth and liberalization of the financial system. Financial risks were not low in the past, but three key factors kept such risks from exploding: a closed financial market, rapid economic growth, and the government's strong balance sheet, including its enormous foreign reserves. However, all these factors will change in the coming years. Can China remain the only major economy to escape a major financial crisis? The answer is uncertain.

To avert a financial crisis, or even for the purposes of crisis management, the Chinese regulatory system needs to be improved significantly. First, both a clear division of labor and effective coordination among the different regulatory bodies are lacking. For instance, the CBRC applies capital adequacy and loan provisioning requirements, and provides risk advice to commercial banks. The PBC also uses window guidance and loan quotas to regulate the banks. Both organizations conduct stress tests. To what extent are such regulations by the CBRC and the PBC redundant or, even worse, conflicting? A segregated regulatory system is not uncommon in large countries, but normally there is an effective coordination mechanism. In Japan, the coordination committee is chaired by the Prime Minister, whereas in Korea, it is chaired by a government representative. In China, however, the functions of the interdepartmental coordination committee are carried out simply via a regular lunch by the heads of the four regulatory bodies.

Second, the segregated regulatory system is no longer appropriate for the increasing extent of cross-industry business and investment. The Chinese government has not yet made a decision of whether to continue with the segregated financial system or move toward the universal banking model. In reality, however, financial institutions such as Citic and Everbright already hold multi-industry licenses. In addition, banks today commonly sell funds, insurance, and wealth management products, and even bonds. Although the regulators have tried to keep up with market developments, cross-industry regulation is extremely difficult under the current system, which has left room for regulatory arbitrage.

Finally, macro-prudential policy and macroeconomic policy need to be properly coordinated. During the past year or so, economic activity has weakened visibly. However, the PBC was reluctant to ease monetary policy, given the already high leverage ratio. This raises the question of whether monetary policy should take financial stability issues into consideration or should leave it to macro-prudential policy.

Financial risks are certain to become more frequent in the coming decade. Therefore, crisis prevention and crisis management should be among the top priorities for the Chinese government. The current segregated regulatory system cannot handle such a complicated situation. Given that cross-industry businesses are growing rapidly, the consequences stemming from a lack of regulatory coordination will become more devastating. Perhaps there is merit in the idea of establishing a “State Financial Stability Commission” directly under the State Council. This commission should not simply be a coordinating body. Rather, it should become a decision-making entity.

CONCLUDING ROUNDTABLE

REMARKS BY EDDIE YUE, DEPUTY CHIEF EXECUTIVE, HONG KONG MONETARY AUTHORITY

I will try to highlight some key points from the discussions regarding financial sector reform and liberalization and offer my thoughts on the related issues.

ON SEQUENCING OF FINANCIAL SECTOR REFORM AND LIBERALIZATION

First, regarding financial sector reform and liberalization, there has been a fair amount of views about sequencing. On the one hand, some consider that one should fix all the problems and issues in the domestic financial system before lifting capital account controls and opening up the financial sector. This view is concerned about the risks that could arise from opening up and therefore believes that it would be crucial to ensure the domestic financial system is robust enough before making the move. But those who disagree with this view consider that there can never be a perfect time to open up. There are always new problems and issues, and if one chooses to wait, it would end up with more and more inertia to change. Domestic institutions could get overly comfortable with a closed environment for too long and will not have the incentive to get ready for opening up.

I think there is some truth in both of these views, but not so practical if either one is taken to the extreme. If it takes, say, a decade to complete the necessary reforms and enhancements and the domestic financial system is to remain closed by then, it will mean forgoing all the benefits of financial liberalization and opening for a decade. There is little disagreement that financial liberalization can help support trade and investments. Liberalization also provides domestic institutions and individuals with more choices when it comes to financing and investments. A big-bang approach to financial liberalization and opening up everything overnight does not appear to be advisable either,

especially with the hindsight of the experiences of some economies that went through such a drastic regime change. Not just the domestic institutions may be unready, the authorities also may not be ready in understanding and managing the risks that could come along with external financial activities and fund flows.

I tend to think that concurrently pursuing domestic reforms and external opening will be more practical and make a lot of sense. As I see it, China has been taking this “parallel-track” approach to financial reform and liberalization. Like it or not, this is where things are today. Rather than continuing to debate sequencing, I would say efforts should focus on moving the reform and liberalization measures forward and tackling issues along the way.

ON INTERNATIONALISATION OF RMB

Second, I wish to say something about the internationalization of the RMB, which is getting increasing attention, both domestically and globally. Will international experience be a useful reference? I would say yes and no. “No,” in the sense that the historical background to the internationalization of U.S. dollar, euro, Japanese yen, and other currencies are rather different. Nor has the IMF or anyone else devised a “model” or “road map” for internationalizing a country’s currency, at least as far as I know. For instance, a host of historical, geopolitical, and regulatory factors contributed to the internationalization of the U.S. dollar and the growth of the eurodollar market started off with capital account of the United States largely open. China, however, is in the middle of liberalizing the capital account.

On the other hand, international experiences do have some relevance for looking at internationalization of the RMB, I think, particularly from two perspectives: (1) the role played by the offshore market, and (2) the linkages and interactions between the onshore and offshore markets. While the use of a currency in international transactions is pretty much market driven and up to the choice of institutions and individuals, research studies suggest that the existence of

an offshore market is important in supporting the international use of the currency. For instance, in the case of the U.S. dollar, when non-U.S. residents use U.S. dollar to settle trade, raise financing, and make investments, a majority of them do not conduct such transactions in the United States but instead in the offshore market. Some even hold the view that without the offshore market, the U.S. dollar would not have attained the dominant position in international trade and payments that it has today. The relevance of this for RMB is that, I would say the development of offshore RMB market is both a requirement for, and a consequence of, the growing use of RMB outside Mainland China.

International experiences also makes it clear that the offshore market of a currency does not exist in isolation from the onshore market. For instance, while the bulk of U.S. dollar transactions are conducted by non-U.S. residents in the offshore market, the related or consequential payment flows ultimately have to pass through the banking system in the United States. Also, funds accumulated offshore are used one way or the other for transactions with the economy concerned. The relevance of these points for the RMB is adequate channels are necessary for fund flows between the onshore and offshore markets. At the same time, the authorities will need to monitor the related fund flows as part of their monetary management and financial stability work.

Looking ahead, as I mentioned, there does not seem to be a standard road map that internationalization of the RMB can follow. But if I may offer a few observations and thoughts:

- There has been remarkable progress in the past couple of years. Before 2009, essentially a non-internationalization of the RMB policy was practiced, whereby largely all of Mainland China's external transactions had to be conducted in foreign currencies instead of RMB, by rule. Now that this policy bias has been removed to allow the market to choose, the RMB can be used for conducting current account transactions, direct investments, and a certain amount of portfolio investments. Some 20 percent of Mainland China's current account transactions with other parts of the world are now conducted in RMB, having increased from virtually zero five years ago. The offshore RMB market has developed, and the growth of the

international use of the RMB is particularly pronounced as we see it in Hong Kong SAR, where the RMB is traded just like any other currency.

- With regard to the implications of the growing international use of the RMB for domestic monetary management and financial stability, attention should be paid, but the concerns and risks should not be overstated. The base case is that, given China's enormous volume of external transactions with the rest of the world, the associated cross-border fund flows, even if in foreign currencies, will have important implications for domestic monetary management and financial stability. Arguably, having such fund flows in RMB may be easier to deal with.
- The direction of fund flows arising from the increasing international use of the RMB will be dependent on prevailing market conditions, and nonresidents may take long or short positions at any particular time. However, the policy framework should, in principle, be symmetric in allowing use of the RMB for inflow and outflow transactions, which would allow the market to adjust in a more efficient way.
- While much of the attention has focused on expanding the channels for RMB portfolio investment flows, efficient channels for banking flows (for example, interbank borrowing and lending) between the onshore and offshore markets will also be important in facilitating adjustments between onshore and offshore markets and ensuring prices are the same in the two markets.

REMARKS BY LOUIS KUIJS, CHIEF ECONOMIST, GREATER CHINA, ROYAL BANK OF SCOTLAND

China is conducting financial and monetary reforms toward more market orientation, competition, and opening up. This entails reforming the domestic monetary policy framework and financial sector, making the exchange rate regime flexible, and opening up the capital account more fully to financial flows.

Such financial and monetary reforms should, on balance, have a positive economic impact since they should improve the allocation of capital. But, as underlined by the experience of many countries, including Korea and Thailand as discussed at the conference, several things can go wrong in the process. One key lesson is with regard to the sequencing of reforms. They should be in the above order, with the domestic reforms first and the capital account opening last.

Notwithstanding these lessons, many stakeholders in China are of the view that in practice it may be possible to move simultaneously in the three areas and that there is a need to be opportunistic, advancing reforms that are politically feasible and using RMB internationalization as a “carrot” to push for reforms.

There is at times merit in being opportunistic. However, it is important for senior policymakers to have a comprehensive vision of the correct reform agenda and avoid both blockage of reform by special interest groups and significant deviations from the preferred, correct sequencing. For instance, despite the popularity of certain measures to open up more the capital account to financial flows, it pays to be cautious in opening up the capital account before domestic distortions have been removed and the exchange rate has been made more flexible.

A CLOSER LOOK AT THE THREE AREAS OF REFORM

DOMESTIC MONETARY REFORM

In discussions of domestic monetary policy reform, much of the focus tends to be on interest rate liberalization. China actually seems close to fully liberalizing the interest rates charged and paid by commercial banks. However, that is only one step in the process toward the objective of making interest rates the key monetary policy lever. First, the PBC needs to target and underwrite a short-term policy rate, in line with the practice in mainstream modern monetary systems. In conjunction, clear communication about the desired, or targeted, monetary policy stance would help. Second, the quantitative restrictions will eventually need to be phased out so that the short-term interest rate set by the PBC can take over the role of guiding monetary conditions.

There is currently little appetite among policymakers for the kind of increase in interest rates that would be necessary for interest rates to take over from quantitative restrictions as the key constraint on monetary conditions. On the contrary, at the moment China's senior leaders want to keep interest rates low—to contain interest payments of indebted firms and local governments. The related calls for the financial system to support the real economy, in conjunction with a desire to rein in the rise in the debt-to-GDP ratio, has led to “targeted easing” and a more interventionist, direct form of monetary policy, out of line with the long-term reform agenda. In all, it may take quite some time before significant progress is made with interest rate reform. With China's capital account already not as closed anymore as five years ago, the currently very low interest rates in the major developed economies form another obstacle to domestic monetary reform.

THE EXCHANGE RATE

In discussions on the appropriate next steps in exchange rate reform it is often suggested that China should or could move to target a basket of currencies. However, that would still compromise monetary independence. For an economy of China's size, the most obvious exchange rate regime is a flexible one, with little or no intervention by

the central bank, so as to allow monetary policy to be geared to domestic considerations.

Until recently, in a setting of large balance of payment surpluses, China seemed to be far away from a market-determined exchange rate. However, the situation has changed. The solid surplus on the basic balance (the current account and net foreign direct investment) has not gone away. However, net financial capital flows turned significantly negative in the second half of 2014, in part following a depreciation engineered by the PBC to shake off the expectation of a one-way bet with regard to RMB appreciation. Nowadays, the sentiment regarding the RMB on the foreign exchange markets is substantially less bullish than before that depreciation. With substantial net financial capital outflows—estimated to be US\$ 311 billion in 2014—the foreign exchange market is much closer to equilibrium these days.

It is not clear, though, what will happen if, for some reason, the net pressures on the foreign exchange market in the direction of appreciation become significant again. China's policymakers will probably not be willing to let the RMB appreciate quickly by a significant margin in such a case, and will likely at least smooth out the currency movement.

OPENING THE CAPITAL ACCOUNT

There seems to be a reasonable degree of agreement among Chinese policymakers to make steady progress toward more opening up to financial capital flows. Nonetheless, it pays to remain cautious on this front. If financial instability is to be avoided, such opening up should follow rather than lead the other financial and monetary reforms. In that sense, RMB internationalization—which calls for more capital account opening to facilitate access by foreign residents to China's financial markets and onshore RMB-denominated assets—complicates financial and monetary reform, and increases the risks involved. Policymakers will have to prioritize economic and financial objectives. In the bigger scheme, compared with objectives such as economic growth and social and financial stability, RMB internationalization should probably not be a key objective.

CLOSING REMARKS

CLOSING REMARKS

PAN GONGSHENG²⁵

Distinguished guests, ladies and gentlemen,

Good evening!

On behalf of Governor Zhou and the People's Bank of China, let me express gratitude to you all for a very fruitful day of discussion and to the IMF for co-sponsoring the Joint Conference with the PBC. This is the third China-IMF joint conference. Thanks to your participation and input, the conference has been a success. Taking this opportunity, I would also like to share some of my thoughts on each of the four topics that you have covered today.

ON RMB INTERNATIONALIZATION

Against the background of the expansion of the Chinese economy, China's increased participation in international trade and investment, and economic globalization, the RMB has been increasingly used in cross-border trade and investment, mostly driven by market demand in the real economy. In the past several years, the process of RMB internationalization has progressed very rapidly. According to the latest data, the RMB has become the second most used currency for trade financing, the fifth most traded currency in the foreign exchange market, the fifth most used payment currency, and the seventh largest reserve currency in the world.

²⁵ Pan Gongsheng is Deputy Governor, People's Bank of China

Going forward, we will do more to facilitate the cross-border use of RMB. Measures will be adopted to enhance capital and financial account convertibility to make it even more convenient to use RMB. The necessary financial infrastructure will be built to support cross-border use of RMB, including the China International Payment System (CIPS), in accordance with the Principles for Financial Market Infrastructures. Within this year, the CIPS will be launched.

This year, the IMF will conduct the SDR review. In our view, the composition of the SDR basket as it stands now does not reflect developments in the international economy. We expect that the SDR review will increase the representativeness of the SDR. In our assessment, with the progress of RMB internationalization, the currency has moved very close to the IMF's freely usable criteria. Including RMB in the SDR basket will help improve the representativeness of the SDR, make the SDR a more attractive reserve asset, and promote reform of the international monetary system. For China, the RMB's inclusion in the SDR basket will provide an impetus for capital account convertibility reform and financial liberalization.

OPENING UP OF THE FINANCIAL SERVICES SECTOR

In the past three decades, China has made much progress in opening up the financial services sector. There were only a handful of banks in the early days of this process. Today, there are more than 4,000 banks, including foreign banks and banks established with private capital, in addition to the large state-owned commercial banks. As a result of joint stock reform, all major banks have become public companies. Moreover, more and more Chinese banks are providing financial services in the overseas market.

We will do more to open up the financial services market to both domestic and international competition. We have launched a program to encourage private investment in the financial services sector. In a few months, five new private banks will become operational. We expect to see more private banks in the domestic banking sector.

Moreover, restrictions on foreign investment will also be eased. We are exploring the possibility of adopting the negative list approach and the granting of foreign investment and entities national treatment in the financial services sector.

MONETARY POLICY

In carrying out the central bank's mandate, the PBC will continue its sound monetary policy and implement a policy that is neither too tight nor too loose. There will be no stimulus measures. Given the complex economic conditions at home and abroad, and the diverging monetary policy stance in the major advanced economies, we will make flexible adjustments as needed to maintain stable economic growth and support the structural adjustment of the economy.

We will further the ongoing market-based interest rate reform. Not long ago, we raised the deposit rate ceiling to 1.3 times the benchmark rate level. In my view, the lifting of the deposit interest rate ceiling will not be far off. Going forward, we will adopt more measures in the interest rate reform, nurture market-based benchmark interest rates, and improve the interest rate transmission mechanism, to make monetary policy more effective.

MACROPRUDENTIAL POLICIES

China has actively participated in the reform of financial regulatory rules and earnestly implemented the rules. We have also developed a policy framework to assess and monitor systemic financial risks, and gradually established a macroprudential regulatory framework that combines Chinese characteristics with international practice.

In addition, we have also closely followed the latest developments in financial regulation of institutional arrangements elsewhere in the world after the global financial crisis. The Federal Reserve exercises

regulation over systemically important financial institutions; the European Single Supervisory Mechanism has conferred the European Banking Commission power to oversee banks; the United Kingdom has once again put macro- and microprudential regulatory powers under the roof of the Bank of England. As an important step to strengthen regulatory cooperation, China established a Financial Regulatory Coordination Joint-Ministerial Committee in August 2013; this committee comprises the PBC, the CBRC, the CSRC, the CIRC, and the SAFE. The committee has since met regularly to discuss major issues of regulatory coordination.

Very soon, China's deposit insurance regime will be rolled out. We have designed the deposit insurance regime based on China's circumstances and drawing on international experiences, in particular, experiences from the global financial crisis, both positive and negative. We believe the regime is consistent with the best practices in the world.

In conclusion, I would like to thank you again for the fruitful discussions. I am sure this conference is beneficial to us in China, and hopefully to you as well. I look forward to seeing you at the next joint conference and wish you a pleasant and enjoyable stay in Beijing!

BIOGRAPHIES



Dr. Yi Gang, is the administrator of the State Administration of Foreign Exchange and a deputy governor of the People's Bank of China.

Dr. Yi received his Ph.D. in Economics from University of Illinois in 1986 and taught at Indiana University from 1986 to 1994. He co-founded the China Center for Economic Research (CCER) at Peking University in 1994 and has been a professor at CCER since then. Dr. Yi joined the People's Bank of China in 1997 and has held a number of senior positions, including Secretary-General of the Monetary Policy Committee and Director-General of the Monetary Policy Department. He became a deputy governor of the People's Bank of China in December 2007 and was appointed the Administrator of the State Administration of Foreign Exchange in July 2009.

His research interests include money, banking and the Chinese economy.

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Dr. Pan Gongsheng, party committee incumbent of the People's Bank of China, Deputy Governor; member of the Monetary Policy Commission; member of CPPCC Standing Committee; Ph.D in economics, researcher; doctoral supervisor at Renmin University of China.

Dr. Pan has worked at several domestic and foreign financial institutions, including Standard Chartered Bank, the Industrial and Commercial Bank of China and the Agricultural Bank of China, earning extensive management experience and familiarity with the Chinese banking practice. As a major promoter and implementer, he successfully guided reorganization, restructuring and public offering of the Industrial and Commercial Bank of China and the Agricultural Bank of China, two large commercial banks in China, building history of the world's largest IPOs. As Deputy Governor of the People's Bank of China, he is mainly in charge of Financial Market department, Financial Stability Bureau, Research Bureau, Financial Survey and Statistics

Department, Credit Information System Department, State Treasury Bureau.

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Mr. LI Bo, Director General, Monetary Policy Department II, the People's Bank of China

Mr. Li joined the PBOC in 2004, working in the Legal and Regulation Department before joining the Monetary Policy Department II in 2009. Prior to joining the PBOC, Mr Li was a practicing attorney with the New York law firm of Davis Polk & Wardwell. Mr. Li holds a Ph.D. degree in economics from Stanford University and a J.D. magna cum laude from Harvard Law School. He is a member of the Chinese and New York Bar.

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Ms. ZHU Jun, Director General, International Department, the People's Bank of China

Ms. Zhu Jun joined the People's Bank of China in 1993 and has held a variety of positions since then. After working in the Governor's Office, Ms. Zhu joined the International Department in 1997, first in the BIS Division and then in the Research Division. In 2006, she took the position of the Director of the Research Division, and the Deputy Director-General of the International Department in 2009. She was appointed as the Director-General of the International Department in 2015.

She worked in the BIS as a secondee from March to October 1999. In September 2003, she returned to the BIS and worked as an Economist until December 2005.

Ms. Zhu graduated from Peking University with a Bachelor's degree in Economics in 1989, and received her Master's degree in Economics in Peking University in 1993.

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Dr. MA Jun is Chief Economist at the People's Bank of China (PBC)'s Research Bureau. Before joining the PBC in 2014, he worked for 13 years at Deutsche Bank, where he was Managing Director, Chief Economist for Greater China, and Head of China and Hong Kong Strategy. Prior to joining Deutsche Bank in 2000, he worked as public policy specialist, economist and senior economist at the International Monetary Fund and World Bank from 1992-2000. From 1988-1990, he was a research fellow at the Development Research Center of China's State Council.

Dr. Ma has published nine books and several hundred articles on the Chinese economy, global economy, and financial markets. His main research interests include macroeconomic forecasting and policies, RMB internationalization and capital account liberalization, structural reforms, as well as environmental economics. Dr. Ma has been frequently rated at the top in his fields by various investor polls. His accolades include the No.1 Asia economist and the No.1 China analyst in Institutional Investor's survey for four years in a row (2009-2012), as well as many No. 1 rankings in China economics and China strategy research by Asiamoney, Thomson Reuters, and Sohu Finance.

Dr. Ma received his Ph.D. in Economics from Georgetown University in 1994, and his master's degree in Management Science from Fudan University in 1988. He is a member of China Finance-40 Forum, member of the academic committee of International Finance Forum, member of World Economic Forum's Agenda Council on International Monetary System, and Adjunct Professor at Fudan University.

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SUN Guofeng, Deputy Director General, Monetary Policy Department, the People's Bank of China

Sun Guogeng graduated from the Graduate School of the People's Bank of China in 1996, before joining PBC's Planning and Central Bank Lending Department in the same year. He then worked in the Bank's Monetary Policy Department, where he served as Deputy Director of Open Market Operations and subsequently Director of Foreign Exchange Transactions. Mr. Sun has held the office of Deputy Director General of the Monetary Policy Department since 2010, primarily engaged in the establishment of the inter-bank bond market, the development of China's money market, the launching of open market operations, and the reform of the RMB exchange rate regime. During 2003-2004, he was invited to do research as a visiting scholar at Stanford University. Mr. Sun is currently a part-time professor at the University of International Business and Economics of China and a distinguished member of the China Finance 40 forum.

Sun Guofeng has for many years studied topics such as credit money theory, central bank monetary policy, RMB exchange rate, the bond market, the money market and international financial markets. He is the author of more than 60 papers and 2 books, and has been a guest speaker at various colleges and research institutions including Stanford University, University of California, Berkeley, the Bank for International Settlements, China Center for Economic Research at Peking University, and China Society for Finance and Banking.

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YAO Yudong, Director General, Research Institute of Finance and Banking, the People's Bank of China

EDUCATION

1997-2001, University of Cambridge, UK, Ph.D. in Economics

1995-1997, University of Cambridge, UK; M.S. and Diploma in Economics

1992-1995, Tsinghua University, Beijing, China; M.S. in Economics with concentration in econometrics

1988-1992, Southeast University, Nanjing, China ; B.S. in Mechanical Engineering

WORK EXPERIENCE

Jan. 2015-Present, Research Institute of Finance and Banking, People's Bank of China, Director General,

Jan. 2012-Dec. 2014, Department of Monetary Policy, People's Bank of China, Deputy Director General,

Nov. 2009-Dec. 2011, Department of Monetary Policy II, People's Bank of China, Advisor (Deputy Director General Level)

Oct. 2005-Nov. 2009, Department of Commerce and Bureau of Investment Promotion, Heilongjiang Province, China, Deputy Director General

Oct. 2001-Oct. 2005, IMF, Washington, DC., Economist

Nov. 2000-Jul. 2001, Economic Policy for Poverty Reduction, World Bank, Washington, DC. Consultant

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Dr. HUANG Haizhou is a Managing Director and Member of the Executive Committee at the China International Capital Corporation (CICC). He joined CICC in 2007, and had served as Co-Head of Sales and Trading Department and Executive Chairman of Capital Market Committee; and Chief Strategist, Co-Head of Research Department and firm-wide Executive Chairman of Research Coordination Committee.

He has over twenty-year experiences in serving clients in the financial industry and governments, as well as conducting research at market, policy and academic institutions. He was head of Greater China research at Barclays Capital from 2005 to 2007. From 1998 to 2005, he was a senior economist at the International Monetary Fund (IMF), and before that taught at the Chinese University of Hong Kong and the London School of Economics (LSE).

Mr. Huang holds a Ph.D degree in business from Indiana University, USA, and a master and bachelor degrees, both in engineering, from China. He has over twenty publications in leading academic and policy journals, including American Economic Review, China Economic Review, European Economic Review, Journal of Banking and Finance, Journal of International Economics, Journal of Monetary Economics, Oxford Economic Papers, etc.

He is a Vice President of the China Society of World Economics, an Academic Council Member of the China Finance 40 Group (CF40), a Member of Expert Committee of China's Thirteenth Five-year Plan, a Member of the Hong Kong Financial Services Development Council, and a Member of the Global Agenda Council of the World Economic Forum.

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HUANG Yiping is professor of economics and deputy dean at the National School of Development, Peking University. His research focuses mainly on macroeconomic policy, financial reform and international finance. He is the Rio Tinto Adjunct Professor in the Chinese Economy at the Australian National University, a member of the China Finance 40 Forum and a member of the Chinese Economists 50 Forum. He is also Editor of China Economic Journal and an Associate Editor of Asian Economic Policy Review. Previously, he was a policy analyst at the Research Center for Rural Development of the State Council, research fellow and senior lecturer of economics at the Australian National University, General Mills International Visiting Professor of Economics and Finance at the Columbia Business School, Managing Director and

Chief Asia Economist for Citigroup, Chief Economist for Caixin Media Group, and Managing Director and Chief Economist for Emerging Asia for Barclays. He received his Bachelor of Agricultural Sciences (Agricultural Economics) from Zhejiang Agricultural University, Master of Economics from Renmin University of China and PhD in Economics from Australian National University.

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Halim Alamsyah became the Deputy Governor of Bank Indonesia since June 2010. In his current role he is in charge of Financial System Stability issues. He also represents Bank Indonesia as the ex-officio Commissioner of the Indonesia Financial Supervisory Authority (IFSA) since the latter was established in 2012. Prior to the transfer of the banking supervisory function to the IFSA, Mr. Alamsyah was the Deputy Governor in charge of Banking Supervision and Financial System Stability.

He spent around 25 years of his career as an economic researcher dealing with macro-modeling & forecasting and monetary policy analysis. His dissertation was on Monetary Policy Framework in a Highly Persistent Inflation Environment Using Dynamic Stochastic General Equilibrium Models. During the last two years his research has been focused more on macro-prudential as well as micro-prudential in banking and financial policy analysis.

In recent days, he represents Indonesia and Bank Indonesia in international prominent forums. He is a member of the Financial Stability Board (FSB) Plenary and the Basel Committee on Banking Supervision (BCBS) Committee from Bank Indonesia since August 2012. He is also actively engaged in various regional cooperative forums/organizations. Currently he is the deputy co-chair of the Executives' Meeting of East Asia Pacific Central Banks (EMEAP) Working Group on Banking Supervision and the co-chair of ASEAN Banking Integration Framework.

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Steven Alan Barnett is a Division Chief in the Asia and Pacific Department of the International Monetary Fund (IMF). He has spent the better part of the last 10 years covering Asia, including serving as Assistant Director at the IMF Office for Asia and the Pacific in Tokyo, Resident Representative to China, and Resident Representative to Thailand.

Prior to joining the IMF in 1997, he earned his PhD in economics from the University of Maryland. He has a Bachelor's degree in economics from Stanford University as well as a Master's degree in Russian and East European Studies, also from Stanford.

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Dongchul Cho is chief economist at the Korea Development Institute (KDI) and professor at the KDI School of Public Policy and Management. He is also serving as a member of National Economic Advisory Council to the President.

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Simon Gray is Lead Financial Sector Expert in the Monetary and Capital Markets Department. Prior to joining the IMF in 2007 he spent 27 years at the Bank of England. Over the past 15 years he has worked extensively with central banks around the world, specializing in the field of monetary operations, liquidity management and market

development, and has published extensively on these topics. He participated in the FSAP missions for the USA (2010 and 2015), India, Malaysia, Canada and Moldova, investigating in particular systemic liquidity and financial sector safety net issues. He has also worked in the fields of banking supervision, and payment and settlement systems.

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Louis Kuijs has worked over 20 years as international macroeconomist, the last 10 years on Asia, especially on China.

Since August 2012 he is at the Royal Bank of Scotland, as Chief Economist, Greater China in Corporate and Institutional Banking, based in Hong Kong, where he is responsible for economic research on China, Korea, Hong Kong and Taiwan.

Earlier on in Hong Kong, Louis worked at the Fung Global Institute, as Project Director, on China and India, and at MF Global, as Chief Economist, Asia.

In 2004-11, he was at the World Bank in Beijing, where he coordinated the Bank's macroeconomic analysis and policy work on China and led its well-regarded China Quarterly Update. Key projects included research and policy work on the financing of investment, rebalancing the pattern of growth and the long term growth outlook. Louis also led the WB's mid-term review of China's 11th Five Year Plan.

In 1997-2004: Louis worked at the International Monetary Fund in Washington DC, doing macroeconomic policy work and research on a range of emerging markets and industrialized countries.

Before that he worked at Oxford Economics, a private sector macro forecasting group, the Economic Intelligence Unit, Hypo-Vereinsbank and the University of Amsterdam.

Louis has a Drs degree in Economics from the University of Amsterdam and an MSc in Economics from the London School of Economics.

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Andrew Levin is currently an adviser in the research department at the International Monetary Fund; as of July 2015 he will be a professor of economics at Dartmouth College. Dr. Levin received his Ph.D. in economics from Stanford University in 1989. He was a staff member at the U.S. Federal Reserve Board from 1992 to 2012, including two years serving as a special

adviser to Chairman Bernanke and Vice Chair Yellen on monetary policy strategy and communications. Dr. Levin has also had extensive interactions with many other central banks: He served as a consultant to the European Central Bank's inflation persistence network and to the Bank of Canada's external review of research, he was a co-editor of the *International Journal of Central Banking*, he has been a visiting scholar at the Bank of Japan and the Dutch National Bank, and he has provided technical assistance to the national banks of Albania, Macedonia, and most recently, to the Bank of Ghana. Dr. Levin's own research has been published in leading economic journals, including the *American Economic Review*, the *Journal of the European Economic Association*, the *Journal of Monetary Economics*, and the *Journal of Econometrics*.

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Philip Lowe is the Deputy Governor of the Reserve Bank of Australia, a position he has held since February 2012. He is also Deputy Chairman of the Reserve Bank Board, and is Chairman of the Reserve Bank's Risk Management Committee.

Prior to his current role, Philip has held the positions of Assistant Governor (Economic) and Assistant Governor (Financial System). He also spent two years with the Bank for International Settlements working on financial stability issues.

Philip holds a PhD from the Massachusetts Institute of Technology and a B.Comm (Honours) in Economics/Econometrics from the University of New South Wales. He has authored numerous papers including on the linkages between monetary policy and financial stability.

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Ting Lu is managing director and Head of Greater China Economics at BofA Merrill Lynch Global Research. He is based in Hong Kong.

Prior to joining Merrill Lynch in 2006, Ting studied economics at the University of California at Berkeley and has worked as a consultant at the research department at the World Bank and the East Asia and Pacific Department at International Finance Corporation. He was ranked No. 1 China economist by Bloomberg in 2010-11, No. 1 forecaster of “Vision Cup China macroeconomic forecasting” by the Capital Weekly in China in 2012, No. 1 in Economics in All-Asia Institutional Investor Surveys in 2013 and 2014, No. 1 in Economics in All-China Institutional Investor Surveys in 2013, and No. 1 in Economics in Asiamoney 2013 survey.

Ting received Ph.D. in economics from the University of California at Berkeley and Bachelor’s and Master’s degrees in economics from Peking University, China. He is also a CFA Charterholder.

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Margaret (Meg) McConnell is a Senior Vice President and Head of the Assessments Function in the Integrated Policy Analysis Group of the Federal Reserve Bank of New York. The Assessments Function identifies risks that could impact the Federal Reserve’s macroeconomic, macroprudential, and microprudential objectives, and considers policy options to mitigate those risks, including identification of near-term trade-offs across objectives. She was previously the Director of the Office of Financial Stability and Regulatory Policy (O-FSRP). Prior to the establishment of the O-FSRP in March 2011, Ms. McConnell served as the Deputy Chief of Staff for Policy in the Executive Office, a role she assumed in July 2007. Ms. McConnell joined the Federal Reserve Bank of New York as an economist in September 1996. She holds a B.S. from the University of Delaware and a Ph.D. in economics from The Ohio State University.

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Carlos Medeiros is Assistant Director in the Monetary and Capital Markets Department (MCM) of the International Monetary Fund (IMF). He heads the Technical Assistance Division that is responsible for managing and leading the delivery of technical assistance on financial and monetary sector issues worldwide. In this capacity, he is overseeing the implementation of a new strategy for the delivery of technical assistance that aims to support financial sector stability by promoting sound and efficient financial and monetary and exchange rate policy frameworks. He led the Financial Sector Assessment Program (FSAP) to Hong Kong, SAR. Prior to assuming his current position, he was an Advisor and Mission Chief to Argentina in the Western Hemisphere Department of the IMF; Division Chief of the Asia/Pacific and Western Hemisphere Division in MCM; Division Chief of the Western Hemisphere Regional Division in MCM; and Division Chief of the Capital Markets Financing Division of the International Capital Markets Department of the IMF.

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Eswar Prasad is the Tolani Senior Professor of Trade Policy at Cornell University. He is also a Senior Fellow at the Brookings Institution, where he holds the New Century Chair in International Economics, and a Research Associate at the National Bureau of Economic Research. He was previously chief of the Financial Studies Division in the International Monetary Fund's Research Department and, before that, was the head of the IMF's China Division.

Eswar Prasad's latest book is *The Dollar Trap: How the U.S. Dollar Tightened Its Grip on Global Finance* (Princeton University Press, February 2014). His previous book, *Emerging Markets: Resilience and Growth Amid Global Turmoil*, was published in December 2010 (with M. Ayhan Kose; Brookings Institution Press). Prasad has testified before the Senate Finance Committee, the House of Representatives Committee on Financial Services and the U.S.-China Economic and Security Review

Commission. He was a member of the analytical team that drafted the 2008 report of the High-Level Committee on Financial Sector Reforms set up by the Government of India. He serves on an Advisory Committee to India's Finance Minister and is the Lead Academic for the DFID-LSE International Growth Center's India Growth Research Program. He is the creator of the Brookings-Financial Times world index (TIGER: Tracking Indices for the Global Economic Recovery; www.ft.com/tiger).

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Markus Rodlauer is Deputy Director of the IMF's Asia and Pacific Department (APD). Among other leadership responsibilities, he heads the Fund's China team, which conducted the annual Article IV Consultations with the People's Republic of China in recent years. His previous jobs at the Fund included Deputy Director of Human Resources, Deputy Director in the Western Hemisphere Department, Mission Chief for a number of countries in Asia, Europe, South America, and IMF Representative to Poland and the Philippines. Mr. Rodlauer worked with the Ministry of Foreign Affairs of Austria before joining the IMF. His academic training includes degrees in law, economics, and international relations.

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Ratna Sahay is Deputy Director of the Monetary and Capital Markets Department at the International Monetary Fund (IMF). She is responsible for setting strategic priorities for the department, leading key policy papers and projects, and coordinating the work and resource management of the department. She has previously worked in the Research, Finance, Asian, European, Middle East, and Western Hemisphere Departments at the IMF, leading key analytical and policy projects as well as several missions to emerging market countries. She has also led regional surveillance projects and missions in the Middle East and Western Hemisphere Departments. She has served as Advisor to Stanley Fischer (First Deputy Managing Director) and Michael Mussa and Kenneth Rogoff (both Economic Counselors of the IMF). She has published widely in leading journals on financial market spillovers and financial crises, inflation, economic growth, fiscal policy and debt sustainability, and transition economies. She has taught at Delhi University, Columbia University and New York University and holds a Ph. D in Economics from New York University, New York.

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Alfred Schipke is the IMF Senior Resident Representative for China. Previously, he was a division chief in the Asia and Pacific Department, where he coordinated the work on fast growing low income countries in South-East Asia (Frontier Economies) and led missions to Vietnam. He was a division chief in the IMF's Western Hemisphere Department in charge of the Latin Caribbean and Eastern Caribbean Currency Union (ECCU) divisions. Among others, he negotiated a high access Stand-by Arrangement, which included a debt restructuring and a debt-equity swap for one of the countries in the ECCU, as well as an \$800 million precautionary Stand-By Arrangement for El Salvador. Also, he was the Regional Resident Representative for Central America, Panama, and the Dominican Republic and worked in the IMF European

Department. He teaches international trade and finance at Harvard University, John F. Kennedy School of Government and has authored and edited a number of books and articles, including a recently published book on *Frontier and Developing Asia: The Next Generation of Emerging Markets*. His research has focused on economic integration and the linkages between macroeconomics and finance.

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Anoop Singh has been Managing Director and Head of Regulatory Affairs, Asia Pacific, for JP Morgan since February 2014.

Before that, at the International Monetary Fund, he was Director of the Asia and Pacific Department (2008-13) and Director of the Western Hemisphere Department (2002-08).

Mr. Singh, an Indian national, holds graduate and post graduate degrees from the universities of Bombay, Cambridge, and the London School of Economics. His other appointments at the IMF have included: Director, Special Operations in the Office of the Managing Director; Senior Advisor, Policy Development and Review Department; and Assistant Director, European Department.

His additional work experience includes: Special Advisor to the Governor, Reserve Bank of India; Senior Economic Advisor to the Vice President, Asia Region, the World Bank; and Adjunct Professor at Georgetown University.

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Professor Lars E.O. Svensson is Resident Scholar at the Research Department, IMF, during 2015. He is Visiting Professor at the Stockholm School of Economics since May 2013. He was Deputy Governor of Sveriges Riksbank (the central bank of Sweden) during May 2007–May 2013, Professor of Economics at Princeton University during 2001-2009, and Professor of

International Economics at the Institute for International Economic Studies, Stockholm University during 1984–2003. He received his Ph.D. in economics from Stockholm University.

He received the Great Gold Medal of the Royal Swedish Academy of Engineering Sciences in 2012. He is a foreign honorary member of the American Economic Association, a member of the Royal Swedish Academy of Sciences, a member of Academia Europaea, a foreign member of the Finnish Academy of Science and Letters, a foreign honorary member of the American Academy of Arts and Sciences, an honorary member of the Latin American and Caribbean Economic Association, a fellow of the Econometric Society, a fellow of the European Economic Association, a research associate of the National Bureau of Economic Research, and a research fellow of the Centre for Economic Policy Research, London. He was chair of the Prize Committee for the Alfred Nobel Memorial Prize in Economic Sciences during 1999–2001, member during 1993–2002, and secretary during 1988–1992.

He was active as advisor to Sveriges Riksbank during 1990–2007 and was a member of the Monetary Policy Advisory Board and the Economic Advisory Panel of the Federal Reserve Bank of New York from 2004 until his appointment as Deputy Governor of the Riksbank. He has regularly consulted for international, U.S., and Swedish agencies and organizations. In 2000–2001 he undertook a review of monetary policy in New Zealand, commissioned by the New Zealand government, and in 2002 he chaired a committee reviewing monetary policy in Norway.

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MK Tang is senior China economist, based in Hong Kong, at Goldman Sachs. Before he joined the firm in 2012, he worked in the Hong Kong Monetary Authority research department as senior manager. And prior to that, MK was an economist at the IMF for six years, first in the research department and then at country desks covering several economies

including the Euro area, UK and Mexico. He has a Ph.D. in economics from Harvard University, and BSc from the Hong Kong University of Science and Technology.

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Tarisa Watanagase joined the Bank of Thailand in 1975 and was Governor between 2006 -2010. Her long career at the Bank included responsibilities in economic research, money market operation, payment systems, banking sector policy and supervision, and monetary policy. She also worked as an economist at the International Monetary Fund, Washington D.C. between 1978-1990 and an IMF-World Bank FSAP independent assessor in 2002.

She was instrumental in the 1997 Thai crisis resolution and the ensuing supervisory and financial sector reforms, the establishment of the Thai Real-Time-Gross-Settlement (RTGS) system in 1995, the first in Asia, to eliminate settlement risk in high-value fund transfers, and the passage of the new BOT Act in 2008, which guarantees the central bank's independence. Currently, Dr. Watanagase speaks extensively on central banking and financial sector issues and is a member of the board/advisor to several public and private organizations, both domestic and international.

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Eddie Yue is Deputy Chief Executive of Hong Kong Monetary Authority, is responsible for reserves management and external affairs. Mr Yue began his career as an Administrative Officer in the Hong Kong Government in 1986. He joined the HKMA in 1993 as a Senior Manager, and was subsequently promoted to Division Head in 1994. He has worked in a number of divisions, including Monetary Management, External Relations, and Banking Development, and has

served as Administrative Assistant to the Chief Executive of the HKMA. Mr Yue was appointed Executive Director in 2001 and to his present position in September 2007.

Mr Yue is educated in the Chinese University of Hong Kong and the Harvard Business School.

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PRESENTATIONS

SESSION I: China's Financial/External Sector Reforms and RMB Internationalization

The International Use of RMB

Li Bo

The Renminbi's Role in the Global Monetary System

Eswar Prasad

RMB Internationalization and Its Structural Opportunities

HUANG Haizhou

The RMB and China's Capital Account

MK Tang

SESSION II: Opening Up of the Financial Services Sector

Opening Up of China's Financial Sector and Further Consideration

ZHANG Zhengxin

Opening Up of the Australian Financial Sector

Philip Lowe

Financial Market Opening: Lessons from Korea

Dongchul Cho

Opening Up of the Financial Services Sector: Thailand's Experience

Tarisa Watanagase

KEYNOTE SESSION

Monetary Policy and Financial Stability

Lars E.O. Svensson

SESSION III: Interest Rate Liberalization, Shadow Banking, and Monetary Transmission Mechanism

Policy Rate Transmission under New Monetary Policy Framework
MA Jun

Interest Rate Management and Liberalization
Simon Gray

Financial Innovation and Regulation and the Monetary Transmission Mechanism: Some Lessons from the U. S. Experience
Andrew Levin

China's Monetary Transmission Mechanism: Issues and Solutions
Ting Lu

SESSION IV: Macroprudential Policy Coordination: International Experience

Macroprudential Policy Coordination: Indonesian Experience
Halim Alamsyah

Fostering Robust Analysis and Decision-Making in an Uncertain, Multi-Objective World
Margaret M. McConnell

Macroprudential Policy Framework: Principles and Practice
Ratna Sahay

CONCLUDING ROUNDTABLE

The World Needs New Reserve Currency: From the Perspective of Global Liquidity
YAO Yudong

Asia's Growing Financial Integration: Challenges and Risks
Anoop Singh



The International Use of RMB

LI Bo
March 16, 2015



Outline

- Background
- Policies
- Prospect



Background

- Financial crisis and decline in trade
 - Demand from trading partners
 - Demand from Chinese exporters and importers
- Areas of demand
 - Trade settlement
 - Direct investment
 - Currency swaps

3



Policy Response: RMB “Going Abroad”

- Feasibility
 - Size of economy
 - Size of trade and investment
 - Development of financial market
 - Stability of exchange rate
- Condition
 - Need cooperation from onshore banks
 - Need some level of non-resident convertibility

4



RMB “Going Abroad”

- Goal: Support trade and investment
- Task: Lift unnecessary restrictions
- Mentality: Respect market choice
- Challenge: RMB not fully convertible
- Strategy: A gradual approach

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RMB “Going Abroad”

- Policies
 - Trade settlement
 - FDI and ODI
 - RMB financing
 - Portfolio investment
 - Currency swap arrangement
 - Direct trading: RMB vs. various currencies
 - Regional experiments
 - Offshore RMB market

6



RMB Trade Settlement

- Gradual process
 - Started July 2009
 - Significantly expanded in 2010 and 2011
 - Fully implemented nationally in 2012
- 2014 settlement volume: 6.55 trillion CNY

7



Foreign Direct Investment

- RMB ODI
 - 2014 volume: 186.6 billion CNY
- RMB FDI
 - 2014 volume: 862.0 billion CNY

8



RMB Financing

- Trade financing
- Project financing (for offshore projects)
 - End of 2014 balance: more than 35.2 billion CNY

9



RMB Portfolio Investment

- OTC bond market investment
 - Offshore banks
 - Foreign central banks
 - International organizations
 - Sovereign wealth funds
 - Offshore insurance companies
- RQFII
 - Current maximum quota: 870 billion CNY
- Shanghai-Hong Kong Connect

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Currency Swap Arrangement

- 28 countries
 - More than 3 trillion CNY liquidity line
 - Initial function
 - New function

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Direct Trading: RMB vs. Various Currencies

- Euro
- Sterling Pounds
- Japanese Yen
- Australian Dollar
- Russian Ruble
- Malaysian Ringgit
- Thai Baht
- Others

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Regional Experiments

- Shanghai Free Trade Zone
- Qianhai, Shenzhen
- Yiwu, Zhejiang
- Kunshan, Jiangsu
- Suzhou and Tianjin
- Guangxi and Yunnan

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Offshore RMB Market

- Hong Kong: gradual expansion of RMB market
 - RMB clearing bank: started 2003
 - RMB settlement: trade, direct investment
 - RMB conversion: individual (2004), corporate (2009)
 - RMB deposit/loan: individual (2004), corporate (2009)
 - RMB bonds: started 2007
 - RMB stocks: started 2011
 - RMB exchange rate fixing: started 2011
 - RMB interest rate fixing: started 2013
 - RMB derivatives market: started 2005
- Taipei, Singapore, London and others

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Status

- RMB outflow basically liberalized
 - Import
 - ODI
 - Outbound financing
 - Currency swap
- RMB inflow still partially “managed”
 - Export
 - FDI
 - Inbound financing: only pilot areas
 - Portfolio investment: with quota

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Prospect

- Payment system: CIPS
- Capital account liberalization: QDII2, stock issuance by foreign corporates, amend State Council’s *Regulations on Foreign Exchange*
- Continue to liberalize the use of RMB: Portfolio investment, money market, RMB as funding currency
- Challenges: Macroprudential management of capital flow
 - External debt
 - Speculative capital flow
 - Derivatives

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The Renminbi's Role in the Global Monetary System

Eswar Prasad
Cornell University & Brookings Institution

Two Perspectives

- A. Implications for China's domestic development
- B. Implications for global monetary system

Other Issues

1. Sequencing: Capital account liberalization, exchange rate flexibility, financial market development
 2. Benefit-risk tradeoffs during transition
-

Key Concepts

- A. Open capital account** (convertible currency): No controls on capital inflows, outflows
 - B. International currency**: Widely used in trade settlement, cross-border financial transactions
 - C. Reserve currency**: Held as central banks' reserves
- A** not synonymous with freely floating exchange rate
A and **B** neither necessary nor sufficient for each other
A and **B** necessary for **C**

Internationalization of Renminbi

- Offshore yuan deposits
- Trade settlements in yuan
- Yuan denominated bonds
- Currency swaps with other central banks

RMB's Path to Internationalization Requires:

- More financial centers, financial institutions authorized to conduct RMB transactions
- Payment system
- More renminbi liquidity offshore
- Integration of offshore, onshore markets

Key Concepts

A. International currency: RMB on its way

B. Reserve currency: Held in central bank reserve portfolios. Basic criteria:

- Open capital account
- Flexible exchange rate
- Well-developed financial markets
- Macroeconomic stability

Reserve Currencies

- Financial market characteristics:
 - Breadth: Broad range of financial instruments
 - Depth: Large stock of those instruments
 - Liquidity: High level of turnover

- High-quality renminbi assets backed by:
 - Technical infrastructure for trading and settlement
 - Regulatory framework—focus on systemic financial stability, adequate capacity, political will

Reserve Currencies

- Benefits of having reserve currency status
 - Can borrow in domestic currency
 - “Exorbitant privilege”
 - Seigniorage revenue
- Costs
 - Stronger demand for currency
 - Currency value harder to manage
- Triffin Dilemma?
 - Current account deficit not essential

Benefits of CAL

- Collateral (indirect) benefits of financial integration
 - Development of financial markets
 - Regulatory, technical expertise comes with inflows
- Diversification opportunities for domestic investors
- Catalyst for financial sector reforms

Risks of Premature CAL

- Putting the cart before the horse: CAL before greater exchange rate flexibility, reform of financial system risky
- Difficult to control currency value if capital account open
- Risks to financial system if outflows unrestricted
- High ratio of bank deposits to GDP; capital flight?
- Are these major risks? \$4 trillion of forex reserves buys a lot of protection; low level of external debt

Organizing Framework for Domestic Reforms

- Consensus around objective of making RMB global reserve currency could drive domestic reform agenda
 - Achieving objective while mitigating risks requires:
 - Better, deeper, well-regulated financial markets
 - Fx flexibility
 - Better macro policy framework
-

IMF Criteria for Inclusion in SDR Basket (Nov. 2011 guidelines)

- Volume of transactions in fx spot markets
 - Volume of transactions in fx derivatives markets and OTC derivatives
 - Existence of appropriate market-based interest rate instrument
 - Currency held in official reserve portfolios
-

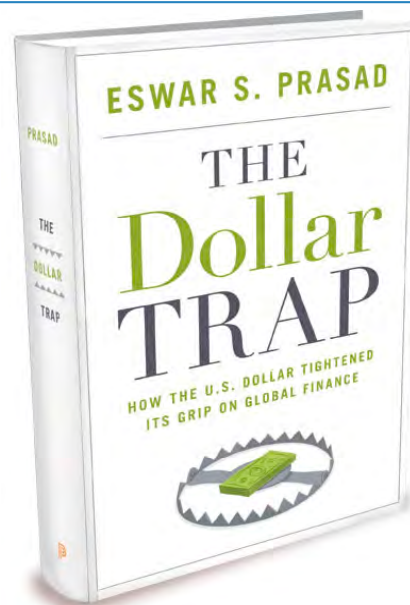
Key Concepts

A. International currency

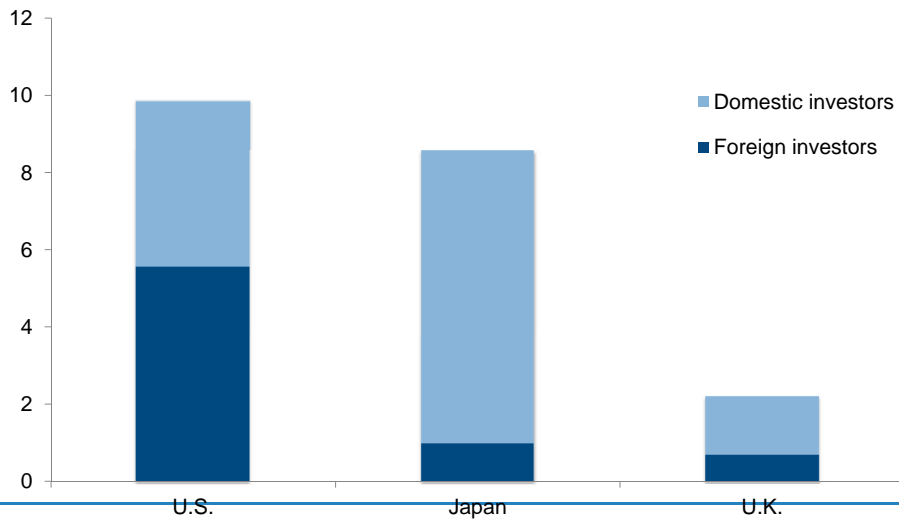
B. Reserve currency

C. Safe haven currency: Quality of institutions crucial

- Open, transparent democratic government
- Trusted, independent central bank
- Independent judiciary

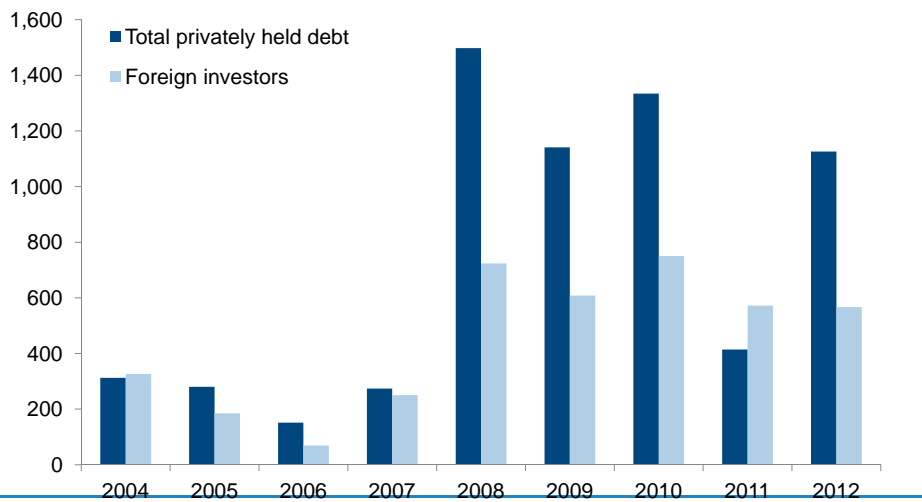


Ownership of Net Government Debt: Japan, U.K. and U.S.
Trillions of U.S. dollars



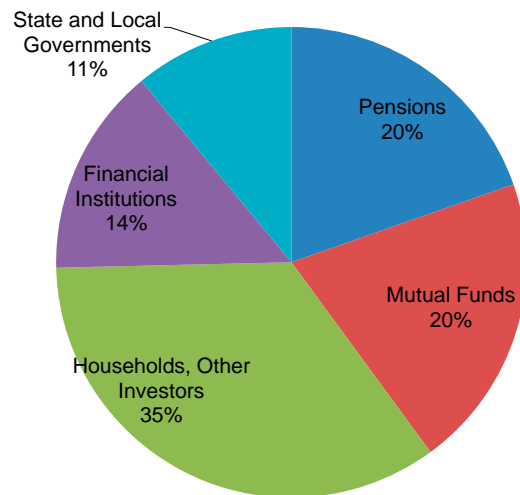
Data sources: U.S. Treasury Department; Bank of Japan; U.K. Office of Debt Management

Foreign Financing of Privately Held U.S. Federal Government Debt
Billions of U.S. dollars



Data source: U.S. Treasury Bulletin, June 2013

Domestic Ownership of Privately Held U.S. Federal Government Debt, 2012



Data source: Tables OFS-2 (Ownership of Federal Securities, U.S. Treasury Bulletin, June 2013)

Reasons for Dominance of U.S. \$

- Largest economy
- Key roles in global trade, finance
- Deep, liquid financial markets
- Network effects
- Faith in U.S. central bank, other public institutions
- Robust political and legal frameworks
- Dollar's roles as unit of account, medium of exchange might decline over time
- Dollar will remain dominant store of value
- Still the ultimate safe haven

What Lies Ahead for Renminbi

- On way to being widely-used international currency
- Part of SDR basket at time of next review by IMF
- RMB could become reserve currency in next decade
 - > **lf** financial market, currency, market-oriented reforms continue + capital a/c becomes more open
- Will erode but not displace dollar's dominant role in global finance

RMB Internationalization and Its Structural Opportunities

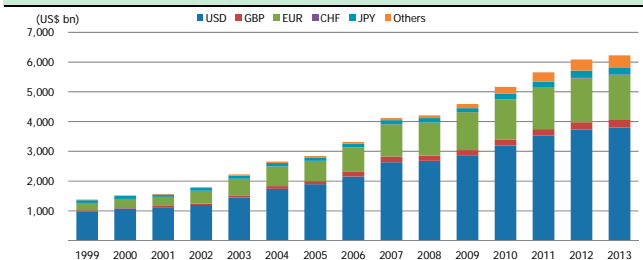


Haizhou Huang
March 16, 2015

The world FX reserve distribution by currencies

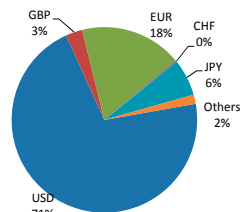
- USD is still the dominant world FX reserve currency.
- In short and mid-term, USD continues to serve as the dominant FX reserve currency.
- But the emerging currencies such as RMB may increase their importance globally.

% of USD dropped slightly but it still dominates world FX reserve currencies

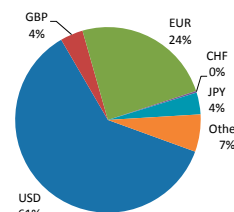


The change in world FX reserve currencies

World FX reserve currency (allocated), 1999



World FX reserve currency (allocated), 2013

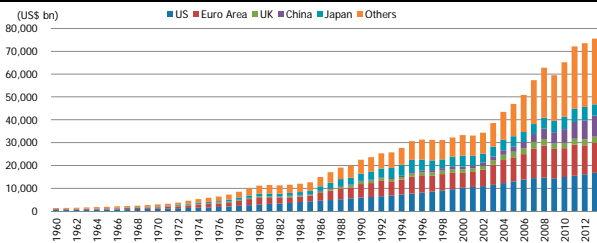


Source: IMF, Haver analytics, CICC Research

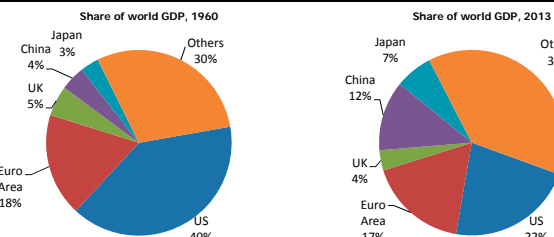
The global economy rebalance demands for FX reserve currencies rebalance

- Factors to consider in currency internationalization includes: domestic economy size, inflation, FX rate volatility and the size of financial market.
- The rebalancing the global economy calls for global FX reserve currencies to rebalance.
- China's GDP and trade count 12.2% & 11.3% globally in 2013, up from 1.8% & 0.8% in 1978,. China has become the top trading partner for most Asian countries.

The world economy changed substantially over the past 50 years



GDP % of major economies in world countries



Source: World bank, Haver analytics, CICC Research

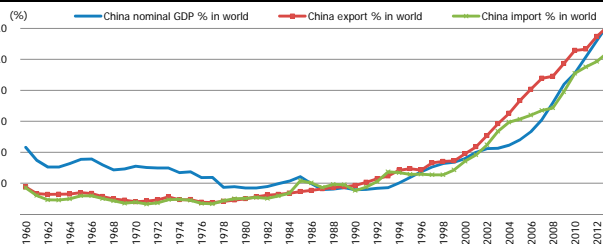


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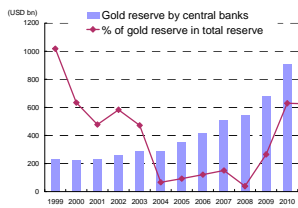
The rise of China and RMB internationalization

- Gold is favored by central banks as reserve, and its % in global economy is quite stable. But due to the limited total size and liquidity, gold is not likely to be the major reserve.
- The RMB creditability is enhanced by stable macro policies, strong and stable FX exchange rate, as well as relatively low inflation and FX volatilities.

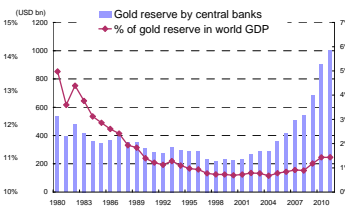
China's position in global economy rose significantly in the past 50 years



Gold reserve by central banks raising, but % as FX reserve still low



Gold % as global economy is quite stable

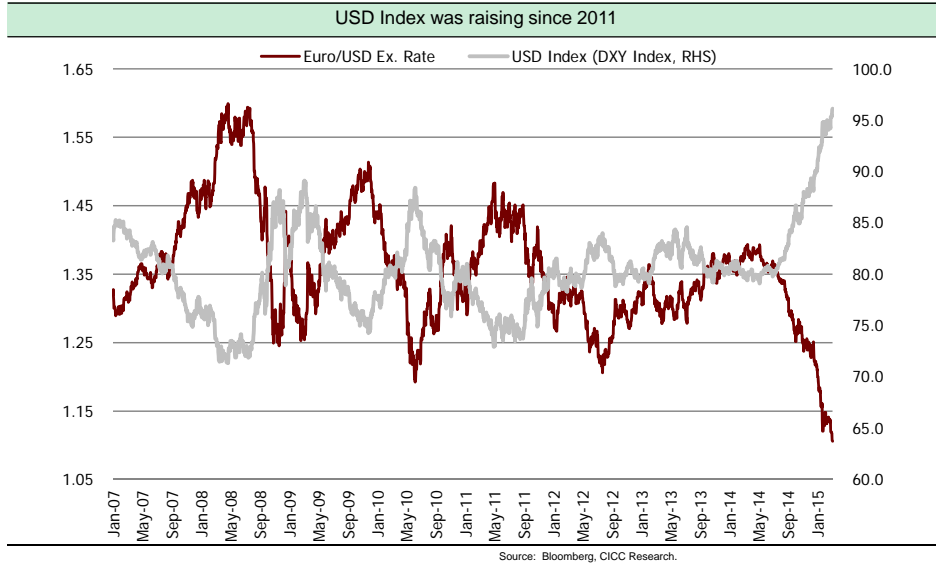


Source: IMF, Haver Analytics, CICC Research



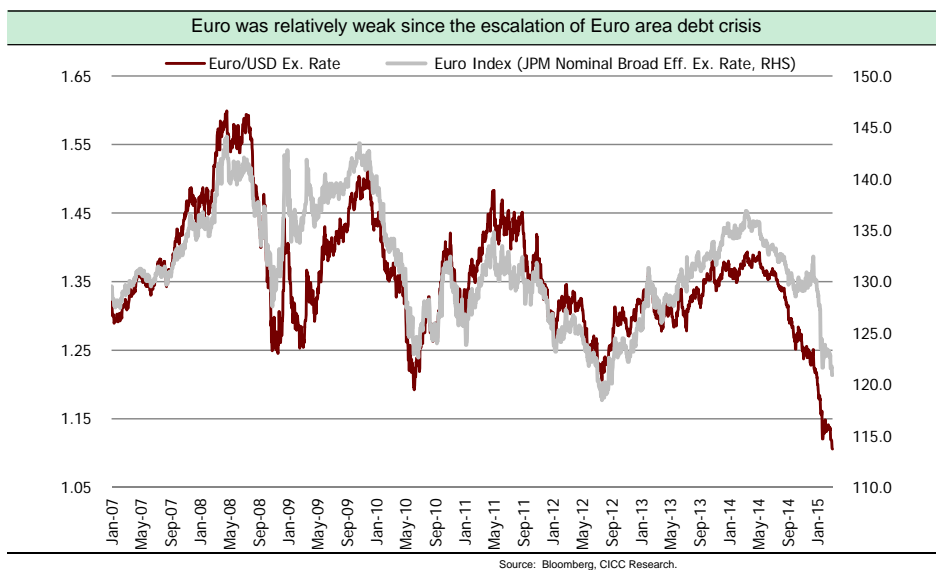
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USD exchange rates



4

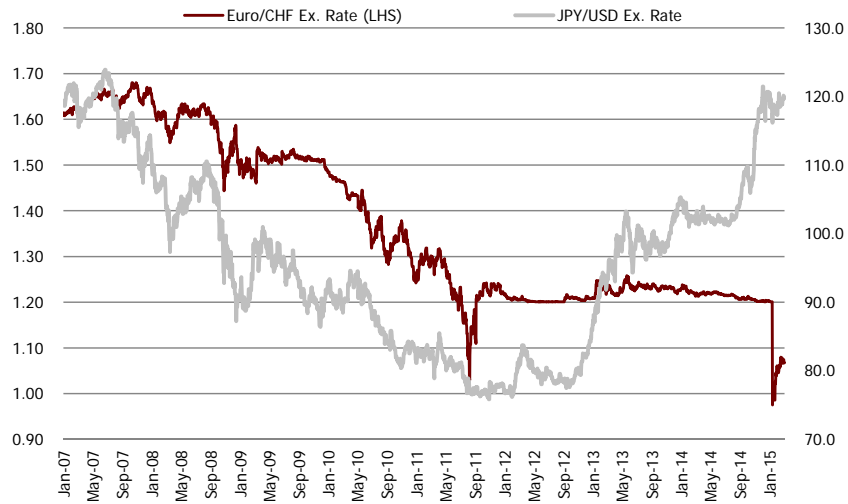
Euro exchanges: relatively weak and volatile



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Other major currencies: JPY and CHF

Japanese Yen was weak against USD since 2013; Swiss Franc appreciated against Euro



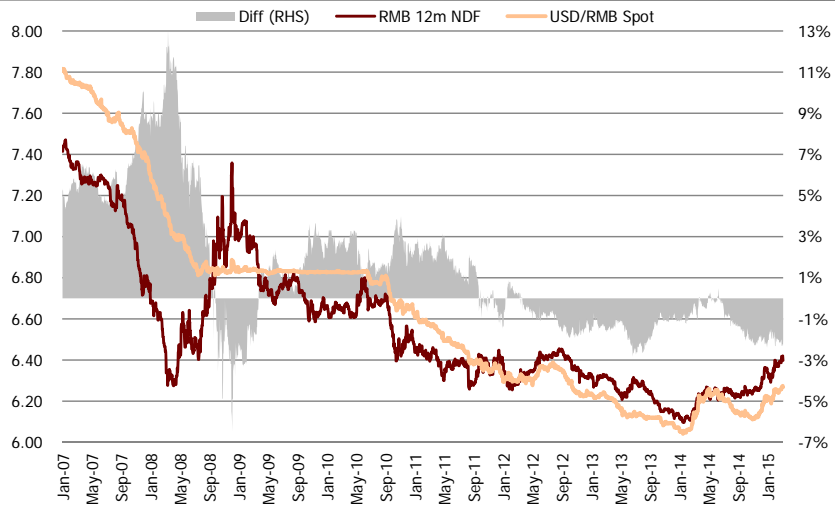
Source: Bloomberg, CICC Research.



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RMB appreciation against USD

RMB appreciated against USD until recently



Source: Bloomberg, CICC Research.



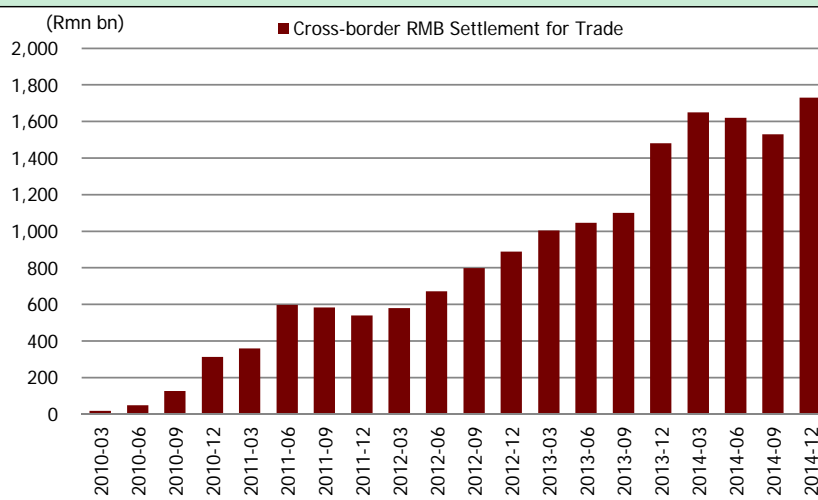
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The Triffin's Dilemma

- **The Triffin's dilemma:** The country whose currency foreign nations wish to hold (a reserve currency) must be willing to supply the world with an extra supply of its currency to fulfill world demand for this 'reserve' currency and thus cause a trade deficit.
- The reserve-currency country enjoys the consumption benefit of running a trade deficit, while the rest of the world benefits from the additional liquidity, which helps facilitate trade.
- The declining value and credibility of any currency which runs **a persistent trade deficit** can eventually lead to a reluctance of creditors to hold the reserve currency.
- The weakening of USD and the collapse of the Bretton Woods System.
- Does it apply to RMB and RMB internationalization?

Cross-border RMB settlement for trade grew significantly in the past 5 years

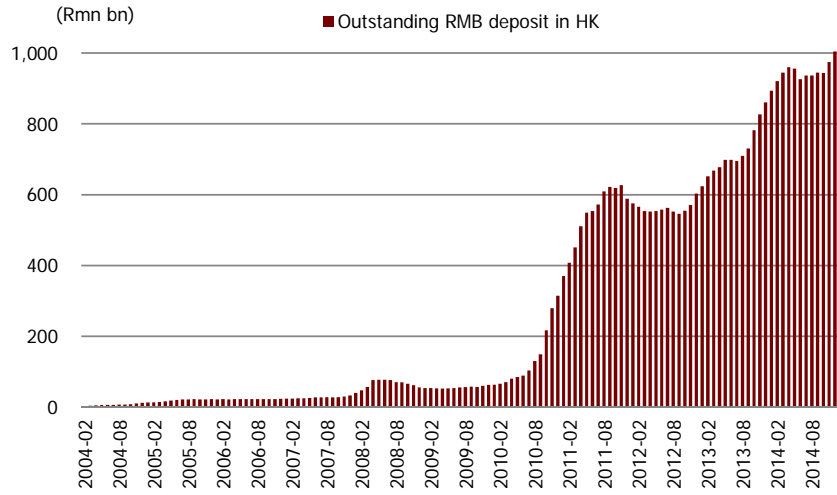
Cross-border RMB settlement for trade grew significantly since 2010, reaching RMB 1730bn in 4Q14



Source: Wind, CICC Research.

RMB deposit at Hong Kong shot up in 2010-2014

Despite small slid in earlier this year, RMB deposit at Hong Kong still stays high at RMB981bn in Jan 2015



Source: Wind, CICC Research.

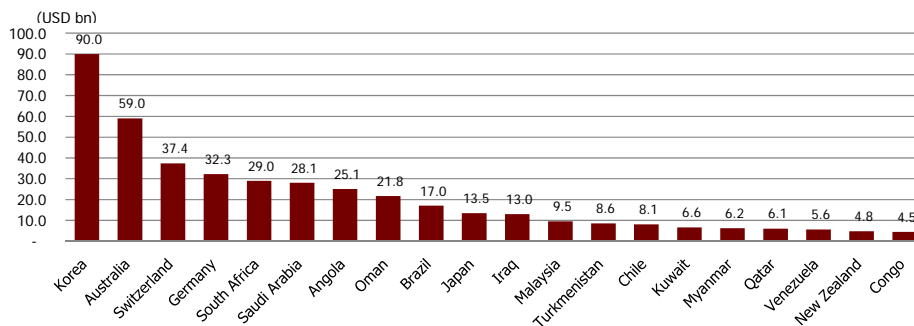


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China's trade deficit by countries

- In 2014, Korea, Australia and Switzerland are the top 3 countries China run trade deficit with. The top 20 countries China run trade deficit with run a total trade deficit of USD426.1bn, accounting for 4.1% of China's GDP.
- In 2014, China's total trade deficit to all 55 countries was USD465.9bn, and 91% was from the top 20 countries, 76% was from the top 10 countries.

Top 20 countries China run trade deficit with in 2014, with a total trade deficit of USD426.1bn



Source: CEIC, CICC Research.



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Major countries China run trade deficit with

- We divided the major countries China run trade deficit with into 4 types: **D**=Developed Countries (Germany, Japan, Korea, etc.), **DR**=Resource-based Developed Countries, **ER**=Resource-based Emerging Countries (Brazil, Malaysia, etc), **NR**=Resource-based Undeveloped Countries (African and some Asian countries exporting natural resources).
- China heavily relies on the product and technology from some developed countries such as Japan, Korea and Germany, but most countries China run trade deficit with are ER.

Top 20 countries China run trade deficit with in 2004-2014 by 4 types

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
1	D	D	D	D	D	D	D	D	D	D	D
2	D	D	D	D	D	D	D	DR	DR	DR	DR
3	ER	ER	ER	ER	ER	DR	DR	D	ER	D	D
4	D	ER	ER	NR	NR	ER	ER	ER	NR	ER	D
5	ER	ER	NR	ER	DR	ER	ER	ER	ER	ER	ER
6	ER	NR	ER	ER	ER	ER	NR	D	D	NR	ER
7	ER	ER	ER	ER	ER	NR	D	NR	D	D	NR
8	ER	ER	ER	DR	ER	ER	ER	ER	ER	ER	ER
9	NR	DR	DR	ER	ER	ER	ER	ER	D	ER	ER
10	ER	ER	ER	ER	ER	D	ER	D	ER	ER	D
11	ER	ER	ER	ER	ER	ER	ER	ER	ER	D	ER
12	DR	ER	ER	ER	ER	ER	ER	ER	ER	ER	ER
13	ER	ER	NR	ER	NR	D	D	ER	ER	ER	ER
14	D	ER	NR	ER	ER	ER	ER	ER	ER	ER	ER
15	ER	NR	ER	NR	D	ER	NR	NR	ER	ER	ER
16	ER	NR	D	NR	ER	NR	ER	ER	ER	ER	ER
17	ER	D	ER	D	NR	ER	ER	ER	ER	ER	ER
18	NR	ER	ER	ER	ER	ER	ER	ER	ER	ER	DR
19	D	NR	NR	NR	NR	D	NR	ER	ER	ER	DR
20	D	NR	ER	ER	NR	ER	ER	NR	ER	NR	NR

Source: CEIC, CICC Research. Notes: D=Developed Countries, DR=Resource-based Developed Countries, ER=Resource-based Emerging Countries, NR=Resource-based Undeveloped Countries



12

Major countries China run trade deficit with

- The number of developed countries China run trade deficit with is not large but these countries account for a large trade amount.
- 60% of China's trade deficit are exposed to resource-based countries. We expect China's trade deficit to resource-based countries may further grow as the increasing dependency to external energy and resources.

Top 20 countries China run trade deficit with by 4 types

Top countries China runs trade deficit in 2014	No. of countries	% of No.	Trade deficit amt (USD bn)	% of trade deficit amt	Frequency in top countries China runs trade deficit
Total	55	100%	465.9	100%	100.0%
D: Developed Countries	11	20%	180.2	39%	19.5%
DR: Resource-based Developed Countries	3	5%	63.8	14%	5.5%
ER: Resource-based Emerging Countries	24	44%	176.6	38%	60.0%
NR: Resource-based Undeveloped Countries	17	31%	45.4	10%	15.0%

Source: CEIC, CICC Research.

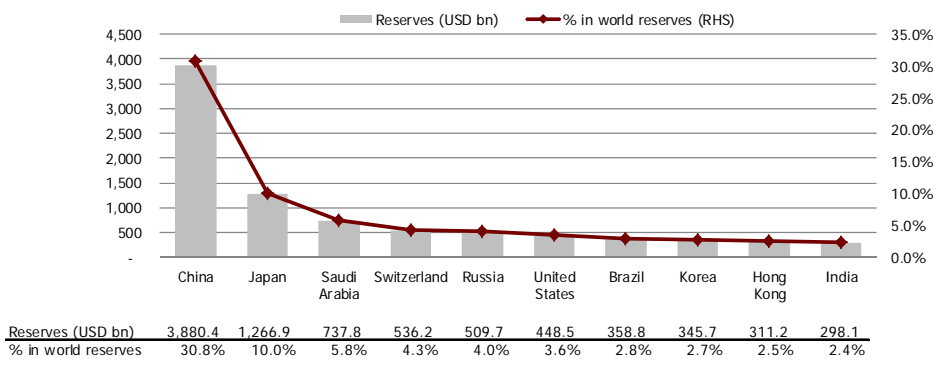


13

Reserves profile of major countries China run trade deficit with

- In 2013 the global reserves reached USD12.6trn, comprising of FX reserves, SDR and gold, mainly FX reserves.
- Generally speaking the countries with trade surplus, such as China, Japan and Russia, are likely to have higher reserves .

Top 10 largest reserve countries



Source: World bank, CICC Research.



14

Reserves profile of major countries China run trade deficit with

- The reserves of top 35 countries China run trade deficit with are USD3.9trn, accounting for 34.4% in world total FX reserves.

The 2010 reserves for major countries China run trade deficit with (ex. Gold, SDR and etc.)

	FX reserves (USD bn)	% in world FX reserve		FX reserves (USD bn)	% in world FX reserve
1 Korea	335.6	3.0%	19 New Zealand	14.4	0.1%
2 Australia	42.5	0.4%	20 Congo	5.4	0.0%
3 Switzerland	488.6	4.3%	21 South Sudan	0.8	0.0%
4 Germany	38.7	0.3%	22 Thailand	159.0	1.4%
5 South Africa	41.9	0.4%	23 Austria	8.1	0.1%
6 Saudi Arabia	710.5	6.3%	24 Iran	n.a.	n.a.
7 Angola	32.4	0.3%	25 Costa Rica	7.1	0.1%
8 Oman	15.6	0.1%	26 Eq. Guinea	4.4	0.0%
9 Brazil	349.0	3.1%	27 Mongolia	2.0	0.0%
10 Japan	1,202.9	10.6%	28 Zambia	2.1	0.0%
11 Iraq	74.3	0.7%	29 Peru	63.2	0.6%
12 Malaysia	130.5	1.1%	30 Norway	54.6	0.5%
13 Turkmenistan	n.a.	n.a.	31 Sierra Leone	0.4	0.0%
14 Chile	39.3	0.3%	32 Congo, DR	1.1	0.0%
15 Kuwait	26.3	0.2%	33 Gabon	2.1	0.0%
16 Myanmar	7.0	0.1%	34 Ireland	0.0	0.0%
17 Qatar	41.0	0.4%	35 Papua New Guinea	2.8	0.0%
18 Venezuela	2.1	0.0%	Total	3,905.9	34.4%

Source: IMF, Bloomberg, CICC Research.



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Beneficiaries of RMB further internationalization

- Countries China run trade deficit with are likely to benefit, esp. those trade with China can grow more rapidly.
- Euro rate is depreciating and volatile.
- USD yield is low.
- It may be wise to hold RMB as FX reserve.
- PBoC and Chinese central government currently aim on economic structural reform with stable monetary policies, which is helpful to maintain the asset values.

The GDP growth profile in major countries China run trade deficit with

Country	Trade Surplus (USD bn)	GDP (USD bn)	Growth %	% of Trade surplus to China in its own GDP	FX reserve % of GDP
Korea	90.0	1,305	3.0	6.9	25.7
Australia	59.0	1,560	2.5	3.8	2.7
Switzerland	37.4	685	1.9	5.5	71.3
Germany	32.3	3,730	0.1	0.9	1.0
South Africa	29.0	351	1.9	8.3	12.0
Saudi Arabia	28.1	748	4.0	3.8	94.9
Angola	25.1	124	6.8	20.2	26.1
Oman	21.8	80	4.8	27.3	19.5
Brazil	17.0	2,246	2.5	0.8	15.5
Japan	13.5	4,920	1.6	0.3	24.5
Iraq	13.0	229	4.2	5.7	32.4
Malaysia	9.5	313	4.7	3.0	41.7
Turkmenistan	8.6	42	10.2	20.5	n.a.
Chile	8.1	277	4.1	2.9	14.2
Kuwait	6.6	176	-0.4	3.7	15.0
Myanmar	6.2	57	8.3	10.9	12.3
Oatar	6.1	203	6.3	3.0	20.2
Venezuela	5.6	438	1.3	1.3	0.5
New Zealand	4.8	186	2.5	2.6	7.8
Congo, Rep.	4.5	14	3.4	31.9	38.6

Source: Haver Analytics, WDI, IMF, CICC Research.

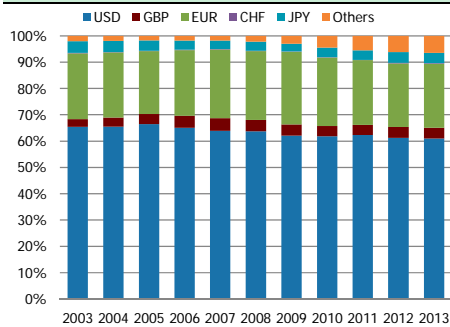


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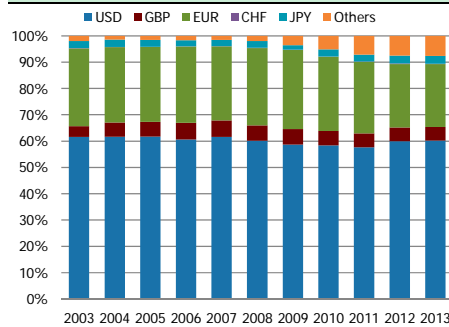
Beneficiaries of RMB further internationalization

- To some emerging countries, their trade surplus to China count for a large proportion in its own GDP, which is a considerable contribution to their growth. Meanwhile, these countries usually have high FX reserves (currently mainly USD and Euro)
- If these countries are more interested in RMB as FX reserves for diversification, the demand of RMB will grow substantially which promotes RMB internationalization

World FX reserve by currencies



Emerging countries FX reserve by currencies



Source: IMF, CICC Research



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China signed the bilateral currency swap agreement with many countries

- As of Dec 2014, China signed the bilateral currency swap agreement with 28 countries and regions, for a total of RMB 3.1 trillion.
- The countries includes: Korea, Hong Kong, Malaysia, Belarus, Indonesia, Argentina, Iceland, Singapore, New Zealand, Uzbekistan, Mongolia, Kazakhstan, Thailand, Pakistan, Australia, Russia, ECB, etc.

The growth of China is driven by reform; RMB internationalization may become a new propeller

- Zhou Xiaochuan, the Governor of PBoC suggested super-sovereign reserve currency, which provides ample room and possibility for RMB internationalization.
- Currently the international standing of RMB does not match the economic strength of China.

		USD	EUR	GBP	JPY	CNY
% in global FX reserve currencies	%	61.0	24.4	4.0	3.8	n.a.
Economy and financial market size (2013)		US	Euro area	UK	Japan	China
GDP	USD bn	16,768	13,148	2,678	4,920	9,240
GDP (PPP)	CID bn	16,768	12,532	2,320	4,668	16,149
Total amount of foreign trade	USD bn	3,910	8,764	1,118	1,547	4,160
Outstanding balance of government debt	USD bn	17,187	12,215	2,387	11,674	3,456
Stock market capitalization	USD bn	22,281	6,839	4,035	4,599	3,360
Monetary stability (2004-2013)		US	Euro area	UK	Japan	China
10-yr average inflation	%	2.40	2.05	2.70	-0.06	3.11

Source: Haver Analytics, WDI, CICC Research

China's new initiatives

- China will contribute 40 billion U.S. dollars to set up a Silk Road. The new Silk Road Fund will be used to provide investment and financing support to carry out infrastructure, resources, industrial cooperation, financial cooperation and other projects related to connectivity for countries along the "Belt and Road".
- China will provide up to \$ 50 billion in initial capital for the establishment of the Asian Infrastructure Investment Bank (AIIB). The bank has 23 founding members. In accordance with plans, AIIB will begin operations by the end of 2015. The purpose of the multilateral development bank is to provide finance to infrastructure projects in the Asia Pacific region.

Structural Opportunities

- Although China's trade surplus may not be back to the peak as seen years ago, there will be more countries China runs trade deficit with. This will support for RMB internationalization.
- As long as RMB is becoming a reserve currency, a new comer, while China's growth rate maintains at healthy levels, the curse of Triffin's dilemma does not really apply to RMB.
- Structural opportunities first exist between China and its trading partners that run trade surpluses with China.
- Structural opportunities also exist for all international investors who wish to invest in Chinese assets.

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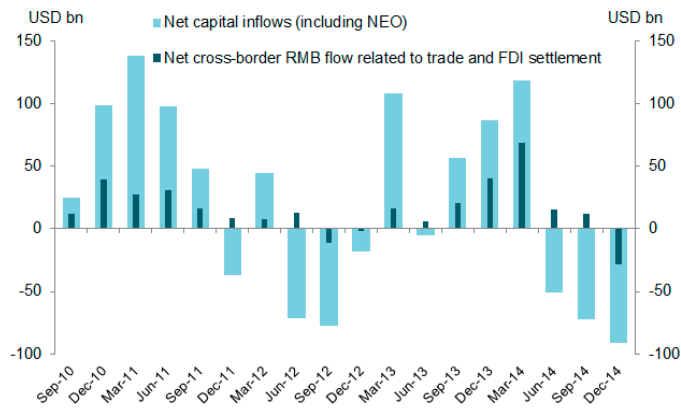
The RMB and China's capital account

PBOC/IMF joint conference, Beijing, March 2015

MK Tang | 邓敏强
Senior China Economist
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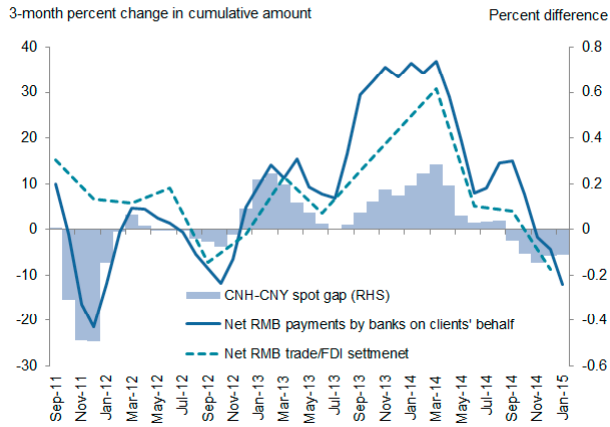
Investors should consider this research as only a single factor in making investment decisions. For Reg AC certification and other important disclosures, see the Disclosure Appendix, or go to www.gs.com/research/hedge.html.

The process of RMB internationalization has proceeded rapidly, as reflected also in capital account flows



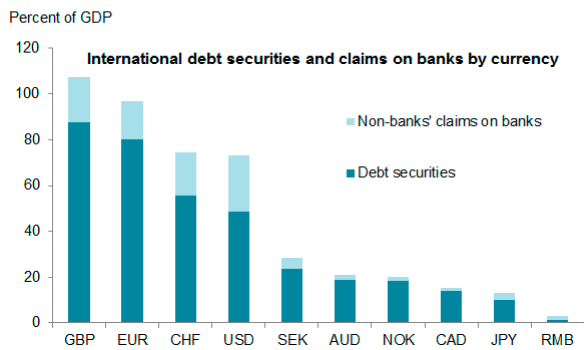
Source: CEIC, PBOC, SAFE

Cross-border RMB flows naturally driven by market forces; volatility so far relatively moderate



Source: CEIC, PBOC, SAFE

The role of RMB as international store of value has substantial development potential



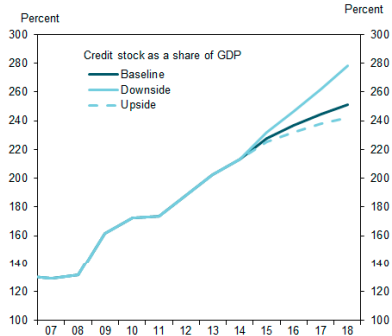
Note: For RMB, international claims on banks are offshore RMB deposits. For the GBP, EUR, CHF, USD and JPY, they are local and foreign banks' international liabilities to non-banks. For the remaining currencies, they are local banks' cross-border liabilities to non-banks..

Source: BIS, IMF, CEIC, Goldman Sachs Global Investment Research

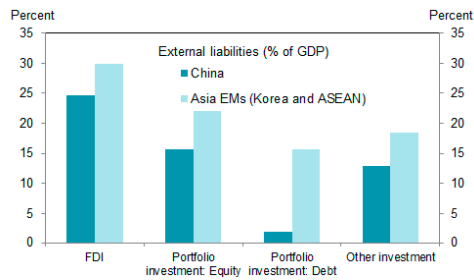
RMB internationalization could be a key engine to finance China growth



GS projection for China's leverage ratio

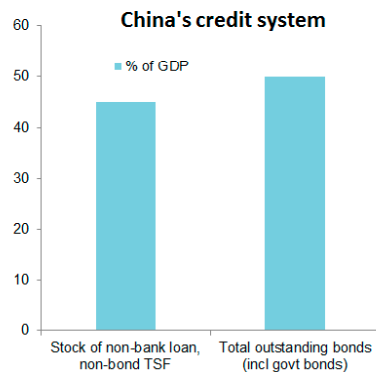
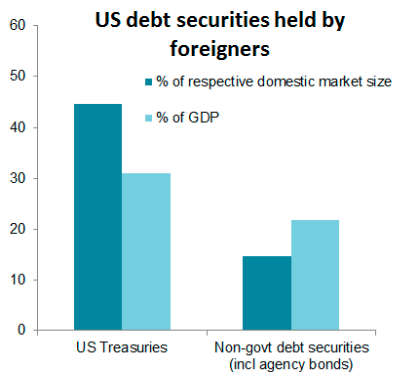


Note: Baseline: growth rebalancing (consumption growth outpacing GDP by 1.5pp/year); Upside: consumption growth outpacing GDP by 3pp/year; Downside: no rebalancing and GDP growth slows to 5%.



Source: CEIC, SAFE, NBS, Goldman Sachs Global Investment Research

Boost to the development of bond market could be considerable

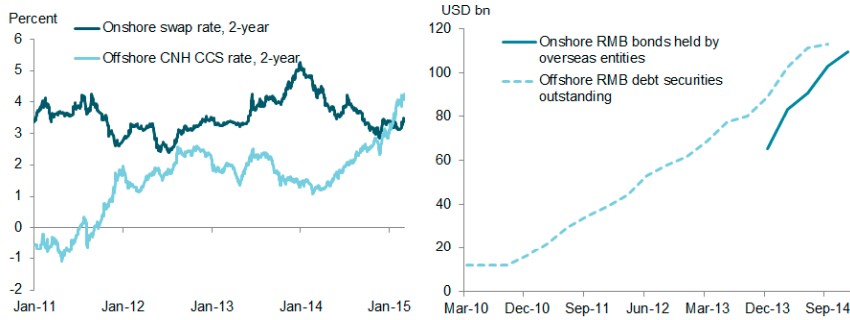


Source: US Treasury, IMF, PBOC, China Bond

On or off? Scope for two-track approach



PBOC monetary stance and FX factors matter differently in the on- and off-shore funding markets



Source: Bloomberg, PBOC, CEIC

Disclosure Appendix (as of March 10, 2015)



Reg AC

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Opening Up of China's Financial Sector & Further Consideration

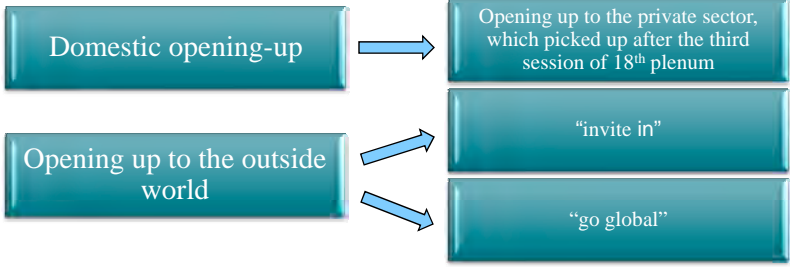
Beijing, Mar. 16, 2015
Zhang, Zhengxin



中國人民銀行
THE PEOPLE'S BANK OF CHINA



Opening-up of the Financial Sector: A Breakdown



```
graph LR; A[Domestic opening-up] --> B[Opening up to the private sector, which picked up after the third session of 18th plenum]; C[Opening up to the outside world] --> D["invite in"]; C --> E["go global"]
```

2



1.A Brief Review



2. Gaps and Challenges



3. Some Thoughts on Next Step



1.A Brief Review of Financial Sector Opening-up

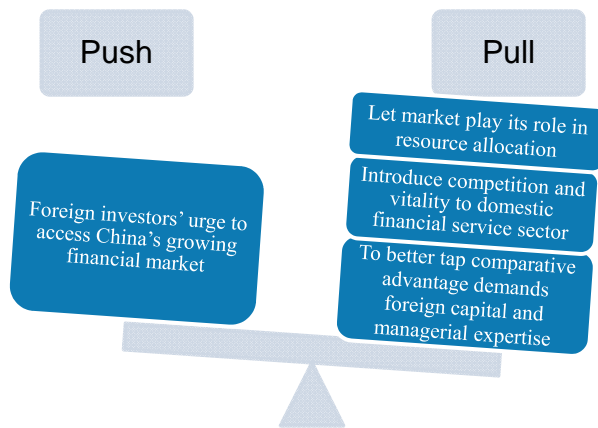
●Three stages:

- 1978-2001, proactive "invite in" with focus on market entry of FIs
- 2002-2006, full implementation of WTO commitments
- 2007-now, passiveness in market entry of foreign FIs , proactiveness in two-way capital market opening up and "go global" by domestic FIs



1.A Brief Review of Financial Sector Opening-up

●Driving factors



5



1.A Brief Review of Financial Sector Opening-up

●Model and measures



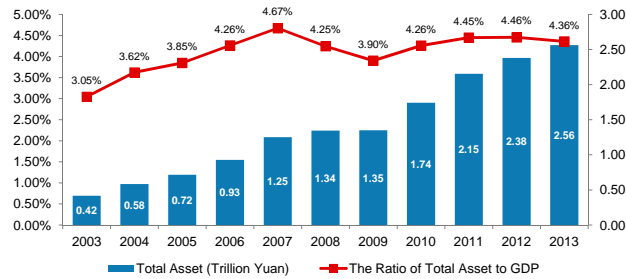
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1.A Brief Review of Financial Sector Opening-up

●Achievements: Growing assets of foreign-funded banks in china

Development of foreign-funded banks in China



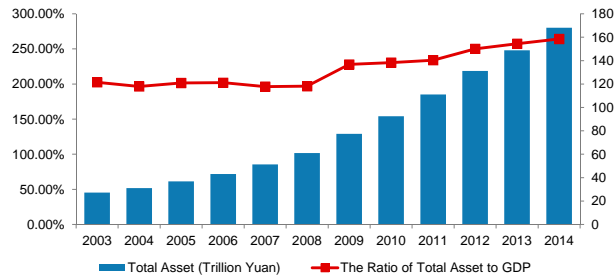
Source: NBS, CBRC



1.A Brief Review of Financial Sector Opening-up

●Achievements: Opening-up promotes development of Chinese financial institutions

Development of Chinese-funded banks in China



Source: NBS, CBRC



1.A Brief Review of Financial Sector Opening-up

●Achievements: Opening-up promotes reform

- progress in market-based exchange rate and interest rate reform
- greater convertibility of capital account

Results of capital convertibility self-evaluation by IMF's criteria,
in 2012&2015

Items	2012	2015
Not convertible	6	5
Partly convertible	19	18
Basically convertible	8	7
Convertible	7	10
Total	40	40

Source: PBC



2. Gaps and Challenges for the opening-up of the financial sector: Gaps

- Not matching the economic size of China
- Not matching the openness of the real economy in China
- Traditional model of opening-up cannot meet the need of further development of the financial market in China
- Overprotection made domestic financial institutions “big but not internationally competitive”
- prolonged and complicated approval process hindered the pace of “go global”



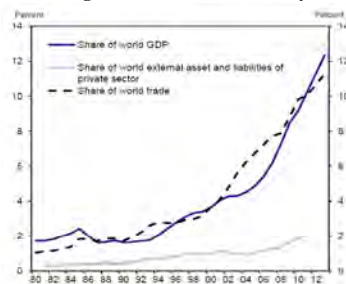
2. Gaps and Challenges for the opening-up of the financial sector: Gaps

Share of Foreign-funded Banks' Asset in Total Banks' Assets in China (%)



Source: IMF, CBRC

Opening-up of Financial Market in China Far Lags behind the Real Economy



Source: Bank of England (2013), CEIC, Lane and Milesi-Ferretti (2007)



2. Gaps and Challenges for the opening-up of the financial sector: Challenges

- Some complacent on the current status: not willing to open more
- Some doubtful about further opening up: not daring to open more
- Further opening-up induce more risks and affect financial stability?
- Further opening-up undermine profitability of Chinese-funded financial institutions?



3. Some thoughts on the next step

- Re-examine the necessity and urgency of financial sector opening up:

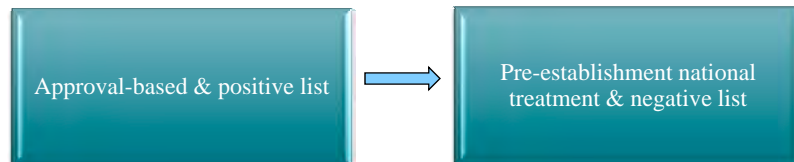
- The need to fill the above Gaps
- The need for Chinese FIs to have level playing fields in both domestic and overseas markets
- The need for China to have an international financial centre and an international currency

- Need new ideological emancipation



3. Some thoughts on the next step

- New model of opening-up





3. Some thoughts on the next step

●Roadmap:

- Relaxing approval standard and enlarging positive list in parallel with pilot FTZ
- Establishing Pre-establishment national treatment & negative list
- Kicking out Financial sector from the negative list



3. Some thoughts on the next step

●Principle

- Proactive and market-based opening-up
- Two-way opening-up of the financial sector



3. Some thoughts on the next step

- Mutual reinforcement of reform and opening-up

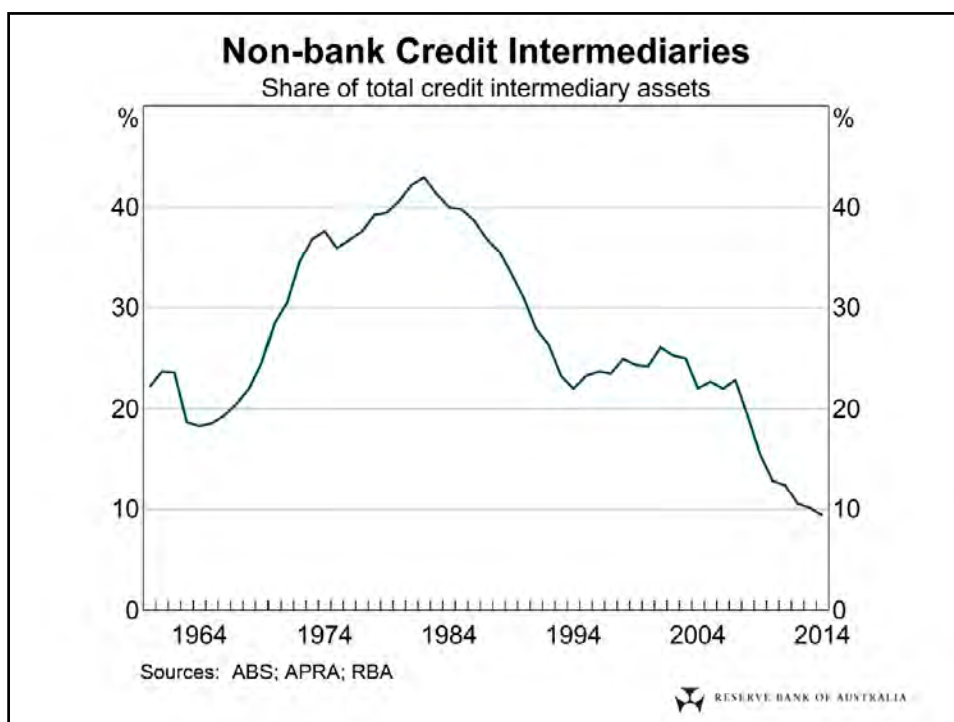
- Enhance capital account convertibility
- Press ahead with market-based exchange rate and interest rate reform
- Establish high level regulatory rules in line with international norms

Opening Up of the Australian Financial Sector

Philip Lowe
Deputy Governor

1. Regulation became increasingly distortionary

- ❖ Ceilings on interest rates, quantitative and qualitative controls on lending, foreign ownership restrictions
- ❖ Growing distortions
 - Restricted access to finance
 - Inability to hedge risk
- ❖ New institutions developed to circumvent the regulatory net
- ❖ Policy responses
 - Two steps forward, one step back
- ❖ Increasing calls for liberalisation



The process of financial liberalisation

- ❖ 1970s: Gradual steps towards financial sector deregulation
 - Loosening of some interest rate controls
- ❖ 1980s: Completion of deregulation, and early teething problems
 - Float of the dollar, removal of capital / interest rate controls, foreign bank entry
- ❖ 1990s: Regulatory responses and building a regulatory framework
 - Creation of prudential and securities regulators
- ❖ The 2000s onwards: Strengthening the regulatory framework and financial system infrastructure
 - Market infrastructure, payments system reform, responses to the financial crisis

2. Building public support through inquiries

- ❖ 1979-1981 Australian Financial System Inquiry (Campbell)
 - Remove interest rate ceilings, promote competition among banks, float the currency
- ❖ 1996-1997 Financial System Inquiry (Wallis)
 - Building the regulatory framework
- ❖ 2014 Financial System Inquiry (Murray)
 - Strengthening capital, improving the pension system

Key attributes of public inquiries

- ❖ Independent
- ❖ Forward looking
- ❖ Specified terms of reference to determine scope of inquiry
- ❖ Led by individuals of high standing from business or academia
- ❖ Extensive public consultation

3. The initial experience with reform was not good

- ❖ Banks and supervisors lacked credit risk assessment skills
- ❖ Increased competition among financial institutions as they fought for market share
- ❖ Commercial property boom and bust
- ❖ Heavy losses for banks owned by provincial governments and foreign-owned banks
- ❖ Severe effect on domestic economy

4. Gradual development of regulation

- ❖ Strengthened central bank supervision in the 1990s
- ❖ Creation of APRA and ASIC (1998)
- ❖ Features of the current regulatory model
 - Focus on supervision, not just regulation
 - Macroprudential incorporated into microprudential
- ❖ The Council of Financial Regulators
 - Chaired by the Governor of the Reserve Bank of Australia
 - Quarterly meetings
 - Provides collective advice to government
- ❖ Current arrangements are widely viewed to have worked well

5. Developing and sustaining markets

- ❖ Preconditions for reform and the argument against
- ❖ Reform as a catalyst for market development
- ❖ Deep and liquid bond market has been slow to develop
- ❖ Large pension system has been helpful for equity market development
- ❖ Even well-developed markets can shut down
 - Need to be prepared

6. Opening up has been net positive

- ❖ The value of a floating exchange rate
- ❖ It is possible to have an open and competitive system that is not excessively fragile
- ❖ A strong competitive fringe promotes competition and innovation
 - Access to a full range of financial services
 - Foreign banks have been helpful
- ❖ A more efficient allocation of capital

Financial Market Opening:

Lessons from Korea

2015. 3. 16.

Dongchul CHO

KDI

1. Evolution of the Exchange Rate System

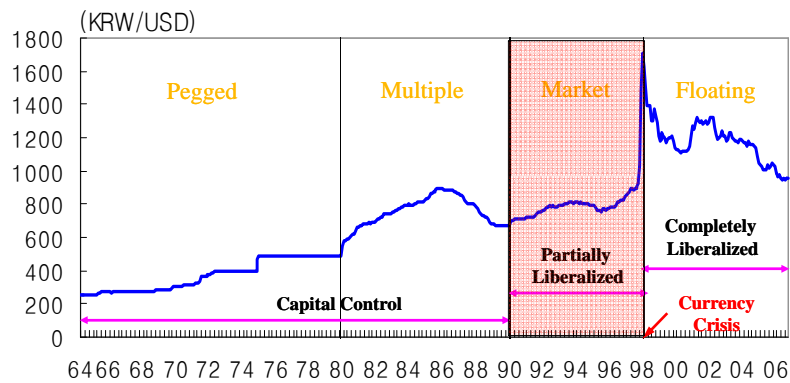
Korea has tried all kinds of exchange rate systems.

- Until 1979 : **Pegged to the US dollar**
(with occasional adjustments by the government)
- The 1980s : **Multiple Currency Basket Peg System** (Managed Floating?)
(with everyday adjustment by the government)
- 1990~1997 : **Market Average Exchange Rate System** (Dirty Floating?)
(with a daily band that was gradually widened)
- From 1998 : **Free Floating System**
(with no daily band)

1. Evolution of the Exchange Rate System

This evolution was geared to financial market opening.

- The 1990s was particularly relevant for today's China.



2

2. Financial Liberalization in the 1990s

Korea's financial market was severely repressed for long.

- Financial institutions were main policy tools for 'Gov't-led Development.' (Korea's commercial banks were not really 'commercial' until the 1980s.)

Korea began to liberalize the financial market from the 1990s.

- Pressures from both domestic democratization and global deregulation trend.

Domestic: The first democratic presidential election in 1987.

Global : 'Washington consensus'

3

2. Financial Liberalization in the 1990s

Internally, the main focus was interest rate deregulation.

- Plan was 'long-term rates first, short-term later.'

Externally, capital account was opened gradually ... until the 1997 currency crisis.

- Allow foreign investors to purchase Korean stocks (Jan. 1992).
- From positive to negative system for current transactions (Sep. 1992).
- Allow financial institutions to borrow from abroad for investment and trade.
- Allow residents to provide outbound deposits and credits (Feb. 1995).

4

3. Legacy of Regulation

① Fear to Float and Unperceived Risks

- Both policy-makers and market continued to believe that the exchange rate should (and can) be controlled and stabilized by the government.
- The exchange rate risk was not perceived.
(Those who argued for exchange rate risk hedging were mis-treated in financial institutions and *chaebol*.)
- Created huge incentives to borrow from abroad.
(Domestic interest rates were 12~15%, while LIBOR was around 5%.)
- Enriched the adverse effects during the 1997~1998 currency crisis period.

5

3. Legacy of Regulation

② Increased Moral Hazard associated with the too-big-to-fail

- Financial deregulation provided more opportunities for *chaebol* that were believed to be too big to fail.
- ➔ The market provided 'cheaper capital' for *chaebol*.
- ➔ *Chaebol* made aggressive investments out of cheap leveraging.
- ➔ When the 'aggressive' investments turned out to be 'reckless', the market began to realize the Korean government could not rescue them.
- ➔ The collapse of 'too-big-to-fail' belief brought about panic in the market.

6

✧ Failures of top-30 *chaebol*

Order	<i>Chaebol</i>	Total Asset (Billion KRW)	Debt to Equity Ratio (%)	Net Income (Billion KRW)	Bankruptcy (Workout) Date
1	Hyundai	53,597	459	125	
2	Samsung	51,651	459	174	
3	LG	38,376	373	308	
4	Daewoo	35,466	316	350	1999/8 Workout
5	SK	22,927	391	255	
6	Ssangyong	16,457	387	-127	1997~1998 Selling Major Subsidiaries
7	Hanjin	14,309	598	-161	
8	Kia	14,287	518	-129	1997/7 Bankruptcy
9	Hanwha	10,967	789	-212	
10	Lotte	7,774	196	53	
11	Kumho	7,495	552	-40	
12	Halla	6,640	1,986	23	1997/12 Bankruptcy
13	Dong Ah	N/A	659	N/A	1998/6 Workout
14	Doosan	6,370	692	-108	
15	Daelim	6,177	371	-6	
16	Hansol	4,346	433	2	
17	Hyosung	4,131	370	35	
18	Dongkuk Steel	3,956	376	119	
19	Jinro	3,951	3,619	-154	1997/9 Bankruptcy
20	Kolon	3,910	389	8	
21	Kohab	3,690	579	30	1998/7 Workout
22	Dongbu	N/A	464	N/A	
23	Tongyang	3,445	638	-119	
24	Haitai	3,398	658	36	1997/11 Bankruptcy
25	New Core	2,798	1,224	23	1997/11 Bankruptcy
26	Anam	2,659	486	12	1998/11 Workout
27	Hanil	2,599	578	-122	1998/9 Broken/ up
28	Keopyong	2,477	615	20	1998/5 Broken/ up
29	Daesang	2,238	412	-30	
30	Shino	2,158	486	-5	1998/10 Workout

Source: Dongchul CHO, "Overcoming the 1997-1998 Crisis: Macroeconomic Policy Adjustments," Korea Knowledge Sharing Program Report, KDI, 2010

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3. Legacy of Regulation

③ 'Unbalanced' Deregulation and Regulation Arbitrage

- In practice, extremely difficult to balance deregulation paces across sectors.
- Likely to create regulatory arbitrage.
- In particular, small merchant banks in Korea were deregulated faster and exploited the arbitrage.
 - (ex) Obsession of M2 quantity targeting made the government to 'unofficially' control banks more severely than non-banks.
- Virtually, all merchant banks failed after the currency crisis.

8

※ Restructuring of Financial Institutions

	Total No. of Institutions (end-1997) (A)	Type of Resolution					New Entry	Total No. of Institutions (end-2004)
		License Revoked	Merger	Others ¹⁾	Subtotal (B)	Ratio(%) (B/A)		
Banks	33	5	10	-	15	45.5	1	19
Merchant Bank Corporations	30	22	7	-	29	96.7	1	2
Securities Companies	36	5	4	3	12	33.3	18	42
Insurance Companies	50	10	6	3	19	38.0	19	50
Investment Trust Companies	30	6	2	-	8	26.7	25	47
Mutual Savings Banks	231	102	27	1	130	56.3	12	113
Credit Unions	1,666	2	108	499	609	36.6	9	1,066
Leasing Companies	25	10	2	1	13	52.0	6	18
Total	2,101	160	166	507	835	39.7	91	1,357

1) Includes dissolution and asset transfers to bridge institutions

Source: Dongchul CHO, "Overcoming the 1997-1998 Crisis: Macroeconomic Policy Adjustments," KDI, 2010

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3. Legacy of Regulation

④ Unprepared Financial Market Infrastructure

- Transparency and trust on statistics are the key basics for proper functioning of liberalized financial markets.
- During the regulation era, market demand for transparent and accurate statistics was weak, and relevant institutions (credit-rating agencies, accounting firms, etc.) were not developed.
- (ex) Up until the last minutes, credit-rating agencies classified the failing *chaebol*'s credits as 'investment grades.'

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3. Legacy of Regulation

⑤ Unprepared Policy-Makers

- It takes time and hands-on experiences for policy-makers to adapt themselves to new environments.
- Policy-makers were not used to the situations in which they could not directly control individual prices and financial institutions' behaviors.
- (ex) Although they learned the 'trilemma' from textbooks and understood it in their heads, they still treated foreign exchange market separately from domestic financial market when they made actions.

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4. Lessons for China

Financial market opening is an inevitable step for China.

- It is a step that cannot be omitted for RMB internationalization.
- Not to mention RMB internationalization, however, financial market will have to be opened as the economy grows and financial market deepens.

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4. Lessons for China

During the transition, potential risks need to be controlled.

- Financial liberalization can grow the risks stemmed from moral hazard.
 - Need to reduce the 'too-big-to-fail' expectation (state enterprises?).
 - Need to reduce the market expectation that the exchange rate will be stably managed by the government forever (managed floating?).
 - Need to reduce regulatory arbitrage opportunities that can be exploited by relatively less regulated financial institutions (shadow banking?).
 - Need to reduce macro-economic risks (housing market bubbles?).

13

4. Lessons for China

It is desirable to strengthen infrastructure as early as possible.

- Financial market opening is just *a* necessary (supply-side) step toward RMB internationalization.
- The true challenge is how to increase demand for RMB in the international financial market.
 - Need to enhance the transparency and reliability of statistics by strengthening legal and market disciplines on relevant agencies.
 - Need to strengthen capacity of policy-makers so that they can implement policies suitable for liberalized financial market.

Opening Up of the Financial Services Sector:

Thailand's Experience

By

Tarisa Watanagase

Third Joint Conference PBC and IMF

Beijing, March 16, 2015

Benefits of Opening Up

- Opening up → higher competition → cost of financial intermediation down → higher investment savings, financial access → support economic growth
- China market opening up → if private sector needs not crowded out by govt's, SOEs', may facilitate rebalancing of economy to light industries, services, consumption. More market players to meet different financial needs not met earlier

Threats of opening up

- Risks of financial instability/ crisis if opening up amid wrong initial conditions or sequencing
- Not to reject opening but to manage, mitigate risk of financial crisis

Thailand's Experience: opening up was main cause of crisis

- In 1992, financial sector's first opening up in 27 years.
- 46 offshore banking units (BIBF, Bangkok International Banking Facilities) approved. Thought to be a small step:
 - Non deposit taking
 - Out-out, out-in lending
 - Lower withholding tax than borrowing through banks

What went wrong

- Huge inflows contributed to property bubbles
- Wrong initial conditions and sequencing:
 - High domestic interest rate due to earlier lifting of cap. → high interest rate differentials + tax incentives → huge inflows
 - Earlier adoption of Article VIII → free capital flows (reporting requirement/monitoring also lifted)
 - Fixed exchange rate → monetary policy not capable of discouraging inflows

What went wrong (cont.)

- Weak financial sector, supervision → high maturity, currency mismatches for banks, borrowers
- Collateral based lending → inflows—high property prices – higher collateral value – higher borrowing
- Weak financial infrastructure → no credit bureau, no deposit insurance but implicit guarantee, weak governance, laws, regulation, esp. loan classification, provisioning

Reforms after crisis

- Dealt with crisis resolution followed by macroeconomic, financial sector, supervisory reforms
- Aimed to increase flexibility and resilience of economy, financial sector focusing on risk management
- Built necessary financial infrastructure: Credit bureau, DIA, AMC, etc.

Gradual opening up strategy

- 1. Rationalization of financial sector to build resilience and prepare for higher competition
 - One presence policy : financial conglomerates to merge into one entity → economy of scale
 - Legal, tax changes, incentives for M&A
 - Reduced fragmentation: Non-bank FIs acquired/absorbed by banks. Two types of banks offering full range of financial services or retail banks for smaller customers.
 - 83 FIs down to 41

Gradual opening up strategy (cont.)

- 2. Introduced more competition among existing players
 - More branches for foreign bank branches
 - Even more branches for foreign bank branches that convert to subsidiaries
 - Foreign strategic investment in Thai banks increased from 25% to 49% and beyond with authorities' approval

Gradual opening up strategy (cont.)

- 3. Added new foreign players
- 4. Will add new players where possible and appropriate: Telcos, Qualified Asean Bank within Asean Banking Integration Framework

Lessons learned

- Initial conditions, sequencing important
- Financial sector, supervision reasonably strong before opening up
- Mechanism/ system in place for orderly exit before and after opening up
- Cannot and should not wait to ensure everything is ready → Gradual approach easier to manage risks along the way

Monetary policy and financial stability

Lars E.O. Svensson

Web: larseosvensson.se

Financial Liberalization, Innovation, and Stability:
International Experience and Relevance for China

Third Joint Conference
People's Bank of China and International Monetary Fund
Beijing, March 16, 2015

1

Outline and conclusions

- What can monetary policy achieve?
 - Do not ask too much from monetary policy
 - Monetary policy cannot achieve and maintain financial stability; a separate financial-stability policy (macroprudential policy) is necessary
- What is the relation between monetary policy and financial-stability policy relate?
 - Monetary policy and financial-stability policy are very different
 - In normal times: Best conducted separately, also when conducted by the same institution
 - But each policy should be fully informed about and take into account the conduct of the other policy
- Should monetary policy lean against the wind to promote financial stability?
 - In Sweden, costs of leaning against the wind may be 250 times the benefit
 - Inflation below inflation expectations has increased the real debt burden
 - Monetary policy should be the very last line of defense of financial stability

2

What can – and cannot – monetary policy achieve?

- MP can stabilize inflation around a given inflation target
- MP can stabilize overall resource utilization around a long-run sustainable rate
 - But that long-run sustainable rate is determined by nonmonetary, structural factors, not by monetary policy
 - Improving the long-run sustainable rate requires structural policies
- MP cannot solve structural problems
 - This requires structural policies

3

What can – and cannot – monetary policy achieve?

- MP cannot achieve financial stability
 - A separate financial-stability policy (macroprudential policy) is necessary
 - Price stability does not imply financial stability
 - Interest policy is not enough to maintain financial stability
- “Leaning against the wind” cannot solve debt problems
 - In the Swedish case, benefits of leaning against the wind may be only about 0.4% of costs (should have been more than 100% of costs to justify policy)
- Inherent flaw in leaning against the wind
 - Running inflation below a credible inflation target increases households’ and other agents’ real debt burden

4

What can – and cannot – monetary policy achieve?

- Jeremy Stein (2013):
“[W]hile monetary policy may not be quite the right tool for the job, it has one important advantage relative to supervision and regulation – namely that [the interest rate] gets in all of the cracks.”
- But a modest policy-rate increase will barely cover the bottom of those cracks
- To fill the cracks, the policy rate would have to be increased so much that it would kill the economy

5

What can – and cannot - monetary policy achieve?

- **Do not ask too much of monetary policy**

6

What is the relation between monetary policy and financial stability?

- Distinguish different economic policies according to
 - (1) objectives,
 - (2) suitable instruments, and
 - (3) responsible authorities
- MP and financial-stability policy (FSP) are clearly separate policies, with different objectives and different suitable instruments, regardless of whether they have the same or different responsible authorities

7

Monetary policy

- Objective
 - Flexible inflation targeting: Price stability and real stability
- Instruments
 - Normal times: Policy rate, communication
 - Crisis times: Also unconventional measures, balance sheet policies, FX policy, ...
- Responsible authority
 - Central bank

8

Financial-stability policy

- Objective
 - **Financial stability:** Financial system fulfilling 3 main functions (transforming saving into financing, allowing risk management/sharing, submitting payments) w/ sufficient **resilience** to disturbances that threaten those functions
- Instruments
 - Normal times: Regulation, supervision, macroprudential policy, buffers, capital requirements, LTV caps, LCRs, NSFRs, taxes, deposit insurance, ...
 - Monetary policy cannot ensure sufficient resilience
 - Crisis times: Lending of last resort, liquidity support, capital injections, guarantees, banking resolution, ...
- Authority(ies)
 - Varies across countries: FSA, CB, banking-resolution authority, MoF, ...

9

What is the relation between monetary policy and financial-stability policy?

- Very different policies (objectives, instruments, authorities)
- In normal times: Conducted separately, also when conducted by the same authority
 - But each policy should be fully informed about the conduct and impact of the other policy and take that into account
 - Similar to MP and fiscal policy: Nash equilibrium rather than coordinated equilibrium (rather than joint optimization)
- In crisis times: Full cooperation and joint policies by FSA, CB, MoF, banking-resolution authority, ...

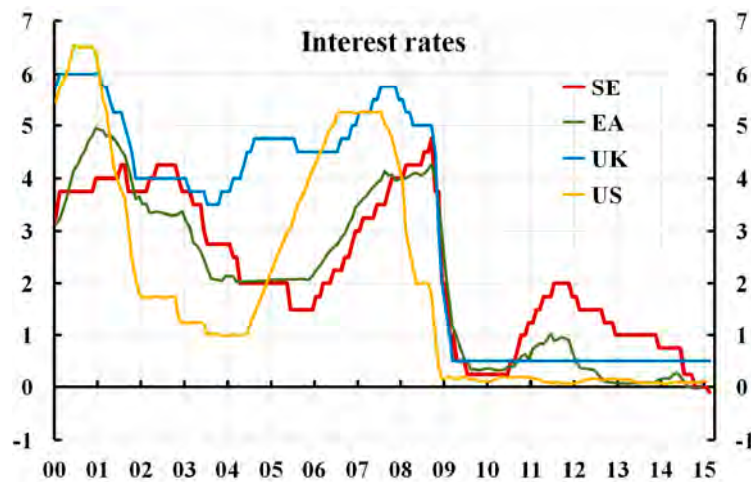
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Leaning against the wind in Sweden

- Leaning against the wind for financial stability purposes strongly promoted by BIS (incl. latest Annual Report)
- Skepticism against leaning elsewhere, but debate continues
- Sweden a case study: Quite aggressive leaning since summer 2010, because of concerns about household debt
- Outcome now: Zero or negative inflation, very high unemployment, most likely higher real debt, negative policy rate
- Costs and benefits of Riksbank leaning?

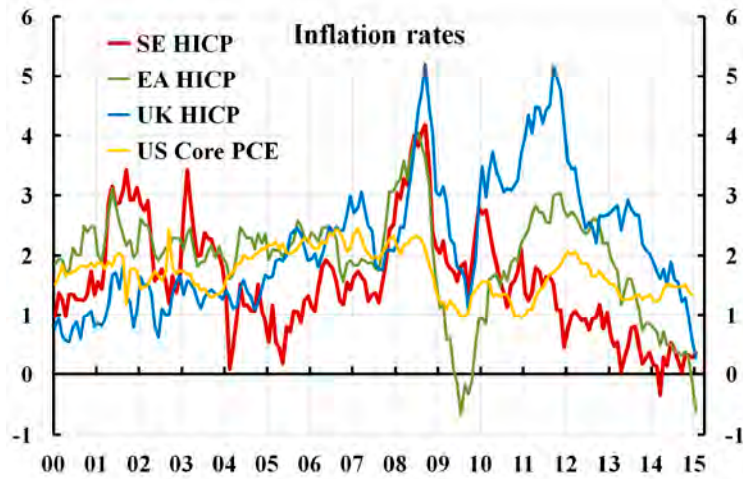
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The leaning: Policy rates in Sweden, UK, and US; Eonia rate in euro area



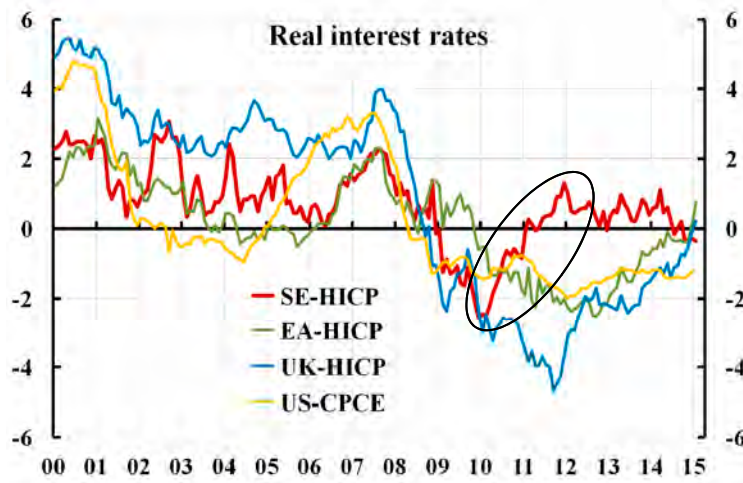
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The leaning: Inflation in Sweden, euro area, UK, and US



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The leaning: Real policy rate in Sweden, UK, and US, real Eonia rate in euro area



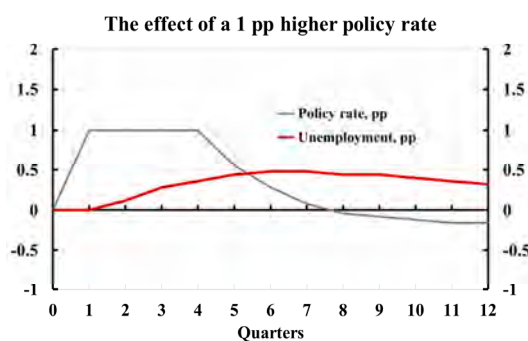
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The Riksbank's case for leaning against the wind

- A higher policy rate implies lower household debt
- Lower debt implies (1) a lower *probability* of a future crisis, and/or (2) a less *deep* future crisis if it occurs
- **Benefit** of leaning: Better expected macroeconomic outcome in the future
- **Cost** of leaning: Worse macroeconomic outcome in the next few years
- Riksbank *assumption* (gut feeling): The benefit exceeds the cost
- Is that assumption true?
- The answer can be found in the Riksbank's own boxes in MPR July 2013 and February 2014, plus Schularick and Taylor (2012) and Flodén (2014)
- This involves putting numbers on the cost and benefit of leaning

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Cost of 1 pp higher policy rate: 0.5 pp higher unemployment rate

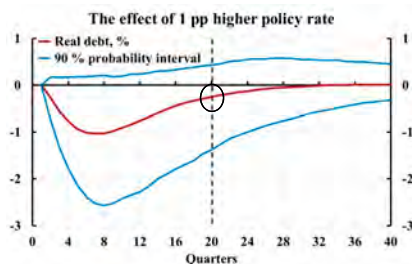


Source: MPR July 2013, chapt. 2; Svensson, post on larseosvensson.se, March 31, 2014.

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Benefit (1) of 1 pp higher policy rate: Lower probability of a future crisis

- Schularick & Taylor (2012): 5% lower real debt in 5 yrs implies 0.4 pp lower probability of crisis (average probability of crises about 4%)
 - Riksbank, MPR Feb 2014, box:
 - 1 pp higher policy rate leads to 0.25% lower real debt in 5 years
 - Lowers probability of crises by $0.25 \times 0.4 / 5 = 0.02$ pp
 - Riksbank crisis scenario, MPR July 2013, box: Assume 5 pp higher unemployment in crisis
- Benefit (1):**
Expected lower future unemployment: $0.0002 \times 5 = 0.001$ pp
- Cost:**
Higher unemployment rate now: **0.5 pp**

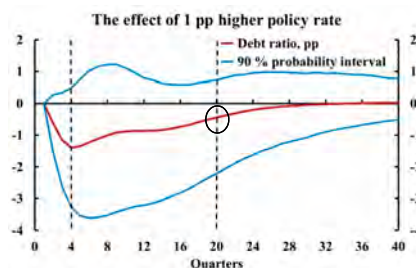


Source: Svensson, post on larseosvensson.se, March 31, 2014.

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Benefit (2) of 1 pp higher policy rate: Smaller increase in unemployment if future crisis

- Flodén (2014): 1 pp lower hhold debt ratio may imply 0.02 pp smaller increase in unemployment rate in crisis
 - Riksbank MPR Feb 2014, box:
 - 1 pp higher policy rate leads to 0.44 pp lower debt ratio in 5 yrs
 - Smaller increase in unemployment in crisis: $0.44 \times 0.02 = 0.009$ pp
 - With probability of crisis as high as 10%, divide by 10 (Shularick & Taylor: 4%)
- Benefit (2):**
Expected lower future unemployment: **0.0009 pp**
- Cost:**
Higher unemployment now: **0.5 pp**



Source: Svensson, post on larseosvensson.se, March 31, 2014.

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Summarize cost and benefit of 1 pp higher policy rate

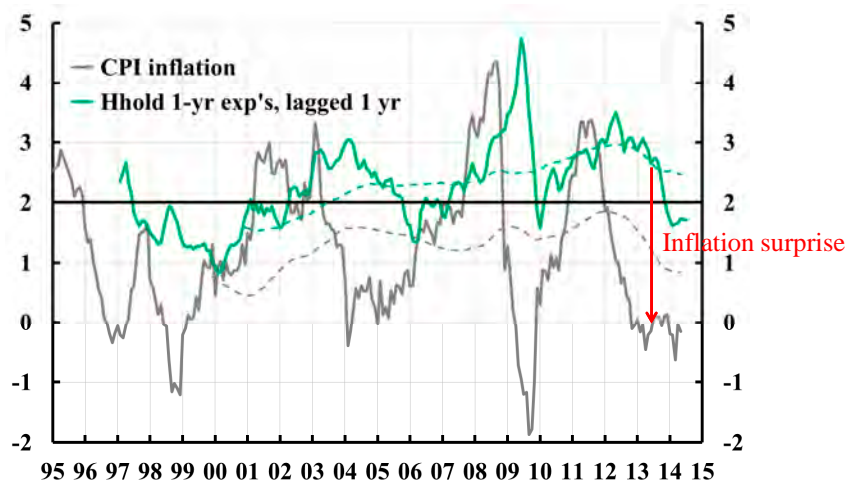
Table 1. Cost and benefit in unemployment of 1 percentage point higher policy rate during 4 quarters

Cost: Higher unemployment during the next few years, percentage points	0.5
Benefit: Lower expected future unemployment, percentage points	
1. Because of lower probability of a crisis	0.001
2. Because of a smaller increase in unemployment in a crisis	0.0009
Total benefit, percentage points	0.0019
Total benefit as a share of the cost <i>Should have been > 1!</i>	0.0038

- Riksbank's case does not stand up to scrutiny

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Additional cost: Inflation below household's expectations has increased household real debt burden



Note: Dashed lines are 5-year trailing moving averages

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Conclusions

- Do not ask too much from monetary policy
- Monetary policy cannot achieve and maintain financial stability
- A separate financial-stability policy is necessary
- Monetary policy and financial-stability policy are very different
- In normal times, best conducted separately, also when conducted by the same institution (but each policy should be fully informed about and take into account the conduct of the other policy)
- In Sweden, the cost of leaning against the wind may be 250 times higher than the benefit
- Also, inflation below expectations has increased the real debt burden
- Monetary policy should be the very last line of defense of financial stability

Interest rate transmission under new monetary policy framework

MA Jun

Chief Economist, PBC Research Bureau

March 15, 2015, Beijing

1

New monetary policy framework and intermediate target

1. Monetary policy framework includes ultimate target, intermediate target and policy tools
2. By moving to a new policy framework, we refer to the shift of the intermediate target from M2 to a policy rate

2

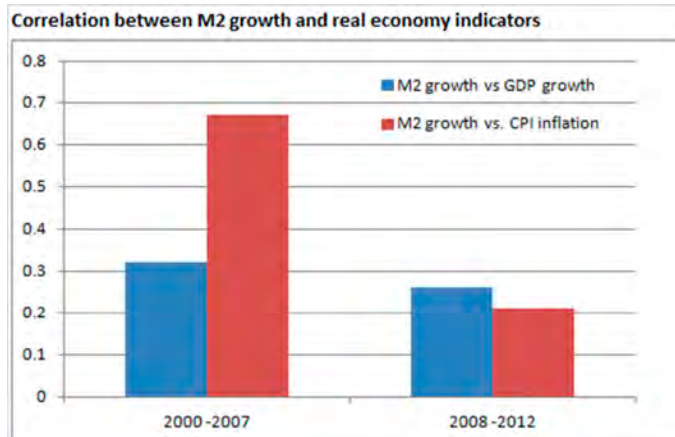
Three conditions for transition in other countries:

1. Weaker correlation between M and real economy
2. Higher interest rate volatility due to targeting
3. Effective transmission of policy rate to other rates

Does China meet these conditions?

3

Correlation between M2 and CDP/CPI weakened in China

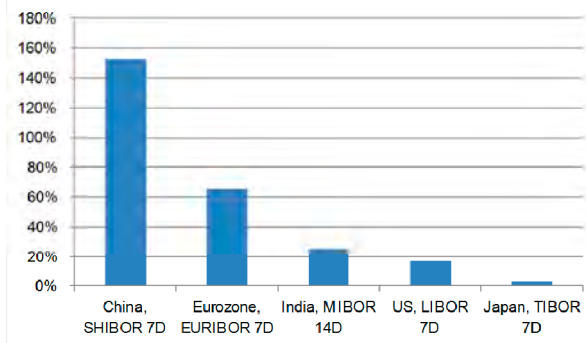


Source: authors' calculation, CEIC

4

China's market rate volatility has risen and is substantially higher than in other markets

Interbank rate volatility: China vs. other countries, 2012-2014



Source: Bloomberg

Volatility definition: annualized standard deviation of day to day logarithmic historical price changes from 2012 to 2014 Aug, expressed as a percentage.

5

Transmission is the key issue

Topics to be discussed

1. How does policy rate transmit in an ideal market?
2. How do LDR, quantitative restrictions, high RRR, soft budget constraint, and lack of liquidity affect transmission?
3. How to reform?

6

Our research projects on transmission mechanisms

- Static model(Ma Jun and Wang Honglin (2014), static general equilibrium model
- Ma Jun, Shi Kang, Wang Honglin and Wang Lisheng(2015), DSGE model, simulating transmission mechanism
- Ma Jun, Hong Hao, Frank Zhang et al(2015), role of bond market
- Yang Ping(2015),soft budget constraint

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1. Static Model

- A static general equilibrium model on monetary policy transmission after interest rate liberalization
- Conclusion: LDR, quantitative restrictions, high RRR, soft budget constraint, and lack of liquidity weaken/distort policy rate transmission
- Implications: remove LDR and quantitative loan restrictions, and cut RRR

8

Model Results: institutional constraints weaken transmission effects

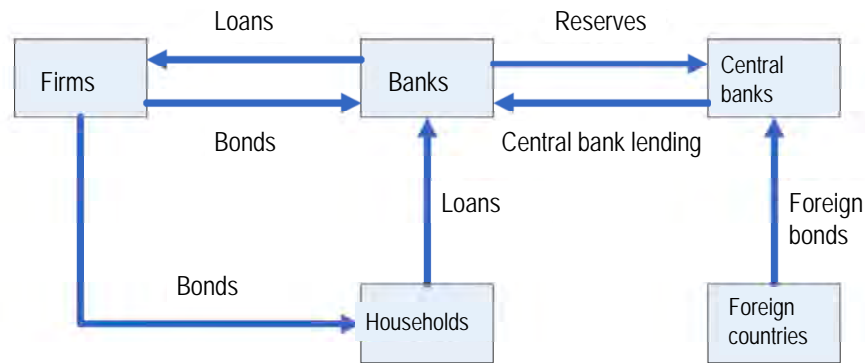
Table 1. Effect of different institutional constraints on transmission

Constraints	Policy rate transmission	Effect of policy rate on market rates (relative to benchmark model)		
		Loan rates	Deposit rates	Bond yields
		LDR	effective	weaken
quantitative restrictions	partly effective	no effect	weaken	weaken
high RRR	effective	weaken	weaken	weaken
soft budget constraint	effective	weaken	weaken	weaken
lack of liquidity in bond market	effective	weaken	weaken	weaken ⁹

2. DSGE Analysis

- Simulate policy and reform scenarios
- Introduce open economy, consider capital flows
- Dynamic, can describe time-lags in transmission

Model Structure: 4 players and markets



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Preliminary Results

- Confirmed results from static model
 - without institutional constraints, transmission is effective
 - quantitative restrictions, LDR, high RRR, interest rate control all weaken/distort policy rate transmission
- Quantitative restrictions are more distortive than LDR to interest rate transmission when the central bank cuts the policy rate

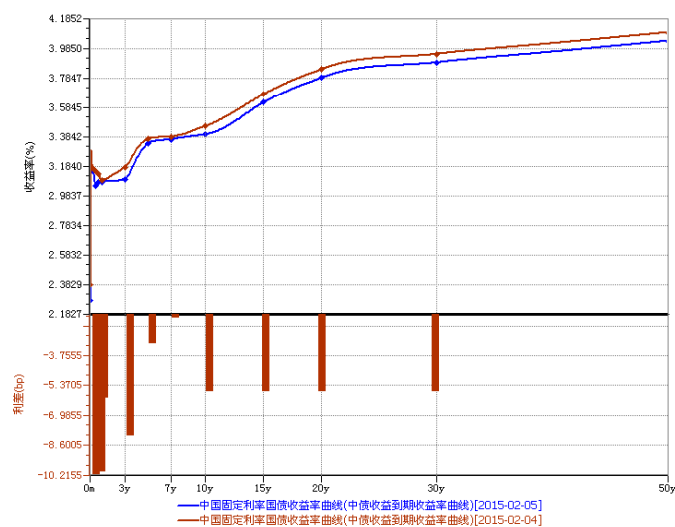
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3. Transmission via the Bond Market

- Empirical studies with different models(N-S, no-arbitrage, GARCH, VAR)
- No-arbitrage model: no evident arbitrage space in bond market, transmission via the bond market is largely effective. Regressions similar
- Yield curve has predictive power for GDP and CPI, while monetary policy can guide interest rates and economic activities
- There is some blockage and ineffectiveness for medium-term transmission. yield curve is relatively flat. Besides cyclic and institutional factors are liquidity and lack of derivatives

13

Impact of RRR cuts on bond yields



数据来源:Wind资讯

14

Predictive Power of Yield Curve

	Inflation expectation
Constant	-0.88 (0.573310)
5Y Yield	1.03*** (0.171310)
Real short-term rate	-0.88*** (0.045009)
Adjust-R ²	0.863121

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4. Soft Budget Constraint

- A popular view: due to SBC, policy transmission to borrowing rates for LGFVs and SOES becomes ineffective, and LGFVs and SOEs are insensitive to rate changes
- Based on bond market data, our empirical study shows that budget constraint of some LGFVs has hardened in past years. Issuance margins are sensitive to the scale-asset ratio, defaults, rating, explicit guarantee, local government debt conditions, etc. Soft budget problem has been contained in some LGFVs
- LGFV financing declined significantly when bond yield rose in the second half of 2013. It shows that bond issuance is responsive to rates in some LGFVs

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Policy Implications

- China basically meets the 1st and 2nd conditions for transition to new framework: the relation between M2 and real economy weakened; fluctuations of short-term interests above 10 times that of U.S. and Japan
- 3rd condition is only partially met. Transmission mechanism from short-term to medium/long-term rates mainly formed, but a few policy and institutional barriers reduce effectiveness of transmission

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Policy Implications

- Future reforms should involve gradual removal of quantitative restrictions and LDR cap, RRR cuts, hardening of budget constraints, and improving bond market liquidity
- As for removing quantitative restrictions, reform can start from small financial institutions that mainly lend to SMEs and agriculture

18

Policy Implications

- Soft budget constraints problem may be not as serious as expected. A few measures including new budget law, local government debt replacement, and balance sheet disclosure should be taken to harden the budget constraint of local government. Fiscal/municipal bond market reforms and introduction of mixed ownership to SOEs can help harden budget constraints

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Policy Implications

- Bond market reforms: increasing frequency of issuance of treasury bonds with maturities below 2 years; allow banks to participate in treasury bond futures market; relax controls on foreign access to the interbank bond market; develop the NDC, securitization and corporate bond market to strengthen the linkage between market rates and deposit/lending rates

20

Interest rate management and liberalization

Simon Gray

The policy rate goal

- Central banks which use interest rate levers to impact the economy typically target a short-term (mostly overnight) market interest rate.
- [Recent targeting of term yields, notably by the USA and UK, is unusual].
- In most cases, a policy-rate open market operation (OMO) guides short-term market rates, while the standing facilities (SF) act as a back-stop.
- Market arbitrage – competition – means short-term wholesale market rates are transmitted to the rest of the economy.

Different goals

- Note that the central bank and commercial banks have different goals.
- Central bank wants to manage inflation, stabilize the economy
- Commercial banks want to make a profit.
- Competition helps the central bank's goals; makes life harder for the banks.

Announcing the policy rate

- Some central banks used to announce a 'ceiling' overnight lending rate, but guide market rates via discretionary operations.
- Over the last 20 years or so, most have found it more effective simply to tell the market.



Policy and implementation



Target Two Point Zero - the Bank of England and The Times Interest Rate Challenge - gives teams of students age 16-18 the chance to take on the role of the Bank of England's Monetary Policy Committee, assess economic conditions and the outlook for inflation and tell panels of judges what monetary policy they would set to achieve the Government's inflation target of 2.0%.

5

BANK OF ENGLAND

Wednesday, the 24th of September 2014

CONSOLIDATED STATEMENT

LIABILITIES	£	ASSETS	€
Notes in circulation	62,586,205,330		
Reserve balances	209,787,541,356		
Short-term open market operations		Short-term open market operations	
Five-year sterling	-	Other maturity within-maintenance period sterling reverse repos	-
One-week sterling	-	One-week sterling reverse repos	-
Other maturity within-maintenance period sterling	-	Five-year sterling reverse repos	-
		Longer-term sterling reverse repos	1,656,000,000
		Ways and Means advances to HM Government	359,547,540
Foreign currency public securities issued	3,672,375,261	Bonds and other securities acquired via market transactions	16,628,449,614
Cash ratio deposits	4,127,662,162		
Other liabilities	64,246,628,434	Other assets	386,478,112,069
Total liabilities	405,132,469,543	Total assets	405,132,469,543

Dated the 25th day of September 2014

6

Guiding rates by fiat or by motivation?

- A central bank can tell banks what interest rates to use; or use its balance sheet so that banks – and via arbitrage, the wider market – respond.
- Instructing banks what to do:
 - Banks might not want depositors, or depositors might not want banks e.g. Iraq pre-2003, USA under Regulation Q.
 - Excessive borrowing by weak creditors

Steering short-term rates

For most central banks, the monetary operations and reserves management framework can be divided into three broad types:

- OMO – open market operations
- SF – standing facilities (credit, deposit)
- Reserve requirements

The OMO/SF distinction is based on the purpose (defined by the initiator) of the operation, not by its legal format.

Reserve requirements as a tax

- Historically, reserve requirements had a prudential purpose (a form of liquidity ratio).
- Many central banks have used reserve requirements to 'sterilize' excess reserve money holdings generated by other factors
- High, unremunerated reserve requirements act as a tax on banking intermediation, and can push activities outside the banking sector
- Required holdings of government or other state-sector securities may have same impact

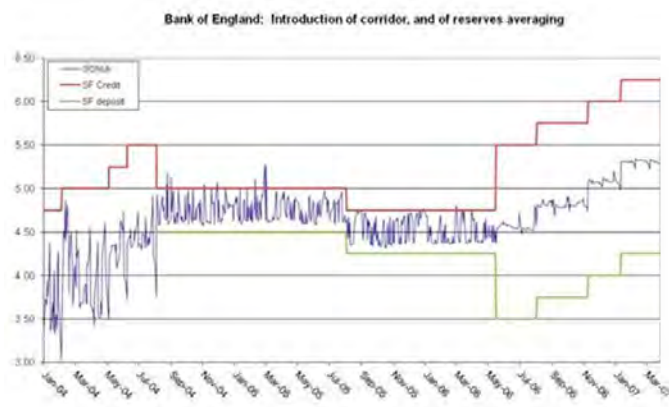
Official and parallel markets

- If official markets are controlled too tightly i.e. the controls impose significant costs on the economy, a parallel market is likely to develop
- This is often seen when an 'official' exchange rate is used, but the central bank cannot meet demand at that price
- If the parallel market becomes large, 'liberalizing' official prices may have relatively little impact, because much of the real economy is already using 'free market' prices (e.g. US post regulation Q)
- But phased liberalization makes sense, to allow both banks, and banking supervisors, to adjust.

Tight management of reserve balances?

- Some central banks try to control reserve money growth tightly, keeping banks 'on a short leash'
- This may result in more volatile short-term interbank rates, and weaker market development

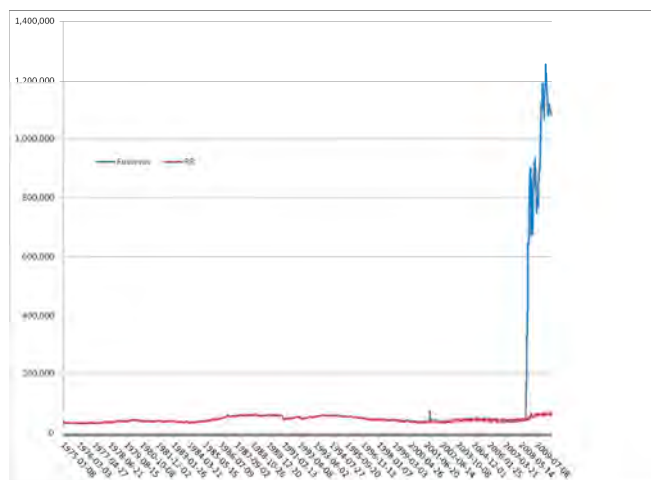
Bank of England: 2006 changes



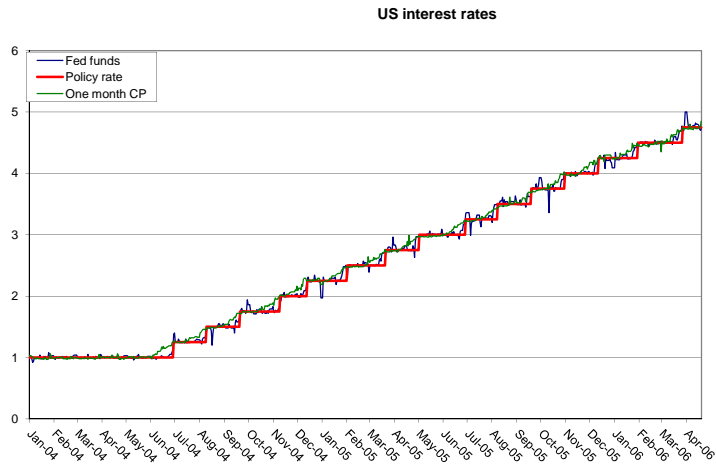
Reserve money balances: too little or too much?

- If (attempted) control is too tight, interbank market may be volatile and banks may be disintermediated
- If excess reserve balances are too large (inadequate control), market arbitrage tends to be weak and monetary policy transmission poor

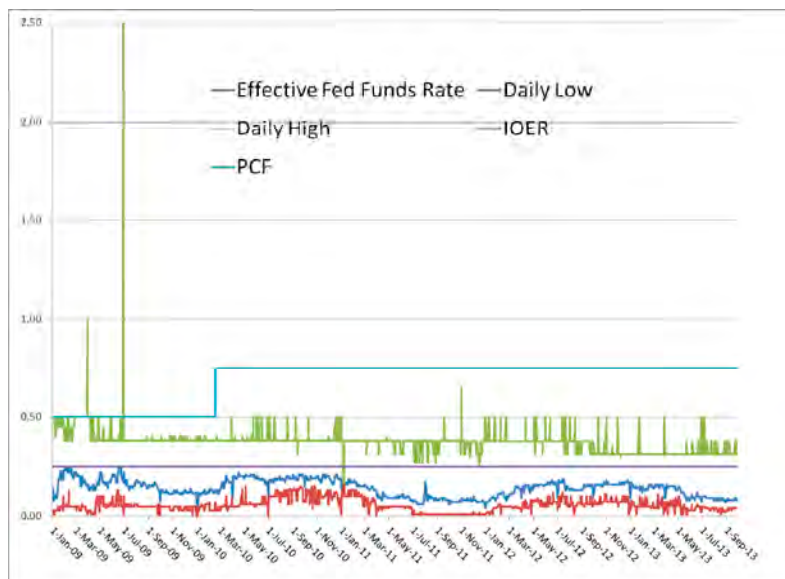
USA – reserves balances \$ millions



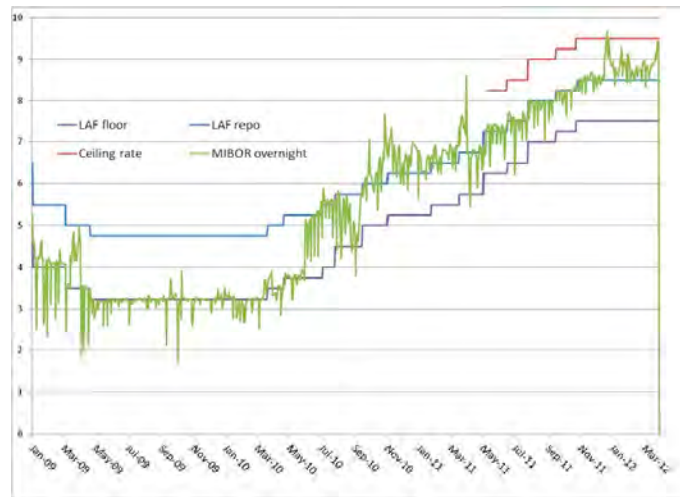
USA – policy and market rates pre-crisis



USA



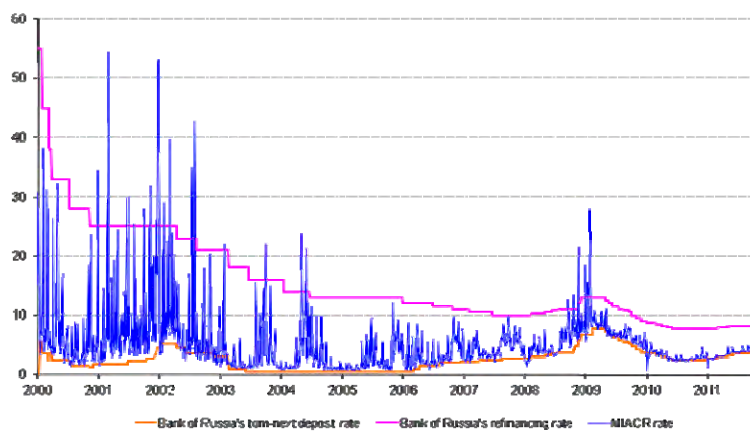
India



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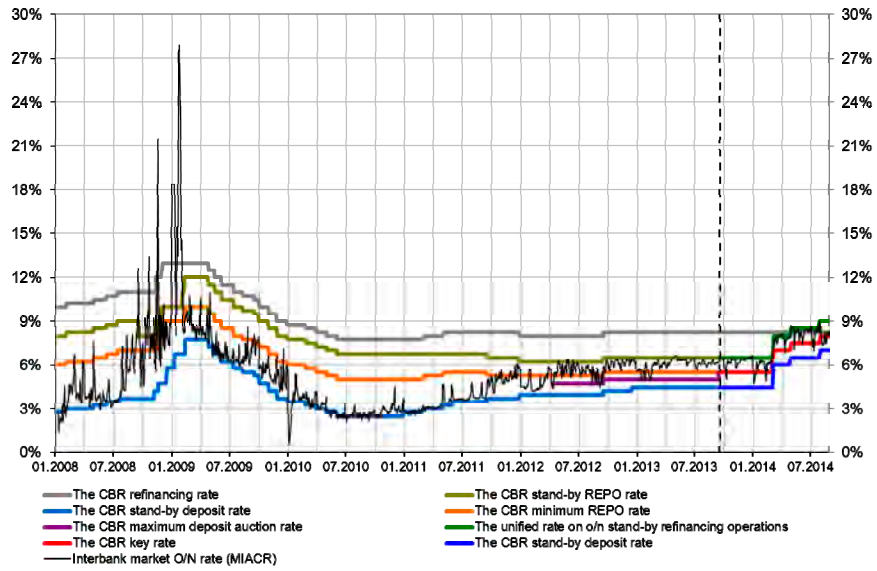
Russia – was the Refinancing Rate really the policy rate?

Russian money market daily interest rates dynamics (% p.a.)

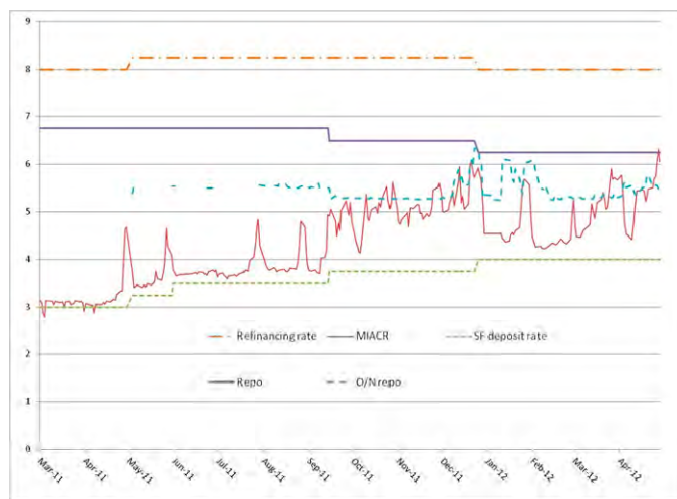


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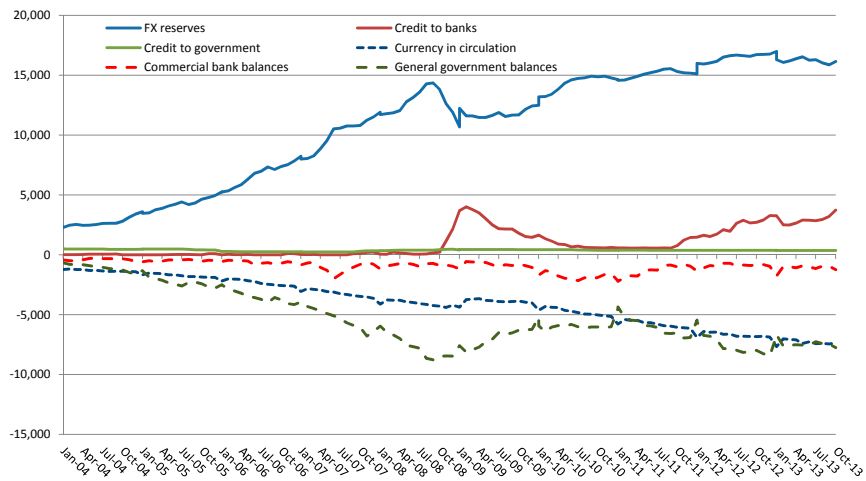
Changes in FX regime as a precondition for more effective interest rate policy




Russia



Russia – central bank balance sheet




Interest rates on the Bank of Russia operations
 (% p.a.)

Purpose	Type of instrument	Instrument	Term	Rate since 28.02.11	Rate since 01.05.11	Rate since 11.05.11	Rate since 19.06.11	Rate since 28.12.11
Liquidity provision	Standing facilities (fixed rates)	Overnight loans	3 day	8.00	8.25	8.25	8.25	8.00
		FX swaps (variable rates)	3 day	8.00	8.25	8.25	8.25	8.00
		Lombard loans, REPO	3 day, 7 days ¹	8.75	8.75	8.75	8.50	8.25
		Lombard loans	91 days ²	8.75	8.75	8.75	8.50	8.25
		REPO	12 months ³	7.75	8.00	8.00	7.75	7.75
		Loans secured by gold	Up to 91 days	—	—	—	8.75	8.75
		Loans secured by non-movable assets and guarantees	From 91 to 360 days	—	—	—	—	7.25
			Up to 91 days	1.00	1.25	1.25	1.00	1.00
			From 91 to 360 days ⁴	1.50	1.75	1.75	1.50	1.50
			From 361 to 1015 days ⁵	8.00	8.25	8.25	8.25	8.00
Open market operations (maximum interest rates)	REPO accounts	Lombard and REPO accounts	3 day	5.25	5.50	5.50	5.25	5.25
			1 month	5.25	5.50	5.50	5.25	5.25
			3 months	4.75	5.00	5.00	4.75	4.75
			6 months ⁶	4.25	4.50	4.50	4.25	4.25
			12 months ⁷	3.75	4.00	4.00	3.75	3.75
			3 months ⁸	3.00	3.25	3.25	3.00	3.00
Liquidity absorption	Open market operations (minimum interest rates)	Deposit auctions	3 months ⁹	8.00	8.25	8.50	8.50	8.50
		Deposit operations	3 day, 7 days, 91d	8.00	8.25	8.50	8.75	8.00
Balance sheet	Standing facilities (fixed rates)	Deposit operations	3 day, 7 days, 91d	8.00	8.25	8.25	8.25	8.00

¹ 7 day fixed rate REPO operations have been suspended.
² Operations have been suspended.
³ Operations were suspended from 19 February 2012, resumed from 3 November 2012.
 Updated December 21, 2011.

The floating operational band: an example

The parameters of the Bank of Russia FX policy mechanism (as of the 7 October 2013)

	<i>The width</i>	Upper boundary of the band
upper sales range	0.95 RUB	-400
sales range	1 RUB	-200
“neutral” range	3.1 RUB	0
purchases range	1 RUB	200
lower purchases range	0.95 RUB	400
	32.30 RUB	Lower boundary of the band

The volume of interventions, aimed at smoothing the volatility of the rouble exchange rate, million USD per day

- ◆ The cumulative volume of FX interventions, which lead to the shift of the floating operational band's borders by 5 kopecks, was set at \$400 mln.
- ◆ The amount of target interventions (this amount was not taken into account when calculating the total amount of operations for shifting the operational band borders) was set at \$120 mln.

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The balance sheet matters: Liability driven

ASSETS		LIABILITIES	
FX Reserves	20	Currency in circulation	60
Credit to government	0	Government cash balances	10
Credit to banks (OMO)	80	Commercial bank cash balances	20
		Capital	10
	100		100

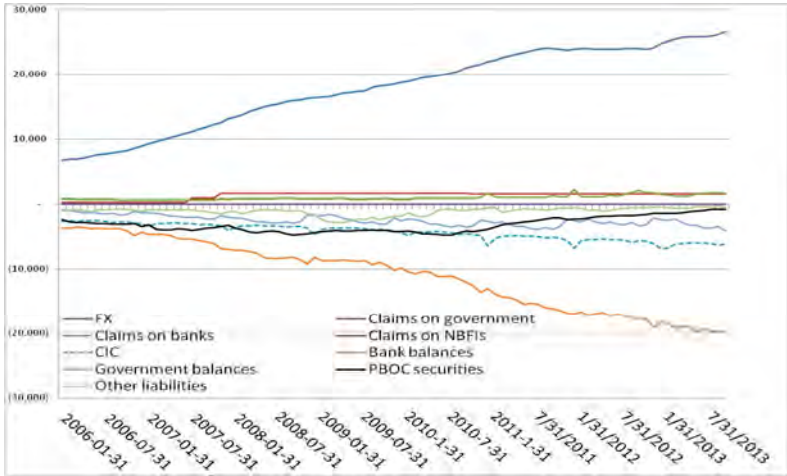
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The balance sheet matters: Asset driven

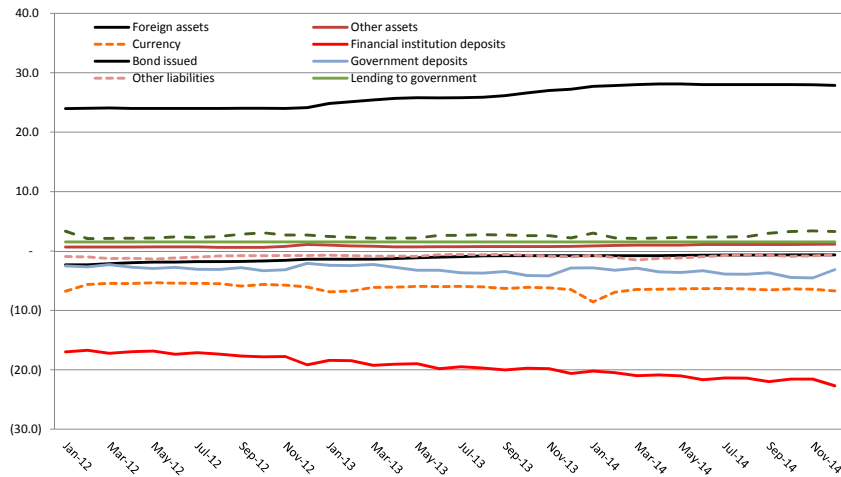
ASSETS		LIABILITIES	
FX Reserves	95	Currency in circulation	20
Credit to government	5	Government cash balances	20
Credit to banks	0	Commercial bank cash balances	50
		Capital	10
	100		100

25

PBC balance sheet (1)



PBC balance sheet (2)



Exchange rate and capital account liberalization too?

- Where there are controls in a number of areas of financial markets, connections between the different markets mean that coordination is important.
- Sequencing matters, but needs to be decided taking account of the local context e.g.
 - Increase exchange rate flexibility, allowing more interest rate development, but leave capital account liberalization to a later stage;
 - In order to develop interest rate markets, allow more flexibility in the exchange rate; but some liberalization of capital account necessary to give meaning to exchange rate flexibility.

Removing distortions

- Price controls distort markets
- If significant distortion has been in place for a long time, no-one knows what the right 'price' is – market will need to learn
- Interest rate levers can reach the parts of the market that direct controls on banks cannot
- Interest rate levers work best when the market understands what the central bank wants to do
- But interest rate tools take time to develop, and must be set in context of the central bank's balance sheet

Conclusions

- It is appropriate for the central bank to guide short-term interbank rates, and to do so clearly
- Longer-term rates should be market –determined, taking account of central bank's expected future policy rates
- Transmission from central bank policy rates via interface with the banks to market rates functions most effectively when there is competition in the markets, and arbitrage between different parts of the market.
- 'Safety barriers' – policy rate corridor, plus competition and transparency (and good regulation) are important both during liberalization, and in normal times.

Financial Innovation and Regulation and the Monetary Transmission Mechanism: Some Lessons from the U.S. Experience

Andrew Levin
Dartmouth College and IMF
March 2015

*The views expressed are solely my own responsibility
and should not be interpreted as reflecting the views
of the IMF or of any other person or institution.*

Characterizing the Monetary Transmission Mechanism

- How does a shift in the stance of monetary policy affect **loan rates, asset prices, and the exchange rate**?
- How does a shift in the stance of monetary policy affect the paths of **aggregate spending and consumer inflation**?
- What are the **specific channels** through which a shift in the stance of monetary policy influences the broader economy?
- How is the transmission mechanism affected by **financial innovation** and by **changes in financial regulations**?

The Monetary Transmission Mechanism in the FRB/US Model

Effects of a persistent 1 percentage point decline in the level of the federal funds rate on *selected financial variables* (in percent)

	<u>Year 1</u>	<u>Year 2</u>
10-Year Treasury Yield	-0.3	-0.5
Stock Market Prices	-9	-13
Exchange Rate	-2	-5

Source: Reifschneider, Tetlow, and Williams (Federal Reserve Bulletin, Jan. 1999)

The Monetary Transmission Mechanism in the FRB/US Model

Effects of a persistent 1 percentage point decline in the level of the federal funds rate on *selected macroeconomic variables* (in percent)

	<u>Year 1</u>	<u>Year 2</u>
Real GDP	0.6	1.7
Unemployment Rate	-0.2	-0.7
Consumer Inflation	0.2	0.6

Source: Reifschneider, Tetlow, and Williams (Federal Reserve Bulletin, Jan. 1999)

The Monetary Transmission Mechanism in the FRB/US Model

Decomposition of Effects on Real GDP (in percent)

	<u>Year 1</u>	<u>Year 2</u>
Consumer Spending	52	45
Business Investment	29	29
Residential Construction	26	24
Net Exports	-10	-2

Source: Reifschneider, Tetlow, and Williams (Federal Reserve Bulletin, Jan. 1999)

The Monetary Transmission Mechanism in the FRB/US Model

Decomposition of Effects on Real GDP (in percent)

	<u>Year 1</u>	<u>Year 2</u>
Borrowing Rates	27	36
Stock Market	16	21
Exchange Rate	7	17
Expectation Effects	50	26

Source: Reifschneider, Tetlow, and Williams (Federal Reserve Bulletin, Jan. 1999)

Bank Runs

- Throughout the 1800s and early 1900s, the U.S. banking system experienced recurring episodes of **bank runs** in which depositors withdrew their funds and held cash until the panic had subsided.
- These bank runs were associated with **sharp contractions in the supply of bank credit to homeowners and small businesses**, most notably during the onset of the Great Depression; cf. Bernanke (1983).
- The seminal critique of Friedman and Schwarz (1963) highlighted the role of the Federal Reserve in exacerbating the Great Depression by failing to prevent a contraction of the monetary base.
- There have not been any runs on U.S. banking institutions since the system of **deposit insurance** was established in 1933, but the recent financial crisis was associated with **runs on shadow banks**.

Deposit Rate Ceilings

- Following a series of “rate wars” among U.S. banking institutions, in 1966 Regulation Q imposed **rate ceilings on savings deposits** and prohibited banks and thrifts from paying interest on demand deposits.
- Those ceilings contributed to the **rapid growth of money market funds** (MMFs), which only held Treasury securities and commercial paper and hence were exempt from banking regulations.
- Thus, whenever the Fed pushed up interest rates, depositors would shift funds from banks and thrifts to MMFs, resulting in a “credit crunch” for homeowners and businesses; i.e., **monetary tightening was mainly reflected in credit quantities rather than lending rates**.
- Regulation Q ceilings were generally phased out during the early 1980s.

Maturity Mismatches

- U.S. savings and loan institutions (“thrifts”) thrived during the 1950s and 1960s by **using short-term deposits to finance long-term loans**, namely, 30-year mortgages with fixed nominal interest rates.
- The Great Inflation of the 1970s eroded S&L **balance sheets**, which **deteriorated further when the Fed tightened policy sharply** during the Volcker disinflation of 1979-82, resulting in a severe contraction in residential construction.
- In the early 1980s, the U.S. government loosened regulations on S&Ls, allowing them to sell off their mortgage holdings and use the proceeds to purchase other assets, in effect, resulting in a **“search for yield.”**
- Nonetheless, about one-third of all S&Ls were eventually liquidated, incurring **fiscal costs** of about \$150 billion (about 2½ percent of GDP).

Mortgage Securitization

- In the 1980s, S&Ls began selling mortgage loans on the secondary market, contributing to the rapid expansion of **mortgage pools** held by government-sponsored enterprises (GSEs), which financed those mortgage pools by issuing **mortgage-backed securities (MBS)**.
(Note: The share of U.S. mortgage debt intermediated by GSEs rose from 10 percent in 1980 to nearly 50 percent by 2000.)
- Pooling facilitated **diversification of risk** over geographically-dispersed borrowers, enabling GSEs to protect MBS investors from credit risk.
- McCarthy and Peach (2002) found that these market developments have facilitated **smoother adjustments of residential construction** in responding to shifts in the stance of monetary policy.
- Of course, the boom in **subprime mortgages** and MBS played a key role in contributing to the onset of the U.S. financial crisis in 2007-08.

The Expectations Channel

- The U.S. experience over the past several decades underscores the benefits of **clear central bank communications**, which enhance the effectiveness of the monetary transmission mechanism by helping financial market participants and the general public understand how the stance of monetary policy is likely to evolve over time.
- In particular, the U.S. experience underscores the advantages of establishing a **medium-term inflation objective** that provides a firm anchor for inflation expectations and that serves as the cornerstone for monetary policy strategy and communications.

China's monetary transmission mechanism: Issues and solutions

Ting Lu

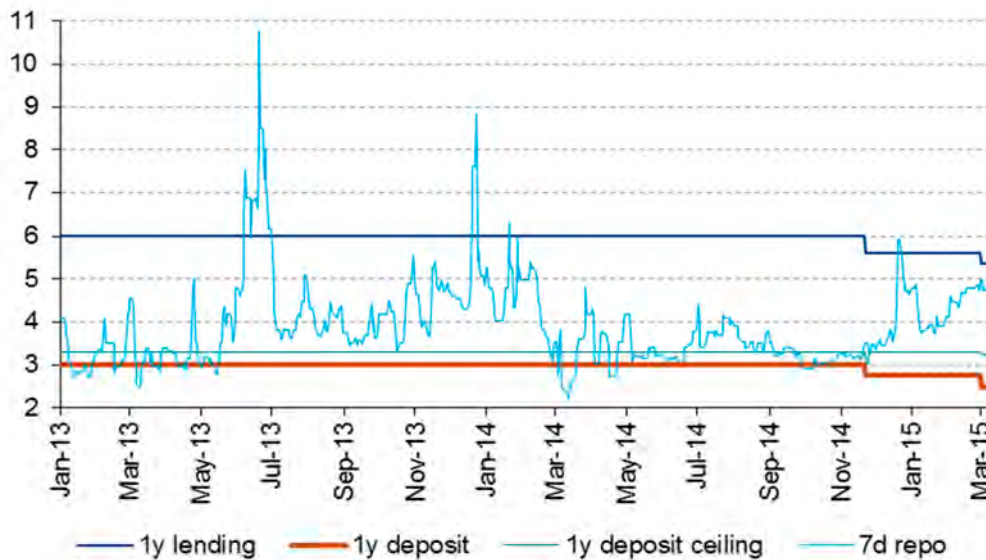
Major issues of China's monetary transmission mechanism

- Too volatile rates, occasionally leading to financial mini-panics;

- Too many confusions and uncertainties for market participants:
The use and interpretation of economic targets, monetary indicators and policy tools;

- Instability of inflation and growth

Too volatile interbank rates, mini-crisis



Confusions on targets and measures

Targets and indicators

- Inflation: yoy, mom, seasonal adjustment, core, pork.....
- Employment: no reliable statistics at all
- GDP and other activity indicators: occasionally doubtful
- PMI, and all kinds of indices: quality is not stable

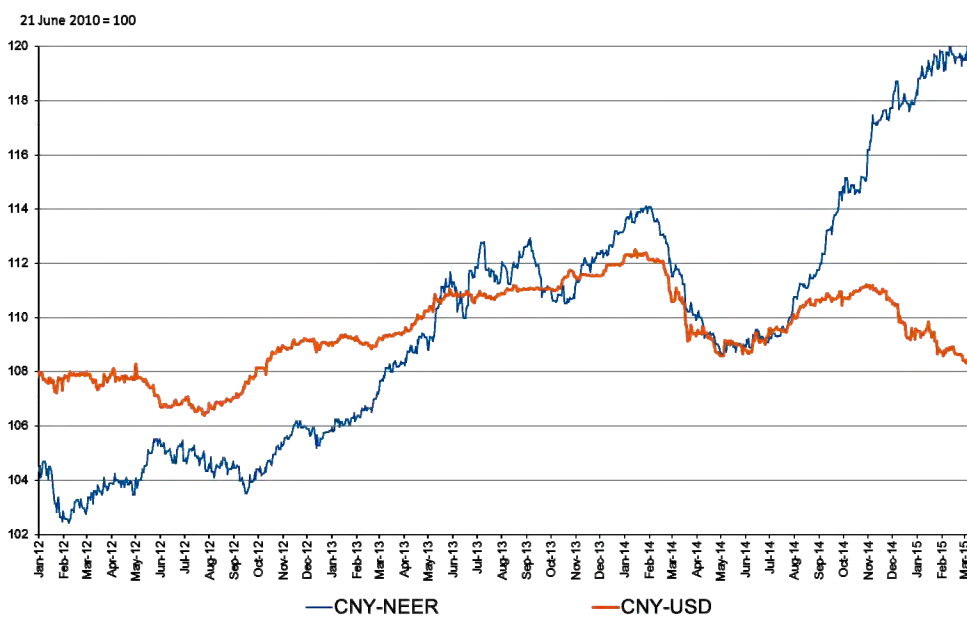
Monetary indicators (intermediate ones)

- M0, M1, M2: outdated due to financial innovations and re-definitions
- New loans, loan growth: no good due to financial deepening
- Total social financing (TSF): created more problems than solutions
 - ❖ Flow or stock? Only solved two months ago;
 - ❖ Stock or growth rate?
 - ❖ Double or even triple counting
 - ❖ Weighting

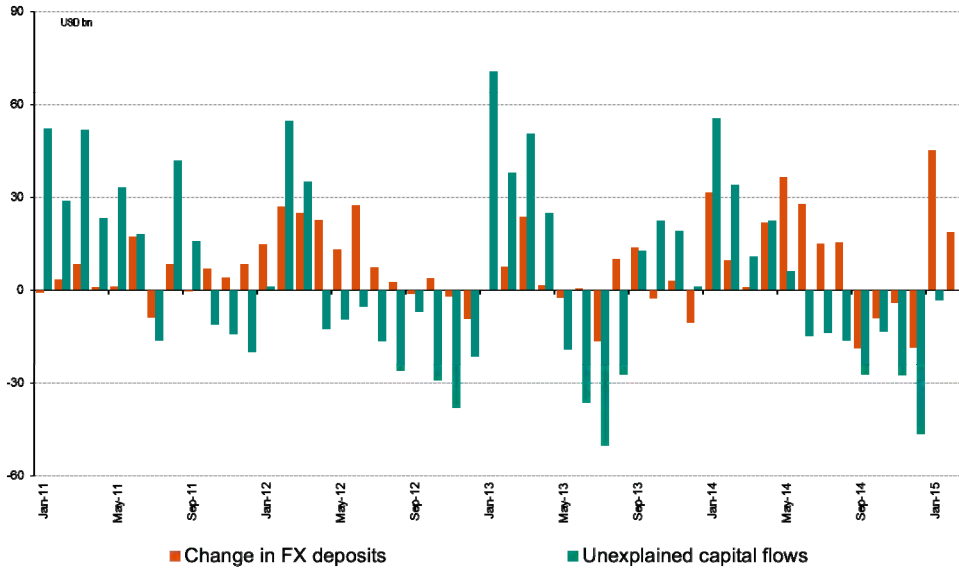
The use and communication of policy tools

- ❑ Overly relying on covert operations such as SLF/ MLF/PSL/targeted RRR; lack of communications with markets;
- ❑ Reluctant in using more effective tools such RRR and rate cuts;
- ❑ Not active in using OMO to stabilize short-term interbank rates;
- ❑ Occasionally using monetary policy tools to try to achieve macro-prudential goals, suggesting not-so-good coordination with other authorities on solving the local government debt, soft budget constraints and implicit guarantee problems

Three new game changers: CNY, shadow banking and RMB internationalization



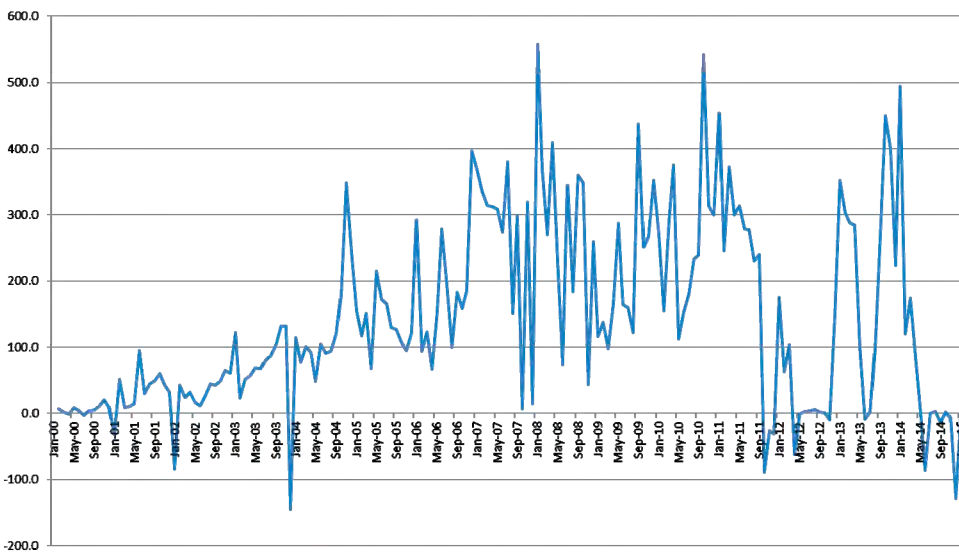
Capital flow and currency holders' behavior



7 | 26 May 2014

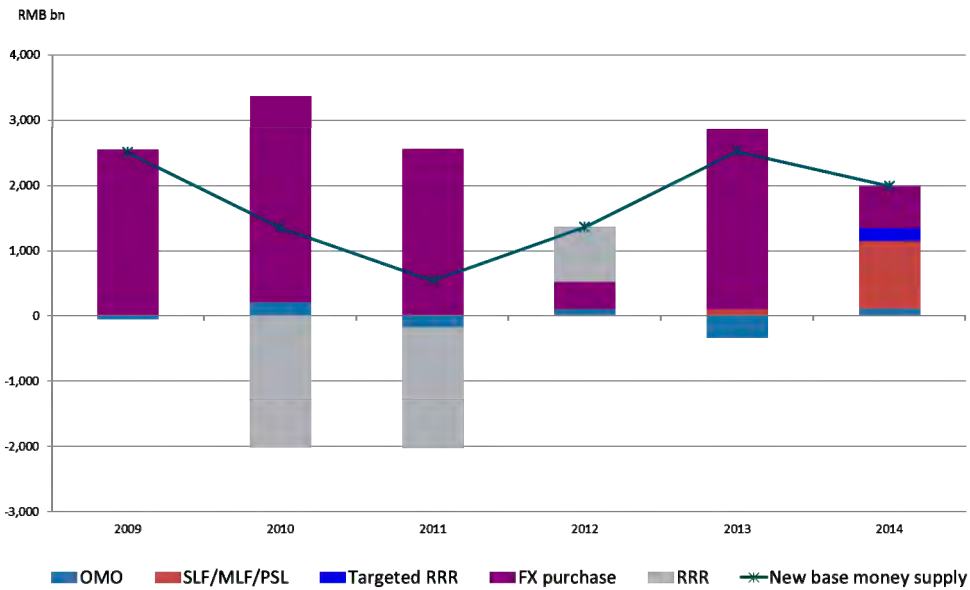
The PBoC's base money supply via FX purchase

Change in PBoC's FX purchase position RMB bn



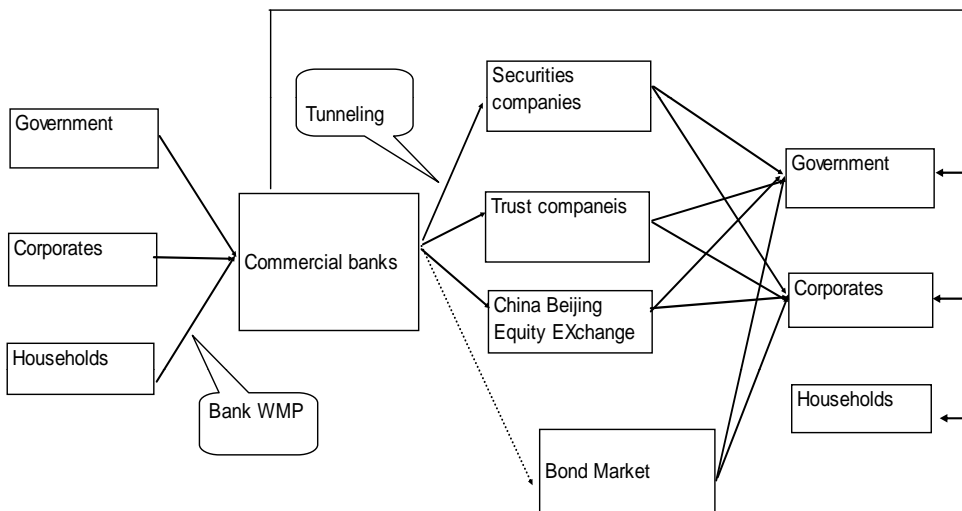
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Composition of the PBoC's base money supply



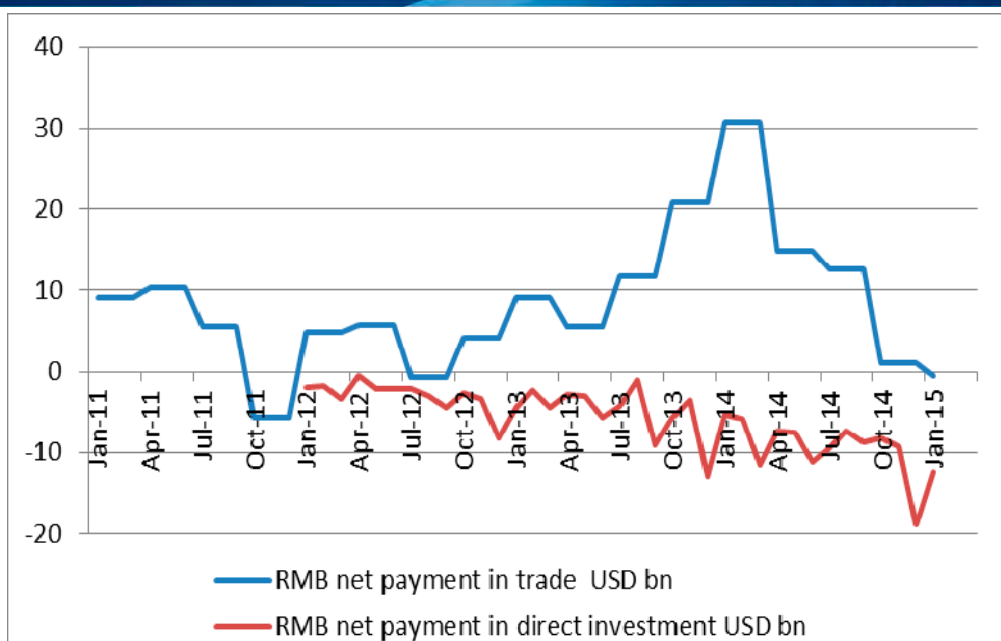
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Bottom-up financial liberalization and shadow banking



10 | 26 May 2014

The impact of RMB internationalization on money supply in China: net cross-border RMB payment



11 | 26 May 2014

Time to gradually drop quantitative targets and targets

Quantitative targets and control of money/credit become increasingly ineffective because:

- Without aggressively cutting RRR, the PBoC will have to rely on the frequent use of covert operations to provide liquidity. But covert operations are not as effective and could confuse markets on the PBoC's intentions. It's not fair either as covert operations increase the incentives for obtaining insider information;
- Statistics and prediction on the quantity of money and credit become increasingly unreliable and uninterpretable;
- Rapid financial innovations change the relationship between money, credit and economic targets on a constant basis; Coefficients are not stable; conventional quantity-based models do not work well and are not reliable. The PBoC is held hostage to misunderstandings such as "high M2" and "high TSF";

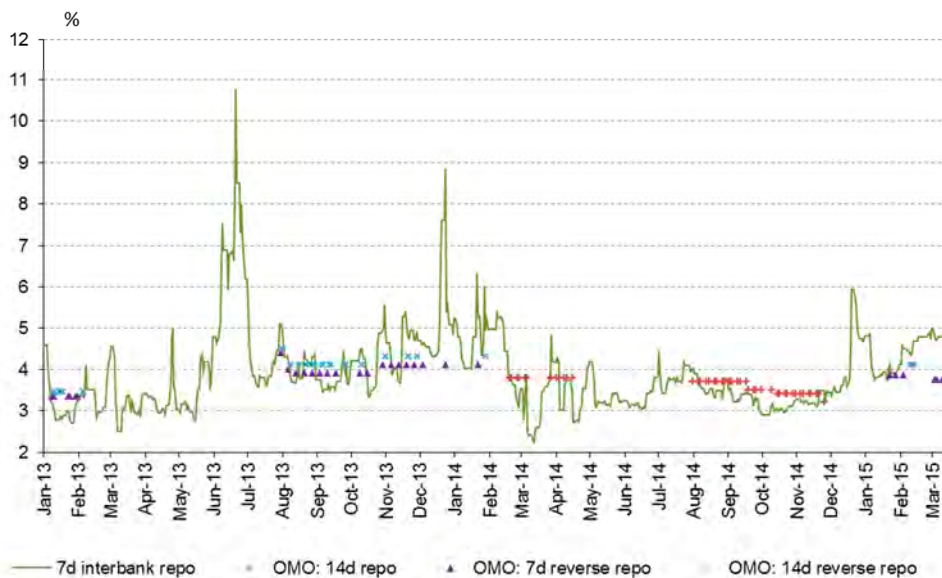
12 | 26 May 2014

Room for improvement and reforms

- ❑ Within the PBoC's authority, try to improve the quality of some economic indicators such as CPI and PPI inflation; Develop a set of short-term activity indicators which are proved to be relatively reliable;
- ❑ Downplay the use of monetary aggregates including TSF;
- ❑ Take opportunities to cut RRR, reduce the use of targeted RRR and other contingent measures such SLF and MLF;
- ❑ Along with loosening and eventually scrapping the deposit rates cap, speed up the pace of shifting to targeting interbank rates. Increasing the use of OMO;
- ❑ Centralizing local govt debt to the central and provincial govts. In this way the PBoC can lower risk-free rates in China and increase the effectiveness of transmission from short-term risk free rates to longer-term risk-free rates and eventually to market borrowing/lending rates;
- ❑ Shift CNY's peg to dollar to a real anchor to a basket, allowing a higher volatility of CNY against the USD;

13 | 26 May 2014

A rate corridor?



- Exchange rate regime: anchor to USD
- Capital control: still there, but many loopholes
- Interest rates: regulated, but with bottom-up and top-down liberalization
- Quantitative control of money and credit: Still massive
- Financial liberalization: Actually quite rapid --- shadow banking, P2P, trust companies, money market funds
- Soft budget constraints: local governments and SOEs
- Implicit guarantees: too "import" to fail

Macroprudential Policy Coordination - Indonesian Experience -

Dr. Halim Alamsyah

Deputy Governor of Bank Indonesia
and
Commissioner of Otoritas Jasa Keuangan -
Ex Officio Bank Indonesia

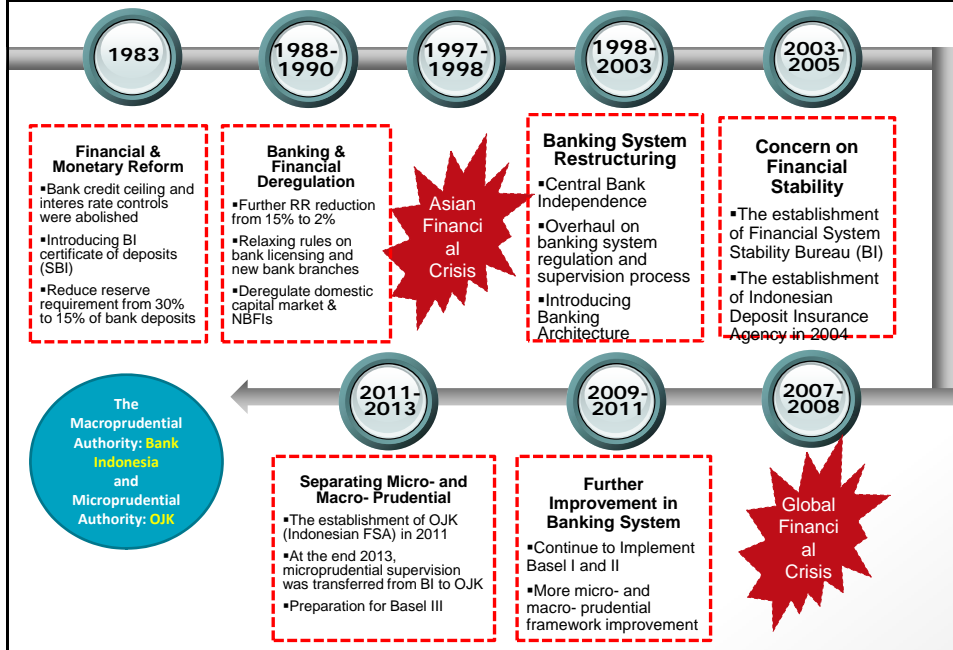


Agenda

- Indonesian Financial System
- Financial System Authorities Arrangement in Indonesia
- Macro- and Micro- Prudential Coordination
- The Challenge Ahead

The Evolution of Indonesian Financial System

3

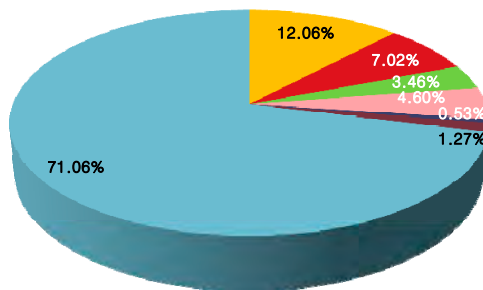


The Indonesian Financial System

4

Banking sector still hold the largest portion in the system and is growing toward a more resilient system

Market Share in Financial Sector



■ Insurance
 ■ Finance comp.
 ■ Pension Fund
 ■ Mutual Fund
■ Pawn comp.
 ■ Cooperatives
 ■ Banks

Indicators	1997	1998	1999
CAR	9.19	(15.70)	(8.10)
ROA	1.37	(18.76)	(6.14)
LDR	111.12	87.24	44.90
NPL - Gross	15.0	48.60	32.80
NPL - Net	n.a.	35.10	7.30
GDP growth	4.7	-13.1	0.8
Inflation	11.60	77.63	2.01

Indicators	2010	2013	2014
CAR	17.18	18.13	19.57
ROA	2.86	3.08	2.85
LDR	75.21	89.70	89.42
NPL - Gross	2.92	1.66	2.04
NPL - Net	1.50	0.86	0.98
GDP growth	6.81	5.58	5.02
Inflation	6.96	8.38	8.36

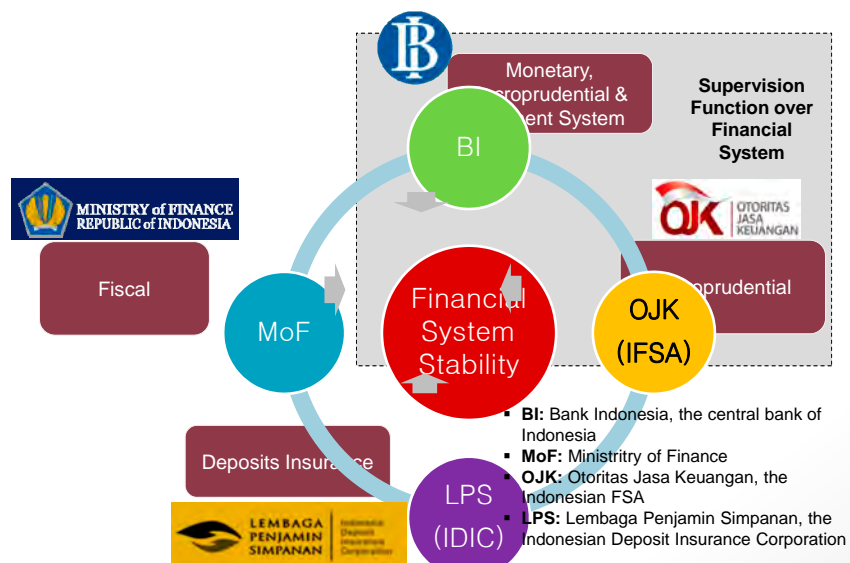
Agenda

- Indonesian Financial System
- Financial System Authorities Arrangement in Indonesia
- Macro- and Micro- Prudential Coordination
- The Challenge Ahead

Financial Authority in Indonesia

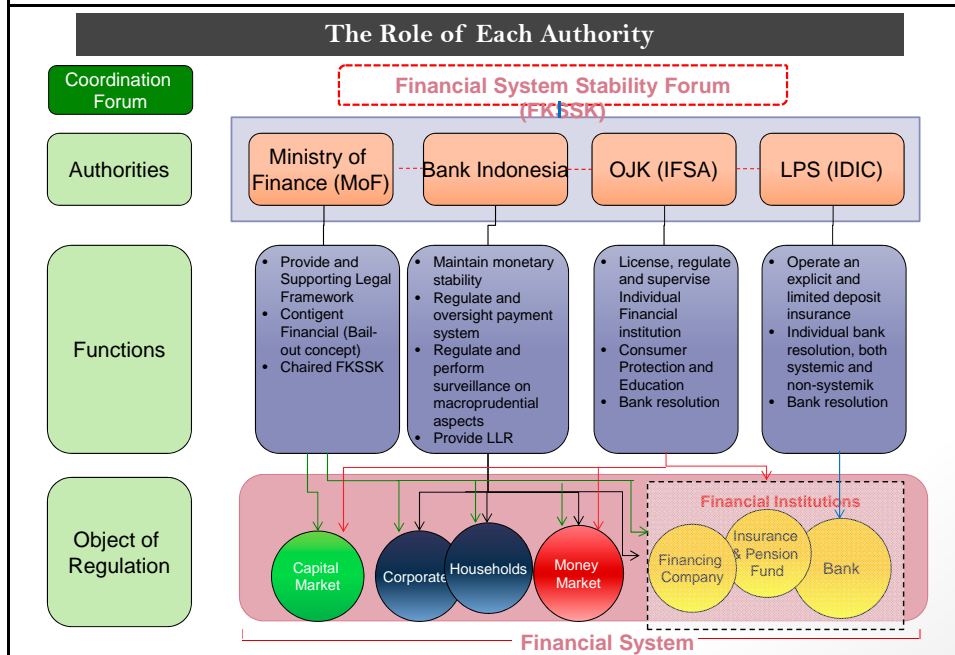
6

Organizational Setting of Financial System Authorities



Financial System Supervision Arrangement

7

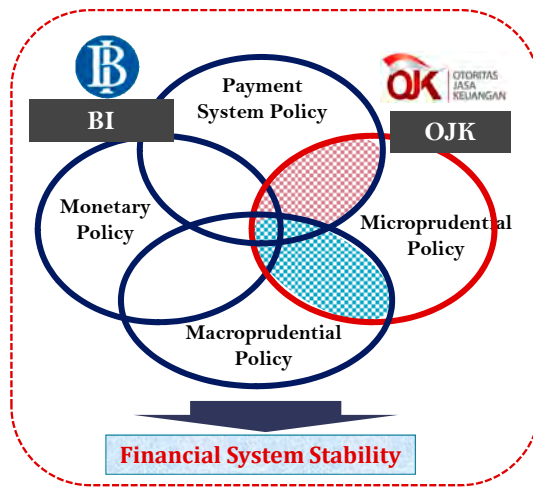


Agenda

- Indonesian Financial System
- Financial System Authorities Arrangement in Indonesia
- Macro- and Micro- Prudential Coordination
- The Challenge Ahead

The Role of Bank Indonesia and OJK

9



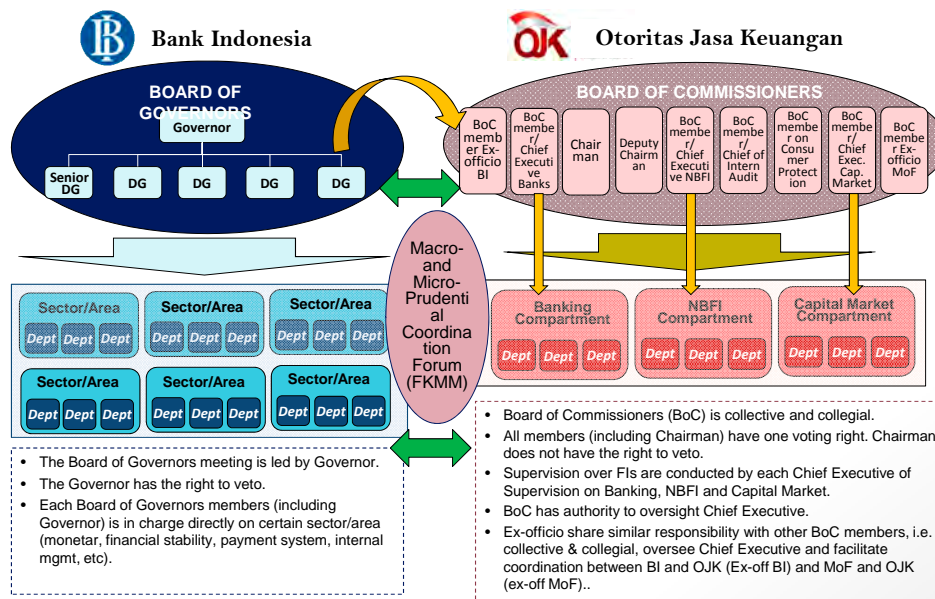
- Monetary policy focuses on low and stable inflation.
- Microprudential policy focuses on the soundness and safety of individual financial institution.
- Macroprudential policy focuses on the stability of the financial system, by mitigating systemic risks of the system and the tendency of procyclicality.
- Payment system policy focuses on maintaining the smooth, reliable and efficient operation of the national payment system that also demands robust infrastructure.
- All policies have overlapping parts on BI and OJK authority. Need to implement robust policy mix to ensure the achievement of all those objectives.

- FSS needs coordination and collaboration across different authorities, including the Central Bank (BI) and IFSA (OJK). Therefore, it needs clear mandate and SOP.

The Macro- and Micro- Prudential Coordination

10

Governance Structure of Decision Making and Coordination Process



The Macro- and Micro- Prudential Coordination

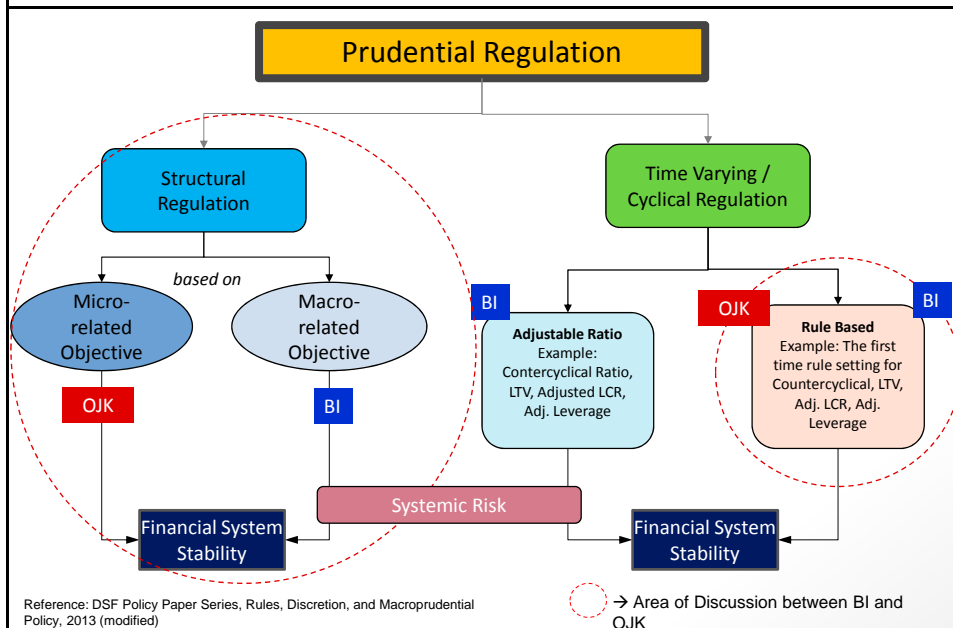
11

The Governance Structure of BI and OJK raised some Coordination issues between the two institutions:

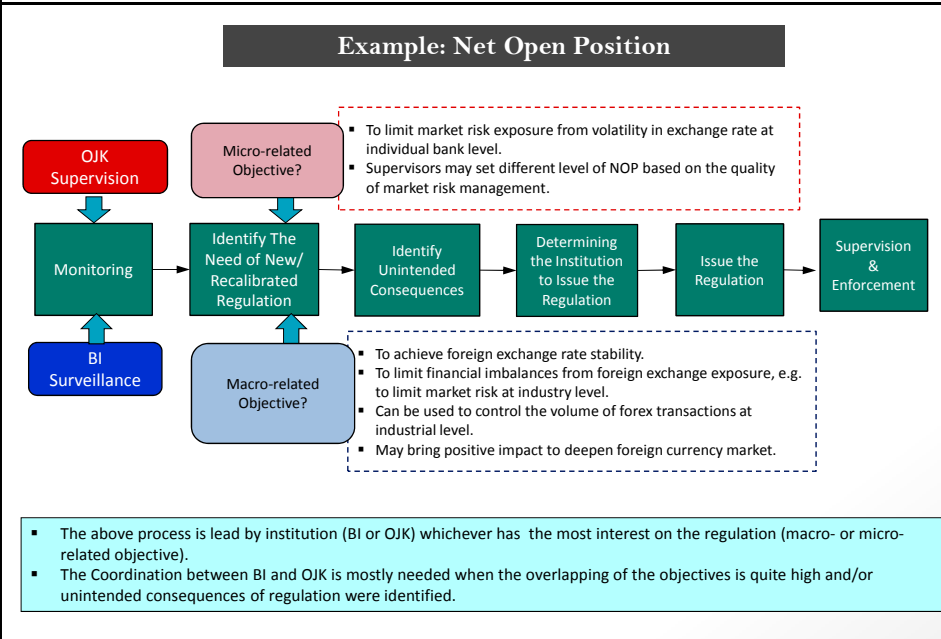
- *Different Timing / Speed in Decision Making*
- *Different Priority*
- *Internal Coordination Issues*

How to Segregate Regulation Instruments for BI & OJK: Conceptual Approach

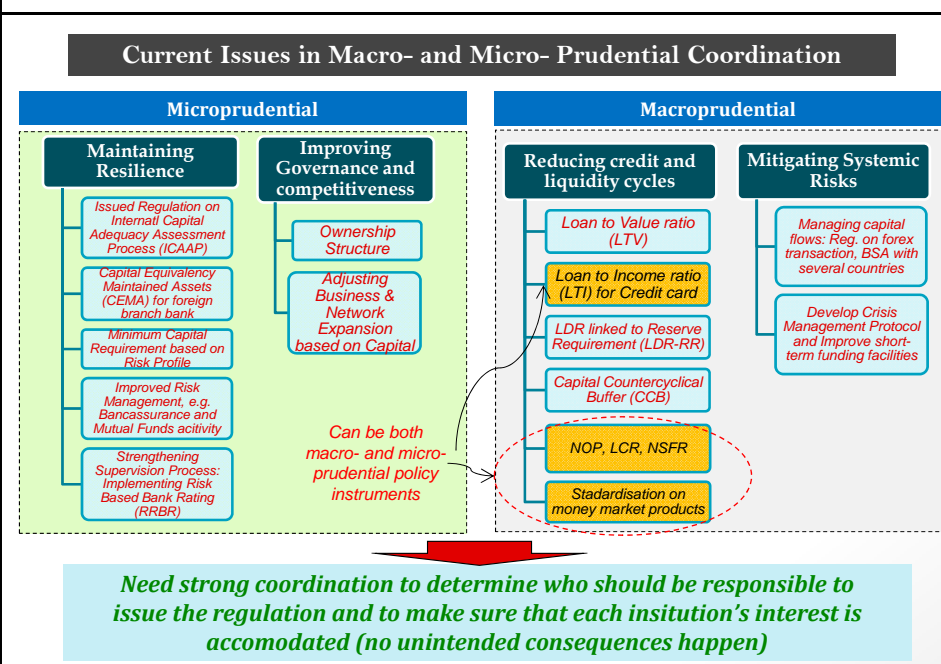
12



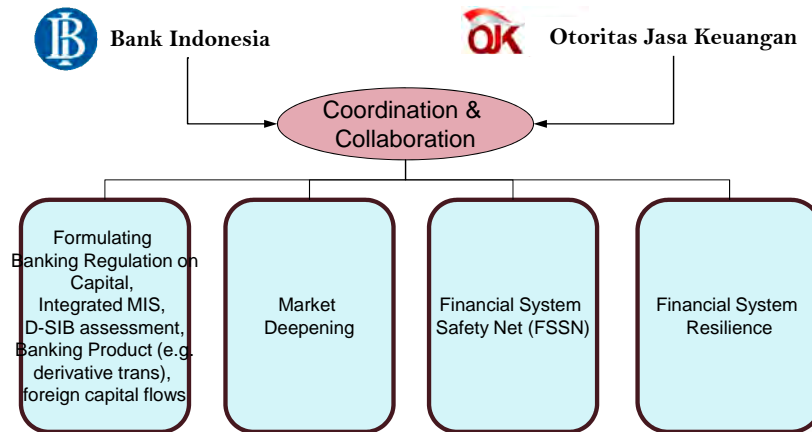
How to Segregate Regulation Instruments for BI & OJK: Case by Case Approach 13



The Macro- and Micro- Prudential Coordination 15



Several Issues in the Coordination between BI and OJK



Agenda

- Indonesian Financial System
- Financial System Authorities Arrangement in Indonesia
- Macro- and Micro- Prudential Coordination
- The Challenge Ahead

A Good Coordination will prove itself in time of Crisis

- *The four financial authorities in Indonesia are still in the process to formulate the new crisis management protocol and financial system safety net (FSSN) law that may address some issues:*
 - *Arrangement for all authorities on each own roles and responsibilities in crisis situation (CMP).*
 - *Need to determine the institution(s) in charge to announce crisis situation, designate domestic systemically important banks and/or banks with systemic impact, etc.*
 - *Need to improve resolution process for problem banks, e.g. the adoption of bail-in concept.*
 - *The problem of differentiating illiquid but solvent from those of insolvent bank and which institution(s) should be in charge to assess liquidity and solvency condition of an individual bank.*
- *Need to make sure that financial system is not overburden by heavy regulations from both authorities.*
- *Need to reduce/close regulation gap among financial industries (e.g. Banking and NBF).*





Session IV: Macroprudential Policy Coordination

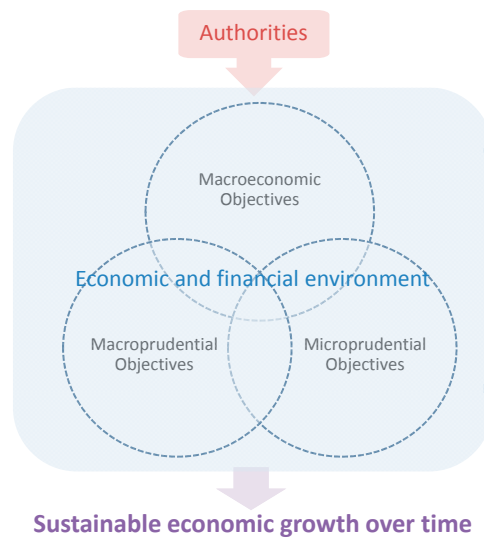
Fostering Robust Analysis and Decision-Making in an Uncertain, Multi-Objective World

Margaret M. McConnell

Federal Reserve Bank of New York

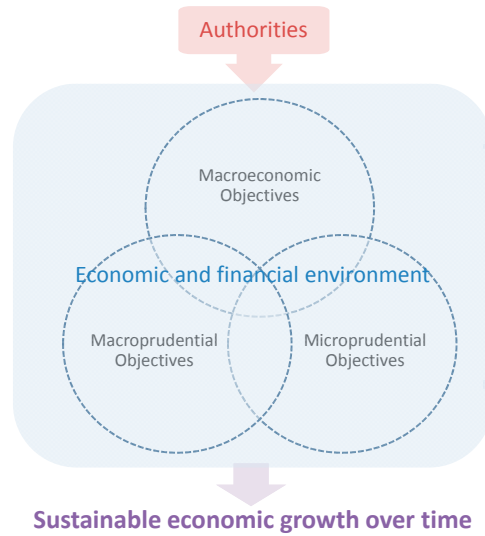
What are central banks & regulators trying to do?

- Transform a set of authorities into outcomes consistent with their objectives



What makes policymaking so difficult?

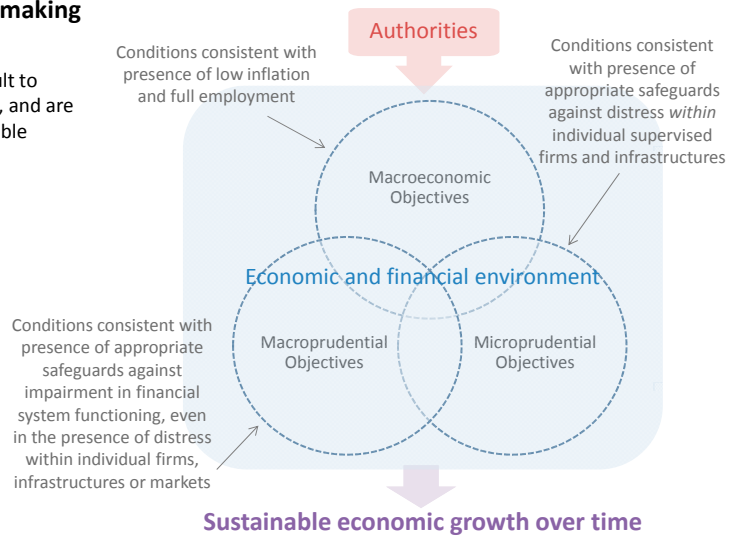
- The economic and financial environment is dynamic and uncertain
- It is impossible to see the whole system at any moment, yet there is an enormous degree of interdependence



3

What makes policymaking so difficult?

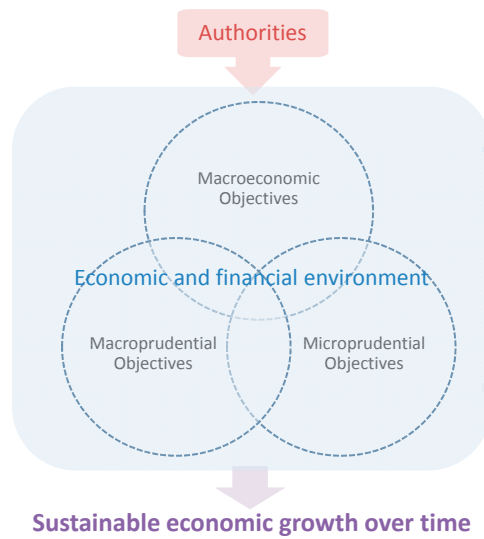
- Objectives are difficult to measure in real time, and are not directly controllable



4

What capabilities do central banks & regulators need to effectively transform authorities into objectives?

- **Measure the world:** Identify concrete observable metrics for policy objectives, and identify gaps between objectives and the environment
- **Interpret the world:** Determine when and what type of intervention in the environment is needed to promote objectives
- **Influence the world:** Intervene in environment to address gaps between measured conditions and objectives
- **Learn and adapt:** Remain effective in promoting objectives over time



5

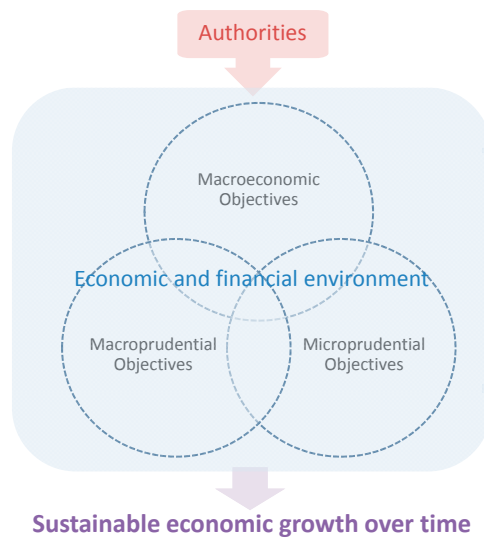
Two general observations on the current state of policymaking

(1) Central banks/regulators tend to “silo” the pursuit of macroeconomic and macroprudential, and microprudential objectives

- Monitoring
- Analysis
- Decision-making
- Deployment of tools

Implication:

Tends to mask the presence of short-term conflicts/tradeoffs across objectives that can hinder ability to achieve penultimate goal of sustainable growth over time

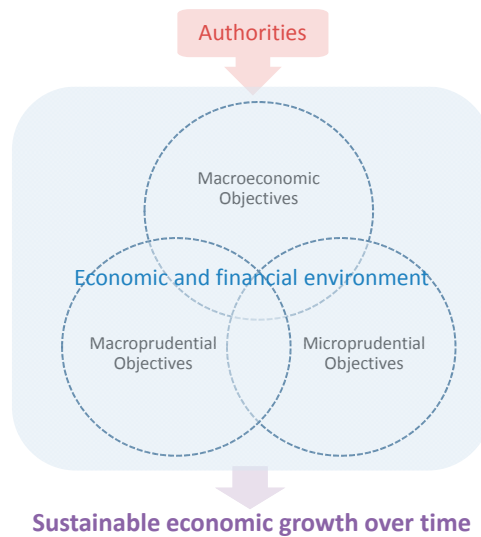


6

Two observations on the current state of policymaking

(2) Macroprudential policy frameworks (capabilities) are underdeveloped relative to frameworks for macroeconomic and microprudential objectives

[See table]



7

(Informal) Assessment of Current Policymaking “Capabilities” by Type of Objective

Type of capability: ↓	Type of objective: >	Macroeconomic	Microprudential	Macroprudential
I. Measuring the world: Understanding how the economic and financial environment is evolving relative to objectives				
Identifying concrete, observable metrics/targets for objectives		●	◐	◑
Measuring, monitoring and analyzing developments in real time		◑	◐	◑
Identifying gaps btw actual conditions and objectives on timely basis		◑	◐	○
II. Interpreting the world: Determining when and what intervention in the environment is needed to promote objectives				
Establishing common thresholds for what constitutes a “material” gap		◑	◐	○
Determining in real time whether thresholds have been breached		◑	◐	○
III. Influencing the world: Intervening in environment to address gaps between measured conditions and objectives				
Developing reliable and effective tools for intervening in environment		◑	◐	○
Determining which tool(s) can most effectively address a given gap		◑	◐	○
Promptly executing on a decision to deploy a tool to address a gap		●	◐	○
Maintaining an intervention (i.e. desired policy stance) as necessary		◑	◐	○
IV. Learning and adapting: Remaining effective in promoting objectives over time				
Evaluating monitoring/analysis, metrics/targets, tools, and thresholds		◑	○	○
Making timely adjustments to above as necessary to remain effective		◑	○	○

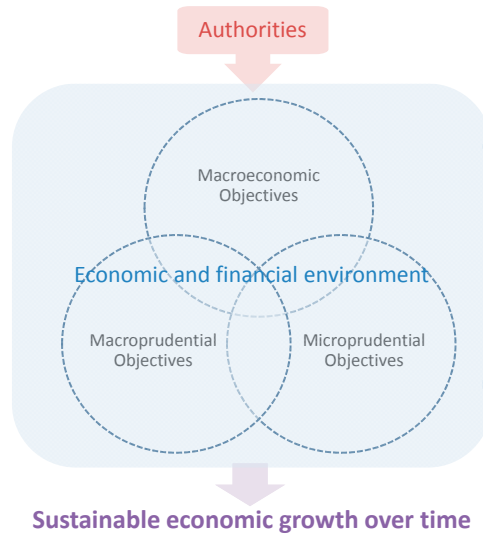
○ Very low ◐ Low ◑ Medium ◒ High ● Very high

Two observations on the current state of policymaking

(2) Macroprudential policy frameworks are underdeveloped relative to frameworks for macroeconomic and microprudential objectives

- Concrete metrics
- Timely identification of gaps
- Thresholds for action
- Tools

Implication: Tends to create a bias toward inaction rather than a bias toward promoting resilience



9

What else can central banks and regulators do?

- Foster a cross-objective perspective in analysis and decision-making
- Work to address gaps in macroprudential frameworks

Fostering a cross-objective perspective

- Generate analysis that:
 - Looks across macroeconomic, macroprudential and microprudential objectives, helps to identify short-run trade-offs and conflicts
 - Helps decision-makers maintain a wide field of view instead of focusing only on those areas of the economic and financial environment where they have the authority or ability to apply their tools
 - Is as independent as possible of decision-makers' current views on appropriate policy, on the appropriateness of past policy actions, or on the limitations of policy authorities or tools

Fostering a cross-objective perspective

- Create formal decision-making processes and establish accountability for looking across macroeconomic, macroprudential and microprudential objectives and across the deployment of all our policy tools
 - Helps to address short-run trade-offs and conflicts in a way that best supports sustainable growth over time

Addressing gaps in macroprudential frameworks

- Continue to innovate on defining reliable metrics for macroprudential objectives
 - Recognize that the system can perform well and appear stable for long stretches of time, but apparent stability can be rapidly replaced by instability and impairment

Addressing gaps in macroprudential frameworks

Chairman Greenspan, 2005:

- ...advances in complex financial products... **have significantly lowered the costs of**, and expanded the opportunities for, **hedging risks**...The new instruments of risk dispersal have enabled the largest and most sophisticated banks, in their credit-granting role, to divest themselves of much credit risk by passing it to institutions with far less leverage... **These increasingly complex financial instruments have contributed to the development of a far more flexible, efficient, and hence resilient financial system** than the one that existed just a quarter-century ago. After the bursting of the stock market bubble in 2000, unlike previous periods following large financial shocks, no major financial institution defaulted, and **the economy held up far better than many had anticipated.**

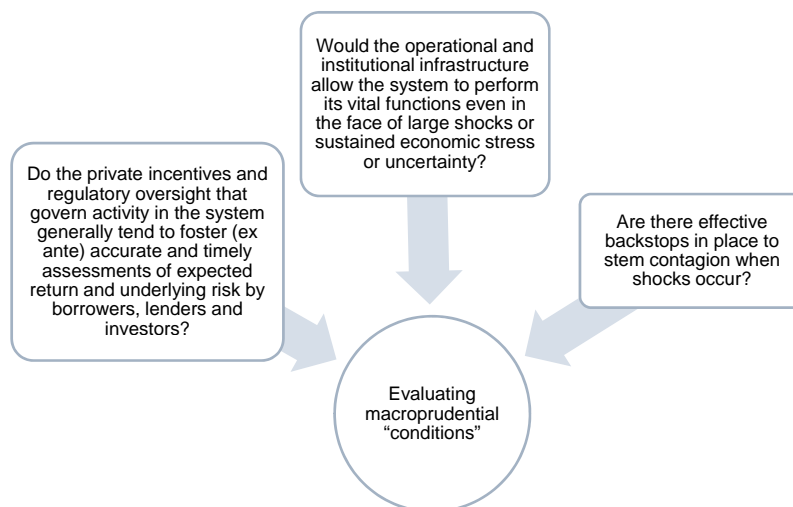
Chairman Bernanke, 2008:

- ...more fundamentally, the turmoil was the product of a global credit boom, characterized by **a broad underpricing of risk**, excessive leverage by financial institutions, and an **increasing reliance on complex and opaque financial instruments that have proven to be fragile under stress**. The unwinding of this boom (and the associated financial losses) has led to the withdrawal of many investors from credit markets and deleveraging by financial institutions, both of which have **acted to constrict available credit to households and businesses.**

Addressing gaps in macroprudential frameworks

- Recognize that the “devil may be in the details” when it comes to macroprudential
 - The stability of the system cannot be reliably inferred from current levels of spreads, leverage, valuations, or even the prevalence of a particular types of activities
 - Regulators need to evaluate not only the output of the financial system—the amount, price or type of credit being created—but also the quality and integrity of the system’s underlying “production process”

Addressing gaps in macroprudential frameworks



Addressing gaps in macroprudential frameworks

- Develop clearer thresholds for pre-emptive action
 - Exuberance or “mania” is much less readily observable than panic
 - Yet almost by definition, periods of mania can be accompanied by important ex ante distortions in the pricing of risk and the allocation of real resources
 - Without any real threshold for acting during those periods, there is a tendency to wait until we can be “sure” something is a risk, at which time it is too late to preempt it

Addressing gaps in macroprudential frameworks

- Incorporate techniques into our analysis and decision-making for identifying and questioning our biases and assumptions, identifying information gaps, and thinking more creatively

"The most difficult subjects can be explained to the most slow-witted man if he has not formed any idea of them already; but the simplest thing cannot be made clear to the most intelligent man if he is firmly persuaded that he knows already, without a shadow of doubt, what is laid before him."

— Leo Tolstoy

Macprudential Policy Framework: Principles & Practice



Ratna Sahay
Deputy Director
Monetary & Capital Markets Department
IMF

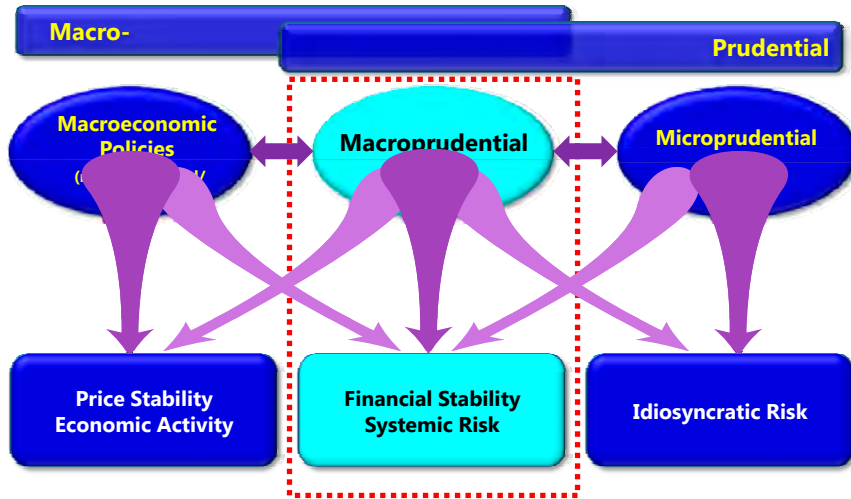
Third Joint PBC - IMF Conference
March 16, 2015, Beijing

Outline

1. Why macroprudential policy? What tools?
2. What principles for strong institutions?
3. Current Practice
4. When cross border coordination?
5. Conclusion

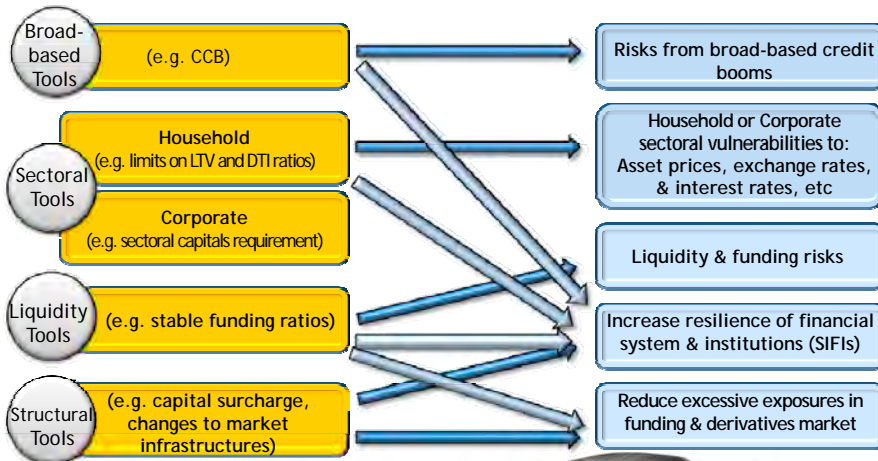


Why Macroprudential Policy?



3

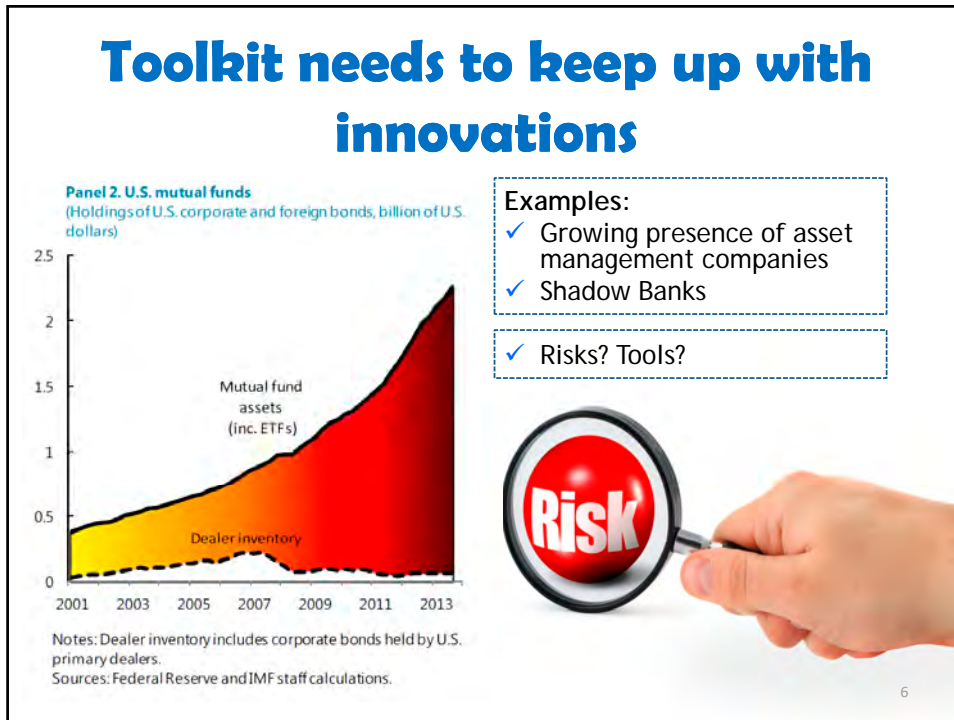
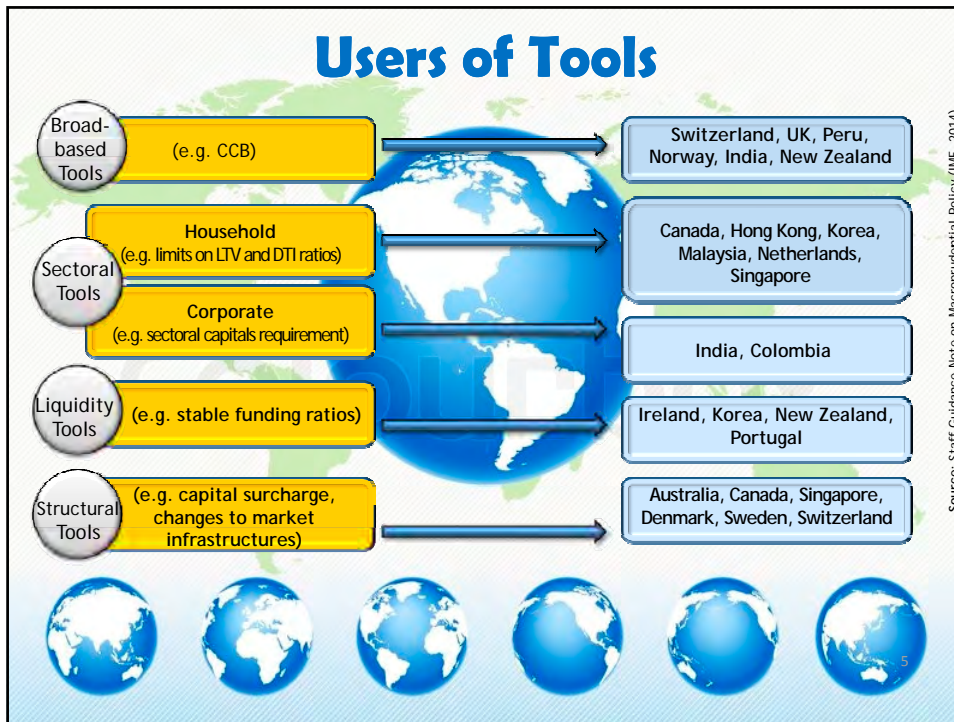
What Tools?



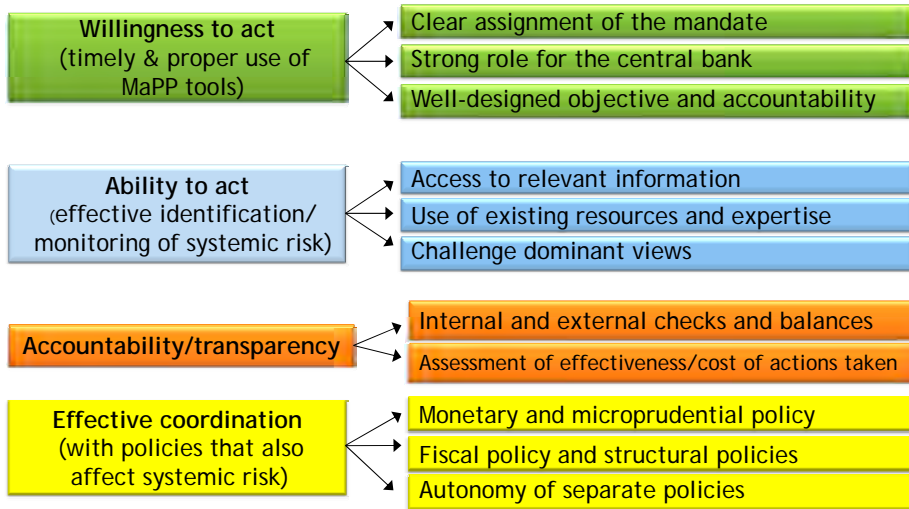
Source: Key Aspects of Macroprudential Policy (IMF, 2013)



4



What principles for strong institutions?



7

Current Practice?

EACH WITH PROS & CONS

Model 1

Integrated in the Central Bank

- Czech
- Ireland
- New Zealand
- Serbia
- Singapore

Model 2

Dedicated committee within the central bank

- Brazil
- Hong Kong
- Malaysia
- Thailand
- Romania
- UK

Model 3

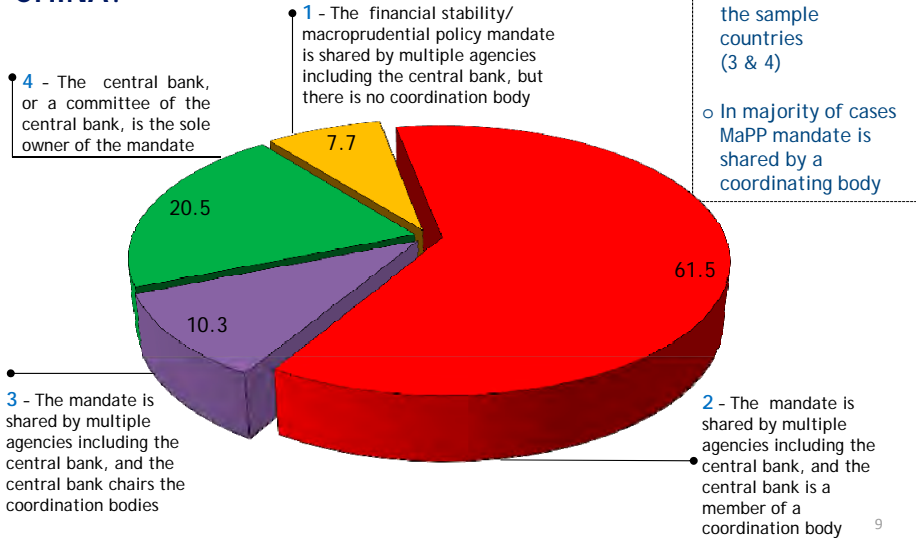
Committee outside the central bank

- Australia
- Indonesia
- Chile
- US
- France
- Germany
- Korea
- Mexico
- Turkey

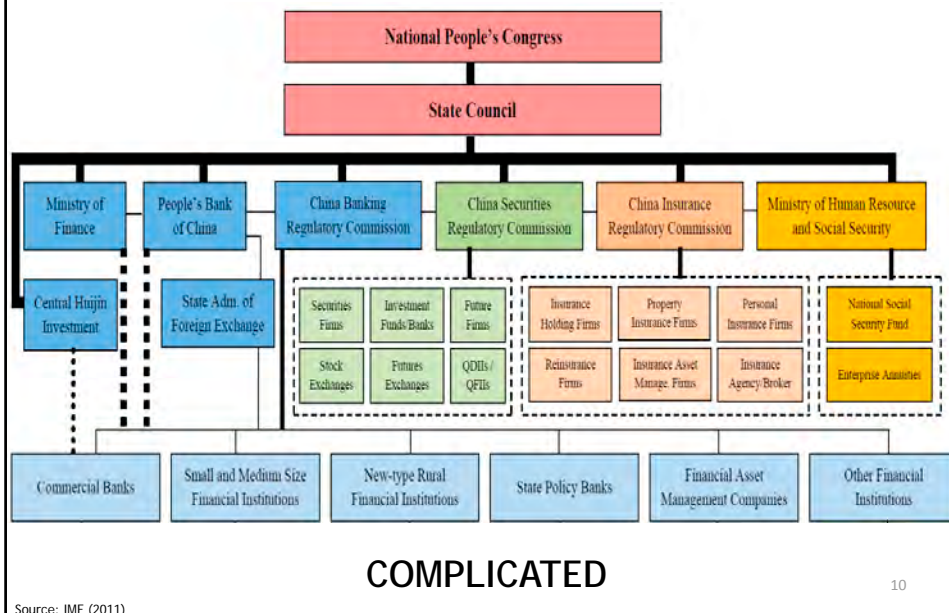


Current Practice?

CHINA?



China: Macroprudential Framework



When cross-border coordination?

Greater inaction bias in a globally interconnected world

(Vinals & Nier, 2014)

- International agreements to avoid “race to bottom” (FSB, BCBS)
- Bilateral and regional arrangements
- International guidance and surveillance (FSAPs, Art IV)
- Other novel approaches to facilitate coordination

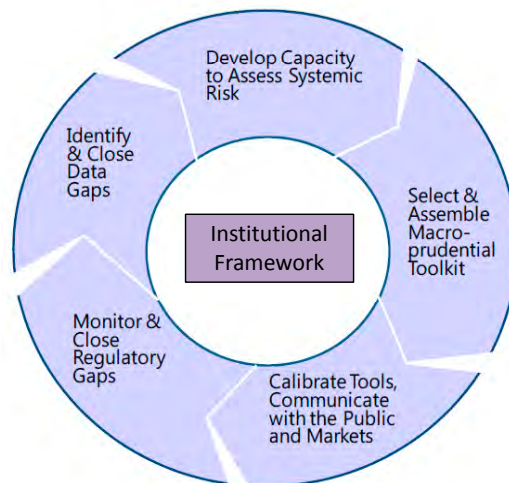
Macroprudential facilitator → Global macroprudential referee?



Conclusion: macroprudential policy is an evolving process

GOALS

- ✓ Overcome inaction bias
- ✓ Avoid regulatory blind spots
- ✓ Avoid using macroprudential policy beyond its call of duty



12

THANK YOU

13

Example: United Kingdom (model 2)



Financial Policy Committee (FPC)

- To identify, monitor, and take actions to remove/reduce systemic risks
- Chaired by the central bank governor
- Brings together relevant agencies
 - Including executives of the Bank of England, the Financial Conduct Authorities, and a non-voting HM Treasury member

Has all types of powers

- Hard powers over specific tools to banks
 - Sectoral capital requirements and the countercyclical capital buffer
- Semi-hard powers over all other regulatory tools
 - Directions and recommendation to the Prudential Regulation Authorities and Financial Conduct Authorities
- Soft powers to other agencies
 - Recommendations to the Treasury

14

Example: United States (model 3)



Financial Stability Oversight Councils (FSOC)

- Responsible for collectively examining and mitigating risks
- Chaired by the department of the treasury
- Brings together all federal regulators
 - including the Treasury, the Federal Reserve, the Securities and Exchange Commission, etc.

Semi-hard powers and limited hard powers

- Hard powers used only in designating systemically important banks, nonbank and market infrastructure.
 - Can subject these entities to oversight by the Federal Reserve.
- Semi-hard powers over other decisions

15

Example: Malaysia (model 2)



Financial Stability Committee (FSC)

- A macroprudential decision making body within the central bank
- Chaired by the central bank governor
- Hard powers over the central bank's regulatory perimeter (banking and insurance sector)

Financial Stability Executive Committee (FSEC)

- Extends the central bank's oversight powers to institutions outside of its direct regulatory perimeter
- Chaired by the central bank governor
- Brings together relevant agencies
 - Including the deposit insurance body, the Treasury, the Securities Commission.

16

The World Needs New Reserve Currency: from the perspective of global liquidity

Yao Yudong
People's Bank of China
2015-03-16

1

Outline

- 1 Global liquidity provision: History and Status quo
- 2 Global liquidity measurement
- 3 Rule of global liquidity provision
- 4 Global liquidity shortage and How to solve it

2

1 Global liquidity provision: History

- Bretton Woods system (1945-1971)
- ✓ “Pegged rate” currency regime: other currencies pegged to USD with fixed relationship of USD to gold (\$35 an ounce)
 - Overemphasis on exchange rate stability, lack of rule on global liquidity provision
- ✓ Vulnerabilities: global liquidity provision may either be inadequate or excess
 - 1950s: USD shortage and the Marshall Plan
 - 1960s: excess supply of USD and Triffin Dilemma
- ✓ First Amendment to Articles of Agreement, IMF (1969)
 - Create SDR “to meet the long-term global need”
 - “The Council shall supervise ... the continuing operation of the adjustment process and developments in global liquidity.”
- ✓ Nixon shock and the end of Bretton Woods system.

3

1 Global liquidity provision: Status quo

- Main reserve currencies: USD, Euro, Sterling and Yen (SDR currencies)
- Problem remains:
- ✓ Main reserve currency issuers may either fail to adequately meet the demand of a growing global economy for liquidity as they try to ease inflation pressures at home, or create excess liquidity in the global markets by overly stimulating domestic demand.
 - Outbreak of Global financial crisis: USD shortage
 - 2011-2013: excess supply of global liquidity and challenges for EMEs to maintain financial stability.
 - 2015: QE exist and incoming rate hike for US, Expanded Asset Purchase Program for Euro Area and QQE for Japan.

4

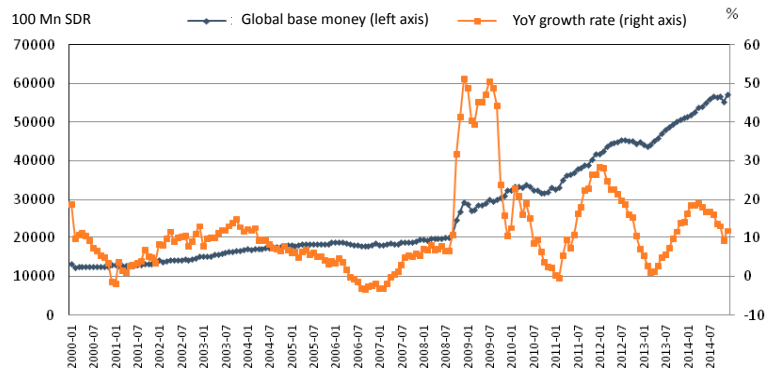
2 Global liquidity measurement

- Global liquidity indicators:
 - ✓ Core global liquidity comes from main currency issuers.
 - ✓ Both price indicators and quantity indicators should be considered
 - Quantity indicators became more important given zero lower bound on nominal interest rate of main currency issuers
- We consider:
 1. Global Base Money: base money of main currency issuers.
 2. Global M2: M2 of main currency issuers
 3. Money multiplier
 4. Global interest rate: Weighted sum of main currency issuers' policy interest rate (weighted by its SDR share)

5

2.1 Global Base Money

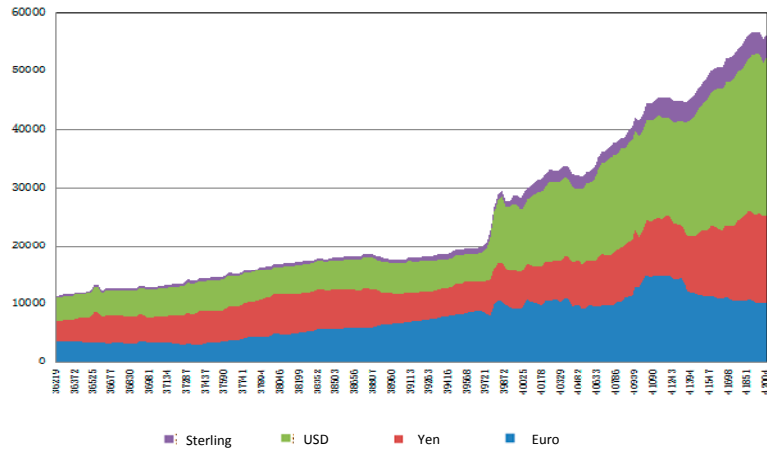
- Global base money is expanding with a lower speed.



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2.1 Global Base Money (Cont.)

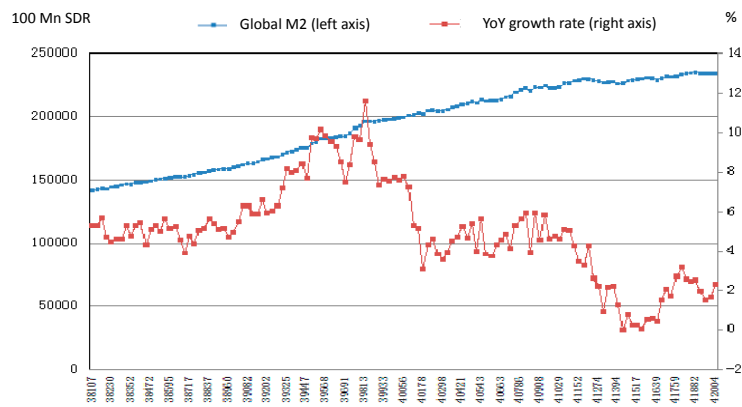
- USD still accounts for the largest share in global base money.



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2.2 Global M2

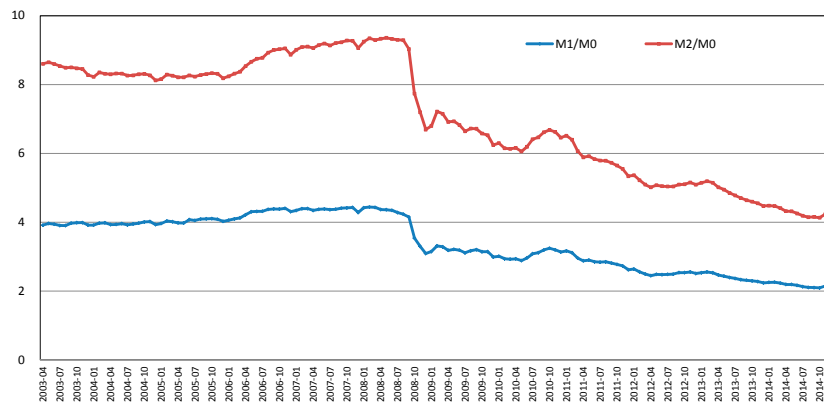
- Global M2 keeps expanding.



8

2.3 Money multiplier

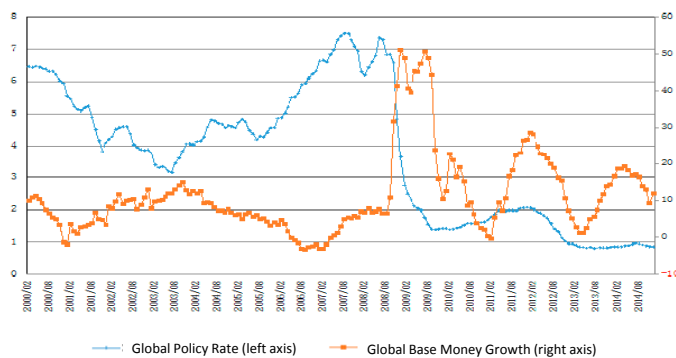
- But there is a continuous decline of money multiplier since 2008.



9

2.4 Global Policy Rate

- Since 2008, global policy rate has been kept very low.
- US Base Money expansion is the largest contributing factor
 - 1 percent increase of US base money can reduce global policy rate by 1.08 percent



10

3 Rule of Global Liquidity Provision

- PBC governor, Zhou (2009)
 - “Theoretically, an international reserve currency should first be anchored to a stable benchmark and issued according to a clear set of rules, therefore to ensure orderly supply; second, its supply should be flexible enough to allow timely adjustment according to the changing demand; third, such adjustments should be disconnected from economic conditions and sovereign interests of any single country.”
- Global liquidity supply according to a clear rule can facilitate global economic growth and help maintain financial stability.
- We estimate global liquidity growth rate by McCallum rule.
 - Assumption: main reserve currency issuers care about global economy as they care about their own.

11

Global Base Money Growth by McCallum rule

	Global Base Money Growth McCallum rule	Global Base Money Growth Actual growth	Global Real GDP Growth	Global Inflation
2008	10.7	41.3	3.0	4.6
2009	15.7	9.9	0.0	3.3
2010	13.5	2.1	5.3	4.4
2011	19.0	23.5	4.1	4.8
2012	11.2	6.9	3.3	4.0
2013	11.5	13.3	3.2	3.5
2014	14.2	11.2	3.3	3.9
2015	13.7	19	3.8	3.8
2016	13.7	19	4.0	3.6
2017	13.8	5	4.0	3.6
2018	13.8	5	4.0	3.5
2019	13.8	5	4.0	3.5

Resources: Wind & WEO. data from 2015 to 2019 are estimated.

12

4 Global liquidity shortage

- In 2015 and 2016, given QE of ECB and BOJ, global liquidity will probably expand 19% YoY.
- But in 2017, if main reserve currency issuers all exit QE, there could be a global liquidity “cliff”.
- Global liquidity shortage has severe consequences:
 - ✓ Exchange rate fluctuation
 - ✓ Capital outflows from EMEs to US
 - ✓ Global deflation
 - ✓ Slower economic growth
- How to solve global liquidity shortage?
 - The world needs new reserve currency

13

The world needs new reserve currency

- Reserve currency diversification
- RMB has the potential to complement global liquidity.
 - RMB ranks 5th in international payment and 7th in international reserve.
 - Increasing bilateral currency swap agreements signal rising demand of RMB liquidity.
 - Cross-border RMB policy framework has been established.
- RMB included in the SDR will increase SDR’s representativeness, and promote reform of the international monetary system.
- No matter whether RMB could be included in the SDR basket, the world will need RMB to play an increasingly important role given global liquidity shortage.

14

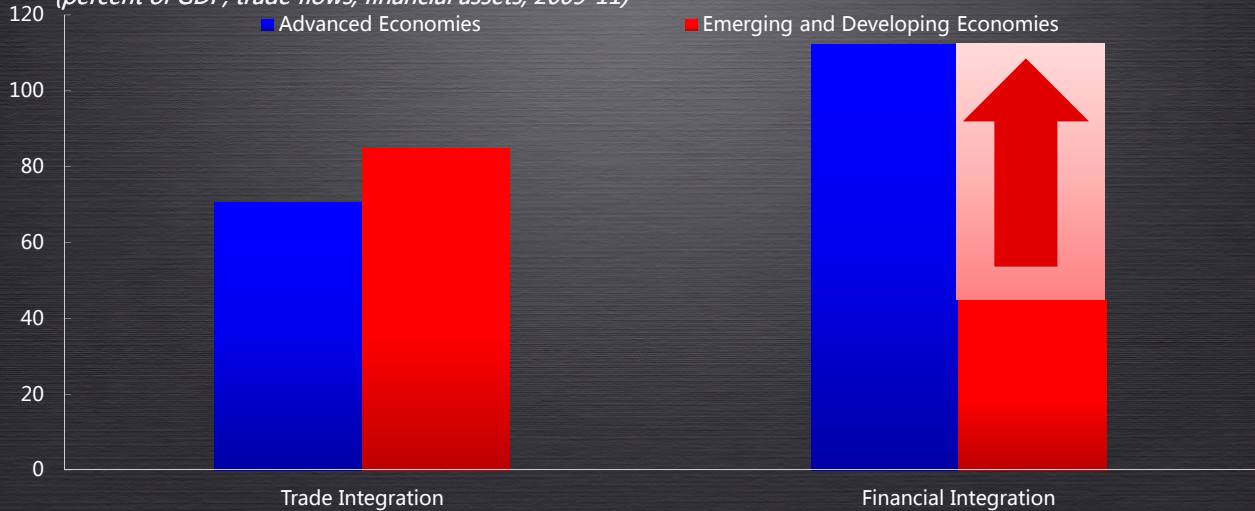
Asia's Growing Financial Integration: Challenges and Risks

*Anoop Singh,
March 16, 2015*

Emerging Markets: More Financial Integration

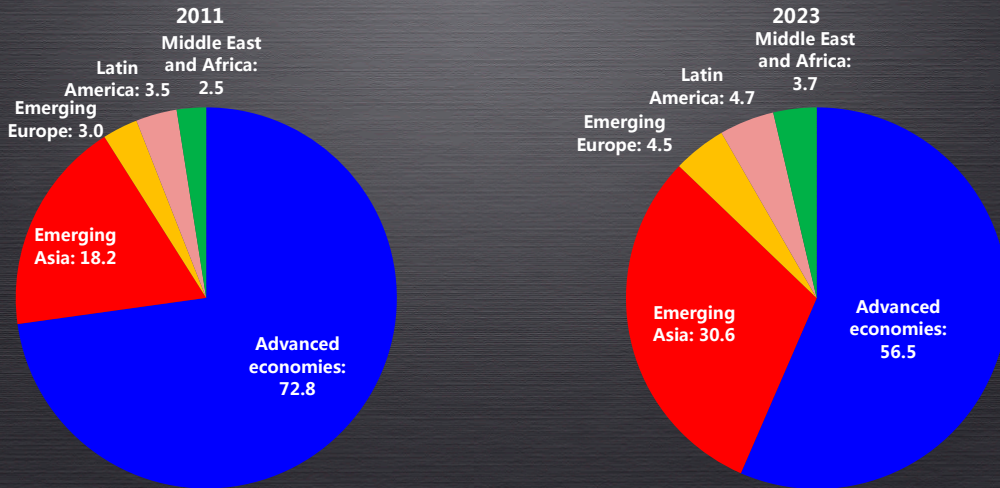
Trade Integration and Financial Integration AEs versus Emerging/developing

(percent of GDP; trade flows; financial assets; 2009-11)



EM: Could Double Share of Global Banking Assets

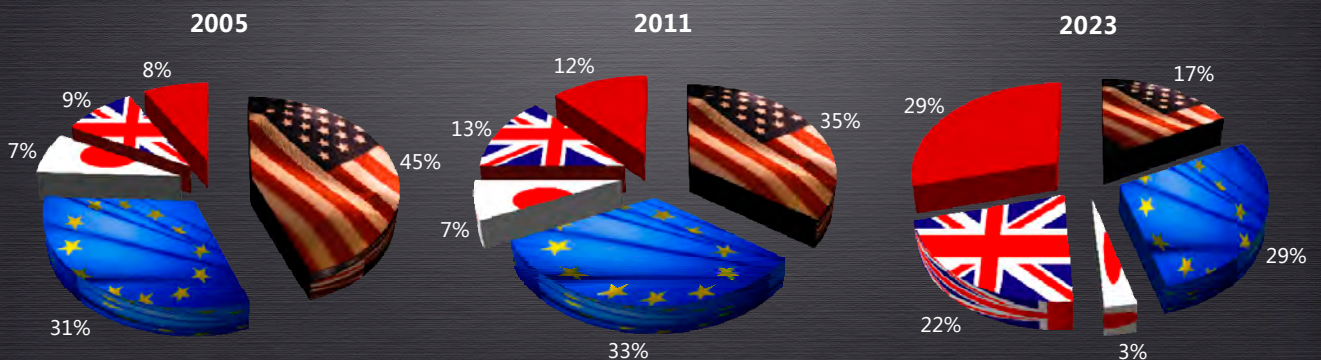
Banking System Assets (percent of total) 1/



Sources: IFS, WEO; and staff statistics.
1/ Projections derived from regressing total banking system assets/GDP on PPP income per capita.

EM: Shadow Banking Share Can Triple by 2023

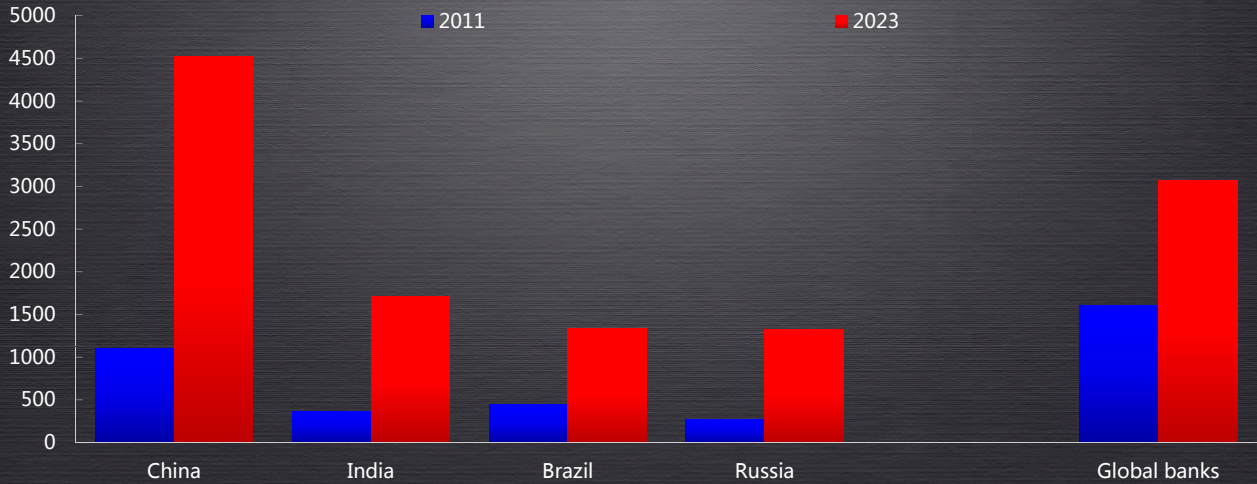
Shadow Banks' Geographical Dispersion (percent of total) 1/



Sources: IFS and FSB.
1/ Projections are based on effective annual rates between 2005-2007 for fast growth scenario, and between 2008-2011 for slow growth scenario.

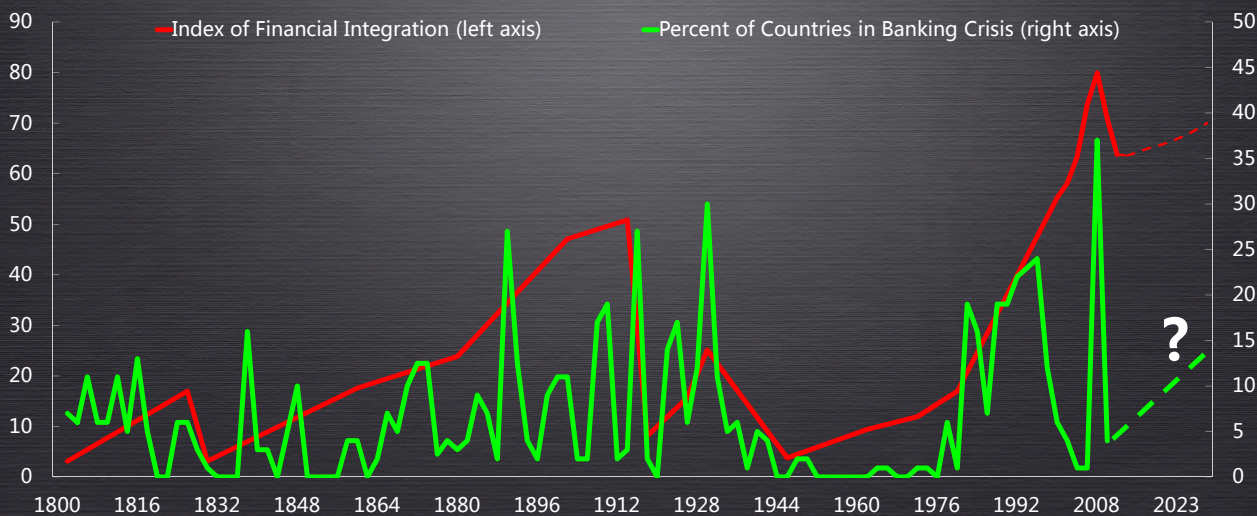
EM: Domestic Banks Likely Overtaking Global Banks?

Assets of Global and Emerging Markets Domestic Large Banks
(average, billions of U.S. dollars)



4

Financial Integration and Crises: History Repeats Itself?

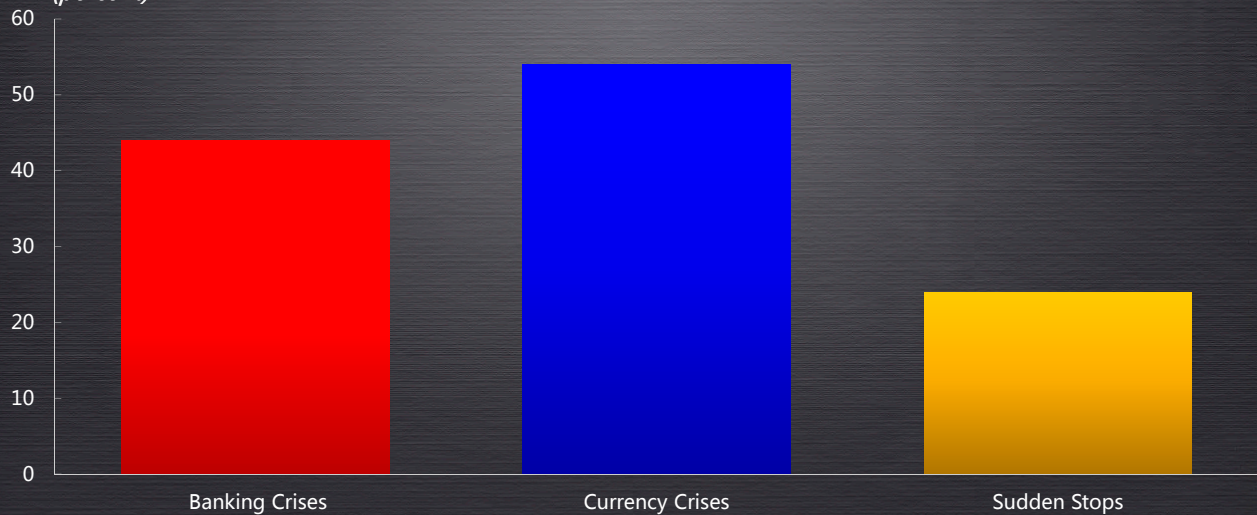


Sources: Reinhart and Rogoff (2010); Laevan and Valencia (2012); and IMF staff calculations.

5

Credit Booms: Do They Often End with Crises?

Frequency of Financial Crises Around Credit Booms
(percent)



Sources: Mendoza and Terrones (2013)

1/ Each bar shows the coincidence of credit booms and financial crises in the seven-year window around the boom.

6

Implications and Risks

- ◆ **Need to prepare for rotation of activity and finance.**
- ◆ **Prepare for rising financial risks in emerging markets.**
- ◆ **Regulatory reforms need close coordination domestically and internationally in emerging markets.**