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Introduction to the International Monetary Institute (IMI)

Established on December 20, 2009, IMI is a non-profit academic institution affiliated to China Financial Policy Research Center and the School of Finance of Renmin University.

Following the "general theory of macro-finance", IMI aims to become a world-class think tank, focusing on the studies of international finance, in particular the international monetary system and RMB internationalization. Despite its relatively short history so far, IMI has established itself as a leading research institution and important forum, where industry leaders, policy makers and academic experts from home and abroad share their insights and expertise.

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Mr. Yaseen Anwar's international banking and regulatory experience spans 40 years and in early 2014, he retired as the Governor of the State Bank of Pakistan (Central Bank) where he spent seven years. At the Central Bank he negotiated and signed the country's first Currency Swap Agreements with China and Turkey and in 2012 became only the 7th Central Bank to sign an Agency Agreement with the Peoples Bank of China to invest in local Government Bonds. As Governor, he had oversight of over 40 banks, impacted Monetary Policy, and elevated the Branch-less Banking model/strategy for Financial Inclusion.

Prior to the Central Bank, he worked in New York, London, Paris, and Egypt with JPMorganChase, Bank of America, and Merrill Lynch in various senior capacities that covered Corporate Banking, Syndications, M&A, Project Finance, Alternative Investments, Export Finance, and Payments.

His various Board appointments have included the American Turkish Society, American Middle East Association, U.S. Pakistan Economic Council, United National Bank Ltd. U.K., Chairman of Eco Trade Development Bank, Turkey, and a member of the Council of Foreign Relations. He is a graduate of the Wharton School at the University of Pennsylvania.

This issue is proud to present

YASEEN ANWAR

Former Governor, Central Bank of Pakistan
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Feature

One Belt One Road, Gateway To The Future*

By YASEEN ANWAR

Distinguished guests, ladies and gentlemen:

In 2010 at the Eurasia Summit in Urumqi and as a guest of the Peoples Bank of China (PBOC), I gave a speech promoting the 21st Century Silk Route. Five years later, and coincidentally in the same month, that initiative is well on its way and I am delighted and honoured to be a part of this conference and initiative that I have supported since then.

The genesis of modern global economic development was built on the foundations of Trade. The evolution of Trade transactions as we know it today was founded in Renaissance Italy by the Medicis when they set up the first Trade representative office for Acceptance Financing in Barcelona to support their Trading posts of Genoa and Venice, the then hubs of Trade.

Life was much simpler then. The Western Hemisphere had not been discovered and the global economy at the time was not vulnerable to systemic shocks. Today the world's economy is generally in a state of malaise in the aftermath of the Global Financial Crisis (GFC) that started in 2008. It has created an existential crisis in Europe with its sovereign debt crisis and painful austerity measures exposing underlying contradictions in the European Union that has become increasingly fragmented. The United States as the largest economy, is itself struggling to stimulate aggregate demand, reduce unemployment, and strengthen its Post World War II institutions in an effort to ensure retention of its fragile global economic supremacy.

Notwithstanding the economic tremors in recent years, we find ourselves in the midst of a massive process of change as the global economy realizes that Asia, led by China as the second largest economy in the world, will now shape this planet's economic future. The debt problems facing the leading members of the OECD have not only led to a deep recession, but have also manifested into a much more

* Speech on the China-Pakistan Economic Corridor (CPEC) Forum held in the City of Karamay in China on August 11, 2015.

serious economic problem than the Great Recession witnessed in 2007-2008. Asia must adapt and assert itself for its rightful role in this changing environment.

Before I delve into the future course of the One Belt, One Road initiative and its impact on the global economic landscape, I would like to highlight the following seismic shifts we have recently witnessed:

1. 25 years ago and under the current multi-currency Reserve Management System, 65% of global Reserves were held by Developed countries and 35% by Emerging Markets (EM). Now the position is reversed with 67% of the world reserves held by Emerging Market economies, reflecting the economic role of Asia in general and China in particular.
2. According to SWIFT which monitors currency flows, the RMB in 2014 overtook the EURO to become the second most actively used currency to settle Trade Finance payments after the U.S. Dollar, and the 5th largest Payment settlement currency in the world. Shortly to become the 4th.
3. More than 50 Central Banks and Sovereign Wealth Funds have signed Agency Agreements with PBOC to invest in the Chinese onshore Bond market, evidencing confidence and trust in the RMB on a global basis. The State Bank of Pakistan was the 7th Central Bank to execute such an agreement in 2012 and activated it in 2013 to ease its balance of payments pressures faced at the time. China helped Pakistan during a difficult period. The UK government initiated such an investment in October 2014.

While the above are only a few of the milestones driven by China in an effort to resolve global imbalances, lower capital flows, and FX fluctuations, we still face vulnerabilities towards restoring Public Trust and confidence in the International Monetary System in the wake of the Global Financial Crisis.

Notwithstanding the GFC, the recent steps taken are a clear indication that China is taking the right steps. The renewed emphasis on its Western borders indicates the intent to revive the ancient Silk Route which once passed through Urumqi that will have far reaching and positive long term implications emanating from trade in the region with an illustrious history.

In the context of the current global challenges, perhaps this direction will help facilitate the needed decoupling from OECD markets so that Asia is not just a factory to the world, but also generates its own demand for the products it creates. Global imbalances need to be reduced and new markets in Asia need not only to be developed, but also to be integrated and connected. The downside of this integration is the vulnerability to external shocks by events taking place in far-away

markets. We must prepare for such events.

Given the seriousness of the debt problems facing some of the developed economies, many developing countries have already faced a fall in exports, experienced speculative capital flows replacing more stable FDI, and Trade Financing choking up. The faltering prospects for export-oriented countries that are dependent on the OECD, especially those with a relatively disadvantaged domestic economy, could stall Asian growth and put people out of work. The adverse spill-overs on social development and poverty, should not be taken lightly.

Addressing such vulnerability can be achieved by strengthening regional trade and investment linkages with a specific focus on reforming and reshaping existing production supply chains. In other words, it is important to look at this region not just as a factory to the world, but as an integrated economic platform that creates jobs, imparts skills, creates new markets, and generates enough prosperity to make the region more self-sustaining and also the engine of global growth.

It is in this context the $1.8 Trillion One Belt, One Road represents an excellent remedy to address the key weaknesses that can restore Public Trust in the global economy. The immediate decades following WW II witnessed the growth and development of the United States, Europe, and Japan with huge outlays in infrastructure to support that growth. Today these areas are still healing and trying to recover from the 2008 Global Financial Crisis. Asia on the other hand is witnessing relatively higher growth rates but still lacks in being able to harness the huge potential it is capable of generating.

However I see a bright light at the end of the tunnel that can be realized by harnessing the Asian potential through regional and global integration. The following salient economic features provide an insight into that potential.

- Approximately 65% of the world's GDP today is comprised of OECD countries and the rest with Emerging Market economies (EMs). By 2050, the number is expected to be reversed, primarily due to China & India.
- In Maritime South China, $5.3 Trillion total trade passes through every year. 23% of that is U.S. trade.
- By 2035, 90% of Middle East oil is expected to go to Asia.
- With 400 Million population, the ASEAN region's $2.5 Trillion economy is expected be the 4th largest by 2050.
- The ASEAN and other EMs in Asia are only 46% urbanized, well below the 55% international norm. Pakistan is approximately 40%. With over 5% forecasted growth rates, Asian urbanization is expected to reach 60% over the next 25 years.

- To support the anticipated growth rates, an $8 Trillion gap in Infrastructure finance is needed by 2020. The World Bank president recently stated over $1 Trillion is needed yearly.
- In April, the president of China's visit to Pakistan resulted in MOUs totalling $46 Billion for infrastructure development i.e. Power sector, Telecommunication, Transportation, etc., in support of the southern branch of the Eurasia Silk route linking western China.
- Today China represents the number one Export partner for 43 countries as opposed to only 2 countries 20 years back.

From these few observations, it is clear the future growth potential for the global economy will be generated by Asia. We also know that the desired growth rates cannot be achieved without infrastructure development as evidenced by post World War II western economies. A 2014 McKinsey study highlighted that over $50 Trillion will be needed for infrastructure between now and 2030.

While solutions to progress and capitalizing on the opportunities may be relatively easy to identify, implementation is wrought with bottlenecks and vulnerabilities. Geopolitical tensions, market volatility that creates uncertainty, private sector risk averseness for long term investment in infrastructure, Quantitative Easing (QE) that creates currency and interest rate volatility, all conflict with a need to ensure an overall enabling environment for Trade to flourish.

To highlight a few historical examples that adversely affected many economies and to avoid repeating, the 2013 QE by the U.S. led to massive movements in liquidity away from Turkey, Brazil, Argentina, Indonesia, and India to name a few. As a result, these countries faced sharp depreciation of their currencies and a rapid rise of domestic interest rates in defence of their currencies. QE in the EU and the action by the Swiss National Bank created currency volatility not witnessed in recent memory.

As for global Trade, protective tariffs have never been an encouragement to Trade. In the 1930's the U.S. Smoot Hawley Act that set tariffs, led to a 64% reduction in world trade. U.N. related sanctions on various countries no doubt adversely impact Trade, but no studies that I am aware of have been conducted to measure that impact.

Now how do we pull ourselves out from the complexities of the current global economic slowdown and resume growth. Given our collective responsibility to develop a more balanced global economy that can absorb shocks from other regions and manage systemic risks, the Asian growth rates that includes the second largest economy in the world, represents the obvious solution for sustained economic

development.

Infrastructure is the engine of growth and the One Belt, One Road Economic Train initiative creates a modern Trade route that triggers huge investments in Infrastructure. In fact CITIC has announced plans to invest in 300 projects extending from Singapore to Turkmenistan. Projects under the plan include a network of railways, highways, oil & gas pipelines, power grids, and other infrastructure links across Central, West, and South Asia to as far as Greece, Russia, and Oman. This will naturally enhance China's connections to Europe and Africa or conversely, enhance Europe and Africa's connections to the second largest economy.

China's president said recently that he hoped China's trade with countries involved in the One Belt One Road initiative would exceed $2.8 Trillion in a decade. China is a large importer of natural resources which is essential for its future economy. The One Belt One Road initiative supports this security of imports and emphasizes infrastructure and connectivity with other countries who will also benefit with prosperity. The initiative has significant geopolitical implications and comprises 5 parts to China's Vision Plan for integration:

1. Connectivity
2. Trade
3. Financial Integration
4. Policy implementation
5. People to People linkages

CPEC represents the South Asian leg of the larger Northern and Central Asian arm of Economic strategy in support of China's macroeconomic dimension. It opens Central Asia, a geographically closed region lacking in infrastructure that will provide greater access to the sea and expand the global trade network. CPEC will also enhance energy and power investments that will ease Pakistan's power shortage that currently reduces economic growth by up to an estimated 3%.

For CPEC, Pakistan must build its Resource Capacity in all infrastructure related project entities in order to achieve the associated synergistic benefits and ensure CPEC's success. The Corridor from Gwadar should be the shortest direct route to ensure cost benefits are realized short and long term for all countries.

To facilitate trade and implementation of the CPEC initiative, Pakistan should utilize its Currency Swap Agreement signed in 2011 with PBOC for trade purposes for which it was intended and reduce its dependency for Balance of Payments

support as initially used and required in 2013.

A key initiative to support all countries in developing the infrastructure necessary to achieve the ambitious, yet achievable target is the Asian Infrastructure and Investment Bank (AIIB) that includes 57 countries as its members.

As stated earlier, infrastructure represents the engine of growth for an economy and is critical to support the planned growth rates. Infrastructure triggers the SME sector that provides not only employment but the opportunity to the banking sector to diversify its portfolio; the roads, bridges, and railroads to improve transportation and lower delivery costs; an elevated telecommunications network in today's technology era is a must; and investment in the Power sector is essential for manufacturing, both for domestic needs and exports to ensure a stable Current Account.

But we know there is a huge shortfall in all these areas in the developing world to the tune of over $8 Trillion. The post WW II Multilateral institutions such as the World Bank and Asian Development Banks have done well in many areas. However today's needs to ensure stable global growth go beyond their capacity to fund this gap as the world has given birth to many new countries over the past 50 years from Bangladesh, to the break up the old Soviet Union, and Africa.

The AIIB represents a solution to fill those gaps. However there has been considerable contentious debate in the Press about the need for such a new institution that is difficult to understand, especially when the world is faced with an erosion of confidence in the International Monetary System.

Notwithstanding contentious issues, 57 countries, including key OECD countries, have become signatories to the AIIB charter that clearly represents a collective tsunami response in support of energizing the global economy. It is consistent with the emergence of a Multi-Polar world economy that today needs to evolve into a multi-polar, multi-currency system; a more balanced world economy that cushions and reduces vulnerabilities. The One Belt One Road initiative will stimulate industrial growth, generate employment, provide inclusive growth, reduce poverty, and provide prosperity to all nations.

Finally, I would underscore that we have an unprecedented opportunity to collectively regain the Trust of the Public. There is an old saying of Confucius that 'He who wants success, must enable others to succeed'. The One Belt, One Road provides such an opportunity and 'collectively' we need to support it fully so that prosperity can be achieved for the benefit of all.

Thank you!

In Brief

Editor's Note:

Up to October 2015, members of IMI advisory board and academic committee have been expressing their research opinions on monetary finance and economics through published articles and public speeches. The following is a summary of their research reviews.

Research Review by IMI Advisory Board

STEVE H. HANKE stated in "***Regime uncertainty weighs on growth***" that in Robert Higgs' important book *Depression, War and Cold War*, Higgs concluded that, because of "regime uncertainty," investors were afraid to commit funds to new projects, which till prevails today. To better understand what's happened since 2008 nothing beats the ability to interpret and understand economic data in topological patterns. Boulding who reasoned that businesses would tend to hire workers when there was an increasing gap between expected profit and interest. Also, the profit-interest gap and unemployment typically move in opposite directions, but they failed to do so in the aftermath of the 2008 recession because of regime uncertainty. As long as progressive economic policies are pursued with vigor, we can anticipate more regime uncertainty, subdued confidence, low rates of bank money and credit growth, and weak economic growth.

In his speech of "***The Belt and Road can bring opportunities to the internationalization***" on 2015 International Monetary Forum, **LI RUOGU** pinpointed that RMB internationalization and capital account openness are not closely related, the relevant problem is that China needs to form a strong manufacturing and produce export commodities competitive in quality, technology, brand and distribution channels."The Belt and Road" and the internationalization of RMB complement each other and universally increasing the access to apply and introduce RMB in regions and countries.

Since SDR is only a theoretical or even virtual currencies, whether RMB should join the SDR requires further scrutiny and discussion. And the RMB internationalization is determined by China's economic and trade strength. Therefore China needs a high quality and innovative manufacturing sector while improves the international competitiveness in quality, technology, brand and distribution channels of export commodities.

As two comprehensive opening-up development strategies, the RMB internationalization and "the Belt and Road" complement each other. First, in the construction of "the Belt and Road", the utilization rate of RMB is supposed to be improved. Second, promoting "the Belt and Road" is meanwhile facilitating RMB internationalization. The construction projects of the "B&R" need to cost huge amounts of RMB in loans and investments, and China is actually the major contributor of funds. Third, China should encourage countries along the "B&R" to actively participate in "the Belt and Road", to fully leverage their capitals, human resources, making "the Belt and Road" conception integrated into their national development strategies.

As **LI YANG** pointed out in "***What shall finance do to serve the real economy?***", ways for finance to serve real economy are increasingly complex and financial industry itself is far from perfect in the new normal economy. In face of current challenges of uncoordinated financial structure, information asymmetry and ineffective macro policy, it is necessary to reshape the functions of finance in serving the real economy by facilitating scientific and the innovation of technology and building more convenient approaches for transaction, payment and settlement.

Four priority areas of financial reform lie in developing capital market and improving mechanisms to facilitate the combination between finance and real economy, breaking the shackles that forbid credit relations between non-financial institutions, promoting industrial convergence by encouraging holding companies and financial holding companies and facilitating "Internet +" by developing inclusive financial services and small and micro enterprises.

As **PAN GONGSHENG** pointed out in the article of "***Reflections on three-decade management of the treasury by the central bank***", looking back over the 30 years and in light of the new policies and requirements of the new Budget Law introduced since the 18th NPC, treasury management could be further improved. Over the past three decades, the PBOC played its role in execution, communication, promotion and supervision of budgetary policies and contributed to the healthy and sustainable of the economy and improved livelihood of the people.

There are also lessons learned in treasury functioning mechanism to serve treasury building in the modern era. In line with the arrangement of CPC and state council and according to the requirements of the new Budget Law, efforts should be made to perfect the treasury management system, improve the quality and efficiency of treasury operation and better serve economic and social development and people's livelihood.

According to **XIA BIN** in the speech "***Internationalization of RMB should be in tune with economic transformation***" on 2015 International Monetary Forum, various international and national factors suggest that the RMB must be internationalized. The ideal is that when Chinese economy catches up with the U.S., RMB will have equal footing with U.S. dollars, and Euros, and RMB indicators will go beyond 20. Safeguarding the change of world economic landscape and the stability of world economy are the foundation for RMB internationalization. The change of economic landscape creates conditions for RMB internationalization. To develop trade with China, all countries should use RMB and lower risks of exchange rate. Reforming international monetary and financial system is a gradual process. It is better to use incremental reform to facilitate reform of international monetary system, and promote multilateral and bilateral cooperation. Problems emerged during the internationalization process should be addressed in paces and approaches that match the pace of transformation. Capital management is the core, and the most appropriate method is to adopt a step-wise policy to attain the goal.

Research Review by IMI Academic Committee

According to **CHEN YULU** in the article *"**RMB is expected to be the fourth-largest international currency in two years***", "the Belt and Road" can yield successful outcomes and also promote the internationalization of RMB by mobilizing the global resources, benefiting countries along the "B&R", achieving the goal of win-win. The initial goal of RMB Internationalization has been basically achieved, and RMB is likely to surpass the yen to be the fourth-largest international currency in two years. "The Belt and Road" gives insights to the internationalization of RMB in four aspects, including pricing or account settlement of commodities, infrastructure financing, the construction of industrial parks and cross-border e-commerce. Moreover, the construction of "the Belt and Road" can promote the internationalization of RMB as long as supported by domestic industrial restructuring, technological progress and institutional innovation, while seeking to

maximize the international negotiation, construction and participation.

According to **BEN SHENGLIN** in an interview with Indian Standard Time, China is gaining increasing attention and concerns for its domestic economic slowdown. Underlying risk in banking industry and the current "One belt one road" initiative has excited many people in Asia. Though Chinese economy is slowing down to some extent, it should be noted that the base has grown much larger now and it is natural in the long period of growth the economy to grow slower and slower. Meanwhile there is a new thinking behind the economic strategy in China in the current leadership. They want to focus on the quality of the growth, not just on pure quantity. Banks have been playing a much bigger role than in many other countries. They have made a lot of progress but also have challenges especially when the economy is slowing down. The NPA ratio, non-performing loan ratio reported by banks is generally pretty healthy, indicating that bad loans and non-performing assets may not be a huge problem for Chinese banks. Surplus capital is a motivation for the "One belt one road" initiatives as the domestic market in terms of investment opportunity is limited now. AIIB is a pillar to support the broader "One belt one road" strategy, and Chinese yuan will play increasingly important supplementary roles in the current international monetary system.

As **CHEN WEIDONG** mentioned in the article "***View on reform of mixed ownership from a bigger picture***", compared with international experience, it is obvious that the promotion of mixed ownership could facilitate the free flow of state-owned capital and collective capital, enhance the capability of public-owned economy to adapt to market changes. Therefore, mixed ownership could become new engine for economic growth under China's new normal conditions.

Lessons from the development and reform of public-owned economy in western countries have provided valuable reference to promote reform of mixed ownership. Practice shows that market is not a panacea. It is necessary for governments to directly hold or control some important institutions or assets so as to stabilize market order and restore market confidence. Furthermore, acceptance of public ownership in different countries relies on recognition of some values, such as principal-agent relation and individual interests versus collective interests.

Whether public-owned economy can play an effective role depends on whether it can maintain growth vitality. The key is market demand, cost control mechanism, systematic flexibility and an efficient incentive mechanism. China's promotion of mixed ownership could facilitate the free flow of state-owned capital and collective capital while enhance the capability of public-owned economy to adapt to market

changes.

According to **DING ZHIJIE** in the article of "***What RMB exchange rate should we adopt?***",a rather weak RMB exchange rate policy should be adopted, given the Fed's interest increase, the impact of strong dollar, as well as domestic economic growth target, and negative impacts of a very weak RMB exchange rate.

US dollar's trend appreciation determines that RMB exchange rate will not be that strong. China's economic goal of stabilizing growth requires a not too strong RMB exchange rate. Moreover, a weak RMB policy will have adverse effect on the stability in cross-border capital flow, the formation of an open economic system led by "Going global" strategy, the RMB internationalization and the depreciation of other emerging countries' currencies. Considering all the above situations, the central bank should maintain relative stable RMB rate, improve the flexibility of exchange rate management policy by letting central parity rate play a more positive role, make sure the exchange rate is within control, and deepen mechanism reform by expanding RMB daily exchange rate margin and establishing RMB currency futures market in China.

According to **ROBERT ELSEN** in his speech on the 2015 International Monetary Forum, as the two-way trade between China and Germany last year exceeded 160 billion Euros, surpassing the total trade volume china had with UK, France and Italy, the German financial market and its reform could lend some reference to RMB's internationalization. First and foremost, Frankfurt Center might be the financial center or an important offshore center for RMB in the future. And the RMB's internationalization requires more RMB denominated products as well as deepened financial market for enhanced public confidence in RMB as a trading currency. Furthermore, acceptance of RMB as an international currency requires further opening of capital accounts. In the future, there will be greater openness, liberty and guarantee.

TOMOYUKI FUKUMOTO pointed out that the real estate situation resembles Japan in mid 1970s. China's current macro leverage rate is high, which resembles that of Japan in 1970s of 250%, and in 1980s of 210%. In addition, working population in first industry in China is about 24% while the percentage resembles Japan in 1963. Last but not the least, as the bubble in Japan's real estate market is closely related with the change of demographic structure, if developers continue to increase supply when Chinese main workforce shrinks, real estate bubble in 1990s in Japan might occur in China.

JIAO JINPU mentioned in the article of "***Basic thinking on improving regulatory system of China's securities market***", as China's securities market keeps expanding and the types of innovative and cross financial products rises, a robust market order requires strengthened regulation on financial institutions so as to protect investors' legal rights. Rights protection of customers should be seen as one of the main targets of financial regulation. First, it is necessary to strengthen mandatory information disclosure by making information disclosure more targeted and mark items that demand investors' attention, guarantee access to investors' information and make information disclosure intelligible. In addition it is suggested to settle on the scope and intensity of financial regulation and establish conduct codes for business activities. Finally constructing coordination and monitoring mechanism for cross-financial businesses is of utmost significance.

According to **IL HOUNG LEE** in the paper of *"**China and Korea: How to seize the great opportunity of FTA***", as the economies of China and Korea have entered new stages, where both countries need to face the challenge of the past high economic growth, finalizing the Sino-Korea FTA agreement means a great opportunity for both sides. The 7 years' preparation and the two-step strategy is highly necessary regarding to the sensitive fields and concerns of both countries. The limited variety of products in transaction exposes the bilateral transaction to external shocks. China and Korea are therefore key partners with great opportunities since the initiation of the FTA agreement. Moreover, Sino-Korea FTA agreement serves as the cornerstone for the China-Japan-Korea free trade agreement and even the integration of East-Asian economy.

DAVID MARSH put forward in "***China's switch on yuan reinforces bid to join elite currency club***" that after the changes in Chinese arrangements for handling the yuan's exchange rate, the contours of the currency's expected entry into the special drawing right next year are becoming clearer. The decline of the yuan against the dollar was widely portrayed as a "devaluation" that could possibly derail Beijing's plan to join SDR. However it is more probable that the adjustment forms a central element in increasing likelihood that the yuan will indeed join the SDR. Another indication of a harmonized plan on SDR adhesion came with Friday's release of gold data by the People's Bank of China. Greater transparency on reserve data is part of a Chinese bid to conform to international statistical norms and buttress its campaign for reserve-currency status. If the yuan is to become a reserve currency, then Beijing will have no choice but progressively to relinquish the peg with the dollar. Rather than precluding growth as a reserve currency, fluctuations in

foreign-exchange rates appear to accompany this development. In a further sign of a coordinated IMF-Beijing approach, the Fund has released findings of a new survey for the first time enshrining the yuan as the seventh-most important world official asset.

ALAIN RAES pointed out in his speech on the 2015 International Monetary Forum that the internationalization of RMB is developing rapidly. According to statistics, the capital has been quickly transferred to China, yet the difference value between the inflow capital and outflow capital is going to be more balanced. And the RMB has been frequently used as a settlement currency with increasing proportion. The fast development of RMB internationalization can also be seen from the oversea financial institutions built by China. More importantly, if the RMB could be served as the ultimate reserve currency, a strong financial industry with relevant securities system and monetary system must be needed.

ALFRED SCHIPKE mentioned in the speech of "***RMB internationalization guides reform of international monetary system***" that nature of international monetary system is to foster balance of international payments and world economic growth through arrangements and enhanced trade and financial transactions. Challenge for current monetary system and financial system lies in establishing coordination mechanism for different financial systems. 2015 marks a critical year for RMB's inclusion into SDR. China's role in world economy is represented not just in trade but in its guidance in reforming the international monetary system during the course of RMB internationalization. While there is a lack of safe assets in the world, RMB's inclusion into SDR helps SDR to become a safe asset that set the price.

As **ANOOP SINGH** mentioned in the speech of "***Deep reform: key force of RMB internationalization***", judging from an economic perspective, first realizing the free use of RMB and then opening up the capital market will bring us two problems. First, the way to change the relative price of RMB matters a lot in China. Second, as the economic infrastructure cannot be built overnight during the financial market reform, during this process it is crucial to prevent the currency from being inconsistent, or manipulated. RMB internationalization underpins a series of reforms, whose ultimate goal is to change the pattern of growth. The sequence and time of reforms should be well taken care of. For instance, it is necessary to deepen the financial market reform before opening capital accounts.

TU YONGHONG analyzed the opportunities and challenges that the development of the Silk Road Economic Belt would bring to RMB internationalization in **"*Promoting RMB internationalization in the development of the Silk Road Economic Belt***". On the one hand, the development of the Silk Road Economic Belt promotes RMB internationalization. Firstly, it starts RMB settlement of trade of energy and commodities such as cotton, farm products and minerals. Secondly, it improves RMB's share in global financial trade and establishes a Silk Road Economic Belt Financing system centered on RMB loan and direct investment, and expands the range of RMB use in Asia. Thirdly, it expands the range and scale of currency swap, and improves RMB's official recognition and global influence. Fourthly, it improves the distribution of RMB offshore market. On the other hand, RMB internationalization may also face challenges during the construction of the Silk Road Economic Belt. Firstly, RMB conflicts against dollar; China faces bilateral trade constraints; RMB pricing and settlement cost and risks rise; RMB is excluded; market confidence dims; RMB internationalization is hindered. Secondly, it is difficult to denominate staple commodities like oil, food and minerals in RMB since China's financial futures market is underdeveloped. Thirdly, RMB internationalization is quite hard due to the low level of the internationalization and unreasonable distribution of China's financial institutions and. Fourthly, there is a great difference between Chinese religious culture and that of other countries, which makes RMB internationalization face significant culture conflicts.

XIANG SONGZUO pinpointed in the speech of "***Prevention and response to the recurring global financial crisis***" that how to prevent and respond to the recurring global financial global crisis is of utmost significance nowadays as the global financial market has been through sharp turbulences and the domestic financial crisis at the verge of explosion.

First it is advised for policies to stabilize the stock market by cancelling the raising limit and limit down to release the market risk in one time, clarifying the schedule of reform of registration system and the reopen of IPO, listing the names of companies doing illegal trading, and announcing when and how will the rescue measures exit so that the market could have a definite expectation.

Moreover, RMB exchange rate should remain stabilized, and a rapid or sharp depreciation should be prevented. Most of our foreign debts are priced in US dollars. Once the exchange rate depreciates rapidly, the pressure of repaying the foreign debts will affect the stock market, the real estate market, and the currency market. And the foreign exchange rate floating should not be accelerated due to the haste to

open capital accounts or make RMB a part of SDR. The depreciation of RMB exchange rate can hardly increase the export; therefore it is not possible to realize stable growth through depreciation.

In addition, in terms of stabilizing the real estate market, social housing or low-rent housing projects should not be launched blindly. And government should not encourage people to buy more houses by lowering the down payment ratio. It is suggested for all local governments to count the housing stock, housing inventory, supply and demand, so as to make the forward looking guidance and demand guidance for the real estate market.

Finally, liquidity is not the same as currency supply. It is based on the risk preference of market players. The fundamental task of the supervision bodies is to create favorable system and market rules to guide and stabilize market expectations, risk preference, so the frequency of systematic financial crisis will be truly decreased.

WANG YONGLI put forwards great concern that Chinese Banking industry faces daunting challenges in growing profit. Once as one of the most profitable industries, China's banking industry has generated decreasing profits due to slow economic growth, rebound in nonperforming loans, acceleration of marketization of exchange rate and rapid development of Internet finance.

As the world suffers from overcapacity and lack of effective demand, the "world factory", China is faced with enormous challenges. Rebound in nonperforming loans can hardly be improved and cost of risk control in banking industry is increasing. Moreover, to boost the development of real economy, the central bank keeps lowering down deposit and lending benchmark rates, therefore, real interest margin will be further narrowed down.

Since bricks-and-mortar enterprises yield low interests and high costs, the government and the society are forcing banks to surrender part of their profits in support of the development of real economy. And the emergence of Internet finance not only snatches much business of banks, but also pushes banks to increase input as well as operational and maintenance cost in information technology. Finally, efforts will be made to enhance financial supervision and deepen reform of financial system. Government protection over banking industries will gradually be reduced.

WANG ZHAOXING discussed function supervision in the article **"*The changes of institutional supervision and function supervision–7th on exploring the supervision of banking industry***". He pointed out that function supervision was a

"horizontal" supervision, in the mixed operation, it means standardized unified or relatively unified supervision towards the same or similar businesses in different financial institutions. Institutional supervision and functional supervision in China are also faced with challenges. First, the existing supervision division does not match the mixed comprehensive operation model. Second, there is no clear legal authorization and explicit divide of supervision obligation for supervision of mixed and crossed financial businesses. Third, we have not established a systematic, complete, timely and effective supervision information sharing mechanism. Fourth, the inconsistence of supervision division regulations has brought huge space for cross-industrial arbitrage. Fifth, there is a lack of clear and effective responsibility and coordination mechanism to deal with financial institutions of high risks or in crisis.

In terms of future reforms, Wang's thinking can be divided into six parts. First, according to the principle to equal emphasis on institutional supervision and functional supervision, we should build a crisscross and interconnected "financial supervision network". Second, in building the "latitude", we should focus on preventing supervision vacuum and arbitrage, and explore effective measures to strengthen functional supervision. Third, in building the "longitude", we should stick to the philosophy of cautious supervision, and further complete institutional supervision system. Fourth, in "combing the latitude and longitude", we should strengthen the coordination and information sharing between institutional and functional supervision according to the principle of legalization, institutionalization and normalization. Fifth, we should identify the plan of firewall mechanism in financial comprehensive operation, and related structural reform, and clarify the institutional foundation of "financial supervision network". Sixth, on the basis of a comprehensive analysis of the pros and cons of all kinds of supervision models, we should base on China's national conditions, and cautiously determine the organizational structure of "financial supervision network" that suits the comprehensive operation in China.

ZHANG XIAOPU explained why currently prospective credit risk management was under special emphasis in "***Prospective credit risk management when non-performing ratio is low***". First, the essence of risk management is forward-looking management. It aims to prevent loss from happening, and is a measure to acquire profit and reduce loss ahead of the loss. Second, in the recent five years, Chinese banking sector's non-performing loans ratio has been kept at low level, which is not entirely consistent with a developing economy's risk

characteristics, and hence we are supposed to be on high alert about asset quality changes. Third, in a boom economic environment, the banking sector tends to underestimate risk levels, and is more likely to be complacent. Fourth, banking institutions are facing much fiercer market competition than before. When profitability pressure increases, banking sector is more likely to overlook risk management. Fifth, though China's banking sector has made huge progress in credit risk management; there is still large room for improvement.

He explored on improving prospective credit risk management: First, enhancing stress test techniques, and strengthen early warning system of credit risk; second, taking hidden non-performing ratio into account, so as to better the judgment on quality of credit asset; third, taking default ratio into account, so as to improve the standards of loan classification. In order to improve prospective management of non-performing loans, he proposed some suggestions. The first is to strengthen monitoring of fluctuation of non-performing loans. Special attention should be given to loans that have not been classified as non-performing loans, such as delinquencies, high-risk loans, as well as long distance credit granting, multiple credit line and corporate overdraft. The second is to make loan classification more accurate. The third is that even under good market and industry conditions, credit standards should be strictly stuck to. The fourth is to draw upon internet finance and innovating risk management. The last is to strengthen prudential oversight, and to give a full play to prudential oversight in leading banking risk management.

According to **ZHAO XIJUN** in the article titled "***How to Take a Rational View over New Regulations of Third-Party Payment?***", in the context of increasing integration of Internet technology and modern financial industry, The Regulation on Internet Payment Business of Non-bank Payment Institutions (exposure draft) published by the central bank will definitely promote the regulatory, orderly and healthy development of China's third-party payment and Internet finance.

Unregulated development of third-party payment institutions poses negative effects over complete competition of the market, sound development of financial industry and effective implementation of monetary policies. The draft defines relevant concept and categories of third-party payment behavior. It has also provided detailed regulations over every aspect of third-party payment, which will have far-reaching effect over payment industry.

From the whole picture of the development of Internet finance, the new regulation over third-party payment still has room to improve. The draft should adapt to the demands of mobile payment and the suitable verification modes for mobile payment.

Moreover, it is necessary to fully consider the role and position of Internet payment in online payment system, improve existing clearing system of online payment, enhance coordination of different regulators and improve regulation efficiency.

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Research Report

RMB Internationalization Report 2015

Monetary Strategy in One Belt and One Road Initiative

(Press Release)

By International Monetary Institute, Renmin University of China

Editor's Note:

In order to faithfully record the progress of RMB internationalization and objectively reflect the challenges in the long run, IMI has been releasing the RMB Internationalization Report since 2012. The Reports draw broad attention from all sectors of society due to the independence, objectivity and referential value for decision making. Currently, the Reports have been released in both China and abroad in English, Japanese, Korean, Russian, Arabic, Simplified and Traditional Chinese characters.

RMB Internationalization Report 2015 is themed Monetary Strategy in "One Belt and One Road" Initiative. It demonstrates the mutual promotion between RMB internationalization and Belt and Road Initiative and concludes that opportunities to promote the RMB internationalization can be found in the following four areas: the valuation and settlement of bulk commodities, infrastructure financing, the building of industrial parks and cross-border e-commerce. The report has been released in Beijing, New York and Almaty of Kazakhstan and will be released in Singapore this year.

This is an excerpt from the report prepared for the press release in New York on October 8th.

1. Introduction

Till 2014, if we count from 2009 when China started pilot cross-border RMB

trade settlement service, the practice of internationalization of RMB has already been carried out for five years. Taking the experience of internationalization of the sovereign credit currency into consideration, five years is quite short compared with the span of the rise of the main international currencies. Especially in the first period, it is easy for newly-developing international currencies to emerge, but is is almost impossible to progress stably and quickly. However, RMB is rewriting the history.

According to the calculation of research team from RUC, RMB internationalization index (RII) has reached 2.47% at the end of 2014. At the end of 2009, it was only 0.02%, which means it has increased more than 120 times in five years. Besides, the share of international use of the four main international currencies, including dollar, Euro, yen and pound, decreased obviously when compared to last year. Meanwhile, the share of RMB, Canadian dollar, Australia dollar and many other newly-developing international currencies increased. At the end of 2014, the yen internationalization index had decreased to 3.82%. As long as there are no major adverse events, the degree of internationalization of RMB will surpass that of yen in the coming one to two years. Then RMB will be one of the major international currencies.

In 2014, the degree of internationalization of RMB kept on growing at a relatively high speed. Trade and finance were main motives. The acceptability of RMB increased in many countries. With the progress of regional trade cooperation, the policy of cross-border RMB trade settlement gradually settles down. In 2014 the amount of cross-border RMB trade settlement reached 6.55 billion, or 41.6% of year-on-year growth. The share of cross-border RMB trade settlement increased to 2.96%. Meanwhile, finance trade gradually became the main motive of the increase of the international share of RMB. In 2014, the direct investment reached 1.05 billion, year-on-year growth is 96.5%; the market of the international RMB bond is becoming more and more prosper. Offshore RMB financial markets throughout Europe and Asia have achieved great progress. The share of RMB reached 2.8% in global capital and finance trade. At present, RMB is the second widest used currency in international trade financing, the fifth widest used means of payment and the seventh widest used currency in foreign exchange transactions. RMB has also received much recognition officially. People's Bank of China has signed currency

swap agreements with 28 monetary authorities in different countries and regions. The total amount is over 4.07 billion yuan. RMB has already been accepted as reserve currency or intervening currency by some central banks.

Considering this, in 2015 it is of great possibility that RMB will be taken into currency basket of SDR. If RMB is added to SDR currency basket, it means IMF will recognize RMB as an international reserve currency officially. It is also the critical symbol of RMB entering the main international currencies. If executive board refuses RMB again with the criterion of "free use of money", it can't hold back or slow down the progress of internationalization of RMB. Because on the basis of existing achievement. "One Belt One Road" which is actively promoted by China will provide more and better chances for the internationalization of RMB. Then the progress of internationalization of RMB will be quick and stable.

Adhering the spirit of ancient Silk Road, which is "peaceful cooperation, open and inclusive, learning and benefit from each other, and win-win results". In 2013, China proposed "One Belt One Road" strategy. This is a new regional cooperation pattern. The goal is to make the most of the largest economic corridor in the world. "One Belt One Road" and internationalization of RMB are the two important strategies promoted by China in the 21 century as an emerging country. These two strategies serve China's national interests, providing indispensable support for emerging countries. Meanwhile, they serve the global interest. They are further improvements for the world economic order and the international monetary system, which shows the responsibility of an emerging country.

The theme of the report on internationalization of the renminbi of 2015 is: monetization strategy in the execution of "One Belt One Road" strategy. Our research team mainly completed the following tasks. First, we clearly put forward the target, which shows the good will and history bear of China. Second, we studied the logic of the two strategies interact with each other from theory exploration, historical experience and empirical test. Finally, we emphasized that commodity pricing and account settlement, infrastructure finance, industry development zone construction, cross-border e-commerce should serve as the breakthrough of promoting the standards of the internationalization of RMB by the construction of "One Belt One Road", and make in-depth discussion related to necessity and

feasibility.

The defection in supply and structure disequilibrium of global public goods, especially the extreme defection of public goods in developing countries, seriously hinders the development of global economy and finance. In the circumstance of developed countries like the US decreased the supply of global public goods, as the world's second largest economy, the biggest trading nation and an important direct investment country, China has the ability of providing global public goods. Besides, being the biggest developing country, China can have the ability of satisfying the supply of global goods for developing countries. “One Belt One Road” will set up the most charming win-win cooperation and the common of destiny in the world. Taking this chance; China can increase the global public goods in five facets: creating new notion and new mode of international cooperation; realizing efficient device interoperability, providing new international currency; founding new international financial organization; providing new methods of eliminating local wars and terrorism.

Countries along “One Belt One Road” use more RMB, which also means China increasing the supply of global public goods. RMB receives more and more recognition in international trades. This helps to decrease the cost of trading with China, make trade settlement convenient and avoid the risk of using a third party currency in bilateral trade. China has its own special advantage in infrastructure construction. By setting up new multilateral financial institutions and providing financial support for major projects with the method of RMB bonds, loans and direct investment, the material basis of “One Belt One Road” can be tamped. In fact, RMB fulfill the function of trade pricing and account settlement, financial transactions and foreign currency reserves, which means China provides new international currency and risk management mechanism for countries along “One Belt One Road”. By doing this, China is able to build safe anchor for economy and finance, and make great contribution for the stability of regional economic and financial stability.

“One Belt One Road” has five goals, which are policy coordination, communication facilities, free trade, unimpeded financing, unity of peoples. Ultimately, it is to strengthen the economy cooperation of China and countries along “One Belt One Road” and gradually form the big structure of regional deepen

cooperation. Countries along "One Belt One Road" have different kinds of resources, so the economic complementarity is strong. The potential and space of cooperation is huge. China is promoting the progress of the internationalization of RMB and strengthening the circulation of currency of the countries. We are exerting positive effects on achieving the goals and deepen the regional economy cooperation. The results of theory and empirical studies show that increasing the share of the most frequently used currency within the region can be helpful to manage regional financial risks, reduce transaction costs, improve the integral competitiveness within the region, and facilitate the progress of trade and economic integration in the region. China is an important trade partner of countries along "One Belt One Road". The development of economy and finance of China is in the leading position within this region. The stable politics and proper culture make good preparation for the expansion of RMB in "One Belt One Road". As long as we keep on increasing the facility and lowering the cost, with the progress of the construction of "One Belt One Road", countries alongside will gradually increase the share of RMB in trade, investment and financing, financial transactions, and foreign exchange reserves.

According to this report, "One Belt One Road" not only bring benefits to people in alongside countries, but also provide chances for the internationalization of RMB. These two national development strategies, which are "One Belt One Road" and internationalize of RMB, can complement each other. But in practice, we should take the following issues into consideration:

Firstly, monetization strategy of the construction of "One Belt One Road" should seek breakthrough in the following four aspects. First, China should take active measures to promote the use of RMB as the pricing and settlement currency in commodity trades. This can be done by taking advantages of China's large market share in this region and China's advanced financial institutions and futures market. We should give priority to the import of iron ore, aluminum ore and coal. Second, China needs to take use of China's experiences of infrastructure construction and capital mobilization, and make RMB be the major currency in infrastructure financing, especially in international government aids, policy loans and so on. Third, by taking advantage of China's experiences, China can seek to promote the use of RMB in construction and operation of industrial parks in the region, which will also

promote the reasonable layout of RMB off-shore financial markets and form the transaction network of global RMB. Forth, China should promote the use of RMB in e-commerce transactions by taking advantage of geographical and cultural developments.

Secondly, we need to hold on to the notion of open and inclusive to mobilize global resources and bring benefits to countries alongside. The fact that AIIB is widely accepted reminds us that it is important to find the greatest common divisor for values which we can share. Then the goal of win-win can be achieved. Therefore, China should welcome countries alongside to actively participate the construction of "One Belt One Road" and the accompanying monetary arrangements. Particularly, we need to learn the experience and wisdom of economic construction, risk management, regional cooperation and multilateral management in developed countries.

Thirdly, these two strategies need the support of the development of domestic economy. Foreign investment and loans not only need to put emphasis on the efficiency and safety of capital, but also to learn from the mistakes of western countries. To stand out from fierce competition, a country need to forbid blind drain of capital or the update of domestic industry will face great difficulty. Considering this, whether these two strategies can be successful comes down to China's domestic economic transition, technical progress and institutional innovation.

2. RMB Internationalization Index

2.1 RMB Internationalization Index and Comparison of Major Currencies

Based on the currency's theoretical functions, as a unit of account, as a medium of exchange, and as a store of value, the calculation of RMB Internationalization Index (RII) takes account of the weight of RMB in trade valuation, financial valuation, and official foreign exchange reserves. RII is ranged between 0-100. If RMB were to be the world's only international currency, the value of the indicators of the RII system would be 100%, and RII would be 100; otherwise, RII is 0. If the value of the RMB internationalization index becomes greater, then the RMB plays an increasingly important role in the international economy, and its level of internationalization is increasingly high. RII has been on the rise in 2014 and RII of the fourth quarter is 2.47 with a growth of 45.4%, more than 120 times growth in five years (Figure 2-1).

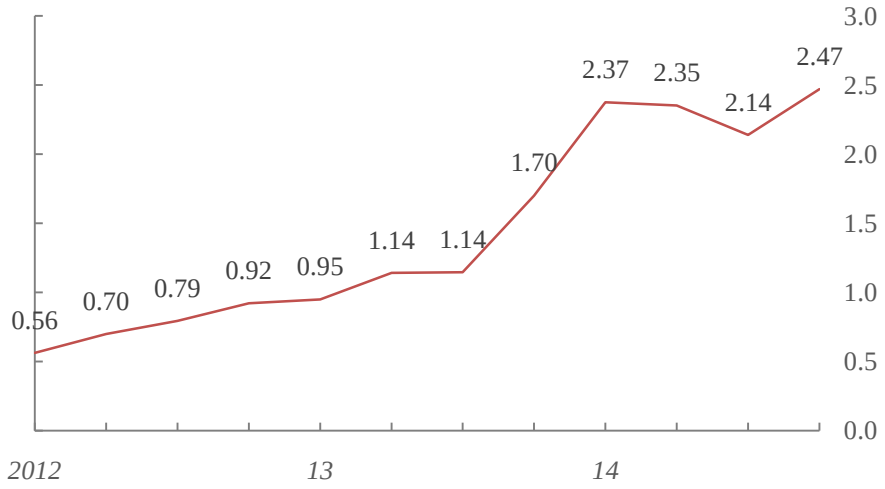


Figure 2-1 The international index of RMB (RII)

Note: due to statistic adjustment of the raw data, RII of the fourth quarter of 2013 is adjusted to 1.70 from 1.69 (RMB Internationalization Report in 2014).

According to the above compilation methods of the RMB internationalization index, the variation of trade settlement, financial transactions and foreign exchange reserve proportion will all influence RII. At the original period of RMB internationalization, the main influence relied on trade settlement. With the RMB internationalization proceeding going on, the driver of RII had turned into a parallel drive of both trade settlement and financial transaction. In 2014, the financial transaction driving force has become more obvious. At the same time, the proportion of RMB as the foreign exchange reserve had increased sharply. In a comprehensive view, the international trade settlement function provides a basic guarantee of the steady increasing of RII, and the acceptation of RMB as a reserve currency and the using of RMB in the international financial transaction have become the main power to push the RII growth.

While RII is increasing, the total internationalization indexes of U.S. dollar, euro, yen and pound decreased by 5.04% year-on-year (Table 2-1). The U.S. economic recovery has helped lift the dollar, and driven the USD internationalization index up from 53.41 last year to55.24, which further enhanced U.S. dollar' role as an international currency. The euro zone had yet to get rid of the economic woes, and

the European central bank announced the implementation of quantitative easing policy to stimulate economic recovery, which caused the devaluation of euro and dampened the international confidence in euro, the EUR internationalization index dropped from 32.02 the year before to 25.32, and its level of internationalization fell further. The structural adjustment of Japan's economy was still in progress, and the market remained suspicious of the prospect of Prime Minister Abe's economic reforms. Japan's economy decreased, and there appeared a huge devaluation in yen, which made the JPY internationalization index fall from 4.24 to 3.82, the international status of yen declined. Instead, the United Kingdom, which keeps a certain distance with the Europe, performed better than expected in terms of economy, its trade and investment were growing rapidly, the pound remained strong, the GBP internationalization index rose from 4.39 the year before to 4.94, the pound's international status has risen steadily.

Table 2-1 Major world currency internationalization indexes

	2013Q1	2013Q2	2013Q3	2013Q4	2014Q1	2014Q2	2014Q3	2014Q4
Dollar	52.84	55.53	53.47	53.41	53.05	55.11	55.27	55.24
Euro	24.69	27.85	25.19	32.02	24.38	23.59	24.68	25.32
Yen	4.10	4.62	4.58	4.24	4.17	4.61	4.12	3.82
Pound	4.40	4.25	4.05	4.39	5.42	5.05	4.52	4.94
Total	86.03	92.26	87.30	94.06	87.03	88.36	88.59	89.33

2.2 Six Impetuses for RII

Firstly, China's economy is going to "the new normal", which has consolidated the foundation of the internationalization of RMB comprehensively.Since 2014, China has put an end to thirty years of high-speed economic growth model, and turned to the rapid development of the new normal. China starts to solve the negative effects caused by the old model, such as the imbalance of economic structure, the deterioration of the environment and excessive use of resources. Third Plenary Session of the 18th CCP claims the strategic reform task in new period and decisive role of market in the allocation of resources, in order to remove the institutional barriers and stimulate the unlimited potential of the China's market. The reform has improved both the economic development coordination and sustainability, and enhanced the Chinese economic growth stamina. In 2014, the growth rate of per

capita disposable income of Chinese residents reached 8%, exceed the growth rate of GDP. The contribution rate of consumption rose to 51.2%, transition of the impetus to the economic development was taking effects. The share of service industry output was up to 48.2%, and the mobile Internet, high-tech equipment manufacturing and other strategic emerging industries were growing rapidly. E-commerce and other new industry were growing rapidly and the international competitiveness and bargaining power of Chinese enterprises has been greatly increased. China has improve people's livelihood, health care, education, and social security system construction, and rule by law and strict rule over party strengthen the system base for the stable development of China's economy and society, enhancing the domestic and international confidence on China's government. China has promoted the commercial system reform and reduced 1/3 administrative examination and approval matters. As a result, the growth rate of newly registered enterprises reached 45.9% and a wave of innovation and pioneering has been brought. Despite the greater economic downward pressure, with a series of stable macroeconomic policies to resolve Chinese structural problems, China achieved 7.4% economic growth this year, which was in the forefront of the world's major economies. The year of 2014 was the first year of deepening reform and China has actively sought to improve the quality of economic and social development, which provides a solid economic foundation and bright prospects for the internationalization of RMB.

Secondly, the acceleration of financial reform and improvement of cross-border RMB policy enhance the double-wheel drive mode for the internationalization of RMB. In 2014, China's financial reform has made significant progress in the areas of the openness of financial markets, interest rate liberalization and market-oriented exchange rate mechanism, which is the institutional foundation for the perfect, effective modern financial system, supporting the next step of RMB internationalization. For example, in March 2014, People's Bank of China basically withdrew from the normalization of foreign exchange intervention, and the floating rate of yuan against dollar trading price in the inter-bank spot foreign exchange market expands from 1% to 2%, resulting in the enhancement of two-way floating flexibility in RMB exchange rate. In July 2014, the establishment of WeBank,

Wenzhou Minshang Bank and Tianjin Jincheng Bank broke the former financial monopolies, which help ease the financing problems of mid-small size enterprises and enhance the efficiency and fairness of China's financial market. In November 2014, People's Bank of China announced that the upper limit of the deposit interest rate floating band of financial institutions was expanded to 1.2 times of the benchmark interest rate, and consulted on Deposit Insurance Regulation (consultative draft), furthering the interest rate liberalization. In addition, in order to adapt to the basic requirements of Reform and Opening-up in a higher level, the cross-border RMB policies are improved in the process facilitation of process and the RMB's usable range has been expanded, showing the development tendency of from the pilot area to the whole nation, from enterprises to individuals, and from trade account to capital and financial account. It then improves the double-wheel of trade and finance drive mode and accelerates the process of RMB internationalization.

Thirdly, the improvement of China's capital account openness enhances the international function and attraction of RMB. China (Shanghai) Pilot Free Trade Zone and Shanghai-Hong Kong Stock Connect program are allowed to conduct some pilot experiments with deepening RMB convertibility under capital accounts. In 2014, the cross-border RMB settlement under current account and direct investment account was further simplified, RMB offshore loan, two-way yuan cash pooling and centralized cross-border current account yuan payments and collections were allowed under certain conditions, third party payment joined cross-border e-commerce RMB settlement and the free trade account (FT account) system was established in China (Shanghai) Pilot Free Trade Zone These measures improved the efficiency and convenience of cross-border RMB usage, and promoted the expansion of cross-border RMB business in FTA. In order to promote the development of Shanghai international financial center and the construction the channels of RMB capital flows, Shanghai Gold Exchange launched the international board of precious metals futures RMB denominated in September 2014 and the crude oil futures trading in December 2014, realizing the depth integration of onshore and offshore funds, and enhancing the China's power in international commodities pricing and RMB's price discovery function of commodities. In

particular, the Shanghai-Hong Kong Stock Connect Program officially launched in November 2014, not only enhancing the comprehensive strength of Hong Kong and Shanghai stock market and expanding RMB investment channels in both sides, but also marking that the opening of China's capital market had entered a new phase and the RMB return mechanism had been completed basically. The new measures to China's capital market openness above undoubtedly have enhanced the RMB's attractiveness as an international investment currency, further expanding the scope and function of RMB in the international financial transactions.

Fourthly, "One Belt and One Road" opens the strategic window for the internationalization of RMB. "One Belt and One Road" is the national strategy of China in new period, and is the cooperation concept that China actively takes international responsibility and promotes the mutual beneficial cooperation and development of countries and regions along the route. In 2014, the strategic concept of "One Belt and One Road" has become a hot topic in many international conferences, such as G20, APEC and the Boao Forum, and has gained the active response and universal recognition of countries. The provinces and cities along the route promote intensive strategic planning and deployment, meanwhile financial and non-financial enterprises targeting the opportunity actively participate in related programs. "One Belt and One Road" is a new pattern of economic regionalization led by China and will bring long-term driving force for the economic development of China and countries and regions alongside, to provide new opportunities and breakthroughs for the internationalization of RMB. It is the important guarantee for "One Belt and One Road" to strengthen the capital circulation and the use of RMB is an effective means of reducing the circulation cost and enhancing financial risk resilience for countries along the route. "One Belt and One Road" brings various international financing, investment and trade programs, and Asian Infrastructure Investment Bank and the Silk Road Fund are established. RMB will play more international monetary function in the construction of "One Belt and One Road", accelerating the realization of RMB regionalization stage goal.

Fifthly, RMB offshore market has been expanded and RMB clearing system arrangement has been basically completed. Considering the first trading status of China, mangy multinational companies take RMB into their fund liability

management and risk management system. Especially with the long-term stability of RMB and the expected high economic growth of China, there is a rapid growth of the investment and financing demand of offshore RMB. The market behaviors of the microcosmic entities promote the countries with closer trade and economic ties with China, actively build and develop RMB offshore markets. In 2014, the European countries actively develop the RMB offshore markets, and China offered support and arrange RMB clearing banks, optimizing the global layout of the RMB offshore markets. Approved by the State Council of China, one each Chinese bank is arranged as the RMB clearing bank in Sydney, London, Frankfurt, Seoul, Paris, Luxembourg and Toronto, after Hong Kong, Macao, Taiwan and Singapore. Through the arrangement abroad of offshore RMB clearing bank, China has constructed the global RMB clearing network coverage, offering strong technical support for RMB's international flow and trade facilitation. The improvement of the offshore RMB markets and the clearing system further boosts the RMB usage confidence of foreign enterprises, and is conducive to expand the circulation channels of offshore RMB abroad. The deposit amount, product types and participants in RMB offshore markets all show a significant growth in 2014.In addition, in 2014, the China International Payment System (CIPS) settled in Shanghai, connected with all the direct participants inside and outside China, dealing with RMB cross-border payments of trade and investment and covering the RMB settlement in major time zones of the world, to provide a solid hardware support for the internationalization of RMB.

Sixthly, the international cooperation is deepening, and China actively undertakes major power responsibility to advance the mutual benefit and win-win development of countries. In 2014, China actively carried out international economic and financial cooperation: the bilateral and multilateral trade cooperation achieved outstanding progress, that China-Switzerland and China-Iceland Free Trade Agreement formally implemented, and China-ASEAN cross-border RMB business center was established in Nanning, Guangxi, expanding the channels of RMB cross-border usage; China started RMB direct currency trading with NZD (New Zealand Dollar), GBP (Great British Pound), EUR (euro) and SGD (Singapore dollar) in the interbank foreign exchange market, reducing the exchange cost

between RMB and these major currencies and breaking the barriers of RMB cross-border usage; People's Bank of China continued to promote the international currency cooperation and successively signed the currency swap agreement with the monetary authorities of five countries that were Switzerland, Sri Lanka, Russia, Kazakhstan and Canada, enhancing the official recognition of RMB. Furthermore, China actively participate in the making of multilateral and international rules, strengthen the cooperation with other developing countries, promote the construction of "One Belt and One Road" and set up Asian Infrastructure Investment Bank and Silk Road Fund. China is growing into a world power that dares to take international responsibility and hold the win-win concept, to actively participate in the international affairs. These international cooperation in trade, finance and other fields, will support RMB toward the center stage of international currencies.

3. Current Situation of RMB Internationalization

3.1 RMB Cross-border Trade Settlement

(1) Rapid expansion of scope, the proportion of RMB settlement in total imports and exports declined first and then increased.

In 2014, RMB cross-border trade settlement has expanded its scope, with a total amount of 6.55 trillion Yuan, an increase rate of 41%, equivalent to 1.92 trillion Yuan. The proportion of RMB cross-border trade settlement in total exports and imports was 25.44%, and it enjoyed an increase rate of 0.81% compared with last year (Figure 3-1). Influenced by the expectations on the United States' quitting quantitative easing, capital flow into the US due to its economic recovery and China's losing capital, the proportion of RMB settlement in total imports and exports declined during January to August in 2014. However, that figure bounced during the rest of the year due to the new normal conditions, the enabling environment created by One Belt One Road initiative and the Shanghai-Hong Kong Stock Connect and boosted confidence among international societies.

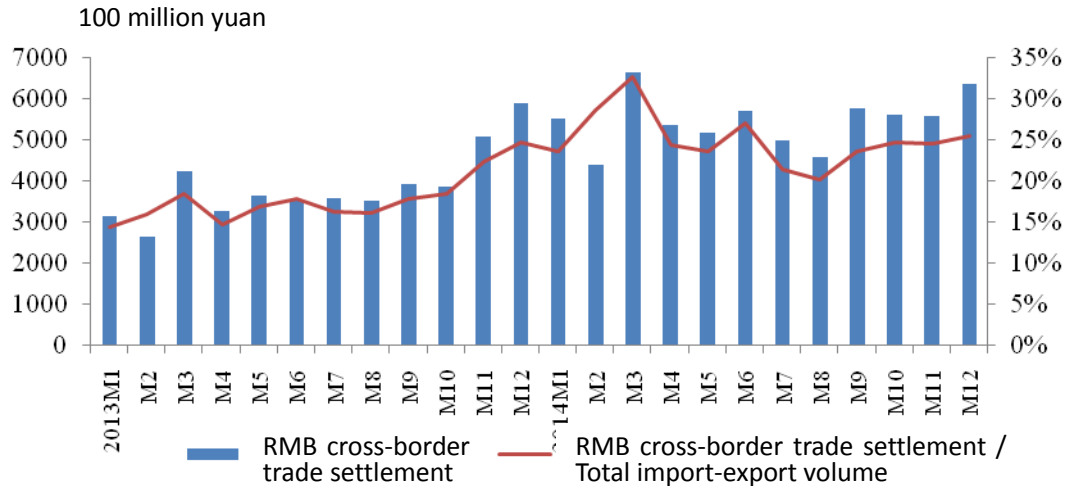


Figure 3-1 the scope of RMB cross-border trade settlement

Source: People's Bank of China, the Ministry of Commerce

(2) Goods trade settlement dominates and the scope of service trade settlement expands

Total amount of RMB goods trade settlement was 5.9 trillion Yuan in 2014 and the ratio of goods trade settlement was 90.08%. The ratio of service trade settlement and other settlement was 10.02%, equivalent to 656.5 billion Yuan. The ratio of goods trade settlement was larger than that of service trade settlement. This phenomenon was more salient since the People's Bank of China adjusted the measurement standards (Figure 3-2, 3-3).

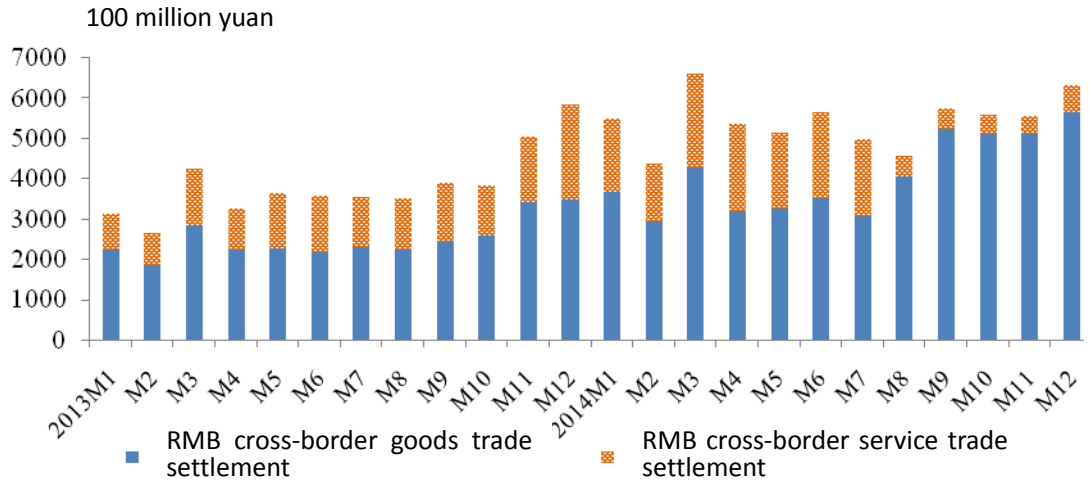


Figure 3-2 the trend of RMB settlement scale in goods trade settlement and service trade settlement

Source: People's Bank of China, the Ministry of Commerce

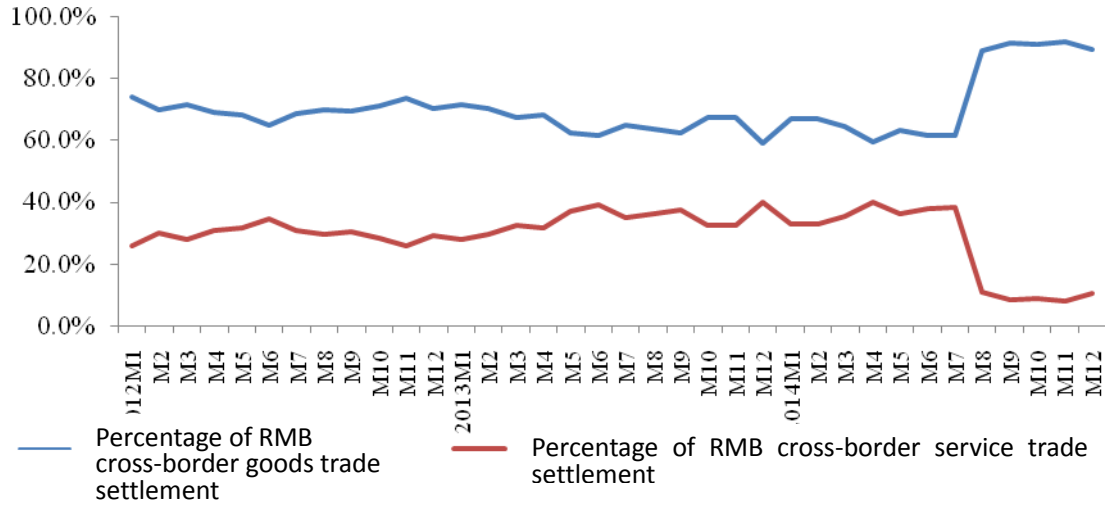


Figure 3-3 the ratio of RMB goods trade settlement and service trade settlement

Source: People's Bank of China, the Ministry of Commerce

(3) Balance in Receipts and payment is stable and export RMB settlement grows rapidly

From the perspective of RMB settlement, in the whole year of 2014, cross-border

RMB trade settlement businesses were paid-in 2.73 trillion Yuan, an increase of 0.85 trillion Yuan, a 45.21% increase; the real pay reached 3.82 trillion Yuan, an increase of 1.07 trillion Yuan, a 38.91 % increase. The ratio of receipts and payment dropped from 1:1.37 in 2013 to 1:1.4, reflecting more RMB cross-border trade settlement made by foreign enterprises. The total amount of RMB cross-border trade in receipts and payment is stable (Figure 3-4).

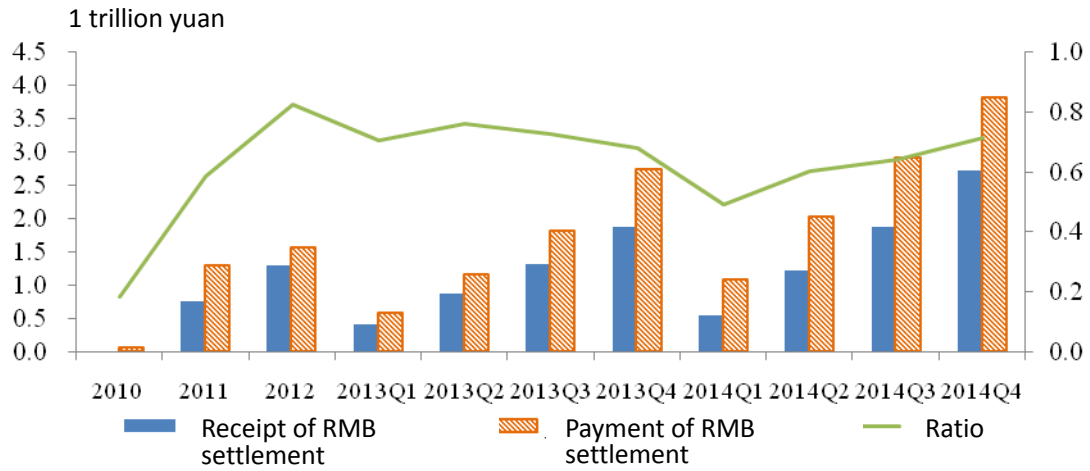


Figure 3-4 2010-2013 the ratio of receipt and payment in cross-border RMB settlement businesses

Source: the People's Bank of China

3.2 RMB Financial Transactions

The international financial transaction function of RMB has been enhanced and its financial transaction scale is expanding in international credit, direct investment, and international bonds and notes, with a high-speed growth rate. By the end of the fourth quarter of 2014, the comprehensive proportion of RMB denominated international financial settlement is 2.8%, showing a growth of 34.0%. Overall, the sharply rising issue scale of RMB international bonds and notes is the main driver of the comprehensive index for RMB-denominated international financial settlement (Figure 3-5).

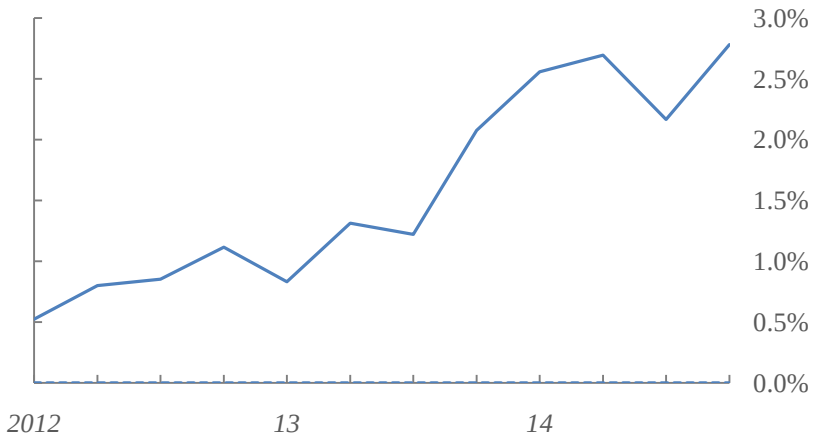


Figure 3-5 Comprehensive index for RMB-denominated international financial settlement

3.2.1 RMB Direct Investment

(1) RMB Overseas Direct Investment

In 2014, the total amount of foreign investment and RMB foreign investment has increased. According to the statistics of the Ministry of Commerce, in 2014, Chinese domestic investors made non-financial overseas direct investment in 6,128 foreign firms in 156 countries and regions, increased by 14.1% over the previous year. The amount of RMB ODI was 186.6 billion RMB, accounting for 17.77% of the total ODI at the exchange rate at the year end, with the growth of 118.0%, an increase of 101 billion Yuan. The proportion of RMB of the total ODI has fluctuated from January to August. Later, supported by the ODI made by quite a number of financial institutions and favorable policies, particularly the expanded scale of offshore RMB markets and high liquidity, Chinese enterprises had made investment in more areas, making the RMB ODI ratio larger in the total ODI (Figure 3-6).

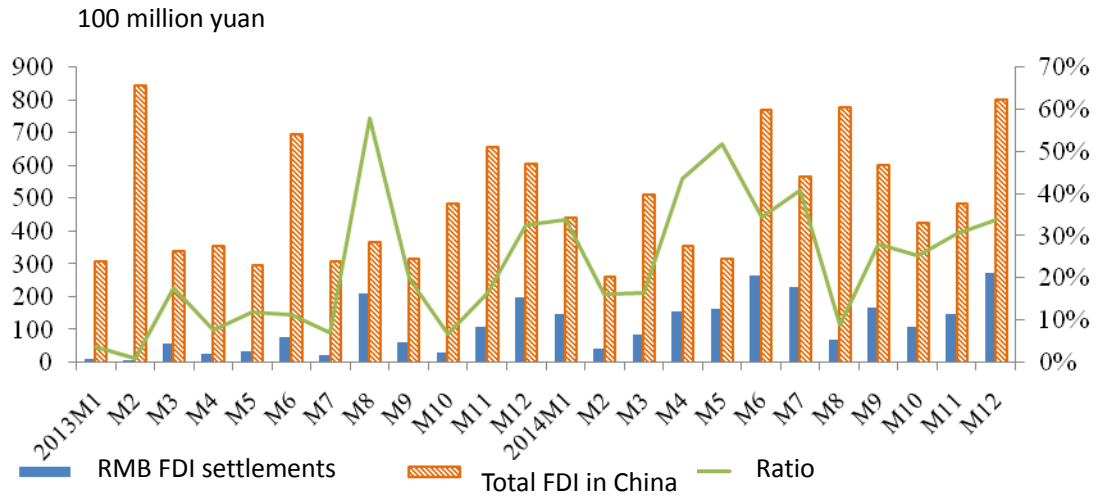


Figure 3-6 RMB ODI settlement's ratio in the total Chinese FDI

Source：People's Bank of China; "Chinese Monetary Policy Implementation Report"; the Ministry of Commerce;

(2) RMB Foreign Direct Investment

In 2014, the actual use of FDI accounted 119.558 billion USD, up 1.68% over the previous year, an increase of 1.972 billion USD, going abreast with the RMB ODI. The foreign investors were mainly coming from Hong Kong, Singapore, Taiwan and Japan and they were mainly engaged in the manufacturing industries, real estate, leasing and commercial services. Foreign direct investments using RMB settlement accounted 862 billion Yuan, up 92.4% over the previous year, an increase of 413.8 billion Yuan (Figure 3-7). With more RMB in the offshore markets and increasing confidence in Chinese economy, more foreign investors are using RMB to conduct FDI.

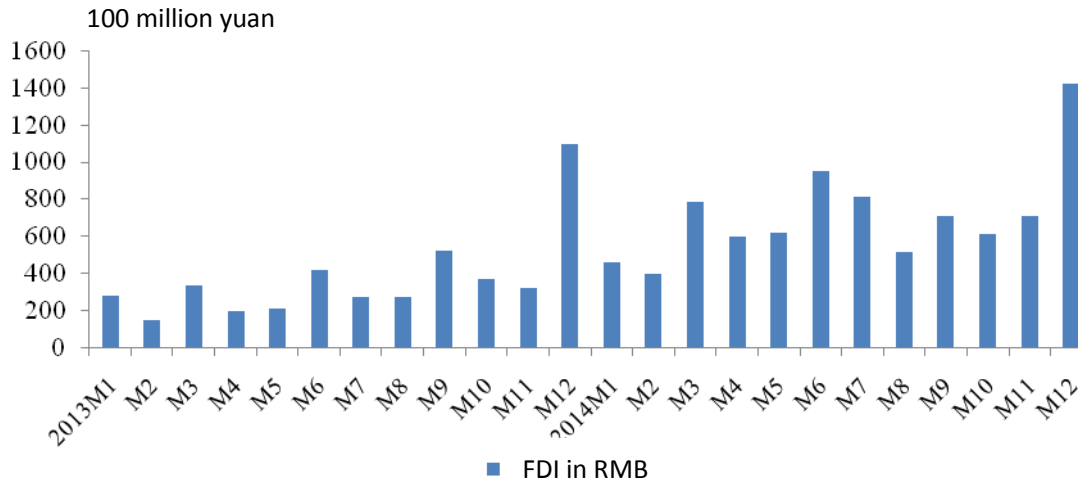


Figure 3-7 FDI RMB settlement

Source: The Ministry of Commerce; People's Bank of China

3.2.2 RMB securities investment

(1) International Bonds and Notes Market

As China's interest rate is higher than other major countries, companies' overseas financing can effectively lower the cost of funds. Thus, companies have greater demand for overseas financing. Meanwhile, the fast growth of overseas RMB fund supply also stimulates the demand for RMB investment. Propelled by demand and supply, the issuing scale of RMB bonds and notes continuously sets new record. In the first three quarters of 2014, the issuance of RMB international bonds and notes was $32.96 billion, up by 130% compared with the same period in 2013, an increase of $18.8 billion (Figure 3-8).

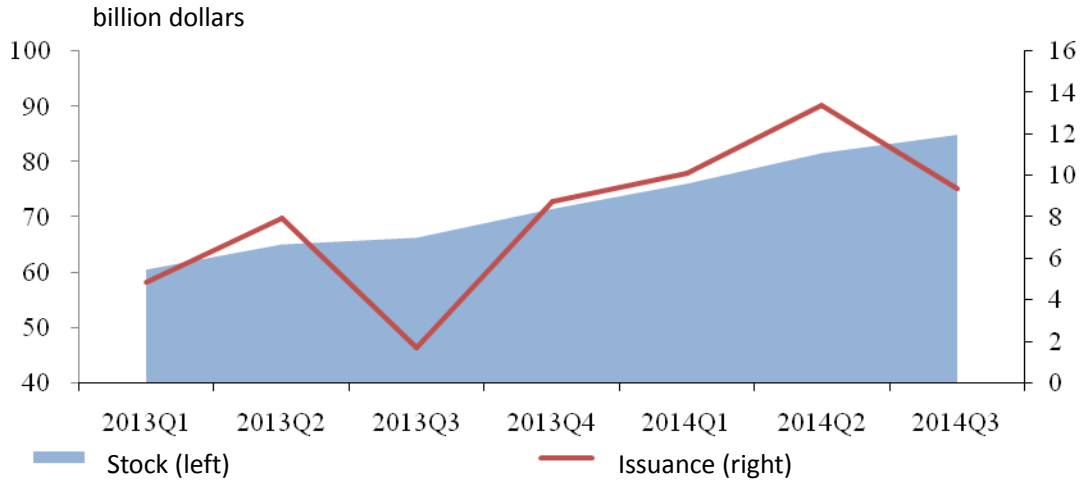


Figure 3-8 Stock and issuance of RMB international bonds and notes, 2013-2014

Source: Bank for International Settlements

Compared with the fluctuation on the scale of issuing RMB international bonds and notes in 2013, that in 2014 has gone through adjustments but still maintained relative stability. By the third quarter of 2014, the issuance of RMB international bonds and notes reached $ 94 billion, an increase of $ 22.55 billion, about 31.56% compared with that in 2013. However, the issuance of RMB international bonds and notes only accounts for a small proportion of global bonds market, at 1.06%. The balance of RMB international bonds and notes reached $ 84.9 billion, a year-to-year increase of $ 18.55 billion, an increase of 24.90% compared with 2013 and the stock of RMB international bonds and notes accounted for 0.4% of global bonds and notes, an obvious increase compared with the same period in 2013 (Figure 3-9). RMB internationalization started since 2009. Although with an increasingly higher level of internationalization, there is still a huge gap compared with the major international currencies. Over the same period, among the global international bonds and notes balance, the dollar accounted for 39.05%; the euro accounted for 42.14%; the sterling accounted for 9.55% while Japanese yen accounted for 2% (Figure 3-10). There is still a long way before RMB being fully internationalized. We need more development and improvement.

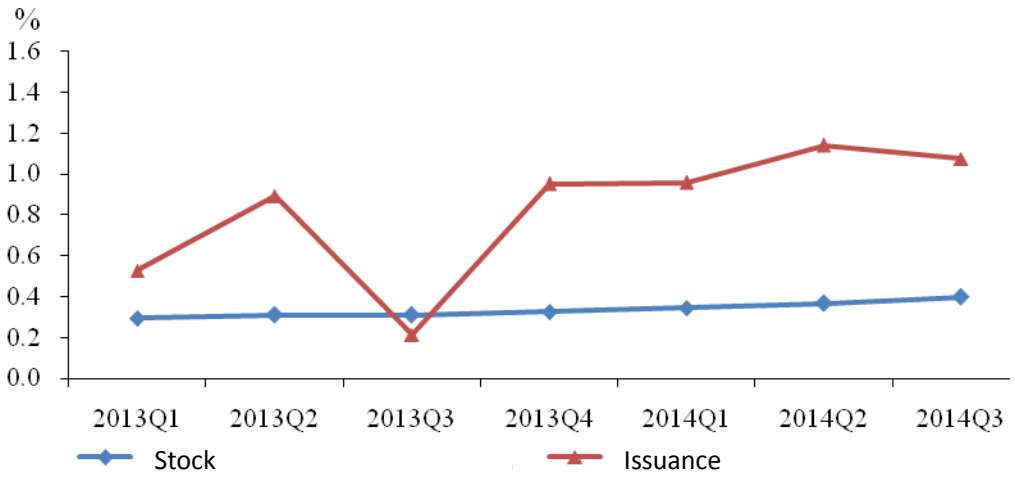


Figure 3-9 Proportion of RMB international bonds and notes on global market: in stock and issuance perspective, 2013-2014

Source: Bank for International Settlements

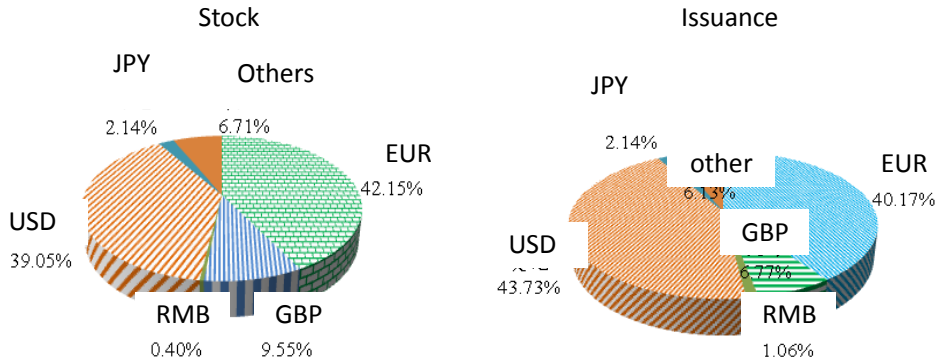


Figure 3-10 Currency structure and stock of international bonds and notes in the first three quarters in 2014

Source: Bank for International Settlements

International bonds are an important part of global capital market. The increasing issuance of RMB international bonds and notes signifies that RMB's function of financial trading is gradually being realized.

RMB international bonds are mainly issued in offshore markets. 2014 saw many international financial centers started RMB offshore business. Hereafter, offshore RMB deposits rapidly expanded, which established a sound environment for RMB international bonds issuance. The participation and products of offshore financial

market became more diversified not only in Hong Kong, but many other places, such as Singapore, London, Taiwan, Seoul and Frankfurt as well. Of course, Hong Kong is still the largest offshore RMB market for China. In 2014, the stock of RMB bonds in Hong Kong increased to 386.087 billion Yuan from 290.41 billion Yuan in 2013, an increase of 33%, within which, the financial bonds had the fastest growth, increased from 49.127 billion Yuan in 2013 to 111.227 billion Yuan in 2014, up by 10 % of market shares. (See Table 3-1)

Table 3-1 2014 product size and structure of RMB bonds in Hong Kong

Category	Stock (¥100million)	%	Bonds number	%
Corporate bonds	1820.50	47.15	161.00	48.79
Financial bonds	1112.27	28.81	129.00	39.09
Treasury Bonds	805.00	20.85	29.00	8.79
Convertible bonds	123.10	3.19	11.00	3.33
Total	3860.87	100.00	330.00	100.00

Source: WIND database

(2) Stock market

2014 is the starting year for China to comprehensively deepen reform. With the stimulus brought by favorable policies, such as stock issuance registration, mixed ownership reform of SOEs and Shanghai-Hong Kong Connect, China's stock market in 2014 has the greatest vitality and highest growth in the world. In 2014, Shanghai Composite Index finally closed at 3234.68, up by 52.87% compared with 2013; Shenzhen Composite Index closed at 1415.19, an increase of 33.80%; by the end of 2014, the average price-earnings ratio of Shanghai stock market increased from 10.99 times at the end of 2013 to 15.99 times while the average price-earnings ratio from Shenzhen stock market rose from 27.76 times by the end of 2013 to 34.05 times.

In 2014, market capitalization (A, B shares) totaled 37.254696 trillion Yuan, an increase of 13.346977 trillion Yuan compared with that of last year, an increase of 55.83%. The stock market circulation value totaled 31.562431 trillion Yuan, an

increase of 11.604477 trillion Yuan, compared with that of last year, an increase of 58.14%. Trading in Shanghai and Shenzhen stock market was very active due to higher stock prices and the turnover continuously set new records. Accumulated turnover was 74.391298 trillion Yuan, an increase of 27.518438 trillion Yuan, up by 58.70%. Average daily turnover was 303.638 billion Yuan, up by106.693 billion Yuan, an increase of 54.17% (Figure 3-11).

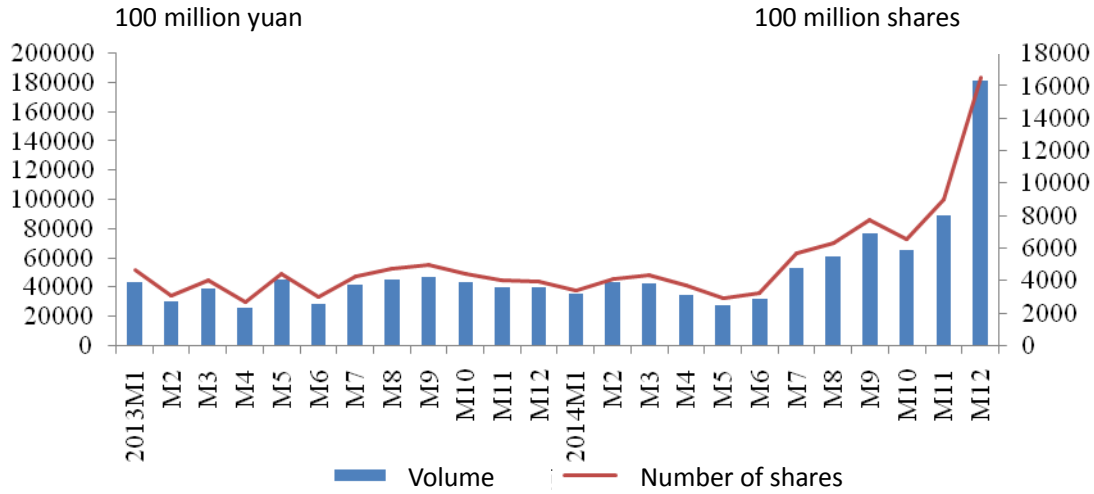


Figure 3-11 Chinese stock market transactions

Source: China Securities Regulatory Commission.

Capital market and direct finance play a more important role in corporate finance. In 2014, there were 125 new companies going public, within which 43 listed in the major board of Shanghai Exchange, 31 in SMEs board of Shenzhen Exchange and 51 in Growth Enterprise Market (GEM). Newly listed company raised 66.889 billion Yuan through stocks; the directorial additional issuance of originally listed companies also went up, compared with 2013 by178.471 billion Yuan, reaching 403.130 billion Yuan, up by 79.44% (Table 3-2).

Table 3-2 Chinese stock market financing amount

Time	Initial Issuance Amount			Refinancing Amount					
				A				B	H
	A	B	H	Public Additional	Directional Additional	Placement	Warrants Exercise		
2012	0.39	0.00	82.50	104.74	1867.48	121.00	0.00	0.00	77.14
2013	0.00	0.00	113.17	80.42	2246.59	475.75	0.00	0.00	59.51
2014	668.89	0.00	128.72	18.26	4031.30	137.98	0.00	0.00	212.90

Source: China Securities Regulatory Commission.

Note: A shares ： In hundred million Yuan

B shares ： In hundred million U.S. dollar

H shares： In hundred million U.S. dollar

(3) Derivatives Market

By the second quarter of 2014, the outstanding balance on global OTC interest rate derivatives market is $563 trillion: where the dollar, euro, Japanese yen, British pound, Swiss franc and Canadian dollar accounting for respectively 28.55%, 39.39%, 9.18%, 10.80%, 0.95% and 1.86% (Figure 3-12), whereas other currencies accounting for a total of less than 10%. Since China's derivatives market lags behind and has a relatively small scale, there is still a big gap between China and developed countries and it has not been yet included in a separate statistical currency ranks by Bank for International Settlements.

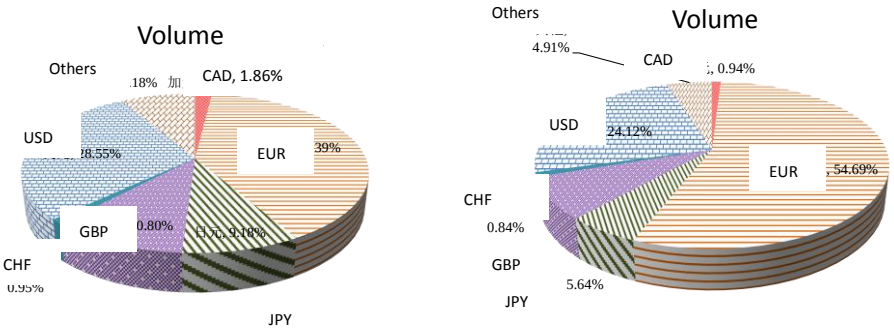


Figure 3-12 The currency structure of interest rate derivatives on the global OTC market in late Q2 of 2014

Source: Bank for International Settlements.

As shown in Table 3-3, compared with the fourth quarter of 2013,the outstanding balance and market value of other currencies' interest rate derivatives on the global OTC market both increased, within which their proportions to all the currencies went up from 8.28% to 9.28% and from 4.56% to 5.76% respectively.

Table 3-3 currency structure on the interest rate derivatives market of global OTC market in Q4 2013 and Q2 2014

	Interest rate derivatives market of global OTC market Outstanding balance		Interest rate derivatives market of global OTC market Market value	
	Q4. 2013	Q2.2014	Q4. 2013	Q2.2014
Euro	41.32%	39.39%	49.22%	54.69%
Yen	8.99%	9.18%	4.90%	5.64%
Pound	9.00%	10.80%	9.11%	8.02%
Swiss Franc	0.98%	0.95%	0.85%	0.84%
Canadian Dollar	1.78%	1.86%	0.98%	0.94%
U.S. Dollar	29.65%	28.55%	30.38%	24.12%
Others	8.28%	9.28%	4.56%	5.76%

Source: Bank for International Settlements.

The reform in the marketization of RMB interest rate has entered into a crucial stage; the system of RMB exchange rate has more connected to the market, so the market influence to interest rate and exchange rate is increasing obviously. To avoid the risks posed by interest rate and exchange rate, RMB derivatives are flourishing in recent 2 years. In August, 2013, HKEx launched China 120 Index futures. In October, 20, 2014, SGx launched RMB futures contract, including U.S. dollars /offshore RMB futures and futures contract of the RMB against U.S. dollars with a volume of 100, 000 dollars and 500, 000 RMB respectively. Currently, two types of RMB derivatives can be brought in HKEx: the futures of the U.S. dollars against the RMB and China 120 Index futures. In 2014, the former reached 195, 049 hands, increased by 56, 341 than 2013, with an increase of 40.62%. The later reached 42, 039 hands last year, with a stable transaction every month (Table 3-4).

Table 3-4 U.S. dollar against RMB futures and China 120 Index futures transactions summarized Unit：hand

	2013				2014			
	Season 1	Season 2	Season 3	Season 4	Season 1	Season 2	Season 3	Season 4
U.S. dollar against RMB futures	25054	46238	26868	40548	75498	33359	42843	53349
China 120 Index futures	0	0	-	-	9824	8678	10935	10756

Source: HKEx.

In 2014, the asset market continuously sees a vigorous activity in RMB interest rate swap, with increasing demands. The total transaction of interest rate swap has reached 403, 173 billion yuan, increased 132, 151, 2 billion yuan, with an increase of 48%. The bond forward and forward interest rate transaction are flourishing, which is contrary to the condition in 2013. They has reached 781 million yuan and 4, 808 billion yuan respectively. This is a tremendous increase than that of 50 million yuan and 101 million yuan respectively in 2013 (Table 3-5).

Table 3-5 2013-2014 Turnovers on major inter-bank markets
Unit: billion yuan

	2013				2014			
	Season 1	Season 2	Season 1	Season 1	Season 1	Season 1	Season 1	Season 1
Interest rate swap	7375.83	7960	5697.8	6068.55	8044.5	8908.53	9577.68	13786.59
Forward rate	0	0	0.5	0	0	2.16	2.91	2.74
Bond forward	1.01	0	0	0	0	0.07	0.96	47.05

Source: China Foreign Exchange Trading Center

In 2014, CSI 300 stock index futures has reached a turnover of 163, 12 trillion yuan, increased by 22, 44 trillion yuan than 2013, with an increase of 16% percent. The fourth quarter sees the biggest transaction volume, the CSI 300 index increased 44.17%, increased by 110% than the third quarter. A parallel relation exist in the turnover of CSI stock index futures, and the fluctuation of CSI 300 index. This

indicates the CSI 300 stock index futures can prevent hedging. In 2014, the government bond futures launched by previous year enjoys a thriving in the market, reaching 878, 515 billion yuan, with an increase of 186% than last year (Table 3-6).

Table 3-6 2013-2014 stock index futures and bonds transactions

Unit: billion yuan

	2013				2014			
	Season 1	Season 1	Season 1	Season 1	Season 1	Season 1	Season 1	Season 1
CSI 300 stock index futures	348706	331666	402067	324564	272821	275356	348607	734601
government bond futures	0	0	1443.83	1620.05	1083.95	1078.99	1322.63	5299.58

Source: China Financial Futures Exchange

(4) Foreign investors invested in RMB financial assets

Within the process of opening Chinese financial market, non-habitual investors can access to stock market and inter-bank market. There are three channels for investors to allocate RMB stocks: qualified foreign institutional investors (QFII), RMB qualified foreign institutional investors (RQFII) and CSI. The previous two approaches apply to institutional investors, and individual investors can invest in stocks of SSEx through CSI.

In November 17, 2014, the stocks under CSI has been launched. Data from HKSx indicates that the turnover of Shanghai stock reached 46, 589 billion yuan in November, 2014, and Hong Kong stack reached 7.6 Hong Kong dollars. In December, they are 120, 922 billion yuan and 18, 411 billion yuan respectively. The CSI has increased the influence of RMB in pricing financial products, also facilitate the condition to open CSI and Chinese asset accounts.

Inter-bank bond market allows QFII, RQFII, foreign banks and insurers to participate in the transaction. Up until the end of 2014, our inter-bank bond market has permitted following institutions: 14 QFII, 66 RQFII, 97 foreign banks and 11

foreign insurers. In 2014, the transaction of overseas institutions reached 116, 963 hands in inter-bank bond market, with a total volume of 10, 168, 339 billion yuan (Figure 3-13).

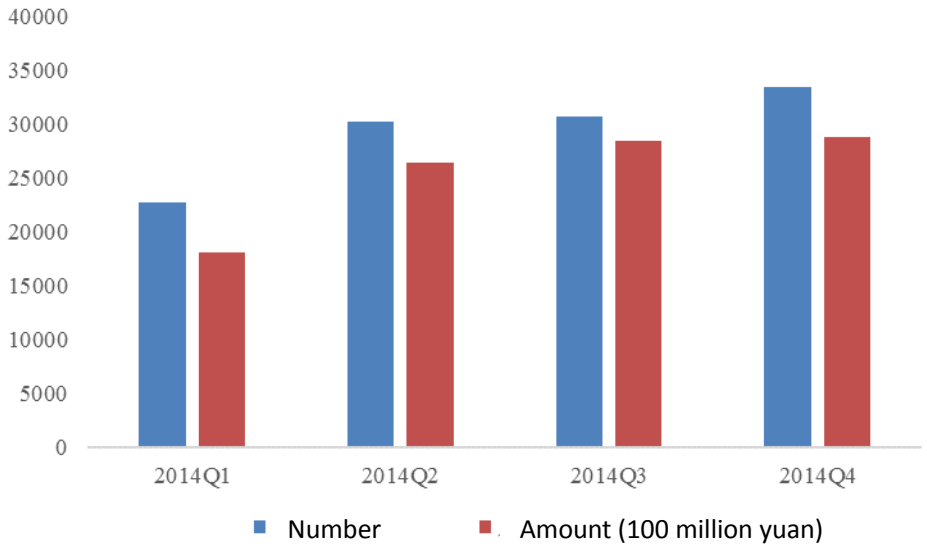


Figure 3-13 2014 transaction of overseas institutions in inter-bank bond market

Source: China Foreign Exchange Trade Center

3.2.3 RMB Overseas Credit Market

Up until the end of 2014, the balance of RMB overseas loans in domestic financial institutions reached 198, 968 billion yuan, an increase of 6.19% than 2013. The new loans reached 11, 591 billion yuan, increased 5, 126 billion yuan than 2013. The ratio of RMB overseas loans to total loans borrowed by the financial institutions is 0.24%, with a slightly decrease form 2013 (Figure 3-14). The reason attributes to the increase ratio of overseas loans is slower than that of the total loans. With the increasing position of RMB in international market, especially the decreasing of RMB interest rate, the RMB overseas loans will be expanded in its scope, as well as takes more account in the total loans.

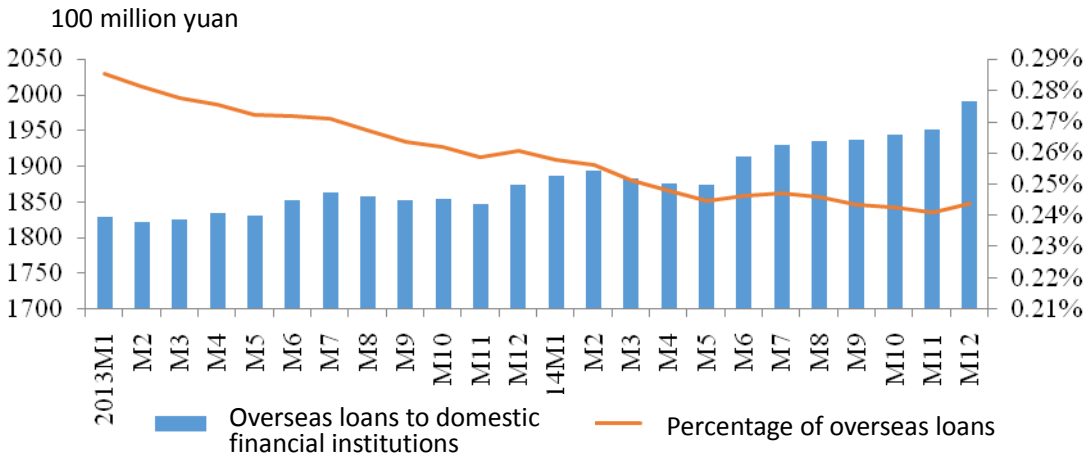


Figure 3-14 2013-2014 RMB overseas loans and the ratio of domestic financial institutions

Source: the People's Bank of China

RMB overseas loans include overseas loans of domestic financial institutions, also contains the RMB loans issue from overseas financial institutions to domestic institutions. The RMB interest rate is lower in the overseas, so the domestic institutions are willing to take loans form overseas. In 2013, PboC has approved this practice in Shanghai FTZ, ShengzhenQianhai zone and Kunshan pilot area. This practice has been expended to more areas, include Tianjin, Guangxi and Yunnan. Some enterprises can access to the southeast Asia and other RMB offshore market, so as to take loans. This can support the real economies which are in line with the national macro policy and industrial orientation, such as enterpot trade, infrastructure establishment and clean energy.

3.2.4 RMB in Foreign Exchange Market

In 2014, the spot transaction of RMB foreign exchange reached 4.12 trillion U.S. dollars, with an increase of 1.2% year on year. To reduce the cost of currency conversion, facilitate bilateral trade and investment, PBoC adopted active approaches to bolster the direct transaction between different currencies, including major currency and currencies of neighboring countries. In 2014, inter-bank FX market witnessed a expansion of currencies for direct transaction, such as New

Zealand dollar, pound, euro and Singapore dollar. The inter-bank market has also been enriched by RMB and tenge to develop regional trade. The currencies of neighboring countries has expended tremendously, from ringgit, ruble, to principal reserve currencies of euro, pound and yen, as well as to convertible currencies like Australian dollar, New Zealand dollar and Singapore dollar. The network of direct transaction using RMB is emerging (Table 3-7).

In 2014, the direct transaction of RMB against foreign currencies reached 1.05 trillion yuan, accounting for 4.7% of spot transaction in inter-bank foreign exchange market. RMB for direct transaction is popular in the inter-bank foreign exchange market, and the liquidity of RMB is increasing which can lower the currency conversion cost of micro-economic units.

Table 3-7 2014 RMB against other currencies transaction in inter-bank FX spot market Unit: billion yuan

Currency	USD	EUR	JPY	HKD	GBP	AUD	NZD	SGD	CAD	RUB	THB	KZT
Volume	239942	3155	4551	2031	1377	1486	281	838	14	255	2	3
Year-on-year	4%	15%	-64%	40%	702%	-1%			65%	369%	-63%	

Source: China Foreign Exchange Trade Center

Swap is the major product in the RMB foreign exchange (FX) derivatives market (Figure 3-15). The transaction of RMB FX swaps accumulated to 4.49 trillion U.S. dollars, with an increase of 32.1% year on year. Among the transaction, overnight U.S. dollars swaps reached 2.36 trillion U.S. dollars, accounting for 52.6% of the total swaps. The RMB FX forward market accumulated to 52.9 billion U.S. dollars, increased 63.5% year on year. In 2014, the turnover for foreign currencies against RMB reached 60.6 billion U.S. dollars, reduced by 5.7% year on year. The biggest share goes to U.S. dollars against Hong Kong dollars, accounting for 35% in the market.

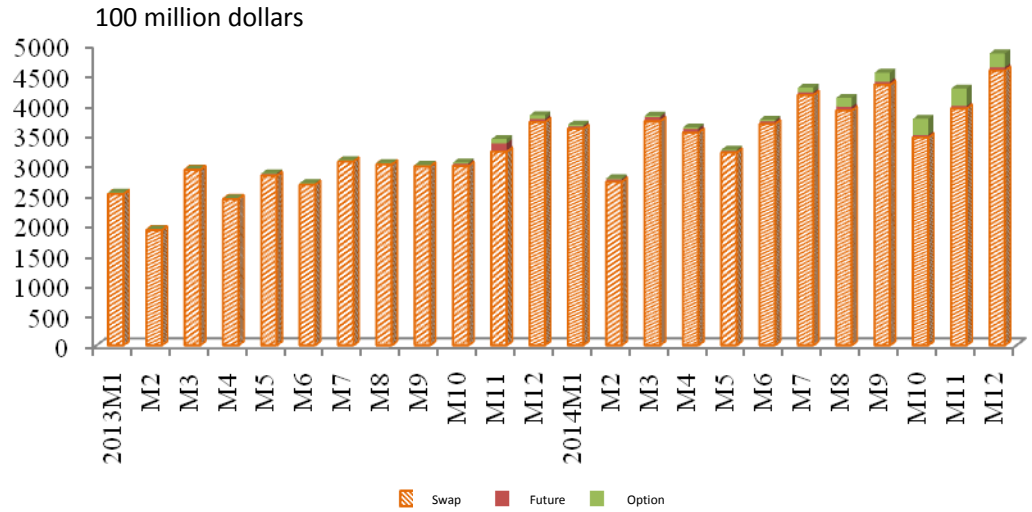


Figure 3-15 2013-2014 derivatives market of RMB foreign exchange

Source: China Foreign Exchange Trade Center

The participating bodies in the foreign exchange market are expending. By the end of 2014, the market holds 465 institutions for spot transaction, 98 for forward transaction, 97 for foreign exchange swap transaction, 84 for swap transaction and 39 for options transaction. There are 31 market makers in spot market, and 27 in forward market and swap market. These institutions include domestic institutions, such as four state-owned banks, major joint-stock banks, China development bank. Foreign institutions also included, like Bank of America, Citibank, HSBC, Deutsche Bank and Mitsubishi Bank.

3.3 RMB in Global Foreign Reserves

3.3.1 Enhancing Monetary and Financial Cooperation

The IMF divides official foreign reserves into two categories: allocated reserves and unallocated reserves. By the end of the third quarter of 2014, allocated reserves was $6.19 trillion, and unallocated reserves reached $5.58 trillion, respectively accounting for 52.55%, and 47.45% of the global total volume.

By the end of 2014, the People's Bank of China has signed the bilateral local currency swap contracts with monetary authorities from 28 countries and regions, with a total amount of RMB 3.12 trillion yuan (Figure 3-16). Among which, it was

the second time the People's Bank of China sign the agreement with New Zealand, Argentina, Kazakhstan, Thailand and Pakistan; and the third time with Mongolia, South Korea and Hong Kong. Compared with that in 2013, there are 5 newly-added countries and regions, including Switzerland, Sri Lanka, Russia, Qatar and Canada. These agreements are different from those signed among developed economies in that they aim to maintain regional financial stability and promote bilateral trade and investment as well.

The People's Bank of China has signed currency swap contract with monetary authorities in Qatar, Canada, Malaysia, Australia and Thailand. And it has signed the Memoir of RMB Settlement with Doha, Canada, Kuala Lumpur, Australia and Thailand. PBC also agreed to expand the pilot project of RMB overseas qualified institutional investors to Qatar and Canada, the initial investment totaled RMB 30 billion yuan and RMB 50 billion yuan respectively. Next, it will cooperate with Doha, Toronto, Kuala Lumpur, Sydney and Bangkok to establish RMB settlement banks. The intensified efforts made by the PBC in identifying RMB settlement business with other monetary authorities marked a milestone in our financial cooperation with other countries and regions.

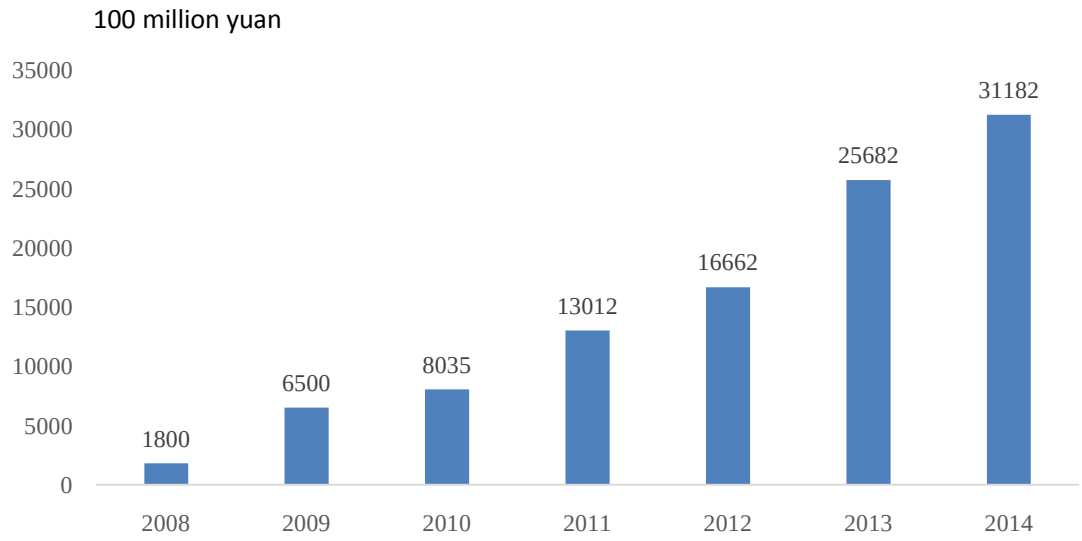


Figure 3-16 Amount of currency swap between PBC and other monetary authorities

Source: The People's Bank of China

3.3.2 Diversification of International Reserve Currencies

By the end of the third quarter of 2014, among the allocated reserves of IMF, dollar reserve was $3.86 trillion, accounting for 62.32%; euro was $1.4 trillion, accounting for 22.62%; pound was $0.24 trillion, accounting for 3.84%; yen $0.25 trillion, accounting for 3.96%; Swiss francs was $16.457 billion, accounting for 0.27%; Canadian dollar was $0.12 trillion, accounting for 1.92%; Australian dollar was $0.12 trillion accounting for 1.89% (Table 3-8). The exit of OE in the US leads to the appreciation of dollar, whereas the economic growth in Europe lacks speed and momentum. Therefore, the share of US dollar is sharply on the rise while that of euro is obviously decreasing. Progress has been made in the diversification of International Reserve Currency. The Canadian dollar and Australian dollar account for over 1 % of their respective official reserves. And the IMF has added them into the international reserve currency statistics.

In 2014, the IMF will examine the value of currencies in the inclusion of SDRs so as to decide which currencies can be included in the SDRs and their respective shares. There are two standards: the scale of the use of this currency in trade settlement, and whether this currency can be freely used. Now RMB has met these requirements, so it will be very likely to join in the SDR club so as to play its functions as an international currency more extensively.

Table 3-8 Percentages of currencies in global FER 2014 (%)

	2013				2014			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Global reserves	100	100	100	100	100	100	100	
Allocated reserves	54.88	54.61	54.12	53.30	52.69	52.66	52.55	
US dollor	61.83	61.83	61.42	61.04	60.79	60.68	62.32	
Euro	23.54	23.85	24.12	24.38	24.33	24.11	22.62	
Japanese yen	3.88	3.84	3.80	3.82	3.94	4.03	3.96	
British pound	3.87	3.82	3.92	3.98	3.86	3.87	3.84	
Swiss franc	0.26	0.26	0.26	0.27	0.26	0.27	0.27	

Canadian dollar	1.58	1.79	1.84	1.83	1.87	1.98	1.92	
Australian dollar	1.66	1.69	1.68	1.81	1.89	1.93	1.89	
Other currencies	3.38	2.93	2.97	2.86	3.04	3.14	3.18	
Unallocated reserves	45.12	45.39	45.88	46.70	47.31	47.34	47.45	
Developed economies	33.18	33.02	32.96	32.67	32.68	32.68	32.63	
Emerging economies and developing countries	66.82	66.98	67.04	67.33	67.32	67.32	67.37	

Source: IMF COFER Database, International Financial Statistics released by IMF.

Notes:

1 Data of allocated reserves come from IMF COFER database; proportion of each currency is the ratio of the amount of reserves denominated by this currency to the amount of total allocated reserves.

2 The amount of unallocated reserves is equal to the difference between that of global reserves and allocated reserves.

4. RMB Internationalization and One Belt and One Road Initiative

4.1 RMB Internationalization and One Belt And One Road Initiative: Reciprocity

(1) Taking the opportunity of "One Belt and One Road" to boost China's supply of public good to the world.

The Silk Road has enjoyed prestige all over the world for more than 2000 years with trading Chinese silk as its original intention. Listed as the world heritage, the Road witnessed the history of interconnectivity and cultural integration between the East and the West. In 2013, China proposed the initiative of "One Belt and One Road" on the basis of the Ancient Silk Road spirit, namely "peace and cooperation, openness and inclusiveness, mutual learning and mutual benefits", aiming to tap the potential of the largest economic corridor in the world. Trade will be the forerunner, facilities connectivity the foundation, policy communication the security, financial integration the support and people-to-people bonds the source of power.

The "One Belt and One Road" is the most important national strategy under the New Normal. Through the initiative, China will be able to adjust regional economic

structure, accelerate industrial upgrading, drive export growth, facilitate innovations of export models and help Chinese investment and corporation go global to provide support for RMB internationalization.

The weakening hegemony resulted in less American supply of public good in the world. In addition, there are shortcomings, like irrational governance structure and undervaluation of the developing countries, in such organizations that address global issues as UN, IMF and WTO. This situation leads to insufficient supply and irrational distribution of public good in the world. In particular, some developing countries are suffering a severe shortage of essential public goods.

In most cases, the supply of global public goods is dominated by superpowers and realized by sovereign states and international organizations. China is one of the neediest countries in terms of global public goods. As the representative of emerging countries and developing countries, China must play a bigger role and bear more influence on global economic governance and it is capable of doing that. Providing global public goods is a practical way to exert China's influence.

"One Belt and One Road" is designed to create the most attractive community of common destiny featuring cooperation and mutual benefits. Taking this opportunity, China will increase supply in the following areas: new philosophy and new model of international cooperation, efficient facility connectivity, new international currency, new international financial organizations and new methods to combat local wars and terrorism.

(2) Complementary "One Belt and One Road" and RMB internationalization

China is the initiator of "One Belt and One Road" program, so RMB internationalization will facilitate the financing of the encompassing countries. It will enhance the connectivity in policies, currencies, roads and public support as well as deepen regional economic integration. The theoretical and empirical studies have demonstrated that a larger proportion of the most-frequently used domestic currency will effectively prevent financial risks, lower transaction cost, enhance overall economic competitiveness and accelerate the integration of trade and economy in the region. China has the most foreign currency reserves and a high saving rate. As China's capital account is gradually liberated, the offshore market of RMB will witness a rapid development, providing sufficient liquidity of RMB for

the enterprises and institutions along the "One Belt and One Road" region. As a price currency in trade, RMB is increasingly accepted in international trade, which will bring down the trade costs with China, facilitate trade settlement and avoid the risks of using a third-party currency. China boasts unique advantages in infrastructure development. More material support can be offered to develop the "One Belt and One Road" through multilateral financial institution to mobilize global resources and RMB bonds, loans and direct investment to fund for major supporting projects. If RMB bears the functions of trade pricing and settlement, financial trading currency and foreign exchange reserve, China can provide a new international currency and risk management mechanism, a safe anchor for economy and finance, thus making greater contribution to the stability of regional economy and finance.

"One Belt and One Road" is a great undertaking beneficial to all along the line. It also offers a historic golden opportunity for RMB internationalization. "Interconnection" will drive economic growth in the region and strengthen the economic ties between countries, thus forming a new regional cooperation pattern across the Euro-Asian Continent. According to international experience, whether a type of currency can be the major currency in a region is mainly decided by the country's economic strength, overall national risk, trade development, financial and economic capacity, etc. As the second largest economy in the world as well as a major trade partner and an important direct investment destination, China serves as a key trade partner along the "One Belt and One Road" region. With political stability and cultural prosperity, China leads the region in economic and financial development. Therefore, the country is fully prepared for the expanded use of RMB in this region. As the "One Belt and One Road" moves forward, the share of RMB will undoubtedly rise in trade, financing, investment, financial transaction and foreign exchange reserve as long as we make more efforts in enhancing convenience and lowering transition cost. This will inject sufficient momentum to make RMB a major international currency in the world.

4.2 Promote RMB Internationalization under One Belt One Road Initiative

(1) Based on real economy and promoting the stable internationalization of RMB

In the past five years, the continuous increase of China's share in international

trade has won reputation for the internationalization of RMB. Due to the rapid development of offshore RMB markets throughout the world in recent two years, RII has maintained a good momentum. However, we need to see the internationalization of RMB with a sober mind. Financial transactions help RII grow rapidly in a short period of time, but the growth is not continuous and has risks. In the long run, the internationalization of RMB relies on the continuous demand of the global market for the products "made in China" and "created in China". We should seize the opportunity of the "One Belt and One Road" initiative to raise the proportion of RMB in trade pricing and settlement and increase the use of RMB in FDI, trade financing (TF), and loan and bond issuance which are closely related to real economy. This will promote the stable internationalization of RMB.

The recommendations are as follows: First, to strengthen the demonstration role of the policy-based financial support system. The creation of the AIIB, BRICS Development Bank, SCO Development Bank and Silk Road Fund will stimulate more social investments into the "One Belt and One Road" initiative and shift the pricing in both USD and RMB to that mainly in RMB. Second, to improve the domestic financial system. We should accelerate the process of building a multi-level, efficient and diversified capital market. We should allow insurance, lease, rating and legal services agencies to play a better role. Insurance agencies, in particular, should provide credit insurance products for the bonds issued to fund the infrastructure along "One Belt and One Road", cut the structural rate and expand channels for RMB investing and financing. Commercial banks need to optimize overseas structure and internal procedures and to promote innovations in products and services. They need to cooperate with the emerging multilateral institutions and policy banks, including the AIIB and Silk Road Fund. To ensure safe operation, they need to cooperate with insurance agencies to develop risk management tools. They should help large Chinese enterprises go global by providing TF, payment and settlement tools in RMB to reduce their financial costs. They need to provide comprehensive financial services such as two-way cross-border RMB cash pooling, centralized receipts and payments, fund transfer, and financial management by integrating the services including cash management and cross-border financial services, and using cloud computing, big data and other modern information

technologies. Third, to make RMB more convenient and attractive to be used along the "One Belt and One Road". We will expand the bilateral local currency swap arrangements with the countries along the "One Belt and One Road", give full play to the offshore RMB hubs, establish RMB clearing mechanisms in the countries where investments and financing are active, and encourage the countries along the "One Belt and One Road" to use RMB in the pricing and payment of trade and infrastructure investments.

(2) To establish a multi-tiered mechanism for cooperation and shape a community of common destiny

The "One Belt and One Road" initiative is a new model of regional cooperation advocated by China. China should take its responsibility to provide global public goods and build the countries along the "One Belt and One Road" into a community of common destiny. A multi-tiered mechanism for cooperation is needed to meet the target of connectivity. First, the government should take the initiative to establish a multilateral framework for regional cooperation. Trade and investment agreements and comprehensive tax treaties should be signed as soon as possible. We should establish common mechanisms for dispute settlement, information sharing, and crisis response. This will raise policy coordination and regulation consistency, which will help create a sound environment for regional economic, trade and investment cooperation. Second, facing the new problems and challenges while building "One Belt and One Road", we will focus on shaping an international platform for thought, culture and policy exchanges. Based on the official mechanisms such as Boao Forum for Asia (BFA), Sino-Arab Cooperation Forum, and China-ASEAN Forum, we will encourage non-governmental exchange mechanisms like think tanks, colleges and cultural groups. Views will be exchanged to build the common values of "amity, sincerity, mutual benefit and inclusiveness" and "joint contribution and shared benefits". The effective solutions to the practical problems will be explored. Third, we will stick to the principle of openness and inclusiveness and launch multilateral cooperative institutions. Imitating the model of the AIIB, we welcome developed countries and other countries outside of the region to participate in the "One Belt and One Road" initiative with their superior resources. We will absorb the fruits of various civilizations, particularly learning from developed countries the

experience in economic development, risk management, regional cooperation and multilateral governance, etc. Fourth, we will implement education and training programs, cultivating caliber personnel qualified in technology, business, finance and law services at the international level.

(3) To provide favorable conditions for the use of RMB in the pricing of commodities

Chinese-funded financial institutions should focus on providing financing service for the commodity trade from the countries along "One Belt and One Road" to China. They should facilitate RMB settlement and financial transactions in cross-border trade. RMB needs to catch up with USD and EUR in terms of transaction cost and efficiency. Meanwhile, they should develop OTC derivatives such as RMB forward and options to satisfy various risk preferences.

The domestic commodity futures market will be developed to play the role of hedge and price discovery. We will encourage domestic importers to manage risks by trading futures. Drawing the experience of the gold international version of Shanghai FTZ, we will take steps to introduce foreign hedgers and investors into the domestic futures market and open more futures of bulk raw materials and energy commodities.

We will allow the RMB pricing of commodity futures trading in the offshore RMB market, providing a mechanism of price stabilization and risk management for the trade in the countries along the "One Belt and One Road". We recommend futures exchanges in Dalian and Zhengzhou explore models to cooperate with RMB offshore financial centers, increase the size and influence of the RMB commodity futures trading markets through strategic alliances and Q&A, establish a mechanism to increase the RMB returns of the trade to China, and expand channels to maintain and increase the value of RMB assets for the enterprises from the countries along the "One Belt and One Road".

(4) To promote Chinese standard and the use of RMB in the construction of infrastructure

The differences in the construction standards are one of the major challenges faced with the connectivity of One Belt and One Road facilities. Chinese standard for technology, product and equipment, which fits the conditions of developing

countries, and has been successfully applied in many African countries, should hence be applied more in the construction of One Belt and One Road infrastructures. By doing so, China's enterprises and financial institutes can offer more support to the countries along the line

The connectivity of One Belt and One Road infrastructures benefits all relevant countries. Its construction needs to mobilize fund and efforts of the whole world. Although China is the main capital supplier, we still need to enhance communication with other countries and innovate the cooperation mechanism of investment and funding. Besides, RMB should be more used in the construction and operation of infrastructures in countries along the line. The details are as follows.

First, we need to respond to the growing capital needs of RMB by increasing RMB products in our foreign assistance, outward investment and project loans (including policy ones and commercial ones), and the use of RMB in multilateral financial institutes like World Bank, ADB, AIIB, and New Development Bank. Second, explore the issuance of Silk Road bond in different ways like public-private partnership, syndicated loan, and industrial investment fund home and abroad. Encourage pricing and settlement with RMB, and increase the use of RMB in funding plan for the construction of infrastructures. Third, enhance currency swap, introduce RMB into the local credit system, and increase the capital source for infrastructure construction of host countries. Fourth, promote the host countries to improve the policies such as investment laws and land tax to improve the business environment. Establish a partnership that involves government, private sectors, industrial associations, and international organizations to realize the infrastructure connectivity under the framework of regional and international cooperation framework.

(5) Industrial parks should value flagship projects and the accompanying use of RMB

Industrial parks mainly rely on the development of economic corridors, and thus flagship projects like "Sino Pakistan Economic Corridor" should be given more emphasis to realize the early yields of the "One Belt and One Road" strategy. The layout of the industrial parks should be in line with the goals of the connectivity and be arranged according to the focus of different corridors, resources of different

countries and the geographical advantages. Parks should be built in key cities, ports, border ports, etc. The radiation effect of the parks should be given full play so that overall win-win cooperation can be achieved by expanding the successful experiences of the parks to the whole region. We suggest the industrial parks should be built by China and host countries together. We may establish high-level government dialogue mechanism, and policy coordination institutes. The daily operations of the parks can be managed by the Park Management Committee composed of representatives from both parties.

The establishment and operation of industrial parks can create favorable conditions for expanding the use of RMB around the world. First, parks can assign specific regions for financial services and offer preferential policies in tax, supervision, etc. to the service suppliers, so as to attract financial institutes from all over the world. Second, China's financial institutes should enter the parks in an early stage so as to satisfy the demand of investment, funding, trade settlement in the construction of the park and the operation of the enterprises by developing relevant RMB financial products, increasing the use of RMB in local areas and establish the RMB outflow and backflow mechanism. Third, the services of financial institutes should be expanded from the basic ones to an overall and multilateral financial support system so as to meet the demand of the parks in different times from its very beginning to rapid development. RMB offshore market should be built to exert its radiation effect on countries along the "One Belt and One Road" line and even other Asian and European countries.

(6) To eliminate barriers of RMB pricing and settlement in cross-border e-commerce

China is capable of helping countries along the line to eliminate obstacles in the development of e-commerce. We should encourage communications, internet, and IT companies to conduct direct investment and support construction of facilities in industries like transportations and logistics. Supporting services like clearance, information security, finance, and law should also be gradually improved. We should take good use of the standards and systems of international organizations like WTO so as to draft and practice rules and conditions for cross-border e-commerce trade, establish product quality traceability mechanism, and enhance supervision on

clearance and delivery inspection and quarantine. Meanwhile, we should also strengthen international communication on e-commerce with trade partners and international organizations so as to help domestic companies to deal with e-commerce trade disputes.

The process should be optimized and the cross-border e-commerce system should be fully upgraded to create conditions for online RMB internalization. We should encourage large international express enterprises to cooperate with domestic cross-border e-commerce enterprises and logistic enterprises to promote the development of cross-border logistic industries. Information of e-commerce should be shared, and the e-commerce integrity system can be built to punish counterfeit sand immoral behaviors in cross-border e-trade. The function of overseas Chinese groups may also be tapped to enhance the demonstration of cross-border e-commerce application projects.

We should also encourage the use of RMB in cross-border e-commerce pricing and settlement. The pricing on cross-border e-commerce websites should use both dollar and RMB instead of dollar alone, and RMB should be used more in the future so it will become the major pricing currency. Domestic third payment platforms and cross-border e-commerce companies can become strategic allies to develop products and offer services according to the cultural tradition and payment habits of the countries along the "One Belt and One Road" line so as to promote the use of RMB in settlement and increase its security, efficiency and attractiveness.

(7) Put the RMB cross-border payment system into use

RMB cross-border payment system constitutes an essential technical support for the internalization of RMB and also a public product that China offers the world. Given the condition of countries along the "One Belt and One Road" line, the payment system of PBOC have distinct advantages in terms of technology and equipment and can thus offer cross-border payment services for the construction of the "One Belt and One Road". The system, combined with China's large foreign exchange reserves, can also undertake businesses like foreign exchange, guarantee, and foreign currency funding when risks can be controlled.

Before the establishment of RMB cross-border payment system, the currency swap among central banks should be fully exploited. We should offer cheap, safe

and efficient RMB payment and clearing services for countries along the line through designating the system of offshore RMB clearing banks. We should do our best to help the local payment and clearing system be connected with the current RMB cross-border payment and clearing system.

In order to satisfy the growing demand of RMB clearing throughout the world, the establishment of RMB cross-border payment system should be accelerated so that it can be put into use in the early stage of the internalization of RMB and the relevant countries can get used to the it as soon as possible. Hence, a high cost for currency replacement in the future can be avoided. Meanwhile, we should take the opportunity of connectivity to further enhance the security and efficiency of RMB cross-border payment system. We may also set the West Cloud Valley project in Ningxia as the center of the circle, and expand the RMB cross-border payment system westward along the oil pipelines and telecommunication infrastructures so as to support the services of the third party payment platforms like the Unionpay.

We should integrate and revise policies related to the internationalization of RMB and upgrade its level of legislation. Specific laws about cross-border RMB clearing and payment should be made to specify the rights and obligations of all parties and provide legal insurance for the smooth operation of cross-border RMB payment system.

5. Timeline of RMB Internationalization 2014

Date	Event
January 7, 2014	HSBC becomes first custodian bank servicing RMBQualified Foreign Institutional Investors (RQFII) in London as China grants license to London based Ashmaore group.
February 20, 2014	With the authorization of the People's Bank of China (PBoC), the PBoCShanghai Head Office issued the *Notice on Expanding Cross-border Use of RMB in the China (Shanghai) Pilot Free Trade Zone*.
March 7 and 10, 2014	On March 7 in London, and March 10 in Frankfurt, Agricultural Bank of China (ABC) held the New Silk Road International Forum on Cross-border RMBUse.

March 14, 2014	The trading price of the RMB against the U.S. dollar in the Inter-bank spot foreign exchange marketwas allowed to float within a narrow band of 1%. The range was expanded to 2%.
March 14, 2014	The *Notice of the People's Bank of China on Certain Issues Concerning the Administrative over the Enterprises Engaging in RMB Settlement of Goods Exports* was jointly issued by six ministries and departments of the Chinese government.
March 14, 2014	Foreign non-financial corporation issued the first RMB bonds in China
March 19, 2014	Direct trading between the New Zealand dollar (NZD) and theChinese RMB was launched in the onshore interbank RMB foreign exchange market.
March 26, 2014	China has granted French financial institutions a quota of 80 billion yuan ($12.88 billion) for investing in China's domestic capital markets
March 28, 2014	PBoC and the Deutsche Bundesbank have signed a Memorandum of Understanding (MOU) regarding the clearing and settlement of payments denominated in the Chinese RMB in Frankfurt
March 31, 2014	PBoC and The Bank of England (BoE) signed a Memorandum of Understanding (MOU) to establish an RMB settling and clearing service in London
April 10, 2014	The China Securities Regulatory Commission (CSRC) made an announcement on the principle and institution of Shanghai-Hong Kong Stock Connect
April 11, 2014	Bank of China issued “Oceania Bond” in Australia
April 23, 2014	The Hong Kong Exchanges and Clearing Limited (HKEx) promoted commodity futures contracts denominated in RMB

April 25, 2014	The Central Bank and the Reserve Bank of New Zealand renewed the bilateral local currency swap agreement
April 26, 2014	RMB ranks as No. 7 most frequently used currency in payment in the world
April 28, 2014	Singapore becomes the world's No.2 offshore RMB trade center
May 4, 2014	China Construction Bank established China-ASEAN cross-border RMB business center
May 4, 2014	RMB is expected to become the core currency in African Foreign Exchange Reserves
May 4, 2014	The Central Bank released *The Notice on the Establishment of International Business Model in Shanghai Gold Exchange*
May9, 2014	The PBoC successfully issued "Schengen Bond" in Luxembourg
May 16, 2014	The official launch of pilot projects of central management of capital for enterpriseheadquarters in Shanghai FTA
May19, 2014	China Construction Bank issued "Goethe Debt" in Frankfurt
May22, 2014	*Separate Accounting Implementation Rules for China (Shanghai) FTA Pilot Zone (trial)* and *Rules on Prudential Management of Risks in Separate Accounting for China (Shanghai) FTA Pilot Zone* were officially released.
May30, 2014	The first time that PBoC used the currency of the other party under a currency swap agreement
June 3, 2014	Shanghai Clearing House served as an agent of RMB IRS
June 11, 2014	PBoC issued the *Guideline on Implementation of Opinions of the General Office on Supporting the Steady Growth of Foreign Trade*.
June 17, 2014	The Agricultural bank of China and Bank of China respectively signed a Memorandum of Understanding with London Stock Exchange Group.

June 17, 2014	PBoC designates China Construction Bank as RMB clearing and settlement bank in London.
June 18, 2014	The first financial institutions in Shanghai launched the free trade account service.
June 18, 2014	PBoC designated PBoC Frankfurt Representative Office as RMB clearing and settlement bank.
June 19, 2014	The direct trading between yuan and British pound
June 28, 2014	PBoC signed the Memorandum of Understanding (MOU) with Bank of France and Central Bank of Luxembourg to establish the RMB settling and clearing service in Paris and Luxembourg respectively.
July 3, 2014	PBoC and Bank of Korea signed an MOU on establishing RMB clearing arrangements in Seoul. PBoC designated Bank of Communications (Seoul) as the clearing and settlement bank. Korea was granted 80 billion yuan RQFII quota.
July 7, 2014	Germany was granted 80 billion yuan RQFII quota
July 15, 2014	New Development Bank (NDB) was established with headquarter in Shanghai
July 18, 2014	PBoC and Argentine Central Bank renewed the currency swap agreement
July 21, 2014	PBoC and Swiss National Banksigned a bilateral currencyswap agreement
August 7, 2014	Chin and Korea signed the repurchase agreement of RMB denominated bonds
August 21, 2014	PBoC and Bank of Mongolia signed a bilateral currencyswap agreement
August 25, 2014	Central Bank ofSri Lanka allowed to invest in China'sinterbank bond market
September 1, 2014	RMB loan commitmentbetween Chineseand Koreancommercial banks

September 4, 2014	Agricultural Bank of China issued RMB denominated "EmiratesBond" in Dubai
September 4, 2014	Four-party Agreement forShanghai-Hong KongStock Connect was signed at Shanghai Stock Exchange
September 5, 2014	China ConstructionBank and Bank ofChina each issued"Formosa Bond" of 2 billion yuan in Taiwan
September 5, 2014	Bank of China was authorized as the clearing bank in Paris
September 5, 2014	ICBC was authorized by PBoCas the clearing bank in Luxembourg.
September 15, 2014	China Development Bank issuedRMB denominated bonds in London
September 15, 2014	Bank of China issued "Triumph Bond" in Paris
September 16, 2014	ICBC issued "Lion City Bond" in Singapore
September 16, 2014	PBoC and Central Bank of Sri Lanka signed bilateral currency swap agreement
September 18, 2014	The international board of Shanghai Gold Exchange was launchedin Shanghai Free Trade Zone
September 22, 2014	Malaysia issuedRMB denominated "Golden Tiger Bond"
September 28, 2014	PBoC issued the *Notice on Cross-Border RMB Settlements for the Issuance of RMB Debt in China by Foreign Institutions*.
September 29, 2014	Direct trading between RMB and Euro on the interbank foreign exchange market is authorized.
October 9, 2014	The British government launched the sovereign bond issuance project.
October 10, 2014	ICBCSeoul branch deal with the first loans sale
October 11, 2014	PBoC and the central bank of Korea renewed the bilateral currency swap agreement
October 13, 2014	PBoC and the central bank of Russia signed a currency swap agreement.

October 14, 2014	The British Ministry of Finance issued the first RMB denominated sovereign bond.
October 14, 2014	Establishment of Asian Infrastructure Investment Bank (AIIB)
October 14, 2014	ICBC issued "Kimchi Bond" in Korea
October 17, 2014	Cross-border Interbank Payment System(CIPS) launched in Shanghai
October 20, 2014	Singapore Exchange(SGX)launched RMB futures contracts
October 28, 2014	RMB and Singapore dollar achieved direct trading in the interbank foreign exchange market
October 28, 2014	HK and France signed the Memorandum of Understanding on the development of offshore RMB business
November 1, 2014	PBoCreleasedthe*Notice on Centralized Cross-Border RMB Fund Operation Conducted by Multinational Enterprise Groups.*
November 2, 2014	RMB currency swap agreements helped Pakistan avoid economic crisis
November 3, 2014	The PBoC and its counterpart in Qatar signed bilateral currency swap agreements and the Memorandum of Understandingto establish RMB clearing arrangements in Doha. Qatar was granted 30 billion yuan RQFII quota.ThePBoC authorized the ICBC as a clearing bank for RMB business in Doha.
November 6, 2014	The PBoC released the *Notice on Foreign Securities Investment by RMB Qualified Domestic Institutional Investors (RQDII).*
November 8, 2014	The PBoC and its counterpart in Canada signed bilateral currency swap agreements and the Memorandum of Understandingto establish RMB clearing arrangements in Canada.Canada is granted50 billion yuan RQFII quota.ThePBoC authorized the ICBC as a clearing bank for RMB business in Toronto.

November 8, 2014	Establishment of the Silk Road Fund
November 10, 2014	The PBoC and its counterpart in Malaysia signed bilateral currency swap agreements and the Memorandum of Understandingto establish RMB clearing arrangements in Kuala Lumpur.
November 10, 2014	The PBoC and China Securities Regulatory Commission(CSRC) jointly issued the *Notice on Shanghai-Hong Kong Stock ConnectPilot Program*.
November 17, 2014	The PBoC and the Reserve Bank of Australia signed an MOU on RMB clearing business. Australia is granted 50 billion yuan RQFII quota. The PBoC authorized its Sydney Branch as the RMB clearing bank in Sydney.
November 17, 2014	Launch of the Shanghai-Hong Kong Stock Connect Program
November 19, 2014	New South Wales of Australia issued 1 billion yuan offshore bonds.
November 21, 2014	The PBoC announced an asymmetric interest rate cut.
November 22, 2014	The PBoC renewed the bilateral currency swap agreement with the Hong Kong Monetary Authority.
November 30, 2014	Release of the *Deposit Insurance Act (Draft)*
December 1, 2014	Direct trading between RMB and KRW was launched on the Seoul interbank foreign exchange market.
December 4, 2014	ICBC Luxembourg branch officially launched RMB clearing services
December 14, 2014	China and Kazakhstan renewed the currency swap agreement.
December 14, 2014	RMB was included into New Zealand's Trade Weighted Index (TWI).
December 15, 2014	15 policies on Nansha financial innovation were issued.
December 15, 2014	The China Foreign Exchange Trading System (CFETS) announced KZT/RMB trading in the interbank regional market.

December 17, 2014	China and Nepal signed an MOU on co-building the "Silk Road Economic Belt".
December 18, 2014	The Yunnan cross-border RMB loan pilot was approved.
December 22, 2014	The PBoC and the Bank of Thailand signed an MOU in establishing the RMB clearing arrangements. The two parties also renewed the bilateral currency swap agreement.
December 23, 2014	The PBoC and the State Bank of Pakistan renewed a bilateral currency swap agreement.
December 31, 2014	Guangxi officially launched the regional cross-border RMB business platform.
December, 2014	RMB became the fifth most used payment currency.

Special Column on Chinese Economy

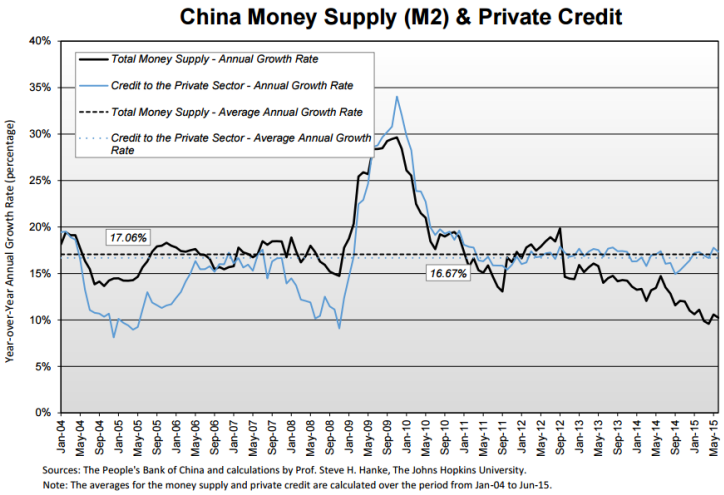
Instability in China

By STEVE H. HANKE*

The plunging Shanghai Stock Exchange and the sudden reversal in the yuan's appreciation have caused fears to spread beyond China's borders. Is something wrong with the world's growth locomotive? In a word, yes.

The most reliable approach for the determination of nominal gross domestic product (GDP) and the balance of payments is the monetary approach. Indeed, the path of an economy's nominal GDP is determined by the course of its money supply (broadly determined).

The accompanying chart of China's money supply and private credit tells us why China's economy is in trouble. The annual trend rate of money supply (M2) growth is 17.1%. In early 2012, M2 was growing at an annual rate of 20% -- well above the trend rate. Then, M2's annual growth rate suddenly plunged to 15% and has been drifting down ever since.



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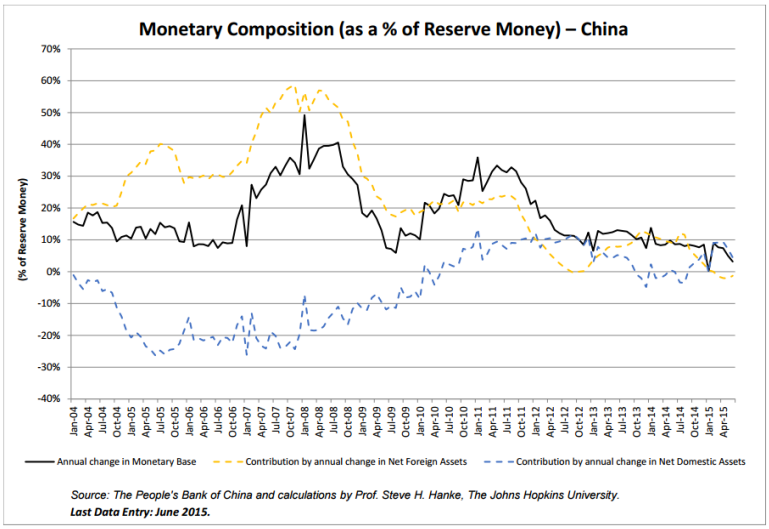
Today, the annual M2 growth rate it a bit above 10%. In consequence, nominal GDP will decline from its current level. This spells trouble for China, and the rest of the world. These prospective troubles are already baked in the cake.

Just why has the M2 annual growth rate declined? One factor behind the decline has been recent hot money capital flight. This shows up when we decompose the reserve money (state money) produced by the People's Bank of China. The foreign exchange contribution to state money is no longer pulling the rate of state money up. It is pulling it down (see the accompanying monetary composition chart).



How did China arrive at this point – a point of high uncertainty and potential economic instability? A look at China's exchange-rate regimes provides a window into these troubled waters. Since China embraced Deng Xiaoping's reforms on 22 December 1978, China has experimented with different exchange-rate regimes. Until 1994, the yuan was in an ever-depreciating phase against the U.S. dollar. Relative volatile readings for China's GDP growth and inflation rate were encountered during this phase.

After the maxi yuan depreciation of 1994 and until 2005, exchange-rate fixity was the order of the day, with little movement in the CNY/USD rate. In consequence, the volatility of China's GDP and inflation rate declined, and with the yuan firmly anchored to the U.S. dollar, China's inflation rates began to shadow those in America. Then, China entered a gradual yuan appreciation phase (when the CNY/USD rate declined in the 2005-14 period). In terms of volatility, economic growth and inflation rates, China's performance has deteriorated ever since it dropped

exchange rate fixity. This ever-appreciating yuan vis-à-vis the U.S. dollar phase appears to have ended this August, with a small yuan depreciation.

China - Exchange-Rate Flexibility vs. Fixity

	Exchange Rate (CNY per USD)			Inflation	GDP		
	Average	Min	Max	Average	Average	Min	Max
1980-1994	3.80	1.50	8.62	8.42%	10.13%	3.80%	15.20%
1995-2004	8.30	8.27	8.47	3.14%	9.15%	7.60%	10.93%
2005-2008	7.68	6.78	8.28	3.50%	11.95%	9.64%	14.20%
2009-2010	6.80	6.60	6.85	1.30%	9.81%	9.21%	10.41%
2011-2014	6.31	6.04	6.64	3.16%	8.04%	7.36%	9.30%

Source: International Monetary Fund, World Economic Outlook and Economic Research Federal Reserve Bank of St. Louis, FRED, and calculations by Prof. Steve H. Hanke, The Johns Hopkins University

So, why did China drop exchange-rate fixity in 2005? After all, China's fixed-rate regime had performed very well. Pressure from the U.S. and many wrong-headed mercantilist's arguments caused China to abandon fixity in 2005.

The United States has recorded a trade deficit in each year since 1975. This is not surprising because savings in the U.S. have been less than investment. The trade deficit can be reduced by some combination of lower government consumption, lower private consumption or lower private domestic investment. But, you wouldn't know it from listening to the rhetoric coming out of Washington.

This is unfortunate. A reduction of the trade deficit should not even be a primary objective of federal policy. Never mind. Washington seems to thrive on counter-productive trade and currency wars that damage both the U.S. and its trading partners.

From the early 1970s until 1995, Japan was an enemy. The mercantilists in Washington asserted that unfair Japanese trading practices caused the U.S. trade deficit and that the U.S. bilateral trade deficit with Japan could be reduced if the yen appreciated against the dollar — a weak dollar policy. Washington even tried to convince Tokyo that an ever-appreciating yen would be good for Japan. Unfortunately, the Japanese complied and the yen appreciated, moving from 360 to the greenback in 1971 to 80 in 1995.

In April 1995, Secretary of the Treasury Robert Rubin belatedly realized that the yen's great appreciation was causing the Japanese economy to sink into a deflationary quagmire. In consequence, the U.S. stopped arm-twisting the Japanese government about the value of the yen and Secretary Rubin began to evoke his now-famous strong-dollar mantra. But, while this policy switch was welcomed, it was too late. Even today, Japan continues to suffer from the mess created by the yen's appreciation. As Japan's economy stagnated, its contribution to the increasing

U.S. trade deficit declined, falling from its 1991 peak of almost 60% to 9% in 2014. While Japan's contribution declined, China's surged from slightly more than 9% in 1990 to 47% in 2014. With these trends, the Chinese yuan replaced the Japanese yen as the mercantilists' whipping boy.

Interestingly, the combined Japanese- Chinese contribution has actually declined from its 1991 peak of over 70% to only about 56% in 2014. This hasn't stopped the mercantilists from claiming that the Chinese yuan is grossly undervalued, and that this creates unfair Chinese competition and a U.S. bilateral trade deficit with China.

This raises an obvious question: does a weak yen or yuan vis-à-vis the dollar (in nominal terms) explain the contribution of Japan and China to the U.S. trade deficit? After all, this exchange-rate argument (read: competitive advantage) is what the mercantilists use to wage war. When it comes to Japan, whose contribution to the U.S. trade deficit has been declining for the past twenty years, there is a very weak relationship between the yen's strength and Japan's contribution to the trade deficit. Certainly not something worth going to war over. And as for China, the relationship between the strength of the yuan and China's contribution to the U.S. trade deficit contradicts the mercantilist conjecture. Indeed, the Chinese yuan has appreciated in nominal terms relative to the greenback over the past twenty years, and so has the Chinese contribution to the U.S. trade deficit.

It isn't only the mercantilists' pols who don't understand that nominal exchange rates don't have much to do with trade deficits. Some economists — most notably C. Fred Bergsten of the Peterson Institute for International Economics and supply-side guru Arthur B. Laffer — don't seem to understand the economics behind the U.S. trade deficit, which has been with us since 1975. Those economics were fully explained by one of my occasional collaborators, the late Ronald I. McKinnon from Stanford University. Indeed, he elaborated on them in his last book, The Unloved Dollar Standard: From Bretton Woods to the Rise of China(2013). In short, the U.S. trade deficit is the result of a U.S. savings deficiency, not exchange rates. As a result, the trade deficit can be reduced by some combination of lower government consumption, lower private consumption or lower private domestic investment. You wouldn't know this basic truth by listening to the rhetoric coming out of Washington.

What should China do? First, Beijing should stop listening to Washington. Second, it should adopt a free-market, exchange-rate regime like the currency board system in Hong Kong. Since 1983, the HKD/USD exchange rate has been fixed at 7.2, and the Hong Kong dollar has been fully convertible. By doing so, Beijing would dump instability and embrace stability.

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China Turns to "Real Assets"

By DAVID MARSH[*]

The record $94bn fall in China's foreign exchange reserves in August – a larger amount than the official currency holdings of the UK or Canada – has commanded international headlines. However, amid signs that Beijing is accelerating its build-up of foreign 'real assets' in quoted and non-quoted equities, infrastructure and real estate, the People's Bank of China's official reserves are becoming a less important guide to the overall value of China's wealth held abroad.

China sold some of its official dollar and euro holdings to support the renminbi during a volatile month for the China currency marked by a loosening of its peg to the dollar – a long-trailed move to make the renminbi more responsive to market forces. This took China's official currency reserves to $3.6tn, down $400bn from their peak of June 2014.

Volatility on Chinese stock markets is contributing to flows of funds out of the country. Yet this is part of a generally healthy rebalancing of China's net foreign assets. Foreign equity holdings by private and public sector companies are progressively taking over a larger share of China's overall net foreign asset position, estimated at $1.8tn at the end of last year, making it the world's second largest net foreign creditor (behind Japan and ahead of Germany).

Significant portfolio shifts are taking place into Europe, with Germany and the UK in the lead as investment destinations.

The state-owned Beijing Automotive Group is in talks with German motor concern Daimler about taking 'a significant stake' in the Stuttgart-based company by the end of the year – which will almost certainly involve a sizeable degree of technology transfer from Germany to China. Fosun, the Shanghai-based investor group, is negotiating to take over the troubled Frankfurt BHF-Bank in a contested deal, shortly after it acquired the private bank Hauck, a competitor institution also based in Frankfurt. The UK has become an attractive home for Chinese asset managers building real estate and infrastructure holdings, with an estimated £11.7bn spent acquiring stakes in UK businesses over the past decade.

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According to industry figures, between 2000 and 2014 Chinese companies spent €46bn on more than 1,000 direct investments across the EU, with most deals struck since the 2009 financial crisis.

The pick-up in interest in 'real assets' demonstrates how Beijing has reacted to a lamentable track record in making returns from its more conventional holdings. A research paper from the Bank for International Settlements in September 2013 underlined how China and Germany recorded entirely different performances in their overall foreign investments over the past 15 years.

Germany made consistent annual returns since 2005 of 5–6% of its net international asset position, according to the BIS paper, while China turned in regular annual losses averaging 3–4% of its asset position since 2008.

The BIS experts ascribe this to two overriding reasons. First, the official sector – both government entities and the central bank – accounts for a much greater percentage of internationally-held assets in China than in Germany. Second, and more importantly, China's net investments have been substantially geared to other countries' (mainly the US) debt instruments, whereas Germany has been orientated far more towards portfolio investments in equities and in direct investments, often denominated in its own currency, the euro .

There is strong evidence from many quarters that the Chinese authorities are taking steps to gear the country's overall foreign portfolio towards a greater proportion of equities and equity-like instruments, not just in Europe, but also in Africa and Latin America. The trend may well be accelerating.

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Reflections on China's Growth*

By JUAN CARLOS MARTINEZ OLIVA*

The panicking attitude of markets and analysts vis-à-vis the ongoing economic slowdown in China might be a surprise if one considers that a shift in aggregate demand components, and a moderation in the pace of China's GDP growth, was long announced and expected. Indeed, the goal to reorient growth towards a more balanced and sustainable pattern, embedding economic, social, and environmental objectives, was clearly stated in the twelfth five-year plan approved by the National People's Congress in March 2011. The message was subsequently reiterated in various occasions, and reaffirmed a year ago by President Xi Jinping in his announcement that Chinese economy was moving towards a new normal. In that occasion President Xi confirmed that the service sector and consumption demand were becoming the main driver of the Chinese economy and that urban-rural and regional disparities were shrinking.

As a matter of fact, partial evidence on the changing attitudes of Chinese consumers suggests that people in China are spending larger amounts of their earning for health care and education, as well as for travels and for entertainment. Such behavior is reflected by the service sector whose share of the economy has become greater than that of industry as a result of its faster dynamics.

Shifting demand components from investment and net exports to private consumption is a complex task requiring careful policy effort. If some conditions, such as implementing appropriate structural reform, are fulfilled, the growth risk arising during the transition may nonetheless be kept within a reasonable range.

Fears by analysts and the market can be partially justified if viewed as a reflection of the growing relevance of China in the global economy, and its potential impact on the rest of the world. The widespread joke "when China sneezes the world catches a cold" exposes the undeniable fact that for its size and connection with the rest of the world, China has the potential to affect the global economy. The potential risk arising from China's growth transition is the main factor behind the International Monetary Fund revision of its world output growth forecast for 2015 and 2016,by

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0.4 and 0.2 respectively vis-à-vis the figures of last April's World Economic Outlook.

Economic agents usually benefit from successfully anticipating market variables' behavior; when high uncertainty affects the medium term outlook, forecasting may prove a frustrating exercise. Greater volatility in the markets then arises, due to inconsistent behavior determined by such frustration. This has been particularly true in the case of China, where the concern on GDP growth perspectives has been compounded in recent months by the massive downwards adjustment of stock prices in China, which unleashed doubts that sometimes the authorities would not control the process, and sometimes they were controlling it too much. While stock prices adjustment seems now completed, market fears on the growth perspectives in China are nonetheless persisting.

The polarization of views among analysts on the subject today is not different than three years ago, when the Lardy vs. Pettis debate took place on the WSJ's China Real Time blog.

Lardy and Pettis' opposite views basically regarded the pattern of the needed downsizing of the investment share over GDP, and how consumption could take the role of major determinant of growth. They also touched upon the ability of the state in China to implement reforms that might erode entrenched vested interests. Differently than Lardy, Pettis was doubtful that China's economy might escape the model followed by many countries before her in the past century. Such countries, after experiencing successful growth patterns driven by investment, had fallen in the trap represented by imbalances created by the build-up of huge stocks of indebtedness and debt servicing that financing past investment had entailed. Another contentious matter, according to Pettis, was the feasibility of the unrealistically high private consumption growth rates which would be needed to guarantee an acceptable GDP dynamics after the transitional shift in demand components.

While that debate is still open today among economists and practitioners, with each side supporting its own views and argument, one more general consideration should be kept in mind. It is that when considering today's China, conventional wisdom, policy blueprints, and the historical experience of other countries are of little or no use.

For its ability to successfully pursue hard-to-reach goals and to challenge conventional views, China has regularly surprised analysts and commentators. Among the most amazing examples, a special mention deserves the process of renminbi internationalization which, for its peculiar features and unprecedented speed is one of China's most amazing successes. While successfully pursuing a

process which has turned the RMB into a broadly accepted currency at the international level, and ready to enter in the SDR basket of currencies, China has challenged the opinions of those who thought that a "dual track reform" was doomed to failure.

China is also displaying an extraordinary vitality and activism in creating visionary projects, such as the One Belt One Road initiative, or the AIIB, which are poised to improve promote growth and prosperity and improve lives in the regions affected. The growing use of RMB in trade and investment in Asia is fostering the activity of joint ventures and activities located in Hong Kong, the largest offshore RMB centre, meant to finance infrastructure projects in the Asian region. As I have argued some time ago, there is a mutually reinforcing interaction between the spread of RMB across the world markets and offshore issuances of RMB bonds aimed at financing infrastructural project.

One should finally mention that China strikingly differentiates from other economies by being the fastest-growing country in world's historical experience of the past 150 years. When China's leader Deng Xiaoping started a revolutionary reform process in 1982, China represented 2.2 percent of the world's GDP. That figure recorded a sevenfold increase in 30 years, to 14.6 percent in 2012. According to Daniel Kliman, a senior adviser for Asia at the German Marshall Fund, among other powers that were at the start of their economic ascent, such as Germany, Japan, the Soviet Union and the United States, only the latter was able to nearly double its share of world GDP in 30 years since the beginning of its rise.

It is a widespread attitude of the economic profession to rely on coeteris paribus assumptions, linear projections, and cross-country comparisons. In the case of a very dynamic emerging economy like China this attitude might nonetheless prove counterproductive for a comprehensive analysis of its fast changing patterns.

IMI International Monetary Review

Working Paper

A New Approach to the Estimation of Equilibrium Exchange Rates among East-Asian Economies*

By JUAN CARLOS MARTINEZ OLIVA*

Following the debate on exchange rate stabilization within the ASEAN+3, this paper presents a new approach to the determination of real equilibrium exchange rates in the region based on a general equilibrium approach. Based on the real bilateral export and import flows across the region, this methodological approach computes simultaneously all real exchange rates of single member countries. Numerical simulations are conducted for illustration, based on trade and price data and on several alternative assumptions on bilateral price elasticities. While the methodology can further benefit from empirical estimation of bilateral elasticities, it may already provide helpful elements for an assessment of the relevance of intra-regional trade imbalances, and of the associated deviations of real exchange rates from their equilibrium values.

1. Introduction

The severe economic trouble caused by the East Asian currency crisis of 1997-98 fueled widespread interest towards regional monetary cooperation and integration across East-Asia. In those circumstances the countries of the region felt shockingly helpless in front of international speculation, panic crises, and bank runs, while in the event international support and assistance proved to be quite inadequate. Not surprisingly, in the aftermath of the crisis Asian countries' response was almost unanimously pointed in the direction of creating some system of collective defense and mutual assistance. As a result, the ASEAN+3established in 2000 the Chiang

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Mai Initiative (CMI), a network of bilateral and multilateral swap arrangements meant to cope with a currency crisis in member countries.[1]In 2003 the ASEAN+3 launched the Asian Bond Markets Initiative (ABMI), meant to reduce currency mismatches and fostering market stability and resilience. In 2009, a reinforcement of the system of bilateral currency swaps into reserve pooling turned CMI into Chiang Mai Initiative Multilateralization (CMIM). The strengthening of monetary cooperation among ASEAN+3 member countries emphasized the role of surveillance as a warning tool meant to prevent future currency crises.

In a debate on how to enhance monetary cooperation at the regional level a pivotal role is played by the choice of the exchange rate regime. The issue is made more relevant, among other factors, by the growing trend of trade integration in the region, which creates a further incentive for national authorities to stabilize the exchange rates across the area.

Indeed, since the early 1990's East Asia's intraregional trade and investment has grown considerably. In 2013, the total intra-ASEAN trade amounted to 609 billion US dollars, or around one quarter of total ASEAN trade (table 1). Quite significantly, China, Korea, and Japan, more than double the intra-area (ASEAN+3) trade, to 1335 billion dollars (table 2). According to official data, intra-ASEAN trade increased at a faster pace, with annual growth rate averaging 10.5%, as compared to either overall ASEAN trade (by 9.2%) or extra-ASEAN trade (by 8.9%) during the period 1993-2013[2].

Among possible choices, the establishment of a single currency regime, along the lines of the European Monetary Union, can be viewed, for many reasons, as the hardest to materialize over the medium-term[3]. However, a set of alternative ways to stabilize regional exchange rates is available, not involving the political and technical complexities of irrevocably embracing a single currency regime. For example, countries can adopt the choice to stabilize their currencies vis-à-vis a reference currency such as the US dollar, the Japanese yen, the Chinese yuan, or a common basket of key currencies; or they can establish a full regional exchange-rate system likewise in the experience of the Exchange Rate Mechanism (ERM) in

1 ASEAN+3 is the forum which coordinates cooperation between the Association of Southeast Asian Nations (ASEAN) and the three East Asian nations of China, Japan, and South Korea. ASEAN is a political and economic organization of ten countries located in Southeast Asia. It was established on 8 August 1967 by Indonesia, Malaysia, the Philippines, Singapore and Thailand. Since then, membership has expanded to include Brunei, Burma (Myanmar), Cambodia, Laos, and Vietnam.

2 See www.asean.org. The share of intra-ASEAN trade in overall ASEAN trade has been on an increasing trend starting from 19.2% in 1993 to 22% in 2000 and 24.2% in 2013, and accounted for 25% of the region's total GDP in 2013.

3 For a survey of potential obstacles to the achievement of a fully-fledged monetary union in East Asia see Kawai(2009).

Europe[4].

Following technical proposals by the Asian Development Bank (ADB) and by academic experts to foster exchange rate stability in East-Asian region, the ASEAN+3 countries agreed in 2006 to explore the possibility to move in the direction of an Asian currency unit (ACU).[5]

Borrowing from the experience of the European Monetary System (EMS)established in 1979, Ogawa and Shimizu (2005) have propose both an Asian Monetary Unit (AMU), a mechanism based on a basket of ASEAN+3 currencies, and AMU deviation indicators (AMU Dis) meant to provide a measure of each currency's benchmark rate departure from AMU. The AMU and the AMU Dis calculations turn particularly helpful in providing both a surveillance indicator under the Chiang Mai initiative, and a reference for coordinating exchange rate policies among member countries.

The analogy between Asia and Europe is particularly appropriate in this respect. Following the breakdown of the Bretton Woods system in 1971, a group of European countries agreed to limit their currencies' fluctuations within a band of +/- 2.25 per cent (the European "currency snake" of 1972). In March 1979, the "snake" was replaced by the European Monetary System (EMS), and the European Currency Unit (ECU) was established, where member countries agreed to keep their foreign exchange rates within agreed bands with a narrow band of +/− 2.25 per cent and a wider band of +/− 6 per cent. An interesting innovation in the Exchange Rate Mechanism (ERM) underlying the EMS was the use of a divergence indicator, a feature designed to introduce symmetry in the system's functioning. In fact, the responsibility of adjustment, to be pursued by intra-marginal interventions, would fall on the currencies deviating from the other partners, no matter whether they were the stronger or the weaker ones[6].

In Ogawa and Shimizu's methodology, the AMU Deviation Indicators measure the departure of each member currency in terms of the AMU. A benchmark period is chosen, namely 2000-2001 - which correspond to the lowest trade imbalances among member countries, between member countries and Japan, and between member countries and the rest of the world - where the exchange rate of the AMU vis-à-vis the US dollar and the euro is set to unity. The members' exchange rate

4 A thorough survey of the debate is found in Park and Wyplosz (2010), chapter 2.

5 See Mori et alii (2002), Ogawa (2006), Ogawa and Shimizu (2005, 2006, and 2011).

6 To be more precise, the ERM was based on a 'parity grid' system, i.e. a system of par values among ERM currencies. The par values in the parity grid were calculated for each of the EMS currencies in terms of the ECU, and named ECU central rates. The entire parity grid could be derived from the ECU central rates set by the European Commission.

levels in the benchmark period are defined as the benchmark rates.[7]

Past and present experiences in exchange rate stabilization within a multi-country region, confirm that when establishing a computational strategy aimed ata defining a policy rule for participating currencies, the determination of an appropriate common reference value is a crucial step for the mechanism to be successful. In particular, for the reference values of member currencies to be credible, they must be set as close as possible to their equilibrium level.[8]

In this vein, the calculation of equilibrium exchange rates is an indispensable prerequisite when building a common basket of currencies if speculative attacks triggered by the perception that exchange rate levels are unsustainable are to be prevented.

It is in the light of the above that the present paper sets out to offer a new methodology for calculating equilibrium exchange rates within an integrated economic space such as East- Asia.

This research effort moves from the idea that for trade balances to be in equilibrium within a supposedly closed trade area, the levels of each member's equilibrium exchange rates are to be determined simultaneously because every single bilateral trade flow interacts with all the others. An example can help clarifying such proposition. Suppose that, moving from equilibrium Philippine's imports from Vietnam record a sudden boost, thus bringing the trade balances of both countries in deficit and in surplus, respectively. This will require setting equilibrium exchange rates for both countries' currencies to new levels, compatible with a new equilibrium. As a result, bilateral trade of each of the two countries with the rest of the region's partners will be affected, requiring a general adjustment of all equilibrium levels until the new general equilibrium levels is re-established.

Moving along such line of reasoning this paper analyzes bilateral import and export flows within the ASEAN+3 area. Corresponding to 13 x 12 = 156 bidirectional flows. The simultaneous adjustment of all the trade balances in the intra-regional overall trade pattern provides a full set of real equilibrium exchange rates.

This methodological approach is then used to illustrate, through tentative

7 See Ogawa and Shimizu (2006). AMU and AMU Deviation Indicators are regularly updated in the website of the Research Institute of Economy, Trade, and Industry (RIETI). (http://www.rieti.go.jp/users/amu/en/detail.html).

8 The intellectual elaboration of this economic concept descends from the debate surrounding the new international monetary order created at Bretton Woods 70 years ago The concept of equilibrium exchange rate was then defined by Ragnar Nurkse as follows: "The only satisfactory way of defining the equilibrium rate of exchange is to define it as that rate which, over a certain period of time, keeps the balance of payments in equilibrium.". Nurkse (1945).

calculations, the size of deviations of each ASEAN+3 currency, in real terms, from those values which may be deemed compatible with trade equilibrium within the area.

2. Determining FEERs in the ASEAN+3 Region

This section addresses the problem of determining the equilibrium real exchange rates of ASEAN+3 countries.

For the sake of generalization it is assumed an n-country model of integrated economies. Trade among the n economies creates a network of $n(n-1)$ bilateral real trade flows (exports and imports)[9]. Such a situation can be conveniently represented with the help of a square matrix M, where the rows represent bilateral imports m_{ij} of country i from country j, and the diagonal elements m_{ii} are set equal to zero by definition. Conversely the columns of M represent bilateral exports, with $x_{ij} = m_{ji}$ by definition.[10]

$$M = \begin{bmatrix} 0 & m_{12} & m_{13} & \dots & m_{1n} \\ m_{21} & 0 & m_{23} & \dots & m_{2n} \\ \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots \\ m_{n1} & m_{n2} & m_{n3} & \dots & 0 \end{bmatrix} \quad [1]$$

From $x_{ij} = m_{ji}$ it follows that:

$$X = M^T \quad [2]$$

i.e. that the matrix of bilateral exports X is the transpose of the matrix of the bilateral imports M.

Since trade balance TB is:

$$TB = X - M \quad [1]$$

9 On the use of real trade balance as a more reliable policy indicator see Moore (1983).

10 For the position $x_{ij} = m_{ji}$ to be true exports and imports must be defined according to the same accounting standard, namely the f.o.b. convention.

From [2] it is also:

$$TB = M^T - M \qquad [4]$$

We now assume that the bilateral imports of country i from country j are a log-linear function of the GDP of country iand the ratio between domestic (i) and foreign (j) prices, expressed in the same currency, as in conventional literature (see Houthakker and Magee (1969), Kahn and Ross (1975), Goldstein, Kahn, and Officer (1980)):

$$\ln m_{ij} = \alpha_{ij} + \beta_{ij} \ln y + \gamma_{ij} \ln p \qquad [2]$$

where α is an intercept term, β is the (positive) income elasticity of imports, γ is the (negative) price elasticity of imports.

If we define the domestic price of country i and country j in terms of a third currency, say the US dollar, and we define as $e_i^{\$}$ the price of one US dollar in terms of country i's national currency, and as $e_j^{\$}$ the price of one US dollar in terms of country j's national currency, the third term on the right-hand of [5] can be written as:

$$\frac{p_i}{p_j} = \frac{p_i^d}{e_i^{\$}} / \frac{p_j^d}{e_j^{\$}} \qquad [6]$$

where p_i^d and p_j^d are domestic prices of countries i and j in terms of national currency.

which can be written also as:

$$\frac{p_i}{p_j} = \frac{p_i^d}{e_i^j p_j^d} \qquad [7]$$

where $e_i^j = \frac{e_j^{\$}}{e_i^{\$}}$ is the cross rate obtained by the US dollar exchange rate of the currencies of country i and country j; it corresponds to the price of one unit of country j's currency in terms of country i's currency.

It can be checked that expression [7] corresponds to the real exchange rate of

country i vis-à-vis country j. An increase in country i's (or a reduction in country j's) domestic price, or a revaluation of its exchange rate in terms of country j's currency will bring about an increase in its real exchange rate, and therefore a loss of competiveness of the nationally produced goods.

In matrix form the bilateral imports function can be written as:

$$M = A + B \circ (Y \times w) + \Gamma \circ (P \times w - (P \times w)^T \quad [8]$$

Where M is the $n \times n$ matrix of the logarithms of bilateral imports, M is the matrix of bilateral intercept coefficients, B is the $n \times n$ matrix of bilateral income elasticities, and Γ is the $n \times n$ matrix of bilateral price elasticities. Y and P are $n \times 1$ matrices of logarithms of income and prices in the n countries. w is a $1 \times n$ matrix where all elements are equal to unity. The symbol $\circ$ is the Hadamard product (Shur product or entrywise product) operator.

This is a convenient linear-algebra representation of the whole system of the $n(n-1)$ bilateral import equations of the n-country trade system so far described.

For example, the term $(P \times w - (P \times w)^T$ is equivalent to:

$$\begin{bmatrix} 0 & \ln\frac{p_1}{p_2} & \ln\frac{p_1}{p_3} & \dots & \ln\frac{p_1}{p_n} \\ \ln\frac{p_2}{p_1} & 0 & \ln\frac{p_2}{p_3} & \dots & \ln\frac{p_1}{p_n} \\ \dots & \dots & \dots & \dots & \dots \\ \dots & \dots & \dots & \dots & \dots \\ \ln\frac{p_n}{p_1} & \ln\frac{p_n}{p_2} & \ln\frac{p_n}{p_3} & \dots & 0 \end{bmatrix} \quad [9]$$

The above matrix is skew-symmetric (or anti-symmetric), i.e. a square matrix whose transpose is also its negative; this means that it satisfies the condition:

$$A = -A^T \quad [10]$$

The trade balance is therefore:

$$TB = X - M = \tilde{M} - \quad [11]$$

Using [8] into [11] we can represent the overall set of $n(n-1)$ bilateral trade balances as follows:

$$TB = (A^T - A) + \{[B \circ (Y \times w)]^T - B \circ (Y \times w)\} + \{[\Gamma \circ (P \times w - (P \times w)^T)]^T - \Gamma \circ (P \times w - (P \times w)^T)\} \quad [12]$$

If we set

$$P \times w - (P \times w)^T = K \quad [13]$$

And, from property [9],we set $K = -K^T$ the right-hand term in [12] can be re-written as follows:

$$(\Gamma^T + \Gamma) \circ K^T \quad [14]$$

We therefore get:

$$TB * w = (A^T - A) * w + \{[B \circ (Y \times w)]^T - B \circ (Y \times w)\} * w - [(\widehat{\Gamma} + \hat{\Gamma}) * w \circ P] \quad [15]$$

where:

$$\widehat{\Gamma} = \begin{bmatrix} \sum_{j \neq i}^{n} \gamma_{1j} & -\gamma_{12} & -\gamma_{13} \cdots & -\gamma_{n1} \\ -\gamma_{21} & \sum_{j \neq i}^{n} \gamma_{2j} & -\gamma_{23} \cdots & -\gamma_{n2} \\ \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots \\ -\gamma_{n1} & -\gamma_{n2} & -\gamma_{n3} \cdots & \sum_{j \neq i}^{n} \gamma_{nj} \end{bmatrix} \quad [16]$$

and:

$$\hat{\Gamma} = \begin{bmatrix} \sum_{j \neq i}^{n} \gamma_{ij} & -\gamma_{21} & -\gamma_{31} \cdots & -\gamma_{n1} \\ -\gamma_{12} & \sum_{j \neq i}^{n} \gamma_{j2} & -\gamma_{32} \cdots & -\gamma_{n2} \\ \cdots & \cdots & \cdots & \cdots \\ \cdots & \cdots & \cdots & \cdots \\ -\gamma_{1n} & -\gamma_{2n} & -\gamma_{3n} & \cdots \sum_{j \neq i}^{n} \gamma_{nj} \end{bmatrix} \quad [17]$$

The system [15] of n equations can be used to determine the vector of n real exchange rates which are compatible with the simultaneous achievement of bilateral current account equilibrium on each of the n countries under consideration.

System [15] highlights the main feature of the strategy here adopted, which allows the determination of the set of exchange rates which are consistent with simultaneous trade balance equilibrium of all the chosen set of countries.

In order to better display the properties of the method employed we define:

$$TB_i = \ln x_i - \ln m_i \quad [18]$$

[18] represents country i's trade balance as the ratio, rather than the difference, between its exports and imports. The implication is that a balanced trade account will be equal to one. Differentiating [18] yields:

$$\Delta TB_i = \frac{\Delta x_i}{x_i} - \frac{\Delta m_i}{m_i} \quad [19]$$

If we transform the equivalence:

$$\Delta x_i = \sum_{j \neq i} \Delta x_{ij} \quad [20]$$

into:

$$\frac{\Delta x_i}{x_i} = \sum_{j \neq i} \frac{x_{ij}}{x_i} \frac{\Delta x_{ij}}{x_{ij}} \quad [21]$$

and the equivalence:

$$\Delta m_i = \sum_{j \neq i} \Delta m_{ij} \quad [22]$$

into:

$$\frac{\Delta m_i}{m_i} = \sum_{j \neq i} \frac{m_{ij}}{m_i} \frac{\Delta m_{ij}}{m_{ij}} \qquad [23]$$

By using [21] and [23] into [18]we get:

$$\Delta TB_i = \sum_{j \neq i} \frac{x_{ij}}{x_i} \frac{\Delta x_{ij}}{x_{ij}} - \sum_{j \neq i} \frac{m_{ij}}{m_i} \frac{\Delta m_{ij}}{m_{ij}} \qquad [24]$$

Hence, using the import equation [4] and since $x_{ij} = m_{ji}$ we get the expression

$$\Delta TB_i = \sum_{j \neq i}^{n} \left[\frac{x_{ij}}{x_i} \left(\beta_{ji} \frac{\Delta y_j}{y_j} \right) - \frac{m_{ij}}{m_i} \left(\beta_{ij} \frac{\Delta y_i}{y_i} \right) \right] - \sum_{j \neq i}^{n} \frac{x_{ij}}{x_i} \left(\hat{\gamma}_{ij} + \frac{m_{ij}}{m_j} \tilde{\gamma}_{ij} \right) \frac{\Delta p_i}{p_i} \qquad [25]$$

Expression [25] can be inverted as follows:

$$\frac{\Delta p_i}{p_i} = -\left\{ \Delta TB_i - \sum_{j \neq i}^{n} \left[\frac{x_{ij}}{x_i} \left(\beta_{ji} \frac{\Delta y_j}{y_j} \right) - \frac{m_{ij}}{m_i} \left(\beta_{ij} \frac{\Delta y_i}{y_i} \right) \right] \right\} \Big/ \sum_{j \neq i}^{n} \frac{x_{ij}}{x_i} \left(\hat{\gamma}_{ij} + \frac{m_{ij}}{m_j} \tilde{\gamma}_{ij} \right) \qquad [26]$$

It is worth observing the main features of the equilibrium stationary state, where $\frac{\Delta y_i}{y_i} = \frac{\Delta x_i}{x_i} = \frac{\Delta m_i}{m_i} = 0$, (which implies that $\Delta TB_i = 0$).

We start from[24]:

$$\sum_{j \neq i} \frac{x_{ij}}{x_i} \frac{\Delta x_{ij}}{x_{ij}} = \sum_{j \neq i} \frac{m_{ij}}{m_i} \frac{\Delta m_{ij}}{m_{ij}} \qquad [27]$$

If we differentiate [5] and replace it in [27], since $x_{ij} = m_{ji}$ we obtain the following two expressions:

$$\frac{\Delta m_{ij}}{m_{ij}} = \gamma_{ij} \left(\frac{\Delta p_i}{p_i} - \frac{\Delta p_j}{p_j} \right) \qquad [28]$$

$$\frac{\Delta x_{ij}}{x_{ij}} = \gamma_{ji} \left(\frac{\Delta p_j}{p_j} - \frac{\Delta p_i}{p_i} \right) \qquad [29]$$

Imposing for simplicity the traditional neo-classical assumption on price elasticity

$\gamma_{ij} = -1$ we get:

$$\sum_{j \neq i} \frac{x_{ij}}{x_i} \left(\frac{\Delta p_i}{p_i} - \frac{\Delta p_j}{p_j} \right) = \sum_{j \neq i} \frac{m_{ij}}{m_i} \left(\frac{\Delta p_j}{p_j} - \frac{\Delta p_i}{p_i} \right) \quad [30]$$

that is (using the property that $\sum_{j \neq i} \frac{x_{ij}}{x_i} = 1$ and $\sum_{j \neq i} \frac{m_{ij}}{m_i} = 1$)

$$(n-1)\frac{\Delta p_i}{p_i} - \sum_{j \neq i} \frac{x_{ij}}{x_i} \frac{\Delta p_j}{p_j} = -(n-1)\frac{\Delta p_i}{p_i} + \sum_{j \neq i} \frac{m_{ij}}{m_i} \frac{\Delta p_j}{p_j} \quad [31]$$

And finally:

$$\frac{\Delta p_i}{p_i} - \sum_{j \neq i} \frac{1}{2} \left(\frac{x_{ij}}{x_i} + \frac{m_{ij}}{m_i} \right) \frac{\Delta p_j}{p_j} / (n-1) = 0 \quad [32]$$

Expression [32] represents the percentage change of real effective exchange rate, which is equal to 0 in equilibrium. Quite interestingly, [32] expresses the concept that for the real effective exchange rate to be in equilibrium, the domestic price change must match the weighted average of all trade partners' changes. If a system of n equations like [32] is simultaneously resolved the vector of all $\frac{\Delta p_i}{p_i}$ identifies the simultaneous equilibrium where for each country i it is $\Delta TB_i = 0$.

Having clarified the meaning of $\frac{\Delta p_i}{p_i}$ to the purposes of this paper's investigation, we will now pursue the calculation of the real exchange rate adjustment which is consistent with balanced (real) trade balances in all ASEAN+3 countries vis-à-vis their partners, that is to remove trade imbalances within ASEAN+3 area.

We start by defining:

$$TB_i = \ln x_i - \ln m_i \quad [33]$$

By differentiating we obtain:

$$\Delta TB_i = \frac{\Delta x_i}{x_i} - \frac{\Delta m_i}{m_i} \quad [34]$$

Equation [33] expresses the relationship between trade balance adjustment and the dynamics of exports and/or imports. For any required amount of trade balance adjustment a combination of export and import growth will be required. In the following we will derive the rule that connects trade balance adjustment with a set time pattern of growth of exports and imports.

A country's exports and imports at time t, x_t and m_t, can be defined as follows, in the discreet time:

$$x_t = x_0(1+r)^t \quad [35]$$

and:

$$m_t = m_0(1+s)^t \quad [36]$$

Where r and s are the average rates of growth between period 0 and period t for exports and for imports, respectively.

If we impose that TB_t is equal to zero at time t (which is equivalent to $X_t = M_t$), we get the following:

$$x_0(1+r)^t = m_0(1+s)^t \quad [37]$$

Which is equivalent to:

$$\frac{x_0}{m_0} = \frac{(1+s)^t}{(1+r)^t} \quad [38]$$

If we then apply logarithms we get:

$$\ln(\frac{x_0}{m_0}) = \ln(1+s)^t - \ln(1+r)^t \quad [39]$$

Hence, using the property $\ln(1+n) \simeq n$ we obtain the following condition:

$$\frac{1}{t}\ln(\frac{x_0}{m_0}) = s - r \quad [40]$$

Condition [40] is crucial, in that it expresses the differential between the real growth rate of exports and imports consistent with the achievement of real trade balance equilibrium in t periods.

If we replace [40] for TB_i in equation [26] we get, for $t=1$:

$$\frac{\Delta p_i}{p_i} = -\{s_i - r_i - \sum_{j \neq i}^{n}[\frac{x_{ij}}{x_i}(\beta_{ji}\frac{\Delta y_j}{y_j}) - \frac{m_{ij}}{m_i}(\beta_{ij}\frac{\Delta y_i}{y_i})]\} / \sum_{j \neq i}^{n}(\frac{x_{ij}}{x_i}\widehat{\gamma}_{ij} + \frac{m_{ij}}{m_j}\tilde{\gamma}_{ij}) \quad [41]$$

Expression [41] represents the relationship between US dollar-denominated domestic prices (defined as in [6]) and real trade balance. It can be used to simultaneously determine the percentage change of US dollar-denominated domestic prices of each country i which is necessary to achieve from the values consistent with an overall real trade balance equilibrium within the area.

It is worth highlighting that this method provides a simultaneous general equilibrium set of price values. This means that any change in a single trade balance will simultaneously affect all exchange rates of other partner countries.

Given the definition [7], by subtracting any $\frac{\Delta p_j}{p_j}$ from $\frac{\Delta p_i}{p_i}$ we will get the real exchange rate of country i vis-à-vis country j.

3. Numerical simulations

The source of trade data is the International Monetary Fund Direction of Trade statistical database. Bilateral export flows data were used to build ASEAN+3 yearly exports matrices made of 13 rows x 13 columns from 2000 to 2013. (at the time when these simulations were carried out the fourth quarter of 2014 was not available yet). Import matrices were derived by transposing export matrices, thereby achieving f.o.b./f.o.b. consistency. Real GDP data, and export and import unit values indexes were derived from World Bank World Development Indicators. There are no data available for deflating bilateral trade flows, so a geometric average was used, between the export unit value index of the exporting country and the import unit value index of the importing partner.

Long-run bilateral income elasticities were assumed to be all equal to 1, and bilateral price elasticity are assumed to be all equal to -1, as implied by the conventional neoclassical economic trade theory. Matrices B and Γ were computed accordingly.

A note of caution is in order. The system of 156 bilateral trade flows is aggregated in 13 equations in order to determine 13 real effective exchange rates. Since the system is a closed one, with the sum of all trade balances equal to zero, once 12

equations are solved, the 13-th is determined by Walras' law, thus making one equation redundant. Consequently the system of 12 equations and 13 unknowns is underdetermined, unless one unknown is set at a preset constant value. However, having defined the trade balance TBin non-linear form as in [18] conveniently removes the redundancy problem, thus allowing to simultaneously computing the whole vector of prices.

Table 3 represents the percentage deviation from equilibrium values of domestic price index denominated in US dollars of all 13 countries of ASEAN+3 in the period 2000-2013 as calculated from [41]. Positive values $\frac{\Delta p_i}{p_i}$ associate to real deficits of trade balance, and represent the size of the deviation of price from equilibrium . Prices which are higher from their equilibrium level (which is a weighted average of all partners' domestic prices, corrected for demand effects) will be reflected in lower exports and higher imports, and therefore in a trade deficit. Mutatis mutandis, similar considerations hold for negative values of $\frac{\Delta p_i}{p_i}$.

In Table 3, 4 out of 13 countries (Brunei Darussalam, Japan, Korea, and Singapore) display almost permanent deviations of internal prices, which fall under the equilibrium value; they associate with trade surpluses vis-à-vis the other ASEAN+3 partners (see chart 1).

All the other countries, on the trade deficit side, feature domestic prices higher than equilibrium. Among them Cambodia, Vietnam and Philippines display the largest deviations.

All in all, the size of overall deviations (positive or negative) appears relatively moderate, ranging from -4.7 to 5.9 throughout the whole period considered. Since the calculations are based on a priori values for demand and price elasticies, a set of different assumptions has been computed, in particular, to evaluate the sensitivity of the exercise to alternative values of γ_{ij}. In table 4, γ_{ij} terms have been randomly generated, within an interval of -2.2 – 0, with a mean value of -1 and a variance of 0.5. The results display an overall reduction of the size of deviations, which is reflected in a smaller the range of +4.4 to -3.7.

In table 5 larger γ_{ij} values have been imposed (equal to 1.5), resulting in smaller

deviations of $\frac{\Delta p_i}{p_i}$ values. The explanation for this is intuitively simple: with larger price elasticities smaller price changes will produce the same given trade balance disequilibria than larger price changes with smaller price elasticities.

This is confirmed by table 6, where calculations are based on price elasticities γ_{ij} equal to 0.5. Percentage deviations of prices from their equilibrium levels are now far larger than in the basic case, ranging from a maximum value of 11.9 to a minimum value of -9.1.

In previous section 2 it had been suggested that expression [7] represents the real exchange rate between country i and country j. Expression $\frac{\Delta p_i}{p_i} - \frac{\Delta p_j}{p_j}$ therefore represents the percentage deviation of the real exchange rate from its equilibrium value in the simultaneous equilibrium.

Choosing a common value $\frac{\Delta p_j}{p_j}$ for all the countries involved in the exercise is equivalent at setting the currency of country j as the reference currency for the region, or, equivalently as the goal forASEAN+3 members' exchange-rate stabilization policies. Measuring the deviation of every single currency real exchange rate from the reference currency provides a helpful measure of the trade and currency unbalances in the region.

For the sake of illustration, the currencies of the two major economies of the group, the Chinese yuan and the Japanese yen have been adopted in the exercise, under the already described alternative assumptions on the size of γ_{ij}.

In computational terms, choosing Chinese yuan or Japanese yen as a j reference currency is equivalent to calculate the values of:

$$\frac{\Delta p_i}{p_i} - \frac{\Delta p_{China}}{p_{China}} \qquad [43]$$

or:

$$\frac{\Delta p_i}{p_i} - \frac{\Delta p_{Japan}}{p_{Japan}} \qquad [44]$$

For every $i \neq j$ ASEAN+3 currency.

As it can be seen in tables from 7 to 12, the size of deviations of real exchange rates from their equilibrium values is larger if the Japanese yen is adopted as a reference currency rather than the Chinese yuan. The reason is to be attributed to the systematic deviation of Japanese domestic prices expressed in US dollars from its equilibrium values, as computed in accordance to the procedure described in section 2.

The above result is attenuated or reinforced if price elasticities are larger or smaller respectively.

4. Conclusion

Extracting policy content from a numerical exercise which is meant to be as tentative and preliminary, is beyond the purposes of this paper. This paper has presented a new approach to the determination of real equilibrium exchange rate based on a general equilibrium approach where all exchange rates of the member countries of an integrated regional entity are determined simultaneously.

As the methodological illustration of section 2 clearly shows, bilateral trade elasticities may play a central role in the implementation of the method for policy purposes. For example, numerical simulations on the impact of the weaker yen on other Asian economies have suggested that yen depreciation in the period between 2012 and 2013 has exerted asymmetric effects on Asian partner economies (namely China and South Korea) depending on the degree of complementarity among Japanese traded goods and those produced by trade partners[11]. Clearly this peculiarity would translate into different bilateral elasticities between Japan on the one hand, and China or South Korea on the other, with obvious implications for the determination of the equilibrium exchange rates of the countries involved. Further effort should be therefore dedicated to the econometric estimation of bilateral elasticities across the region, in order to better catch the effects of national peculiarities and asymmetries.

Lastly, a special emphasis should be placed on the risks involved by a situation of permanent trade imbalances within an integrated area such as ASEAN+3. The case

11 RIETI (2013).

of the European Union may be telling in this respect12.

References

Clark, P.B. and R. MacDonald (1998), "Exchange Rates and Economic Fundamentals: A Methodological Comparison of BEERs and FEERs", IMF Working Paper, WP/98/67, May.

Cline W.R. (2008), "Estimating Consistent Fundamental Equilibrium Exchange Rates", Peterson Institute for International Economics, Working Paper Series 08-6.

De Grauwe, P (2012), "In Search of Symmetry on the Eurozone", CEPS Policy Brief n. 268, May.

Goldstein, M., Kahn M. S. and L.H. Officer (1980), "Prices of Tradable and Nontradable Goods in the Demand for Total Imports", The Review of Economics and Statistics, 62, 2, May.

Houthakker, H. S. and S. P. Magee (1969), "Income and Price Elasticities in World Trade", The Review of Economics and Statistics, 51, 2, May.

Hughes-Hallett A. and J.C. Martinez Oliva (2015), "The Importance of Trade and Capital Imbalances in the European Debt Crisis", Journal of Policy Modeling, 2015, vol. 37, issue 2, pages 229-252.

Jeong, S.E. and J. Mazier (2001), "Equilibrium Exchange Rates of Eight East Asian Currencies: A Fundamental Equilibrium Exchange Rate (FEER) Approach" University of Paris-Nord (CEPN).

Kahn, M. S. and K.Z. Ross (1975), "Cyclical and Secular Income Elasticities of the Demand for Imports", The Review of Economics and Statistics, 57, 3, August.

Kawai, M. (2014), "Asian Monetary Integration: A Japanese Perspective", Asian Development Bank Institute, ADBI Working Paper Series No. 475, April.

Kawai M. (2009), "The Role of an Asian Currency Unit for Asian Monetary Integration", Asian Development Bank Institute, 9 September (mimeo).

Moore G.H. (1983), "Will the "Real" Trade Balance Please Stand up?",Journal of International Business Studies, 14, 1, Spring – Summer.

Mori J., M. Kinukawa, H. Nukaya, and M. Hashimoto (2002), "Integration of East Asian Economics and a Step by Step Approach Towards a Currency Basket Regime", IIMA Research Report 2.

Murray, T. and P.J. Ginman (1976), "An Empirical Examination of the Traditional Aggregate Import Demand Model", The Review of Economics and Statistics, 58, 1, May.

12 Hughes-Hallettand Martinez Oliva (2015).

Nurkse R. (1945), "Conditions of International Monetary Equilibrium", Princeton Essays in International Finance, N. 4, Spring.

Ogawa E. (2006), "AMU and AMU Deviation Indicators", Tokio, Research Institute of Economy, Trade, and Industry (RIETI).

Ogawa E. and J. Shimizu (2011), "Asian Monetary Unit and Monetary Cooperation in Asia", Asian Development Bank Institute, ADBI Working Paper Series No. 275, April.

Ogawa E. and J. Shimizu (2006), "AMU Deviation Indicator for Coordinated Exchange Rate Policies in East Asia and its Relation with Effective Exchange Rates", RIETI Discussion Paper 06-E-002. January.

Ogawa E. and J. Shimizu (2005), "A Deviation Measurement for Coordinated Exchange Rate Policies in East Asia", RIETI Discussion Paper Series 05-E-017. May.

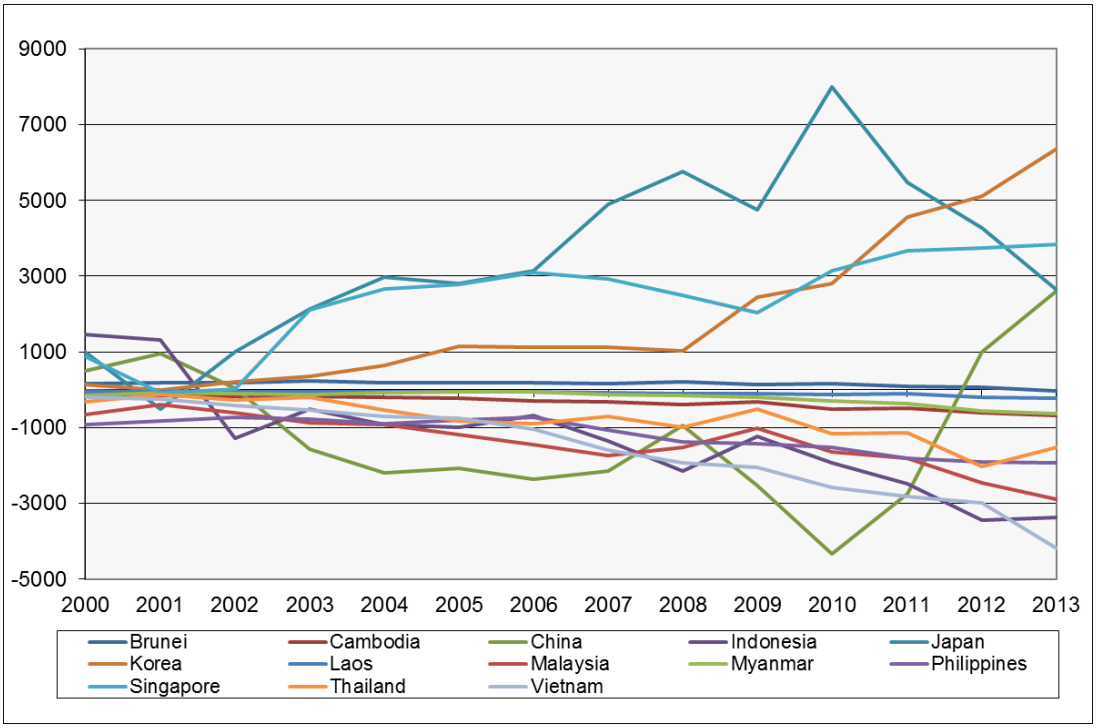
Park, Y.C. and C.Y. Song (2011), "Prospects for Monetary Cooperation in East Asia", Asian Development Bank Institute, ADBI Working Paper Series No. 314, October.

Park, Y. C. and C. Wyplosz (2010), "Monetary and Financial Integration in East Asia. The Relevance of European Experience", Oxford University Press, Oxford.

RIETI (2013), "Impact of the Weaker Yen on Asian Economies: With a focus on comparing China and South Korea", www.rietigo.jap/en/china

Charts and Tables

Figure 1: Trade Balances in real terms of ASEAN+3 countries



Source, IMF DOT statistics and author's calculations

Table 1: Intra- and extra-ASEAN trade, 2013
Million US dollars and percentages

Country	Intra-ASEAN exports		Extra-ASEAN exports		Total exports	Intra-ASEAN imports		Extra-ASEAN imports		Total imports	Intra-ASEAN trade		Extra-ASEAN trade		Total trade
	Value	Share to total exports	Value	Share to total exports		Value	Share to total imports	Value	Share to total imports		Value	Share to total trade	Value	Share to total trade	
Brunei Darussalam	2.644,33	23,10	8.801,09	76,90	11.445,42	1.843,62	51,04	1.768,15	48,96	3.611,78	4.487,95	29,81	10.569,24	70,19	15.057,19
Cambodia	1.300,86	14,22	7.847,32	85,78	9.148,18	2.818,25	30,71	6.357,72	69,29	9.175,97	4.119,11	22,48	14.205,04	77,52	18.324,15
Indonesia	40.630,76	22,26	141.921,04	77,74	182.551,80	54.030,99	28,95	132.597,68	71,05	186.628,67	94.661,75	25,64	274.518,72	74,36	369.180,47
Lao PDR	1.234,33	47,61	1.358,48	52,39	2.592,81	2.494,96	75,79	797,08	24,21	3.292,05	3.729,29	63,37	2.155,57	36,63	5.884,86
Malaysia	63.981,57	28,02	164.349,73	71,98	228.331,30	55.050,65	26,74	150.846,78	73,26	205.897,42	119.032,22	27,41	315.196,51	72,59	434.228,73
Myanmar	5.624,94	49,18	5.811,38	50,82	11.436,33	4.244,01	35,34	7.765,11	64,66	12.009,12	9.868,95	42,09	13.576,49	57,91	23.445,45
Philippines	8.614,87	15,96	45.363,40	84,04	53.978,27	14.171,35	21,76	50.959,27	78,24	65.130,62	22.786,22	19,13	96.322,67	80,87	119.108,89
Singapore	128.787,01	31,39	281.462,69	68,61	410.249,70	77.885,29	20,88	295.130,47	79,12	373.015,77	206.672,30	26,39	576.593,17	73,61	783.265,47
Thailand	59.320,50	25,93	169.409,72	74,07	228.730,22	44.348,14	17,77	205.168,99	82,23	249.517,12	103.668,64	21,68	374.578,71	78,32	478.247,35
Viet Nam	18.178,91	13,70	114.485,19	86,30	132.664,10	21.352,95	16,16	110.756,92	83,84	132.109,87	39.531,86	14,93	225.242,11	85,07	264.773,97
ASEAN	330.318,07	20,62	1.271.399,52	79,38	1.601.717,59	278.240,23	22,43	962.148,17	77,57	1.240.388,39	608.558,30	24,23	1.902.958,23	75,77	2.511.516,53

Source: www.asean.org - External Trade Statistics

Table 2: Asean Trade by Partner in 2013

Thousands US dollars

Trade partner country	Value of trade			Share to total		
	Exports from ASEAN	Imports by ASEAN	Total trade	Exports from ASEAN	Imports from ASEAN	Total trade
ASEAN	330.318.074,7	278.240.225,7	608.558.300,4	50,2	41,1	45,6
China	152.545.531,7	197.962.837,0	350.508.368,7	23,2	29,3	26,3
Japan	122.863.231,8	117.903.870,5	240.767.102,3	18,7	17,4	18,0
Korea, Republic of	52.822.992,7	82.139.580	134.962.572,8	8,0	12,1	10,1
Total	658.549.830,9	676.246.513,3	1.334.796.344,2	100,0	100,0	100,0

Source: www.asean.org - External Trade Statistics

Table 3- standard price elasticities (gamma=-1.0)

	Domestic price index denominated in US dollars (*) (percentage deviations from equilibrium values)											
YEAR	BRD	CAM	CHN	IND	JAP	KOR	LAO	MAL	MYN	PHL	SNG	THL	VTN
2000	-3	5.4	-.8	-3.3	-1.3	-.2	3.1	1.1	3.5	2.5	1.4	.7	1
2001	-3.3	5.5	-1.4	-3	.7	0	3.6	.7	1.7	2.3	.1	.3	1.1
2002	-2.7	5.6	0	-2.8	-1.2	.3	3.7	1	1.6	1.8	0	.5	1.8
2003	-3.5	5.6	1.7	.9	-2.2	-.4	3.8	1.2	2.2	1.7	-2.6	.3	2
2004	-3	5.7	2	1.4	-2.6	-.7	4	1.1	1.4	1.7	-2.8	.8	2.1
2005	-3	5.6	1.7	1.4	-2.3	-1.1	3.3	1.4	.8	1.5	-2.7	1.1	2
2006	-3	5.7	1.8	.9	-2.4	-1	2.3	1.5	.7	1.4	-2.7	1.1	2.5
2007	-2.6	5.9	1.5	1.6	-3.4	-.9	2.8	1.7	1.6	1.9	-2.4	.8	3.2
2008	-2.8	6	.6	2.4	-3.8	-.8	3	1.4	1.5	2.4	-2	1	3.4
2009	-2	5	1.8	1.6	-3.5	-2	2.9	1.1	2	2.8	-1.8	.6	3.7
2010	-2.2	5.5	2.5	2	-4.7	-1.9	2.7	1.4	2.6	2.3	-2.3	1.1	3.8
2011	-1	5.1	1.5	2.3	-3.1	-2.8	2.2	1.5	2.6	2.8	-2.5	1	3.7
2012	-.8	5.1	-.5	3	-2.4	-3.1	2.9	1.9	3.4	2.7	-2.5	1.7	3.5
2013	.4	4.9	-1.3	2.9	-1.4	-3.6	2.9	2.1	3.1	2.6	-2.4	1.3	4.2
(*) Positive (negative) values indicate competitiveness loss (gain)													

Table 4- Random price elasticities (mean=-1;variance=0.5; interval=-2.2-0)

	Domestic price index denominated in US dollars (*) (percentage deviations from equilibrium values)											
YEAR	BRD	CAM	CHN	IND	JAP	KOR	LAO	MAL	MYN	PHL	SNG	THL	VTN
2000	-2.5	4.4	-.6	-2.7	-1.1	-.2	2.6	.9	2.9	2.1	1.1	.6	.8
2001	-1.2	1.9	-1	-1.7	.5	0	1.2	.5	.6	1.2	.1	.1	.5
2002	-1.7	3.3	0	-1.9	-.9	.2	2.2	.7	1	1.2	0	.4	1.1
2003	-2.3	3.6	1.3	.6	-1.6	-.3	2.4	.9	1.4	1.2	-1.9	.2	1.3
2004	-2.3	4.4	1.5	1.1	-2	-.5	3.1	.9	1.1	1.3	-2.2	.6	1.6
2005	-2.1	3.9	1.3	1	-1.7	-.8	2.3	1	.6	1.1	-2	.8	1.4
2006	-2.4	4.4	1.4	.7	-1.8	-.7	1.8	1.2	.5	1.1	-2.1	.8	2
2007	-2.3	5	1.1	1.3	-2.6	-.7	2.4	1.3	1.4	1.5	-1.9	.6	2.6
2008	-1.4	2.9	.4	1.5	-2.7	-.5	1.4	.9	.7	1.3	-1.3	.6	1.9
2009	-.5	1.1	1.2	.7	-2.2	-1.2	.6	.5	.5	1	-1	.3	1.3
2010	-2	5	2	1.7	-3.7	-1.5	2.5	1.2	2.4	2	-1.8	.9	3.4
2011	-.5	2.9	1.1	1.5	-2.2	-2	1.2	1	1.5	1.7	-1.7	.7	2.3
2012	-.4	2.9	-.4	1.9	-1.7	-2.1	1.6	1.2	2	1.6	-1.7	1.1	2.2
2013	.2	2.5	-.9	1.8	-1	-2.5	1.5	1.3	1.7	1.5	-1.6	.8	2.5

(*) Positive (negative) values indicate competitiveness loss (gain)

Table 5 - high price elasticities (gamma=-1.5)

	Domestic price index denominated in US dollars (*) (percentage deviations from equilibrium values)											
YEAR	BRD	CAM	CHN	IND	JAP	KOR	LAO	MAL	MYN	PHL	SNG	THL	VTN
2000	-2	3.6	-.5	-2.2	-.9	-.1	2.1	.8	2.4	1.7	.9	.5	.7
2001	-1	1.6	-.8	-1.4	.4	0	1	.4	.5	1	.1	.1	.4
2002	-1.4	2.8	0	-1.6	-.8	.2	1.9	.6	.8	1.1	0	.3	1
2003	-2	3.1	1.1	.5	-1.4	-.3	2.1	.8	1.2	1	-1.7	.2	1.1
2004	-2	3.8	1.3	.9	-1.8	-.5	2.7	.8	.9	1.2	-1.9	.5	1.4
2005	-1.9	3.4	1.1	.9	-1.5	-.7	2	.9	.5	1	-1.8	.7	1.3
2006	-2.1	3.9	1.2	.6	-1.6	-.7	1.6	1	.5	.9	-1.9	.7	1.7
2007	-2	4.5	1	1.2	-2.4	-.6	2.1	1.2	1.3	1.4	-1.7	.6	2.4
2008	-1.2	2.6	.4	1.3	-2.4	-.5	1.3	.8	.7	1.2	-1.2	.6	1.7
2009	-.4	1	1	.6	-2	-1.1	.6	.5	.4	.9	-.9	.3	1.2
2010	-1.8	4.5	1.7	1.5	-3.4	-1.3	2.2	1	2.1	1.8	-1.6	.8	3
2011	-.5	2.6	1	1.3	-2	-1.8	1.1	.9	1.3	1.5	-1.5	.6	2
2012	-.4	2.6	-.3	1.7	-1.5	-1.9	1.5	1.1	1.8	1.5	-1.5	1	1.9
2013	.2	2.3	-.8	1.6	-.9	-2.2	1.4	1.2	1.5	1.4	-1.5	.7	2.3

(*) Positive (negative) values indicate competitiveness loss (gain)

Table 6 - Low price elasticities (gamma=-0.5)

	Domestic price index denominated in US dollars (*) (percentage deviations from equilibrium values)												
YEAR	BRD	CAM	CHN	IND	JAP	KOR	LAO	MAL	MYN	PHL	SNG	THL	VTN
2000	-5.7	10.7	-1.5	-6.3	-2.6	-.4	6.2	2.2	6.9	4.9	2.7	1.3	2
2001	-6.3	10.9	-2.8	-5.8	1.4	0	7.2	1.4	3.4	4.5	.3	.5	2.1
2002	-5.2	11.1	-.1	-5.4	-2.4	.6	7.3	1.9	3.2	3.6	-.1	1.1	3.5
2003	-6.6	11.2	3.3	1.7	-4.2	-.8	7.5	2.4	4.3	3.4	-5	.6	3.8
2004	-5.8	11.4	3.8	2.7	-5	-1.3	7.9	2.2	2.7	3.4	-5.4	1.5	4
2005	-5.7	11.1	3.3	2.7	-4.5	-2.1	6.5	2.6	1.6	3	-5.2	2.1	3.9
2006	-5.7	11.3	3.5	1.7	-4.6	-1.9	4.5	3	1.3	2.6	-5.3	2.1	4.9
2007	-5	11.7	2.8	3.2	-6.5	-1.7	5.4	3.2	3.2	3.6	-4.6	1.5	6.2
2008	-5.3	11.9	1.2	4.7	-7.4	-1.5	5.8	2.7	3	4.7	-3.8	2	6.6
2009	-3.9	9.8	3.5	3	-6.7	-3.8	5.8	2	3.8	5.5	-3.4	1.2	7.3
2010	-4.2	10.9	4.8	3.8	-9.1	-3.6	5.2	2.7	5.1	4.5	-4.4	2.2	7.5
2011	-1.8	10.2	2.9	4.4	-6	-5.5	4.3	2.8	5.1	5.4	-4.9	2	7.2
2012	-1.5	10.2	-1	5.9	-4.6	-5.9	5.7	3.7	6.8	5.3	-4.7	3.3	6.8
2013	.7	9.6	-2.5	5.7	-2.8	-7	5.6	4.1	6.1	5.1	-4.7	2.4	8.3

(*) Positive (negative) values indicate competitiveness loss (gain)

Table 7 - standard price elasticities (gamma=-1.0)

	Real exchange rate vis-à-vis the Chinese yuan Percentage deviations from equilibrium values)											
YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2000	-2.2	6.2	-2.5	-.5	.6	3.9	1.9	4.3	3.3	2.2	1.5	1.8
2001	-.3	3.5	-.9	1.8	1.2	2.8	1.8	2	2.7	1.3	1.4	1.8
2002	-2.1	4.2	-2.4	-1.2	.3	2.8	.9	1.3	1.6	0	.5	1.5
2003	-4.5	3	-.8	-3.7	-2	1.5	-.4	.2	-.1	-4.1	-1.3	.1
2004	-5	3.7	-.6	-4.6	-2.7	2	-.9	-.6	-.3	-4.8	-1.2	.1
2005	-4.4	3.4	-.4	-4	-2.8	1.3	-.4	-1	-.2	-4.3	-.7	.2
2006	-4.9	4.1	-.9	-4.2	-2.8	.6	-.2	-1.1	-.4	-4.6	-.7	.8
2007	-4.5	5.2	.3	-5	-2.4	1.7	.3	.4	.5	-4	-.7	2
2008	-2.4	3.2	1.4	-4.2	-1.3	1.3	.6	.4	1.2	-2.3	.3	1.9
2009	-2.2	-.1	-.7	-4.5	-3.2	-.7	-.9	-1	-.3	-2.9	-1.2	.2
2010	-5.2	4.1	-.4	-7.5	-4.6	.7	-1.1	.6	0	-5	-1.4	1.9
2011	-2.1	2.4	.6	-4.3	-4	.2	-.1	.6	.9	-3.7	-.5	1.6
2012	-.1	4.4	3.1	-1.7	-2.3	2.7	2.2	3.1	2.7	-1.7	2	3.4
2013	1.5	4.7	3.6	-.1	-2.1	3.2	3	3.5	3.3	-1	2.3	4.6

(*) Positive (negative) values indicate competitiveness loss (gain)
(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON;
(6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $
(11) THAILAND BAHT; (12) VIETNAM DONG.

Table 8 - standard price elasticities (gamma=-1.0)

YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Real exchange rate vis-à-vis the Japanese yen Percentage deviations from equilibrium values)											
2000	-1.7	6.7	.5	-2	1.1	4.4	2.4	4.8	3.8	2.7	2	2.3
2001	-2.1	1.7	-1.8	-2.7	-.6	1	0	.2	.9	-.5	-.4	0
2002	-.9	5.4	1.2	-1.2	1.5	4	2.1	2.5	2.8	1.2	1.7	2.7
2003	-.8	6.7	3.7	2.9	1.7	5.2	3.3	3.9	3.6	-.4	2.4	3.8
2004	-.4	8.3	4.6	4	1.9	6.6	3.7	4	4.3	-.2	3.4	4.7
2005	-.4	7.4	4	3.6	1.2	5.3	3.6	3	3.8	-.3	3.3	4.2
2006	-.7	8.3	4.2	3.3	1.4	4.8	4	3.1	3.8	-.4	3.5	5
2007	.5	10.2	5	5.3	2.6	6.7	5.3	5.4	5.5	1	4.3	7
2008	1.8	7.4	4.2	5.6	2.9	5.5	4.8	4.6	5.4	1.9	4.5	6.1
2009	2.3	4.4	4.5	3.8	1.3	3.8	3.6	3.5	4.2	1.6	3.3	4.7
2010	2.3	11.6	7.5	7.1	2.9	8.2	6.4	8.1	7.5	2.5	6.1	9.4
2011	2.2	6.7	4.3	4.9	.3	4.5	4.2	4.9	5.2	.6	3.8	5.9
2012	1.6	6.1	1.7	4.8	-.6	4.4	3.9	4.8	4.4	0	3.7	5.1
2013	1.6	4.8	.1	3.7	-2	3.3	3.1	3.6	3.4	-.9	2.4	4.7

(*) Positive (negative) values indicate competitiveness loss (gain)
(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON;
(6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $
(11) THAILAND BAHT; (12) VIETNAM DONG.

Table 9 - high price elasticities (gamma=-1.5)

YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Real exchange rate vis-à-vis the Chinese yuan Percentage deviations from equilibrium values)											
2000	-1.5	4.1	-1.7	-.4	.4	2.6	1.3	2.9	2.2	1.4	1	1.2
2001	-.2	2.4	-.6	1.2	.8	1.8	1.2	1.3	1.8	.9	.9	1.2
2002	-1.4	2.8	-1.6	-.8	.2	1.9	.6	.8	1.1	0	.3	1
2003	-3.1	2	-.6	-2.5	-1.4	1	-.3	.1	-.1	-2.8	-.9	0
2004	-3.3	2.5	-.4	-3.1	-1.8	1.4	-.5	-.4	-.1	-3.2	-.8	.1
2005	-3	2.3	-.2	-2.6	-1.8	.9	-.2	-.6	-.1	-2.9	-.4	.2
2006	-3.3	2.7	-.6	-2.8	-1.9	.4	-.2	-.7	-.3	-3.1	-.5	.5
2007	-3	3.5	.2	-3.4	-1.6	1.1	.2	.3	.4	-2.7	-.4	1.4
2008	-1.6	2.2	.9	-2.8	-.9	.9	.4	.3	.8	-1.6	.2	1.3
2009	-1.4	0	-.4	-3	-2.1	-.4	-.5	-.6	-.1	-1.9	-.7	.2
2010	-3.5	2.8	-.2	-5.1	-3	.5	-.7	.4	.1	-3.3	-.9	1.3
2011	-1.5	1.6	.3	-3	-2.8	.1	-.1	.3	.5	-2.5	-.4	1
2012	-.1	2.9	2	-1.2	-1.6	1.8	1.4	2.1	1.8	-1.2	1.3	2.2
2013	1	3.1	2.4	-.1	-1.4	2.2	2	2.3	2.2	-.7	1.5	3.1

(*) Positive (negative) values indicate competitiveness loss (gain)
(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON;
(6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $
(11) THAILAND BAHT; (12) VIETNAM DONG.

Table 10 - high price elasticities (gamma=-1.5)

	Real exchange rate vis-à-vis the Japanese yen Percentage deviations from equilibrium values)											
YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2000	-1.1	4.5	.4	-1.3	.8	3	1.7	3.3	2.6	1.8	1.4	1.6
2001	-1.4	1.2	-1.2	-1.8	-.4	.6	0	.1	.6	-.3	-.3	0
2002	-.6	3.6	.8	-.8	1	2.7	1.4	1.6	1.9	.8	1.1	1.8
2003	-.6	4.5	2.5	1.9	1.1	3.5	2.2	2.6	2.4	-.3	1.6	2.5
2004	-.2	5.6	3.1	2.7	1.3	4.5	2.6	2.7	3	-.1	2.3	3.2
2005	-.4	4.9	2.6	2.4	.8	3.5	2.4	2	2.5	-.3	2.2	2.8
2006	-.5	5.5	2.8	2.2	.9	3.2	2.6	2.1	2.5	-.3	2.3	3.3
2007	.4	6.9	3.4	3.6	1.8	4.5	3.6	3.7	3.8	.7	3	4.8
2008	1.2	5	2.8	3.7	1.9	3.7	3.2	3.1	3.6	1.2	3	4.1
2009	1.6	3	3	2.6	.9	2.6	2.5	2.4	2.9	1.1	2.3	3.2
2010	1.6	7.9	5.1	4.9	2.1	5.6	4.4	5.5	5.2	1.8	4.2	6.4
2011	1.5	4.6	3	3.3	.2	3.1	2.9	3.3	3.5	.5	2.6	4
2012	1.1	4.1	1.2	3.2	-.4	3	2.6	3.3	3	0	2.5	3.4
2013	1.1	3.2	.1	2.5	-1.3	2.3	2.1	2.4	2.3	-.6	1.6	3.2

(*) Positive (negative) values indicate competitiveness loss (gain)
(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON;
(6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $
(11) THAILAND BAHT; (12) VIETNAM DONG.

Table 11 - Low price elasticities (gamma=-0.5)

	Real exchange rate vis-à-vis the Chinese yuan Percentage deviations from equilibrium values)											
YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2000	-4.2	12.2	-4.8	-1.1	1.1	7.7	3.7	8.4	6.4	4.2	2.8	3.5
2001	-.5	7.2	-1.7	3.8	2.5	5.6	3.6	4.1	5.5	2.7	2.9	3.7
2002	-4	8.5	-4.6	-2.2	.6	5.7	1.8	2.6	3.2	0	1	3
2003	-8.8	6	-1.7	-7.3	-4	3	-.9	.4	-.2	-8	-2.6	.1
2004	-9.6	7.6	-1.1	-8.8	-5.1	4.1	-1.6	-1.1	-.4	-9.2	-2.3	.2
2005	-8.6	6.9	-.8	-7.7	-5.4	2.7	-.7	-1.8	-.4	-8.4	-1.3	.4
2006	-9.4	8.2	-1.7	-8.1	-5.4	1.2	-.5	-2.2	-.8	-8.8	-1.4	1.6
2007	-8.6	10.5	.5	-9.6	-4.7	3.3	.5	.7	1.1	-7.7	-1.3	4
2008	-4.7	6.6	2.8	-8	-2.5	2.7	1.2	.9	2.4	-4.5	.6	3.9
2009	-4.4	-.2	-1.2	-8.9	-6.2	-1.4	-1.7	-1.8	-.4	-5.7	-2.3	.5
2010	-10	8.3	-.7	-14.5	-8.8	1.4	-2	1.2	.1	-9.7	-2.6	3.7
2011	-4.2	4.8	1.1	-8.5	-7.9	.4	-.3	1.1	1.7	-7.3	-1.1	3.2
2012	-.1	8.7	6.1	-3.4	-4.5	5.4	4.3	6.2	5.4	-3.4	3.9	6.7
2013	2.9	9.3	7.2	-.2	-4.1	6.4	6	6.8	6.5	-1.8	4.5	9.2

(*) Positive (negative) values indicate competitiveness loss (gain)
(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON;
(6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $
(11) THAILAND BAHT; (12) VIETNAM DONG.

Table 12 - Low price elasticities (gamma=-0.5)

	Real exchange rate vis-à-vis the Japanese yen Percentage deviations from equilibrium values)											
YEAR	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
2000	-3.1	13.3	1.1	-3.7	2.2	8.8	4.8	9.5	7.5	5.3	3.9	4.6
2001	-4.3	3.4	-3.8	-5.5	-1.3	1.8	-.2	.3	1.7	-1.1	-.9	-.1
2002	-1.8	10.7	2.2	-2.4	2.8	7.9	4	4.8	5.4	2.2	3.2	5.2
2003	-1.5	13.3	7.3	5.6	3.3	10.3	6.4	7.7	7.1	-.7	4.7	7.4
2004	-.8	16.4	8.8	7.7	3.7	12.9	7.2	7.7	8.4	-.4	6.5	9
2005	-.9	14.6	7.7	6.9	2.3	10.4	7	5.9	7.3	-.7	6.4	8.1
2006	-1.3	16.3	8.1	6.4	2.7	9.3	7.6	5.9	7.3	-.7	6.7	9.7
2007	1	20.1	9.6	10.1	4.9	12.9	10.1	10.3	10.7	1.9	8.3	13.6
2008	3.3	14.6	8	10.8	5.5	10.7	9.2	8.9	10.4	3.5	8.6	11.9
2009	4.5	8.7	8.9	7.7	2.7	7.5	7.2	7.1	8.5	3.2	6.6	9.4
2010	4.5	22.8	14.5	13.8	5.7	15.9	12.5	15.7	14.6	4.8	11.9	18.2
2011	4.3	13.3	8.5	9.6	.6	8.9	8.2	9.6	10.2	1.2	7.4	11.7
2012	3.3	12.1	3.4	9.5	-1.1	8.8	7.7	9.6	8.8	0	7.3	10.1
2013	3.1	9.5	.2	7.4	-3.9	6.6	6.2	7	6.7	-1.6	4.7	9.4

(*) Positive (negative) values indicate competitiveness loss (gain)

(1) BRUNEI $; (2) CAMBODIA RIEL; (3) INDONESIAN RUPIAH; (4) JAPANESE YEN; (5) KOREAN WON; (6) LAOS KIP; (7) MALAYSIAN RINGGIT; (8) MYANMAR KYAT; (9) PHILIPPINES PESO; (10) SINGAPORE $ (11) THAILAND BAHT; (12) VIETNAM DONG.

IMI International Monetary Review

RMB Bilateral Swap Agreements: How China Chooses its Partners?*

By ALICIA GARCIA-HERRERO * and XIA LE**

As part of the measures taken to foster the internationalization of the RMB, China has signed RMB Bilateral Swap agreements (BSAs) with a number of countries. Although the Chinese government has stressed the importance of trade as the key driver of signing RMB BSAs, its validity hasn't been tested yet. This paper analyzes empirically the key determinants for China to choose its RMB BSA partners. We find that the gravity factors are predominant (closeness to China and a bigger size increase a country's likelihood of signing an RMB BSA). In addition, closer trade links also have a positive impact on China's choice of BSA partners, as claimed by the authorities. Institutional strength is not relevant although China does seem to have a preference for countries with a sovereign default history and financial closedness.

Keywords: RMB Internationalization, Bilateral Swap Agreements

1. Introduction

Having experienced the 2007-2008 global financial crisis, China's authorities embarked on a bold project to internationalize their currency (the RMB) in 2009. Interestingly, the internationalization of the RMB looks quite different from that of the US dollar or the Japanese yen in two aspects: first, the Chinese capital account is not yet fully opened or convertible ; second, the internationalization has so far been more of a government-led process than a market-led one (Frankel, 2012).

In an effort to make the RMB fully convertible, the Chinese government has sign Bilateral Swap Agreements (BSAs) with a number of foreign central banks. Between December 2008 and March 2013, the People's Bank of China (PBoC) signed or renewed RMB denominated BSAs with 19 central banks, with a total value of over USD 300 billion. The PBoC revealed that the main objective of these BSAs is to promote the use of the RMB in trade and investment (PBoC, 2012),

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which is different from the traditional use of BSAs as a precautionary measure to increase liquidity in case of financial crisis. For instance, ten ASEAN countries signed BSAs with the three largest East Asian economies (Japan, South Korea and China) under the Chiang Mai Initiative (CMI) to prevent the recurrence of the 1997-1998 Asian Financial Crisis. During the 2008-09 Global Financial Crisis (GFC), the US Federal Reserve also signed a number of temporary BSAs with foreign central banks to secure these countries' access to US dollar liquidity amidst the financial market turmoil. (Aizenman and Pasricha, 2010)

This paper investigates how China chooses its partner countries in RMB BSAs. By adopting logistics models, we test whether the official objective of trade promotion dominates its choices and look into other factors. The empirical results show that both gravity (in terms of country size and distance from China) and trade (in terms of bilateral trade volume and, to a lesser extent, the existence of a Free Trade Area (FTA) with China) significantly influence the Chinese choice of BSA partners. On the other hand, institutional strength doesn't seem to be relevant, contradicting our hypothesis that China may favor countries with weaker institutional environment and/or prevalent corruption. We also find that China seems to have a preference for countries with a default history, which necessitates cautious interpretations.

The rest of the paper is organized as follows. In the next section, we briefly introduce the characteristics of RMB BSAs, especially against the backdrop of the RMB internationalization. Section 3 explains the empirical specification and related data issues. The results are described in Section 4 as well as the robustness check. We conclude in section 5.

2. Background and literature review

The RMB internationalization and the BSAs signed by China

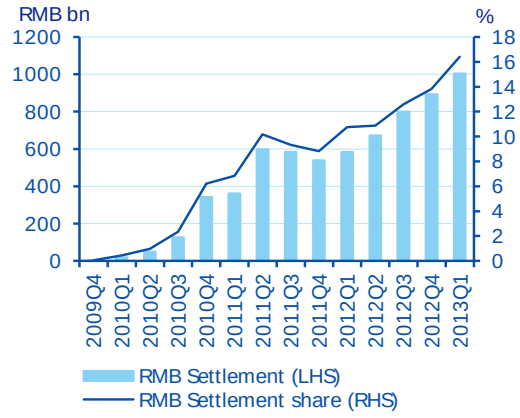
The internationalization of the RMB began in 20091 after Chinese authorities launched a Pilot Program of RMB Settlement of Cross-Border Trade Transactions (henceforth referred to as Pilot Program), which enabled some designated companies in China and abroad to settle their trades in the RMB. The Pilot Program was expanded in June 2010 and in August 2011 to make all enterprises—whether inside or outside of China—eligible for cross-border RMB settlements. The proportion of RMB-settled trade in the total trade of China increased from nearly 0% to 16.3% in

1 One of our referees argued that Chinese authorities applied other steps for promoting RMB internalization even before the implementation of the Pilot Program, such as allowing RMB deposits in Hong Kong in 2004. However, we treat these early steps as part of special arrangements between China and Hong Kong.

Q1 2013 after the implementation of the Pilot Program (Chart 1).

Chart 1

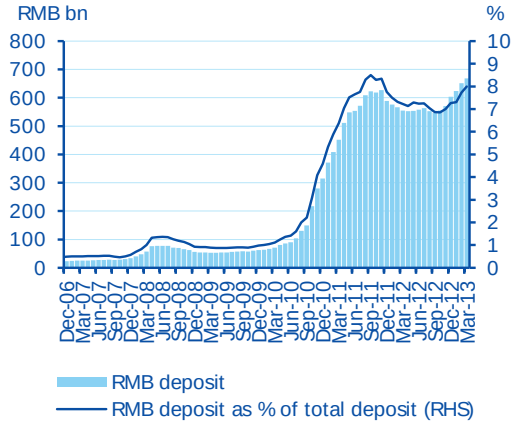
RMB trade settlement grew rapidly



Source: CEIC and BBVA Research

Chart 2

RMB deposit in Hong Kong has increased fast



Source: CEIC and BBVA Research

Along with this program, Chinese authorities implemented other complementary measures to increase the availability of RMB funds in offshore markets as well as to enhance the RMB acceptance of foreigners. One important step was to establish offshore RMB centers outside of China. In this regard, Hong Kong was initially chosen as the "premier" offshore RMB center because of its special relationship with China and its long-standing position as an international financial center (Garcia-Herrero et al., 2012a). As of late February 2013, the offshore RMB deposits in Hong Kong amounted to RMB 652 billion or 7.7% of the total deposits (Chart 2). Moreover, the rapid growth of offshore RMB businesses lured other financial centers, such as Singapore, Taipei, London and Paris, into establishing new offshore RMB centers (Garcia-Herrero et al., 2012 b).

Chinese authorities also aimed to create an institutional foundation for the RMB internationalization by establishing RMB BSAs with foreign central banks. BSA is not a new concept in China. The origin of the BSAs of China with other countries could be traced back to the Chiang Mai Initiative (CMI), under which China signed BSAs with South Korea, Japan, and four ASEAN countries (Table 1). However, the primary objective of these agreements was to boost the defenses of Asian countries against potential financial shocks, thus averting the recurrence of the 1997–1998

Asian Financial Crisis (Yu and Gao, 2011). In terms of denominated currency, three of these six CMI BSAs were denominated in the US dollar, and the remaining BSAs were denominated in the RMB. However, the sizes of these RMB-denominated BSAs were measured in the US dollar too because the objective of such agreements was to provide US dollar liquidity during a crisis. In other words, the US dollar—rather than the RMB—played the central role in these CMI BSAs signed by China.

Table 1: CMI Bilateral Swap Agreements: China and other ASEAN+3 countries (as of Jan 2010)

Bilateral Swap Agreements (CMI)	**One / Two Way**	**Currencies**	**Size (USD bn)**	**Status**
China – Thailand	One	USD/Baht	2.0	Concluded: Dec 2001 Expired: Dec 2004
China - Japan	Two	RMB/Yen Yen/RMB	6.0	Concluded: Mar 2002
China - Korea	Two	RMB/Won Won/RMB	8.0	Concluded: Jun 2002
China - Malaysia	One	USD/Ringgit	1.5	Concluded: Oct 2002
China - Philippines	One	RMB/Peso	2.0	Concluded: Aug 2003 Amended: Apr 2007
China - Indonesia	One	USD/Rupiah	4.0	Concluded: Dec 2003 Amended: Oct 2006

Source: Yu and Gao (2011) and Bank of Japan

By December 2008, China began to sign RMB-denominated BSAs with other foreign central banks. The first RMB-denominated BSA, amounting to RMB 200 billion and with a maturity of three years, was signed with South Korea. Prior to its expiration in 2011, China and South Korea renewed the BSA and doubled its size to RMB 400 billion. After that, 19 more countries/regions signed RMB-denominated

BSAs with China between December 2008 and late March 2013 (Table 2).

The working mechanisms of these RMB BSAs should not differ from those of previous BSAs under the CMI framework or those of BSAs used by the US Federal Reserve, the latter of which provided liquidity to several countries during the 2008-2009 global financial crisis (Rose and Spiegel, 2012). A country with a BSA could provide funds (in denominated currencies as specified in the agreement) to its counterparty, thus enabling the latter to inject liquidity to its domestic financial institutions during a market stress. For example, the Hong Kong Monetary Authority (HKMA) announced the use of its RMB BSA in late 2011 when the strong demand for offshore RMB sharply decreased the market liquidity.

However, the objectives of RMB BSAs seemed to differ from those of previous CMI BSAs and the ones signed by the US Federal Reserve. In their 2012 annual report, the PBoC clearly stated that these RMB BSAs were signed to promote the usage of the RMB in cross-border trade and investment transactions. The partners of these RMB BSAs also expressed a similar view. For example, after singing an RMB BSA with China, Mr. Yaseen Anwar (2011), the governor of the State Bank of Pakistan, said that "…it (the BSA) is to enhance the role of the Chinese Yuan in international trade and investment."

In terms of geographical distribution, the majority of RMB BSA partners are located in the Asia-Pacific region, and few are located in Europe (Iceland, Belarus, and Turkey) and South America (Brazil and Argentina). RMB BSAs generally have a three-year maturity. Hence, by the end of March 2013, the BSAs with South Korea, Hong Kong, and Malaysia were renewed and expanded prior to their expiration. However, the BSAs with Belarus, Indonesia, and Argentina expired in 2012 without an announcement of renewal.

Table 2: China's RMB BSAs with other countries (as of March 2013)

RMB BSAs	Size	Effective Date	Expiration Date
China-South Korea	180 bn RMB/38 Tr Won	Dec-08	Dec-11
Renewed	360 bn RMB/64 Tr Won	Oct-11	Oct-14
China-Hong Kong	200 bn RMB/227 bn HKD	Jan-09	Jan-12
Renewed	400 bn RMB/490 bn HKD	Nov-11	Nov-14
China-Malaysia	80 bn RMB/40 bn MYR	Feb-09	Feb-12
Renewed	180 bn RMB/90 bn MYR	Feb-12	Feb-15
China-Belarus	20 bn RMB/8 tr BYB	Mar-09	Mar-12
China-Indonesia	100 bn RMB/ 175 tr Rupiah	Mar-09	Mar-12
China-Argentina	70 bn RMB/ Equal Amount Peso	Mar-09	Mar-12

China-Iceland	3.5 bn RMB/66 bn ISK	Jun-10	Jun-13
China-Singapore	150 bn RMB/30 bn SGD	Jul-10	Jul-13
China-New Zealand	25 bn RMB	Apr-11	Apr-14
China-Uzbekistan	0.7 bn RMB	Apr-11	Apr-14
China-Mongolia	5 bn RMB	May-11	May-14
Expanded	10 bn RMB	Mar-12	May-14
China-Kazakhstan	7 bn RMB	Jun-11	Jun-14
China-Thailand	70 bn RMB/ 320 bn THB	Dec-11	Dec-14
China-Pakistan	10 bn RMB/140 bn PKR	Dec-11	Dec-14
China-UAE	35 bn RMB/20 bn AED	Jan-12	Jan-15
China-Turkey	10 bn RMB/3 bn TRY	Feb-12	Feb-15
China-Australia	200 bn RMB/30 bn AUD	Mar-12	Mar-15
China-Ukraine	15 bn RMB/19 bn UAH	Jun-12	Jun-15
China-Brazil	190 bn RMB/60 bn BRL	March-13	March-16

Source: the PBoC and BBVA Research

Other forms of RMB-related bilateral financial arrangements

Aside from RMB BSAs, China has also engaged in other forms of RMB-related bilateral financial arrangements with other countries to facilitate cross-border RMB settlements. For example, the PBoC established bilateral RMB clearing systems with the respective central banks of Hong Kong, Macao, Taiwan, and Singapore during our investigated period between December 2008 and March 2013. Under the RMB clearing system, the PBoC designated an overseas branch/subsidiary of a Chinese commercial bank as the clearing bank in the counterparty country (Garcia Herrero et al., 2012a). On behalf of the PBoC, the subsidiary provides RMB-related clearing services to financial institutions in the counterparty country and helps maintain liquidity adequacy in offshore RMB markets. Bilateral RMB clearing systems appear to complement RMB BSAs. The RMB clearing system in Hong Kong was established almost in tandem with the signing of the RMB BSA. Singapore established its own RMB clearing system two years after signing its RMB BSA. Beijing and Taipei were reported to continue their RMB BSA negotiations after establishing an RMB clearing system (The China Post, November 12, 2013). However, Macao seemed to be an exception, considering that the RMB clearing system of the region was not accompanied with a BSA, which could be attributed to its small economy.

Another type of RMB-related bilateral financial arrangement is the direct trading of the RMB with other currencies. Trading the RMB with another currency in

foreign exchange markets previously required the usage of the US dollar as an intermediary. RMB was first traded against the Russian Ruble (RUB) in December 2010 and against the Japanese Yen (JPY) in 2012. Under the direct trading mechanism, the RMB market makers in the country can come back to the onshore forex market of China to settle their RMB net positions, which does not require the usage of the USD as an intermediary.

Given their similarities to RMB BSAs in terms of facilitating cross-border RMB settlements, we treat cross-border RMB clearing systems and the nationwide RMB direct-trading mechanism (against RUB and JPY by March 2013) as similar to RMB BSAs in our empirical tests. These tests yield results that are consistent with those of tests that only focus on RMB BSAs.

Previous studies on BSA country selection

Although RMB BSAs are widely cited as an important step in the RMB internationalization, the question of how China chooses its BSA partners has by far attracted limited research attention.

The important empirical analysis of Aizenman and Pasricha (2010) explored how the US Federal Reserve selected emerging markets as their BSA partners at the height of the 2008–2009 global financial crisis. The authors found that the US tended to provide BSAs to emerging countries to whom it has close financial and trade ties, have a high degree of financial openness, and a relatively favorable sovereign credit history. Although the methodology proposed by Aizenman and Pasricha (2010) proved useful, the applicability of their conclusions to RMB BSAs remained doubtful.

Aizenman et al. (2011) further analyzed the role of BSAs as alternatives to foreign reserves and found that the RMB BSAs of China complemented the international reserves of their partners, whereas the BSAs with the US Federal Reserve and the ECB served as alternatives to the foreign reserve accumulation of emerging markets. However, the authors only included three RMB BSAs with Argentina, Indonesia, and Malaysia in their sample, which limits the applicability of their main conclusions.

3. Empirical specification

We use a simple logistic regression model to identify the determinants of RMB BSAs. Our country sample includes 139 countries with relevant data recorded on various databases that we used (Appendix 1). Due to the lack of data, Uzbekistan is not included in the sample even though the country has signed an RMB BSA with

China in April 2011. Eighteen of the 139 countries in the sample signed RMB BSAs between December 2008 and March 2013. The countries not included in our sample were either small or irrelevant to China.

We run two sets of logistic regressions with different dependent variables. In the first set, the dependent dummy variable equals 1 if the country signed an RMB BSA with China during the period between December 2008 and March 2013; and 0 otherwise. In the second set, the dependent dummy variable equals 1 if the country has either an RMB BSA or a similar RMB-related bilateral financial arrangement (i.e., a bilateral RMB clearing system or a direct trading mechanism against RMB) with China; and 0 otherwise. Therefore, dependent variables of four countries (Macao, Taiwan, Russia and Japan) are changed to 1 in the second set of regressions. Macao and Taiwan have bilateral RMB clearing systems with China, whereas Russia and Japan have direct trading mechanisms against the RMB.

We consider five groups of factors that can explain China's selection of its BSA partners. The definitions and sources of these factors are given in Appendix 1. These factors remain valid whether China selects the country to form BSAs with or the counterpart country decides by itself to form BSAs with China.

First, we examine the gravity factors of distance and size. We include these factors because they can help explain bilateral trade flows (Feenstra et al., 2001). Distance is proxied by the geographical distance between Beijing and the capital of the counterparty (DISTANCE), whereas economic size is proxied by the average nominal GDP of a country between 2004 and 2008, as expressed in the US dollar.2 If distance can significantly increase the likelihood that countries would sign RMB BSAs, this may suggest that China follows a regional-to-global route when promoting RMB BSAs or when increasing the international influence of the RMB, which is in line with the arguments proposed by some scholars (Takatoshi, 2011; Yu and Gao, 2011).

The second group of factors is related to trade, which is the primary objective of RMB BSAs, as claimed by Chinese authorities. We use two variables, namely, TRADE and FTA, in this regard. TRADE is the log value of the average bilateral trade volume between China and other countries from 2004 to 2008. We also use other proxies, such as the average bilateral trade volume from 2004 to 2008 or the period five years prior to the signing of the BSAs, and obtain consistent results. We

2 As suggested by our editor, we use the five-year average (from 2004 to 2008) of our regression variables for the sake of consistency. We also run regressions using the five-year average values of these variables prior to the signing of RMB BSAs, and obtain consistent results.

include FTA, which equals 1 if a country is in a free trade area (FTA) with China and 0 otherwise. This is done to determine whether a closer trading relationship can contribute to the signing of an RMB BSA.

The third group comprises financial factors, namely, FDI and CAOP. FDI represents the percentage of FDI that a country receives from China, while CAOP refers to the openness of the capital account (Aizenman and Pasricha, 2010). BSAs aim to facilitate bilateral investments; thus, we expect FDI to increase the likelihood of establishing an RMB BSA between two countries. Therefore, a country has a higher tendency to sign an RMB BSA with China if the FDI from China is very important to it. Aizenman and Pasricha (2010) reported that the US favored those countries with a higher level of CAOP when selecting countries to sign swap agreements with during the 2008–2009 Global Financial Crisis. Hence, we test whether this also applies in the case of China.

The fourth group of factors focus on macroeconomic strength, including, namely, INF, DEFAULT, and ADVANCED. Although inflation (INF) can be used as a measure of macroeconomic instability, a high inflation rate is also associated with a higher share of trade, which is invoiced in foreign currencies. Therefore, we do not have a clear a priori on the sign of the inflation coefficient, which requires further testing. Another measure of macroeconomic strength is the riskiness of a country for its creditors, which is proxied by a dummy variable equals 1 if the country has defaulted between 1983 and 2010 (DEFAULT) and 0 otherwise. ADVANCED reflects the general development level of a country, which equals 1 if a country is classified by the IMF as an advanced country and 0 otherwise.

The fifth group comprises institutional factors. Previous studies on the outward FDI of China have reported that Chinese overseas investment strategies serve to its purpose of influencing certain countries that are institutionally riskier and more corrupted (Kolstad and Wiig, 2012). We therefore test whether these RMB BSAs bear any resemblance to the outward FDI of China using four variables. The first two variables are the Government Effectiveness (GOV) and Corruption (CORRUP) indices of the World Bank, which aim to capture the governance quality and degree of corruption in a country, respectively. A higher GOV indicates better government quality, while a higher CORRUP indicates a lower degree of corruption. If RMB BSAs resemble the outward FDI of China, we expect to obtain a significantly negative coefficient of GOV and CORRUP. We also examine whether the differences in GOV (DIF_GOV) and CORRUP (DIF_CORRUP) between a country and China can affect the tendency for them to sign an RMB BSA.

4. Regression results

Tables 3 and 4 present the simple logistic regression results. Table 3 lists seven different specifications, in which only a country that has signed an RMB BSA with China is given a dependent variable equaling to 1. The regressions shown in Table 4 treat both the bilateral RMB clearing systems and the direct trading mechanism against RMB as similar to RMB BSAs. Not all variables can be included in the same regression because of the high correlations between certain pairs of variables, (Appendix 2).

The first regressions of Tables 3 and 4 show that the coefficients of GDP size and distance are statistically significant and obtain the expected signs, thereby indicating that geographical proximity to China and a larger economic size increase the likelihood that a country would sign an RMB BSA with China. The importance of distance is also emphasized in the remaining regressions of Tables 3 and 4 after adding the bilateral trade variable to the regressors. The relevance of gravity factors is confirmed by the regression results, especially when other forms of RMB arrangements are included. The models in Table 4 have a relatively higher goodness-of-fit in terms of their pseudo R2 values. As described in the previous section, other RMB-related bilateral financial arrangements (such as the direct trading mechanism against the RMB and the bilateral RMB clearing system) can serve as alternatives to RMB BSAs in terms of facilitating cross-border RMB settlements. Therefore, when promoting the influence of the RMB on its neighboring countries, China may choose to establish an RMB clearing system or a direct trading mechanism of bilateral currencies if signing an RMB BSA proves difficult or unnecessary. For example, an RMB clearing bank can sufficiently meet the demands in the Macao market; therefore, no RMB BSA is signed between China and Macao. Political issues may also complicate the RMB BSA signing process between China and Taiwan. Therefore, the establishment of an RMB clearing system seems practical for the development of RMB businesses in Taiwan.

Trade factors are also highly relevant in explaining how China chooses its partners of RMB BSA, which is consistent with the claims of Chinese authorities. The coefficients of bilateral trade volume are statistically significant in the regressions of Table 3 and 4; thus, it is considered crucial in determining the tendency for countries to sign an RMB BSA or to accept other RMB-related financial arrangements. Some regressions also show that the signing of an FTA with China can significantly affect the signing of an RMB BSA even though the coefficients of FTA become marginally significant in the remaining regressions. This result indicates that China and its important trade partners have a greater

incentive to sign RMB BSAs to facilitate their bilateral trade.

The results of the financial factors are highly mixed compared with those of the trade factors. On the one hand, FDI is not significant in increasing the likelihood for a country to sign an RMB BSA; on the other hand, financial openness is significant in the second regression of Table 3, but obtains a sign that is inconsistent with our expectations and with the findings of Aizenman and Pasricha (2010) on US BSAs. Financial openness also yields negative coefficients in the three other regressions even though they are not statistically significant, which may reflect the determinants from the "demand" side (i.e., countries with relatively closed capital accounts are more likely to sign an RMB BSA with China as a supplement to their financial reserves).

Similar to financial factors, macroeconomic factors also yields mixed results. Neither inflation nor the overall development level of a country significantly affects the signing of an RMB BSA or the acceptance of other RMB-related financial arrangements. However, as reflected in the significantly positive coefficients of DEFAULT, China seems to be attracted to countries with a history of defaults, which contradicts the findings of Aizenman and Pasricha (2010). One plausible explanation for this finding is that some of our sample countries with a history of defaults, such as Argentina, Russia, Pakistan, Turkey and Ukraine, are keen on establishing various financial arrangements to improve their defenses against external shocks. However, when choosing BSA partners, China is not concerned about a country's history of defaults.

In terms of institutional factors, our results do not support the hypothesis that China is more likely to sign an RMB BSA with a country that has low-quality institutions (i.e., ineffective governments or highly prevalent corruption). Countries with clean and effective governments have a higher tendency to sign a BSA with China. The regressions that include the differences between China and other countries in terms of government effectiveness and corruption prevalence yield similar results. Although political considerations may play a significant role in the signing of BSAs, we fail to support their significance using our standard proxies.

Table 3: Simple Logistic Regressions

(Dependent variable equals to 1 if the country signed a RMB BSA with China, or equals to 0 otherwise)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gravity Factors	DISTANCE	-1.382**	-0.975*	-0.898*	-0.941*	-0.978*	-1.035*	-1.017*
		(-2.48)	(-1.65)	(-1.74)	(-1.75)	(-1.81)	(-1.85)	(-1.83)
	GDP	0.376**						
		(2.11)						
Trade Factors	TRADE		0.510***	0.504**	0.437**	0.406**	0.386**	0.394**
			(2.67)	(2.50)	(2.17)	(2.92)	(2.10)	(2.15)
	FTA	1.606***	1.606**	0.967	1.078	1.092	1.101	1.099
		(2.61)	(2.00)	(1.32)	(1.51)	(1.52)	(1.54)	(1.54)
Financial Factors	FDI	-0.002	0.000	0.003	0.003	0.003	0.004	0.003
		(-0.11)	(0.03)	(0.23)	(0.23)	(0.19)	(0.24)	(0.23)
	CAOP	-0.319	-0.420*					
		(-1.35)	(-1.68)					
Macro-economic Factors	INF	-0.001	-0.001	-0.000	0.000	-0.000		
		(-0.10)	(-0.13)	(-0.10)	(-0.13)	(-0.10)		
	DEFAULT	1.698*	1.623*	1.850**	2.063**	2.136**	2.252**	2.220**
		(1.84)	(1.76)	(2.13)	(2.25)	(2.46)	(2.44)	(2.41)
	ADVANCED			-0.539				
				(-0.64)				
Institutional Factors	GOV				0.040			
					(0.10)			
	DIF_GOV					0.258		
						(0.45)		
	CORRUP						0.203	
							(0.59)	
	DIF_CORRUP							0.202
								(0.51)
	_cons	8.353*	-4.574	-5.327	-3.398	-2.890	-1.813	-2.296
		(1.65)	(-0.60)	(-0.76)	(-0.47)	(-0.42)	(-0.25)	(-0.32)
	Pseudo R^2	0.327	0.360	0.291	0.288	0.289	0.291	0.290
	No. of Obs.	135	133	139	139	139	139	139

t statistics in parentheses.
* p < 0.1, ** p < 0.05, *** p < 0.01.

Source: BBVA Research

Table 4: Simple Logistic Regressions
(Dependent variable equals to 1 if the country signed a RMB BSA or other RMB-related bilateral financial arrangements with China, or equals to 0 otherwise)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Gravity Factors	DISTANCE	-2.017***	-1.568**	-1.969***	-2.121***	-2.149***	-2.301***	-2.250***
		(-3.09)	(-2.39)	(-2.93)	(-3.03)	(-3.08)	(-3.07)	(-3.10)
	GDP	0.526***						
		(2.82)						
Trade Factors	TRADE		0.666***	0.626***	0.551**	0.569***	0.532***	0.525***
			(3.22)	(2.82)	(2.66)	(2.80)	(2.58)	(2.65)
	FTA	1.653**	1.056	1.042	1.070	1.102	1.136	1.146
		(1.99)	(1.22)	(1.26)	(1.32)	(1.36)	(1.40)	(1.42)
Financial Factors	FDI	-0.003	-0.001	0.000	0.001	-0.001	0.000	0.001
		(-0.18)	(-0.04)	(0.01)	(0.03)	(-0.04)	(0.02)	(0.04)
	CAOP	-0.261	-0.358					
		(-1.08)	(-1.41)					
Macro-economic Factors	INF	-0.001						
		(-0.07)						
	DEFAULT	2.628***	2.621**	3.050***	3.412***	3.375***	3.647***	3.618***
		(2.58)	(2.54)	(2.85)	(2.98)	(3.15)	(3.12)	(3.07)
	ADVANCED			-0.090				
				(-0.10)				
Institutional Factors	GOV				0.276			
					(0.864)			
	DIF_GOV					0.528		
						(0.86)		
	CORRUP						-0.406	
							(-1.09)	
	DIF_CORRUP							0.431
								(1.01)
	_cons	13.282**	-2.732	1.326	4.095	3.601	6.046	4.980
		(2.34)	(-0.36)	(0.17)	(0.52)	(0.49)	(0.75)	(0.65)
	Pseudo R^2	0.408	0.444	0.457	0.461	0.464	0.467	0.466
	No. of Obs.	135	133	139	139	139	139	139

t statistics in parentheses.
* p < 0.1, ** p < 0.05, *** p < 0.01.
Source: BBVA Research

5. Conclusions

China's authorities have signed a set of RMB-denominated BSAs with other countries to promote the RMB internationalization. In this study, we use a logistic model to empirically explore how China selects the countries as its RMB BSA partners. Consistent with our expectations, the gravity factors affect the selection because the economic size and proximity of a country to China can increase the likelihood that they would sign a BSA with China. Trade factors (i.e., exports to China and existence of FTA) also contribute to the selection of countries for BSAs. This finding supports the view of Chinese authorities, which state that the signing of BSAs and the RMB internationalization must be driven by trade relationships. Neither the FDI relations with China nor the macroeconomic strength of a country play significant roles in the selection of BSA partners.

Our empirical analysis does not support the view that China has been using RMB internationalization—particularly BSAs—to engage with institutionally riskier or highly corrupted countries. Although political considerations may play a significant role in the signing of BSAs, we cannot determine their significance using our proxies. However, we find that China prefers those countries with a history of sovereign defaults and financial closedness when selecting partners for RMB BSAs.

These results must be considered as preliminary, because China continues to sign new BSAs at a rapid pace. Such phenomenon may be attributed to the demand side of these agreements, because countries with closed capital accounts and history of defaults are keen to sign RMB BSAs or accept other forms of RMB-related bilateral financial arrangements to boost their defenses against external financial shocks.

Trade is the key driving force behind the signing of BSAs—a finding that is in accordance with the intentions of Chinese authorities. Thus, future studies must investigate the actual effects of signing such agreements. Specifically, these studies must determine whether the objective of Chinese authorities (i.e., promoting RMB-denominated trade and investment) has been achieved by the signing of such agreements. At the same time, future research can also analyze the other characteristics of such agreements, such as their size and significance. Given the limited number of signed RMB BSAs, the rigorousness of relevant empirical studies remains an issue. Fortunately, we may not need to wait long to obtain a large sample of RMB BSAs to empirically investigate the characteristics of these agreements, because Chinese authorities have been actively promoting RMB BSAs to other countries at a rapid pace.

References:

Anwar, Yaseen. 2011. "SBP Governor explains Currency Swap Agreement with Peoples Bank of China", State Bank of Pakistan.

Aizenman, J, Jinjarak, Y and D Park. 2011. "International reserves and swap lines: substitutes or complements?" *International Review of Economics & Finance* 20(1): 5–18.

Aizenman, J and G K Pasricha. 2010. "Selective swap arrangements and the global financial crisis: Analysis and interpretation", *International Review of Economics & Finance* 19(3): 353–365.

Feenstra, Robert C., James R. Markusen, and Andrew K. Rose. 2001. "Using the Gravity Equation to Differentiate among Alternative Theories of Trade." *The Canadian Journal of Economics* 34(2): 430-447,

Frankel, Jeffrey, 2012. "Internationalization of the RMB and Historical Precedents," *Journal of Economic Integration* 27(3):329-365.

Garcia Herrero, Alicia, Stephen Schwartz, Le Xia, Chunzi Zhang and Qun Liao. 2011. "RMB cross-border settlement: origins, mechanics and opportunities", *Economic Watch*, BBVA Research, China CITIC Bank and CITIC Bank International.

Garcia Herrero, Alicia, Stephen Schwartz, and Le Xia. 2012a. "As RMB internationalization advances, new headwinds call for policy steps", *Economic Watch*, BBVA Research

Garcia Herrero, Alicia, Yingyi Tsai, Le Xia. 2012b. "RMB Internationalization: what is it for Taiwan" working Paper, BBVA Research

Kolstad Ivar and Arne Wiig. 2012. "What determines Chinese outward FDI?" *Journal of World Business* 47(1):26-34

Rose Andrew and Mark Spiegel, 2012, "Dollar Illiquidity and Central Bank Swap Arrangements During the Global Financial Crisis" *Journal of International Economics* 88(2): 326-340

Takatoshi, Ito. 2011. "The internationalization of the RMB: opportunities and pitfalls" working paper, Council on Foreign Relations

Tudela Merxe, Duggar Elena, Metz Albert and Ooserveld Bart. 2011. *Special Comment: Sovereign Default and Recovery Rates, 1983-2010*, New York: Moody's

The People's Bank of China. 2011. *The PBoC Annual Report 2010*. Beijing: The People's Bank of China.

The People's Bank of China. 2012. *The PBoC Annual Report 2011*. Beijing: The People's Bank of China.

The People's Bank of China. 2013. *The PBoC Annual Report 2012*. Beijing: The People's Bank of China.

Yu, Yongding. 2012. "Revisiting the internationalization of the Yuan" working paper. Asia Development Bank Institute

Yu, Yongding and Haihong Gao. 2011, "The Internationalization of the RMB" In *Asia And China In The Global Economy*, edited by Yin-Wong Cheung and Guonan Ma,191-217. World Scientific.

Appendix 1. Definitions of Variables

Variable	**Definition**	**Source**
GDP	Log value of a country's GDP in USD. (Five-year average of 2004-2008)	The World Bank
DISTANCE	Distance between China and the host country (capital-to-capital)	Kristian Skrede Gleditsch, accessible at http://privatewww.essex.ac.uk/~ksg/data-5.html
TRADE	Log value of bilateral trade. (Five-year average of 2004-2008)	UN Comtrade Database
FTA	A dummy variable, equals 1 if China and the counterpart share a Free Trade Agreement and equals 0 otherwise	Ministry of Commerce of China
FDI	A country's FDI from China as a percentage of its total inward FDI (Five-year average of 2004-2008)	CEIC
CAOP	The Chinn-Ito Index for capital account openness. A higher index number means more capital account openness (Five-year average of 2004-2008)	The Chinn_Ito Index for capital account openness, accessible at http://web.pdx.edu/~ito/Chinn-Ito_website.htm
DEFAULT	A dummy variable, equals 1 if a sovereign default occurred between 1983-2010 and equals 0 otherwise.	The Moody's "Special Comment: Sovereign Default and Recovery Rates, 1983-2010"
INF	A country's average inflation rate during the period of 2004-2008.	IMF
ADVANCED	A dummy variable equals to 1 if the country is classified as an advanced country by IMF.	IMF: Classifications of Countries Based on Their Level of Development
GOV	The rule_of_law index by the World Bank, a higher value means a better rule of law.(Five-year average of 2004-2008)	The World Bank Governance Indicators ,accessible at http://data.worldbank.org/data-catalog/worldwide-governance-indicators
DIF_GOV	The absolute value of the difference between China's rule_of_law index and that of the other countryThe rule_of_law index by the World Bank, a higher value means a better rule of law. (Five-year average of 2004-2008)	The World Bank Governance Indicators accessible at http://data.worldbank.org/data-catalog/worldwide-governance-indicato
CORRUP	The Corruption index, a higher value means a higher level of corruption. The absolute value of the difference between China's rule_of_law index and that of the other country (Five-year average of 2004-2008)	The World Bank Governance Indicators accessible at http://data.worldbank.org/data-catalog/worldwide-governance-indicato
DIF_CORRUP	The absolute value of the difference between China's Corruption index and that of the other country(Five-year average of 2004-2008)	The World Bank Governance Indicators accessible at http://data.worldbank.org/data-catalog/worldwide-governance-indicato

Appendix 2. Correlations of Independent Variables

	DISTANCE	GDP	TRADE	FTA	FDI	CAOP	INF	DEFAULT	ADVANCED	GOV	DIF_GOV	CORRUP	DIF_CORRUP
DISTANCE	1												
GDP	-0.199	1											
TRADE	-0.330	0.932	1										
FTA	-0.244	0.133	0.288	1									
FDI	-0.161	-0.149	-0.119	-0.026	1								
CAOP	-0.017	0.353	0.366	0.051	-0.100	1							
INF	0.049	-0.090	-0.073	-0.029	0.004	-0.148	1						
DEFAULT	0.212	0.050	0.024	0.062	-0.057	-0.047	-0.027	1					
ADVANCED	-0.180	0.534	0.497	-0.008	-0.088	0.500	-0.053	-0.185	1				
GOV	-0.169	0.569	0.531	0.110	-0.133	0.581	-0.134	-0.185	0.805	1			
DIF_GOV	-0.070	0.294	0.300	0.044	-0.001	0.243	0.084	-0.144	0.685	0.475	1		
CORRUP	-0.066	0.477	0.424	0.066	-0.150	0.536	-0.126	-0.179	0.784	0.950	0.543	1	
DIF_CORRUP	-0.097	0.473	0.438	0.081	-0.091	0.478	-0.015	-0.200	0.803	0.878	0.716	0.930	1

Source: BBVA Research

IMI News

Inauguration of Sino-German Center for Finance and Economics

On September 21, the inauguration of Sino-German Center for Finance and Economics (SGC) was held at German embassy. Over 100 Chinese and international participants including Pan Gongsheng, member of IMI Advisory Board and deputy governor of PBoC; Michael Clauss, Ambassador of German to China; Carl-Ludwig Thiele, board member of Deutsche Bundesbank; Ben Shenglin, IMI Executive Director; Wei Benhua, member of IMI Academic Committee; Cornelia Richter, GIZ Managing Director; and Ruediger Von Rosen, co-CEO of SGC were present.

With closer economic and financial ties and high-level economic and financial dialogue, German Hesse-Darmstadt government and German Agency for International Cooperation (GIZ) co-founded SGC at House of Finance, Goethe University Frankfurt. As the counterpart of House of Finance, IMI is the leading research institute in China for SGC. SGC is a public-private partnership organization, co-chaired by Governor Pan Gongsheng, deputy governor of PBoC, and Dr. Joachim Nagel, member of the Executive Board of Deutsche Bundesbank. President Chen Yulu is the member of the Board of Trustees of SGC. The target of the center is to promote bilateral economic and financial relations through research, training, exchange and cooperation.

2015 International Monetary Forum and Press Conference of RMB Internationalization Report

On July 18, the 2015 International Monetary Forum and Press Conference of RMB Internationalization Report was held at Renmin University of China (RUC). The forum was hosted by Renmin University of China and Bank of Communications, sponsored by IMI, and co-sponsored by think tanks from Europe, America and Asia. The forum centered on China, SDR and the world reserves system, RMB

internationalization and “One Belt and One Road” Initiative.

Nearly 200 distinguished guests from 23 European, American and Asian countries attended the forum. Among them are Chen Yulu, president of RUC and editor-in-chief of RMB Internationalization Report 2015; Pan Gongsheng, deputy governor of the People's Bank of China; Li Ruogu, former president of the Export-Import Bank of China; Li Yang, former vice president, Chinese Academy of Social Sciences; Xia Bin, honorary director of Research Institute of Finance, Development Research Center and Councilor of the State Council; Wu Nianlu, vice chairman of China International Finance Society; Zha Xianyou, vice president of RUC; Lyu Benxian, general manager, Department of Company Business, Bank of Communications; Yanseen Anwar, former governor of Central Bank of Pakistan; Alfred Schipke, chief representative of IMF China; Alain Raes, chief executive of EMEA and Asia Pacific, SWIFT; Frank Packer, head of Economics and Financial Markets, BIS Asia and Pacific; Anoop Singh, Head of Regulatory Affairs, JP Morgan Asia Pacific and former director Asia and Pacific Department, IMF; Luigi Biggeri, former vice president of International Statistical Institute and professor of University of Florence; Robert Elsen, financial counselor of German Embassy in Beijing; Tomoyuki Fukumoto, chief representative of Bank of Japan Beijing Office; Hoyeol Lim, vice president of Korea Institute for International Economic Policy; Supradit Tangprasert, chief representative of Bank of Thailand Beijing Office; Albert C.K. See, chief representative of Bank Negara Malaysia Beijing Office; Ozlen Savkar, economic counselor, Central Bank of Turkey, Turkish Embassy in Beijing, etc.

Press Conference of RMB Internationalization Report in Almaty of Kazakhstan

On September 8, the Press Conference of RMB internationalization Report 2015 and Roundtable on Sino-Kazakhstan Financial Cooperation in “Belt and Road” Initiative was held at Kazakh National University in Almaty. The conference was hosted by IMI, co-sponsored by ICBC Almaty and Kazakh National University. Representatives from 6 financial institutions in Kazakhstan and 30 enterprises from the two countries attend the conference including Zhao Xijun, member of IMI Academic Committee and associate dean of School of Finance of RUC; Tu Yonghong, deputy director of IMI; Guo Jianwei, president of PBoC Urumchi; Zhou

Chengjun, deputy director-general of Monetary Policy Department, PBoC; Akylzhan Baimagambetov, advisor to the Chairman of the National Bank of Kazakhstan; Burkitbayev, first vice president of Kazakh National University; Zhang Wei, consul-general of China in Almaty and Wei Xiaogang, general manager of ICBC Almaty. Representatives of faculty and students at Kazakh National University and some local and Chinese media such as People's Daily, Xinhua News Agency and China Radio International also attended the meeting.

Almaty is the largest city and economic center of Kazakhstan. This is the first overseas release of RMB Internationalization Report 2015. Prof. Tu Yonghong interpreted the Report under the theme monetary strategy in "One Belt and One Road" Initiative. Based on multi-angle studies of theories and analysis of historical experience and real practice, the report concludes that these two national development strategies can reinforce each other and thus proposed policy implications.

Press Conference of the Report on the Internationalization of Chinese Banks 2015

On September 20, The Press Conference of the Report on the Internationalization of Chinese Banks 2015 was held in Renmin University. It was co-hosted by IMI, Center for Internet and Financial Innovation (CIFI) of Zhejiang University and International Finance Institute of Bank of China, and co-sponsored by EMBA Program of Zhejiang University, Wind Information and Academy of Financial Research of Zhejiang University. The conference was attended by Jiao Jinpu, Director General, Financial Consumer Protection Bureau, PBoC; Zhao Xijun, Associate Dean of the School of Finance, RUC; Xiang Songzuo, Chief Economist of Agricultural Bank of China; and E Zhihuan, Deputy General Manager, Economics & Strategic Planning Department, Bank of China (Hong Kong), etc. The conference was chaired by Chen Weidong, Deputy Executive Director, International Finance Institute, Bank of China. Ben Shenglin, Executive Director of IMI and Dean of the Academy of Internet Finance, Zhejiang University, offered his interpretation of the Report. According to the report, after nearly 40 years' development since China's Reform and Opening Up, the financial markets in China have gradually integrated into the global markets. Particularly for Chinese local financial institutions, their attempts to explore oversea markets and to expand their business abroad have

achieved many remarkable successes, but clearly there is still a long way to go. This report tries to analyze Chinese banks' level of internationalization by introducing the Chinese Banks Internationalization Index (CBII). This index is designed to dynamically capture the internationalization process of different Chinese banks over time, and the analytical results provide some insightful implications for both regulatory agencies and financial institutions.

China-US Student Leadership Dialogue

In the afternoon of July 18, China-US Student Leadership Dialogue was held as a parallel forum of the 2015 International Monetary Forum and Press Conference of RMB Internationalization Report. The dialogue themed Sino-US relations: building new connection between great powers via the "One Belt and One Road" Initiative. This event was co-sponsored by School of Finance of RUC, IMI, and CET Academic Program. Students from Yale University, Stanford University, Johns Hopkins University, Renmin University, Peking University, Fudan University, Beijing Normal University, Wuhan University, Central University of Finance and Economics established roundtable discussion on "One Belt and One Road" Initiative, Sino-US relations, RMB internationalization, international exchange of youths, etc. Chen Yulu, president of RUC, Guo Qingwang, dean of School of Finance, RUC, and Tu Yonghong, deputy director of IMI paid a visit to the students during the event. The dialogue was attended by Feng Yu, Academic Director, CET academic program; He Gang, Executive Editor-in-Chief, Caijing Magazine; Zhou Wenlong, Director, Department of Asian Languages and Literatures, University of Minnesota; Zhao Wei, Deputy Director, Department of Intermediary Supervision, CIRC; Cai Yingyi, Associate professor, School of Applied Economics, National University of Kaohsiung; He Qing, Deputy Director, Department of Money and Banking, School of finance, RUC; Gao Yuning, Assistant Professor, School of Public Policy and Management, Tsinghua University; Song Ke, deputy director of IMI, etc. The dialogue was chaired by Wang Fang, Assistant Dean, School of finance, RUC.

Director of IMI Receives Outstanding Teacher Award

The selection work of Outstanding Teacher Award in Finance 2015-2016, established by Hongru Financial Education Foundation, was piloted in Renmin University, Central University of Finance and Economics, University of

International Business and Economics, Xiamen University, Southwestern University of Finance and Economics and Zhongnan University of Economics and Law. Under the voting outcome from the Committee and with the approval of the standing council of Hongru Financial Education Foundation, Professor Zhang Jie, director of IMI and associate dean of School of Finance of RUC received the award.

Call for Papers

International Monetary Review

International Monetary Review is an internal academic magazine sponsored by International Monetary Institute. Following the principle of including both Chinese and western merits with precise and practical academic spirit, International Monetary Review focuses on the cutting-edge theoretical researches in internationalization of RMB, reform of international monetary system, regional monetary and financial cooperation, China's international financial strategies, and other macro-financial theories and policies.
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