7. Macroeconomic Policy and Institutions

ECON 211 - Winter 2019-20

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March 2, 2020

Topics

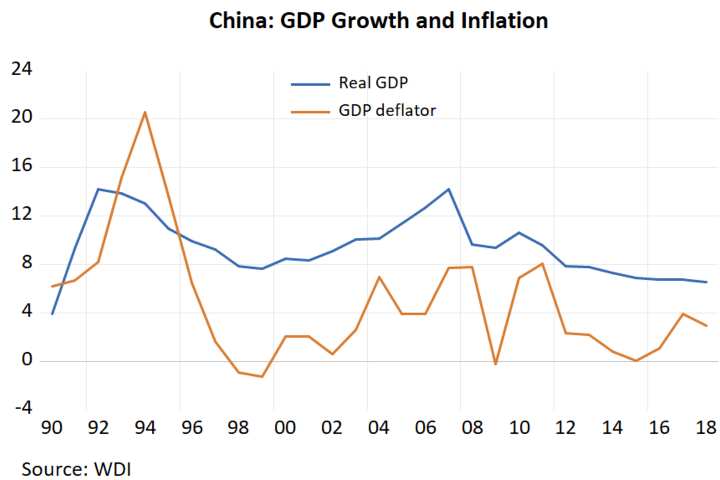
Contents

1 Macroeconomic performance

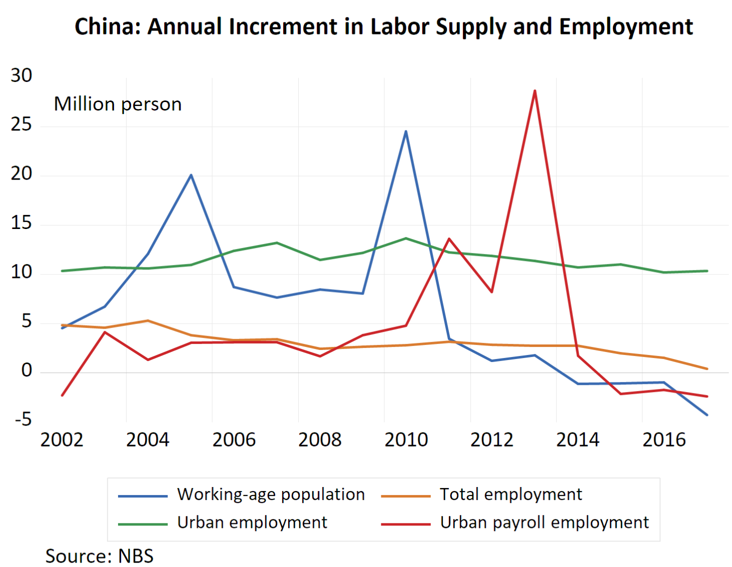
Important macroeconomic concepts

- *Potential output* is the maximum output (*aggregate supply*) when labor is fully employed
- The quantity of *money* and *credit* influences *aggregate demand*
- *Phillips curve*: inflation will pick up when production is in excess of the potential level. Conversely, there is the risk of disinflation and deflation
- Nominal interest rate influences financial prices, while real interest rate affects saving and investment
- *The exchange rate* can be pegged (to the US dollar), managed or flexible (no interventions in the foreign exchange market) with the capital account being open or controlled
- *External balance* is the balance in the current account, also the negative of that balance in the capital account

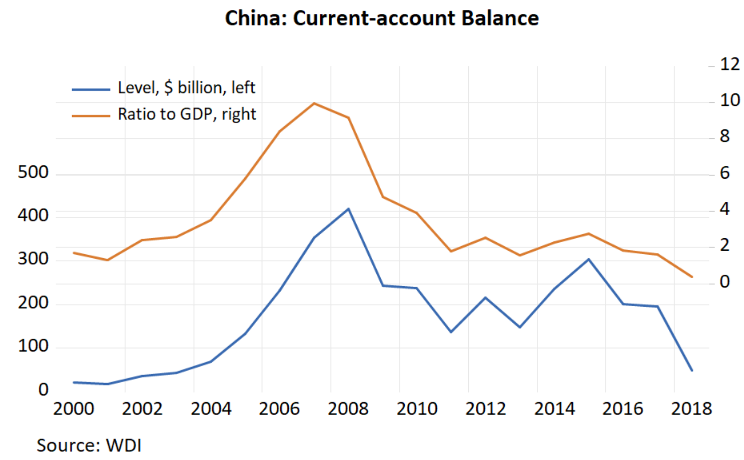
China's GDP growth and inflation



Output growth and employment expansion



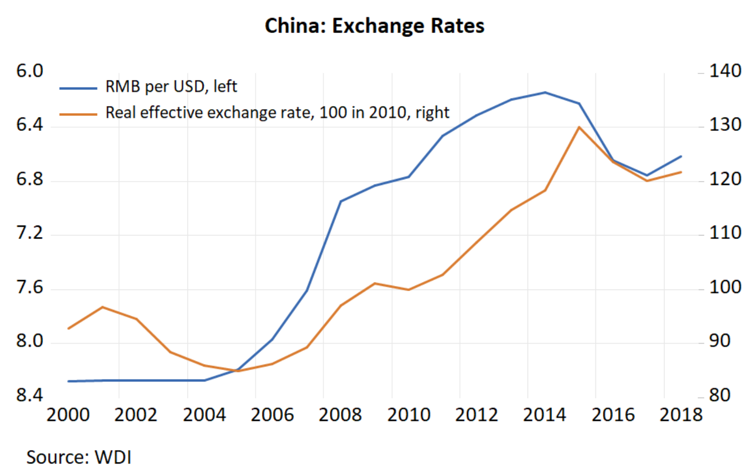
External balance



Highlights

- Before 2002, external balance fluctuated around zero. Current-account balance was closely aligned with the change in foreign exchange reserves
- After 2002, China's external surplus started to rise dramatically. Current account surplus reached 7.2% of GDP in 2005
- The increase in foreign exchange reserves was much larger than current account surplus, reflecting the inflow of hot money

The exchange rate



The dollar exchange rate of RMB

- Before 1993, the Chinese yuan depreciated persistently against the US dollar
- The depreciation of the Chinese yuan reflected:
  - Faster domestic inflation, in line with the prediction of purchasing power parity
  - Convergence of domestic prices towards world prices
- After 1994, the yuan-dollar exchange rate became stable, degenerated into a fixed peg after 1997 until 2005
- CNY started to appreciate against USD in 2005-2014
- Since then, CNY has been depreciating against USD

Major macroeconomic challenges

- GDP growth has been slowing since 2009, but It is not clear what would be the new normal growth of potential output
- In recent years, goods price deflation has been coupled with asset price inflation
- Around 2007, external surplus was a global concern, but recently, capital outflows become a new issue
- Where is the dollar exchange rate of the RMB heading: up or down?

Key points

- Macroeconomics is about adjusting (nominal) aggregate demand to the level of potential output
- Potential output is regarded to be independent of financial aggregates such as money and credit supply
- But money and credit affect aggregate demand, for credit funds new spending and may impact aggregate supply indirectly
- Three key macroeconomic prices are price level, interest rate, and the exchange rate
- In past ten years, China's GDP growth has been slowing, though the true growth of potential output is unknown
- Inflation has a mixed face, high consumer and house prices together with stable or falling producer prices
- The RMB dollar exchange rate is heavily managed, though the central bank often works against market forces

2 How does monetary policy work in China?

Macroeconomic reforms in 1994

- Monetary and financial reforms
  - Centralization of monetary control
  - Separate out policy lending from commercial lending
- The formation of a national foreign exchange market. Pegging the yuan to the dollar helps to achieve domestic price stability
- RMB became convertible for the current-account but is still not fully convertible for capital account transactions

The objectives of monetary policy

- In advanced economies, the primary objective is price stability (2% inflation), though full employment is also important
- In China, the objectives of monetary policy are never explicit
- Loosely speaking, the objectives of macroeconomic policy (not just for monetary policy) are:
  - a targeted GDP growth
  - Urban employment expands by 10 million person
  - within the confine of price stability (around 3%)
  - and exchange rate stability

The instruments of monetary policy

- In advanced economies, the short-term policy rate is the main tool, though after the 2008 global financial crisis, quantitative easing (QE) becomes another major tool used to the long-term bond rate
- In China, the toolbox contains more instruments (mainly:
  - Banking reserves
  - Deposit and loan rates
  - Guidance on (targeted) bank lending
  - Informal lending quotas for banks
- While in advanced economies, monetary policy targets at the cost of funds, Chinese monetary policy targets mainly at the *quantity and allocation* of credit

How does monetary policy work?

- Step 1: Banking reserves -> bank deposits and money supply, and the key control variables: required reserve ratios and reserves
- Step 2: Deposits -> credit supply, and the key control variables are loan-deposit ratios, capital adequacy ratios, and window guidance
- Interest rate policy sets deposit and loan rates directly. It is not used frequently
- Together with investment approval from National Development and Reform Commission, credit supply affects investment
- Step 3: Funds leak from SOEs and state banks into the shadow banking pool, funding private borrowing

Measures of money and credit

- PBC's liabilities, of which banking reserves and currency are of special interest
- M2 = M1 (M0 + checkable deposits) + QM (quasi money: savings and term deposits)
- Loans from financial institutions, especially banks
- Total credit to nonfinancial sectors (社会融资: social financing, total financing to (for) the real economy)

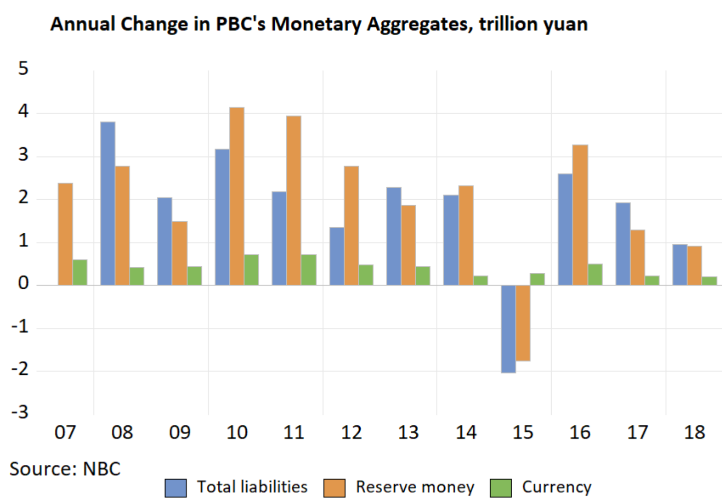
The flow of total credit to nonfinancial sectors in 2019

	Trillion RMB	% of total
Total credit	25.575	100.00
RMB loans	16.883	66.01
Foreign currencies loans	(0.127)	(0.50)
Entrusted loans	(0.940)	(3.67)
Trust loans	(0.347)	(1.36)
Undiscounted bank acceptances	(0.476)	(1.86)
Government bonds	3.242	12.68
Corporate bonds	4.720	18.46
Funds raised in equity by nonfinancial businesses	0.348	1.36
Asset-backed securities of depository financial institutions	0.403	1.58
Loans written off	1.055	4.13

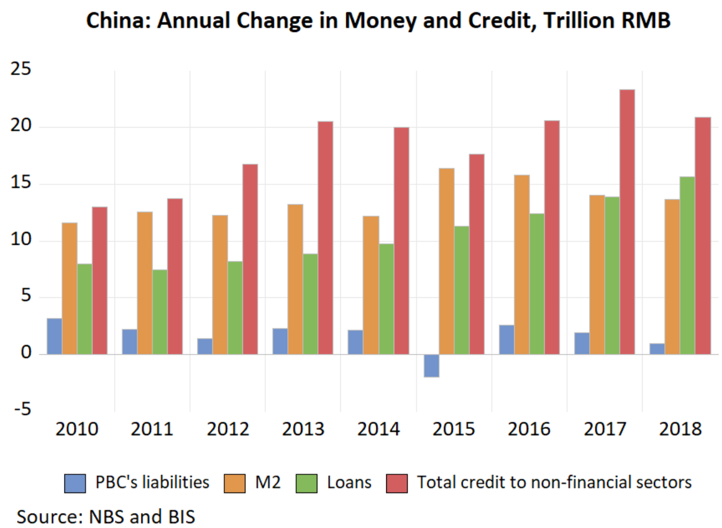
The stock of total credit to nonfinancial sectors in 2019

	Trillion RMB	y/y growth
Total credit to nonfinancial sectors	251.31	10.7
RMB loans	151.57	12.5
Foreign currency loans (RMB equivalent)	2.11	-4.6
Entrusted loans	11.44	-7.6
Trust loans	7.45	-4.4
Undiscounted bankers' acceptances	3.33	-12.5
Corporate bonds, net	23.47	13.4
Government bonds	37.73	14.3
Equity funds raised by nonfinancial enterprises	7.36	5
Asset-backed securities of depository financial institutions	1.68	31.5
Loans written off	4.07	35.1

The role of PBC in expansion of money and credit



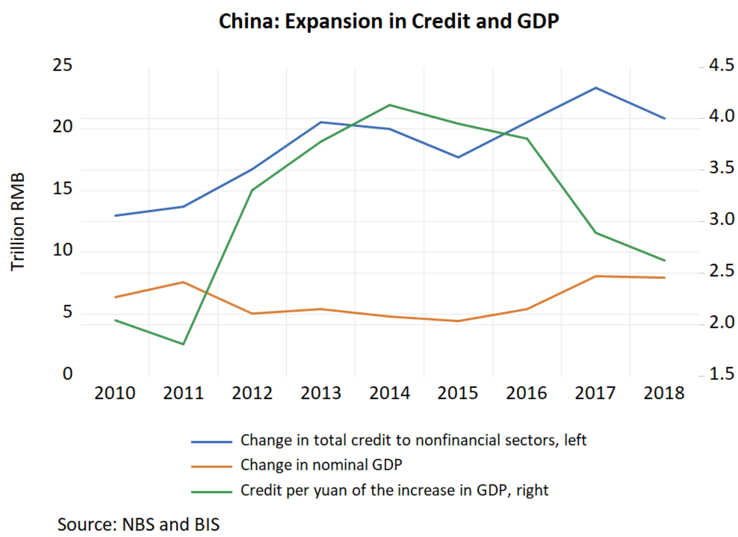
Money and credit expansion



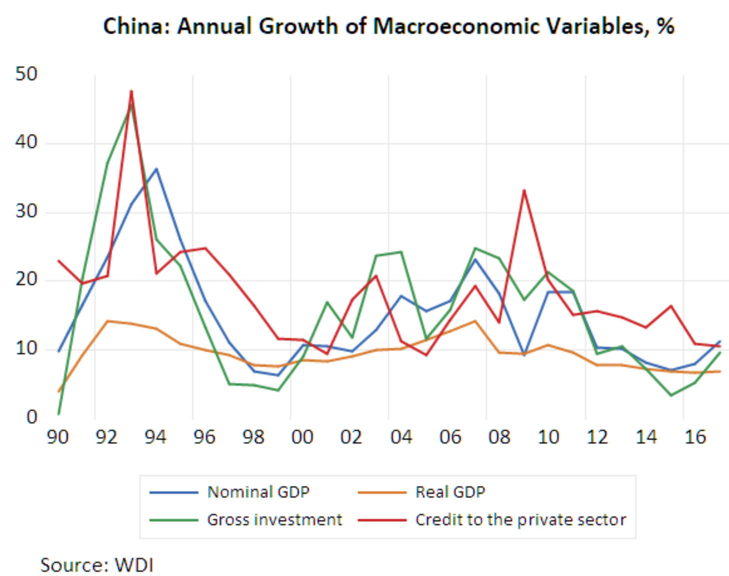
Money and credit, which causes which?

- Money: sources/liabilities of banking, ususally measured by M2
  - Central bank money: reserve money = currency + banking reserves, but more broadly, PBC liabilities
  - Private money: deposits
- Credit: uses/assets of banking, usually measured by bank loans and total credit to NF sectors
- Money/deposits are created when a bank loan is extended initially, but subsequently inflow of deposits causes outflow of loans
- The creation of money and credit is jointly accomplished by the central bank and banks, but the former has a primary role

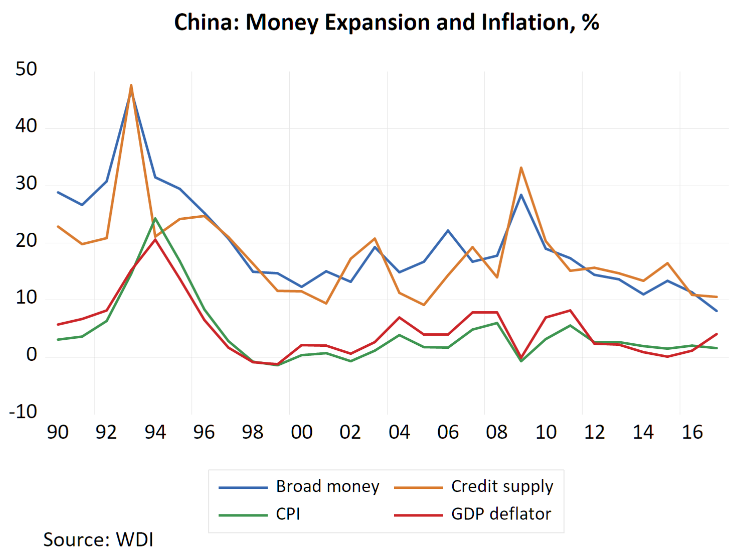
How is credit expansion related to GDP growth?



Credit supply expansion



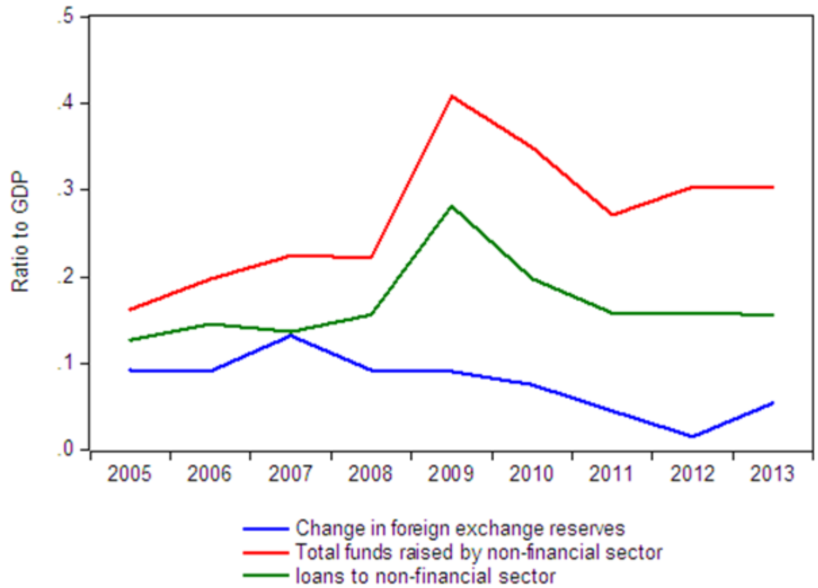
The effect on inflation



Issues of monetary policy

- To prevent RMB from appreciating too fast since 2005, PBOC has involuntarily injected excessive banking reserves. US QE effectively results in a Chinese version of QE
- To contain inflation resulting from excessive banking reserves, PBOC has to resort to "window guidance" in checking the expansion of bank loans. And such restriction leads to a rapid expansion of shadow banking since 2003
- Recently, the policy concern is to check growth slowdown in the face of high levels of risky debt

Total credit to nonfinancial sectors



Complications from the exchange rate policy

- Another major objective is to keep the dollar exchange rate stable. After 2005, the concern was to prevent the RMB appreciating too much; recently, it is to prevent the RMB to fall too much
- Buying dollars expand banking reserves, compromising the effort to restrain credit expansion. So the PBC had to raise required reserves ratios (RRR)
- Selling dollars contract banking reserves, so the PBC has to lower RRR

Key points

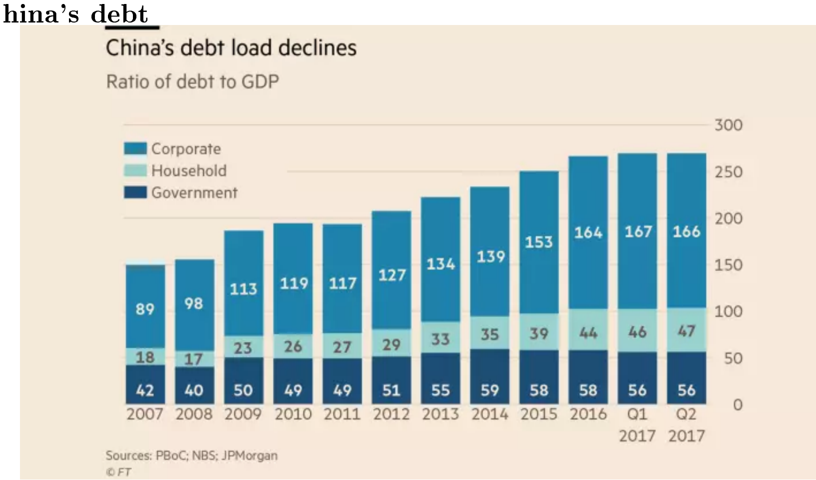
- The PBOC attempts to set the quantity of credit supply as an intermediate target, which is broadly measured by total credit to nonfinancial sectors
- The financial sector is segmented into a banking sector and a non-bank (shadow banking) sector which expanded excessively in 2009-2016
- The interest rate is not used as an effective tool for bank lending, while non-bank lending and the related interest rate are beyond control
- Through the channel of bank lending and investment, the PBOC may influence significantly GDP growth rate
- But it has no effective control over risky non-bank lending, especially in the housing sector
- The PBOC finds it hard to let go the exchange rate, so interventions in the foreign exchange market compromise its control over banking reserves

3 Some current issues

Issue 1: the conflict between GDP growth and financial stability

- On one hand, to boost GDP growth or to prevent it from falling too far, the authorities have only tool: expand credit to fund debt-fueled investment, many of such projects are of dubious financial returns
- On the other hand, credit expansion would further raise the debt-GDP ratio and much of which tends to fuel speculation in housing, aggravating the risk of a financial crisis

China's debt



Deleveraging

- Since 2009, there has been too much expansion of credit supply, initially as a countermeasure against the negative shock of the 2008 global financial crisis. At 2013, total credit supply, from banks and non-banks, may already exceeded 200% of GDP.
- Local governments, developers and SOEs are all heavily indebted. If property prices do not rise as much as expected, many debt may be defaulted.
- Deleveraging steadily while meeting credit demand in the real economy is a serious challenge
- In the first half of 2018, deleveraging was a top priority, but towards year end, Priority shifted to preventing GDP growth from falling, so monetary policy oscillated

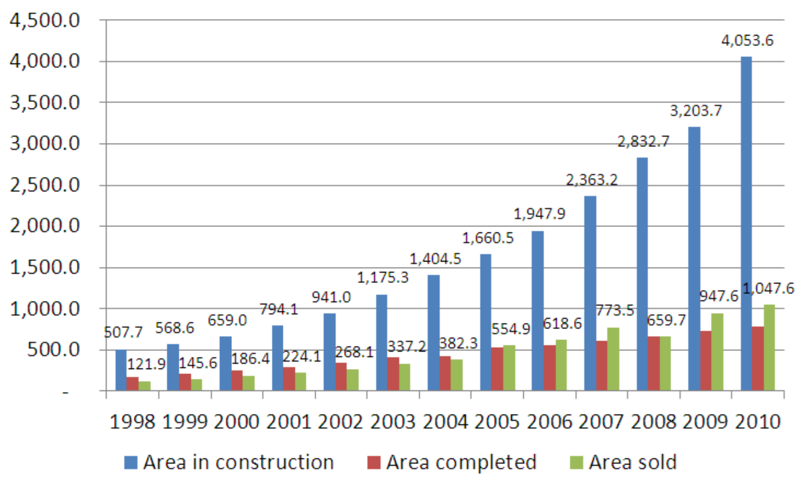
House price bubbles

- Since 2000 when housing became commercialized, the price of real estates has been rising vigorously. House prices have risen by 10 times in many cities
- Sale of land use rights has been a major source of revenue for local governments
- The experience of rising house prices makes housing an attractive investment
- A bubble forms when rising house price expectations become self-fulfilled

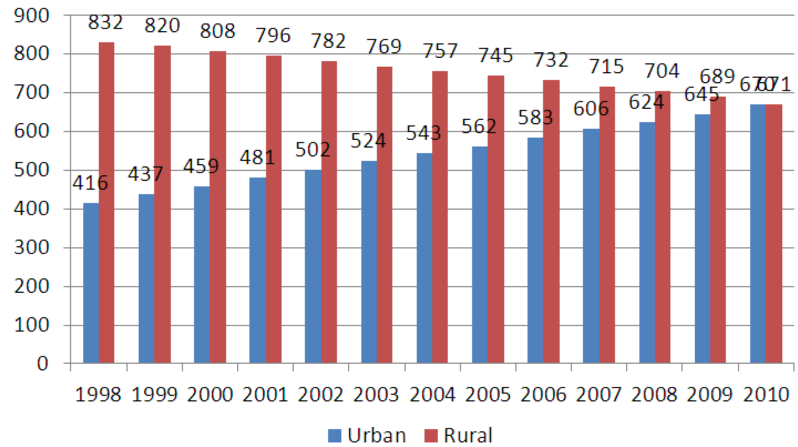
Some basic facts about the housing market

- The scale of housing construction expanded rapidly since 2000
- In 2010, urban population reached 670 million, 50% of total population
- Annual urban population increased averaged 20 million a year
- Relative to annual urban population increment, per capita floor space in construction was 164.4 m2 and floor space sold was 42.5 m2 in 2010
- These numbers suggest a serious over buildup in supply in the context of effective demand

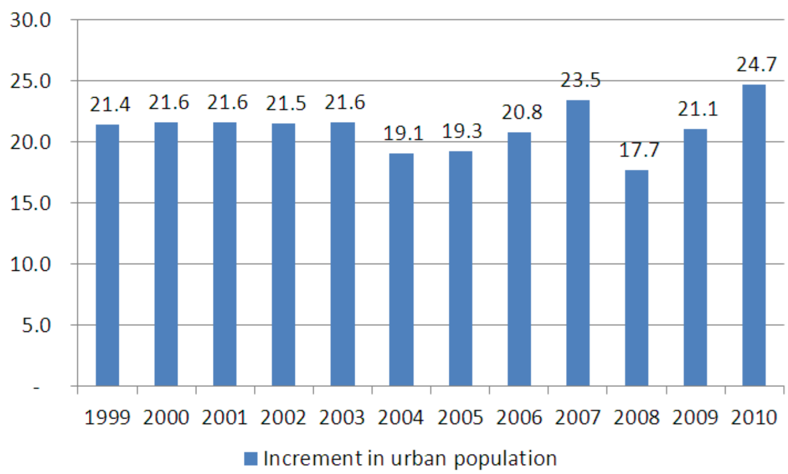
New housing



Urban population



Urban living space



Sustainable urbanization

- Subsidized social housing
- Restrictions on investment demand
- Financing of infrastructure investment by local governments
- Managing the conversion of rural land to urban land and the role of land sale revenue
- Property tax and financing of local government spending in general

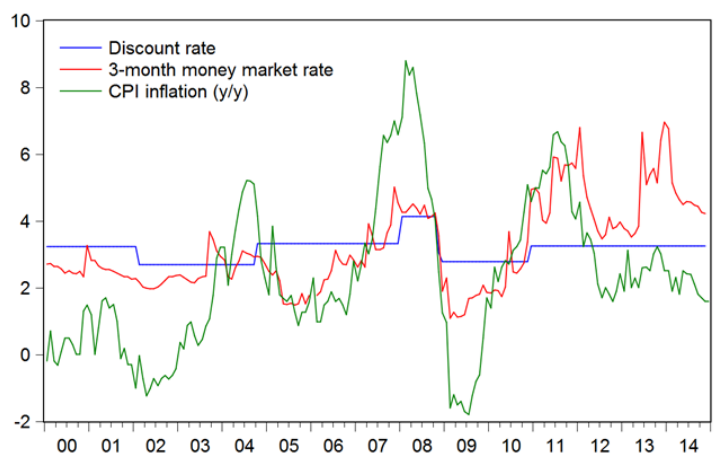
Issue 2: Changing the monetary regime

- The current tool in controlling the supply of bank loans is no longer effective, as more funds are leaked into the shadow banking sector for higher returns
- As banks lose deposits from "disintermediation," the risk of a banking crisis may be elevated
- After interest rate liberalization is implemented as expected, the PBOC must gain direct control over the interest rate in the interbank market
- There is a dilemma in setting the interest rate

Deficiencies of the current Chinese monetary regime

- Monetary policy affects mainly bank loans and deposits through banking reserves and required reserve ratios
- There is a large wedge between banks and non-bank intermediation, so there is *disintermediation,* so funds leaked out of banks through *wealth management products* and *entrusted loans*
- With a dual-track system, monetary policy becomes less effective

Interest rates



Modern monetary regime

- Found in most advanced economies, especially those with international financial centers, at least until the 2008 global financial crisis

- The main policy tool is the inter-bank market rate, which is followed closely by the money market rate
- Via the money market, banks and non-banks compete on an even common playground
- The exchange rate is free floating
- Cross-border capital flows are unrestricted

Issue 3: Let the RMB exchange rate be more flexible

- Since 2010, RMB has been appreciating at about 3% a year. The bet on one-way RMB appreciation carry trade has reached destabilizing levels
- In early 2014, the PBOC engineered a sharp depreciation to punish speculators
- The daily band is now widened to 2%
- The past large inflow of hot money has been unwelcome

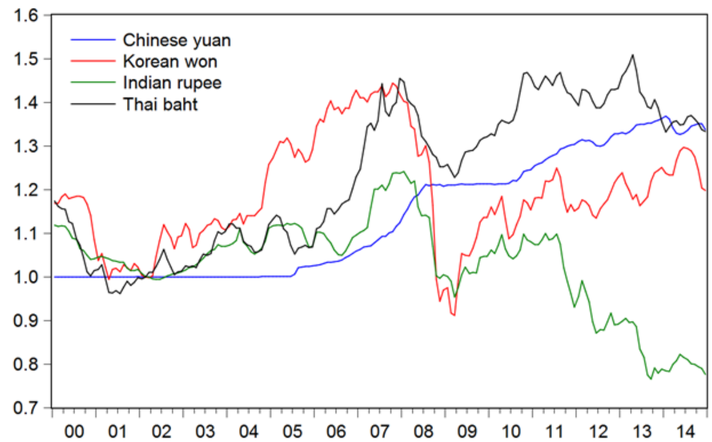
The headaches of exchange rate management in China

- To prevent unwanted currency appreciation, the PBC has to buy dollars, so unwillingly expanding banking reserves and letting speculators to profit from one-way bet on appreciation
- To prevent unwanted depreciation, the PBC has to sell dollars, so contracting banking reserves and rewarding speculators at the same time
- Interventions in the foreign exchange market give the US an excuse for accusing China for currency manipulation
- The PBC is gripped by the fear of free floating, because it does not trust the market

The case for a free floating exchange rate

- The free floating exchange rate has been the *modus operandi* for advanced economies, since the collapse of the Bretton Woods system in 1973
- It enables monetary policy to be more independent and effective in achieving domestic targets
- It enables free cross-border capital flows, a precondition for a global currency and an international financial center, both of which are desired by China

Compared with other Asian currencies



Is RMB undervalued?

- The US government and others have pressured China to allow the yuan to appreciate.
- The Chinese government refused at first but in 2005, adopted a strategy of a gradual and controlled appreciation, 5% in 2006 and 7% in 2007, possibly 10% in 2008 as the US dollar has tumbled so far.
- China's real exchange rate is very close to purchasing power parity, the accusation of undervaluation has no basis.

Should RMB depreciate against USD?

- Measured in terms of the value in euro, USD began a new round of appreciation in March 2014. Measured in terms of the dollar index, the appreciation began in 2011
- As most other currencies depreciated against USD, RMB has been alone in moving up with USD
- Many signs indicate that RMB is now overvalued and some depreciation against USD is appropriate

Key points

- The current Chinese monetary framework is ineffective because:
  - It is saddled with too many conflicting objectives

    - It is only delaying but also exacerbating a time bomb of slowing economic growth and a financial crisis

- If China wants to be a true market economy, it need to:
    - move towards an interest rate based monetary control framework which is less discriminatory
    - move towards a floating exchange rate, while liberalizing cross-border capital flows

Review questions

- What reform of macroeconomic policies and institutions were introduced in 1994?
- How does monetary policy works, and has the central bank been targeting?
- What are the current major issues of monetary policy?