

The Road to a Market-Oriented Monetary Policy and the “New Normal” Monetary Policy Regime in China*

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Over the past decades, China has implemented a series of economic reforms, as a result of which it progressed in successive stages from a centrally planned economy system to a market economy system. As part of this process, both the framework and the toolbox of monetary policy changed in line with the prevailing economic systems. Our paper describes this evolution from the emergence of the two-tier banking system onwards, with particular focus on the post-2008 reform process, which involved the establishment of the current framework operating within the “New Normal”. This new framework copies a number of monetary policy elements commonly occurring in developed market economies, while it also has unique characteristics that reflect the specific features of the country. On the one hand, these bear the marks of earlier monetary policy regimes, while on the other hand, they may also be conceived of as means of adapting to new challenges: certain tools which previously were of a purely monetary policy nature have taken on a new meaning within China’s new economic system as tools of macroprudential policy, a new area emerging in the aftermath of the crisis of 2007–2008.

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1. Evolution of the monetary policy regime from the centrally planned economy to the economic crisis of 2007–2008

In the centrally planned economy, monetary policy was comprised of a credit plan and a cash plan. While the credit plan specified the amount of credit that individual enterprises needed to meet their production plans, the cash plan was used to quantify the amount of cash required to conduct transactions. Performance of the targets set in the cash plan, and cash payments themselves were controlled by the People’s Bank of China (PBC). Since the prices of most products were set centrally,

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the effects of increasing money supply were felt in an intensifying shortage of goods and in forced savings rather than in prices (*Bléjer et al. 1991*).

In 1978, the Chinese leadership decided that it would reform the systemic errors of the centrally planned economy by relaxing the structure of the system through the gradual introduction of market elements. As the most pressing problem was that of supplying the population with food, the process began with the reform of agriculture. In the new system, a dual price system was applied: a portion of the products was purchased by the state, allowing the remaining part to be sold at market prices by the newly established family farms. To complement the reform of agriculture, in rural areas sole traders and small partnerships began their activity due to relaxation of former restrictions, facilitating both the development of small-scale industry and the optimisation of the number of agricultural employees. In the 1980s, the reform of state-owned enterprises also started, accompanied by the remodelling of the monetary framework.

With the reestablishment of specialised banks in 1984, the two-tier banking system was formally created, and from then on, the volume of credit required to meet the central plan was granted to state-owned enterprises through the intermediation of such institutions. As the most important monetary tool, the credit plan was complemented by credit ceilings set on a regional basis, subject to which – in addition to the planned loans – banks also lent to enterprises, with pressure from local government leadership playing a major role in the distribution of such additional lending. The introduction and adjustment of credit ceilings was an efficient instrument for monetary policy to influence the amount of credit disbursed, even on a regional basis. This tool, however, affected entities in the corporate sector differently, because in the event of tightening, small and privately-owned enterprises were crowded out of borrowing, while the impact of such measures was more modest on large state-owned enterprises (*Bléjer et al. 1991*).

In addition to the direct tool of credit ceilings, with the establishment of the two-tier banking system, indirect monetary policy tools also appeared such as the reserve requirement ratio, central bank credit, and deposit and lending rates. On the one hand, central bank credit enabled growth in bank lending, facilitating, on the liability side, the achievement of the higher targets in the credit plan, while it also played a role in managing liquidity. Accordingly, typical maturity terms moved on a very wide scale from some days through maturities of several months to one or two years. In terms of deposit and lending rates, the interest rates set on retail deposits had a stronger impact, as the retail segment was interest rate-sensitive due to the hard budget constraint it was facing. By contrast, the interest rate sensitivity of large state-owned enterprises was relatively low, since in the centrally planned economy framework, relative to the achievement of the plan, it was of minor importance whether or not enterprises were making profits or losses (*Tseng et al. 1994:14–16*).

In the second half of the 1980s, the performance of the real economy responded relatively sensitively to monetary policy measures (*Bléjer et al. 1991:15*): during periods of tightening, industrial production growth decelerated considerably. Even inflation followed the changes in monetary conditions relatively closely, despite the fact that a substantial part of prices were still set centrally at the time. The impact mechanism worked primarily through the amount of credit available to enterprises; accordingly, the volume of credit and the quantity of money were applied as intermediate monetary policy targets between 1986 and 1993. In this period, monetary policy served a dual purpose: currency stability¹ and support for economic growth were equally important (*Laurens – Maino 2007*).

The reforms introduced in 1978 also brought about radical changes in the foreign relations of the Chinese economy. Its former isolation was succeeded by tentative opening up: incentives were provided for exports, and opportunities to borrow from abroad and for foreign direct investments in China. The official exchange rate was set according to the evolution of the balance of payments, changes in the cost level, and changes in the exchange rates of main trading partners. However, the official exchange rate was not universally applicable to all settlements. In order to boost exports and restrict imports, between 1981 and 1984 the exchange rates used for the inland settlement of transactions related to foreign trade were different from the official rate. To set the exchange rate partly on the basis of market mechanisms, a trading system available to a relatively limited group of users was first introduced in 1981, allowing participant enterprises to trade foreign exchange among one another in quantities up to their retention quotas. This was followed by the establishment of the first foreign exchange swap centres in 1986, which already allowed participation by foreign enterprises. In 1988, this system was extended both geographically and in terms of the group of participant Chinese enterprises. In the same year, the retention quota system was partially liberalised (*Mehran et al. 1996*).

Drawing on the lessons learned from the reforms, in 1992 the Communist Party of China set the objective of building a socialist market economy. Accordingly, between 1993 and 1997 new programmes were launched, while previously introduced reforms were also continued and crystallised. This was the period when the reform of the banking system, which had started in 1980, was completed and the established new order was codified (*Okazaki 2007*). Although the decision that as of 1984 the People's Bank of China would act as the central bank was adopted in 1983, the relevant legislative framework was set only in 1995. In the little over a decade between the two dates, the mechanism of the institution's operations was consolidated, and decisions were adopted on key issues. Although in the 1980s local authorities strove to influence the operations of the central bank's

¹ Based on subsequent communication by state leadership and the People's Bank of China, currency stability was probably a term to mean the stability of both the exchange rate and prices.

local branches and the implementation of the monetary policy, finally centralisation efforts outweighed attempts at decentralisation. As a result, a restriction was laid down in the Central Bank Act that the People's Bank of China was only subordinated to the State Council, which prevented local authorities from intervention in shaping monetary policy (*Mehran et al. 1996:18-20*). In the same year, the Commercial Banks Act was passed, which was made possible by the decoupling of economic policy lending from commercial banking in 1994. This enabled the specialised banks re-established in the 1980s to convert into commercial banks, and economic policy lending was taken over by newly established banks (*Okazaki 2007*).

Monetary policy also followed the changes in the economic system. In 1993, the State Council adjusted the earlier dual purpose of monetary policy so that it would primarily ensure currency stability, and thereby support economic growth (*Laurens – Maino 2007*). In 1995, this direction was reinforced by the Central Committee of the Communist Party of China, which identified containing inflation as one of the most important tasks of economic policy for the period of 1996–2000 (*Genyou 2001*). New intermediate targets were also set at this time. The People's Bank of China defined three different money supply indicators in 1994, and in 1996, money supply was declared as an interim target (*Laurens – Maino 2007*).

The monetary policy toolbox also became wider: open market operations (OMOs) were first applied in 1993 to influence the liquidity of banks. However, the efficiency of the instrument was poor, due to an underdeveloped interbank market and regulated interest rates, and so the instrument was used by the central bank only rarely and to a relatively limited extent before 1997 (*Geiger 2008*). A decision in principle was adopted on the liberalisation of interest rates as early as 1993, but the process only evolved very slowly. Free interest rates were first enabled in the wholesale market: as the initial step in the introduction of market-based interest rates, the restrictions on the interbank market were removed in June 1996, and then by 1999 the Chinese central bank lifted all regulations concerning money market and bond market rates, allowing interbank rates and the prices of government bonds and of bonds issued by financial institutions to be determined entirely by the market. Additionally, central interest rate setting was also abandoned in the case of foreign currency denominated instruments (*Laurens – Maino 2007*). Other measures of interest rate liberalisation affecting a broad spectrum of society were not yet carried out at that time, as a result of which interest rates on the renminbi loans and deposits of enterprises and households remained centrally regulated for nearly two decades to come.

The mid-1990s also saw substantial changes in terms of exchange rate policy. In early 1994, the exchange rates set at foreign exchange swap centres, which had previously been segmented on a regional basis, and the official rate set by the state were consolidated within a new integrated exchange rate system,

which was also supported by the launch of a fully computerized integrated trading system. Compared to the previous official rate, integration resulted in a significant depreciation. Subsequently, a crawling peg system was implemented linked to the US dollar, driving a modest appreciation over the next one and a half years (*Geiger 2008:3*). Following implementation of the new system, Chinese enterprises could use the central system to trade with authorised financial institutions at the average exchange rate established on the previous day, with same-day settlement. By contrast, foreign-funded enterprises were given direct access to the trading system, which enabled them to trade at current exchange rates with next-day settlement. Transactions also became simpler to manage: the transactions of domestic enterprises were authorised by the banks that carried out the transactions rather than by a central authority, while foreign-funded enterprises were required only to submit annual plans, within which they were free to conduct their transactions (*Mehran et al. 1996*).

China intended to join the General Agreement on Tariffs and Trade (GATT) as early as at the start of the opening up; however, negotiations broke down due to the events in Tiananmen square. Negotiations were resumed only around 1995, but by then it had become evident that the institution, transformed into the World Trade Organization (WTO) in the meantime, set very strict membership criteria, including the opening up of the financial sector. As the performance of the Chinese financial system was rather poor at the time due to its structure, WTO membership required major reforms. The commitment of the political leadership to those efforts was also reinforced by the lessons learned from the Asian crisis of 1997. While the crisis itself did not cause severe problems in China, it did highlight the importance of the condition of the financial system, the vulnerability of which gave rise to serious concerns (*Okazaki 2007:17–18*).

Although from 1994 onwards economic policy lending was carried out by dedicated institutions, in reality commercial banks still did not have genuine decision-making powers over the funding of large state-owned enterprises. As they were not in a position to refuse to fund such enterprises, banks were not responsible for their own profitability. Due to the non-performing loan portfolio built up in the banking system, which was mostly associated with large state-owned enterprises, banks were insolvent, and the viability of the system was sustained solely by trust in the shareholder state. However, a solution to the problem required more than recapitalisation and management of the non-performing loan portfolio: the systemic errors causing the accumulation of bad debt had to be corrected as well. To that end, banks needed to be authorised to make independent decisions on granting or rejecting loan applications, and to take responsibility for their decisions. In that spirit, banking supervision was reinforced: separated from the central bank, the China Banking Regulatory Commission (CBRC) began operating in 2003 (*Komlóssy et al. 2015*).

The autonomy granted to banks in their lending decisions also required the monetary policy toolbox to be reformed. In contrast to the previous dominance of the credit plan, from 1998 onwards a number of tools gained prominence in the implementation of monetary policy. Credit plans and credit ceilings were abandoned, and were replaced by “window guidance”. The new tool continued to enable the central bank to provide quantitative guidance on lending and to specify preferred areas in terms of lending. As the banks strove to comply with the guidance received, the tool worked relatively efficiently. Additionally, a decisive role was also given to open market operations, reintroduced in May 1998, which were implemented more efficiently than previously (*Geiger 2008*).

Changes also occurred in the regulation of deposit and lending rates, and thereby in the interest rate channel of monetary policy: as of 2004, the ceiling of lending rates and the floor of deposit rates were removed, giving more room for banks’ decisions in this respect as well (*Laurens – Maino 2007*). By relaxing regulations, the Chinese central bank enabled banks to factor in the credit risk associated to each customer when determining their lending rates, while ensuring that interest rate margins remained stable. In the course of interest rate liberalisation, the deregulation of lending rates was given priority over the removal of restrictions on deposit rates. This approach contributed to the protection of bank margins, while it also prevented the sudden intensification of competition among Chinese banks in subsequent years (*FRBSF 2014:1*). In addition to the progressive easing of interest rate regulations, Chinese authorities also reformed the interbank market. In order to promote the reference rate system in the Chinese money market, to influence the prices of money market products, and to improve the monetary transmission mechanism, in January 2007 the new interbank rate SHIBOR (Shanghai Inter-bank Offered Rate) was introduced (*Si 2015:7*).

The Asian crisis also necessitated changes in exchange rate policy. While a crawling peg to the US dollar was officially maintained, in reality authorities applied a de facto peg by setting a very narrow trading band around the peg (*Geiger 2008:3*). This arrangement was maintained until 2005, with further tightening of the trading band.

2. The road to the “New Normal”: additional reforms and further liberalisation

Although the impact of the global economic crisis of 2007–2008 was more moderate in China than in the world’s developed countries, it became clear that the earlier double-digit growth rates were unsustainable. On the one hand, external demand for Chinese products fell in the wake of the crisis, and on the other hand, growing imbalances developed in many areas of the economy, which would have been inappropriate to heighten further through economic policy measures. The Chinese leadership therefore set the target of achieving a sustainable growth path, which

called for economic restructuring, and further reinforcement of market economy mechanisms. However, as reforms imply additional growth costs in addition to the deceleration resulting from external conditions, the Chinese leadership set the target of doubling 2010 GDP by 2020². This assumes an annual growth rate of 7.2 per cent, which, while being more modest relative to previous growth rates, represents a politically acceptable level in exchange for more stable economic arrangements. This is to be accomplished by keeping inflation around 3 per cent, which would be equivalent to the achievement of price stability for China. The new arrangements and growth path outlined above was referred to as the “New Normal” by China’s president Xi Jinping for the first time in 2014³.

A number of reforms were introduced to achieve a sustainable growth path: the previously started and interrupted interest rate liberalisation was successfully completed, further adjustments were made to the exchange rate system, and in alignment with the new system, a number of elements within the monetary policy toolbox were also renewed.

2.1. Completion of interest rate liberalisation and establishment of the interest rate corridor

Following the onset of the global economic crisis, the process of interest rate liberalisation was interrupted as the Chinese leadership strove to counterbalance decelerating growth; consequently, the central bank only resumed its interest rate liberalisation measures in 2012. As part of those measures, regulations on the floor of lending rates and the ceiling on deposit rates were relaxed further, and ultimately in July 2013 all restrictions on lending rates were lifted (*PBC 2013c*).

As a further cornerstone in the move towards a market-oriented interest rate regime, in addition to the benchmark one-year lending and deposit rates, the LPR (Loan Prime Rate) was introduced as a new reference rate in October, which is currently derived as the average of the lending rates offered to the best customers of nine commercial banks⁴, and serves as a guideline for other banks in determining their lending rates (*PBC 2013b*). Following the introduction of the new reference rate, the Chinese central bank allowed financial institutions to issue certificates of deposit (CDs) and to trade these with each other in the interbank market, which was another major step towards the full liberalisation of interest rates (*Si 2015*).

After years of preparatory work, a deposit guarantee scheme was introduced in May 2015 to cover all institutions engaged in deposit taking, which was seen

² Hu's Goal for China: Double Incomes by 2020. Bloomberg News. 8 Nov., 2012. <http://www.bloomberg.com/news/articles/2012-11-08/hu-s-goal-for-china-double-incomes-by-2020> Downloaded: 11 September 2016.

³ Xi Says China Must Adapt to 'New Normal' of Slower Growth. Bloomberg News. 11 May, 2014. <http://www.bloomberg.com/news/articles/2014-05-11/xi-says-china-must-adapt-to-new-normal-of-slower-growth> Downloaded: 29 August 2016.

⁴ The reference group is comprised of Industrial and Commercial Bank of China, Agricultural Bank of China, Bank of China, China Construction Bank, Bank of Communications, China CITIC Bank, Pudong Development Bank, Industrial Bank and China Merchants Bank.

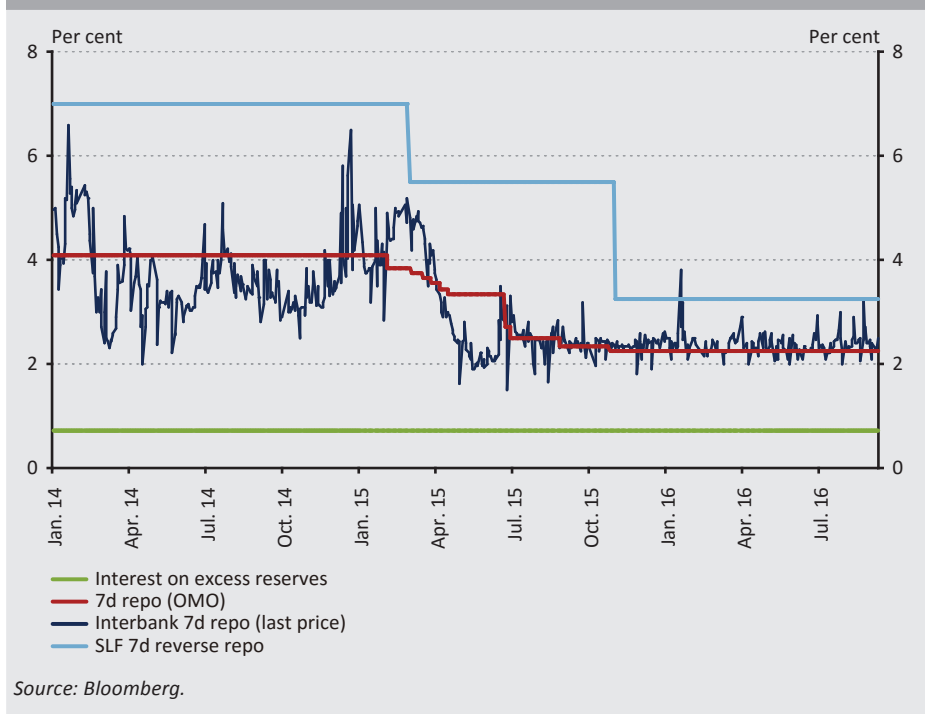
as a milestone in terms of both the stability of the banking system, and the liberalisation processes (*PBC 2015b*). Deposit guarantee was of outstanding significance in several respects. While it is required for non-state owned banks to enter the market, it also contributes to the clarification of the risks associated with specific investment methods, which is a prerequisite for both interest rate liberalisation and the containment of shadow banking.

As the last step of interest rate liberalisation, which had started nearly two decades earlier, in October 2015 the People's Bank of China announced the removal of the ceiling on deposit rates, giving banks complete autonomy in determining their deposit and lending rates (*PBC 2015c*). Although full interest rate liberalisation was a slow process, it was of outstanding significance to the authorities, which followed a conservative approach in timing and scheduling liberalisation in an effort to preserve the stability of the financial system (*FRBSF 2014:1*). At the same time, it is unique, even by international standards, for liberalisation to have spanned a period of nearly 20 years. The reasons underlying the slow nature of the process have been addressed by several authors. In a paper, *Hu (2014)* found that in the early 2000s, liberalisation was protracted due to efforts by the state to address the problems resulting from loan losses, partly by keeping deposit rates low (financial repression). *Song (2001)* argued that interest rate liberalisation was also hindered by the segmented financial market, the lack of competition, the high ratio of non-performing loans in state-owned banks' portfolios, macroeconomic considerations, and the absence of financial markets infrastructure. In China, interest rate deregulation was not supported by large state-owned enterprises and state-owned banks as it would sharply increase their funding costs and erode their profits, which had been secured by the inflexible interest rate regime. Additionally, the Chinese leadership was also deterred by the concern that relaxing regulations would increase the cost of funding the budget deficit (*Si 2015*).

However, the removal of restrictions on deposit and lending rates does not yet mark the completion of the interest rate liberalisation process, as the new regime presents new challenges to both financial institutions and monetary policy. Free interest rates are likely to increase interest rate volatility, of which the central bank regularly reminded market participants in the course of the reforms. Additionally, institutions' profitability is expected to decrease as competition among them intensifies, since banks' interest rate margins are no longer protected by benchmark rates. Substantial changes are also taking place in the monetary policy toolbox: on the one hand, the benchmark rates have lost prominence as they bind only certain state-owned participants of the financial system (*Tan et al. 2016*); on the other hand, rather than quantitative adjustments, the central bank has been moving increasingly towards influencing interest rates, improving the efficiency of monetary policy transmission (*PBC 2014a:50*). For that reason, with a view to promoting market-determined interest rates further, a number of analysts think that over the coming period, the Chinese central bank might transition to targeting a widely accepted market rate

such as the 7-day reverse repo rate or the 7-day repo rate, or possibly the SHIBOR (Tan et al. 2016:12). Reform of the monetary policy framework also includes the establishment of an official interest rate corridor (PBC 2014a). At present, China's financial system involves the operation of an unofficial interest rate corridor, which is capped at the 7-day repo rate of the central bank's Standing Lending Facility (for details, see Section 2.3), and floored at the rate of interest paid on excess reserves (Tan et al. 2016). As interest rate restrictions were progressively removed and the interest rate corridor narrowed, the volatility of the interbank rate decreased significantly, and monetary transmission has also improved recently (Figure 1).

Figure 1
Evolution of the central bank's interest rate corridor and interbank yields



2.2. Further reforms of the exchange rate system

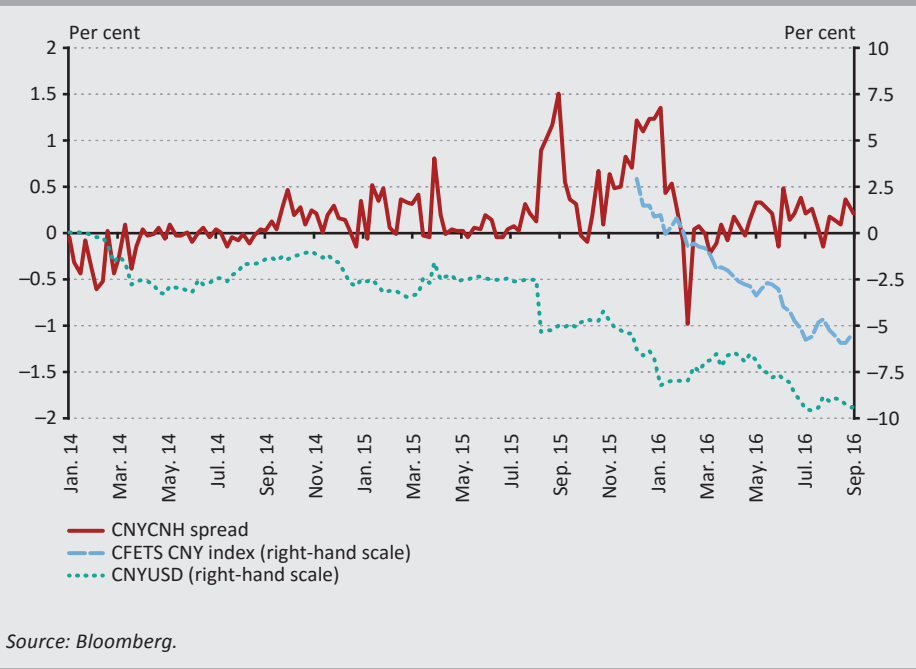
As shown partly in Section 1, up to the 2000s the Chinese exchange rate system, in its transition from the centrally planned economy regime, allowed the relationships of supply and demand to work only in certain periods and even then only to a certain degree. For the authorities, in alignment with the export-oriented strategy of industrial development, exchange rate stability was always a priority, which was secured through major restrictions and a tight exchange rate policy. By contrast, the most recent reform on the exchange rate system pursues the ultimate goal of achieving total convertibility and allowing market forces to shape the exchange rate.

Although that is a distant goal for the time being, a number of reform measures have been implemented for its achievement over the past decade, significantly reshaping the system that characterised the early 2000s.

The earlier official crawling peg to the US dollar was replaced in July 2005 by managed floating against a currency basket, where the exchange rate at any point in time was determined by taking market supply and demand into account. The central bank assumed the closing rate established on the interbank market to be the central parity for the next trading day, around which it defined a trading band in an effort to ensure both the stability of the exchange rate and its alignment with the equilibrium value (*PBC 2005:15-19*). Following a progressive approach, the trading band was widened from the initial ± 0.3 per cent to ± 0.5 per cent in 2007, ± 1 per cent in 2012, and finally to ± 2 per cent in 2014 (*PBC 2014c*). The new system was also supported through trading-related developments and by providing more extensive access (*Laurens – Maino 2007*). Although the US dollar probably carried considerable weight in the currency basket, the new system enabled the central bank to manage the exchange rate more flexibly than before.

From the 2000s onwards, as part of opening up the Chinese economy the renminbi took on an increasingly prominent role in international trade and financial settlements, but despite this China initially wanted to set up a system that allowed the renminbi to be traded without opening up the country's capital account. A solution to this problem was provided by the establishment of the offshore renminbi market in Hong Kong (*HKMA 2010*). Since then, it has been possible to trade the renminbi in two markets, subject to different quotation and exchange rate mechanisms. While in the onshore (mainland) market (CNY), the Chinese authorities continue to have significant influence over the exchange rate, in Hong Kong's offshore market (CNH) the exchange rate is increasingly shaped by market forces. In the latter case, the central bank typically intervenes in response to specific market situations in order to prevent permanent widening in the CNY-CNH spread. The correlation between the CNY and CNH rates simultaneously reflects the interoperability of the two markets and, since the correlation is imperfect, the limitations on interoperability. The close correlation is attributable to the fact that a larger spread between the onshore and offshore exchange rates provides participants that are eligible for conversion with an arbitrage opportunity, exploiting which will have the effect of narrowing the spread (increased demand for an undervalued currency will drive its price upwards). At the same time, spreads of up to 100 basis points have been observed between the offshore and onshore rates (*Figure 2*), and these are far larger than the spreads of a few basis points that are characteristic of fully convertible currencies.

Figure 2
CNY-CNH spreads, CNY-USD exchange rates and the CFETS CNY NEER index
 (per cent)



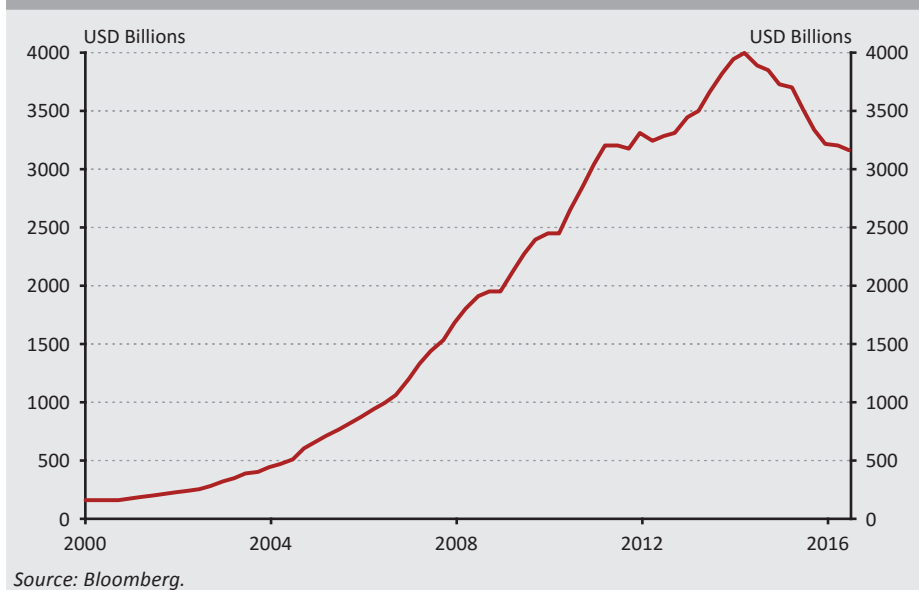
Source: Bloomberg.

Owing to the gradual opening up of the money and capital markets, the Chinese central bank is faced with the classic policy trilemma, i.e. the fact that it is not possible to achieve a fixed exchange rate system, an independent monetary policy, and free capital flows. Earlier, in the context of a closed capital account, China followed a tight exchange rate policy to implement its monetary policy, whereas recently, as a result of liberalisation, it has been moving towards an independent monetary policy, an open capital account, and a freely floating exchange rate. However, that process has caused intensifying volatility in the money market variables that were previously regulated centrally, i.e. the exchange rate and money market interest rates, and the central bank has reminded money market participants of this on several occasions. The capital flight induced by the opening of the capital account was counterbalanced by the Chinese central bank through FX market interventions and further reforms on the exchange rate system.

To increase the flexibility of the onshore exchange rate system and to give more prominence to the effects of supply and demand factors, in August 2015 the central bank improved its calculation method for the renminbi fixing. Using the new calculation method, going forward the People's Bank of China will determine the central parity by taking the previous day's closing rate and the movements

of the major international currencies into account (*PBC 2015b*). Simultaneously with the fixing change, the Chinese central bank devalued the renminbi by almost 2 per cent against the previous day's closing rate, which represented the largest intraday exchange rate adjustment since the abandonment of the dual exchange rate system in 1994.⁵ In communicating its decision, the Chinese central bank underlined the fact that the devaluation of the renminbi was a one-off move, and that continuous devaluation was not to be expected (*PBC 2015d*). The move was received unfavourably by the market: many investors and analysts explained the decision of the Chinese authorities by China's poor export performance, while concerns were also raised that the major capital flight observed since 2014 might intensify as a result of the depreciating exchange rate. No consensus has emerged among analysts to date on the reasons underlying the capital flight. Some consider the process to be concomitant with the global re-weighting of Chinese portfolios, while others explain it by the repayment of Chinese enterprises' dollar debts (*BIS 2016*). Fears have so far proved to be partially justified: following devaluations of various sizes, the renminbi depreciated against the US dollar by almost 7 percent over the past year. The effect of market concerns was also apparent in the widening of the spread between the onshore and offshore rates of the renminbi. Some market participants opened significant speculative short positions in anticipation of

Figure 3
Evolution of China's foreign exchange reserves



⁵ Lingling Wei: *China Moves to Devalue Yuan*. The Wall Street Journal, 11 August 2015, <http://www.wsj.com/articles/china-moves-to-devalue-the-yuan-1439258401>. Downloaded: 5 September 2016.

progressive devaluation of the renminbi. To stabilise market processes, the Chinese central bank was forced to respond by means of continued interventions and open market operations, which was reflected in the rapid and substantial decrease in foreign exchange reserves (*Figure 3*).

While in the early 2000s China's foreign exchange reserves amounted to a mere USD 200 billion, 2003 marked the beginning of a period of strong accumulation, as a result of which the reserves amounted to nearly USD 4,000 billion in mid-2014. Similarly to a number of other export-driven economies in the developing markets, the build-up in China's foreign exchange reserves was primarily attributable to the current account surplus and the fixed exchange rate system, as the Chinese authorities were making foreign exchange purchases to counterbalance excessive demand for the renminbi. The excess foreign exchange reserves thus accumulated significantly improved the structural liquidity of the banking system, which was sterilised by the central bank primarily through the system of reserve requirements.

However, between 2012–2014 the above arrangements became inherently weaker as the current account surplus fell and the renminbi was made convertible, and the money market turbulences of 2015 forced the Chinese central bank to make FX market interventions on an unprecedented scale in order to counterbalance the capital flight and to keep the exchange rate of the renminbi stable.

In recognition of the increasing role of the Chinese currency in the global economy, and, as it were, acknowledging the reform processes, during the review of the SDR currency basket in November 2015, the International Monetary Fund decided to include the renminbi in the basket. According to the IMF, in addition to the export requirement, the renminbi fulfils the other necessary condition, i.e. free usability (*IMF 2015*). This had the additional effect that when the new SDR basket was introduced from 1 October 2016, Chinese investments with an adequately high rating became part of the official foreign exchange reserves. In the new SDR basket, the renminbi was given a weight of nearly 11 per cent, primarily at the expense of EUR and GBP, which corresponds to the third largest share. For these reasons, it is particularly important to ensure that the exchange rate of the renminbi can behave more flexibly relative to USD, because an exchange rate closely aligned with USD would result in an increased share of the latter in the SDR basket.

Among other considerations, the Chinese authorities introduced the CFETS CNY Nominal Effective Exchange Rate (NEER) index⁶ in December 2015 to avoid this undesirable effect. The index follows the exchange rate of the renminbi against

⁶ The China Foreign Exchange Trading System (CFETS) is the operator and supervisor of the system that handles China's interbank foreign exchange trading, and is an institution within the central bank.

a basket of 24 currencies⁷, where the currencies and their weights are determined on the basis of commercial and investment activities (*Figure 2*). By giving prominence to the new index, the Chinese central bank supports the less restricted behaviour of the renminbi–US dollar exchange rate, and strives for more room for manoeuvre in exchange rate policy, while maintaining central bank credibility.

2.3. Renewal of the monetary policy toolbox

In a broad context, the reform of China’s monetary policy over past decades has been attributable to the modernisation effort of the Chinese state to approximate its institutions, with a view to the success of economic reforms, to the standards generally accepted in Western countries. To achieve its objectives, the Chinese central bank uses a mix of direct tools based on quantitative controls and of indirect market-oriented tools. The mixed composition of the toolbox is the result of economic transformation, where in addition to market-based tools, regulation-based monetary policy also continues to play a role (*Gehring 2015:4*). Key elements of the Chinese central bank’s standard toolbox include the reserve requirement ratio, benchmark rates, open market operations, and central bank loan. The significance of specific tools has changed constantly over the past decade due to the reform processes and the global economic crisis, as a result of which a gradual transition was made from the use of tools based on quantitative controls to the use of market-oriented tools (*Tan et al. 2016*).

One of the most important tools in the Chinese central bank’s toolbox is the system of reserve requirements. With Western central banks, the function of this tool today is mostly limited to facilitating banks’ daily liquidity management, whereas in China it is a fundamental tool of influencing the quantity of money as an intermediate monetary policy objective. From 2007 onwards, increased prominence has been given in the implementation of China’s monetary policy to the regulation of the reserve requirement ratio, in which an important role has been occupied by the tight exchange rate policy, as the increased foreign exchange reserves have been sterilised by the People’s Bank of China primarily through the system of reserve requirements. From the central bank’s perspective, the preference for the reserve requirement ratio over other tools is supported by a number of arguments. By adjusting the reserve requirement ratio, the central bank permanently drains liquidity from the banking system, unlike the tools of open market operations (repos and central bank bills), which tend to be short-term. Another benefit of the tool is that the Chinese central bank pays a much lower rate of interest on allocated reserves than it would on discount central bank bills. Additionally, while adjustments to the reserve mechanism have a tangible effect on the liquidity of the banking system,

⁷ The number of currencies used to calculate the index has recently been expanded to 24 from 13. The HUF is amongst the newly added 11 currencies. As a result of the adjustment, the weight of the US dollar decreased in the index.

they do not directly and extensively influence borrowers' funding costs. Moreover, further to its conventional role in monetary policy, the reserve requirement ratio also plays an increasingly important role in the shaping and implementation of macroprudential policy (*Ma et al. 2011*). Owing to the dominance of the banking system within China's financial system, and to restrictions on convertibility, the tool has proven to be highly effective in the regulation of money supply (*Gehring 2015:6*). In September 2015, a substantial adjustment was made to the calculation method of the ratio: instead of the previous daily compliance, banks were then obligated to meet a requirement for the average of daily closing values over the given reporting period. This adjustment provides more room for manoeuvre in banks' liquidity management, and is also expected by the central bank to reinforce monetary transmission (*PBC 2015b*).

While in the pre-crisis period the liquidity of the banking system was mainly managed by central bank loans, over the past 10 years this tool has been used by the central bank to a more limited extent, for two reasons. On the one hand, monetary policy was tightened between 2006–2008 in order to contain inflation and counterbalance capital inflows, which made liquidity-providing operations unnecessary: as a result of the overheated economy and capital inflows, significant excess liquidity was generated in the banking system. On the other hand, the fine tuning of liquidity conditions gave prominence to open market operations in the central bank's monetary policy (*HSBC 2016*). Initially, open market operations played a marginal role in implementing the monetary policy of the People's Bank of China, but as financial markets developed, these tools also gained more weight within the central bank's toolbox and have now become one of the most important tools of monetary policy, in addition to non-standard tools such as "window guidance", and the reserve requirement ratio. To ensure that liquidity conditions are efficiently fine-tuned, in January 2016 the central bank resolved to conduct open market operations on a daily basis⁸.

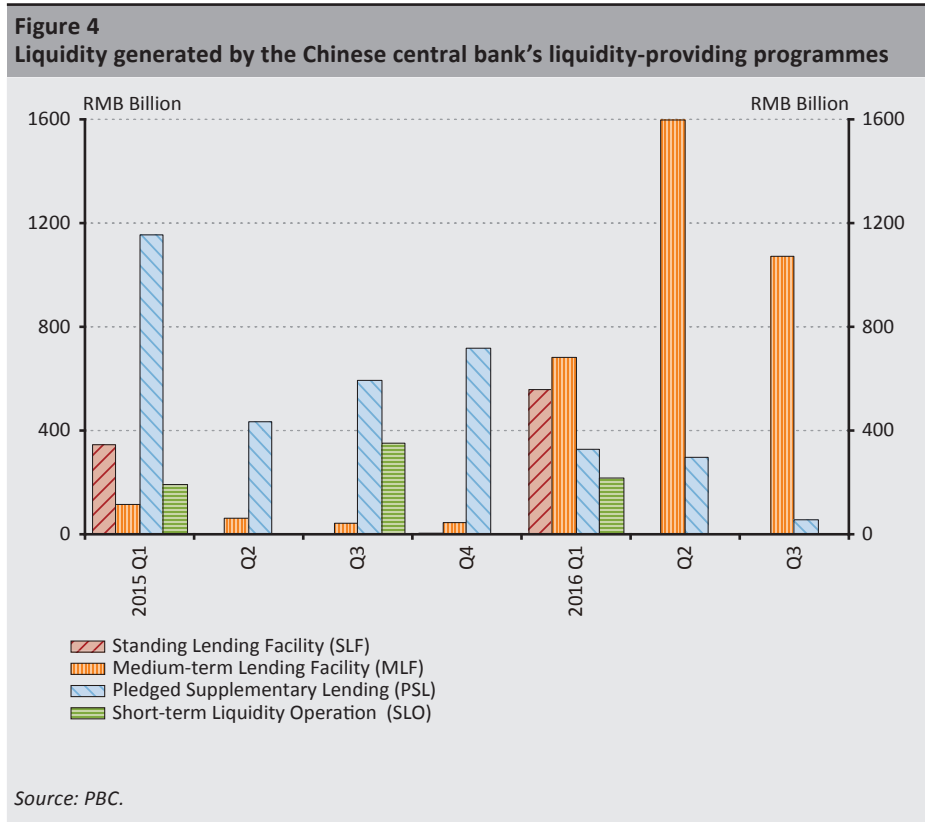
In the period of centrally regulated interest rates, benchmark rates determined the prices of the one-year loans granted by the financial system and the deposits placed with the system, and therefore represented a different type of commitment, and a much stricter one, compared to the base rates used as part of modern central bank toolboxes. Understandably, as interest rate liberalisation was completed, benchmark rates have lost prominence as they bind only certain state-owned participants of the financial system (*Tan et al. 2016*).

Despite its modern toolbox, the Chinese central bank continues to rely heavily on influencing the lending processes of the economy based on non-market and

⁸ *China PBOC to Conduct Open-Market Operations Daily*. The Wall Street Journal, 18 February 2016. <http://www.wsj.com/articles/china-pboc-to-conduct-open-market-operations-daily-1455792726> Downloaded: 8 September 2016.

non-public agreement, which is implemented in practice by means of “window guidance”. The official position is that guidance is merely advice by the central bank to financial institutions to ensure that their lending meets the needs of specific sectors. In practice, as banks consider themselves bound by the Chinese central bank’s guidance and act accordingly, control over lending has been maintained (Gehring 2015).

As a result of the economic slowdown seen in recent years, the central bank has been under increasing pressure to do everything in its power to boost the economy with the tools at its disposal. In a stable environment of low inflation, due to decelerating growth the emphasis is being gradually shifted to supporting the implementation of the central bank’s second mandate, i.e. economic growth, while continuing to safeguard currency stability. To provide incentives for lending and thereby to stimulate growth, and to manage liquidity problems, the Chinese central bank introduced a number of innovative tools from January 2013 (Figure 4 and Table 1). In addition to facilitating the liquidity management of the banking system in times of turbulence, the programmes launched by the central bank also support other economic policy goals.



The Chinese central bank launched its *Short-term Liquidity Operation* (SLO) programme in January 2013 to reduce money market volatility even on days when it was not conducting open market operations. The SLO is available to primary dealers participating in open market operations which are also important systemically, have high-rated asset portfolios, and have also particular importance in monetary policy transmission (*PBC 2013a*). Over the past year, the SLO has lost some of its significance since open market operations have been conducted on a daily basis.

The central bank's *Standing Lending Facility* (SLF) programme was also launched in January 2013, and is used by the central bank to provide liquidity to financial institutions for terms of up to 3 months (*PBC 2013a*). The SLF programme was designed to improve the central bank's liquidity support channel for small and medium-sized financial institutions, to manage seasonal liquidity fluctuations, and to support the stable functioning of the financial market. The programme was rolled out nationwide in February 2015, providing access to funds also for commercial banks in urban and rural areas, and for cooperatives and credit cooperatives in rural areas (*PBC 2015a*).

The central bank announced the *Medium-term Lending Facility* (MLF) programme in September 2014. This programme differs from the tools referred to in the foregoing in that the central bank uses it to provide the banking system with liquidity over the longer term, and specifies areas for the use of the funds that are preferred from a lending perspective. Initially, liquidity was provided to banks through the MLF programme for terms of up to 3 months, extended in June 2015 to 6-month loans, and most recently in February 2016 to one-year loans. The MLF programme encourages participating banks to lend to the agricultural sector and to SMEs (*PBC 2014b*).

To support the urban development projects of the Chinese state, the central bank offers long-term, stable and low-cost funds to credit institutions through its *Pledged Supplementary Lending Facility* (PSL) programme, launched in April 2014. However, access to funds is limited; to date, loans have been granted through the PSL only to China Development Bank, The Export-Import Bank of China, and Agricultural Development Bank of China. Eligible collateral includes both bonds and high-rated bank credit.

Table 1			
The Chinese central bank's main liquidity-providing tools			
Liquidity-providing tools	Duration	Frequency	Function
Short-term			
Open market operations (OMOs)	More frequent: 7 and 14-day repos and reverse repos Other: 21, 28 and 91-day repos and reverse repos Central bank bills: 3 months, 1 year, 3 years	On every working day from 29 January 2016; previous to that twice a week	Reducing money market volatility
Short-term Liquidity Operation (SLO)	O/N to 7-day repos and reverse repos	Irregular	Reducing money market volatility on days where there were no scheduled OMO
Standing Lending Facility (SLF)	O/N and 7-day reverse repos 1 to 3-month loans	Irregular, on request	Improving the central bank's liquidity support channels for small and medium-sized financial institutions, addressing seasonal liquidity fluctuation, and promoting stable functioning of the money market
Long-term			
Medium-term Lending Facility (MLF)	3-month, 6-month and 1-year loans	Irregular, on request	Encouraging financial institutions to allocate more credit resources to the agricultural sector, rural areas, and farmers, and small and micro enterprises
Pledged Supplement Lending (PSL)	3 to 5-year loans	Irregular	Promoting the government's urbanisation programme
<i>Source: PBC.</i>			

3. The macroprudential policy aspect of monetary policy tools

Given the significant operational overlaps between the monetary and macroprudential toolboxes of the People's Bank of China, a description of monetary policy tools would be incomplete without a reference to the macroprudential approach. Indeed, there are a number of country-specific phenomena to be observed in this field as well, since several elements of the toolbox have been developed from the remnants of the centrally planned economy regime and as such

are quite unlike the tools established in developed countries following the crisis of 2007–2008. This developmental difference is also the reason why the Chinese central bank already has experience with the operation of its macroprudential toolbox from the pre-crisis period, whereas in developed countries the powers and tools of macroprudential authorities were established only after the crisis. That said, it should be noted that in China macroprudential policy is not a task only for the central bank: the People’s Bank of China uses a number of tools in cooperation with the China Banking Regulatory Commission, and the partner authority also has a toolbox of its own that is independent of that used by the central bank⁹.

In international practice, the prevention of excessive credit flows has been a prominent goal of macroprudential policy since the crisis, given that systemic bank crises have frequently been preceded by strong credit flows and consequently a significant build-up of risks. In China, however, control over credit growth was primarily driven by a monetary policy consideration: with a view to containing inflation, monitoring the quantity of money and credit was a particular focus as early as in the 1990s. Although one might be led to believe that the goals of monetary and macroprudential policy are the same, this is not supported by actual observations. Following the crisis, significant credit flows took place in order to keep economic growth at the preferred level, leading to a drastic increase in the indebtedness of the private sector. This is undesirable in a macroprudential approach, while it does not raise any problems from a monetary policy perspective, since inflation has nevertheless been stable at a low level, which gives the central bank margin to support economic growth. It cannot be argued, however, that monetary policy considerations and a growth-oriented central government have entirely superseded macroprudential policy aspects. Although credit flows have been strong for years, the central bank has been striving to apply other macroprudential tools to mitigate the increase in risk this might potentially involve.

The level of risk entailed by fast credit flows is closely correlated with the quality of credit, which was initially influenced by the central bank directly through credit plans, and since they were abandoned, indirectly through “window guidance”. Guidance specifies areas to be preferred and avoided, respectively. In determining these areas, economic development targets and the mitigation of systemic risks are both taken into account. For example, central bank guidance prohibits lending to sectors with excess capacities. The quality of credit is strongly influenced by systemic risks emerging via the property market, the mitigation of which is restricted by the central bank and the banking regulation authority by regulating the terms of mortgage lending, e.g. by specifying the minimum required downpayment, or in the case of the purchase of second homes, by requiring a stricter interest rate level.

⁹ As this paper concerns the development of monetary policy and its toolbox, macroprudential policy tools which are independent of the central bank are not discussed here.

However, the efficiency of macroprudential policy is severely impaired when a considerable part of lending occurs through a channel that is not subject to the regulations concerned. This problem is also relevant to China, because over the past decade, as a result of interest rates kept artificially low and strict regulations on the banking system, lending outside of the banking system (so-called shadow lending) has reached massive proportions. Although this form of lending is built on the legal circumvention of regulations, the Chinese authorities had no interest in stifling the segment, because of the information content of the pricing established there. In recent years, however, shadow banking has grown dynamically and has reached massive proportions by now. By nature, it carries considerable additional risk in comparison to lending through the banking system. For one thing, the solution is typically used to fund enterprises and projects which banks have no intention or possibility to fund on grounds of the risk involved or for regulatory reasons. On the other hand, investors providing funds mostly through private banking and wealth management products tend to assume that such products are implicitly covered by a state guarantee, as a result of which risks are actually not properly considered for every funding decision. Since shadow banking has grown to a size that is also significant in terms of systemic risk, the authorities have taken measures to curb the growth of lending outside of the banking system. Additionally, they place special emphasis on the best possible understanding of the system that has already been established and is often highly complex in legal terms, and on the assessment of the risks that have already built up.

While the parts of macroprudential policy related to credit primarily aim to prevent or slow down the build-up of risks, another group of tools is intended to improve the resilience of financial institutions through regulations on their capital and liquidity. In addition to the tools also widely used in international practice, such as the prescription of various capital buffers and liquidity ratios, in China the reserve requirement ratio also plays an important role in this respect. Originally linked to bank liquidity, this monetary policy tool has, even earlier, been used much more frequently in China in comparison with the practice of developed countries, partly due to the cumbersome nature of the other indirect tools. Initially standardised, the set of requirements have been differentiated since 2004 according to institutions' indicators (*PBC 2004*). The variables taken into account included the capital adequacy of the bank concerned, the ratio of non-performing loans in its loan portfolio, and a wide range of information on the regularity of, and level of risk involved in, the operation of the institution. The higher the level of risk an institution was found to carry, the stricter the requirements it was required to comply with. This was meant to compensate for actual systemic risks, while providing incentives for their mitigation. Differentiation by size of institution first occurred in 2008, when requirements were relaxed in successive steps; however, this was applied only partially to the largest deposit takers (*PBC 2008a, 2008b*). In addition to systemic

risk criteria, institutions were also differentiated by economic policy goals, whereby institutions funding rural areas, or regions hit by earthquakes at that time, were subject to less stringent requirements.

In the aftermath of the crisis of 2007–2008, the system of reserve requirement ratios was increasingly shaped by macroprudential considerations. In 2011, the system of differentiated reserve requirements was extended to include a dynamic adjustment mechanism, which enabled continuous adjustments to requirements depending on the macroeconomic environment, the capital adequacy of each institution, the quality of its governance, and the extent to which its lending policy was aligned with economic policy goals (*PBC 2011*). As of 2016, this system was superseded by Macroprudential Assessment (MPA), which provides an even more comprehensive and flexible framework for requirement calculations. Currently, in addition to capital adequacy and leverage, the reserve requirement ratios for individual financial institutions are determined by taking liquidity, pricing behaviour, portfolio quality and the risks of cross-border financing and credit policy implementation into account (*PBC 2016:28*).

4. Summary

As a result of the reform processes that have been taking place for decades, China has progressed from a strict centrally planned economy regime to an economic system in which a relevant part of economic processes is shaped by market mechanisms. Over this period, the country has become an integral part of the international economy and trade; indeed, by strengthening its position, it has been making efforts to gain influence that is approximately proportional with its size, in respect of the main processes driving the global economy. Although China's economic system increasingly approximates those of developed Western countries, the reform process has by no means been completed; therefore, the country continues to face a number of economic and financial challenges.

As an integral part of economic reforms, monetary policy has also been subject to constant change over the past decades. Previous, for the most part direct, monetary policy tools have been gradually replaced by operations based on indirect tools, and market processes have become increasingly important in monetary transmission. While today's toolbox already shows considerable similarities with the common elements of the monetary policies of developed Western economies, China has retained some special elements, which have taken on a role in both monetary and macroprudential policy. The characteristic of Chinese authorities, the attitude of taking the initiative is also felt in monetary policy, as the central bank often induces economic processes rather than simply following them. Obviously, it is not possible for economic reform and restructuring of such a scale to proceed perfectly smoothly.

An inventory of reform measures shows that some of the solutions have been less successful, but the Chinese authorities have been making efforts to remedy them.

Interest rate liberalisation and reforms of the exchange rate system have increasingly enabled market forces to work. In practice, this also implies abandoning the familiar controlled stability, which may at times appear to be an unfavourable development, but is actually concomitant with market economy arrangements. Going forward, both market participants and economic policy makers should expect volatility to emerge and intensify in the pricing of specific financial products, as well as in the evolution of the renminbi exchange rate. In responding to the challenges arising from economic restructuring, economic policy may be assisted by an ever-wider monetary policy toolbox and a continuously developing macroprudential policy.

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