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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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Special Column on Renminbi Offshore Market

Offshore Dollar and Renminbi Markets Compared

By HERBERT POENISCH*

After the decision by Brics countries in the Kazan summit 2024 to use national currencies for settlement of trade and investment, a surge in offshore renminbi held by banks and central banks has to be expected. There has already been an increasing usage of offshore renminbi that circulates outside of mainland China, as seen by the 58% increase in Hong Kong's offshore renminbi deposit base over the last five years up to mid 2024 to the symbolic milestone of RMB 1 trillion.

This article will investigate how an international surge in use of dollar since the 1950s and of the renminbi as of recently compares. There will also be a comparison of how monetary authorities in the USA and China have reacted to this surge in internationalisation of their currencies. Finally, what Chinese authorities need to do to support a well functioning offshore renminbi market.

For a start a comparison of size shows that the offshore dollar market is a mature market, whereas the renminbi offshore market is in its infant stage. In the early 2020s, the offshore dollar market amounted to USD 14 trillion, or roughly twice the size of the Federal Reserve Bank. The renminbi offshore market total of RMB 1 trillion amounts to roughly 3% of the Peoples' Bank of China. It thus has a long way to go but the challenges need to be addressed by the Chinese authorities now.

1. History of offshore dollar market

A large international money market in short term dollars developed outside the US after the mid 1950s. These transactions were made possible because US and other corporations and individuals deposit dollars with banks outside the US, which found profitable uses for them. Most of these dollars were deposited with banks in Canada and London, but substantial amounts were deposited with banks in continental Europe. An example was the Soviet Union moving its dollar deposits from the US to the Soviet owned Banque d'Europe du Nord in France to avoid sanctions by the US.

Later on the term offshore dollar market expanded to Asia to become the Asian dollar market. Many of the banks are in the market all the time, and they may be on one side or another. The market spreads over all continents and is based on the financial standing of the participating banks and thus there is no need for collateral and guarantees. There are three major uses for Offshore dollars.

1.1 Use to finance external commercial transactions

Many countries try to limit offshore dollar activity to those enterprises that are engaged in foreign trade. The main concern of monetary authorities in these countries was the offer of an alternative financial channel, with many arbitrage opportunities. Even countries with convertible currencies restricted or

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prohibited business enterprises not engaged in foreign trade from borrowing in offshore dollars. These funds were used to finance external transactions and to enable a continuing supply of domestic liquidity.

1.2 offshore dollar funding for loans

The deposited offshore dollars were used to finance commercial loans and other domestic transactions, either in dollars or in local currency purchased with dollars. The latter formed an additional monetary supply thus undermining domestic monetary policy in participating countries. The supply of offshore dollars was not subject to anybody's monetary policy. At the beginning the Fed was concerned about the inflationary impact of this additional supply of dollars. However, as most of these dollars stayed offshore, similar to cash dollars circulating outside the USA, their concerns were alleviated and they then adopted a benign policy approach until today.

1.3 New offshore dollar interbank market

The offshore dollar deposits became analogous to dollars in the US money market: federal funds, short term government securities, certificates of deposit, promissory notes. Thus the offshore dollar market provided US banks and European banks with an alternative to borrowing dollars in the US money market. As a result a substantial part of the offshore dollar pool circulates and recirculates endlessly among banks. This created a new model of banking, the multinational banks which relied on funding abroad, either deposits or interbank borrowing. They are different from international banks, which rely on funding from the head office.

Attempts to find the specific end uses of particular dollar funding is in vain. Offshore dollar funding and other funding are increasingly commingled. Banks have abandoned the separation of borrowing and lending in offshore dollars from other businesses. Singapore was the last one to abolish the separation of Asian dollar business and local currency business in 2002.

This has been the attitude of US banks whose foreign branches were the major operators in the offshore dollar market. The amount of deposits accepted by them and the interest paid on them, are determined or cleared by the head office. Many offshore funds are made available to their head offices and commingled with other funds. However, foreign branches of US banks have increased lending to foreign corporations as well as branches of US corporations.

The clearing and settlement of offshore dollar transactions was effected through correspondent accounts among banks. Those who had no direct access to dollar settlement accounts with at CHIPS or Fedwire were relegated to second tier banks. The access to CHIPS is particularly exclusive as only some 50 global banks, including the 4 major Chinese banks have access. Access to Fedwire is granted to some 50,000 banking institutions.

1.4 Risks of offshore dollar funding

Banks outside the US jurisdiction were not subject to US monetary policy, such as regulation Q, banking regulations and accounting standards. Regulation Q imposed various restrictions on the payment of interest on deposit accounts. This rule was in force between 1933 and 2011. Only in 1988 did the Basel 1 accord establish global rules for bank supervision. These stipulated that independent subsidiaries have to be regulated and supervised by host countries whereas branches have to be regulated and supervised by home countries. Risk management became more complex as corporations borrowed in different jurisdictions from different banks. Only the development of a rating system of international corporations in the 1970s and governments in the 1980s allowed the banks in offshore dollar market to asses consolidated credit risk.

2. Short history of the renminbi offshore market

Compared with the offshore dollar market, the history of the renminbi offshore market is very short, starting in the early 2000s. The main players in the renminbi offshore market were the big Chinese banks, first and foremost the Bank of China. It performed the window between China's domestic monetary policy and the offshore renminbi market. The main market for offshore renminbi was in Hong Kong where individuals and corporations with business dealings in China were allowed to open renminbi accounts. In the years since the inauguration of the Belt and Road strategy (BRI) in 2013 and the 'going out' of Chinese companies, Chinese banks have expanded abroad, either setting up affiliates or purchasing local banks. However, the share of international business of Chinese banks abroad is only 5.2%, compared with US banks 23.2% according to the 2024 Bank Internationalisation Report published by IMI. Among Chinese banks, BOC has the highest share of 27.6%, followed by ICBC with 13.2%, BOCOM with 11.1%, CCB with 4.9% and ABC with 4.8%. This business is expected to increase in the coming years with Chinese banks benefitting from increased international use of renminbi.

2.1 Use of renminbi for external financial transactions

From the beginning, the purpose of offshore renminbi was to facilitate trade in goods and services and direct investment only with China. Transactions among third parties in renminbi are severely restricted at present. This has been confirmed in the Brics' Johannesburg Declaration and Kazan Declaration. It stipulates that domestic currencies should be used for trade and investment. The rise in renminbi transactions between Russia and China due to Western sanctions is a case in point.

2.2. Funding in offshore renminbi market

If there was a shortage in the offshore renminbi market, the main sources of liquidity until now were the big Chinese commercial banks who are eligible for central bank finance in China. The offshore renminbi exchange rates and interest rates have been closely monitored by the Peoples' Bank of China with regular interventions to limit a differential between the onshore and offshore renminbi markets. Thus an offshore money market in renminbi as for the offshore dollar has not been developed. As many more countries will be using renminbi in their international trade and investment after the Kazan agreement, creating such a deep and liquid offshore renminbi offshore market has become urgent.

2.3 New offshore renminbi money market

Similar to the offshore dollar market, money market centres for renminbi are emerging round the world. The dominant one with 83% is Hong Kong, followed by London and Singapore. In these centres Chinese and non-Chinese banks can trade in short-term renminbi. Interest rates and exchange rates are closely monitored by the Peoples' Bank of China.

The offshore renminbi has been officially sanctioned for a wider variety of purposes and on a growing scale in the early 2000s. The first offshore renminbi interest rate (CNH-HIBOR) was introduced in 2013. The CNH market has grown exponentially, is a free market and has more diversified range of products. Neither the PBoC nor the HKMA intervened in the CNH market in the early stages. The CNH market is accessible by all entities outside mainland China for purposes other than trade and personal use, eg investment, hedging etc. The increasing segmentation of the onshore and offshore renminbi markets have frequently caused the two exchange rates to diverge from each other causing concern for the Chinese authorities.

Arbitrage between the onshore and offshore markets does take place, thus helping the conversion of prices. It is unclear whether this activity is welcome by the authorities.

2.4 Mainland China intervention on the offshore renminbi market

It seems more likely that the PBoC is limiting the arbitrage possibilities by intervening itself. Since China's stock market collapse in 2015 and the following renminbi devaluation forced China to intervene in the offshore renminbi market to reduce the wedge between the offshore and onshore renminbi exchange rate at a time when CNH was considered the best market signal of the future value of the renminbi.

The PBOC has been issuing renminbi denominated central bank bills in Hong Kong on a regular basis, which not only enriches the lines of renminbi investment products and renminbi liquidity management tools in Hong Kong, but also encourages domestic financial institutions and enterprises to issue renminbi bonds in the offshore market In recent years, offshore issues of renminbi government bonds, financial bonds and corporate bonds have been increasing, and the ways and places of issuance have become more diversified, an indication are the renminbi denominated central bank bills in Hong Kong have been playing a positive role in promoting the development of the offshore renminbi market.

Other interventions are window guidance, when China's central bank asks major state-owned banks to be prepared to sell dollars for renminbi in offshore markets to stem renminbi's descent.

The Hong Kong Monetary Authority (HKMA) has been the trusted testing ground for renminbi offshore business. This is evidenced by the largest offshore renminbi pool, leading position for renminbi payments and forex trading, active renminbi capital raising activities, and unparalleled access to mainland financial markets through cross-border connectivity programmes.

For further development of renminbi as investment currency it will in turn incentivise market usage of the renminbi as a means for payment and settlement for cross-border trade and direct investment activities. To promote the offshore renminbi market in Hong Kong, the HKMA has taken measures to enhance offshore renminbi liquidity, develop diverse offshore renminbi products and enhance the financial infrastructure.

3. Way forward to create a deep and liquid offshore renminbi market

3.1 Enhancing liquidity support

As the offshore renminbi market is much smaller, investors are primarily offshore, making the market more susceptible to changes in offshore renminbi demand and liquidity as well as monetary policies in other parts of the world. This could potentially lead to a rate divergence between onshore and offshore renminbi markets. In spring 2024 this spread was 1.9% by comparing the onshore interbank repo rate and the CNH-HIBOR rate.

The key enhancements of the Hong Kong Liquidity Facility by the HKMA are expanding both intraday and overnight repos, improving operational flexibility by extending operating hours, reduce the repo rates of the overnight repos to benefit their clients also in other time zones.

3.2 More renminbi products, money market instruments

Money moarket products have been provided by the PBoC in the form of central bank bills, but others such as CDs are issued by commercial banks.

As mainland bonds play an increasingly strategic and long-term role in global investors portfolios, the need to manage related interest rate risk, exchange rate risk and liquidity risk for their bond investment will be more prominent. For this purpose 'swap connect' to trade interest swaps has been adopted.

3.3 Enhancing infrastructure

At the core of this effort is the HKMA's enhance programme to modernise the Central Moneymarkets Union (CMU) into a major Important Central Securities Deposit (ICSD) in Asia.

Another main infrastructure is the renminbi clearing and settlement through the China Cross-Border Interbank Payment System (CIPS). Established in 2015 to support the internationalisation of renminbi it has expanded only recently. By end 2024 it had 4700 banking institutions in 185 countries and regions as its members. It had 150 direct participants and 1047 indirect participants. However, its daily (early 2020s) 25,900 transactions are dwarfed by SWIFT 's daily 32 million transactions.

CIPS relies on SWIFT's messaging system, also with Chinese characters for 80% of its transaction. CIPs also subscribes to the ISO standards, which include ISO 20022 as Universal Financial Industry message system. The only direct trades on CIPS are renminbi against USD, JPY, GBP, CHF, NZD, ZAR, AED, HUF, DKK, NOK, MXN. These are currencies which are actively traded according to the latest BIS Foreign Exchange Survey 2022. If the Brics Kazan recommendations are to be followed, at least the other Brics currencies should be traded dirdctly in CIPS. They need to add BRL, INR, EGP, ETB, IRR, RUB. If not, balances will build up with participating banks which will not be cleared

4. Risks for Chinese monetary authorities

As politics prevail in Brics as well as on the BRI, increased use of offshore renminbi, the following risks have to be managed. The first one is liquidity risk which has been discussed above. In addition to this, the current 40 swap lines between renminbi and other currencies should be extended. The PBoC would be taking on the risk of holding weak currencies. The proposed Common Reserve Arrangement (CRA) at the recent Kazan summit would provide an IMF type stand-by for countries in payments difficulties.

The second one is inflationary risk in the domestic economy, as the amount of transactions between offshore renminbi banks cannot be controlled. The risks would be similar to those experienced by the Fed in the early days of offshore dollars. However, as experience has shown if the firewalls between domestic renminbi and offshore renminbi hold, these spillover risks are manageable.

The third risk is the credit risk in the offshore renminbi market. As more non Chinese banks are admitted, the credit risk will certainly deteriorate. Banking supervision in many partner countries of China are certainly not up to international standards. Provisions have to made to ring fence credit risk in the renminbi money market. Different from the dollar offshore money market collateral could be required for interbank transactions. This would boost the use of renminbi central bank bills and government securities.

Literature used

Bank for International Settlements (2022): Triennial Central Bank Survey of foreign exchange and Over-the-counter (OTC) derivatives markets in 2022. www.bis.org/statistics

Bank for International Settlements (2003): China's capital account liberalisation: international perspectives. www.bis.org/publications

Chang Shu, Dong He and Xiaoqiang Cheng (2014): One currency, two markets: the renminbi's growing influence in Asia-Pacific. BIS Working Papers no 446, April www.bis.org/publications

Eichengreen, Barry (2022): Sanctions, SWIFT, and China's Cross-Border Interbank Payments System. www.csis.org

Hardy, Brian, McGuire, Patrick and von Peter, Goetz (2024): International finance through the lens of BIS statistics: the geography of banks' operations. In: BIS Quarterly Review, December. www.bis.org/publications

HSBC (2024): Offshore renminbi money market-growing momentum amid rising renminbi usage. www.hsbc.com.hk

International Monetary Institute (2024): Bank Internationalisation Index 2024 www.imi.ruc.edu.cn

International Monetary Institute (2021): RMB Internationalisation Report. www.imi.ruc.edu.cn

Ong Chong Tee (2003): Singapore's policy of non-internationalisation of the Singapore dollar and the Asian dollar market. In: BiIS Papers no 15, April www.bis.org/publications

Peoples' Bank of China (2023): PBOC issues RMB25 billion central bank bills in Hong Kong. www.pbc.gov.cn

Poenisch Herbert (2021): PBoC interventions in offshore renminbi necessary for now. In: OMFIF comments. www.omfif.org

Swift (2024): RMB tracker, June www.swift.com

Xia Le, Dong, Jinyue (2025): a tale of two markets for the redback. In BBVA China Economic Watch, January. Reprinted in this issue.

Yin-Wong Cheung, Robert N McCauley, Chang Shu (2019): Geographic spread of currency trading: the renminbi and other EM currencies. In: BIS Working Papers no 806, August www.bis.org/publications

Yue Eddie (2022): New Impetus for Hong Kong Offshore Renminbi Business. www.hkma.gov.hk

Zhu Julie (2022): China's stare banks told to stock up for yuan intervention. www.reuters.com

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China's Economy

China Celebrates Her 75th Anniversary - A Story of Peaceful Success⋆

By PETER KOENIG*

On 1st of October 2024, China was proudly celebrating the 75th Anniversary of the Chinese Revolution – an outright socioeconomic success never seen before in human history; a development in Peace, and ever seeking cooperation with the rest of the world. Never aggression.

75 years ago, on 1 October 1949, Mao Zedong declared that "The Chinese people have stood up." And the People's Republic of China was born.

What happened after that is a peoples' made miracle with changes for the wellbeing of the Chinese population, eventually spreading throughout the world, never seen before. China lifted 800 million people out of poverty.

China has become not only food self-sufficient - but has emerged as a major supplier of nutrition and food grains to the rest of the world.

China is today a power house for electronics supplies to the world, without which technological advances of the west would limp far behind.

Despite non-stop threats and aggressions from the west, China is today the economic center of the world, providing hope for other developing countries of Africa and the Global South fighting for sovereignty against the forces of imperialism.

Hence, the significance of the recent Africa Summit in Beijing and recent meeting of all the Palestinian organizations in China – and more.

In 2013, China - President Xi Jinping - initiated the New Silk Road - the Belt and Road - which by now counts more than 160 member countries and institutions around the world, connecting countries in peace via at least six land, sea, and air roads, through infrastructure, trade, education and not least - diplomacy.

China is a heaven for Peace - always readily offering her diplomatic services for mediation.

China has literally become from close to zero in 1949 - from a colony looted by world powers - the world's strongest, independent, and sovereign economy in PPP terms (purchasing power parity) - which is really the only economic indicator that counts - but soon she will also be the strongest economy in absolute terms.

⋆ Puclished on 1 October 2024.

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Yes, Mao's words and deeds, the Chinese People have stood up - have become through an unbroken revolution-to-evolution a worldwide historic vision for peacefully progressing, while assisting and inviting others to follow the pattern of cooperation with benefits for all.

China, in cooperation with Russia, has been instrumental in creating the BRICS - an ever-growing association of Global South countries that are eager to become free form the fangs of western sanctions and the US-dollar dominance.

China’s philosophy of Peace stems from the deep-rooted ancient Tao philosophy – a philosophy of non-aggression, leading her people to create a miracle of achievements.

China may look forward to the next 75 years and beyond, of Peoples’ peaceful development with an outreach to the world with shared benefits for all.

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China - Positive Looking Forward - 2025 and Beyond⋆

By PETER KOENIG*

The outlook for China in 2025 and beyond, is as bright as it was in 2024.

In 2023 China embarked on her sixth reform since 1979. It involves economic restructuring by modernization and further opening-up. China's periodic reforms mean extraordinary flexibility for adjusting her 1.3 billion-people-economy to ever-changing international circumstances.

In 2025 and beyond, China's focus will remain on Global South markets, including the nine-country BRICS association, as well as on the different ASEAN Free Trade Agreements and on APEC. The Asia-Pacific Economic Cooperation is an intergovernmental organization, promoting trade and investment in the Asia-Pacific region. APEC is closely linked to the Belt and Road Initiative (BRI). At the same time China will concentrate on her huge domestic market.

These forward-looking strategies may render China more robust and independent form the sanctioning dollar-economy, while opening new markets in the Global South, i.e., in Africa and South America.

Chinese international competitiveness is practically unbeatable. Therefore, president-elect Donald Trump's tariff-threats, copied by vassalic Europe, will hardly impact China's economic growth. To the contrary, the west is losing an important trading partner. The European Union is blocking a formidable opportunity for Europe's stable trade and growth, thereby pulling western economies further down the drain.

Because of these nonsensical western globalist policies, the west has been declining for at least the last three decades, accelerating to warp speed in the last 5 years.

Independently of President Trump, a new era is dawning which may change everything, and President Xi's idea of a new Eurasian market, initiated by the BRI, may reemerge for the benefit of all.

Meanwhile, BRI will continue moving forward. In November 2024, the new, fully China-funded, and managed Peruvian port of Chancay was inaugurated under the banner of BRI. The merchant harbor, one of the largest on the South American Pacific Coast, is expected to pool exports and imports of several South American countries, thereby promoting new markets and economic growth for Latin America, as well as Asia, including China.

In the years ahead, China's position and strive for peaceful growth and peacefully connecting the world in time of wars and conflicts, is exemplary and may lead China to take on a more important role in mediating for international Peace-making.

⋆ Puclished on 7 January 2025.

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Peter is a non-resident Senior Fellow of the Chongyang Institute of Renmin University, Beijing. He is also a Research Associate of the Centre for Research on Globalization (CRG).

IMI International Monetary Review

75 Years' Progress Vital for China and World⋆

By DAN STEINBOCK, HARVEY DZODIN, VASILIS TRIGKAS, HUI MING AND LI WANXIN*

Editor's note: This year marks the 75th anniversary of the founding of the People's Republic of China. Five experts share their perspectives on the far-reaching impact of New China's accomplishments.

Recent years have seen some international pundits first claim the Chinese economy is a global inflation threat, and then allege it is a global deflation threat. When proved wrong, they claimed the Chinese economy would collapse amid its recovery.

After centuries of colonialism and half a century of the Cold War, the economic gap between Western countries and the Global South further widened, because of the West's inherently unequal economic policy. What has changed that equation is the rise of China.

In 1949, China accounted for a mere 4 percent of the global economy. But, thanks to its unprecedented economic rise, China today accounts for almost 19 percent of the global GDP.

Till the 1990s, the developing world was dependent on the West for many things. But by 2007, large emerging economies, spearheaded by China, were driving global growth, while the advanced Western economies' growth had slowed down. As a result, the impact of the Chinese economy on low — and middle-income economies soared, with development projects such as the Belt and Road Initiative and multilateral financial institutions supported by countries including China such as the Asian Infrastructure Investment Bank and New Development Bank helping boost growth in many emerging and developing economies. In this way, China has been fueling global growth. However, China's development project faces a serious threat.

Through much of this year, trade has driven China's growth. Unsurprisingly, China's two fastest-growing export sectors — electronics and electric vehicles — have been targeted by the United States and the European Union. And yet Chinese automaker BYD's lowest-priced car will be the least expensive in the US market, even with a 100 percent tariff.

Looking ahead, as research group Rhodium cautions, "sanctions are likely to remain a key risk for global investors as scrutiny of Chinese companies expands into new areas".

US policies are invariably aimed at reducing imports and bolstering domestic production, marked by the expansion of the "Buy American" provisions, which has resulted in the "increasing cost of buying American". This means ordinary Americans pay the bill for their government's tariff and sanctions wars. Many in the EU would soon be doing the same.

Before the former Donald Trump administration launched the trade wars, China replaced the US as the main driver of the global economy. Over the past decade, China has contributed more than 30 percent to global growth. This means the biggest threat to global recovery is not China, but the West's poisonous mix of protectionism, sanctions and geopolitics.

⋆ Puclished at China Daily on 28 September 2024.

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China's New Opportunities for Foreign Capital

By SU QINGYI*

The idea of "new quality productive forces" stems from the urge to move beyond traditional economic growth paths and pursue high-tech, high-quality development. By using new quality productive forces to upgrade its industries, China is also creating new opportunities for foreign capital to grow. This can be understood through three key dynamics.

First, new quality productive forces create an open economy. China, as a leading example of an open economy, is raising its standards in investment, services and the digital economy by facilitating "institutional openness". This distinct Chinese concept of openness emphasizes adjustments of rules, regulations, management and standards in line with global benchmarks.

The third plenary session of the 20th Central Committee of the Communist Party of China emphasized the importance of deepening reform to attract more foreign investment and ensure foreign enterprises get the same treatment as domestic enterprises in terms of market access, standards and government procurement. This will create a competitive but fair playing field.

Second, new quality productive forces promote innovation and high-end cooperation, shifting foreign investment toward higher value-added fields, with China's expanding institutional openness helping improve the quality of foreign investment. No wonder last year saw the setting up of 53,766 new foreign-invested enterprises, up 39.7 percent year-on-year, with actual foreign investment in high-tech manufacturing increasing by 6.5 percent, according to Ministry of Commerce data.

This shift has made multinational enterprises' executives visiting China more interested in the country. While Apple has announced it will set up new R&D centers in Shenzhen and Shanghai, AstraZeneca said it will establish an advanced drug manufacturing unit, and some major global automakers stated they have plans to set up R&D hubs in China. This is good news before foreign capital brings with it advanced technologies that, working in synergy with Chinese companies, can boost efficiency, reduce costs, and increase the potential of new patents and tech transfer.

The synergy between China's economic transformation and the sustained growth of high-level foreign investment shows how the Chinese and global economies can achieve efficient integration.

Third, new quality productive forces have huge potential to contribute to the development of industry chains. The third plenary session said foreign enterprises ought to be encouraged to engage in upstream and downstream collaboration within China's industry chain. This should allay fears that China's push for self-sufficiency in certain fields would exclude foreign companies, and reaffirm that they remain essential partners in China's pursuit of higher-quality development.

In September, China introduced a new "negative list", removing all restrictions on foreign companies' entry into the manufacturing sector. In the auto industry, 2020 saw the removal of equity caps on foreign commercial vehicle manufacturers, and 2022 witnessed the removal of similar restrictions on passenger vehicle makers. Also, foreign enterprises can now establish more than two joint ventures in China. These moves show China remains committed to open collaboration, which, given its vast market and comprehensive industry chain, will draw high-level foreign partners across the value chain, fostering global resource integration.

* Su Qingyi is a researcher at the Institute of World Economics and Politics, Chinese Academy of Social Sciences; and Jiang Yang is a postgraduate at the same institute.

Foreign investors stand to benefit in multiple industries. Traditional industries, especially the labor-intensive sectors, have significant potential for upgrading and transformation. New quality productive forces rely on a complex system of labor, capital and production processes, where skill levels, technological know-how and social integration shape productivity and its trajectory. With China moving away from the "market for technology" model, the labor-intensive sectors can overcome the problem of rising labor costs by using advanced, adaptable technologies. And with policy support, the market potential of these sectors can be unleashed, attracting more foreign investment.

Emerging and future industries, too, require foreign participation. Developing new quality productive forces means prioritizing innovation and industrial upgrading, and creating new growth avenues in green energy, smart manufacturing and the digital economy.

Due to the lengthy investment cycle and uncertainties involved in commercializing future technologies, venture funds will play a key role in the economy, with foreign capital being critical for boosting productivity.

Moreover, the growing role of services as a key productivity component reflects the deepening social division of labor, with new productivity driving demand for high-quality production-related services. China's expanded and high-quality opening up in the service sector will create a huge market and development opportunities for global service trade enterprises. The high potential of the services sector can be gauged from the fact that in the first eight months of the year, China's foreign trade in services reached 4.89 trillion yuan ($686.44 billion), up 14.3 percent year-on-year.

In other words, the development of new quality productive forces will attract more foreign investment and draw global players to be part of China's industrial transformation.

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Visa-free Policy Boosts Tourists' Footfalls*

By MARIO CAVOLO*

The remarkable surge in the number of foreign visitors to China over the past months shows the Chinese government's 144-hour visa-free transit policy for nationals of 54 countries is a brilliant move for several reasons. The introduction of this policy as a friendly way of opening up the country to the outside world has not only increased overseas tourists' footfalls in China but also given foreigners a wonderful opportunity to experience the country's rich culture and history.

I excitedly tell friends visiting me in Shenyang, Liaoning province, about the many wonders to visit in and around the city, and other parts of Liaoning. Few foreigners realize how central this northeast region of China is to China's history. This is the land of origin of the last ruling dynasty, the Qing Dynasty (1644-1911). The Revolution of 1911 brought an end to the Qing Dynasty and, along with it, about 2,000 years of imperial rule. The People's Republic of China was founded 38 years later, in 1949.

Besides the stunning countryside, some of the world's finest ice wine vineyards, and relics of the Chinese People's War of Resistance Against Japanese Aggression (1931-45) are found in Northeast China.

Of course China's other regions and cities offer their own unique history and culture, and breathtaking landscapes and natural sceneries. These are but only a few wonders that foreign tourists can experience.

The 144-hour visa-free transit policy means that if you are making a stop in China while on way to another country or destination, and if you are a national of any of the 54 designated countries, you can avail of the policy at 37 ports across China, and stay in the country for up to six days without a visa. The policy covers major Chinese cities such as Beijing, Shanghai, Guangzhou and Chengdu, making it easier for tourists to explore a variety of "can't miss" tourist spots along the way.

One of the most compelling aspects of the policy is the spread of authentic stories about China through travelers' postings on social media platforms, including X (formerly Twitter) and Facebook, and even foreigners' accounts on Chinese social media platforms such as Bilibili, Douyin and Weibo.

From visiting the Great Wall to indulging in culinary adventures in bustling cities but also the countryside, these personal accounts have painted a vivid picture of the real China, which can be considered one the greatest achievements of the policy. Travelers have praised the Chinese people's hospitality, traditional Chinese culture, and modern infrastructure. These stories have resonated with audiences worldwide, giving lie to the anti-China propaganda circulating in Western media and society.

Despite the ridiculous accusations by some people that the tourists praising China and the Chinese people are "paid propagandists", the foreign travelers have continued to post wonderful stories about China on social media. Those critics and skeptics, too, should visit China to experience firsthand how incredibly safe Chinese cities are. And I'm sure, they too will be overwhelmed by the hospitality and amiability of the Chinese people.

When tourists share their experiences of other countries, they are rarely, if ever, accused of having ulterior motives. But if they share their experiences of China, they are branded "propagandists" Such double standard is reprehensible.

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* Puclished at China Daily on 8 October 2024.

* Mario Cavolo is a senior writer and professional speaker.

The reality is that the 144-hour visa-free transit policy has provided an opportunity for people across the world to hear the stories about China from foreign visitors via their posting on social media platforms.

As someone with a Chinese family and who has lived in China for 25 years, I feel proud when I see our foreign friends sharing the real story about China.

Yet traveling can be taxing and stressful, especially if you are visiting a country where the language barrier could make communication difficult. So people visiting China, after they land at any of the 37 designated ports, should simply approach the dedicated visa-free transit counter at the ports, present your documents and explain that they are applying for the 144-hour visa-free transit.

China's visa-free entry policy is a masterstroke in international relations and an innovative and traveler-friendly way of boosting the tourism sector, as well as expanding people-to-people exchanges and improving mutual understanding.

Whether it's exploring ancient temples, countryside farms or villages, or enjoying world-class shopping in dream-like malls, visitors leave China with a deeper appreciation of the country's contributions to the global community.

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Global Economy

As Inflation Recedes, Global Economy Needs Policy Triple Pivot☆

By PIERRE-OLIVIER GOURINCHAS*

Growth is projected to hold steady, but amid weakening prospects and rising threats, the world needs a shift in policy gears.

Let’s start with the good news: it looks like the global battle against inflation has largely been won, even if price pressures persist in some countries. After peaking at 9.4 percent year-on-year in the third quarter of 2022, we now project headline inflation will fall to 3.5 percent by the end of next year, slightly below the average during the two decades before the pandemic. In most countries, inflation is now hovering close to central bank targets, paving the way for monetary easing across major central banks.

The global economy remained unusually resilient throughout the disinflationary process. Growth is projected to hold steady at 3.2 percent in 2024 and 2025, but some low-income and developing economies have seen sizable downside growth revisions, often tied to intensifying conflicts.

In advanced economies, growth in the United States is strong, at 2.8 percent this year, but will revert toward its potential in 2025. For advanced European economies, a modest growth rebound is expected next year, with output approaching potential. The growth outlook is very stable in emerging markets and developing economies, around 4.2 percent this year and next, with continued robust performance from emerging Asia.

The decline in inflation without a global recession is a major achievement. As Chapter 2 of our report argues, the surge and subsequent decline in inflation reflects a unique combination of shocks: broad supply disruptions coupled with strong demand pressures in the wake of the pandemic, followed by sharp spikes in commodity prices caused by the war in Ukraine.

These shocks led to an upward shift and a steepening of the relationship between activity and inflation, the Phillips curve. As supply disruptions eased and tight monetary policy started to constrain demand, normalization in labor markets allowed inflation to decline rapidly without a major slowdown in activity.

Clearly, much of the disinflation can be attributed to the unwinding of the shocks themselves, together with improvements in labor supply, often linked to increased immigration. But monetary policy played a decisive role by keeping inflation expectations anchored, avoiding deleterious wage-price spirals, and a repeat of the disastrous inflation experience of the 1970s.

Despite the good news on inflation, downside risks are increasing and now dominate the outlook. An escalation in regional conflicts, especially in the Middle East, could pose serious risks for commodity markets. Shifts toward undesirable trade and industrial policies can significantly lower output relative to

☆ This blog is based on the October 2024 World Economic Outlook. For more, see blog posts on the report’s analytical chapters: Global Inflationary Episode Offers Lessons for Monetary Policy and Support for Economic Reforms Hinges on Communication, Engagement, and Trust.

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our baseline forecast. Monetary policy could remain too tight for too long, and global financial conditions could tighten abruptly.

The return of inflation near central bank targets paves the way for a policy triple pivot. This would provide much-needed macroeconomic breathing room, at a time where risks and challenges remain elevated.

The first pivot — on monetary policy — is under way already. Since June, major central banks in advanced economies have started to cut policy rates, moving toward a neutral stance. This will support activity at a time when many advanced economies' labor markets are showing signs of cooling, with rising unemployment rates. So far, however, the rise in unemployment has been gradual and does not point to an imminent slowdown.

Lower interest rates in major economies will ease the pressure on emerging market economies, with their currencies strengthening against the US dollar and financial conditions improving. This will help reduce imported inflation, allowing these countries to pursue their own disinflation path more easily.

However, vigilance remains key. Inflation in services remains too elevated, almost double pre-pandemic levels. A few emerging market economies are facing a resurgence of inflationary pressures and have started to raise policy rates again.

Furthermore, we have now entered a world dominated by supply disruptions—from climate, health, and geopolitical tensions. It is always harder for monetary policy to contain inflation when faced with such shocks, which simultaneously increase prices and reduce output.

Finally, while inflation expectations remained well-anchored this time, it may be harder next time, as workers and firms will be more vigilant about protecting pay and profits.

The second pivot is on fiscal policy. Fiscal space is a cornerstone of macroeconomic and financial stability. After years of loose fiscal policy in many countries, it is now time to stabilize debt dynamics and rebuild much-needed fiscal buffers.

While the decline in policy rates provides some fiscal relief by lowering funding costs, this will not be sufficient, especially as long-term real interest rates remain far above pre-pandemic levels. In many countries, primary balances (the difference between fiscal revenues and public spending net of debt service) need to improve.

For some, including the United States and China, current fiscal plans do not stabilize debt dynamics. In many others, while early fiscal plans showed promise after the pandemic and cost-of-living crises, there are increasing signs of slippage.

The path is narrow: delaying consolidation increases the risk of disorderly market-imposed adjustments, while an excessively abrupt turn toward fiscal tightening could be self-defeating and hurt economic activity.

Success requires implementing a sustained and credible multi-year adjustments without delay, where consolidation is necessary. The more credible and disciplined the fiscal adjustment, the more monetary policy can play a supporting role by easing policy rates while keeping inflation in check. But the willingness or ability to deliver disciplined and credible fiscal adjustments have been lacking.

The third pivot—and the hardest—is toward growth-enhancing reforms. Much more needs to be done to improve growth prospects and lift productivity, as this is the only way we can address the many challenges we face: rebuilding fiscal buffers; coping with aging and shrinking populations in many parts of the world; tackling the climate transition; increasing resilience, and improving the lives of the most vulnerable, within and across countries.

Unfortunately, growth prospects for five years from now remain lackluster, at 3.1 percent, the lowest in decades. While much of this reflects China’s weaker outlook, medium-term prospects in other regions, including Latin America and the European Union, have also deteriorated.

Faced with increased external competition and structural weaknesses in manufacturing and productivity, many countries are implementing industrial and trade policy measures to protect domestic workers and industries. But external imbalances often reflect macroeconomic forces: a weakening domestic demand in China, or excessive demand in the United States. Addressing these will require setting the macro dials appropriately.

Moreover, while industrial and trade policy measures can sometimes boost investment and activity in the short run—especially when relying on debt-financed subsidies—they often lead to retaliation and fail to deliver sustained improvements in standards of living. They should be avoided when not carefully addressing well-identified market failures or narrowly defined national security concerns.

Economic growth must come instead from ambitious domestic reforms that boost technology and innovation, improve competition and resource allocation, further economic integration and stimulate productive private investment.

Yet while reforms are as urgent as ever, they often face significant social resistance. How can policymakers win the support they need for reforms to succeed?

As Chapter 3 of our report shows, information strategies can help but can only go so far. Building trust between government and citizens—a two-way process throughout the policy design—and the inclusion of proper compensation to offset potential harms, are essential features.

Building trust is an important lesson that should also resonate when thinking about ways to further improve international cooperation and bolster our multilateral efforts to address common challenges, in the year that we celebrate the 80th anniversary of the Bretton Woods institutions.

Difficult But Doable*

By KRISTALINA GEORGIEVA*

Let me start with the good news. In the US, in Europe, and even more so in Asia, inflation is retreating and — different from past inflation spikes — this has been done without the economy slipping into recession. A combination of resolute monetary policy action, easing supply chain constraints, and moderating food and energy prices is guiding us back in the direction of price stability while growth remains squarely in positive territory — we project it to reach 3.2 percent both this and next year, with APEC growing above the global average this year.

This is a remarkable achievement and yet in many countries it is not reflected in public sentiment. Inflation may be falling but the higher prices people feel in their wallets are here to stay.

And while the world economy is growing, the pace is slower than in the pre-pandemic decades by almost one percentage point — it was 3.8 percent then vs now just around 3 percent over the medium term. This is combined with a legacy of high public debt — globally reaching 100 percent of GDP. As high interest rates raise debt service and low growth hurts revenues, the impact on government budgets is tightly constricting—even more when measured against the vast demands for public spending for education, infrastructure and social services, especially in aging societies.

To make matters worse, in a more fractured world trade is no longer the powerful engine of growth it used to be. The retreat from global economic integration—driven by both national security concerns and the anger of those who lost out from it—is visible in a mushrooming of industrial policy measures, trade barriers, and protectionism. This year alone, we can expect to see over 3,000 new trade restrictions worldwide.

In this environment policy makers need to simultaneously pursue two goals:

One, fiscal consolidation to rebuild buffers for the next shock while preserving space for priority public investments, especially in light of the massive needs of the green and digital transformations.

Two, ambitious reforms to lift growth potential and energize job-creation, starting right away, with a focus on mobilizing private capital, improving productivity and, in some cases, building stronger institutions and governance.

Reaching the first goal involves difficult choices on how to raise revenues and make spending more efficient, also ensuring that policy actions are well-explained to earn the trust of the people.

Fiscal restraint is never popular. And our analysis shows, it's only getting harder. Even traditionally fiscally conservative political parties are developing a taste for borrow-to-spend. But it is paramount to have prudent fiscal rules in place as an anchor for government spending.

Reaching the second goal is also not easy. The pace of reforms has been slowing since the global financial crisis as discontent has grown.

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* Remarks by IMF Managing Director Kristalina Georgieva at the APEC Leaders' Retreat in Lima, Peru — November 16, 2024.

* Managing Director of the International Monetary Fund.

But progress is possible. APEC economies that show strong resilience demonstrate what works: good policy design, good communication and help for those who will lose out. You pursue labor market reforms, invest in human capital, R&D and physical and digital infrastructure. You deepen your capital markets and develop ecosystems that bring not only financing but knowledge, advice, and professional networks – all very critical in the world of AI.

I want to express my support for your ambition to make the Asia-Pacific region more sustainable, more digital, more resilient, and more APEC-focused. I salute your role in fostering trade and cooperation.

Economic integration and multilateral action will remain essential for raising growth and solving global problems.

As you work to further empower your citizens, include them in your nations' progress, and grow your economies, we at the Fund stand ready as partners, always available to assist with impartial economic analysis, tailored policy advice, and financial support to members hit by shocks.

Working together, as APEC shows, remains essential for preserving economic progress.

IMF Policy

The International Monetary Fund, the World Bank Group, and the World Health Organization Step Up Cooperation on Pandemic Preparedness*

By IMF

Washington, DC: The Heads of the International Monetary Fund (IMF), the World Bank Group (WBG), and the World Health Organization (WHO) have agreed on broad principles for cooperation on pandemic preparedness. This cooperation will allow a scaling up of support to countries to prevent, detect and respond to public health threats through the IMF's Resilience and Sustainability Trust (RST), the WBG's financial and technical support, and WHO's technical expertise and in-country capabilities. The RST allows eligible member countries to access long-term financing at low interest rates to help implement reforms that address structural challenges to the stability of the economy, such as those posed by pandemics, and to enhance countries' health systems resilience.

Operating within their respective mandates and policies, the IMF, the WBG, and WHO will leverage their expertise to enhance pandemic preparedness in their member countries, building on the synergies and complementarity of each institution's in-country analysis and operations. This collaboration will strengthen the design and articulation of effective policy, institutional and public financial management reforms supported by the IMF's Resilience and Sustainability Facility (RSF), the policy reforms and investments supported by the WBG, and the technical and operational support provided by WHO. In strengthening the pandemic preparedness framework, member countries will also work to improve the resilience of their health systems and their ability to respond better to all health emergencies.

Under the Broad Principles of Coordination:

WHO and the WBG will continue to take the lead on health-related development policies and, with other multilateral development banks and The Pandemic Fund, on specific project investments for pandemic preparedness. RST financing will not be earmarked for specific projects.

Pandemic preparedness policy reform measures supported by RSF arrangements will be informed by existing data, analytics and operational engagement of WHO, the WBG, and country authorities.

Pandemic preparedness reforms will build on each institution's area of expertise. RSF programs will focus on macro-critical policy reforms within the IMF's expertise and complement the work

*Published on October 4 2024.

carried out by the WBG and WHO to maximize both the financial resources and technical expertise available to countries. RSF Reform measures can include policy actions aimed at enhancing the readiness of finance and health systems to respond effectively to future health emergencies.

Thanks to this stepped-up cooperation between the IMF, the WBG, and WHO, the three institutions will better serve countries’ efforts on pandemic preparedness.

Kristalina Georgieva, Managing Director of the IMF, said: “The stepped-up collaboration with the World Bank Group and the World Health Organization will help our institutions complement and leverage each other’s expertise to help our members strengthen pandemic preparedness and enhance resilience of their health systems. The IMF’s Resilience and Sustainability Trust allows eligible member countries to access affordable, long-term financing to address structural challenges that threaten their macroeconomic stability.”

“The COVID-19 pandemic highlighted the need for new sources of financing to bolster health systems to make them more able to prevent and detect epidemics and pandemics, and to respond and withstand them when they strike,” said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. “WHO is proud to be working with the IMF and the World Bank to unlock financing from the Resilience and Sustainability Trust, and support countries to put it to work for a safer world.”

“We must aggressively be planning and preparing for the next global health crisis, so that when the battle comes – and we know it will – we will have the health workforce that can be rapidly deployed in the face of a crisis, laboratories that can quickly ramp up testing, and surge capacity that can be called upon to respond,” said World Bank Group President Ajay Banga. “This deepened collaboration focuses our response on helping countries better prepare and respond to public health threats.”

IMI International Monetary Review

The IMF Approves Policy Reforms and Funding Package to Support Low Income Countries in a Sustainable Manner*

By IMF

The reforms approved by the IMF's Executive Board aim to bolster the Fund's capacity to support Low-Income Countries (LICs) in addressing their balance of payment needs, while restoring the self-sustainability of the Poverty Reduction and Growth Trust (PRGT).

The approved policy reforms include: a long-term self-sustained annual lending envelope calibrated at SDR 2.7 billion (about $3.6 billion), more than twice the pre-Covid-19 average. To this end, the membership agreed on a new framework to distribute IMF General Resources to facilitate generation of SDR 5.9 billion (about $8 billion) in additional PRGT subsidy resources.

The Executive Board also approved reforms to help tailor IMF support to country-specific needs, recognizing the increasing economic heterogeneity of LICs. This includes a new interest rate mechanism that maintains interest-free lending to the poorest countries, while ensuring a sufficient degree of concessionality for others. Access policies will allow for flexibility in calibrating Fund support while safeguards will be strengthened and streamlined.

Washington, DC: The Executive Board of the International Monetary Fund (IMF) approved a set of reforms to the Fund's concessional lending facilities and an associated funding strategy to preserve the Fund's ability to provide adequate support to Low-Income Countries (LICs) over the long term. These reforms are detailed in the staff paper "2024 Review of the Poverty Reduction and Growth Trust (PRGT) Facilities and Financing—Reform Proposals."

The IMF significantly scaled-up support to its low-income members in response to the COVID-19 pandemic and subsequent major shocks. The annual lending commitments have risen to an average of SDR 5.5 billion since 2020, compared with about SDR 1.2 billion during the preceding decade. Outstanding PRGT credit has tripled since the pandemic's onset, while funding costs at the SDR interest rate have risen sharply. As a result, the PRGT faces an acute funding shortfall, with its self-sustained lending capacity projected to decline, absent reforms, to about SDR 1 billion a year by 2027, well below expected demand.

The reforms approved by the IMF's Executive Board aim at maintaining adequate financial support to LICs while restoring the self-sustainability of the PRGT. The Executive Board today endorsed a long-term annual lending envelope of SDR 2.7 billion ($3.6 billion) and approved a package of policy reforms and resource mobilization to support that lending capacity. The envelope, which is more than twice the pre-pandemic capacity, is calibrated to ensure that the Fund can use its limited concessional resources to continue providing vital balance of payment support to LICs, while supporting strong economic policies and catalyzing fresh financing from other sources.

The Review includes policy changes that reflect the increasing economic heterogeneity among LICs. A new tiered interest rate mechanism will enhance the targeting of scarce PRGT resources to

* This article first appeared on October 21 2024.

the poorest LICs, which will continue to benefit from interest-free lending, while better-off LICs will be charged a modest, and still concessional, interest rate. The access norm will be set at 145 percent of quota to help anchor the average size of future arrangements and the overall lending volume. At the same time, annual and cumulative limits for PRGT normal access will remain at 200 and 600 percent of quota, respectively. This will allow for flexibility in calibrating Fund's support. Safeguards will be strengthened and streamlined to maintain a robust and efficient risk management framework, in light of high lending volumes and risks.

After a successful bilateral fundraising, and in the context of a robust financial outlook for the Fund, the membership reached consensus on a framework to deploy IMF internal resources to facilitate the generation of PRGT subsidy resources. Specifically, SDR 5.9 billion (about US$ 8 billion), in 2025 present value terms, is expected to be generated through a framework to distribute GRA net income and/or reserves over the next five years. This would come on top of additional bilateral subsidy contributions, the subsidy savings from the new interest rate mechanism, and financing from a proposed further five-year suspension of PRGT administrative expenses reimbursement to the GRA.

Executive Board Assessment

Executive Directors welcomed the opportunity to discuss the 2024 Review of the Poverty Reduction and Growth Trust (PRGT) Facilities and Financing. They emphasized that the Fund, working closely with the World Bank and other partners, has a key role in supporting Low-Income Countries (LICs), through policy support, capacity development, concessional financing, and catalyzing donor support.

Directors recognized that the exceptionally high demand for concessional financing in recent years, amid sharply higher funding costs, has put PRGT finances under intense strain. Absent reforms, the PRGT self-sustained lending capacity would decline to about SDR 1 billion a year by 2027, well below expected demand.

Directors stressed the urgency of maintaining adequate financial support to LICs in the years ahead, while restoring the Trust's self-sustained lending capacity. They agreed that while lending should decline from recent highs as LICs gradually recover from successive shocks and implement domestic policy reform, demand for PRGT financing will remain significantly above pre-pandemic levels in a more shock-prone world.

Directors generally endorsed a long-term self-sustained annual PRGT lending envelope of SDR 2.7 billion that would allow the Fund to continue providing adequate support to LICs while being feasible from a funding perspective. They underscored that the Fund's limited concessional resources should support strong economic policies and catalyze fresh financing from other sources. A few Directors would have preferred a lower envelope. Directors underlined that continued attention to strong program design and reform content, including in areas such as domestic resource mobilization and debt management, will be essential to support the success and impact of PRGT arrangements.

Directors broadly supported the staff's proposal for a tiered interest rate mechanism, that would apply to all new ECF and SCF arrangements and outright disbursements under the RCF approved beginning on May 1, 2025, to better reflect the increasing economic heterogeneity among LICs. They welcomed the enhanced targeting of scarce PRGT resources on the poorest LICs, for which the interest rate would remain at zero. A few Directors would have seen merit in a small positive charge as a price signal. Higher-income LICs would be charged a positive, but still concessional, interest rate in proportion to the SDR interest rate, with a higher concessional element for more vulnerable higher-income LICs with more limited market access. Directors noted that the proposal will contribute to a larger sustainable lending capacity for the PRGT that will benefit borrowers and have limited impact on members' financial position and debt sustainability. Some Directors would have preferred a greater element of concessionality for higher income LICs, while a few others would have favored maintaining zero interest rates for financing to small developing states or for emergency financing under the RCF. A few other Directors would have preferred a two-tiered mechanism based solely on income. Directors broadly supported the staff's proposal that outstanding PRGT credit and new disbursements under existing PRGT arrangements and RCF financing approved through April 30, 2025, would be exempt from the application of the new interest rate mechanism.

Directors supported returning the access norm applicable to ECF and SCF arrangements to 145 percent of quota, on January 1, 2025, in view of LICs' recovery from the recent extreme shocks as well as their efforts to mobilize more domestic revenue, adjust policies, and rebuild buffers. They broadly supported maintaining the PRGT overall annual and cumulative access limits at 200 and 600 percent of quota, respectively. A few Directors would have preferred a return to previous PRGT access limits. A few Directors stressed that PRGT access limits should be determined independently of GRA access limits.

Directors supported the proposed reform for Strengthened Policy Safeguards, effective from January 1, 2025, which consolidates the current High Access Procedures and Enhanced Safeguards into a strengthened and streamlined framework centered around the access norm with the aim to help mitigate risks without overburdening the Fund's policy framework.

Directors underscored that success of programs under the PRGT will hinge on ensuring strong design and implementation, including with regard to the size and composition of fiscal adjustments, mobilization of domestic resources, protection of priority areas including social spending and growth-enhancing public investment, governance, and structural reforms. In this regard, Directors looked forward to the analysis and recommendations of the forthcoming Review of Program Design and Conditionality.

Directors stressed the need to carefully monitor the implementation of the reform package. The annual reviews of PRGT resource adequacy offer a framework to review the trends in PRGT loan demand and resources. In the event that resources fall short, or demand exceeds expectations by a substantial margin for an extended period, Directors concurred that the Executive Board could introduce a range of contingency measures in the context of an ad-hoc PRGT review. They also welcomed the proposal to have a targeted mid-term review in three years, including to assess the early experience of PRGT borrowers with the new interest rate mechanism.

Directors endorsed the proposed financing framework aimed at ensuring the PRGT has sufficient self-sustained capacity to meet demand. They endorsed the proposed five-year suspension of PRGT administrative expenses reimbursement to the GRA. In the context of the Fund's historically strong financial position of the GRA, Directors also supported the proposed framework consisting of (i) a Multi-Year Distribution Plan for a cumulative amount of SDR6.9 billion of GRA net income or reserves to be achieved through annual distribution decisions of specific amounts subject to the financial conditions of the GRA and (ii) the establishment of a new administered account, the Interim Placement Administered Account (IPAA), to which such amounts would be transferred from the GRA and temporarily placed and administered by the Fund pursuant to the terms of the IPAA Instrument, pending sufficient assurances by members for new commitments of PRGT subsidy resources. The principal amounts would become available to members for disposition based on their quota shares once the assurances equivalent to 90 percent of the aggregate amount have been reached. The framework is designed to facilitate generation of urgently needed additional PRGT subsidies, and such framework is understood to be acceptable to all Fund members. They concurred with staff's projections that such distributions would be expected to help generate an additional SDR 5.9 billion (in 2025 present value terms) in subsidy resources, conditional on members coming forward with assurances that they will provide their share (or equivalent) of the GRA distributions to benefit the PRGT subsidy accounts. Some Directors indicated that their authorities were not in a position to provide assurances at the current juncture. Some Directors stressed the need for contingency planning given possible uncertainties in receiving sufficient assurances from member countries regarding new PRGT subsidy commitments. Many Directors emphasized that relying on GRA distributions should not be viewed as a permanent solution for subsequent PRGT pledges. Directors generally noted that the option of using limited gold sales could be revisited in the medium- to longer term. Some Directors highlighted the importance of continued bilateral contributions from high-income countries. A few Directors called for the recognition of such voluntary financial contributions in the determination of members' quotas. Directors also supported the further refinement to the PRGT's investment strategy.

Directors concurred that the PRGT eligibility framework remains broadly adequate and agreed with the associated list of PRGT-eligible countries. They supported the proposed refinement to the five-year period and data sources used to assess past market access, which will allow for the inclusion of more recent data where relevant. Directors concurred that this modification, which would be effective immediately, would also have immediate application for the determination of market access under the framework for presumed blending. They also supported the proposal to restore, effective immediately, the assessment of absence of serious short-term vulnerabilities for all PRGT-eligible countries before taking decisions on graduation and concurred that this would help better align the PRGT eligibility framework with the current more shock-prone environment and continue to limit the risks of premature graduation.

Directors broadly supported proposed targeted changes, effective immediately, to other PRGT policies. Directors supported a targeted adjustment to the Policy Safeguards for High Combined Credit Exposure to align its debt sustainability criterion with that under the GRA Exceptional Access (GRA-EA) policy for LICs that meet the market access criterion under the GRA-EA policy. They noted that the Independent Evaluation Office (IEO) is currently advancing its evaluation of the EA policy, and the follow-up work to the IEO recommendations would ensure any evolution of the GRA-EA policy would be reflected in the PS-HCC, as appropriate, to maintain consistency across frameworks. Most Directors supported the extension to end-December 2025 of the current cumulative access limits of the Rapid Credit Facility (RCF). Directors also concurred with the recommendation to conduct a comprehensive review of the policy on Poverty Reduction Strategies in 2025.

Directors agreed with Staff-proposed automatic adjustment of access limits and other quota-based thresholds when the 16th GRQ becomes effective.

Directors emphasized the importance of a sound communication strategy that highlights the objective of securing a self-sustainable PRGT to support the Fund's continued ability to provide concessional lending to vulnerable countries, including zero-interest loans to the poorest countries. Many Directors also underlined the importance of transparent communication about all stages of the financing mechanism, including that commitments from members to contribute their share of the distribution to the PRGT will be requested following the conclusion of this PRGT review.

Finally, Directors agreed that the next general review of the Fund’s facilities for LICs will take place on the standard five-year cycle.

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IMF Releases the 2024 Financial Access Survey Results

By IMF

The International Monetary Fund (IMF) released the results of the 2024 Financial Access Survey (FAS), marking the 15th anniversary of the FAS. The report “FAS: 2024 Highlights,” published along with the data release, summarizes the key trends on access to and usage of financial services over the past few years. Established in 2009, the FAS has played a crucial role in providing essential data to develop and evaluate financial inclusion policies, a topic of key relevance for the IMF, as it fosters broader economic participation, reduces inequalities, promotes inclusive growth, and aids in achieving the Sustainable Development Goals (SDGs). The FAS stands as the most comprehensive annual supply-side database on financial inclusion, boasting nearly complete global coverage. It covers 192 economies, featuring 121 series and 70 normalized indicators for global comparison. The FAS dataset spans from 2004 to 2023, and it continues to evolve in line with financial innovations such as the provision of digital financial services and the increasing demand for gender-disaggregated data.

Digital Financial Services Continue to Make Gains

Here has been a substantial increase in the usage of non-traditional financial services, including mobile and internet banking, with mobile money being particularly important in Sub-Saharan Africa. Yet, usage of traditional financial services remains essential in many economies. For example, from 2013 to 2019, deposit accounts per 100 adults increased by over 40% in emerging and developing Europe and Sub-Saharan Africa. The growth of digital financial services has also led to an increase in non-traditional access points, such as retail and mobile money agents, while traditional access methods like ATMs and bank branches have seen a decline, especially since the COVID-19 pandemic

Microfinance Institutions Have Continued Supporting Economically Marginalized Groups

Financing by microfinance institutions has shown resilience amid recent economic shocks. In various economies, borrowing from microfinance institutions increased, as indicated by the growth in the number of accounts and outstanding loans. While commercial banks usually provide larger loan amounts, microfinance institutions serve a broader client base, as evidenced by the larger number of loan accounts compared to those at commercial banks.

Challenges in Narrowing Gender Gaps Remain

Despite the benefits of incorporating women into the financial system, substantial gender gaps in the usage of financial services persist. These gaps are particularly evident in the usage of deposit and loan accounts. Globally, women's outstanding deposit amounts as percentage of men's stand at 64 percent, while their outstanding loan balances account for only 46 percent of men's. In terms of regional differences, advanced economies demonstrate a more gender-equal financial inclusion compared to emerging economies. Among the latter, emerging and developing Europe and Latin America and the Caribbean show relatively higher gender equality.

Lending to SMEs Declined

Data from FAS indicate a decrease in the outstanding amounts of SME loans from 2021 to 2023 in most economies that reported this information. Although several supportive policies were introduced during the COVID-19 Pandemic, subsequent developments, including tighter financial conditions and geopolitical tensions, may have contributed to the decline in SME loans.

Additional Enhancements to the FAS are Being Tested

To ensure the FAS data remain vital for informing financial inclusion policy, a pilot exercise is underway to assess the potential for enhancing the FAS. This includes incorporating additional gender disaggregation, information on new fintech services, and important factors such as loan pricing and risks, especially for underserved populations.

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Macroeconomic

Centralized and Decentralized Finance: Substitutes or Complements?⋆

By GOVERNOR CHRISTOPHER J. WALLER*

Over the past few years, there has been a lot of attention and work on defi, which will be a major focus of my remarks. Many argue that defi will replace traditional centralized finance while others argue that it merely extends traditional finance methods and trading activities onto new platforms. It is in this sense that I want to address the question of whether centralized finance and defi are substitutes or complements to each other.

Advances associated with defi have the potential to profoundly affect financial market trading. While I believe these advances could lead to efficiency gains, I recognize the significant value that has been delivered for centuries by financial intermediaries and through centralized financial markets. Before I share my views on the promise of these new technologies, let me tell you where I'm coming from on these issues.

I am an economist, and so my first inclination is to think about the underlying economics driving an issue. But to understand the value proposition of defi, it is useful to first recall why centralized financial market trading arose in the first place. Centralized finance clearly provides benefits to people, but obviously also comes with some costs. I am going to take a few minutes to discuss those benefits and costs before turning to the question at hand.

Let's start with the economics of trading. Most financial trades are "pairwise" in that the seller of an object needs to find a buyer of that exact object. The problem is that it is often complicated, costly, and time-consuming to search for a buyer. This gives rise to the need for someone to step in and help buyers and sellers match in a faster and less costly manner. In short, there is a profit opportunity for someone to intermediate the trade.

Another name for intermediaries is middlemen. Why would we pay a middleman? In their paper from nearly 40 years ago, Ariel Rubenstein and Asher Wolinsky described it eloquently: "What makes the middlemen's activity possible is the time-consuming nature of the trade, which enables middlemen to extract surplus in return for shortening the time period that sellers and buyers have to wait for a transaction."

Let me contextualize the value of middlemen with an example I used for years when teaching money and banking. Suppose you had some extra income from saving and wanted to lend it out to earn interest. How would you do that? First, you would have to advertise that you had funds to lend. Then, you would have to wait for the right person who needed that exact amount of funds, which could be a long time. Once

⋆ At the Vienna Macroeconomics Workshop, Institute of Advanced Studies, Vienna, Austria.

* Christopher J. Waller is a member of the Federal Reserve Board of Governors.

you met the right person, you would have to negotiate when repayment would occur. Next, you would need to know a lot of information about the person receiving your funds and the likelihood you would get repaid. This is needed to assess the risk of the transaction and the compensation you would need to give up your funds. You would also need a lot of legal advice to draw up a contract and stipulate how the contract would be enforced under a range of conditions. Finally, since you are the sole source of funding, you will bear the entire cost of a default. It should be clear that this would be a daunting exercise for most people and explains why they would turn to a middleman who specializes in this type of activity to do all this on their behalf.

It is for these reasons that banks arose as early as in ancient Mesopotamia to carry out some of these functions. Similar issues arise when it comes to other ways of transferring resources from one person to another, as occurs from non-bank debt, equities and insurance contracts. Many point to trades of shares in the Dutch East India Trading Company in Amsterdam in the 1660s as the origins of the first modern stock exchange. Lloyds of London was founded as a means of pooling funds to share risk and return in the shipping industry, thus becoming the first insurance firm. The fact that similar arrangements still exist centuries later is a testament to the value of intermediation and centralized financial trading.

However, these arrangements are not without drawbacks. An obvious drawback of intermediation from the perspective of those wishing to trade is that those middlemen must get paid. That is, there are transaction costs. Another drawback of intermediation is that you typically must turn over control of your assets, such as savings or stocks, to the intermediary for them to be traded. This creates a classic "principal-agent" problem whereby incentives between the principal — you — and the agent — the intermediary—may not be aligned. That can raise concerns about custody arrangements and recourse to regain control of one's assets. Intermediation also requires recordkeeping arrangements that customers can trust accurately reflect their true holdings. In other words, centralized finance requires a substantial amount of trust. With all that in mind, let me turn to how and why technological innovations have given rise to defi.

In a capitalist system, the existence of profits provides incentives for others to enter the market, offer a better product, and compete away any excess profits. This can be done by the creation of new financial firms that can provide the same or better service at a lower cost. Often that occurs through innovations and exploiting new technologies. Think about how the invention of the telegraph and the telephone revolutionized trading. More recently, the advent of the internet further advanced the ease and speed of financial trading. These are examples of how financial trading has evolved over time. And the next wave of innovations in financial market trading could be driven by technological advances that alleviate some potential drawbacks of the centralized approach.

Often broad technological advances emanate from narrower efforts to design products or processes that solve specific problems. For example, one technology used to support portable home appliances like vacuum cleaners was originally developed to support the space program.4 Similarly, the development of crypto-assets led to the development of technologies that are fueling possibilities in defi.

We don't have enough time for me to cover the full history of crypto-assets, but I will focus on several key elements that have affected the evolution toward defi. An early crypto-asset—Bitcoin—was developed to function in a world in which trust among individuals did not exist. Rather than relying on intermediaries which require trust, Bitcoin relied on technology to facilitate trade. Bitcoin was also designed for privacy. No one would know who was buying or selling Bitcoin. This was achieved through cryptographic technology and private keys. In addition, it allowed individuals to maintain control of their crypto-assets throughout the entire trading process. That is, they no longer had to delegate control to others. Finally, all records were kept on a form of distributed ledger called a blockchain, which has design features that promote transparency and are censorship-proof. No individual or government could destroy the records of trades or take ownership of the objects traded.

With that history in mind and before we delve into the question of whether defi and centralized finance are substitutes or complements, I think it is useful to carefully define some terms. This will make sure we're all talking about the same things. As I described in a speech last year, I think of the crypto ecosystem as consisting of three parts:

a crypto-asset, which generally refers to any digital object traded using cryptographic techniques;

technology that directly facilitates trading crypto-assets; this includes smart contracts and tokenization; and

a database management protocol used to record trades and ownership of assets, commonly referred to as the blockchain, which includes both permissioned and permissionless distributed ledger technologies.

It is easy to see how the emergence of these technologies could lead one to think of defi as a substitute for centralized finance. For example, the technologies are allowing for individuals to trade assets without giving up control of those assets to an intermediary—a critical distinction with centralized finance.

However, there are other uses emerging from these technologies that look more like complements to centralized finance. For example, distributed ledger technology, or DLT, may be an efficient and faster way to do recordkeeping in a 24/7 trading world. We already see several financial institutions experimenting with DLT for traditional repo trading that occurs 24/7. But before these ledgers can be used to facilitate transactions in traditional assets—like debt, equity, and real estate—these assets must be tokenized. Undertaking the process to tokenize assets and use distributed ledgers like blockchain can speed up transfers of assets and take advantage of another innovation: smart contracts.

Rather than relying on each party to separately carry out the transaction, smart contracts can effectively combine multiple legs of a transaction into a single unified act executed by a smart contract. This can provide value as it can mitigate risks associated with settlement and counterparty risks by ensuring the buyer will not pay if the seller does not deliver. While these efforts are still in early stages, the functionality could expand to a broad set of financial activities. The bottom line is that things like DLT, tokenization, and smart contracts are just technologies for trading that can be used in defi or also to improve efficiency in centralized finance. That is why I see them as complements.

Stablecoins are another important innovation in defi. Stablecoins were created in the crypto universe in hopes of providing a "safe" asset with a stable value for trading. Nearly all stablecoins are pegged to the U.S. dollar one-for-one. They provide an opportunity for buyers and sellers to transact in a decentralized fashion with the stablecoin used as the settlement instrument. Because they are effectively digital currency, stablecoins can reduce the need for payment intermediaries and thereby reduce costs of payments globally. But their safety is not assured. History is replete with cases in which synthetic dollars became subject to runs. Stablecoins thus face all of the same issues any substitute for genuine U.S. dollars faces. If appropriate guardrails can be erected to minimize run risk and mitigate other risks, such as their potential use in illicit finance, then stablecoins may have benefits in payments and by serving as a safe asset on a variety of new trading platforms.

These technologies will almost certainly lead to efficiency gains over time, but as they develop, we should think carefully about their role in the broader financial landscape.

Is it really possible to completely decentralize finance using these technologies? The answer is obviously "no." Intermediation is still valuable for the average person, and we see this by the existence of trading exchanges in the crypto world. All these platforms involve giving custody of one's crypto-assets to an intermediary, who conducts trades on behalf of the client. This reintroduces the need for trust in these platforms just as trust is needed in modern banking systems.

Returning to the technologies behind defi, one must ask whether there are unique risks associated with the use of these technologies. If so, what is the nature of these risks? Are they contained to just those people directly engaging with the technologies, or could there be broader spillovers to society? For example, can these technologies increase the risk of inadvertently providing funds to bad actors? In centralized finance there are regulations that require banks to know who their clients are. Are similar rules and regulations needed around some of these new technologies? When it comes to our financial plumbing, which affects every person or business in one way or another, I think a balanced view of expeditious disruption and long-term sustainability is merited.

So where does that leave us? Ultimately, I believe that advances in technology have the potential to drive efficiency gains in finance, just as technological innovation has done for centuries. While there are certain services emerging through defi that cannot be provided by centralized finance, the technological innovations stemming from defi are largely complementary to centralized finance. They have the potential to improve centralized finance, thereby increasing the significant value that financial intermediaries and centralized financial markets deliver. I look forward to seeing the continued evolution of financial technology and the benefits that evolution will bring to the households and businesses served by the financial system.

January 2025

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ECB Press Conference - Introductory Statement⋆

By CHRISTINE LAGARDE*

The Governing Council today decided to lower the three key ECB interest rates by 25 basis points. In particular, the decision to lower the deposit facility rate – the rate through which we steer the monetary policy stance – is based on our updated assessment of the inflation outlook, the dynamics of underlying inflation and the strength of monetary policy transmission.

The disinflation process is well on track. Staff see headline inflation averaging 2.4 per cent in 2024, 2.1 per cent in 2025, 1.9 per cent in 2026 and 2.1 per cent in 2027 when the expanded EU Emissions Trading System becomes operational. For inflation excluding energy and food, staff project an average of 2.9 per cent in 2024, 2.3 per cent in 2025 and 1.9 per cent in both 2026 and 2027.

Most measures of underlying inflation suggest that inflation will settle at around our two per cent medium-term target on a sustained basis. Domestic inflation has edged down but remains high, mostly because wages and prices in certain sectors are still adjusting to the past inflation surge with a substantial delay.

Financing conditions are easing, as our recent interest rate cuts gradually make new borrowing less expensive for firms and households. But they continue to be tight because our monetary policy remains restrictive and past interest rate hikes are still transmitting to the outstanding stock of credit.

Staff now expect a slower economic recovery than in the September projections. Although growth picked up in the third quarter of this year, survey indicators suggest it has slowed in the current quarter. Staff see the economy growing by 0.7 per cent in 2024, 1.1 per cent in 2025, 1.4 per cent in 2026 and 1.3 per cent in 2027. The projected recovery rests mainly on rising real incomes – which should allow households to consume more – and firms increasing investment. Over time, the gradually fading effects of restrictive monetary policy should support a pick-up in domestic demand.

We are determined to ensure that inflation stabilises sustainably at our two per cent medium-term target. We will follow a data-dependent and meeting-by-meeting approach to determining the appropriate monetary policy stance. In particular, our interest rate decisions will be based on our assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation and the strength of monetary policy transmission. We are not pre-committing to a particular rate path.

The decisions taken today are set out in a press release available on our website.

I will now outline in more detail how we see the economy and inflation developing and will then explain our assessment of financial and monetary conditions.

Economic activity

The economy grew by 0.4 per cent in the third quarter, exceeding expectations. Growth was driven mainly by an increase in consumption, partly reflecting one-off factors that boosted tourism over the summer, and by firms building up inventories. But the latest information suggests it is losing momentum. Surveys indicate that manufacturing is still contracting and growth in services is slowing. Firms are

⋆ Introductory statement by Ms Christine Lagarde, President of the European Central Bank, and Mr Luis de Guindos, Vice-President of the European Central Bank, Frankfurt am Main, 12 December 2024.

* Christine Lagarde is a French lawyer and politician who was the first woman to serve as France’s finance minister, as the managing director of the International Monetary Fund, and as president of the European Central Bank.

holding back their investment spending in the face of weak demand and a highly uncertain outlook. Exports are also weak, with some European industries finding it challenging to remain competitive.

The labour market remains resilient. Employment grew by 0.2 per cent in the third quarter, again by more than expected. The unemployment rate remained at its historical low of 6.3 per cent in October. Meanwhile, demand for labour continues to weaken. The job vacancy rate declined to 2.5% in the third quarter, 0.8 percentage points below its peak, and surveys also point to fewer jobs being created in the current quarter.

The economy should strengthen over time, although more slowly than previously expected. The rise in real wages should strengthen household spending. More affordable credit should boost consumption and investment. Provided trade tensions do not escalate, exports should support the recovery as global demand rises.

Fiscal and structural policies should make the economy more productive, competitive and resilient. It is crucial to swiftly follow up, with concrete and ambitious structural policies, on Mario Draghi's proposals for enhancing European competitiveness and Enrico Letta's proposals for empowering the Single Market. We welcome the European Commission's assessment of governments' medium-term plans for fiscal and structural policies, as part of the EU's revised economic governance framework. Governments should now focus on implementing their commitments under this framework fully and without delay. This will help bring down budget deficits and debt ratios on a sustained basis, while prioritising growth-enhancing reforms and investment.

Inflation

Annual inflation increased to 2.3 per cent in November according to Eurostat's flash estimate, from 2.0 per cent in October. The increase was expected and primarily reflected an energy-related upward base effect. Food price inflation edged down to 2.8 per cent and services inflation to 3.9 per cent. Goods inflation went up to 0.7 per cent.

Domestic inflation, which closely tracks services inflation, again eased somewhat in October. But at 4.2%, it remains high. This reflects strong wage pressures and the fact that some services prices are still adjusting with a delay to the past inflation surge. That said, underlying inflation is overall developing in line with a sustained return of inflation to target.

The increase in compensation per employee moderated to 4.4 per cent in the third quarter from 4.7 per cent in the second. Amid stable productivity, this contributed to slower growth in unit labour costs. Staff expect labour costs to increase more slowly over the projection horizon as a result of lower wage growth and higher productivity growth. Moreover, profits should continue to partially offset the effects of higher labour costs on prices, especially in the near term.

We expect inflation to fluctuate around its current level in the near term, as previous sharp falls in energy prices continue to drop out of the annual rates. It should then settle sustainably at around the two per cent medium-term target. Easing labour cost pressures and the continuing impact of our past monetary policy tightening on consumer prices should help this process. Most measures of longer-term inflation expectations stand at around 2 per cent, and market-based indicators of medium to longer-term inflation compensation have decreased measurably since the Governing Council's October meeting.

Risk assessment

The risks to economic growth remain tilted to the downside. The risk of greater friction in global trade could weigh on euro area growth by dampening exports and weakening the global economy. Lower confidence could prevent consumption and investment from recovering as fast as expected. This could be amplified by geopolitical risks, such as Russia's unjustified war against Ukraine and the tragic conflict in the Middle East, which could disrupt energy supplies and global trade. Growth could also be lower if the lagged effects of monetary policy tightening last longer than expected. It could be higher if easier financing conditions and falling inflation allow domestic consumption and investment to rebound faster.

Inflation could turn out higher if wages or profits increase by more than expected. Upside risks to inflation also stem from the heightened geopolitical tensions, which could push energy prices and freight costs higher in the near term and disrupt global trade. Moreover, extreme weather events, and the unfolding climate crisis more broadly, could drive up food prices by more than expected. By contrast, inflation may surprise on the downside if low confidence and concerns about geopolitical events prevent consumption and investment from recovering as fast as expected, if monetary policy dampens demand more than expected, or if the economic environment in the rest of the world worsens unexpectedly. Greater friction in global trade would make the euro area inflation outlook more uncertain.

Financial and monetary conditions

Market interest rates in the euro area have declined further since our October meeting, reflecting the perceived worsening of the economic outlook. Although financing conditions remain restrictive, our interest rate cuts are gradually making it less expensive for firms and households to borrow.

The average interest rate on new loans to firms was 4.7 per cent in October, more than half a percentage point below its peak a year earlier. The cost of issuing market-based debt has fallen by more than a percentage point since its peak. The average rate on new mortgages, at 3.6 per cent in October, is about half a percentage point lower than at its highest point in 2023, even though the average rate on the outstanding stock of mortgages is still set to rise.

Bank lending to firms has gradually picked up from low levels, and increased by 1.2 per cent in October compared with a year earlier. Debt securities issued by firms were up 3.1% in annual terms, which was similar to the increase in the previous few months. Mortgage lending continued to rise gradually in October, with an annual growth rate of 0.8 per cent.

In line with our monetary policy strategy, the Governing Council thoroughly assessed the links between monetary policy and financial stability. Euro area banks remain resilient and there are few signs of financial market stress. Financial stability risks nonetheless remain elevated. Macroprudential policy remains the first line of defence against the build-up of financial vulnerabilities, enhancing resilience and preserving macroprudential space.

Conclusion

The Governing Council today decided to lower the three key ECB interest rates by 25 basis points. In particular, the decision to lower the deposit facility rate – the rate through which we steer the monetary policy stance – is based on our updated assessment of the inflation outlook, the dynamics of underlying inflation and the strength of monetary policy transmission. We are determined to ensure that inflation stabilises sustainably at our two per cent medium-term target. We will follow a data-dependent and meeting-by-meeting approach to determining the appropriate monetary policy stance. In particular, our interest rate decisions will be based on our assessment of the inflation outlook in light of the incoming economic and financial data, the dynamics of underlying inflation and the strength of monetary policy transmission. We are not pre-committing to a particular rate path.

In any case, we stand ready to adjust all of our instruments within our mandate to ensure that inflation stabilises sustainably at our medium-term target and to preserve the smooth functioning of monetary policy transmission

Monetary Policy

Toughest Challenges for Monetary Policy are Probably Still to Come⋆

By CLAUDIO BORIO*

Inflation-targeting regimes must be sustainable

A dangerous expectations gap has been developing between what monetary policy can deliver and what it is expected to deliver. Monetary policy cannot fine-tune inflation, let alone economic activity within narrow ranges. Nor can it be relied on as a de facto engine of growth. The media and financial industry razzmatazz surrounding policy decisions suggests that we have long lost that sense of realism.

This expectations gap complicates the conduct of policy and decision-making. Ultimately, it could even undermine central bank independence and legitimacy. However, the toughest challenges for monetary policy regimes are probably still to come.

Politics and fiscal policy set to complicate monetary policy

The political environment is becoming less conducive to stability-orientated monetary policy. The pressure on central banks to take a short-term view is growing alongside the demands placed on them. In such an environment, institutional safeguards such as central bank independence become all the more precious. But they can help only up to a point.

We should not take too much comfort from the recent rather painless reduction in inflation compared with the past. Circumstances have been extraordinary. The typical future fight against inflation is likely to follow more familiar patterns and cause bigger costs. This would be especially the case if it took place in a less globalised world: firms and workers would regain pricing power and would make it easier to resist a drop in purchasing power and profit margins.

The unsustainability of fiscal trajectories represents another major threat. This is probably the biggest longer-term threat to macroeconomic and financial stability in the years ahead – and hence a threat to the monetary policy regime itself.

Monetary and fiscal policy are joined at the hip. There are clear limits to what monetary policy can do if fiscal policy is out of kilter. Both policies need to operate firmly with a ‘region of stability’ consistent with sustainable growth.

Against this backdrop, inflation-targeting regimes – the de facto prevailing monetary standard – cannot afford to stay still. Inflation-targeting does not represent the end of monetary policy history. It is just one, if exceptionally long, chapter in that history.

⋆ This is an edited version of the concluding part of Claudio Borio’s OMFIF lecture, given in London, 13 November 2024. Read the full analysis and unabridged text, ‘Whither inflation targeting as a global monetary standard?’ here.

* Claudio Borio was Head of the Monetary and Economic Department at the Bank for International Settlements.

How could inflation targeting be adjusted to make it fit for purpose longer term? A comprehensive analysis of the challenges the framework has faced since its inception points to a number of suggestions.

Ensuring the inflation-targeting regime is fit for purpose

First, hardwiring a low-inflation regime should remain a priority. The behavioural definition of price stability suggested by Paul Volcker and Alan Greenspan is especially apt – a condition in which inflation does not materially influence people's behaviour. The objective should be not so much anchoring inflation expectations but making them irrelevant. Raising current targets from the generally accepted 2% level, as some observers have proposed, would be a bad idea. Quite apart from undermining the central bank's credibility, this would endanger the self-stabilising properties of inflation in a low-inflation regime, which is one reason why transitions from low- to high-inflation regimes tend to be self-reinforcing.

Second, relative to how the targets have been generally interpreted in the past, the key adjustment would be to have greater tolerance for moderate, even if persistent, shortfalls of inflation from narrowly defined targets. This would help retain room for manoeuvre and would allow central banks to take into account more systematically the longer-term damage from the consequences of low interest rates, which weaken the financial side of the economy. Implementing such a strategy would require addressing what Martin Feldstein and Raghu Rajan have aptly termed the 'deflation bogeyman' – the view that deflation is a kind of red line that, once crossed, gives rise to a self-reinforcing downward spiral in economic activity or to a depression trap. There is no systematic link between falling price levels and weak economic activity. The Great Depression is an exception that reflected broader forces.

Third, we should consider further how best to use the additional room for manoeuvre to tackle the financial cycle. This would call for lengthening horizons as far as possible. It would require upgrading the role of financial conditions, credit aggregates and property prices among the set of indicators that central banks follow. And, analytically, it would call for less reliance on macroeconomic models based on the standard 'shock-propagation-return-to-steady-state' paradigm and more on approaches that allow for endogenous and possibly unstable fluctuations.

Fourth, some further adjustments can enhance the effectiveness of the framework, contributing to its nimbleness and the retention of safety margins. One is less reliance on forms of forward guidance that provide specific information about the future path of interest rates beyond the central bank's reaction function. These can unduly constrain a central bank's ability to respond to rapidly changing conditions. And they can unduly compress risk premia and encourage risk-taking. In the extreme, rather than guiding markets, the central bank may end up being taken down the wrong path, as the emergence of fragilities in the financial system can force its hand.

Another adjustment is putting a premium on exit strategies whenever the central bank is called up to take exceptional measures to stabilise the system and the economy. The difficulties in reducing historically large and risky central bank balance sheets are testimony to the challenges involved.

A reasonable principle is that central bank balance sheets should be as small and riskless as possible, subject to fulfilling mandates effectively. Except possibly for the need to hold foreign exchange reserves for precautionary purposes, balance sheets can be quite small. Central bank balance sheets should be elastic – ready to increase when circumstances require it. Given the economic and political economy costs of larger balance sheets, the initial size is a hindrance, not a plus.

'Sustainable' is the key word

In the regime I have in mind, the central bank keeps a sharp focus on the medium term. It seeks to ensure that the financial side of the economy, which it influences and through which it operates, does not end up derailing the economy, whether through inflation or financial instability, broadly defined. The central bank sets the monetary preconditions for sustainable growth but does not end up being relied on as the engine of growth.

It is a regime in which the operational definition of the inflation target is consistent with that overarching objective. The target is low enough so that inflation does not materially influence agents' behaviour, but flexible enough to allow the central bank to take into account the financial forces that can generate damage down the road.

In this regime, the central bank's reaction function calls for forceful responses when inflation threatens to get out of control but allows for greater tolerance for moderate, even if persistent, shortfalls from target.

Does this have implications for mandates? Not so much if, by mandate, we mean the general goals that may be set out in the central bank's law or in agreements with the government. We have seen inflation-targeting regimes being operated in broadly similar ways despite different mandates. But it does have implications for the way in which mandates are interpreted and, above all, communicated.

The word often missing here is 'sustainable'. Once sustainability is added as an explicit consideration, whether in terms of inflation, output, employment or financial stability, all the pieces of the jigsaw puzzle fall into place.

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Financial Technologies

Central Banks' Role in Ring-fencing mBridge⋆

By HERBERT POENISCH*

Combining technological advances in payments system with sanctions compliance

The creation of a cross-border payments system using blockchain and distributed ledger technology was a hot topic at the Kazan summit of Brics nations in October. One advantage of this digital system is immediate settlement, which circumvents the need for western messaging systems such as Swift.

A paper published by the Russian central bank at the summit stated, 'Introducing DLT solutions or a new multinational platform based on modern technologies, which would include a financial messaging component and allow to conduct settlement via tokens backed by national currencies, CBDCs, at the discretion of each participating country – this approach would allow a greater degree of decentralisation.'

Project mBridge

The Bank for International Settlements' Innovation Hub, together with the People's Bank of China, Hong Kong Monetary Authority, Bank of Thailand and the Central Bank of the United Arab Emirates developed Project mBridge to tackle some of the key inefficiencies in cross-border payments, with no involvement from Russia. The Saudi Central Bank (SAMA) joined the project in May 2024. There are around 30 observer central banks, including the Federal Reserve Bank of New York, Banque de France and the Reserve Bank of Australia.

The BIS is owned by 63 central banks that account for 95% of the world economy. The Central Bank of the Russian Federation is a shareholder, although membership was suspended in March 2022 following Russia's full-scale invasion of Ukraine.

The project has made good progress, but it is still years from being put into practice, according to Agustín Carstens, general manager of the BIS. Its ability to avoid the need for western messaging systems means it is of particular interest to two members of the Brics group, now known as Brics+. It has been enlarged in 2024 to encompass Egypt, Ethiopia, Iran and United Arab Emirates.

Western sanctions have heavily constrained Russian and Iranian access of to the global financial system. As a result they are engaged in a constant search for alternative cross-border payments and settlement systems to bypass the sanctions. Two members of the mBridge project, China and the United Arab Emirates, are members of the enlarged Brics group. So the possibility exists that, via these countries, mBridge technology and expertise could be 'cloned' and passed to Russia and Iran.

In October, the BIS announced it would leave mBridge and hand over authority to the national central bank members, declaring them capable of taking the project forward to realisation. In a statement on 31 October, Carstens clarified that mBridge cannot be used as a means to bypass sanctions. He said: 'With

⋆ This article was published on 13 December 2024.

* Herbert Poenisch is Senior Research Fellow, Zhejiang University, and former Senior Economist, Bank for International Settlements.

respect to political aspects, the noise out there, mBridge is not the “Brics bridge” – I have to say that categorically. Project mBridge was created by central banks for central banks.’

He confirmed that ‘the BIS does not operate with any countries, nor can its products be used by any countries that are subject to sanctions’. He stressed that central banks observe this rule and as such will not make products available to sanctioned countries.

Project Agorá

The BIS has shifted its focus to project Agorá as the central ‘technological marketplace’ for sanctions-observant institutions. This project will explore whether tokenised deposits can be used to carry out cross-border wholesale transactions, thus enhancing cross-border settlement among commercial banks.

The project is in safe hands from the public as well as the private sector. It is under the leadership of the BIS, Banque de France on behalf of the Eurosystem, Bank of Korea, Bank of Japan, Bank of Mexico, Swiss National Bank, Bank of England, and Federal Reserve of New York. The Institute of International Finance is the private sector convener.

Building Agorá as the fully sanctions-compliant repository of central bank expertise on cross-border payments is a sensible move, to which western governments should give full support. But more measures to buttress confidence in western sanctions-proofing are needed.

The BIS is no longer actively associated with mBridge, but it has been instrumental in its development. More information from the BIS and national central banks on ring-fencing mBridge would be a useful confidence-boosting measure. The western central banking system needs to play its part in efforts to overcome the world’s geopolitical challenges. As in other spheres, the BIS can help guide the way.

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Opportunities and Challenges for Financial Intermediation Functions Brought about by Technological Advancements⋆

By KAZUO UEDA*

Introduction

Paris Europlace brings together a diverse group of participants from the French financial sector, and has contributed greatly to the advancement of financial services and financial markets.

This summer Paris hosted the Olympic and Paralympic Games, following the Tokyo Games in 2021. Athletes delivered thrilling performances, supported by cutting-edge technologies that played a pivotal role in the seamless operation of the games and creating an engaging experience for viewers worldwide. These technologies contributed to the safety of the athletes and spectators, and helped referees make accurate decisions through high-tech cameras and artificial intelligence (AI). Viewers around the globe were able to enjoy the competition highlights, edited by AI in multiple languages, with immersive video and commentary that made them feel as if they were right there in the venues. Such advanced technologies are now an essential part of the sports industry.

Similarly, technological advancements have driven substantial progress in the financial sector. Recent acceleration in digitalization, coupled with societal transformations due to the pandemic, has had a profound impact on financial businesses. Conversely, financial institutions have played a vital role in promoting technological developments.

Today, I will address both the opportunities and challenges for financial intermediation functions brought about by these evolving technologies.

I. Opportunities for Financial Intermediation Functions

The financial sector has continuously transformed and developed, greatly influenced by technological advancements. These innovations have not only increased operational efficiency and reduced costs for financial institutions, but have also elevated and diversified financial intermediation functions. As technology evolves, funds with various preferences and risk tolerance are distributed more efficiently across the economy.

Technological advances have redefined financial services that once depended on physical infrastructure, such as branches and ATMs, allowing them to be delivered online through tools like the internet and smartphones. This shift has enhanced customer experience and the operational efficiency of financial institutions, and has expanded the customer base. In capital markets, where financial dealers and brokers facilitate transactions, increased processing capabilities have given rise to sophisticated trading methods, including derivatives and algorithmic trading, further diversifying financial intermediation.

In the field of FinTech, the role of IT firms and startups has grown, as they harness new information technologies for financial innovation. A notable example is decentralized finance (DeFi), where automated systems provide efficient financial services without the need for a central administrator.

⋆ Remarks by Mr Kazuo Ueda at the Paris Europlace Financial Forum 2024, Tokyo, 21 November 2024.

The views expressed in this speech are those of the speaker and not the view of the BIS.

* Kazuo Ueda, Governor of the Bank of Japan.

The financial industry is set to undergo even more transformation with the recent rise of generative AI. While still in its early stages, institutions in Japan and Europe are making strides in leveraging this technology. For example, generative AI has been used to improve internal processes, such as minute-taking, document summarization, translations, and compliance checks. In Japan, it is also seen as a valuable tool to mitigate labor shortages. Additionally, generative AI is beginning to support customer data analysis, transaction monitoring for fraud detection, and other critical operations, all contributing to enhanced profitability and productivity within the financial sector.

So far, we have seen how technology has diversified financial intermediation. The reverse is also true: financial intermediation supports technology by providing essential investment for R&D and commercialization. Financial entities, not just banks, but also venture capital and private equity and debt funds now play a significant role in fostering innovation. They provide funding across a wide spectrum of industries and risk profiles, creating a positive feedback loop between financial intermediation and technological advancement, essential for economic growth and productivity enhancement, in both Japan and Europe.

II. Challenges for Financial Intermediation Functions

It is necessary to keep in mind, however, that technological advancements bring new risks to financial stability. For example, during the banking turmoil of March 2023, we saw how concerns over a bank's credit status could spread rapidly, leading to accelerated deposit withdrawals due to online banking and social media. As financial services grow more diverse and complex, the channels of risk transmission have become less transparent, and current financial regulations may not be fully equipped to manage new types of financial services.

This environment underscores the need for operational resilience, including robust management of cybersecurity and third-party risks. With the rise of generative AI, there are also specific challenges, including the risk of "hallucinations" (that is, non-factual responses), black box issues, and data protection concerns. It is crucial that central banks and other authorities monitor these evolving financial intermediation functions, encourage relevant entities to establish sound governance, and build management frameworks to address the new risks.

A regulatory and supervisory framework that adapts to technological advancements is also essential. In Japan, for example, crypto-asset regulations and stablecoin legislation were introduced ahead of other jurisdictions, with cybersecurity guidelines established in 2024. Meanwhile, the European Union enacted the Artificial Intelligence Act, the world's first regulation for trustworthy AI. As AI continues to spread globally, the Bank of Japan closely follows regulatory responses across jurisdictions.

Concluding Remarks

Let me conclude by adding that central banks are also embracing technology to enhance risk management and analytical capabilities. To ensure a future that reaps the full benefits of technology, it is essential to build on the insights gained from the expertise and trial-and-error of financial professionals.

January 2025
Vol.12, No.1

Verification of Payee: Enhancing Trust and Security across Borders⋆

By CIAN OMURCHU*

Global checks will drive progress towards instant and frictionless transactions

Cross-border payments are becoming faster and faster. No matter where they're heading, their value or currency, transactions that arrive in a few minutes – or even seconds – are quickly becoming the new norm.

But as we edge closer towards an instant and frictionless future, it's important to consider the other side of the coin. While customers undoubtedly want a cross-border experience that mirrors the speed of domestic payments, financial institutions should be aware of what higher payment speeds could mean for fraud risk. If payments arrive instantly, stopping them if a problem occurs becomes much harder.

Across Europe and beyond, many institutions are turning towards verification of payee as a means of overcoming this challenge. The European Commission's Instant Payment Regulation has mandated that financial institutions offer a VoP check by October 2025, while other continents are in the process of developing their own systems too.

But what is VoP?

Put simply, it's a means of pre-validating the accuracy of payee information before a transaction is sent. By confirming that the account name provided by the payer matches the details held by the recipient's bank, institutions can help prevent funds from being sent to the wrong account due to errors or fraud. In addition to these benefits, pre-validating payments upfront is also far more efficient, preventing time-consuming investigations from occurring later in the process.

Implementing VoP on a global scale is not without its challenges. While many countries have already developed their own systems, standardisation of how a payment is verified is essential for it to function on a global level.

While some continents, like Europe, have mandated institutions to provide VoP checks, others have not, and it's this lack of alignment that makes implementing cross-border VoP complicated.

Facilitating global interoperability

Across the globe, many countries have already implemented their own instant domestic payment systems to ensure that funds arrive on time and are kept safe from fraudsters. But for these systems to successfully work on an international level, interoperability between them is key.

Interoperability is the cornerstone of a truly global VoP service and, by enabling different systems to work seamlessly together, we not only enhance security and trust across borders, but also ensure a consistent user experience regardless of where a transaction originates. This connectivity is essential in building a resilient and inclusive financial ecosystem that serves everyone, everywhere.

⋆ This article was published on 16 December 2024.

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As a globally inclusive co-operative made up of 11,500 financial institutions, Swift can facilitate the interoperability of domestic VoP systems, using its Payment Pre-validation solution as a foundation. This will provide global banks, including European banks needing to comply with incoming regulatory changes, with the ability to add to their offerings too. Those who adopt the service will be able to securely transfer and verify financial data, which is essential to the success of VoP around the world.

January 2025

Vol.12, No.1

Climate Policy and Green Finance

COP29 Ends with Ray of Hope by Putting Meat on the Bone of Global Climate Finance*

By CHINA DAILY EDITORIAL

In one way or another, everyone everywhere on planet Earth, the most mulish climate change deniers included, is aware of the devastating effects of global warming. Among which more frequent disasters caused by severe weather events are only some of the most keenly felt and reported. For all the talk of urgency, however, the sad truth about the global discourse on climate change response is there has been more talk than walk.

The just concluded 2024 UN Climate Change Conference, or COP29, in Baku, Azerbaijan, may go down in the history of global climate response as a significant landmark, from where humanity may finally begin to walk that long, overdue walk.

Since its very inception, the UN climate meeting has worked strenuously to raise global awareness of climate change, the urgency of joint response, build transnational consensus on the matter, and mobilize and coordinate corresponding actions.

Those unremitting endeavors crystallized in the form of the Paris Agreement, humanity's first-ever consensus on the severity of climate change, the pressing need to act on it, and a subsequent course of action. Disappointingly, over the following years countries have dragged their feet on the matter. Developed nations have generally failed to honor their promises of financial and technological assistance for the developing ones; the latter, the least developed in particular, have struggled to catch up without the due resources and know-how. And, at the end of the day, the lack of progress on climate response could in a large part be attributed to rich countries committing to substantially more financing than what they have actually contributed, or are willing to.

COP29 is being widely praised as a milestone as it has maneuvered a breakthrough in climate financing by producing the New Collective Quantified Goal on Climate Finance, of which every word was agreed on by all participating nations. It did not come easy. Behind it was years of preparatory work and weeks of intensive negotiations. But it will prove worthy of everything it has taken.

For breaking the long-standing multilateral negotiations stalemate over climate financing alone, the Baku meeting stands out as an unusual climate diplomacy success. Based on the costed needs reported in the nationally determined contributions of developing countries, it sets the goal of the developed countries contributing at least $300 billion per year by 2035 for developing countries' climate actions. In doing so, it also made Article 6 of the Paris Agreement actable with agreement finally reached on a mechanism for the use of internationally transferred mitigation outcomes.

The progress made on carbon markets was thus lauded as another breakthrough in Baku, as it was another aspect of the Paris Agreement where substantive agreement on the implementation had been difficult at previous climate change conferences. Countries have now agreed on the final building blocks that set out how carbon markets will work under the Paris Agreement, making country-to-country trading and a carbon crediting mechanism "fully operational".

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* This article was published at China Daily on 24 November 2024.

Considering the lack of actions along the way, the COP29's focus on and breakthrough in operationalization marked a tremendous stride forward for humanity's joint efforts to redress one of the most damaging consequences of ways of life and production. This was highlighted by the decision to ensure the full operationalization of the Loss and Damage Fund, which was agreed at COP27 but had remained unactable. Within the framework of COP29, several important agreements related to the fund were signed and these achievements mean the fund will be able to start financing projects beginning in 2025, with the total pledged financial support for the fund exceeding $730 million so far.

UN Climate Change Executive Secretary Simon Stiell, who described the Paris Agreement as humanity's sole "life raft", was correct in likening COP29's financing agreements to "an insurance policy for humanity". Not only because they have the potential to help stave off some of climate change's worst impacts. But perhaps more importantly because they rest on corresponding commitments made being honored, which was precisely where much of the previous climate initiatives failed.

"… like any insurance policy — it only works — if premiums are paid in full, and on time," Stiell said. That means, as he stressed, that promises must be kept. Millions of lives depend on that.

The developed countries must deliver on their commitment to provide finance to help developing countries.

January 2025

Vol.12, No.1

Sovereign-owned Funds

What Happened in Muscat? The future of Sovereign-owned Funds⋆

By UDAIBIR DAS*

Shifting focus on governance, partnerships and technology to safeguard national wealth

Sixteen years ago, state-appointed professionals created the International Forum of Sovereign Wealth Funds, a knowledge exchange platform for managing public financial assets responsibly. The 2024 annual meeting in Muscat, Oman, hosted by Oman Investment Authority, marked a pivotal moment for IFSWF. Its theme – 'Embracing disruption and searching for resilient futures' – provided a platform for open discussion and collaboration, aptly termed the 'Muscat dialogue'.

Over the three days, the Muscat dialogue comprised of sovereign funds and other state-owned investors discussing various policy, investment and operational issues. This open dialogue was instrumental in what could guide responsible financial management in managing state-owned financial assets in a complex global macro-financial landscape.

The changing role of sovereign funds

Traditionally, sovereign funds were established as stabilisers safeguarding national wealth. Some were explicitly tasked to help build macroeconomic resilience during growth volatility.

However, discussions in Muscat highlighted that these institutions are increasingly being tasked with taking on a broader domestic role against pressing global challenges such as climate change, supply chain disruptions, geoeconomic fragmentation and rapid technological advancements. As custodians of public monies and investors, governments increasingly view their funds as macroeconomic instruments for deploying capital, generating returns, and shaping and supporting structural transitions in their domestic economies.

A broader policy role

Sovereign funds are components of a country's macroeconomic strategy alongside other sovereign financial entities, such as central banks, public pension funds and development-focused funds.

Collectively, these institutions form a vital financial fiscal buffer for nations, helping them absorb shocks, stabilise economies and achieve long-term objectives. Their integration into broader policy frameworks demonstrates the increasing recognition of their relevance in managing sovereign wealth on behalf of the people.

However, changing expectations of their mandate and purpose require IFSWF members to adhere to the highest governance and management standards. As custodians of national wealth, they must balance fulfilling fiduciary responsibilities with addressing broader policy goals such as sustainability and equitable growth.

The discussions in Muscat explored the evolving mandates of SWFs, with four major themes emerging.

Investing in a dynamic policy environment

Navigating ever-changing regulatory landscapes, geopolitical tensions and macroeconomic shocks requires agility. Sovereign investors must balance addressing immediate challenges and maintaining a long-term vision. Their ability

⋆ Published on 4 December 2024.

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to adapt and evolve in the face of these pressures makes them indispensable players in national and global economic policy frameworks.

Financing the energy transition

Sovereign funds are increasingly taking a leadership role in the global energy transition, with renewable energy emerging as a focus. While these funds alone cannot resolve the climate crisis, their ability to mobilise private capital and de-risk investments in recipient countries is transformative. By championing robust governance, transparency and integrity in their investment destinations, sovereign funds can catalyse climate action and set standards for responsible investing globally.

Artificial intelligence

AI technology represents both promise and pitfalls for investors. It can offer sovereign investors unprecedented opportunities to enhance and streamline investment processes and portfolio management. However, concerns such as data biases, regulatory uncertainties and the cultural shifts needed to integrate AI effectively were hotly debated. Participants emphasised the importance of well-defined, high-conviction AI use cases to ensure meaningful adoption while avoiding potential risks.

Reimagining asset allocation

Traditional asset allocation models must be revised to handle economic uncertainty better in today’s volatile environment. The pandemic and subsequent inflationary pressures highlighted the limitations of models that failed to anticipate systemic shifts. Discussions in Muscat called for adaptive strategies that balance liquidity needs with long-term growth, ensuring resilience in a constantly evolving financial landscape.

What lies ahead

The Muscat dialogue concluded with six actionable priorities for IFSWF members. First, to enhance governance by strengthening transparency. Second, to leverage technology with AI and integrate digital tools into investment processes while addressing associated risks. Third, to expand partnerships – to amplify the cross-border impact of investments and foster creative collaboration with development banks, multilateral organisations and private investors. The remaining priorities include leading in renewable energy, modernising asset allocation and prioritising social impact as sovereign funds must continue safeguarding national wealth for future generations while addressing broader social objectives.

The next IFSWF annual meeting in Abu Dhabi in 2025 will serve as a benchmark for assessing the progress made on the priorities outlined in Muscat. The ‘Abu Dhabi dialogue’ will provide an opportunity to evaluate how sovereign investors have further adapted to the shifting global economic and geopolitical landscape.

Until then, Muscat’s insights will continue to shape the strategies of sovereign-owned funds worldwide, ensuring their continued relevance as instruments of stability, innovation and sustainability in an unclear future.

January 2025

Vol.12, No.1

Sovereign Funds and the Hunt for Unicorns*

By WINSTON MA*

Public funds are reshaping investment in the digital economy

The world is entering the age of artificial intelligence. Sovereign funds are increasingly investing in the technology industry and digital economy sectors, on par with private equity and venture capital funds. They are active globally, due to both overseas investments (global portfolio) and overseas presence (global offices). As a result, many sovereign investment funds are transforming themselves to better invest in the new digital economy.

They are the ‘unicorn-makers’ behind the scenes. They have shaken off their traditional, passive investor roles and stepped into the vanguard of the digital transformation. Their ample resources, preference for lower profile, long time horizons and adherence to sustainability make them the perfect shareholders and strategic partners for tech startup founders.

They have helped create and sustain an environment that has fostered the rise of Uber, Alibaba, Spotify and other transformative players during the mobile internet boom in the last decade. Now in the AI era, they are more active than ever. Just weeks ago, MGX, the newly established tech investing company affiliated with the United Arab Emirates’ Mubadala, joined OpenAI’s mega funding round of $6.6bn as a major investor. Not to be outdone, in November Saudi Arabia was reported to be planning a $100bn AI initiative to rival UAE’s tech hub, in a setup similar to its existing trillion-dollar sovereign fund PIF.

Digital infrastructure

In addition to direct tech startup investing, sovereign investors are the long-term capital providers for the digital economy infrastructure, funding innovations such as 5G towers, fibre networks and undersea cables. Digital infrastructure has become a frontier asset class as a proxy for investing in technology, and digital infrastructure investments also provide an avenue to foster development goals in countries themselves, for which the Indonesia Investment Authority and Malaysia’s Khazanah Nasional Berhad are perfect examples.

Now, the AI boom is leading to tremendous demand for digital infrastructure like data centres, which have emerged as the top real asset segment for sovereign funds. In fact, the long-term capital of sovereign funds has served as the most important cornerstone investments in the latest major projects globally.

MGX teamed up with BlackRock, Global Infrastructure Partners and Microsoft to launch a $100bn AI partnership to invest in data centres and power infrastructure. Singapore-based GIC Real Estate and the Canada Pension Plan Investment Board have signed a joint venture agreement with Equinix, with the intention to raise over $15bn for data centre development in the US. And AustralianSuper invested $1.5bn in data centre developer DataBank to fund three new data centres in the US.

Turning to sustainability

These super-asset owners are not only the movers and shakers of the deal markets, they are also the ‘sustainability guardians’. Norwegian fund NBIM, whose $1tn portfolio holds, on average, 1.5% of every listed company on earth, has actively voted in the tech sector in recent years, including voting ‘no’ multiple times at Google, Amazon and Meta. Such actions reveal a major shift: environmental, social and governance-conscious sovereign funds are starting to campaign for a sustainable cyberspace, using tactics developed from green investments in sectors relating to fossil fuels and climate change.

This comes at a time when data is viewed by many as the ‘new oil’ of the ‘new economy’. For existing portfolio companies, sovereign investors take on more active governance roles to mitigate and even pre-empt the negative externalities of advanced technology on society. For new investments, sovereign funds’ sustainability policies have led to greater scrutiny of the tech companies and impact of their innovation, especially their dealings with data privacy, information security and their role in enabling government and corporate surveillance.

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* Published on 10 December 2024.

* Winston Ma is Adjunct Professor at the NYU School of Law and former Managing Director and Head of the North America office at China Investment Corporation.

In short, sovereign funds are the new, powerful venture capitalists that will reshape the digital economy.

January 2025

Vol.12, No.1

How to Finance the Adaptation Gap*

By DANIEL WILDE*

Concrete actions for pension and sovereign funds to scale up adaptation financing:

The world is not currently on track to achieve the Paris agreement's goals. Emissions are continuing to rise, future emissions are forecast to be higher than the carbon budget consistent with limiting climate change to 1.5 degrees Celsius and fossil fuel production is expected to further increase given current policies.

Global warming increases the severity and frequency of tropical storms, reduces agricultural productivity especially in the tropics, increases the incidence, morbidity and mortality of many infectious diseases and, by raising sea levels, threatens the existence of low-lying countries such as Kiribati. According to the World Bank, global warming may also push an additional 132m people into poverty.

Significant investment is required to adapt to climate change. This investment is needed in a wide range of areas including infrastructure resilience projects such as seawalls, climate-smart agricultural programmes, such as developing drought-resistant crops, and ecosystem restoration, such as restoring wetlands.

There is a significant finance adaptation gap. Adaptation investment stood at just $63bn in 2021-22, which is far below the $212bn needed per annum by 2030 for adaptation investment in developing countries alone. This investment is dominated by the public sector, with private sector financing making up just 2% of tracked adaptation investment. Going forward, increased private sector financing will be needed to assist countries, businesses and communities adapt to climate change.

The limited private investment in tracked adaptation financing was reflected in interviews with pension funds and sovereign funds as part of OMFIF's Transition Finance Working Group. None of these funds had set explicit targets for investment in adaptation, nor did they have adaptation investment strategies in place. In addition, only one fund explicitly mentioned that it had a plan to focus more on adaptation financing.

Five steps for global funds

Going forward, pension and sovereign funds could consider five steps to ratchet up their adaptation financing.

First, funds should consider how they will define, measure and report investment in adaptation. This may involve actively engaging with existing initiatives such as the Adaptation and Resilience Investors Collaborative, which has published a report providing a clear, consistent and robust framework for measuring the impact of investments on adaptation and resilience. It may also involve funds integrating this framework into their internal and external reporting processes.

Second, funds should consider setting explicit targets for investment in adaptation. This would mirror the approach taken by some sovereign funds and pension funds that have set explicit targets for mitigation financing.

Third, funds may wish to actively engage with the companies that they are invested in to ensure that they are well-placed to take advantage of increased demand for adaptation solutions. For example, have agricultural products companies fully considered future demand for drought-resistant crops? Are construction companies well placed to profit from future demand for seawalls and other flood defences?

Fourth, given that some climate change adaptation investments may have broad societal benefits but limited financial returns, pension funds and sovereign funds may need to work with concessional financiers and governments to ensure that adaption investments offer the risk-adjusted returns necessary to attract private capital. A key reform in this area may be further developing risk-tolerant structures whereby concessional financiers assume initial losses when co-investing with pension funds and sovereign funds.

Fifth, given that there is an urgent need for adaptation investment in small island developing states, which have small populations and economies, many projects may be too small to attract larger sovereign funds and pension funds, and financial mechanisms may need to be developed to pool investments across numerous jurisdictions.

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* Published on 23 December 2024.

* Daniel Wilde is an Economic Adviser, Commonwealth Secretariat.

In conclusion, there is an urgent need for increased investment in adaptation. Going forward sovereign funds and pension funds could undertake further work to define, measure and report adaptation investments, set explicit targets for investment in adaptation and increase blended and pooled financing of adaptation.

January 2025

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Working Paper

A Tale of Two Markets for the Redback

By JINYUE DONG AND LE XIA

Summary

Chinese financial turmoil has thrown the RMB exchange rate under the spotlight. In particular, the gap between the RMB exchange rates in its onshore (CNY) and offshore (CNH) markets reached the historical high. This has motivated us to introduce this unique phenomenon of “one currency, two markets” of the RMB, and investigate the relationship between these two exchange rates.

The development of RMB offshore markets took off after China embarked on its ambitious plan to increase the usage of the currency in cross-border trade settlements. A “CNH” market is taking shape as the volume of offshore RMB experienced a period of fast growth and became increasingly active since its inception.

The segmentation between the CNY and CNH markets unavoidably led to a price differential, which cannot be fully eliminated as the currency’s capital account inconvertibility limits the arbitrage behaviours across the borders. But for a while, two exchange rates tended to converge as China’s on-going financial liberalization campaign has made the capital account increasingly porous.

The gap widened significantly again after the PBoC’s RMB exchange rate reform on August 11 2015. The pricing power of the RMB shifted to the offshore market as our Granger Causality test shows that CNH’s price-guide impact on CNY becomes stronger after the August 11 RMB reform; while CNY’s price-guide effect on the CNH offshore market turns insignificant.

The authorities have prioritized the goal of stabilizing people’s expectation for the RMB exchange rate and stemming capital outflows. They cut off the linkages between the two markets to impede the transmission of depreciation pressure across the border, which could lead to the stagnation of the offshore market.

The dramatic change of the CNH market largely mirrors the conflict between the exchange rate reform and RMB internationalization under strong depreciation expectation and escalating global uncertainty. In our opinion, the right sequencing should be the exchange rate reform first, then capital account opening and RMB internationalization.

Introduction

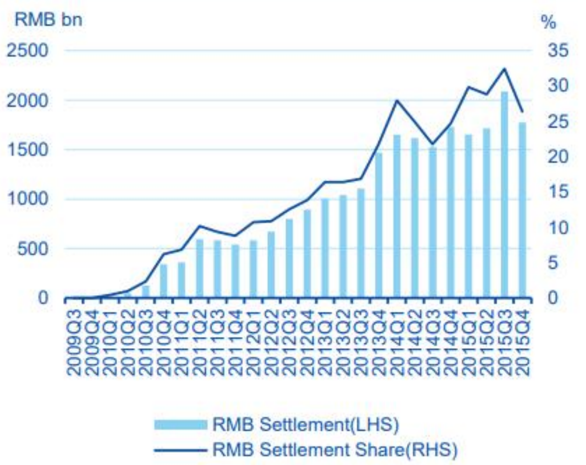
Recent financial turmoil has thrown the RMB exchange rate under the spotlight. More interesting is that the “redback” has two prices (CNY and CNH) quoted in its onshore and offshore markets with a significant and time-varying spread. On January 6, the gap between the CNY and CNH exchange rates reached 1,400 basis points. The pair of the RMB exchange rates has added difficulties for investors to understand this fast-rising currency and make their investment decisions. This report seeks to introduce this unique phenomenon of “one currency, two markets” for the RMB, and investigate the relationship between them.

The rise of the RMB offshore (CNH) market

The development of RMB offshore markets took off after China embarked on its ambitious plan to increase the usage of the currency in cross-border trade settlements in the aftermath of 2008-2009 Global Financial Crisis (GFC). The successful progress of the RMB usage in cross-border trade settlements (Figure1) gave rise to a growing pool of RMB funds outside China and fuelled the development of an offshore RMB market, even though the country hasn’t fully opened its capital account.

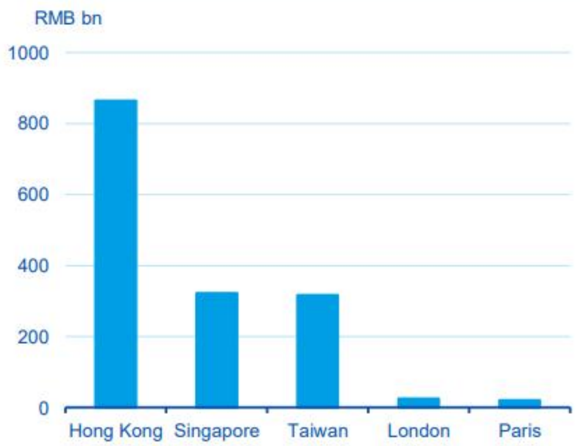
A “CNH” market is taking shape as the volume of offshore RMB experienced a period of fast growth. With its special relationship with China (“One Country, Two Systems”) and excellent infrastructure as a wellestablished international financial centre, Hong Kong became the first offshore RMB business hub alongside the traditional onshore CNY market. In recognition of the RMB's rising power in the international arena, more global financial centres join the competition for offshore RMB business. (Figure 2)

Figure 1
Offshore RMB settlements have been increasing over time



Source: CEIC and BBVA Research

Figure 2
The rank of RMB offshore markets based on RMB offshore deposits (2014)



Source: CEIC and BBVA Research

The CNH market has become increasingly active since its inception. To date, the CNH market offers many types of RMB business and financial products including spot FX, deliverable forwards, swaps, deposits and CDs, Dim Sum bonds (RMB denominated bond issued in offshore market), RMB-denominated loans, etc. In its 2013 Triennial Central Bank Survey, the Bank of International Settlement (BIS) stated "…Renminbi turnover soared from \$34 billion to \$120 billion. The renminbi has thus become the ninth most actively traded currency in 2013, with a share of 2.2% in global FX volumes, mostly driven by a significant expansion of offshore renminbi trading".

One currency, two markets

In theory, the onshore (CNY) and offshore (CNH) RMB markets are segmented because China hasn't fully opened its capital account yet. There are various forms of restrictions limiting investors from transferring RMB funds between the CNY and CNH markets. The CNY market remains highly regulated by the People's Bank of China (PBoC). For example, access to the wholesale FX market is granted only to domestic banks, finance companies, and domestic subsidiaries of foreign banks. On the other hand, there isn't an official regulator in the CNH market. Local regulators can only apply their rules to financial institutions under their own jurisdictions. Indeed, these regulators have less appetite for imposing additional restrictions on offshore RMB business. Instead, they have been attempting to lobby China's authorities to relax their restrictions for cross-border RMB business because it could gain more business opportunities for their financial markets and institutions.

The segmentation between the CNY and CNH markets unavoidably led to a price differential (Figure 3). The gap between the CNY and CNH rates was wider at the early stage of the CNH market development (2010 August-2011 January). During that period, the CNH rate appreciated more than the CNY one because the currency was less available in overseas market. Due to the fact that China's still closed capital account limited the arbitrage behaviours between these two markets, the price differential cannot be fully eliminated.

There were also a few episodes when the CNH interbank rates spiked due to the liquidity shortage in the offshore market, for example in October 2011. This type of liquidity shortage can quickly be fixed when the Hong Kong Monetary Authority (HKMA), with the PBoC's support, injected RMB liquidity into the offshore market.

Over time the CNY and CNH rates tended to converge as the PBoC steadily stepped up their efforts to liberalize the capital account and push forward RMB internationalization. Moreover, to boost the international usage of the RMB, the authorities also increased their tolerance of arbitrage behaviours which exploited interest and exchange rate differentials between the CNY and CNH markets. These efforts have proved to be effective in the sense that they have substantially increased the usage of the RMB in overseas markets and thereby enabled the "redback" to meet the International Monetary Fund’s “freely usable” requirement for its inclusion in the currency basket of the Special Drawing Rights (SDRs) last November.

Pricing power shifted to the CNH market after the 2015 August devaluation

The gap between the CNH and CNY exchange rates started to widen again after the PBoC unexpectedly announced the reform of the RMB fixing price mechanism and devalued the currency by 1.9% on August 11 2015. (See our China Flash) In retrospect, the authorities seemingly intended to increase the flexibility of the RMB exchange rate. However, the timing of this move seems questionable as global financial markets were then surrounded by enormous uncertainties over the US Fed’s monetary policy. As such, the unexpected RMB devaluation rattled investors and made the exchange rate anchorless. Panicked investors thought that China wanted to join the “currency war” and would depreciate the RMB much deeper to regain its competitiveness in exports. More pessimistic investors even interpreted that the devaluation itself was a signal of the economy implosion and scrambled to transfer their money out of the country. Policymakers’ poor communication also hindered investors from learning the true policy intention at the first time.

To avoid too sharp depreciation and associated risk of accelerating capital flight, the authorities intervened into the CNY market again to stabilize investors’ expectations. However, an unintended result is that the PBoC gave the pricing power of RMB to the offshore market because the CNH market was less affected by the government’s interventions. Our Granger Causality empirical results (Refer to the BOX at the end) demonstrate that in the aftermath of the August devaluation, the CNH price tends to have a guide impact on the CNY price, while the CNY price has no significant guide impact on the CNH price.

Since then, the CNH market has persistently priced a relatively lower value of the RMB than its onshore counterpart. The authorities thus faced a policy dilemma: the more interventions they did in the CNY market, the larger extent of depreciation was priced in the CNH market. In turn, the large depreciation pressure of the offshore market transmitted to the onshore market via cross-border arbitrage behaviors and consequently nullified the authorities’ interventions.

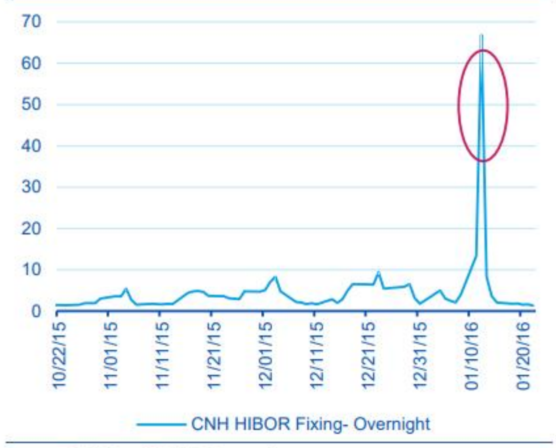
Figure 3

The gap between onshore and offshore RMB became large again at the beginning of 2016

Source: CEIC and BBVA Research

Figure 4

Large discrepancy of CNY and CNH also leads to CNH inter-bank rate soaring in January



Source: CEIC and BBVA Research

The offshore market gave its way to the financial stability for the time being

Now the authorities have prioritized the goal of stabilizing people’s expectation for the RMB exchange rate and stemming capital outflows. On top of introducing a basket currency index (CFETS) as the new anchor for the RMB exchange rate (see our recent China Flash), the authorities have also increased their interventions in the onshore market so as to establish their credibility of this new FX policy regime soon.

To solve the policy dilemma mentioned in the previous section, the authorities have adopted new approaches to deal with the offshore market as well. In particular, they cut off the linkages between the two markets to impede the transmission of depreciation pressure across the borders. In the meantime, the authorities deliberately reduced the RMB liquidity in the offshore market to raise the CNH interest rates. High interest rate levels will not only increase the attractiveness of holding RMB but also add financing costs for the RMB short-sellers in the offshore market. It is also believed that China's authorities are attempting to intervene in the CNH market via some Chinese banks' overseas subsidiaries. (Table 1)

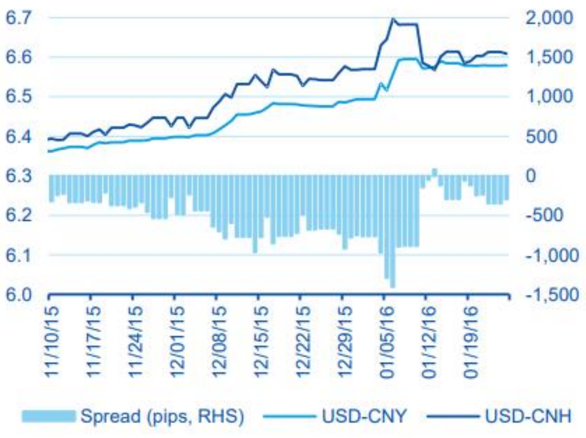
Table 1
The recent PBoC's interventions to the onshore and offshore RMB market

Time	The PBoC's interventions on offshore RMB market
September-15	The PBoC increased the transaction fee of foreign banks' spot RMB purchase and sale from the previous 0.0001%-0.0002% to 0.3%.
September-15	Some big Chinese banks started to buy offshore RMB and exchange them to USD at a high cost, which was deemed to be at instigation of the PBoC.
November-15	To tighten the RMB liquidity in the offshore market, the PBoC stopped to provide cross-border finance to the offshore banks' RMB account; also, the offshore RMB settlement banks' bond repurchase business are stopped as well.
December-15	The PBoC announced that starting from 2016, the interbank market FX trading time will be expanded till 23:30, to promote a more coincident exchange rate of onshore and offshore market.
December-15	The PBoC implemented window guidance to some foreign banks to temporarily stop their FX trading.
January-16	The PBoC announced that it will implement Reserve Required Ratio (RRR) on the RMB deposits by foreign financial institutions' mainland branches

Source: The PBoC website and BBVA Research

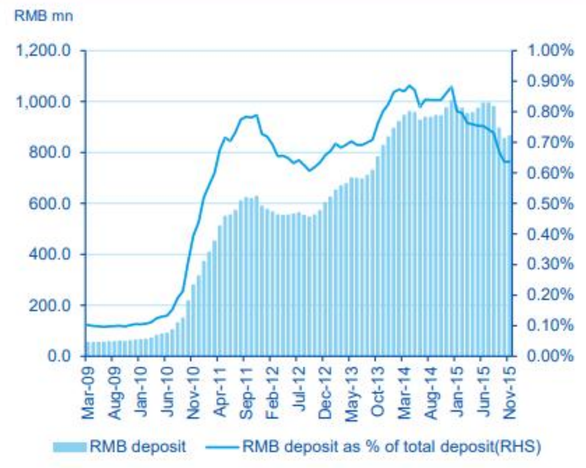
These new measures seem to be effective in the recent weeks as the authorities managed to align the CNH rate with the CNY. (Figure 5) However, these measures bear a high cost. They indeed have dampened foreign investors' interest in the RMB and have largely weakened the price discovery function of the CNH market. The depth of the offshore market is also adversely affected, which means that the CNH interest and exchange rates will inevitably become more fickle. All in all, these measures will sacrifice the development of the offshore market, which is a serious setback for RMB internationalization. (Figure 6)

Figure 5
The authorities managed to align the CNH rate with CNY through intervening offshore market…



Source: CEIC and BBVA Research

Figure 6
…but these measures might sacrifice the development of the offshore market



Source: CEIC and BBVA Research

When will the CNH market thrive again?

The dramatic change of the CNH market largely mirrors the conflict between the exchange rate reform and the RMB internationalization under strong depreciation expectation and escalating global uncertainty. Under such a circumstance, the right sequencing issue becomes more pronounced than before. Although China's authorities have been pushing forward a number of financial liberalization reforms on multiple fronts simultaneously, now it seems to be the right time to fine-tune the agenda and rearrange the order. In our opinion, the right sequencing should be the exchange rate reform first, then capital account opening and the RMB internationalization.

We believe that the authorities’ priority is to link the RMB value to a basket of currencies in order to stabilize market expectations and avert large-scaled capital exodus. The CNH market could suffer a period of stagnation until China’s authorities established its credibility of the new FX policy regime. That being said, the CNH market is likely to regain its prosperity in the next couple of years as capital account liberalization and RMB internationalization are back on the top of the authorities’ reform agenda again.

Box 1. CNH’s price-guide mechanism becomes stronger after the 2015 August 11 RMB reform based on Granger Causality test

We deploy Granger Causality test to illustrate that CNH’s price-guide impact is increasing after the 2015 August 11 RMB exchange rate fixing price reform. Among many of the causality test methods in time series studies, Granger Causality test is the most widely used and intuitively straightforward.

The basic idea of Granger test is that X is said to Granger-cause Y if Y can be forecast better using past Y and past X than just past Y. To implement the idea, we normally do the regression from Y on the past X and past Y in the time t-1, t-2, etc. (lags are determined by some statistically optimal choice), and to test whether the F-test of all the past X’s coefficients are jointly significant.

We basically test the mutual Granger causality relationship between CNY and CNH exchange rate in two regions: before and after the 2015 August 11 RMB reform. The first time window is from August 23, 2010 to August 10, 2015 and the second time window is from August 11 2015 to January 15, 2016.

Table 2 is the summary of significance level of the F-statistic of our Granger Test. (Table 2) Our results show that: (1) CNH to USD exchange rate could Granger-cause CNY to USD exchange rate both before and after the August 11 RMB exchange rate reform; (2) CNY to USD exchange rate can Granger-cause CNH to USD before the reform, however, it cannot Granger-cause CNH to USD after the reform.

The empirical results indicate that CNH’s priceguide impact on CNY becomes stronger after the August 11 RMB exchange rate reform while CNY’s price-guide effect on the CNH offshore market turns weaker after the reform. That said, the price-guide mechanism of CNH/USD was much amplified after the RMB exchange rate fixing price reform.

Table 2

Summary of Granger Causality test result

		Regress CNY on CNH (lag=8)	Regress CNH on CNY (lag=8)
Before the August 11 Reform	F-statistic	3.335	3.798
	significance level	0.0008***	0.0002***
Before the August 11 Reform	F-statistic	6.986	1.322
	significance level	0.0000***	0.2279

Notes: *** means F-test is significant at 1% level; no * means it is not significant at 1%, 5% or 10% level.
Source: BBVA Research

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