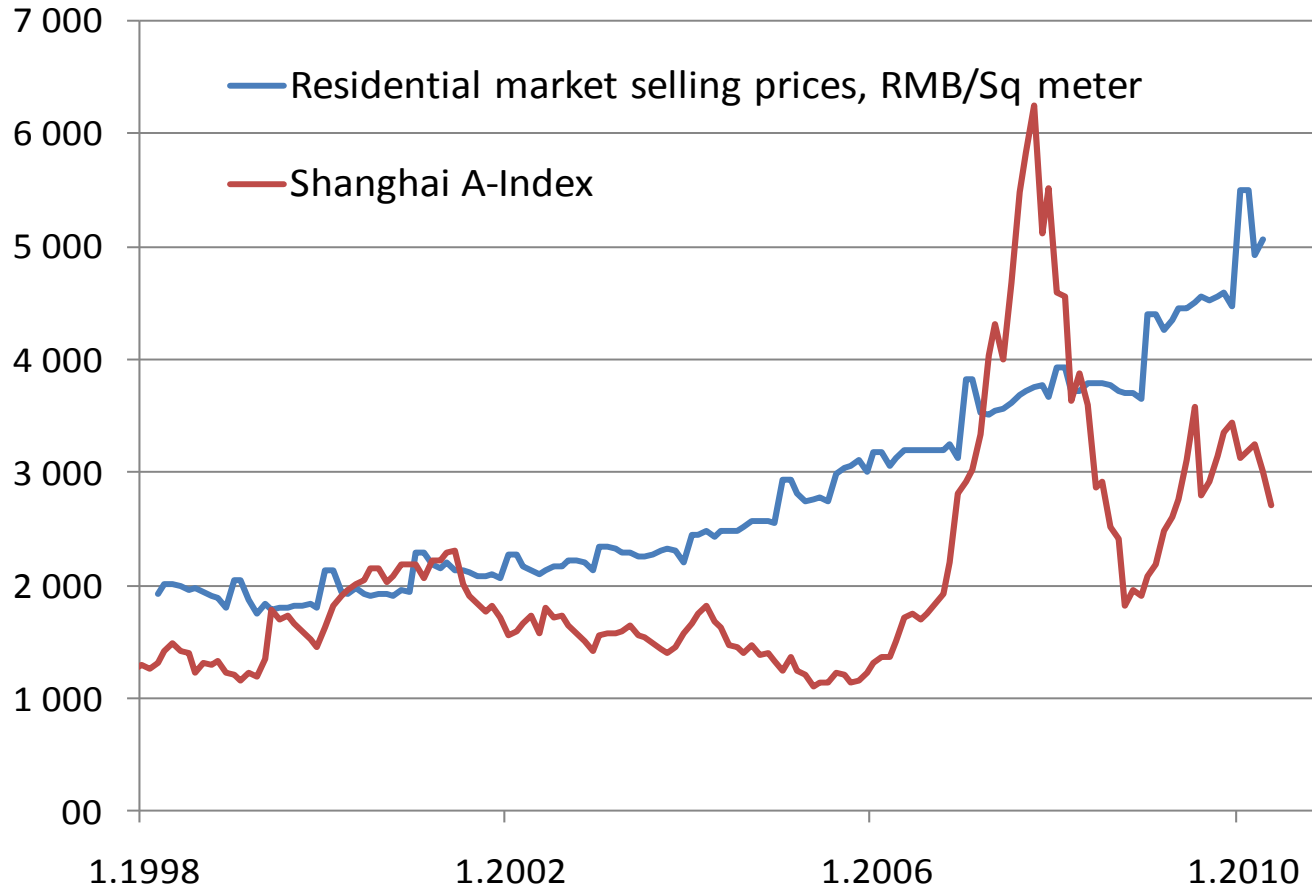# Asset prices, monetary policy and consumption in China

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Asset price developments
have been very uneven in China

Legend:
- Residential market selling prices, RMB/Sq meter
- Shanghai A-Index

Source: CEIC

Motivation of the paper

- Does the monetary policy have an impact on asset price developments?

- What kind of consequences the asset price developments have to the real economy?

- > Is the wealth channel one of the monetary policy transmission channels in the Chinese economy?

Structure of presentation

- Short literature review

- Data and methodology

- Results and future work

Wealth channel consists of two parts

Monetary Policy

1

Asset prices

2

Consumption

Other MP Transmission channels
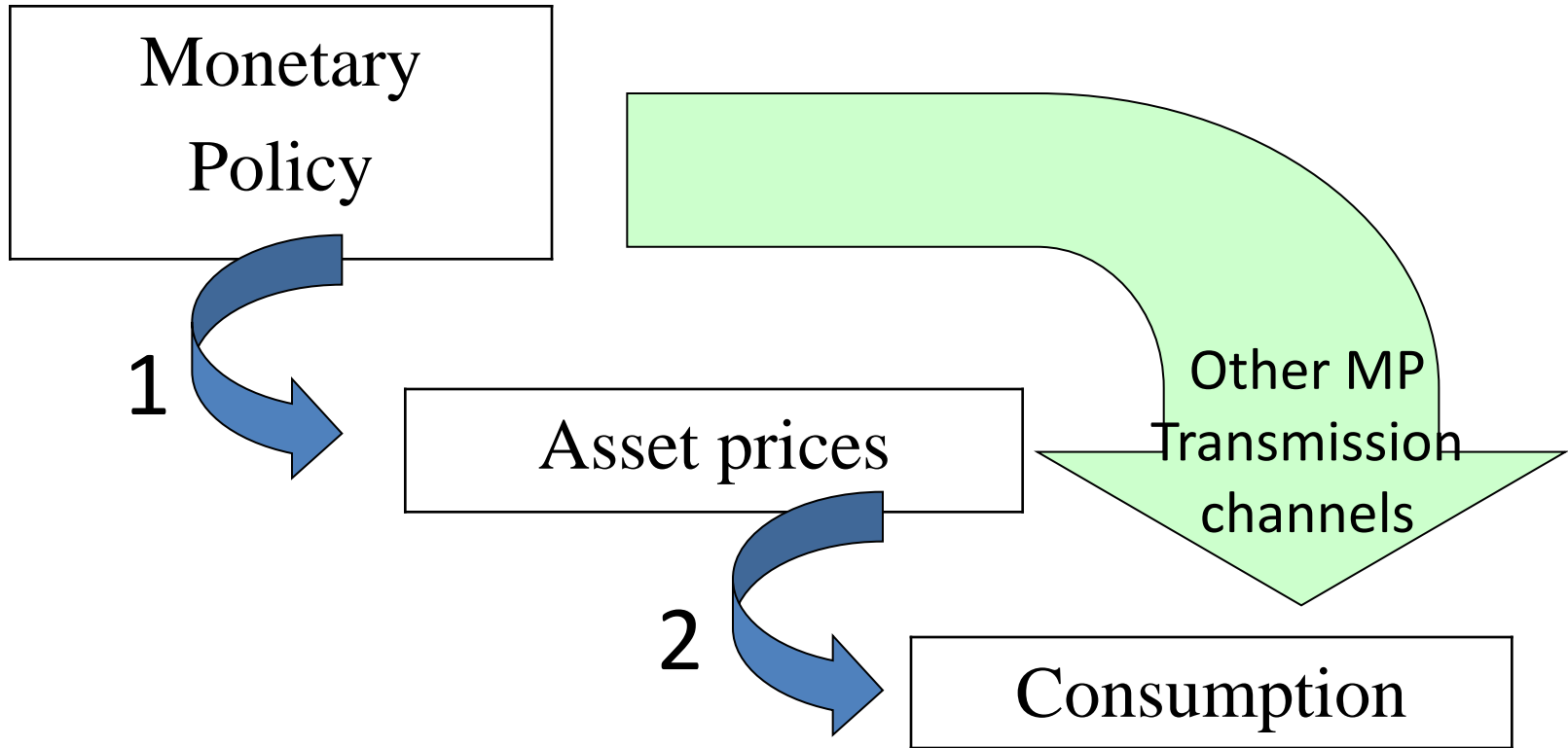
Empirical literature

1) Link from monetary policy to asset prices?

i) MP -> Stock prices

A number of papers find a significant link (for example, Bernanke and Kuttner (2005), Rigobon and Sack (2004), Alessi and Detken (2009)

However, studies (excl. Alessi and Detken, 2009) concentrate very much on the US market.

ii) MP -> Real estate prices

Significant link found by e.g. Iacoviello (2000) and Ahearne et al. (2005)

2) Link from asset prices to consumption?

- Vast literature summarised by e.g. Poterba (2000) and Altissimo et al. (2005)

- Most papers concentrate on studying the OECD economies

- Results vary significantly between countries

- Consumption reacts differently to temporary and permanent changes in wealth (Lettau and Ludvigson, 2004)

- The impact is often found to be small

Empirical literature on EMEs and China

- **In EMEs**, both stock market and housing prices seem to have an impact on consumption (Funke 2004, Peltonen et al. 2008)

- Country-specific studies confirm this result (Mohanty and Turner, 2008)

- In **China's** case, stock prices but not residential prices are found to have a link to consumption (Peltonen et al. 2008)

A few observations about the earlier literature

- Earlier studies often analyse only one part of the wealth channel (MP -> AP or AP -> CONS)

- Ludvigson, Steindal and Lettau (2002) conclude that even in the US the impact of the wealth channel on the real economy is small

- No complete studies on the wealth channel in China

Data and methodology

Data

- Research period 1998-2008

- Quarterly data in real terms and in logs

- Variables: income, consumption, inflation, monetary policy indicator, asset prices

- Income and consumption data from urban household survey

- Consumer price inflation

- Two kinds of assets: Shanghai A-Index, residential prices

- Monetary policy indicator: M2 (robustness checking with 7-day repo interest rate)
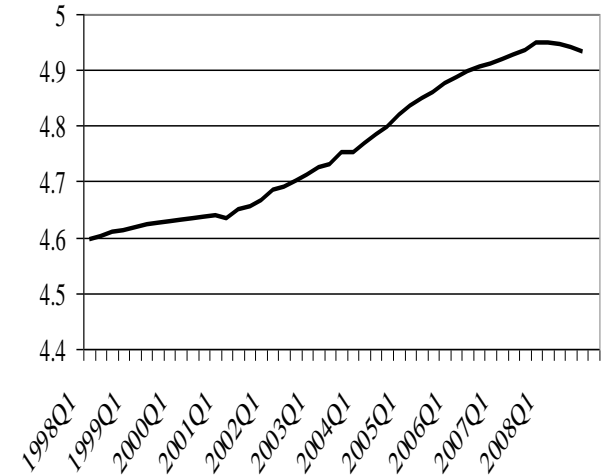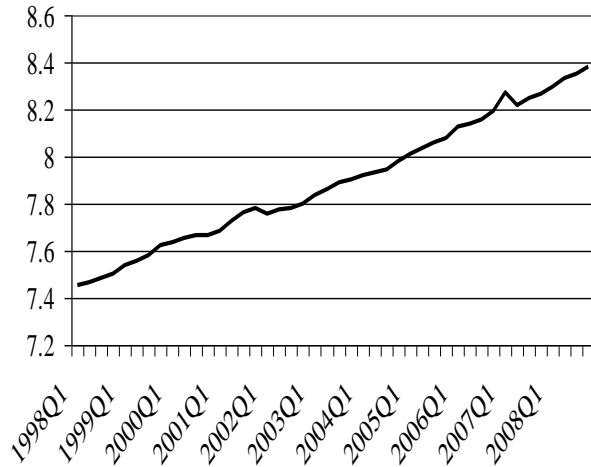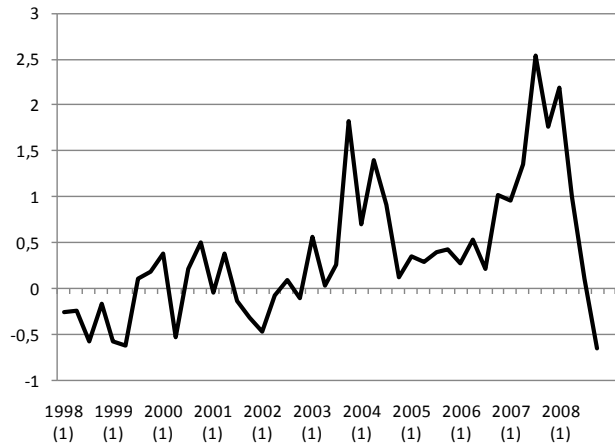
Used time series

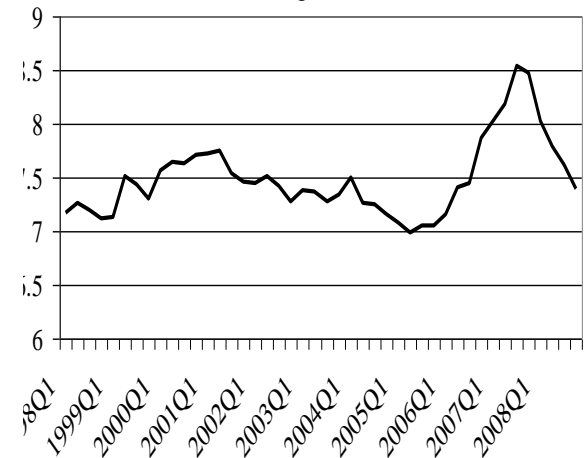
Consumption
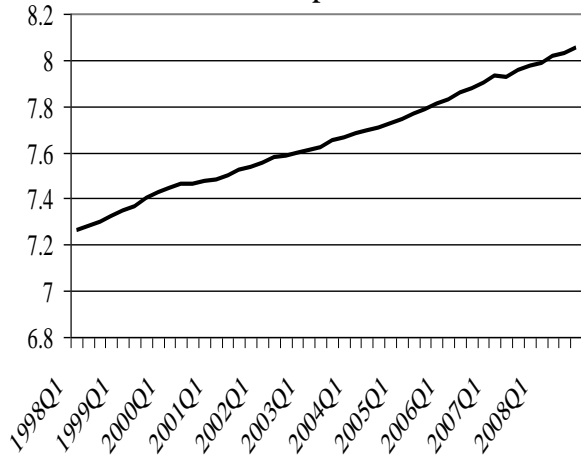
M2
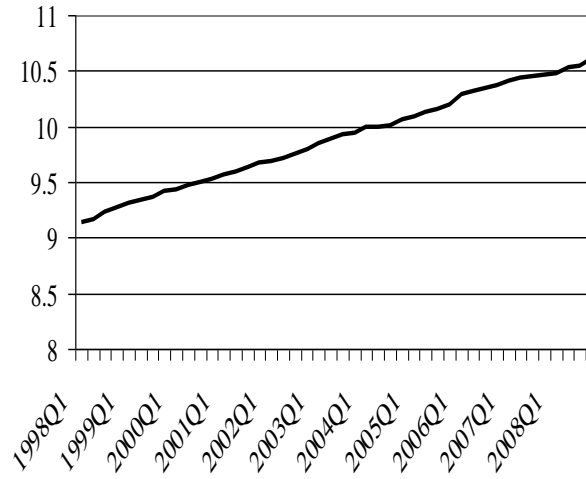
Residential prices

Income

Inflation

Shanghai

Order of integration and cointegration vectors?

• Unit root tests: Some signs of stationarity on A-index and inflation, others clearly I(1) variables

• Johansen and Saikkonen-Lütkepohl co-integration tests

  • At least one vector found for both groups

  • However, our short sample limits the cointegration analysis. In addition, we are not interested in any specific long-run relationship.

  - > A VAR in levels with p>2 (Lütkepohl and Krätzik, 2004)

SVAR

• Separate models with stock and residential prices

• Constant and trend included

• 2 lags introduced based on the results from misspecification tests

• An impulse dummy introduced for 4Q2003 when food prices increased suddenly

• We need to set $2K^2 - (K(K+1))/2 = 35$ restrictions

$$
\begin{bmatrix}
1 & 0 & * & 0 & 0 \\
* & 1 & * & 0 & 0 \\
0 & 0 & 1 & 0 & 0 \\
* & * & * & 1 & * \\
* & 0 & * & * & 1
\end{bmatrix}
\begin{bmatrix}
u_t^y \\
u_t^c \\
u_t^\pi \\
u_t^m \\
u_t^{ap}
\end{bmatrix}
=
\begin{bmatrix}
b_{11} & 0 & 0 & 0 & 0 \\
0 & b_{22} & 0 & 0 & 0 \\
0 & 0 & b_{33} & 0 & 0 \\
0 & 0 & 0 & b_{44} & 0 \\
0 & 0 & 0 & 0 & b_{55}
\end{bmatrix}
\begin{bmatrix}
\varepsilon_t^y \\
\varepsilon_t^c \\
\varepsilon_t^\pi \\
\varepsilon_t^m \\
\varepsilon_t^{ap}
\end{bmatrix}
$$

Results and conclusions

- For autocorrelation
	- LM tests, Portmanteau tests
- Checking for ARCH effects
- Some problems in nonnormality tests
	- due to excess kurtosis which should be less harmful for results than skewness

-Stability of the results
	- Chow breakpoint and sample split tests
	- -(Cusum test)

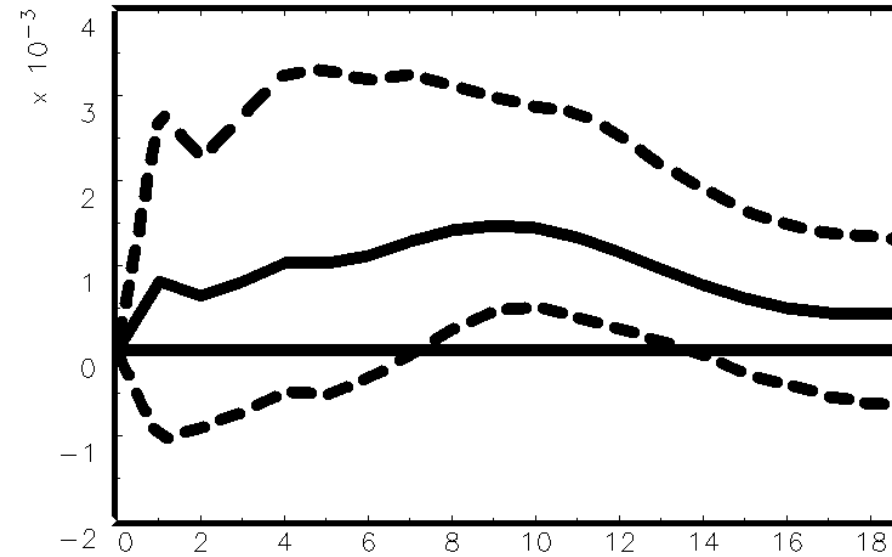# Impulse responses with Shanghai A-Index

MP -> Shanghai stock index
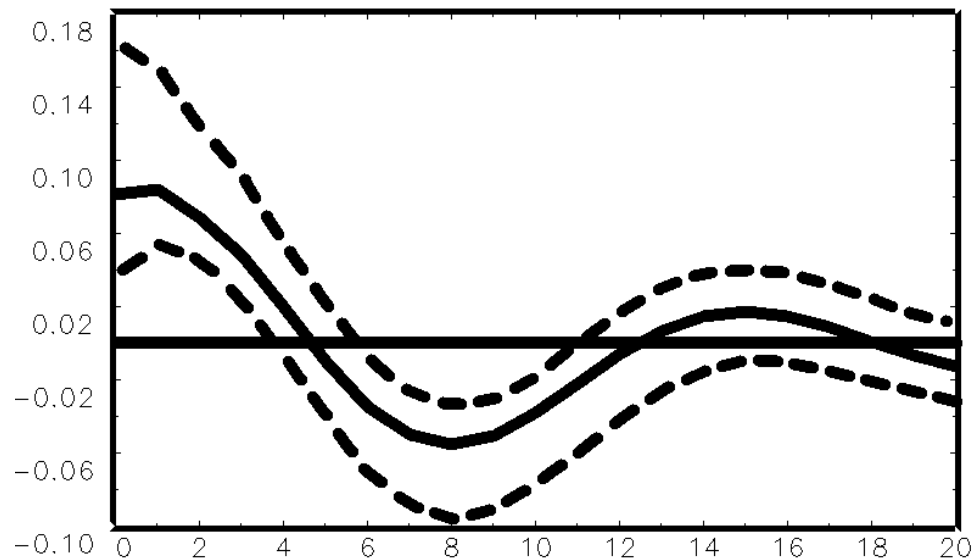
Shanghai stock index -> Consumption

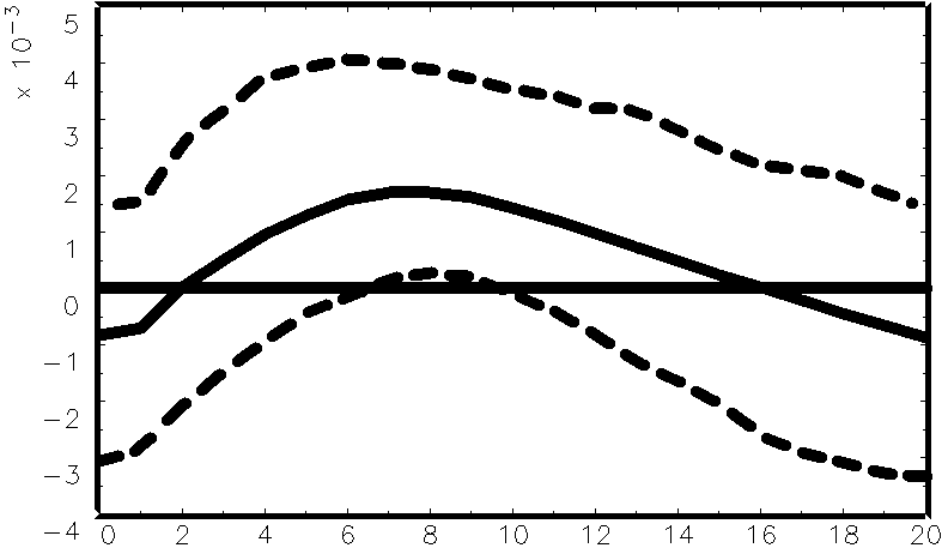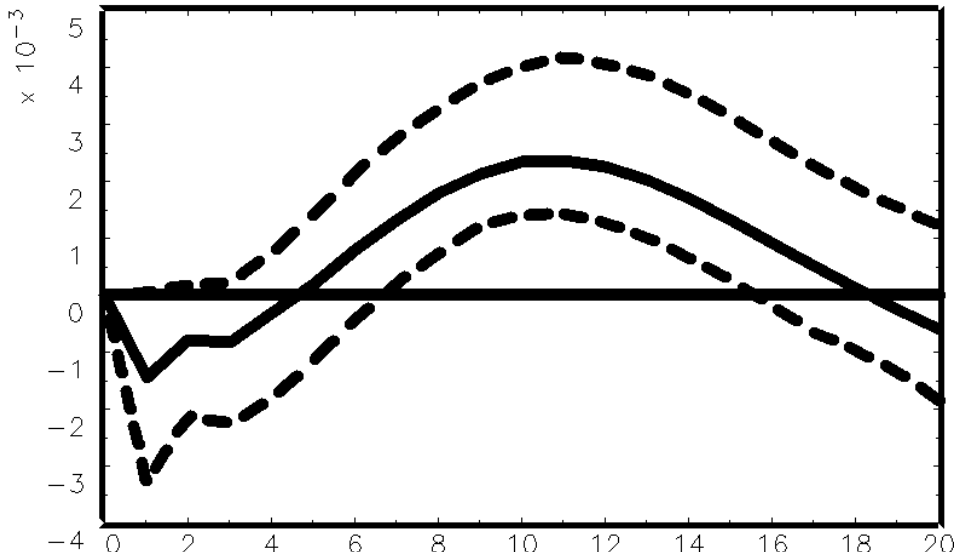# Impulse responses with residential prices

MP -> Housing prices
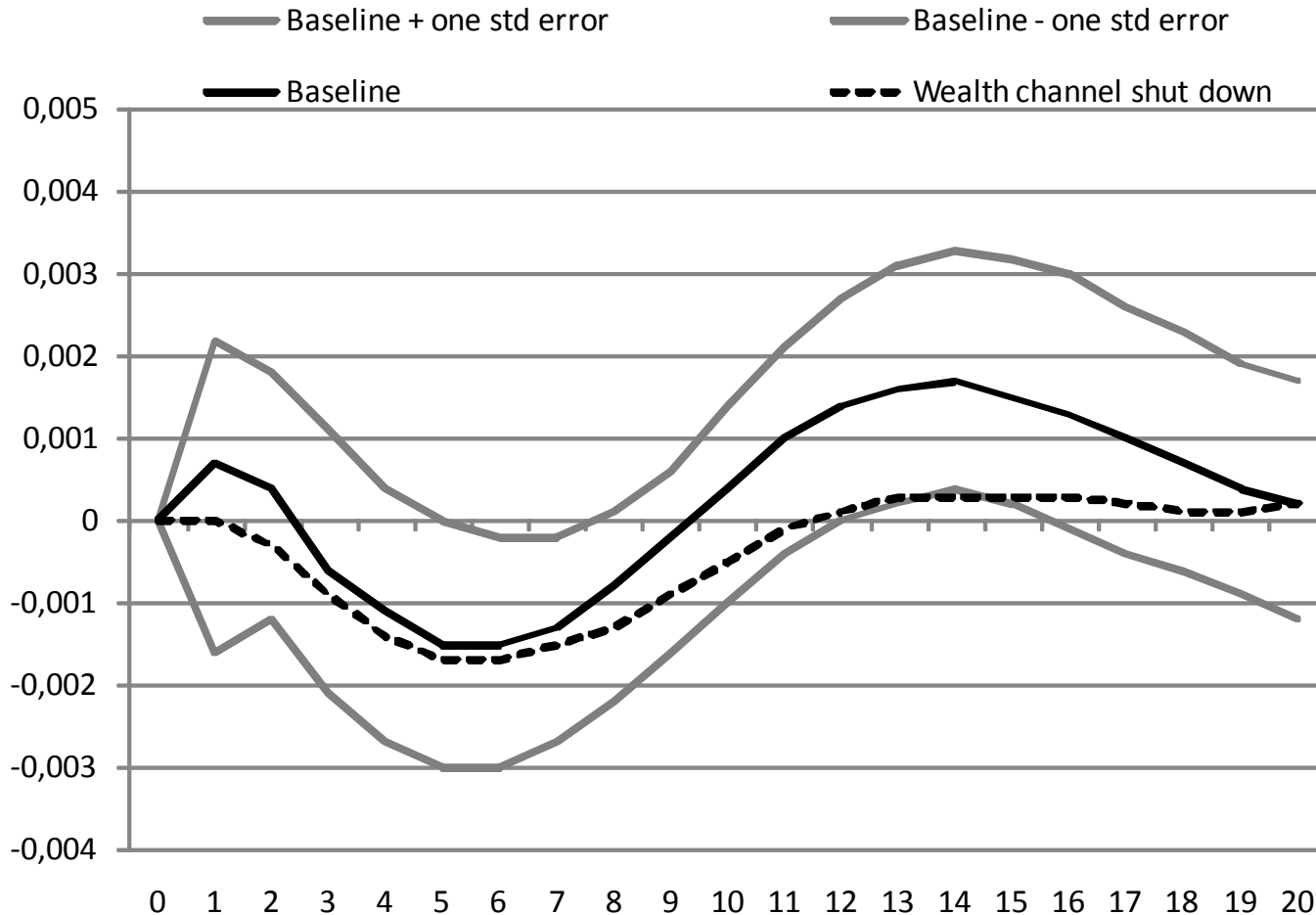
m2real_sa —> realres1mid

Housing prices -> Consumption

realres1mid —> real_cons_sa_log

Finally, is there a wealth channel?

Figure 2. Response of consumption to a shock in money supply via residential prices.

Summary of the main results

- Monetary policy affects asset prices in China.
- Furthermore, asset prices do have an influence on household consumption but the result is not very robust.
- However, the wealth channel does not seem to be functioning in the Chinese economy.

Future work

- Overall, the effects of monetary policy on household consumption are found to be small.
- > Would the impacts be stronger on investment?

- As the role of household consumption is expected to increase in the Chinese economy, more work on the links between monetary policy and household consumption is clearly needed.