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From Window Guidance to Interbank Rates

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Abstract

Whereas monetary policy in most major economies is conducted by an independent central bank manipulating the interbank overnight interest rate to achieve a price stability target, monetary policy in China is influenced by multiple actors and characterised by both quantity-based and price-based instruments and targets. Chinese monetary policy is further exercised through non-public practices such as "window guidance", a policy by which authorities seek to guide commercial banks' lending volumes by persuasion. The resulting complex interplay of these different factors is the subject of this study, which investigates the transmission mechanism of Chinese monetary policy for the period 2000−2015 in order to determine the effectiveness of different policy instruments and, subsequently, the effect of bank financing on the broader macroeconomy. Towards this end, a qualitative institutional analysis is conducted, followed by quantitative econometric analyses based on exogeneity tests and Structural Vector Autoregression models. The study explicitly accounts for the influence of window guidance by incorporating information from a text-based analysis of People's Bank of China reports in the tradition of Romer & Romer (1989). To trace the evolution of each instrument, estimations are also applied to subsamples as indicated by a Chow test for structural breaks. Results indicate that window guidance has played an important role in Chinese monetary policymaking in the period up to the Global Financial Crisis. Since then, the interbank overnight rate appears to have become more influential and exogenous. The study concludes by providing suggestions for further strengthening this interest rate channel, the stated goal of the People's Bank of China.

Keywords: monetary policy, China, SVAR, narrative approach, window guidance

JEL Classifications: E52, E58

1 Introduction

For several decades, monetary policymaking in most advanced economies has been conceptualised as the manipulation of interbank overnight interest rates by monetary authorities (Bindseil, 2004). Central banks in these economies typically signal a target interest rate to the interbank market and engage in open market operations, lending to commercial banks and/or payment of interest on commercial bank reserves as necessary to achieve this target rate (Borio & Disyatat, 2010).[1] The interest rate so established is understood to trigger changes in other macroeconomic variables in a way that allows authorities to maintain a certain level of price stability. While the specific operational procedures differ, and despite recent changes associated with the introduction of unconventional monetary policies, the pairing of interest rate control and inflation targeting is present in all major advanced economies, explicitly or implicitly.[2]

Things are less simple in China, where monetary policy is conducted by multiple actors and characterised by both quantity-based *as well as* price-based instruments and targets. Studies of Chinese monetary policy frequently point to factors such as underdeveloped financial markets, credit controls, high volatility of market liquidity, segmentation of credit markets, and interest rate insensitivity of market participants as factors that impede the exclusive use of the interbank rate as a monetary policy tool (see, e.g., Shu & Ng, 2010; Xiong, 2012; Ma et al., 2016). While the very first report published by the People's Bank of China's (PBOC) Monetary Policy Committee in the second quarter of 2000 already mentions the establishment of a central bank interest rate as a central goal, authorities still rely on target growth rates for various monetary aggregates, e.g. M1, M2, bank credit and central bank reserves, yet rarely come close to achieving them. All of these factors complicate the interpretation of Chinese monetary policy.

The present study seeks to disentangle the transmission mechanism of Chinese monetary policy by studying the different channels that affect bank financing for the period 2000–2015. The purpose is to identify which monetary policy tools have the greatest impact on commercial banks' provision of financing through loans, capital markets and other channels.[3] Subsequently, the goal will be to understand how bank financing in turn affects the macroeconomy. Towards this end, a qualitative institutional analysis is conducted, followed by quantitative econometric analyses based on exogeneity tests and Structural Vector Autoregression (SVAR) models. The exogeneity tests are based on the paper by Revankar & Yoshino (1990), who develop a test to determine whether central banks are in fact controlling interbank overnight rates. The authors apply this test to US monetary

[1] With the advent of "unconventional monetary policy", interest on commercial bank reserves have become the primary policy lever in many advanced economies (see Borio & Disyatat, 2010).

[2] Since the Global Financial Crisis greater attention has also been given to macroprudential policies which aim at mitigating risk in the financial system. These are set to expand the tool kit available to monetary authorities.

[3] Bank financing is herein understood as all claims on the private sector accumulated by commercial banks.

policy in the 1970s to early 1980s and find that authorities did indeed control interbank rates. Applied in a subsequent paper to Japan, Yoshino & Yoshimura (1997) find support for interbank rate exogeneity from the 1980s onwards. The present analysis adapts this approach for China.

Such an examination is complicated by the fact that Chinese authorities in part rely on tools on which information is not publicly or directly available. A prime example is the practice of "window guidance", by which the authorities seek to guide commercial banks' lending volumes through persuasion. Also applied in Japan in the past, window guidance by the Bank of Japan (BOJ) was one central lever by which the central bank influenced banks' credit creation, as shown by Rhodes & Yoshino (1999). The present study also draws inspiration from that paper and attempts to capture the influence of window guidance by constructing a window guidance indicator based on a text-based analysis of the quarterly reports of the PBOC Monetary Policy Committee and the PBOC's Monetary Policy Reports, in a manner similar to the "narrative approach" taken by Romer & Romer (1989).

To trace the evolution of each instrument, the estimations are applied to subsamples as indicated by a Chow test for structural breaks. Results suggest that both quantity-based and price-based policy levers had substantial effects on domestic bank financing in China, with window guidance having played an especially important role in the period up to the Global Financial Crisis and the interbank overnight rate having become more influential since then.

In what follows, an in-depth institutional analysis of the PBOC's monetary policy operating procedures is conducted and key variables are selected for examination. Aside from the interbank overnight rate and window guidance, the reserve requirement ratio as well as benchmark lending and deposit rates are analysed. The interbank overnight interest rate is subsequently tested for exogeneity vis-à-vis domestic money markets and an SVAR model is specified to obtain impulse responses to gauge the strength of each policy lever. Both examinations are repeated for subsample periods before and after the Global Financial Crisis. A similar procedure is then followed to determine the impact of bank financing on the domestic macroeconomy using bivariate VAR models which are again estimated for the full sample and subsample periods. Proceeding from these results, conclusions are drawn regarding the relative influence of quantity-based tools versus price-based tools and the relationship of domestic bank financing with the domestic macroeconomy. Finally, suggestions are presented for further strengthening the interest rate channel, the stated goal of the PBOC.

1.1 Literature review

The body of academic literature on monetary policy transmission is vast. Studies differ both by their conception of primary transmission channels and by definition of instruments and targets. As such, this brief overview shall be limited to analyses of Chinese monetary policy and empirical studies in particular.

On the policy side, there exist several in-depth institutional studies of monetary policy operations in China, of which Conway et al. (2010) and Geiger (2008) deserve special mentioning. These two studies explore the actual principles of monetary policymaking in China and are drawn on extensively in applied analyses. Conway et al. (2010) trace the evolution of the PBOC's operations throughout history, arguing that the PBOC now has significant control over market interest rates, which are an important determinant of investment spending. They advocate greater use of interest rates in implementing monetary policy on the grounds that this would enhance macroeconomic stability while avoiding the drawbacks associated with quantity-based tools.

The paper by Geiger (2008) provides an institutional overview of similar depth. The author points out that the PBOC frequently missed its quantity targets even while it achieved its inflation targets, arguing that this is the result of a "heterodox" policy mix of quantity-based and price-based central bank instruments with non-central bank instruments (wage controls, price controls, etc.). Geiger notes that this approach has been successful in the past, but cautions that it contradicts market principles and has distortionary effects on the economy. The author argues that these distortions could be avoided by moving towards price-based instruments alone.

More closely related to the topic at hand, several (S)VAR-based studies have analysed the transmission of monetary policy in China. Dickinson & Liu (2007) use data on total loans and the central bank lending rate over the period 1984–1997 to analyse the effect of monetary policy on output, finding that the influence of the lending rate has increased, which they suggest is a result of the reform of the banking system. Mehrotra (2007) estimates an open economy SVAR model for China using data from 1996 to 2004 and determines that neither interest rates nor exchange rate changes significantly affect price developments. Laurens & Maino (2007) estimate a VAR model for China using data for the period 1994 – 2005 to explore the impact of monetary policy on inflation, and find that the link between interest rates and GDP is weak. Koivu (2009) employs a vector error correction model (VECM) to study the interest rate elasticity of loan demand for the period 1998 – 2007, which is found to have increased, despite a low effect of interest rates on the real economy. Similarly, Sun et al. (2010) use VAR models and VECM to uncover several transmission channels of monetary policy in China between 1996 and 2006, including a bank lending channel, an interest rate channel and an asset price channel. They find that China's monetary policy does affect several real and financial macro variables.

Finally, there are Factor-Augmented VAR analyses which uncover transmission channels of Chinese monetary policy similar to those found in advanced economies (Fernald et al., 2014; He et al., 2013).

While this list is not exhaustive, and although the results of these studies differ in places, if one were to generalise, the findings could be summed up as follows: All of the studies find that interest rates alone are not the only factor of influence, but one of many different factors affecting the real and the financial side of the economy, which are difficult to disentangle (this is often reflected in a lack of significance of the results). At the same time, several studies find an increasing importance of interest rates, suggesting that monetary policy is moving towards price-based measures. Authors generally welcome this trend and encourage its continuation (see, e.g., Conway et al., 2010; Laurens & Maino, 2007).

Aside from the (S)VAR-based literature, there exist several semi-empirical analyses with extensive theoretical sections on China's monetary policy framework which deserve mentioning. One such study is that of Porter & Xu (2009), who demonstrate how the regulation of retail interest rates diminishes the role of market-determined interest rates to act as price signals. Building upon this model, Chen et al. (2013) analyse the impact of different monetary policy instruments used in China and provide a compelling demonstration for how different policy tools may contradict one another when applied in combination. Again building upon the work of the previous authors, He & Wang (2012) model how monetary policy instruments affect market interest rates, which, they argue, are the ultimate means by which the real economy is affected.

Lastly, there exists a body of literature that attempts to capture various aspects of the PBOC's monetary policy stance in a numerical indicator on the basis of a "narrative approach" which traces its roots back to an influential study by Romer & Romer (1989).[4] The narrative approach by Romer & Romer (1989) is a type of event study in the spirit of Friedman & Schwartz (1963) that relies on a text-based analysis of central bank publications for the purpose of constructing a numerical indicator of its monetary policy stance. Several scholars have applied this method to construct a single numerical indicator of the PBOC's general monetary policy stance (e.g. Shu & Ng, 2010; Sun, 2015). Like the original Romer & Romer (1989) study, some of these place great emphasis on identifying *exogenous* policy changes which are unrelated to endogenous policy reactions to changes in the central bank's target variable (for China, e.g., Sun, 2013; Xiong, 2012), while others aim at providing a description of authorities' overall policy stance (again, for China, e.g., Shu & Ng, 2010; Sun, 2015). The narrative approach has also been used to identify policy adjustments that are related to some specific macroeconomic target variable, such as inflation (e.g. Xiong, 2012). We take inspiration from these applications and construct an indicator here that aims to capture the direction and strength of window guidance.

[4]For an overview of an application of the narrative approach to East Asian monetary policies, see Shu & Ng (2010).

2 Institutional analysis

2.1 Monetary authorities

Most discussions of Chinese monetary policy relate the topic to the country's central bank, the PBOC. The PBOC was the only bank in the People's Republic of China's mono-bank system up until the 1980s, when its commercial banking activities were split off into four large state-owned banks (the "Big Four") and the PBOC became the country's de facto central bank, a status that was legally institutionalised in 1995 (Wang & Hu, 2011). Even so, monetary policy in China is not exclusively about the central bank, but more so, and perhaps primarily, about the government and its various subdivisions. Although the PBOC has been granted limited autonomy in several areas, most of its decisions still require approval by the State Council. Competencies between the PBOC and government bodies also overlap in several monetary policy-related areas. For example, the China Banking Regulatory Commission (CBRC) was briefly involved in window guidance policies, which are usually the métier of the PBOC, whereas capital controls are managed by the State Administration of Foreign Exchange (SAFE), an institution acting under the leadership of the PBOC (see Geiger, 2008, on both points). Consequently, when this study refers to "monetary authorities", this includes the PBOC as well as the Chinese Communist Party and the broader government with all departments involved in monetary policymaking and departments which execute policies that affect monetary variables.

2.2 Targets

Due to these multiple layers of agency involved in Chinese monetary policymaking, the PBOC is neither goal-independent nor instrument-independent. According to the 1995 People's Bank of China Act, the PBOC's objective is to "maintain the stability of the value of the currency and thereby promote economic growth" (PBOC, 2003). Geiger (2008) argues that, given the current institutional set-up, this can be interpreted to define a hierarchical goal structure with price stability on top, a less important economic growth target, and an additional exchange rate target. The majority of the literature, including empirical studies, appears to agree with this assessment, especially regarding the dominance of the price stability mandate (Conway et al., 2010; He & Pauwels, 2008; Sun, 2013; Xiong, 2012). Price stability is also an important keyword frequently mentioned in the PBOC's Monetary Policy Committee meeting reports. Other targets that have been mentioned in the literature include employment growth, external balance, as well as financial liberalisation and stability (according to PBOC Governor Zhou, as cited in Liu & Zhang, 2007).

Given these objectives, the PBOC sets intermediate targets for monetary aggregates (M1 and M2) and credit growth, underlining the priority policymakers attach to quantitative measures. In practice, however, these intermediate targets were missed in the majority

of years (often by double-digit percentage deviations) and have lost significance in recent years. Possible reasons for this will be given below, but it shall be mentioned at this point that such deviations are not necessarily related to the specificities of China's monetary policy operations, but may reflect more fundamental difficulties in central bank's quantity-targeting, as similar problems were experienced by central banks in the United States and Europe when targeting monetary aggregates in the past.

2.3 Instruments

Figure 1 presents an overview of the monetary policy instruments used by Chinese authorities, which include both market-based and non-market-based, as well as quantity-based and price-based tools. Market-based instruments involve market transactions between authorities and financial market participants, whereas non-market-based instruments involve direct influence of market participants by regulatory means. Conversely, quantity-based instruments aim at influencing interbank liquidity and monetary aggregates, whereas price-based instruments are used to influence interest rates. Scholars interpret monetary policy tools differently and as such may favour a different classification than the one presented in Figure 1, e.g. with reserve requirements labelled as a non-market-based tool. The point here, however, is not to claim that this is the only plausible taxonomy, but to provide a compact overview of the number and nature of different tools.

Figure 1: Monetary policy tools used in China

	Market-based	Non-market-based
Quantity-based	• Central bank bill issuance amount • (Reverse) Repo amount • Required reserve amount	• Targeted central bank transactions (bills, deposits, lending, foreign currency swaps) • Credit controls/window guidance • Capital controls
Price-based	• Central bank bill rate • (Reverse) Repo rate • (Re-)Discount rate and other lending rates • Interest on (required and excess) reserves	• Benchmark lending and deposit rates • Regulatory controls (e.g. down-payment ratios in mortgage lending)

Source: Authors' compilation, following Shu & Ng (2010), Chen et al. (2013), and Geiger (2008); Geiger (2008) further names price controls and wage controls as non-central bank instruments.

Until the late 1990s, monetary policy operated primarily through direct controls and on the basis of a credit plan by which the government directly influenced lending decisions. Back then, central bank lending was one of the primary policy levers, with the interest rate charged on central bank loans acting as a guiding rate for the broader economy (Dickinson & Liu, 2007). Around the end of the decade, however, open market operations and adjustments of reserve requirement ratios replaced central bank lending as the primary policy tool (Geiger, 2008), so official lending rates are now largely symbolic (Conway et al., 2010; Geiger, 2008; Fungáčová et al., 2016). The end of the 1990s also saw the abolishment of the credit plan (Naughton, 2007, p. 456). Nevertheless, lending decisions are still subject to "window guidance", which will be addressed below.

The PBOC conducts open market operations using PBOC bills, national bonds and bonds issued by financial institutions (policy banks) to influence liquidity in the interbank system (Geiger, 2008). Aside from outright transactions, repurchase agreements are frequently used to inject (repo) or drain (reverse repo) bank reserves temporarily. Central bank bills were used in open market operations especially during the first decade of the new millennium to sterilise foreign exchange inflows and outflows, i.e. to offset their effect on the domestic money base. Since then, this task has been largely taken over by required reserves (Ma et al., 2013), as reflected in the PBOC's balance sheet shown in Figure 2.

Reserve requirement ratios were introduced in 1984 and have been adjusted only infrequently until 2004, when authorities introduced ratios that differed by size of the financial institution (Geiger, 2008). Unlike in most major advanced economies, there have been no averaging provisions for required reserves until very recently (Yao et al., 2015). When a commercial bank failed to meet its required reserve target at the end of any given business day, it received an overdraft from the central bank to which a penalty interest rate was being applied (IIMA, 2004). Meanwhile, interest rates on required and excess reserves are relatively low and adjusted very infrequently, which allows the central bank to avoid a negative spread between the interest rate it receives on its foreign assets versus the interest rate it pays on its domestic liabilities ("quasi-fiscal costs").[5] With declining interest rates abroad and an appreciating currency, this has become more difficult, however.

At times, the PBOC also conducts selective transactions targeting specific banks. Examples of such transactions include targeted bill issuance or foreign currency swaps (Shu & Ng, 2010). The goal is often to adjust interbank liquidity, but this channel has also been used to request that banks make penalty deposits with the PBOC when they disregard window guidance (Chen et al., 2013). On the opposite side, the central bank has sometimes provided special funds at lower costs to particular industries or regions (Sun, 2013). These non-market-based instruments are accompanied by capital controls as another lever to control liquidity in the interbank market.

[5] These "quasi-fiscal" sterilisation costs are frequently raised as arguments against a yuan-dollar peg. Yet, several studies have found these costs to be low or negative up until at least 2005 and potentially much longer (e.g. Wang & Hu, 2011; Cappiello & Ferrucci, 2008; Green, 2005; Qu, 2005).

2.4 Interest rates

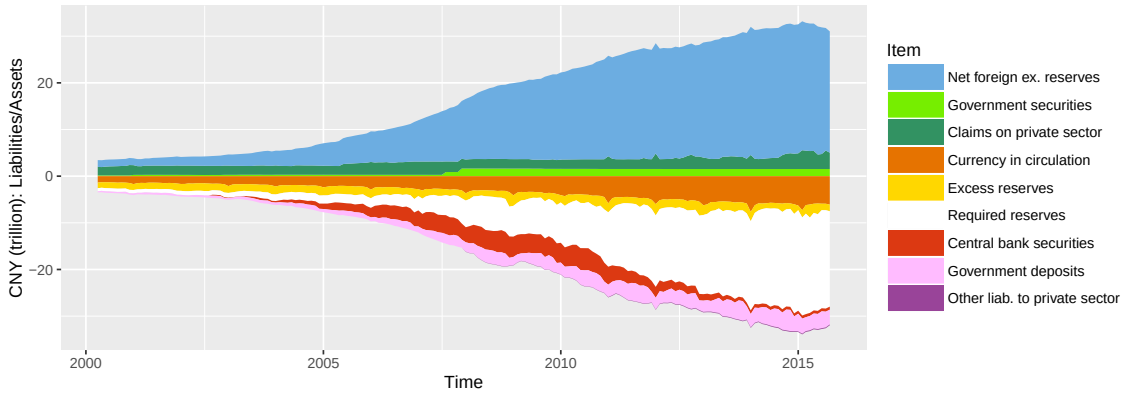
Besides quantity-based policy tools, Chinese monetary authorities also employ a variety of price-based policy tools. The two rates most popularly quoted for interbank overnight transactions are the China Interbank Offered Rate (CHIBOR) and the Shanghai Interbank Offered Rate (SHIBOR). The CHIBOR, available since 1996, is a transaction-based rate which refers to the weighted average of the actual transactions taking place in the interbank market. The SHIBOR, available since 2006, is a quote-based rate (similar to LIBOR, the London Interbank Offered Rate) which represents the daily average of the lending rates quoted by major banks. SHIBOR rates are available also when there are no market transactions taking place, but banks are not obliged to trade at their quoted rates. CHIBOR and SHIBOR rates tend to move together closely with repo rates and PBOC bill yields (Conway et al., 2010; Sun, 2015; Porter & Xu, 2009).

While the discount window used to be an important policy tool (Dickinson & Liu, 2007), lending from the PBOC has not played a major role between the turn of the century and 2014-15, when the PBOC introduced the Medium-Term Lending Facility (Wang & Hu, 2011; PBOC, 2015). Similarly, interest rates on required and excess reserves are very low and adjusted very infrequently. Another particular feature of the Chinese monetary system is the presence of benchmark rates specifying targets and accompanying tolerance bands for retail loan and deposit rates. These benchmarks are adjusted from time to time, e.g. in 2004 the lending rate ceiling and deposit rate floor were abolished, and in 2007 the tolerance bands around the benchmark rates were widened. In June 2013, then, the lending rate floor was abolished (Sun, 2015). So long as the benchmark rates are binding, this arrangement crates *reverse transmission* from retail rates to wholesale rates (Chen et al., 2013), the opposite of what would be expected without these limits. In addition to these measures, the PBOC has the authority to use regulatory means to affect financial prices, e.g. the adjustment of the proportion of down payments in mortgage lending (Shu & Ng, 2010).

2.5 Window guidance

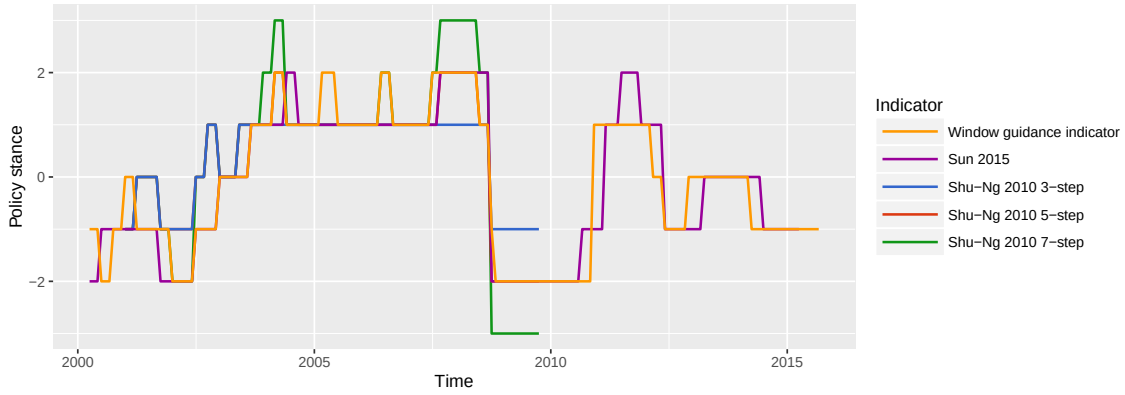
Not all of the policy tools described can be quantified, since necessary information is not always available. This applies first and foremost to window guidance, which Geiger (2008) defines as a "policy [that] uses benevolent compulsion to persuade banks and other financial institutions to stick to official guidelines". Window guidance is a process by which the central bank applies pressure on financial institutions so that they adjust their lending

Figure 2: Balance sheet of the People's Bank of China



Note: The outstanding amount of required reserves is approximated using data on the average reserve requirement ratio and total demand and savings deposits in the banking system.
Source: IMF International Financial Statistics, People's Bank of China

Figure 3: Comparison of window guidance indicator with prominent monetary policy indicators



Note: The "window guidance indicator" is the indicator constructed here to capture the influence of window guidance, whereas the other series are monetary policy indicators constructed by other authors to capture the general monetary policy stance of the PBOC.
Source: Shu & Ng (2010); Sun (2015); authors' calculations

volumes. This policy was commonly used in Japan during the period from 1961 to 1991, which Rhodes & Yoshino (1999) examine and find to be effective using publicly available information on target quotas set by the BOJ.

The Chinese system of window guidance is closely modelled on the Japanese system and is frequently named as one of the most important policy tools of the PBOC (Geiger, 2008; Green, 2005). Authors tend to see window guidance policies as effective (e.g. Lardy, 2005; Green, 2005; Fukumoto et al., 2010; Chen et al., 2013) in particular when other tools are ineffective or fail to constrain credit growth. Geiger (2008) calls attention to the fact that the PBOC governor ranks above commercial bank officials in Chinese political hierarchy, and that the PBOC can influence the appointment of senior personnel at commercial banks, suggesting these as potential reasons for the effectiveness of the PBOC's "moral suasion". At the same time, authors frequently highlight downsides of the practice, such as disadvantaging commercial banks that fail to comply with PBOC guidelines, creation of non-performing loans, misallocation of funds, efficiency losses and macroeconomic distortions (e.g. Conway et al., 2010; Geiger, 2008).

The scope of the application of window guidance is unknown, as the actual target quotas are not released to the public. Some insight into the practice can be gained from the quarterly reports of the PBOC's Monetary Policy Committee meetings and the PBOC's Monetary Policy Reports, however, which provide information on the central bank's reading of the macroeconomy and liquidity conditions together with some information on its window guidance policy.[6] These documents are assumed to reflect the PBOC's intentions more directly than other policy measures (which are subject to approval by the State Council), so we apply a text-based analysis of these documents along the lines of the "narrative approach" pioneered by Romer & Romer (1989) to extract this information and capture it within a numerical "window guidance indicator".

To do so, we classify the tone of statements related to window guidance and credit growth from the PBOC's Monetary Policy Committee meeting reports and its Monetary Policy Reports and assign a score on a 5-step scale of "very expansionary" (-2), "expansionary" (-1), "neutral" (0), "contractionary" (1), and "very contractionary" (2). This follows previous prominent indicators of the PBOC's overall monetary policy stance constructed by Shu & Ng (2010) for the period 2001 Q1 to 2009 Q2, and Sun (2015) for the period 2000 Q1 to 2014 Q4. Our indicator differs in purpose and design from their indicators in several respects, however: While we, too, interpret a change in emphasis or a change in the topics stressed as an indication of a change in policy, we are less concerned with the central bank's overall monetary policy stance and pay more attention to credit-related statements. Another area where the approach taken here differs from previous studies is in the interpretation of documents as "as is" assessments of the situation, i.e. as the

[6]The PBOC reports on its window guidance meetings with commercial banks in its Monetary Policy Reports. The PBOC also occasionally publishes notices aiming at curbing lending in particular sectors of the economy (Conway et al., 2010).

central bank's reading of the situation as it is *at any point in time*. This is warranted since reliance on an ex post interpretation (where reports are understood to reflect policies conducted in the preceding period), would carry the danger of exaggerating the central bank's ability to forecast the economy and thus overstate the role of window guidance.[7]

It should be reiterated at this point that the indicator constructed here can only be an approximation of window guidance, however. A central challenge in applying text-based analysis to central bank documents is the divergence of "words" and "deeds", as the central bank may not necessarily be able to follow through on its intentions (Shu & Ng, 2010), or because its actions are amplified or counteracted by other monetary policy tools. Another criticism levelled against the narrative approach is that the value assignment depends on the interpretation of the researcher reading the documents and so is inherently subjective (Bernanke & Mihov, 1998). These are valid concerns, but they do not outweigh the problems associated with omitting window guidance altogether. The difference between words and deeds is a less pressing concern within the application here, as window guidance is an area where the PBOC enjoys relatively substantial discretion. Subjectivity is certainly an issue, but other indicators can serve as a benchmark for comparison (see Figure 3), and indeed, the correlation between the indicator here and the 5-step indicators of Shu & Ng (2010) and Sun (2015) is 0.9 in both cases.[8] Finally, the fact that our results shown below mirror anecdotal evidence on window guidance leads us to believe that this method of accounting for window guidance is a valid approach.

As a final note, it shall be pointed out that the future extendibility of this approach is not necessarily guaranteed. Chinese monetary policy appears to be undergoing a period of structural change, and the latest Monetary Policy Committee reports do not vary a lot from one quarter to the next. Similarly, recent issues of the Monetary Policy Report mention window guidance considerably less frequently than before. While the downturn of the Chinese economy in late 2015 has prompted authorities to adjust policy levers so as to support the domestic economy, recent reports issued by the PBOC are strikingly devoid of any reference to the situation. It is too soon to tell whether this represents a deliberate attempt by the central bank to maintain a level of discipline in the financial sector, or a fundamental shift in its public communication strategy as financial market observers appear to think (Mitchell, 2016).

[7] This point is best illustrated by the Monetary Policy Committee meeting report issued on 10 October 2008, which contains considerably more cautious language than the Monetary Policy Report issued subsequently in 11 November 2008, when the Global Financial Crisis hit China. This inconsistency has also been noted by Sun (2015). Instead of assigning the stronger value ex post, the indicator constructed here records different values for each month.

[8] The indicator constructed here further correlates with the frequency of certain key words, i.e. specific words appear more often in periods of tightening, e.g. "inflation", while others appear more often in periods of easing, e.g. "development", which generally supports the assignments given. Key phrases and signal words corresponding to the five categories, from "very expansionary" (-2) to "very contractionary" (+2) are provided in the appendix.

2.6 Comparison with price-based regimes

Given these features, the Chinese monetary system differs substantially from those of other major economies. In those economies, the central bank is granted a degree of independence from the general government and assigned a price stability target, which it is charged to achieve by instruments of its own choosing. Central banks typically rely on the interbank overnight interest rate as their primary policy instrument, which is adjusted by signalling a new target rate to market participants, engaging in open market operations (i.e. injection of reserves to lower the interbank rate or withdrawal of reserves to raise it), or by lending to financial institutions. Reserve requirements, *where still present at all*, are low and not adjusted frequently. Interest rate movement is bounded by the discount rate and interest on excess reserves (or a deposit facility). The wholesale interbank overnight rate established within this system is transmitted to retail rates, which are in turn assumed to affect activity in the real economy.

The transmission of monetary policy in China, in contrast, is more complex and blurred by the simultaneous application of different classes of tools as well as the simultaneous targeting of multiple objectives. Authorities use a large number of tools to affect aggregate variables ("intermediate targets", including growth rates for bank credit, M1, M2 and central bank reserves) as well as real economic variables ("final targets", including GDP growth, employment and inflation), which often produces outcomes that are difficult to interpret, including large deviations of M1 and M2 growth rates and highly volatile interest rates. Depending on the direction in which tools move, they may further offset or even counteract each other, so the resulting interbank rate may move in an unexpected direction (Chen et al., 2013). Structural constraints, such as underdeveloped financial markets, credit controls, high volatility of market liquidity, segmentation of credit markets, and interest rate insensitivity of market participants,[9] are further said to limit the amount of information conveyed by interest rates (Shu & Ng, 2010; Xiong, 2012; Ma et al., 2016).

Nevertheless, it is worth keeping in mind that the transmission from interbank interest rates to macroeconomic variables is also less than clear in many advanced economies,[10] despite their more straightforward institutional set-ups, so the difficulties outlined above may not necessarily be related to the specificities of Chinese monetary policymaking. Indeed, studies have found that a relatively stable yield curve is emerging and that the interest rate channel is becoming increasingly influential in China (Conway et al., 2010). So long as there is no indication that the PBOC is going to switch to a single-instrument regime (Sun, 2015), however, an examination of the interaction of different tools and their transmission towards the macroeconomy is a worthwhile endeavour.

[9] Conway et al. (2010) and Geiger (2008) relate the interest rate insensitivity of market participants to the dominance of big banks in the interbank market and the lack of a profit motive in the state-owned sector.

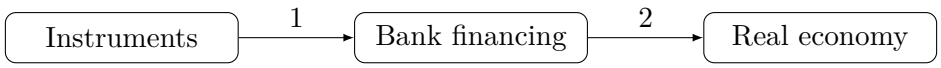
[10] Microeconomic analyses, in contrast, provide clearer results (e.g., for Japan, Nagahata & Sekine, 2005).

3 Empirical analysis

3.1 Methodology

The goal of the following analysis is twofold: The first objective is to gain an understanding of how the different monetary policy tools presented interact and how they affect commercial banks' provision of financing to the private sector. The second objective is to elucidate how bank financing then influences the broader economy. While the body of literature on monetary policy transmission is vast, offering a variety of potential transmission channels to study,[11] the analysis presented here shall limit itself to exploring the transmission from different monetary policy instruments to bank financing, and from bank financing to the macroeconomy. The effectiveness of window guidance and the interbank overnight rate are of particular interest.

Figure 4: Two-step estimation approach



The first part of this analysis is conducted using exogeneity tests and SVAR models. The exogeneity test is based on the seminal paper by Revankar & Yoshino (1990), who establish a test to determine whether the interbank rate satisfies the theoretical conditions for exogeneity vis-à-vis money markets. The SVAR model, then, studies the effect of different tools on domestic bank financing, in order to gauge the strength of each channel. While the exogeneity test is more rigorous on theoretical assumptions, the SVAR model is more exploratory in nature. Contrasting the results from both approaches shall, it is hoped, provide the desired insight.[12] Finally, the second part of the analysis relies on simple bivariate VAR models and standard Cholesky-type causal orderings to determine how bank financing affects several macro variables.

Both estimation steps rely on publicly available data. In addition, the first step incorporates information from the window guidance indicator constructed in accordance with the Romer & Romer (1989)-type of text-based analysis described above. The purpose is to approximate the analysis of Japanese window guidance by Rhodes & Yoshino (1999) and obtain results that, ideally, allow for some careful comparison of the role of window guidance in both economies.

[11] See Taylor (1995) for an introductory exposition on monetary policy transmission.

[12] Note that this study deliberately does not apply Granger causality tests so as to avoid the *post hoc ergo propter hoc* fallacy (i.e. "Christmas cards causing Christmas"), since anticipatory effects are common in interbank markets where financial institutions take positions *before* authorities adjust policy levers.

3.2 Data and structural characteristics

The main variables relevant to the analysis at hand are shown in Figure 5 and Figure 6, including: Adjustments of the average reserve requirement ratio $RRRC$, the average of benchmark deposit and lending rates $BNCH$, our window guidance indicator WGI (with $WGI \in [-2\,..\,,2]$, where negative values stand for loosening, positive values stand for tightening), the interbank overnight rate $IBOR$, percentage growth of bank financing $BFPC$, percentage growth of the money base $MBPC$, percentage growth of M1 and M2 monetary aggregates $M1PC$ and $M2PC$, percentage change of the yuan-dollar exchange rate $XRPC$, as well as the year-on-year percentage change of retail sales $RSYOY$, industrial value added $IVYOY$, fixed asset investment $FIYOY$, consumer prices $CPIYOY$ and producer prices $PPIYOY$.

Percentage growth rates such as $M1PC$ are defined as $\Delta \log M1 \cdot 100$. Similarly, percentage changes such as $RRRC$ are defined as ΔRRR. Explicitly *not* included are data on interest paid on required/excess reserves and data on lending/discount rates, as those rates seem to have played only symbolic roles during the period of analysis, as explained above.

Monthly-frequency data covering the period from April 2000 (when the first Monetary Policy Committee meeting report was published) to September 2015 (the latest date for which the central bank reports were available at the time of writing) has been obtained from the International Monetary Fund (IMF) and Chinese authorities. All series were subjected to unit root tests in order to ensure stationarity or trend-stationarity. Where necessary, series were transformed to month-on-month or year-on-year (to remove seasonal effects) percentage changes. The one borderline case where there was some uncertainty about growth behaviour was $RSYOY$, as the Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test rejected the null hypothesis of stationarity at 5% level for this series, but not at 1% level. Detailed unit root test results are reported in the appendix.

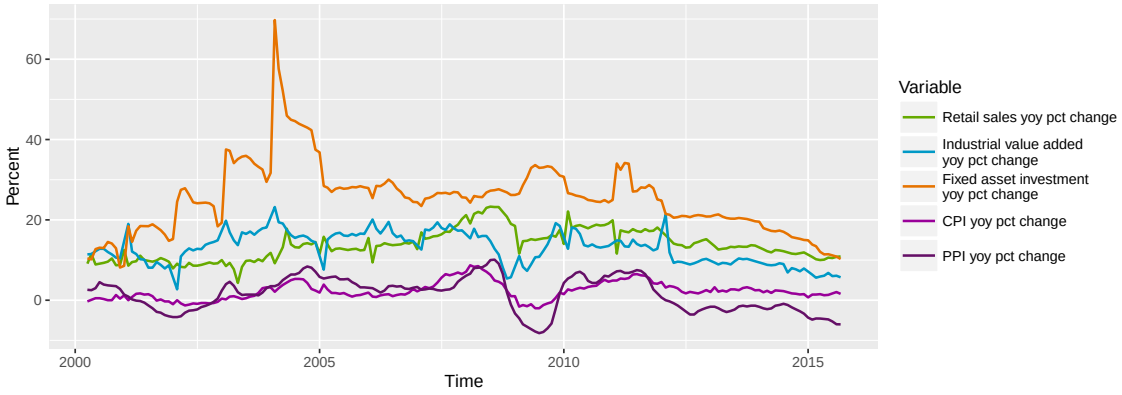
While all analyses will focus primarily on the full sample period to gain an overall picture of the dynamics of Chinese monetary policy, interest also lies in the evolution of these dynamics over time. A Chow test for structural breaks has been conducted to determine whether the growth rate of bank financing has remained constant over the full sample period, and although the F test results presented in Figure 8 do not indicate a *strong* rejection of the null hypothesis of constant growth (i.e. no structural break), credit and monetary aggregates in level terms do evidently change at the indicated break point, as shown in Figure 7. Indeed, the break point at November 2008 marks the time when the Global Financial Crisis hit China, which was followed by strong credit expansion, so the sample is split at that date.

The topic of structural breaks is not explored further, however, simply because the sheer number of institutional changes the Chinese monetary system has undergone within the period studied would potentially yield a large number of structural breaks. Examples

Figure 5: Major monetary policy-related variables

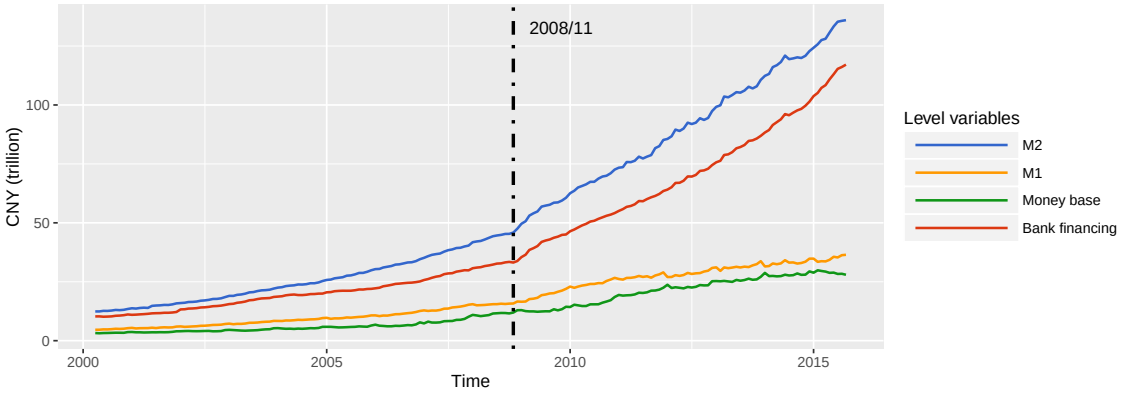
Source: IMF International Financial Statistics, People's Bank of China, Finance Yearbook of China, National Bureau of Statistics of China

Figure 6: Major real economic variables



Source: IMF International Financial Statistics, National Bureau of Statistics of China

Figure 7: Growth behaviour of credit and monetary aggregates in level terms



Source: IMF International Financial Statistics

are the changes of the exchange rate regime in 2005, 2008 and 2010, the switch to reserve requirements as the primary sterilisation tool in 2007, the numerous adjustments of benchmark retail interest rates as well as the period of the Global Financial Crisis and the accelerating loan growth in the period after the crisis. Firms' increasing reliance on commercial paper markets and the associated declining role of banks and benchmark rates are other potential sources of complication (Conway et al., 2010). Finally, as indicated above, monetary policy in China appears to be undergoing another period of change as judged by the paucity of substance in recent Monetary Policy Committee reports. Splitting the sample into smaller parts as indicated by these breaks would make the desired estimations infeasible for lack of degrees of freedom.

Figure 8: Chow test for structural change

H_0: Constant growth rate of bank financing

F test
Statistic = 6.481, p-value = 0.1326, break point = 2008/11

3.3 Exogeneity test

First, the Revankar & Yoshino (1990) exogeneity test is replicated for China to determine whether the interbank overnight interest rate is exogenous in the Chinese monetary system. The following simultaneous equation model is specified for this purpose:

$$M1PC_t = MBPC_t + IBOR_t + RRRC_t + WGI_t + u_{1t} \quad (1)$$

$$M1PC_t = IBOR_{t-1} + BNCH_t + IVYOY_t + u_{2t} \quad (2)$$

$$IBOR_t = MBPC_t + M1PC_{t-1} + IBOR_{t-1} + RRRC_{t-1} + CPIYOY_{t-1} + IVYOY_{t-1} + XRPC_{t-1} + u_{3t} \quad (3)$$

The Revankar & Yoshino (1990) exogeneity test is based on the null hypothesis of exogeneity of the interbank overnight rate ($IBOR_t$), given by equation 3 (this can be regarded as a type of Taylor rule), vis-à-vis the money market described by equations 1 and 2. The interbank rate is judged to be exogenous if $Cov(u_{3t}, u_{1t}) = 0$ and $Cov(u_{3t}, u_{2t}) = 0$, as determined by the test. In comparison to other exogeneity tests, the test applied here has attractive properties such as higher power when the null hypothesis and alternative hypothesis are very close.[13] While the Revankar & Yoshino (1990) exogeneity test allows for a wide range of possible model specifications, attention here focusses on the growth of M1, as monetary aggregates move considerably faster than other macroeconomic variables and because the frequency of the available data limits the possible modelling choices.

[13]Readers are referred to the original paper by Revankar & Yoshino (1990) for more details.

Industrial value added, inflation and exchange rate movements are thus treated as given for present purposes, as attention here is restricted to the money market given by equations 1 and 2.

Figure 9: Revankar-Yoshino exogeneity test for full sample

H_0: Exogeneity of interbank overnight rate vis-à-vis domestic money markets

Chi-square test
$\chi^2 = 58.1857$, df $= 2$, p-value $= 0.0000$

Figure 10: Revankar-Yoshino exogeneity test for subsamples

H_0: Exogeneity of interbank overnight rate vis-à-vis domestic money markets

Pre-crisis: 2000/4-2008/11	Post-crisis: 2008/12-2015/9
Chi-square test	Chi-square test
$\chi^2 = 30.1654$, df $= 2$, p-value $= 0.0000$	$\chi^2 = 3.9815$, df $= 2$, p-value $= 0.1366$

As shown in Figure 9, the Revankar & Yoshino (1990) test is based on a Chi-square test. On the basis of the full sample period, this test indicates a clear rejection of the null hypothesis of interbank rate exogeneity. Applied to the subsample periods, as shown in Figure 10, the test rejects the null hypothesis for the pre-crisis sample but fails to reject the null hypothesis for the post-crisis sample. Exogeneity of the interbank overnight rate thus appears to change depending on the sample period chosen: Whereas the interbank overnight rate is not exogenous over the full sample period and the pre-crisis sample, the test indicates that it is exogenous within the post-crisis sample.

3.4 Structural VAR model

Next, the interaction of monetary variables is analysed using an SVAR model to understand how each policy instrument relates to the growth rate of bank financing. The SVAR model takes the general form of

$$AY_t = C_0^* + C_1^* t + A_1^* Y_{t-1} + A_2^* Y_{t-2} + Be_t \tag{4}$$

where Y_t is given by $Y_t = \begin{bmatrix} RRRC_t & BNCH_t & WGI_t & IBOR_t & BFPC_t \end{bmatrix}^T$.

The model has a lag order of 2, as indicated by the Hannan-Quinn information criterion. The starred matrices on our lag terms (A^*) and the matrices on our deterministic terms (C^*) are unrestricted. The matrix B is a square matrix with unrestricted elements on the main diagonal and zeros elsewhere. The matrix A specifying the contemporaneous relation of the endogenous variables is restricted as follows:

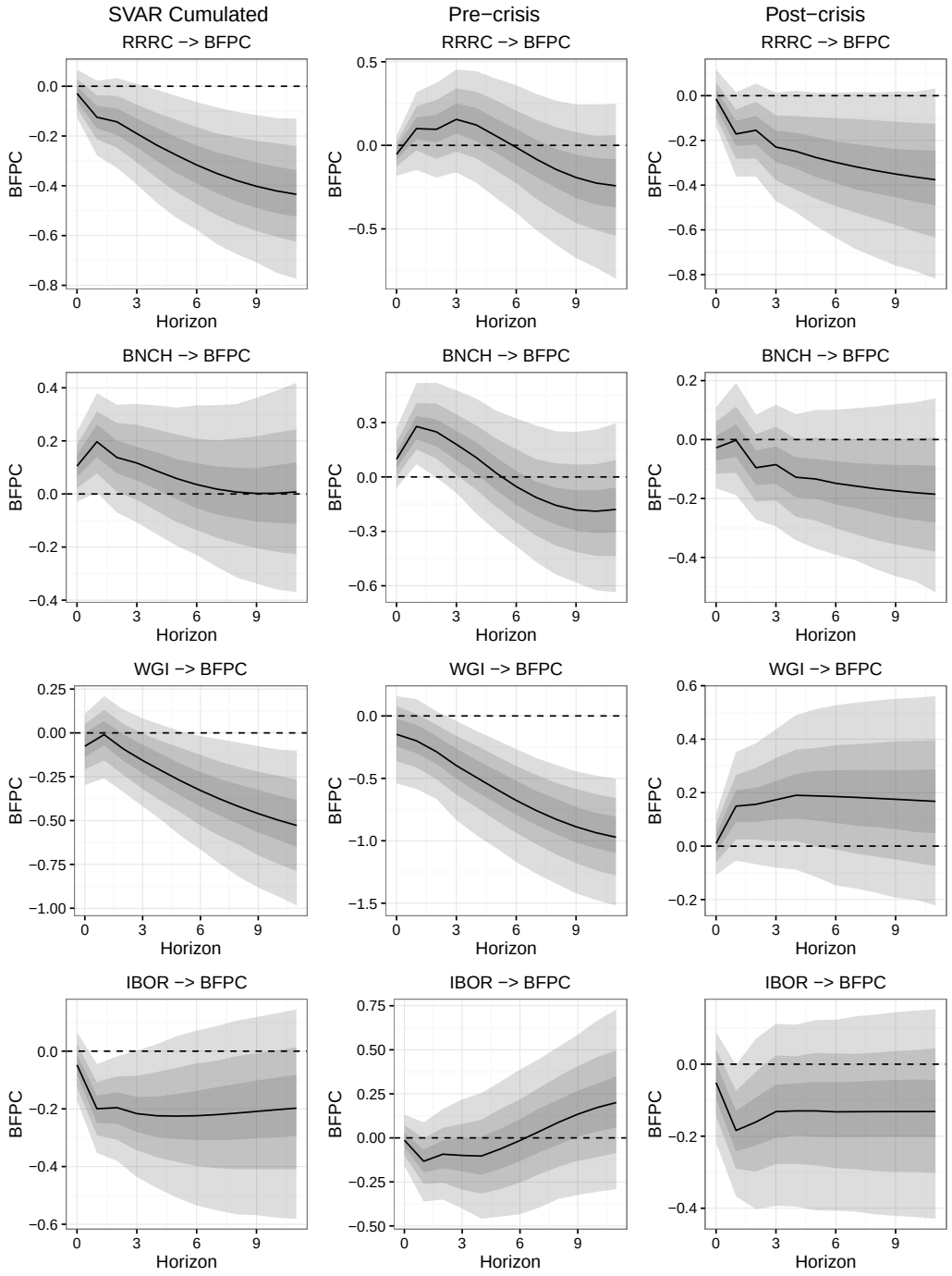
$$A = \begin{bmatrix} 1 & 0 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ a_{31} & a_{32} & 1 & 0 & 0 \\ a_{41} & a_{42} & a_{43} & 1 & 0 \\ a_{51} & a_{52} & a_{53} & a_{54} & 1 \end{bmatrix}$$

This identification strategy is based on a simple Cholesky-type causal ordering of the variables on top of which a zero restriction is placed on the contemporaneous correlation between reserve requirement ratio adjustments ($RRRC$) and benchmark rates ($BNCH$). In other words: It is assumed that reserve requirement ratio adjustments and benchmark rates contemporaneously affect window guidance (WGI), the interbank overnight rate ($IBOR$), and bank financing growth ($BFPC$), but that the reverse is not true. In addition, reserve requirement ratio adjustments are assumed not to be contemporaneously associated with benchmark rates.

In essence, this identification strategy exploits features of Chinese monetary policymaking, specifically the time lag inherent in policy implementation. Since adjustment of official policy levers is subject to approval by the State Council, any proposal for such an adjustment sets into motion a political process. Between the time a proposal is submitted to the State Council and the time a change becomes implemented can lie several months (He & Pauwels, 2008; Geiger, 2008; Fungáčová et al., 2016). The PBOC is understood to have greater discretion over adjustments of the reserve requirement ratio, however, whereas benchmark rates are controlled by the State Council more stringently and typically adjusted only later (Fungáčová et al., 2016). As such, these two instruments are put first in the causal ordering and simultaneous association between them is ruled out. Together, they are assumed to affect window guidance, since it is reasonable to expect policymakers to take into consideration the position of other policy variables when adjusting their window guidance stance. Reserve requirement ratio adjustments, benchmark rates and window guidance are in turn assumed to affect the interbank overnight rate contemporaneously, since all of these variables affect the price of liquidity. Finally, all variables are assumed to affect bank financing contemporaneously. The system is thus over-identified.

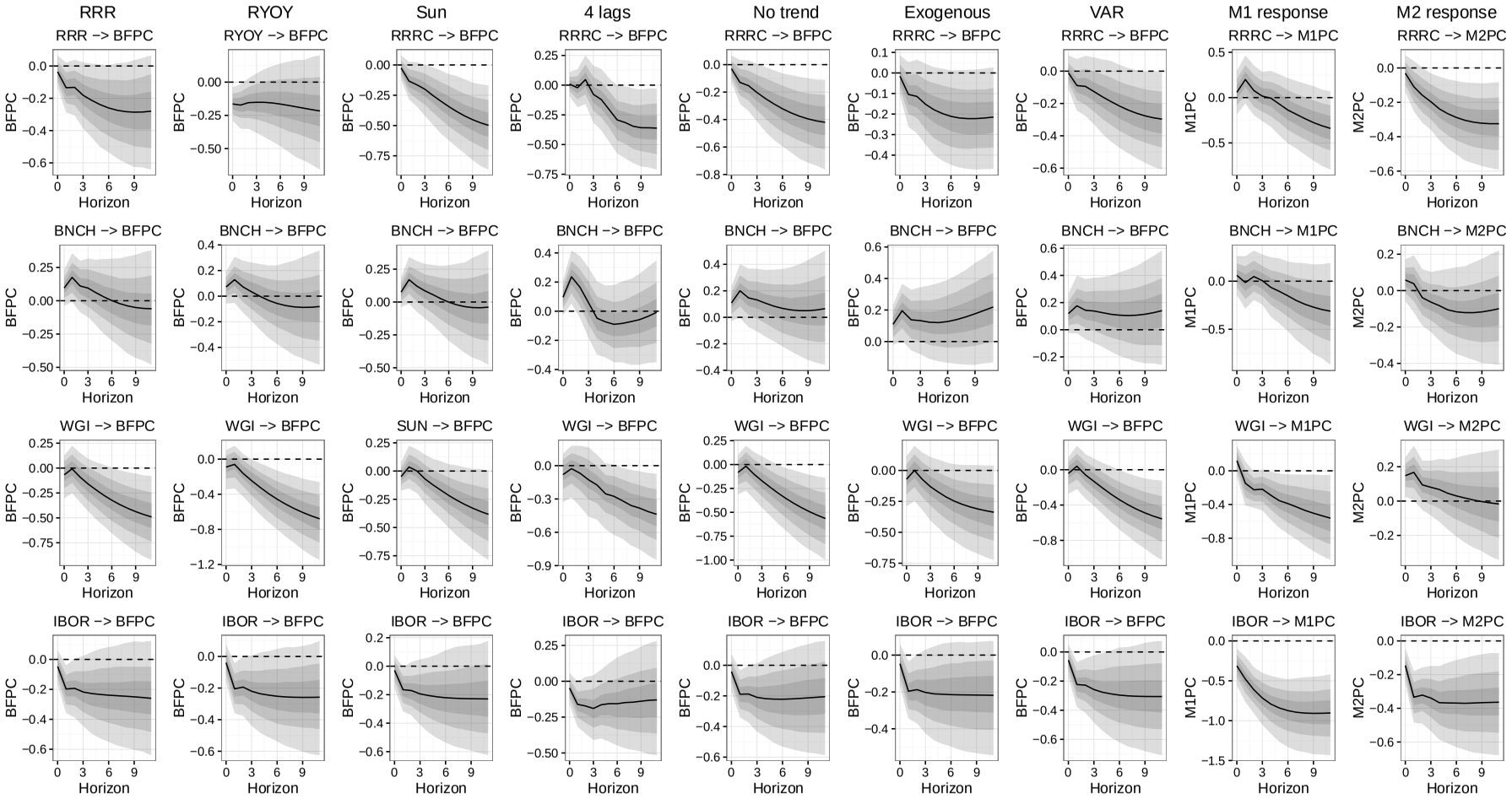
While identification is a complex problem that the present study cannot claim to have solved conclusively in terms of the research question at hand, the procedure chosen is in line with the qualitative analysis laid out in the beginning of this study, the findings of

Figure 11: Step 1 estimations: Cumulated impulse responses



Impulse responses of bank financing growth ($BFPC$) to one standard deviation shock of other endogenous variables, 12 period forecast, 90%, 68% and 38% bootstrapped confidence bands
Full sample, pre-crisis and post-crisis periods

Figure 12: Robustness checks for step 1 estimations: Cumulated impulse responses



Cumulated impulse responses, 12 period forecast, 90%, 68% and 38% bootstrapped confidence bands

Selected robustness checks: (1) Reserve requirement ratio in levels (RRR); (2) Year-on-year change of reserve requirement ratio ($RYOY$); (3) Monetary policy indicator by Sun (2015) (SUN); (4) Higher lag order; (5) No trend; (6) With exogenous; (7) VAR with reverse ordering; (8) M1 growth rate ($M1PC$); (9) M2 growth rate ($M2PC$)

previous studies and data availability constraints. The Likelihood Ratio test for validity of the overidentifying restrictions also failed to reject the identification strategy (p-value of 0.4). This affords for some confidence in the chosen identification. Further, to determine the robustness of the results derived on the basis of the model specified, alternative specifications will be estimated.

Figure 11 shows the cumulated SVAR impulse responses of bank financing growth ($BFPC$) to shocks originating from the four monetary policy tools under study, together with 90%, 68% and 38% bootstrapped confidence bands (after 1000 replications) for the full sample period as well as the pre-crisis and post-crisis subsample periods. Level responses are not shown here as interest lies in the cumulated effect of the variables and because of the high degree of uncertainty involved in tracing out the effects of monetary policy, which commonly results in a low degree of significance of level responses at many horizons (this is a common problem in the empirical analysis of monetary policy transmission not exclusive to China). The cumulated SVAR responses are more revealing by comparison.

Upward adjustment of the reserve requirement ratio ($RRRC$) appears to affect bank financing growth negatively, although subsample responses show that this effect is sustained only in the post-crisis sample. A rise in benchmark rates ($BNCH$) appears ineffective, considering that it seems to be associated with a significant *increase* of bank financing, as opposed to the theoretically expected *decrease*. This may be a result of the lagged adjustment of benchmark rates, the tendency to adjust benchmark rates when credit growth is high already, or greater credit growth induced by higher lending rates, although a somewhat significant contractionary effect is present in the post-crisis sample. A contractionary window guidance stance (WGI), then, is associated with a lasting decrease of bank financing, suggesting that the policy is indeed playing an effective and influential role. Most interestingly, window guidance appears to have a strong and significant contractionary effect in the pre-crisis sample, but a significant and negative expansionary effect in the post-crisis sample. Finally, increases of the interbank overnight rate ($IBOR$) also have a largely contractionary effect on bank financing. Looking at subsample responses, this effect only remains in the post-crisis sample, however.

3.5 Robustness

Variations of the SVAR estimation procedure for the full sample can provide insight regarding the robustness of the overall impulse responses and the consistency of each of the tools analysed. Towards this end, the model specification is modified in nine different ways. First, reserve requirement adjustments ($RRRC$) are replaced by the reserve requirement ratio (RRR) in level terms. Second, reserve requirement adjustments ($RRRC$) are again replaced by year-on-year reserve requirement ratio changes ($RYOY$). Third, the window guidance indicator (WGI) is replaced by Sun's (2015) indicator. Fourth, the lag order of the model is raised from 2 to 4. Fifth, the trend term is removed. Sixth, one-

period lags of industrial value added growth ($IVYOY$), exchange rate percentage changes ($XRPC$) and CPI growth ($CPIYOY$) are added as unrestricted exogenous variables in the model specification. Seventh, a standard VAR model is estimated and cumulated impulse responses are calculated using a Cholesky-type causal order which is the reverse of the order of vector Y_t assumed above. Finally, two alternative models are estimated where M1 percentage growth ($M1PC$) and M2 percentage growth ($M2PC$) replace bank financing growth ($BFPC$) as the primary response variable. Figure 12 shows the cumulated impulse responses obtained from the corresponding estimations.

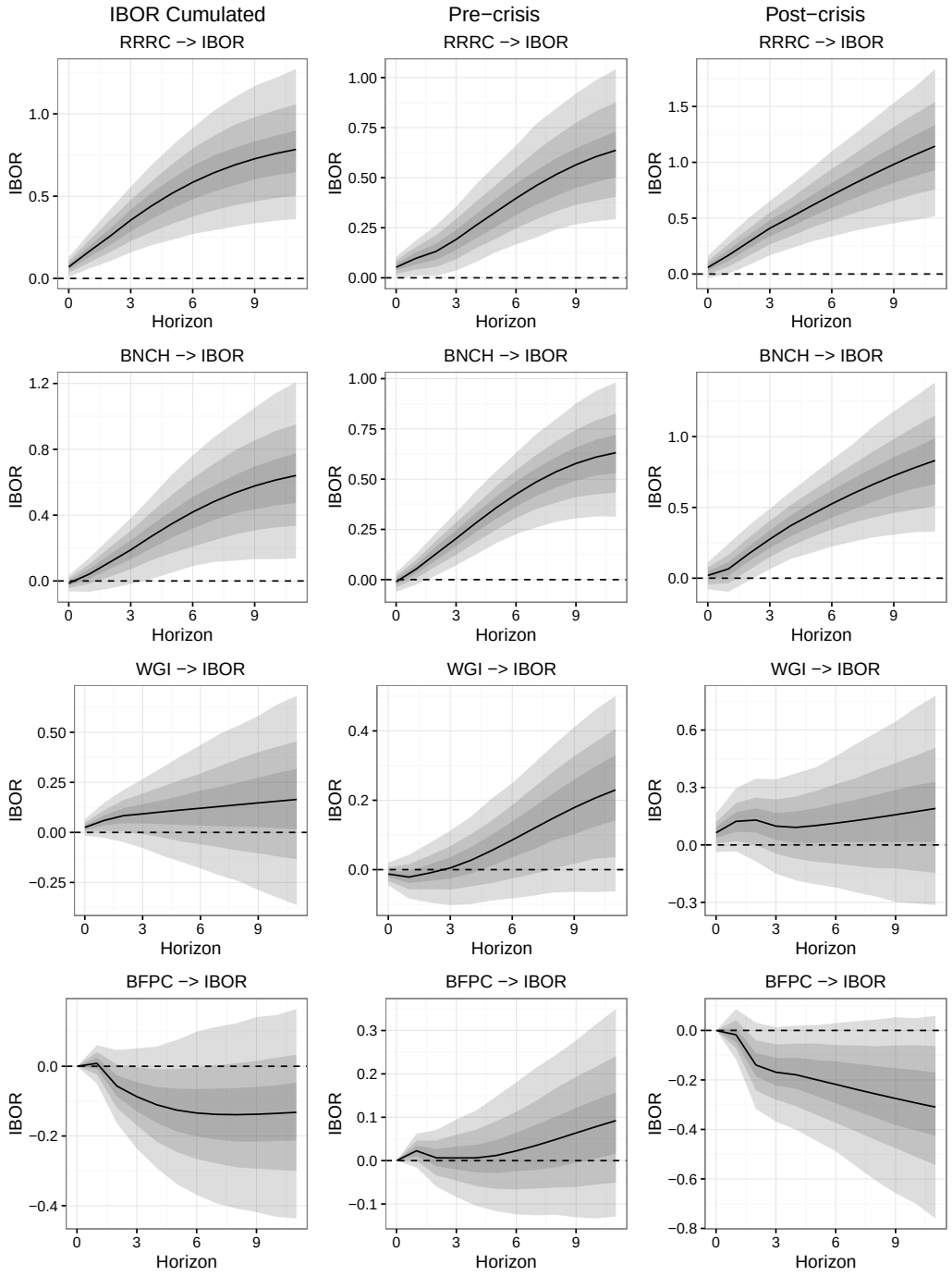
Upward adjustments of reserve requirement ratios generally appear to have a decreasing effect on bank financing, but the significance and strength of the effect varies depending on the actual model specification. A clear downward impact is observable in the models with Sun's (2015) indicator, the model with a higher lag order, the model omitting a trend term and the model with M2 growth. In other models, the impact of reserve requirement ratio adjustments is considerably less significant or even indeterminate. Benchmark rates appear positively associated with bank financing across most models, although significance of this effect is comparatively low. In the models with a higher lag order as well as the models with M1 and M2 growth, the respective impulse response graphs even change signs at several horizons, suggesting that the tool may indeed be inefficient.

The response of window guidance is largely unchanged, irrespective of whether Sun's (2015) indicator or that constructed here is used to approximate it, suggesting a consistent interpretation of PBOC reports between both authors. Contractionary window guidance has a consistently negative impact on bank financing that is significant (especially on higher horizons) in all model specifications, except the model with M2 growth. Finally, the interbank overnight rate has a consistently negative significant effect on bank financing in all alternative models that is *at least* marginally significant. Most notably, the sign and shape of the respective impulse response graphs are consistent across *all* model specifications, with the responses in the final two models with M1 and M2 growth rates being the most significant. The quantitative impact of the interbank rate is also particularly pronounced in these two models, suggesting that a future examination focussing on M1 or M2 may be able to provide further evidence for the potency of the interbank rate as a policy tool.

3.6 Interbank rate effects

The foregoing analysis has shown that window guidance and especially the interbank overnight rate have the most consistent effects on bank financing. To complement this picture, Figure 13 also shows the cumulated impulse responses for shocks to the interbank overnight rate derived from the original model. In particular, reserve requirement adjustments and benchmark rate adjustments appear to have strong and significant effects on the interbank overnight rate. In contrast, the effects of window guidance and bank financing growth on the interbank rate are indeterminate or less significant.

Figure 13: Cumulated impulse responses of interbank overnight rate



Impulse responses of interbank overnight rate ($IBOR$) to one standard deviation shock of other endogenous variables, 12 period forecast, 90%, 68% and 38% bootstrapped confidence bands
Full sample, pre-crisis and post-crisis periods

3.7 Real economic effects

The second estimation step is based on pairs of bivariate VAR models that include bank financing growth ($BFPC$) and one real economic variable, for which impulse responses are calculated using a standard Cholesky ordering where bank financing growth comes first. Several real economic variables which share a close relationship with GDP components and for which monthly-frequency data was available have been selected.

Bank financing appears negatively associated with year-on-year sales growth ($RSYOY$) over the full sample period, although this effect is only significant at the lowest 38% significance level. Interestingly, the relationship is positive in the pre-crisis era and negative in the post-crisis era, although significance is low here as well.

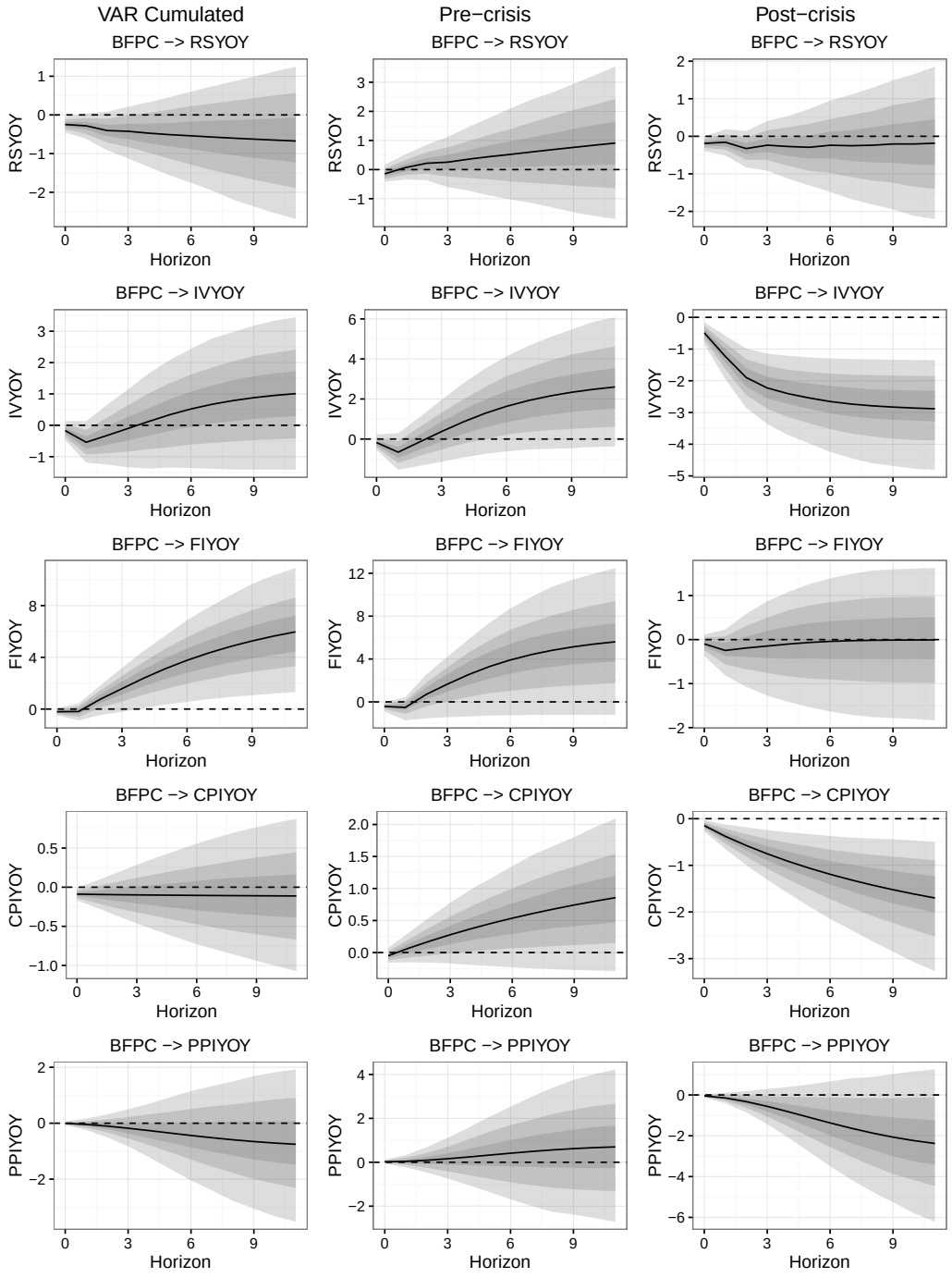
The effect of bank financing on year-on-year growth in industrial value added ($IVYOY$) is indeterminate. The positive yet not very significant association within the full sample period is sustained for the pre-crisis sample period. In the post-crisis sample, the association becomes strongly negative, suggesting that industrial activity is now clearly declining in spite of continued expansion of bank financing.

The association between bank financing and year-on-year growth in fixed asset investment ($FIYOY$) is positive and strongly significant over the full sample period. For the pre-crisis sample, the relationship is positive and significant at 68%, whereas for the post-crisis sample, the relationship is largely indistinguishable from zero, demonstrating that here too macroeconomic dynamics seem to have changed drastically between the pre-crisis and post-crisis periods.

Finally, bank financing does not appear to be systematically related to measures of price stability. The associations between bank financing growth and year-on-year growth of the consumer price index ($CPIYOY$) and year-on-year growth of the producer price index ($PPIYOY$) are indistinguishable from zero and quantitatively slightly negative. With both measures, the association appears positive for the pre-crisis period and negative for the post-crisis period, although only the association with consumer prices is *somewhat* significant within the pre-crisis period.

In summary, these responses suggest that bank financing does have some discernible impact on the broader economy when measured by the variables chosen here. The strength and significance of each relationship depends on the sample period chosen, however, and sometimes even points in the direction opposite of what would be theoretically expected. Bank financing appears to be associated primarily with increasing activity in industrial sectors and fixed asset investment, as its effect on retail sales and measures of price stability is weak and insignificant. There appears to be some evidence for a negative post-crisis relationship of bank financing with price measures, however. Overall, the responses reflect a declining trend of the Chinese post-crisis economy and point to lower elasticity of the real economy vis-à-vis bank financing.

Figure 14: Step 2 estimations: Cumulated impulse responses



Impulse responses of macroeconomic variables to one standard deviation shock of bank financing growth ($BFPC$), 12 period forecast, 90%, 68% and 38% bootstrapped confidence bands
Full sample, pre-crisis and post-crisis periods

4 Interpretation

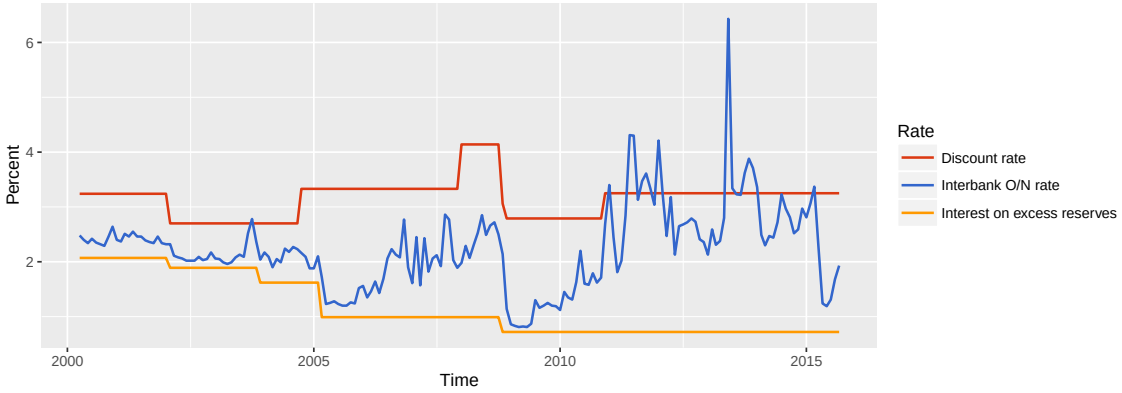
The test results presented show certain patterns which are in line with the institutional analysis laid out at the beginning of this study and the findings of previous literature. As observed, the interbank overnight interest rate appears to be the most *consistent* policy tool, as it exhibits a stable negative effect on bank financing across all model specifications. The effect of window guidance on bank financing also appears consistent in shape and sign across all model specifications, except the one with M2 growth.

Impulse responses further indicate that reserve requirement ratio adjustments affect bank financing negatively, despite some instability of this effect across alternative specifications. While it is reasonable to expect reserve requirements to play *some* role, given the quantity-oriented set-up of the Chinese monetary system, exactly *how* they affect bank financing is less certain. The apparent ineffectiveness of benchmark rates is more apparent by comparison, as the respective impulse responses are typically less stable, often indeterminate and insignificant for the majority of horizons, irrespective of the model specification.

Impulse responses for the pre-crisis sample indicate that the impact of the interbank overnight rate on bank financing is indeterminate during that period, whereas that of window guidance appears to be strongly negative and significant. Impulse responses for the post-crisis sample, on the other hand, show that the interbank overnight rate is associated with a reduction of bank financing, whereas window guidance is now positively associated with bank financing. This is complemented by a more effective contractionary impact of reserve requirement ratio adjustments in the post-crisis period. In essence, these findings correspond to those of previous analyses of the role of window guidance and the interbank interest rate in the Chinese economy: The pre-crisis consensus used to be that interest rates are simply not as effective as quantities and administrative tools (see, e.g., Geiger, 2008), whereas studies conducted after the crisis have found signs that interest rates are becoming more effective (see, e.g., Conway et al., 2010).

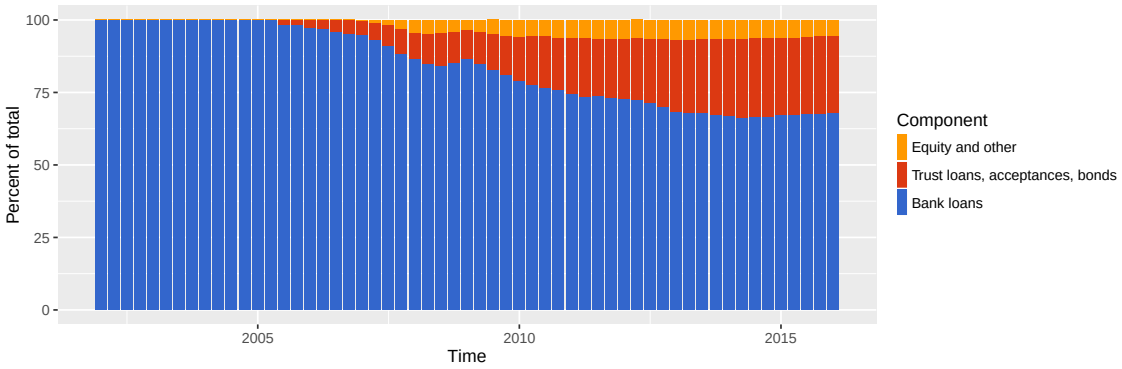
Indeed, the Revankar & Yoshino (1990) exogeneity test has found the interbank rate to be exogenous only during the post-crisis sample period, but it indicated a failure of the exogeneity hypothesis within the full sample and the pre-crisis sample. The failure of the exogeneity hypothesis over the full sample period in spite of the observed potency of the tool may indicate that some instruments are partly operating *through* the interbank rate. As shown in Figure 13, reserve requirement ratio adjustments and benchmark rate adjustments have significant effects on the interbank rate, whereas window guidance seems to have a less distortionary effect on the interbank rate, which may indicate efforts of the authorities to offset its potentially distortionary impact. Interestingly, the interbank overnight interest rate has been found to be exogenous for that period where it is also considerably more volatile, as shown in Figure 15. This may be a result of the increasing transaction volumes in interbank markets, the system-wide decline of excess reserves and

Figure 15: Interest rate corridor in China



Source: IMF International Financial Statistics, People's Bank of China

Figure 16: Aggregate financing to the real economy



Note: Percentage shares of each component of "aggregate financing to the real economy".
Source: People's Bank of China

the associated stronger competition for central bank reserves, in particular between smaller banks.[14] The higher effectiveness of reserve requirement adjustments during the post-crisis period fits such an interpretation, although it is important to point out again that their exact effect on bank financing was not entirely clear.

The observed declining importance of window guidance has also been suggested in earlier studies. Chen et al. (2013) argue that with advancing financial liberalisation, firms will be able to access alternative sources of funding and reduce their reliance on commercial banks, which in turn reduces the effectiveness of window guidance in guiding bank financing through bank loans, which still form the major component of total bank financing. Fukumoto et al. (2010) claim that this was the case in Japan, where, according to them, financial liberalisation led to a declining effectiveness of window guidance. Data on aggregate financing to the real economy in China, shown in Figure 16, confirms a declining role of bank loans relative to other sources of funding since the Global Financial Crisis. The impulse responses of our window guidance indicator and the responses of real macroeconomic variables shown in Figure 14 may be interpreted as reflections of this development: While contractionary window guidance used to reduce bank financing before the crisis, it now appears to be ineffective in halting the strong expansion of bank financing since the crisis, which may indicate that authorities are now merely following where they were previously leading. At the same time, bank financing seems to have developed a momentum that is more disconnected from broader macroeconomic developments.

In summary, it appears that the interbank rate plays an important and increasing role in Chinese monetary policymaking, while window guidance appears to play a central albeit declining role in Chinese monetary policymaking. Reserve requirements further seem to exhibit some influence on bank financing, but also seem to distort the interbank rate more significantly. While the Chinese financial system is still a largely bank-based one (Yoshino, 2012), the increasing amount of finance associated with capital markets and the Chinese shadow banking system may limit banks' ability to increase and decrease loan provision in line with official guidelines and quantity restrictions, which makes moving towards a more price-based system seem advisable.

4.1 Strengthening interbank rates

Difficulties in the application of quantity-based tools are not exclusive to China, but have also been experienced by US and European central banks. Instability of money velocity and money multipliers are frequently cited reasons. Several characteristics of the Chinese economic system may amplify these difficulties, however, such as the lack of a profit motive in the state-owned sector, the state-owned sector's priority access to bank loans,

[14] Indeed, transaction volumes in interbank markets only picked up in 2007-08, at the same time as the PBOC also significantly increased open market operations. This observation alone is not enough reason to reject the possibility of exogeneous interbank rate control during the preceding period, however, as adjustment of interbank rates does not necessarily require open market operations, but could also be achieved by other means, see Borio & Disyatat (2010).

quasi-autonomous credit creation by local governments, lack of sufficient risk evaluation at commercial banks and targeted central bank transactions, all of which contribute to a reduction of the economy's interest rate elasticity (Geiger, 2008; Conway et al., 2010). These issues motivate authorities to rely on quantity-based tools *in addition to* price-based tools, but at the same time those very quantity-based tools potentially offset or reverse the effect of price-based tools (Chen et al., 2013), making the eventual switch to a system based exclusively on prices more difficult (see Geiger, 2008, for a similar point). What is more, said quantity-based tools are arguably a primary factor behind the high volatility of the interbank rate in Chinese markets. Given that quantity *targets* are still being missed despite the multitude of tools being used, authorities are paying a high price (high interest rate volatility) without getting closer to their desired goal (quantity targets).

Most quantity-based tools are by nature non-market-conform, as they aim at changing the amount of some type of money without accounting for its price (Geiger, 2008). Authorities have to let prices adjust or peg them at extremely high/low levels in order to achieve their desired quantity target, which distorts the signalling function of prices and contributes to misallocation of funds. Greater reliance on interest-based tools may therefore go some way towards reducing inefficiencies and contribute to ongoing efforts at rebalancing the Chinese economy. As such, strengthening of the interest rate channel has recently attracted the interest of policymakers (Ma et al., 2016; Niu et al., 2015).

A primary reason for the high volatility of the interbank overnight rate in the Chinese economy is, arguably, the ineffectiveness of the existing interest rate corridor system. In theory, the (re-)discount rate and the interest paid on excess reserves provide upper and lower limits for movement of the interbank overnight interest rate (Xie, 2004). In practice, the support rate paid by the PBOC on excess reserves is very low and adjusted only infrequently within excessively small steps, while the ceiling rate charged at the PBOC's discount window does not seem to present an effective upper limit at times when interbank liquidity is short (Conway et al., 2010). This leads to an interest rate corridor that is both considerably wider than comparable arrangements in other economies (e.g. the euro area) and, apparently, less effective, as shown in Figure 15.

Experience in other economies has shown that variability of short-term interbank rates is essentially a function of the spread of the interest rate corridor and the bindingness of its limits (Woodfort, 2001; Goodhart, 2008), so stabilisation of interbank rates is a relatively straightforward undertaking: Central bank's standing facilities need to be strengthened and the spread needs to be reduced so as to limit the range of possible market price movements. The latter point may not be without cost in China's case, however. In a managed exchange rate system, a low interest rate floor is essential for maintaining moderate sterilisation costs and safeguarding the central bank's equity position, although the ongoing reform of the exchange rate regime may loosen this constraint going forward.

On the other hand, the discount window should be relied upon to a greater degree, not only because of its proven usefulness in the past (Dickinson & Liu, 2007), but also because it provides authorities with important information about market conditions and the liquidity position of financial institutions. Recent improvements to the PBOC's lending facilities, such as the Medium-Term Lending Facility, are a step in this direction. Such facilities may prove to be a useful alternative to window guidance as a source of information at some point in the future, provided corresponding institutional structures are put in place (Goodhart, 2008).

A reduction in the number of tools used simultaneously, together with enhanced transparency and greater adherence to market principles, would further go a long way towards enhancing the role of interbank rates. This cannot happen over night, however: On the one hand, a more straightforward transmission from central bank operations to the interbank overnight rate requires dismantling benchmark rates as a distortionary and potentially adverse source of influence (Chen et al., 2013; Laurens & Maino, 2007). Recent political initiative has moved in that direction and continuing financial liberalisation is likely to strip remaining benchmark rates of much of their relevance anyway. On the other hand, the outright abandonment of other, more quantity-based tools is unlikely, especially while price-based tools alone are ineffective. As Geiger (2008) points out, quantity-based tools are a legacy of the planned economy and so are likely to remain relevant during the transition period, despite their potentially negative effects.

Finally, longer maintenance periods and averaging provisions for commercial bank reserves may help in reducing interest rate volatility. Again, recent initiative has been moving in this direction (see Yao et al., 2015). Such reforms provide banks with more time to adjust their reserve positions in response to shocks to the interbank system. Instead of being forced to raise additional reserves immediately, leading to potentially large swings in interbank rates, banks could increase reserves more gradually in response to an unexpected rise in interbank payment and settlement commitments. Such a change would also give the PBOC more time to inject additional reserves into interbank markets as necessary, improving the system's overall stability and its ability to absorb shocks.

5 Conclusion

This study has analysed the transmission process of Chinese monetary policy on the basis of qualitative institutional analysis and quantitative econometric analysis. It has provided an in-depth account of the institutional set-up of Chinese monetary policymaking, outlining how the transmission of monetary policy is affected by several different actors which target multiple objectives and rely on quantity-based and price-based instruments. The effectiveness of different monetary policy tools has been analysed using Revankar & Yoshino (1990) exogeneity tests and SVAR models. Estimations explicitly accounted for the influence of window guidance using an indicator constructed on the basis of a Romer & Romer (1989)-style text-based analysis of the PBOC's reports.

It has been demonstrated that the interbank rate, window guidance and reserve requirement ratio adjustments all significantly affect domestic bank financing, with the interbank rate having the most consistent effect across all model specifications. Subsample estimations further indicated that window guidance has played a particularly important role up to the Global Financial Crisis. Since then, the interbank rate and reserve requirement ratio adjustments have become more relevant.

Despite the high volatility of the interbank rate since the Global Financial Crisis, the tool has been found to be exogenous during this period. Increasing activity in interbank markets and distortionary impacts from reserve requirements and benchmark retail rates have been suggested as causes for the high volatility of the interbank rate.

The study further analysed the impact of bank financing on several real economic variables and found that growth in bank financing is associated with increasing activity in industrial sectors and fixed asset investment, but also that elasticity of the real economy vis-à-vis bank financing has fallen since the Global Financial Crisis. The development of alternative sources of funding outside the commercial banking system has been mentioned as a potential factor contributing to this development.

On the basis of these results, the study has identified several problems associated with quantity-based tools and policy-targets, and provided suggestions for the improvement of the interest rate channel, the stated goal of the PBOC. These suggestions include the establishment of a well-defined and credible interest rate corridor, a reduction in the number of tools in favour of transparent and more market-oriented price-based tools, as well as the introduction of averaging provisions for commercial bank reserves and longer reserve maintenance periods.

Given the changes taking place within the Chinese economy, strengthening the role of interbank rates as a central macroeconomic price variable in this way appears warranted. Such a step is also likely to enhance overall macroeconomic stability and contribute to the ongoing rebalancing of the Chinese economy.

6 References

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7 Appendix

7.1 Unit root tests

Figure 17: Unit root tests: Full sample

Augmented Dickey-Fuller test and Kwiatkowski-Phillips-Schmidt-Shin test
Critical values and corresponding significance level

Item	Det.	ADF	KPSS	Item	Det.	ADF	KPSS
RRRC	C, T	-3.981 **	0.126 *	RRR	C, T	-1.552	0.140 *
RRRC	C	-3.854 ***	0.152	RRR	C	-1.543	1.230 ***
BNCH	C, T	-1.584	0.094	RYOY	C, T	-2.316	0.145 *
BNCH	C	-1.885	0.297	RYOY	C	-2.693 *	0.147
WGI	C, T	-2.905	0.144 *	SUN	C, T	-2.824	0.143 *
WGI	C	-2.428	0.162	SUN	C	-2.499	0.141
IBOR	C, T	-4.199 ***	0.146 **	RSYOY	C, T	-1.991	0.275 ***
IBOR	C	-3.871 ***	0.302	RSYOY	C	-2.224	0.506 **
BFPC	C, T	-4.779 ***	0.064	IVYOY	C, T	-3.915 **	0.217 ***
BFPC	C	-4.756 ***	0.183	IVYOY	C	-2.105	0.481 **
MBPC	C, T	-1.403	0.175 **	FIYOY	C, T	-3.796 **	0.194 **
MBPC	C	-1.337	0.177	FIYOY	C	-2.406	0.287
M1PC	C, T	-2.794	0.103	CPIYOY	C, T	-2.865	0.108
M1PC	C	-2.418	0.316	CPIYOY	C	-3.006 **	0.277
M2PC	C, T	-2.593	0.151 **	PPIYOY	C, T	-3.427 *	0.148 **
M2PC	C	-2.338	0.189	PPIYOY	C	-2.842 *	0.268
XRPC	C, T	-3.136 *	0.197 **				
XRPC	C	-3.137 **	0.198				

Sign.: *** 0.01, ** 0.05, * 0.1; Det. = Deterministic components: C = Constant, T = Trend

7.2 Detailed VAR estimation results

Figure 18: VAR model for full sample period

VAR Estimation Results

Endogenous variables: RRRC, BNCH, WGI, IBOR, BFPC
Deterministic variables: both
Sample size: 184
Log Likelihood: -298.621
Roots of the characteristic polynomial:
0.9204 0.9204 0.8011 0.8011 0.3394 0.3394 0.3047 0.2044 0.2044 0.07279
Heteroskedasticity and autocorrelation consistent (HAC) standard errors in parentheses

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC.l1	0.10 (0.10)	0.13 (0.06)	0.44 (0.28)	0.23 (0.16)	−0.36 (0.37)
BNCH.l1	1.12 (0.35)	1.16 (0.09)	−0.03 (0.17)	0.52 (0.36)	0.69 (0.61)
WGI.l1	0.03 (0.05)	0.05 (0.04)	0.95 (0.06)	0.06 (0.07)	0.18 (0.15)
IBOR.l1	−0.09 (0.04)	0.01 (0.01)	−0.01 (0.04)	0.61 (0.15)	−0.36 (0.13)
BFPC.l1	0.02 (0.02)	−0.00 (0.01)	0.02 (0.03)	0.01 (0.02)	−0.03 (0.06)
RRRC.l2	0.16 (0.07)	0.07 (0.04)	0.03 (0.09)	0.00 (0.12)	−0.08 (0.21)
BNCH.l2	−1.04 (0.34)	−0.23 (0.11)	−0.14 (0.19)	−0.40 (0.35)	−0.49 (0.60)
WGI.l2	−0.02 (0.04)	−0.04 (0.04)	−0.00 (0.05)	−0.09 (0.07)	−0.37 (0.15)
IBOR.l2	0.01 (0.04)	−0.00 (0.02)	0.03 (0.04)	0.12 (0.11)	0.15 (0.14)
BFPC.l2	0.01 (0.02)	0.00 (0.01)	0.00 (0.02)	−0.07 (0.03)	0.06 (0.07)
const	−0.15 (0.21)	0.23 (0.11)	0.55 (0.34)	0.10 (0.22)	0.75 (0.59)
trend	−0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Observations	184	184	184	184	184
R^2	0.44	0.97	0.91	0.62	0.11
Adjusted R^2	0.40	0.97	0.90	0.60	0.06
Residual SE (df=172)	0.23	0.11	0.41	0.48	1.07
F-Stat. (df=11; 172)	12.31	487.60	154.00	25.55	1.97

Covariance matrix of residuals

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	0.05	0.00	0.02	0.02	-0.01
BNCH	0.00	0.01	0.01	-0.00	0.01
WGI	0.02	0.01	0.17	0.01	-0.02
IBOR	0.02	-0.00	0.01	0.23	-0.03
BFPC	-0.01	0.01	-0.02	-0.03	1.14

Correlation matrix of residuals

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	1.00	0.06	0.17	0.15	-0.03
BNCH	0.06	1.00	0.30	-0.02	0.11
WGI	0.17	0.30	1.00	0.07	-0.04
IBOR	0.15	-0.02	0.07	1.00	-0.05
BFPC	-0.03	0.11	-0.04	-0.05	1.00

7.3 Detailed SVAR estimation results

Figure 19: SVAR model for full sample period

SVAR Estimation Results

Type: AB-model
Sample size: 184
Log Likelihood: -329.933
Method: scoring
Number of iterations: 10
LR overidentification test:
$\chi^2 = 0.578$, df = 1, p-value = 0.447

Estimated A matrix

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	1.00	0.00	0.00	0.00	0.00
BNCH	0.00	1.00	0.00	0.00	0.00
WGI	-0.28	-1.09	1.00	0.00	0.00
IBOR	-0.29	0.21	-0.07	1.00	0.00
BFPC	0.07	-1.27	0.20	0.09	1.00

Estimated standard errors for A matrix

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	0.00	0.00	0.00	0.00	0.00
BNCH	0.00	0.00	0.00	0.00	0.00
WGI	0.12	0.26	0.00	0.00	0.00
IBOR	0.15	0.33	0.09	0.00	0.00
BFPC	0.34	0.75	0.20	0.16	0.00

Estimated B matrix

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	0.23	0.00	0.00	0.00	0.00
BNCH	0.00	0.11	0.00	0.00	0.00
WGI	0.00	0.00	0.39	0.00	0.00
IBOR	0.00	0.00	0.00	0.47	0.00
BFPC	0.00	0.00	0.00	0.00	1.06

Estimated standard errors for B matrix

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	0.01	0.00	0.00	0.00	0.00
BNCH	0.00	0.01	0.00	0.00	0.00
WGI	0.00	0.00	0.02	0.00	0.00
IBOR	0.00	0.00	0.00	0.02	0.00
BFPC	0.00	0.00	0.00	0.00	0.06

Covariance matrix of reduced form residuals (*100)

	RRRC	BNCH	WGI	IBOR	BFPC
RRRC	5.42	-0.00	1.49	1.70	-0.80
BNCH	-0.00	1.20	1.30	-0.17	1.28
WGI	1.49	1.30	17.11	1.36	-1.92
IBOR	1.70	-0.17	1.36	23.10	-2.65
BFPC	-0.80	1.28	-1.92	-2.65	113.87

7.4 Window guidance indicator

Overview of major policy events, associated key phrases and WGI adjustments.

Figure 20: Window guidance indicator (1)

Publication	Issue	Date	WGI
Monetary Policy Committee meeting report	2000Q2	2000/4/23	-1
First meeting; economy off to a good start in Q1; priority henceforth is relationship between avoidance of risk and support for economic growth 本次会议是新一届货币政策委员会组成后举行的首次会议; 一季度我国经济开局良好; 二季度及今后一段时间货币政策的重点是，正确处理防范金融风险和支持经济增长的关系; 从多方面加大对经济增长的支持力度			
Monetary Policy Committee meeting report	2002Q1	2002/1/20	-2
Economy continues stable expansion, stable monetary policy plays important role; first year of WTO membership and associated uncertainties; continue stable monetary policy; expand support for the economy, prevent slowdown 我国民经济保持稳定增长; 稳健的货币政策继续发挥重要作用; 今年是我国加入世界贸易组织的第一年，经济发展和货币政策调控面临一些新的不确定因素; 继续实行稳健的货币政策，加大对经济发展的支持力度，防止经济增长速度进一步减缓			
Monetary Policy Committee meeting report	2003Q1	2003/1/29	0
Actively guide commercial banks to improve business management; while economy is doing well, need to continue managing the relationship between prevention of financial risks and supporting growth, further strengthen credit management; work to reduce NPLs progressing; need to pay attention to real estate and excessive lending growth 积极引导商业银行完善经营机制; 在经济景气趋好的形势下，要继续处理好防范金融风险和支持经济增长的关系，进一步加强信贷管理; 把降低不良贷款率的工作扎扎实实地持续抓好; 要密切关注一些地区房地产投资与贷款增长过快的问题			

Figure 21: Window guidance indicator (2)

Publication	Issue	Date	WGI
Monetary Policy Committee meeting report	2004Q1	2004/3/25	2
Economy maintained positive momentum of rapid growth; measures taken have achieved some initial success, but some contradictions have not yet been resolved; fixed asset investment not decreasing, overall demand still strong, consumer prices keep rising; need to strengthen and improve macroeconomic regulation; should continue stable monetary policy; need to maintain economic growth but also avoid inflationary and financial risks 我国国民经济保持了持续快速增长的良好势头; 认为去年以来采取的一些调控措施已取得初步成效，但当前经济运行中的一些矛盾还没有得到有效缓解。固定资产投资增势不减，全社会需求依然十分旺盛, 去年下半年以来居民消费价格保持上涨的趋势; 要加强和改善宏观调控; 应继续执行稳健的货币政策; 既要支持经济增长，又要防止通货膨胀和金融风险			
Monetary Policy Committee meeting report	2007Q2	2007/7/3	2
Economy maintained steady and rapid growth; general economic situation good, but still facing irrational structural problems, unrestrained economic growth patterns, international balance of payments imbalances; continue to strengthen and improve macro control, prevent economic growth shifting from fast to overheating; policy coordination, actively expand domestic consumption demand, rationally control scale of fixed asset investment; appropriately tight monetary policy; strengthen policy coordination and banking system liquidity management; maintain basic stability of overall price level 我国国民经济继续保持平稳快速发展; 我国经济形势总体良好，但仍面临着结构不合理、经济增长方式粗放、国际收支不平衡等问题; 继续加强和改善宏观调控，防止经济增长由偏快转向过热; 政策的协调配合，积极扩大国内消费需求，合理控制固定资产投资规模; 应继续实施稳健的货币政策，稳中适度从紧; 加强本外币政策的协调和银行体系流动性管理; 保持价格总水平基本稳定			

Figure 22: Window guidance indicator (3)

Publication	Issue	Date	WGI
Monetary Policy Committee meeting report	2008Q3	2008/10/10	-1
Analysed current domestic and international economic and financial situation, focussing on potential impact of international financial turmoil on China's economic and financial development; US Sub-prime Crisis is causing volatility of financial markets, affecting financial institutions and real economy, global economic outlook not optimistic, which we must address; Chinese economy continues to move in expected direction of macro control, financial system stability, overall situation is good; efforts to expand domestic demand 会议分析了当前国内外经济金融形势，重点讨论了国际金融动荡对我国经济金融发展可能产生的影响; 美国次贷危机造成金融市场剧烈波动，并影响到金融机构以至实体经济，全球经济前景不容乐观，必须妥善应对; 我国国民经济继续朝着宏观调控预期方向发展，金融体系稳健安全，总体形势是好的; 着力扩大内需			
Monetary Policy Report	2008Q3	2008/11/11	-2
[...] Implement appropriately loose monetary policy [...] [...] 实行适度宽松的货币政策 [...]			
Monetary Policy Committee meeting report	2010Q4	2010/12/27	1
World economy is expected to continue recovering next year, but unstable and uncertain factors still numerous; Chinese economy moving in direction of positive momentum and further consolidation, financial system continues to operate smoothly, but monetary, credit and liquidity management and prevention of financial risks still formidable task; need to seriously implement stable monetary policy; stable price level needs to be put on more prominent position 会议认为，明年世界经济有望继续恢复增长，但不稳定不确定因素仍然较多；我国经济向好势头进一步巩固，金融体系继续平稳运行，但货币信贷和流动性管理及防范金融风险的任务仍然艰巨; 要认真实施稳健的货币政策; 把稳定价格总水平放在更加突出的位置			

Figure 23: Window guidance indicator (4)

Publication	Issue	Date	WGI
Monetary Policy Committee meeting report	2012Q2	2012/6/29	-1
Economic and financial operations generally stable, economic growth within target range, price inflation continued to decline; global economic recovery on difficult and winding road, repeated shocks from European debt crisis, uncertainties relatively large; continue to implement stable monetary policy; according to changes in situation, need to appropriately and timely implement fine-tuning measures, maintain stable and rapid economic development; prevent financial risks; better support real economy; promote stable and rapid development of national economy 当前我国经济金融运行总体平稳，经济增长处于目标区间，物价涨幅继续回落；全球经济复苏艰难曲折，欧债危机反复震荡，不确定性较大; 继续实施稳健的货币政策; 根据形势变化适时适度进行预调微调，正确处理保持经济平稳较快发展; 防范金融风险; 更好地支持实体经济; 促进国民经济平稳较快发展			
Monetary Policy Committee meeting report	2012Q4	2012/12/28	0
Economy and financial operations generally stable; price situation basically stable, global economy is still weak, uncertainties remain; continue to implement stable monetary policy, manage the relationship between stable growth, structural adjustment, inflation control and risk prevention; guide monetary and credit and social financing towards more appropriate growth; solve structural contradiction between supply and demand of credit, prevent financial risks, improve financial services for the real economy 当前我国经济金融运行总体平稳; 物价形势基本稳定，全球经济仍较为疲弱，不确定性依然存在; 继续实施稳健的货币政策，处理好稳增长、调结构、控通胀、防风险的关系; 引导货币信贷和社会融资规模平稳适度增长; 有效解决信贷资金供求结构性矛盾，防范金融风险，着力改进对实体经济的金融服务			
Monetary Policy Committee meeting report	2014Q1	2014/4/3	-1
Economy still operates within rational range; prices basically stable, but facing complex situation, favourable and unfavourable factors coexist; positive signs increasing in developed economies like US and Europe, but some emerging markets slowing down; continue to implement stable monetary policy, maintain appropriate liquidity to achieve rational growth of money and credit and social financing 当前我国经济运行仍处在合理区间; 物价基本稳定，但所面临的形势依然错综复杂，有利条件和不利因素并存; 美欧等发达经济体积极迹象增多，部分新兴经济体增速持续放缓; 继续实施稳健的货币政策，保持适度流动性，实现货币信贷及社会融资规模合理增长			