Monetary policy, asset prices and the real economy in China

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Abstract

The Global Financial Crisis served to refocus attention on the potential for monetary policy to exert an impact on asset prices. In turn, asset price fluctuations were shown to exert a powerful impact on the real economy. In this paper we consider these linkages in the case of China. Using SVAR modelling techniques, our results indicate that a monetary policy shock has a significant impact on asset prices, particularly share prices, and notably more so than on general goods and services prices. However, a shock to asset prices has little impact on the real economy. Policy implications are discussed.

Key words – China, monetary policy, asset prices, wealth effects

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1. Introduction

The Global Financial Crisis (GFC) period served to refocus attention on the potential for monetary policy to exert an impact on asset prices. Prior to the GFC, attention given to the relationship between monetary policy and asset prices had largely revolved around the question of whether asset prices should be included alongside general prices in the reaction function of the central bank (e.g., Bernanke and Gertler, 2001). Although the origins of the GFC were several, and their relative importance remains the subject of conjecture, many prominent macroeconomists argue that one of its root causes was a US Federal Reserve monetary policy that was kept “too loose, too long” (e.g., Taylor, 2010). According to this view, the cheap and plentiful credit on offer fuelled demand for assets, notably property, resulting in a self-perpetuating spiral of rising debt and asset prices, which ultimately proved unsustainable. When asset prices were rising, they spurred activity in the real economy via wealth effects. When they eventually collapsed, the consequences for the real economy were just as dramatic, except in the reverse direction.

In this paper we consider these linkages in the case of China. Our interest in China is motivated by several considerations. Firstly, for much of the 2000s, stylized facts in China’s financial system have not been dissimilar to those in the US financial system in the lead up to the GFC. In particular, China’s financial system has been characterized by what many consider to be “excess liquidity” (Forssbaeck and Oxelheim, 2007, Chen, 2008). Figure 1 also shows that asset prices, such as share and property prices, have increased much more sharply than general goods and services prices, as was also the case in the US. Secondly, China is now the world’s second largest economy, albeit it remains only two-fifths the size of

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1 The causes of this liquidity are several, most prominently an extremely high domestic savings rate and capital inflows combined with a more or less fixed exchange rate.
the US in $US terms (two-thirds in PPP terms). Nonetheless, IMF data show that over the past three decades, China’s share in world GDP has increased dramatically from 2% in 1980 to 13.25% in 2010. Its sheer size means that disturbances at home might now have significant ramifications for other countries, particularly those with a high trade exposure, such as Australia. Thirdly, previous studies to have considered the impact of money on asset prices, and asset prices on the real economy, have largely done so in the context of OECD countries (e.g., Lastrapes, 1998, Ludwig and Slok, 2004, Vargas-Silva, 2008). However, institutional differences between OECD economies and China may limit the relevance of results reported in these earlier studies. For example, there are reasons to suppose that the impact of monetary policy on share and property prices might be particularly strong in China. Interest rates on deposits in the banking system are regulated at below market levels and this could provide the incentive for savers to seek out higher returns elsewhere. Meanwhile, the number of alternative asset classes on offer is restricted given the underdevelopment of bond markets (Herd et al., 2010) and the existence of capital controls that limit the purchase of overseas financial assets (Laurenceson and Tang, 2007). Similarly, there are institutional differences between OECD economies and China that might impact on the strength of wealth effects. For example, financial products that might exacerbate the relationship between share price fluctuations and the real economy, such as margin lending, are only in their infancy in China. We also note that in theory there is even some ambiguity regarding the sign of the impact of money on asset prices (e.g., Meltzer, 1995), although intuitively the expectation is that an expansionary (contractionary) monetary policy should cause asset prices to rise (fall).

**Insert Figure 1 here**

To our knowledge, only a handful of studies have considered the above linkages in the case of China. (Guo and Huang, 2010) considered whether inflows of “hot money” from abroad had an impact on domestic property and share prices. (Koivu, 2010) considered whether
monetary policy had an impact on asset prices and whether asset prices had an impact on consumption.\(^2\) (Chen et al., 2010) also considered whether asset prices had an impact on consumption. The study closest to ours is (Koivu, 2010) in the sense that we are also interested in the broader impact of monetary policy on asset prices, rather than just the impact of money from one particular source, and also on the linkage between asset prices and the real economy. The above studies are not unanimous in their conclusions. For example, (Koivu, 2010) concluded that asset prices only had a limited impact on consumption, while (Chen et al., 2010) concluded that the impact of assets prices was even stronger than the impact of disposable income.

In part, differences in results might reflect the different methodologies used. In this paper, like (Koivu, 2010), we use Structural Vector Autoregression (SVAR) modelling techniques in preference to the unrestricted VAR techniques used by (Chen et al., 2010). Some of the advantages of SVAR models over traditional unrestricted VAR models are discussed in the following section. We extend upon (Koivu, 2010) in two ways. Firstly, we use data at a monthly rather than quarterly frequency. Using monthly data offers several advantages. Most obviously, it expands the number of observations in the dataset – 137 in our study versus 44 in (Koivu, 2010) - and so improves the reliability of statistical inference. It also means that our modelling can allow for the possibility that a shock to one variable in the model might have varying impacts on other variables at time graduations of less than a quarter. As we will later show, this indeed turns out to be the case with respect to the impact of a monetary policy shock on asset prices. The use of monthly data also means that we are able to adopt less controversial identification restrictions related to contemporaneous relationships in our

\(^2\) Zhao and Gao (2010) considered the reverse chain of causality, namely whether asset prices had an impact on monetary policy.
modelling. Secondly, we represent monetary policy in our modelling not through the inclusion of M2 as (Koivu, 2010) does, but rather through the inclusion of base money. In our view, base money is far more intimately connected to the policy tools at the disposal of China’s central bank, the People’s Bank of China (PBC), than is a broad money aggregate such as M2.

Section 2 of this paper presents our SVAR modelling approach and discusses the data. Section 3 presents the SVAR results and draws policy implications. Section 4 summarizes the discussion.

2. Methodology and Data

2.1. General features of the model

SVAR models have a relatively long history in the econometric literature and so it is not our intention to recount in detail their origins and generic technical features here (see Bernanke, 1986, Blanchard and Watson, 1986, Sims, 1986, Enders, 2010). The chief value-added found in SVAR models over traditional unrestricted VAR models is that they address the criticism of the latter as being a-theoretical and uninformative for policy analysis. This is done through the recovery of the structural form model from the reduced form model by imposing restrictions on coefficient values. The restrictions imposed are based on economic theory and / or institutional knowledge. For example, a mainstay restriction found in nearly all macroeconomic SVAR models is that an output shock does not contemporaneously impact on general goods and services prices. This restriction reflects the sticky price assumption embedded in traditional theoretical macroeconomic models, such as the AD-AS and IS-LM models, as well as more modern new-Keynesian derivatives. Another attractive feature of
SVAR models is that through Impulse Response Functions insight can be gained into the combined direct and indirect impacts over time of a shock to one endogenous variable on other variables in the system. For our purposes, we are chiefly interested in the impact of a shock to monetary policy on asset prices, and the impact of a shock to asset prices on the real economy.

The main modelling challenge is to adequately represent monetary policy. Even in the context of countries such as the US, representing monetary policy is not straightforward, although there is reasonable consensus that including a short-term interest rate in the model, such as the Federal Funds Rate, offers a useful way forward (Bernanke and Blinder, 1992, Sims and Zha, 2006). However, unlike the US Federal Reserve, the PBC does not target a specific short-term interest rate as its chief monetary policy tool. As has been widely noted (e.g., Geiger, 2008), the PBC utilizes an eclectic monetary policy toolkit that includes actions rarely called upon in OECD countries, such as regularly adjusting the required reserve ratio (RRR) for banks and / or informally affecting the rate of bank lending growth by providing them with “window guidance”. However, it is also the case that the PBC has gradually been making the transition toward using more standard practices, such as open market operations. And while retail interest rates in the banking system remain regulated, those in the interbank market have been market-determined throughout the 2000s. As can be seen in Figure 2, movements in short-term interest rates in the interbank market mirror changes in inflation in much the same way they would in a country such as the US, albeit their high frequency volatility shows that the PBC is not preoccupied with targeting a specific rate.

Insert Figure 2 here
(Koivu, 2010) sought to represent monetary policy in China in an SVAR framework through the inclusion of M2. Such a choice is understandable to the extent that PBC activities such as “window guidance” will have an impact on this variable. However, the limitation of M2 is that it is an extremely broad measure of money that is affected by many other factors apart from the monetary policy decisions of the PBC. This is reflected not least of all in the observation of (Geiger, 2008) that the PBC’s target growth rate of M2 has routinely been missed and often by a considerable margin. Perhaps even more significantly, as the likes of (Blanchard, 1989) and (Sims, 1992) have noted, the inclusion of such a broad monetary aggregate in the model does not allow for the impacts of shocks to money supply and money demand to be disentangled.

Our approach is to represent monetary policy in the model using base money. This choice is made on the basis that the PBC has far greater control over base money than it does a broad monetary aggregate such as M2. However, representing monetary policy using base money is also not without its limitations. In particular, matters are complicated by China’s exchange rate policy (Burdekin and Siklos, 2008). China’s exchange rate is determined by the State Council. While the State Council has permitted greater flexibility in the nominal RMB/US exchange rate since 2005 – between 1994 and 2004 it was a fixed peg – it remains far from free floating. And while capital controls exist, they are porous to a significant extent (Laurenceson and Tang, 2007). What this means is that, faced with large scale capital inflows as has typically been the case in the 2000s, an increase in base money is, at least to some extent, automatic. That is, when base money increases, it does not necessarily signify a deliberate change in monetary policy settings by the PBC. Of course, this criticism can equally be directed at other variables such as M2. Aside from noting that capital controls do provide the PBC with some scope for policy autonomy, the main justification for continuing
to represent monetary policy in the model using base money is that the PBC is able to sterilize the impact of capital inflows on base money should it elect to do so. Indeed, a desire to sterilize the impact of capital inflows has been the primary factor motivating regular adjustments in the RRR for banks and burgeoning central bank bill issuance. Importantly, recent research shows that the PBC has in fact been effective in using tools such as these to sterilize the impact of capital inflows on the domestic money supply (Ouyang et al., 2010). (Wang, 2010) reports that the PBC’s sterilization activities have been particularly effective with respect to managing the impact on base money, but less so with respect to broader monetary aggregates.

As a robustness test of sorts, we also supplement the above approach to representing monetary policy by using short-term, market-determined interest rates instead of base money. While this would be the standard approach in a country such as the US, given institutional realities in China it best serves as a robustness check here. The specific interest rate series we use is monthly average of the 7 day interbank rate.\(^3\)

In all, our benchmark SVAR model consists of 5 variables – one exogenous and four endogenous. The exogenous variable is world commodity prices. This is intended to capture shocks emanating from the world economy.\(^4\) The four endogenous variables are real output, general goods and services prices, base money and asset prices. Real output and general prices are standard inclusions in macroeconomic VAR models. Given that real GDP data are available only at a quarterly frequency, real output at a monthly frequency is proxied by real

\(^3\) The monthly average of the overnight rate is not used due to the fact that there are several observations missing in the series provided by the PBC.

\(^4\) While the world price of some commodities, such as iron ore, might be endogenous with respect to real economic activity in China, this is unlikely to be the case for commodities as a whole.
industrial output. In the case of China, real industrial output appears to offer an exceptionally good proxy for real GDP: when taken at a quarterly frequency, the correlation coefficient between the two series is upwards of 0.85. Real industrial output data are seasonally adjusted before being included in the model. The strength of wealth effects in the model is assessed by examining the response of real output to a shock to asset prices. Note that the response of real output is considered, not household consumption. In the case of China, we are reluctant to make the assumption that wealth effects will necessarily be limited to household expenditure. A feature of China’s extremely high gross national savings rate – 54.3% in 2008 – is that corporate savings occupy roughly the same share as household savings (Ma and Yi, 2010). Thus, corporate expenditure, i.e., investment, might also be affected by fluctuations in asset prices. In any case, given that household consumption is a component of real output, if wealth effects are significant then this should also show up in the real output data. General prices are proxied by the consumer price index (CPI). As discussed above, base money is included to represent monetary policy. Prices of two asset classes are considered – shares and property. We restrict our analysis to share and property given that bond markets, particularly those for corporate bonds, are undeveloped in China (Herd et al., 2010). The response of asset prices to a shock to monetary policy is the second linkage in the model in which we have a particular interest.

2.2. Identification restrictions

To identify the structural form of the above model we place restrictions on some of the contemporaneous relationships in the model. Another approach might be to place restrictions on the long run relationships between variables, such as in (Blanchard and Quah, 1989). However, given that our sample period (discussed below) is only 11 years in length,
identifying the structural form through short run restrictions appears most appropriate. Recall that we are using data at a monthly frequency. Thus, we are referring to restrictions being placed on relationships between variables within a one month period. The following restrictions are sufficient for the model to be just identified.

1. Real output is assumed not to respond contemporaneously to a shock to base money or asset prices. Given the lags inherent in the monetary transmission channel, the first restriction does not appear particularly controversial. Similarly, while asset prices might affect real output via wealth effects, this will only occur with a lag and the lag will most certainly be longer than one month.

2. General prices are assumed to not respond contemporaneously to a shock to real output, base money or asset prices. These restrictions derive from the ubiquitous sticky price assumption found in workhorse macroeconomic models.

3. Base money is assumed to not respond contemporaneously to a shock to general prices. This restriction follows (Kim and Roubini, 2000) and (Sims and Zha, 2006). The intuition is that the central bank does not contemporaneously adjust monetary policy settings because they lack information about the behaviour of general prices in the current period. Of course, central banks can and sometimes do adjust monetary policy settings in response to changes in expected inflation. In that sense, it may appear as though central banks are making contemporaneous adjustments. However, while central banks might be forward-looking, they are reluctant to adjust monetary policy settings unless a compelling case can be made. Even in the face of a general price shock, such as to the world oil price, they will typically wait for at least some new data to become available, such as surveys of inflationary expectations.

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5 The same could be said for real output, and indeed, Kim and Roubini (2000) and Sims and Zha (2006) apply the same restriction to real output as for general prices. In our case, only one restriction is needed for identification. As a robustness test, we also checked the sensitivity of the results to imposing the same restriction on real output and general prices, thus leading to the model being over-identified. The qualitative results remained the same and are available from the authors upon request.
Such data are also only available with a lag. The administrative process surrounding monetary policy decision-making also lends support to the above restriction. Monetary policy decisions in central banks are typically made by committee and these committees only meet, at most, once a month. For example, the Open Market Operations Committee of the US Federal Reserve meets eight times throughout the year. In China, the Monetary Policy Committee of the PBC meets quarterly. Therefore, even if a central bank is able to recognize a shock to general prices in the current period and wished to adjust monetary policy settings in response, administrative processes mean that a response is highly unlikely within that same month.

2.3. Data

The time period covered by the analysis is 1999.06-2010.10. The main reason the period is not extended back to include the 1980s and 1990s is because China’s asset markets only came into their own during the 2000s. For example, China’s stock exchanges in Shanghai and Shenzhen were only established in the early 1990s, and the urban property market was only liberalized in the mid-1990s. In any case, data for some variables, such as base money, only became available at a monthly frequency at the beginning of the above sample period.

With the exception of the property price index and the 7 day-interbank rate, all other data are obtained from the IMF’s, International Financial Statistics database. An official property price index covering all of China for the sample period is only available at a quarterly

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6 Rural asset markets, such as those for land use rights, remain high restricted.
Therefore, we use one that specifically tracks property prices in Shanghai. This index comes from the China Real Estate Index System. It appears to be an extremely high quality proxy for nation-wide property price changes given that when taken at a quarterly frequency, the correlation coefficient between the nation-wide series and the Shanghai series is 0.95. The 7-day interbank interest rate data are obtained from the website of the PBC.

Unit root tests reveal that all variables in our model, with the exception of interest rates, are integrated of order 1. Therefore, we take the log value of all variables, with the exception of interest rates, and enter them into the model in the form of first differences, i.e., growth rates. Thus, in our main equations of interest, we consider the impact of a shock to the growth of base money on asset price inflation, and the impact of a shock to asset price inflation on real output growth. VAR lag length selection tests reveal 12 lags to be appropriate.

3. Results

3.1 The impact of monetary policy on share price inflation

We begin by considering the impact of monetary policy on share price inflation. Monetary policy is initially represented using base money. Figure 3 shows the IRF of share price inflation over a 24 month time horizon given a positive, one standard deviation structural shock to the growth of base money. The dotted lines show the 95% confidence intervals associated with the response. As expected, a positive shock to the growth of base money

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7 The website of China’s National Bureau of Statistics does list a monthly property price index covering 70 medium and large-sized cities across China. However, this series only begins in 2009.03.
8 Enders (2010) notes that this is the conventional approach, although some authors prefer to estimate the model in levels. As a robustness test we also estimated the model in levels and the qualitative results were unchanged. These results are available from the authors upon request.
9 Detailed results for unit root and lag selection tests are available from the authors upon request.
causes an increase in share price inflation. The impact is particularly strong in the months immediately following the shock: the IRF is statistically significant in both the first and second months. In the third and subsequent months, the impact of the shock dissipates. The contrasting impact of the shock in each of the first three months highlights the advantages of using monthly data. While the impact dissipates by the third month, this is not to say that the impact is strictly transitory. The accumulated IRF (not presented) shows that the impact of the shock in the first and second months is sufficiently strong to cause share price inflation to remain above baseline in a statistically significant manner for 15 months after the shock.\footnote{Results discussed but not presented for reasons of space are available from the authors upon request.}

**Insert Figure 3 here**

It is interesting to compare and contrast the response of general price inflation to the same shock to base money. The IRF for general price inflation is presented in Figure 4. As expected, general price inflation also responds positively to the shock to base money. However, several differences are apparent. Firstly, the magnitude of the response is much less. In most months, the response is not statistically significant. Secondly, the response is less immediate. The accumulated IRF (not presented) shows that general price inflation does not rise above baseline in a statistically significant manner until 7 months after the shock. The response then remains statistically significant until 23 months after the shock. The slower initial response sits comfortably with the predictions of economic theory: the typical explanations given for price stickiness, such as menu costs (Mankiw, 1985), are more readily applicable to general goods and services prices than to asset prices. One possible reason for the subdued response is that general price inflation is proxied by the CPI, which includes components such as food prices. The prices of such goods are the least likely to be affected by changes in the growth rate of base money. Ideally, we would like to examine the response
of a “core” measure of inflation, but to our knowledge such a measure is unavailable in the case of China.

**Insert Figure 4 here**

Aside from IRFs, it is also instructive to consider the associated variance decompositions. Variance decompositions separate the variance in a given endogenous variable into the component shocks of the VAR. Figure 5 presents the variance decomposition of share price inflation. The results are striking in that they show the overwhelming majority of variation in share price inflation – between 60-70% - can be attributed to shocks to the growth of base money.

**Insert Figure 5 here**

We now test whether the above results are sensitive to the representation of monetary policy used. To that end the growth of base money is replaced by the short-term interest rate. All other variables, along with the identification restrictions, remain the same. Figure 6 shows the IRF of share price inflation given a positive, one standard deviation structural shock to short-term interest rates. The IRF is remarkable in its symmetry to the one presented in Figure 3. On this occasion, the shock causes share price inflation to fall, reflecting the fact that here we are dealing with a positive interest rate shock (i.e., a contractionary monetary policy) whereas in Figure 4 we were dealing with a positive base money shock (i.e., an expansionary monetary policy). Other features of the IRF, such as speed of response, the duration over which the shock has an impact and the magnitude of the impact, are almost identical.

**Insert Figure 6 here**

### 3.2 Impact of monetary policy on property prices
We return to the benchmark model in which monetary policy is represented using base money. However, share price inflation is now replaced with property price inflation. The IRF of property price inflation given a one standard deviation structural shock to the growth of base money is shown in Figure 7. As with share price inflation, the shock has a positive impact. The speed of response is also similar in that the impact is particularly strong in the months immediately following the shock. The impact is statistically significant in the first and second months. The impact in the third month is also statistically significant, but negative. Nonetheless, the accumulated IRF (not presented) shows that the overall impact of the shock is positive: property price inflation remains above baseline in a statistically significant manner for 17 months after the shock (with the exception of months 7-10). The main difference between the responses of share price inflation and property price inflation is with respect to magnitude: the response of the former is considerably greater.

Insert Figure 7 here

The variance decomposition of property price inflation is presented in Figure 8. As with share price inflation, shocks to base money are found to account for the majority of variation in property price inflation.

Insert Figure 8 here

3.3 Impact of asset prices on real output

The above results are supportive of a significant link existing between monetary policy and share and property prices. This link can be explained by institutional features noted in the Section 1, such as the fact that returns on bank deposits are artificially repressed and that there are limited alternative asset classes on offer for investors. An implication of the above
results is that the PBC needs to be sensitive to the fact that its policy settings can contribute to asset price inflation, even if general price inflation remains benign. This is a lesson many macroeconomists would argue the US Federal Reserve learned too late. Whether China’s real economy might also be vulnerable to the effects of monetary policy-fuelled asset price inflation depends upon the strength of the wealth effect. A link between monetary policy and asset prices is a necessary condition, but not a sufficient one. What is also needed is a wealth effect that can transmit the impact of asset price fluctuations to real output. It is to this link that we now turn.

To consider this question we again make use of the benchmark model in which monetary policy is represented by base money. Figure 9 shows the IRF of real output growth over a 24 month time horizon given a positive, one standard deviation structural shock to share price inflation. Figure 10 shows the response of real output growth given a positive, one standard deviation structural shock to property price inflation. In both cases, the response is small and statistically insignificant. This suggests that wealth effects have yet to emerge in China to the extent that they are regularly observed in OECD countries. In this respect, our results are in line with those presented in (Koivu, 2010) but differ from those in (Chen et al., 2010).

**Insert Figure 9 here**

**Insert Figure 10 here**

Institutional features are again likely to contribute to the explanation of why wealth effects may be limited. Despite the low returns on offer, many Chinese households continue to hold the majority of their financial assets in the form of bank deposits. (McKinsey, 2006) estimated that bank deposits and cash made up 86% of the financial assets of Chinese
households, compared with just 7% for shares. In contrast, shares made up 18% of the financial asset portfolio of households in the US. Funding share purchases through borrowing is also relatively rare in China with the State Council only giving the green light to a trial in margin lending at the beginning of 2010. Chinese households are also less exposed to property price volatility for a variety of reasons. Firstly, in China it is more common to fund property purchases from accumulated savings, rather than debt. For example, drawing on a survey of urban households by China’s National Bureau of Statistics, (Chamon and Prasad, 2010) reported that in 2005 only 5.2% of surveyed households were repaying a home loan. And as noted by (Ulrich, 2010), when households do receive a property loan, they are required to make a substantial downpayment of at least 30% of the value of the property.

While share and property prices might have a limited impact on the real economy at present, the PBC can ill afford a sense of complacency. The fact that monetary policy has a significant impact on asset prices is a concern in and of itself. Rising asset prices, particularly property prices, is a sensitive issue in China as it is one of the more obvious manifestations of, and a contributing factor to, widening income inequality. To date, the measures put in place to slow property price increases have largely been administrative in nature. For example, some cities such as Beijing have imposed limits on the number of properties that residents can own. Other measures, such as a property tax, are also being contemplated (Dwyer, 2011). While the results of the previous section suggest that the policy settings of the PBC could potentially fuel asset price inflation, they can equally be interpreted as suggesting that monetary policy could slow their rate of growth. Thus, a debate regarding whether asset prices ought to explicitly enter the reaction function of the PBC would be timely. Comments made by the Governor of the PBC, Zhou Xiaochuan, indicate a favourable predisposition toward using monetary policy to tame asset price inflation (Buergin, 2010). Statements
indicating a link between monetary policy actions and asset prices also regularly appear in the official press (Xinhua, 2011). The PBC does not make explicit the extent to which asset prices do or do not enter its reaction function, although a recent study by (Zhao and Gao, 2010) indicate that monetary policy decisions are responsive to property price inflation, but less so to share price inflation.

4. Conclusion

This paper considered whether monetary policy has an impact on asset prices in the case of China, and in turn whether asset prices have an impact on the real economy. The results, obtained using SVAR modelling techniques, suggest that monetary policy does indeed have a significant impact on asset prices, particularly share prices. However, the wealth effect, which potentially transmits asset price fluctuations to the real economy, appears limited. Taken as a whole, these results indicate that China is unlikely to experience a US-style financial meltdown. However, the fact that monetary policy exerts a significant impact on asset prices is concern enough for the Chinese authorities given the challenges posed by rising income inequality. In contrast to the US Federal Reserve during the 2000s, the PBC does appear more inclined to incorporate asset prices into its reaction function, although the extent to which it does so is not made explicit. One of the major challenges faced by the PBC in using monetary policy to impact on asset prices, or general goods and services prices for that matter, is the responsibility imposed upon it by the State Council to simultaneously maintain the crawling peg exchange rate policy. A relaxation of this policy would make the task of managing base money considerably more straightforward.
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References


Figure 1. Share prices, Property Prices and the CPI (1996.06=100)

Source – Share prices and the CPI are obtained from the IMF’s, *International Financial Statistics*. The property price index is discussed in Section 2 of this paper.
Figure 2. Short-term interest rates and CPI

Source – The CPI is obtained from the IMF’s, *International Financial Statistics*. Interest rate data are obtained from the PBC.

Note – The interest rate presented is the monthly average of the 7-day interbank rate.
Figure 3. IRF of share price inflation given a positive shock to the growth of base money
Figure 4. IRF of general price inflation given a positive shock to the growth of base money
Figure 5. Variance decomposition of share price inflation

- Real output
- General prices
- Base money
- Asset prices
Figure 6. IRF of share price inflation given a positive shock to short-term interest rates
Figure 7. IRF of property price inflation given a positive shock to base money
Figure 8. Variance decomposition of property price inflation
Figure 9. IRF of real output given a positive shock to share price inflation
Figure 10. IRF of real output given a positive shock to property price inflation