Macroeconomic Effects of Financial Policies[1]

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Financial policies

We define *financial policies* in China as a set of credit policy, monetary policy, and regulatory policy.

- Monetary policy aims to control the aggregate money supply and credit.
- Credit policy in China plays an essential role in directing or limiting bank credit to specific sectors or industries.
  - Such a policy consists of a number of administrative tools such as loan quotas and window guidance.
- Regulatory policy interacts with monetary policy to affect the aggregate bank loan and total credit.

In this paper

We focus on how regime shifts in the government's financial policies influenced the ways credits were allocated and how this transmits into China's macroeconomy.

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1. A review of financial policies
2. The effects of financial policies on the SOE-led economy (1978-1997)
3. The effects of financial policies on the investment-driven economy (1998-2015)
4. The effects of financial policies on the new normal economy (2016-present)

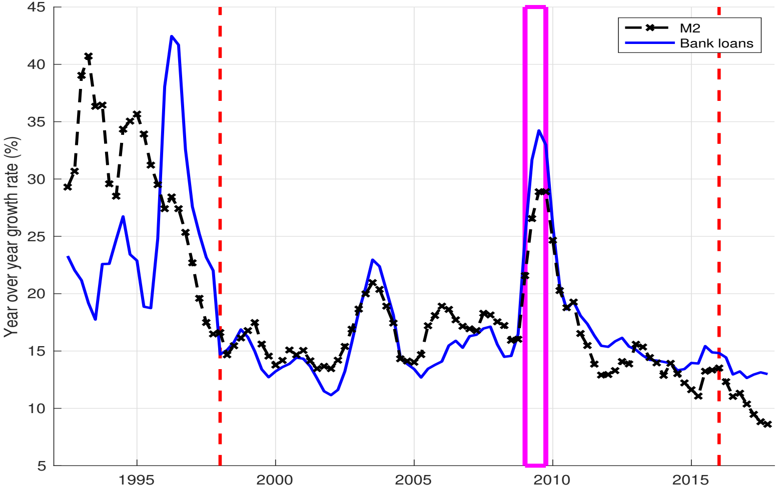
A review of financial policies since 1978

- the SOE-led economy (1978-1997),
  - Credit policy: lean toward the light sector (e.g. color TV and refrigerators), comprised mostly of public-owned firms, away from a strong preference to the heavy sector before 1978.
  - Monetary policy: aggregate credit volume as the intermediate target and mandatory administrative credit plan as the policy tool during 1984-1997.
- the investment-driven economy (1998-2015),
  - Credit policy: to control the total volume of bank credits and to redirect loans to the heavy sector (e.g. real estate and infrastructure)
  - Monetary policy: M2 growth as the intermediate target and open market operations and reserve requirement as the main policy tools
  - Regulatory policy: Lax regulatory policy on shadow banking

A review of financial policies (cont.)

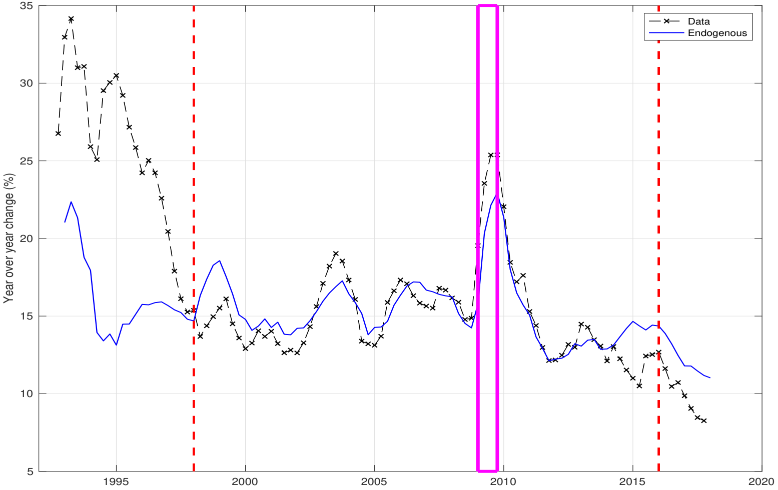
- the new normal economy (2016-present).
  - Credit policy: deleveraging over-leveraged and over-capacity firms.
  - Monetary policy: start to switch from quantity-based to interest-rate based system, establishing the MPA system.
  - Regulatory policy: strengthened regulatory policy on shadow banking.

Growth of M2 supply and Bank loan



Growth rates are yoy changes.

Quantity-based monetary policy



M2 growth and its systematic component. Source: Chen, Ren, and Zha (Forthcoming)

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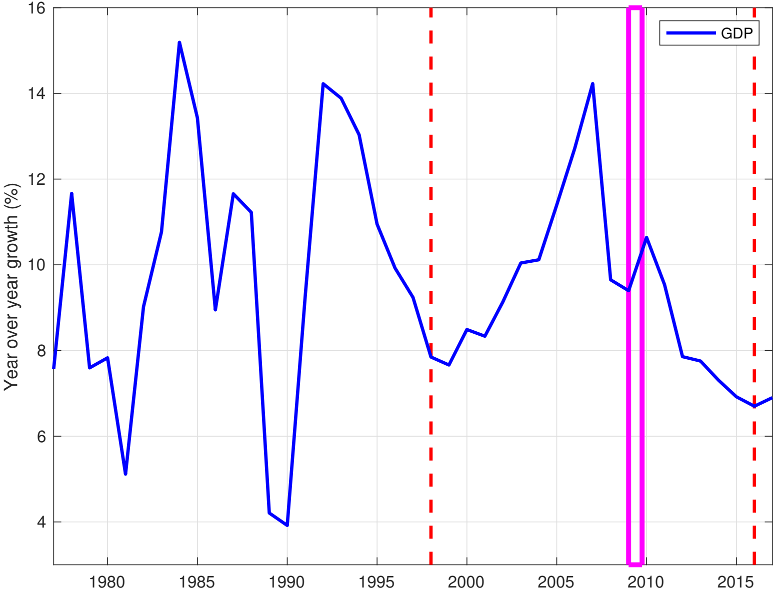
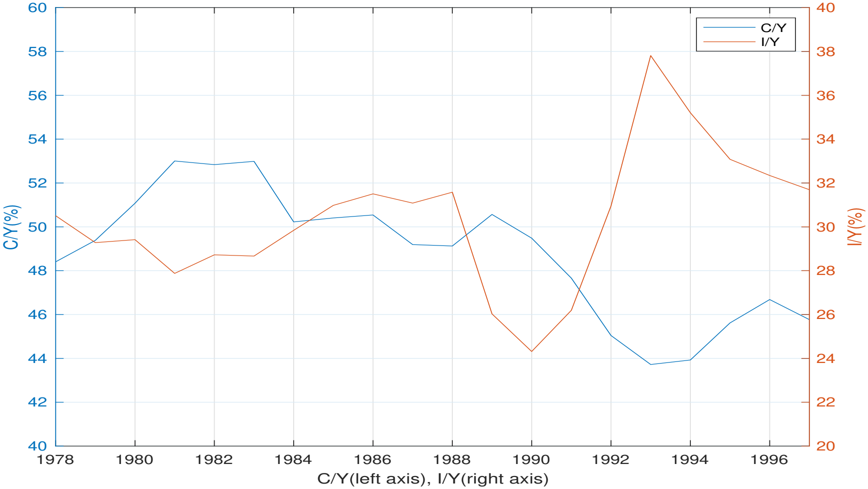
GDP Growth



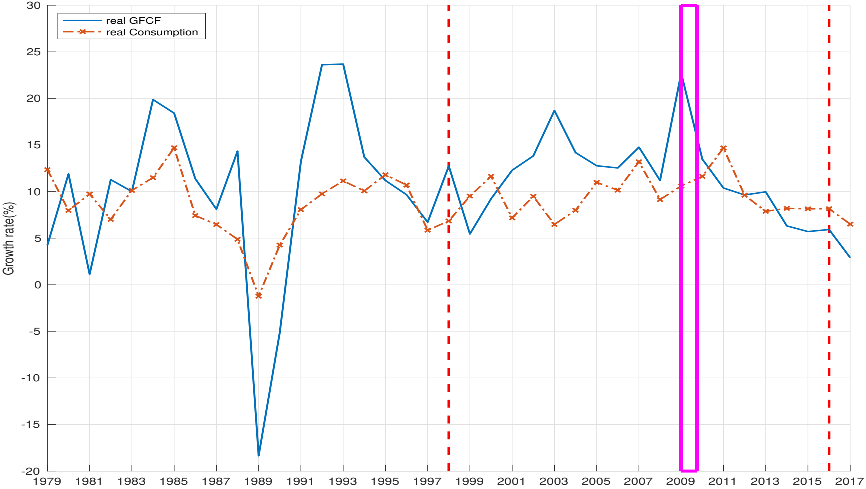
Growth rate of GDP (yoy).

Ratios of investment and consumption to GDP

Point: stationary pattern of I/Y.



Growth of aggregate investment and consumption

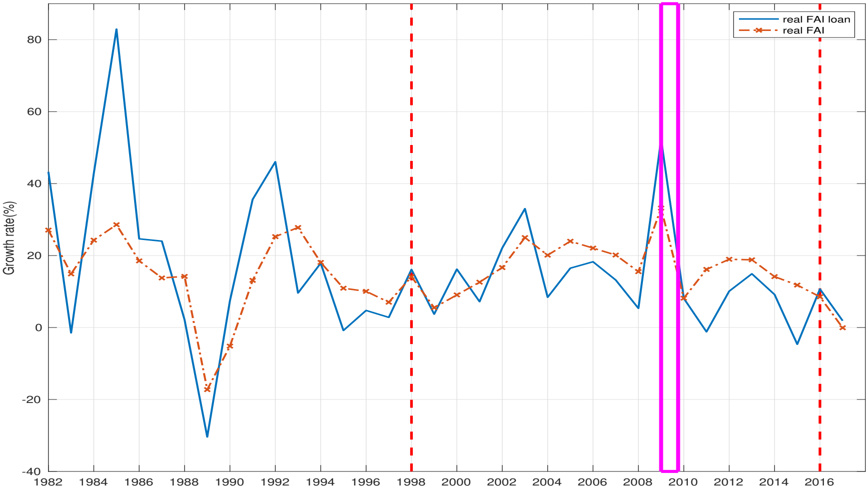


Correlations between HP-filtered log annual series

Table: Correlation between consumption and total investment

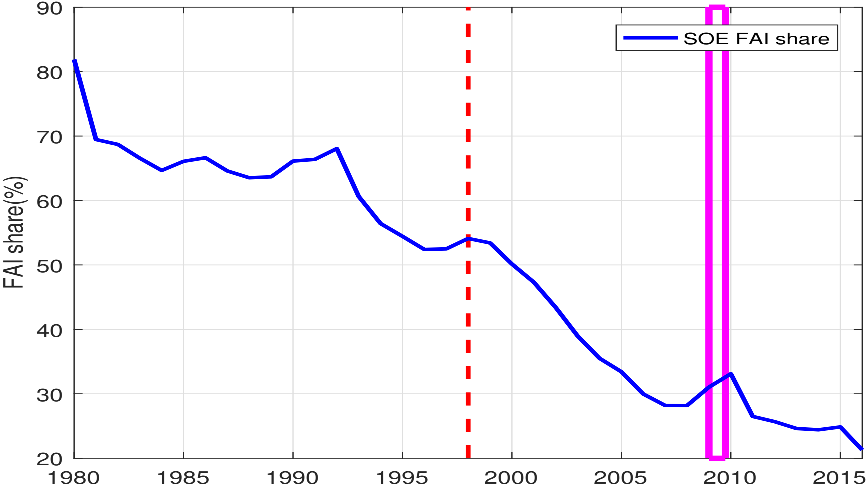
	1979-1997	1998-2015
Correlation	0.8062	-0.3500
p-value	0	0.1545

Role of bank loans in aggregate investment



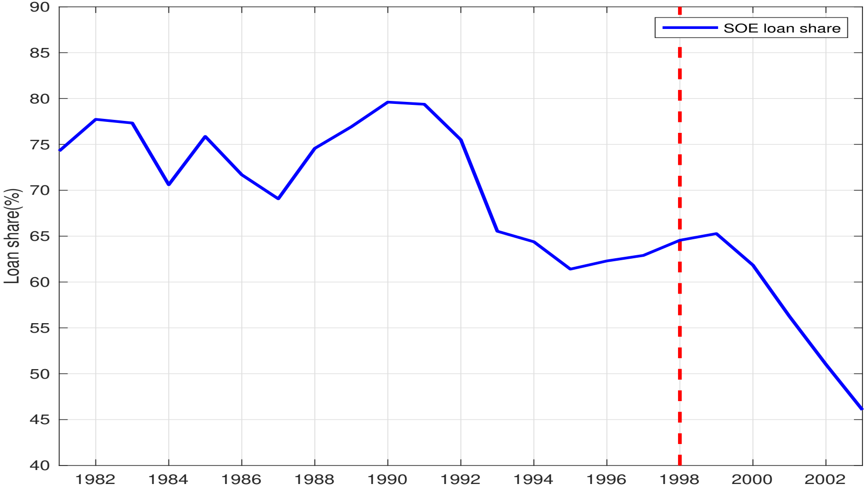
Growth rates of fixed asset investment (FAI) and FAI loans (yoy). Credit policy is important in promoting investment.

Importance of SOEs in FAI



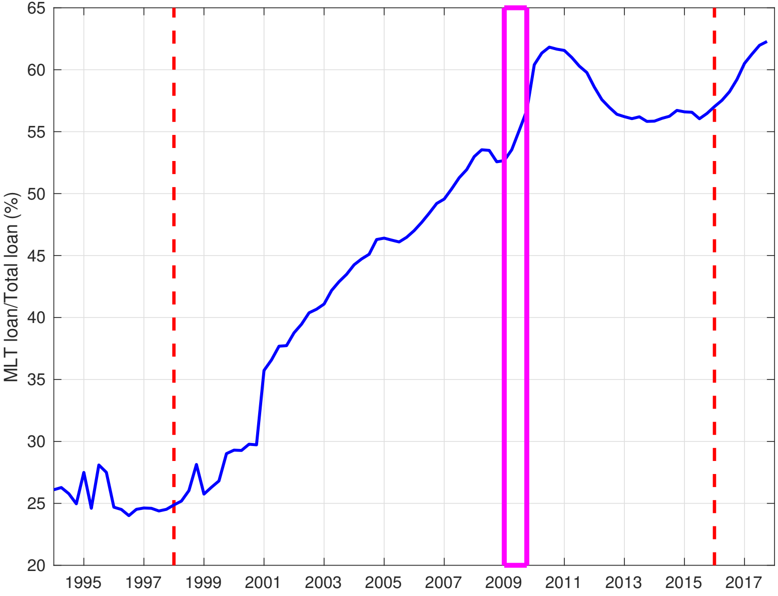
Share of SOE in FAI. This aggregate data comes from the NBS, but the micro data at the firm level also confirms this trend with SOEs defined as enterprises whose shares owned by the state are at least 20%.

Importance of SOEs in bank loans



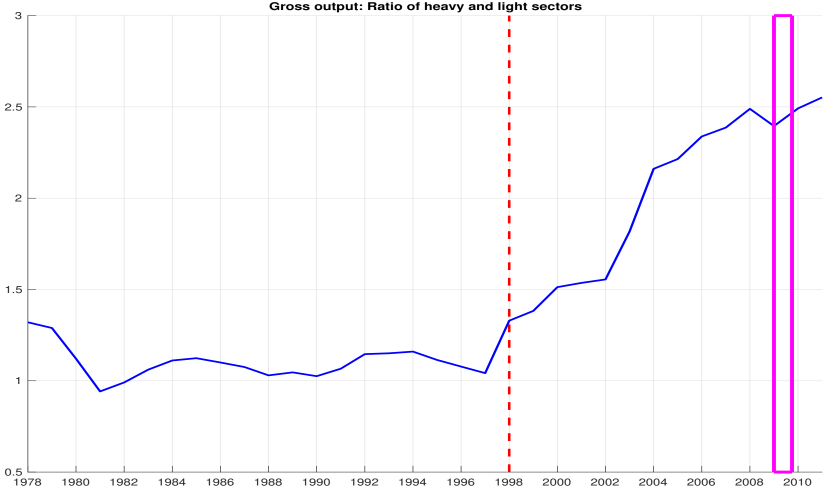
Share of SOEs in investment loans.

Share of MLT loan



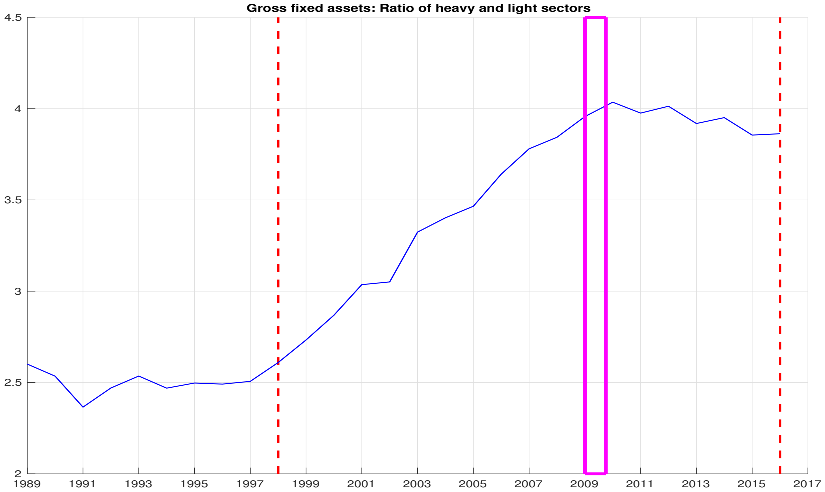
Share of MLT loans in total bank loans.

Heavy versus light sectors



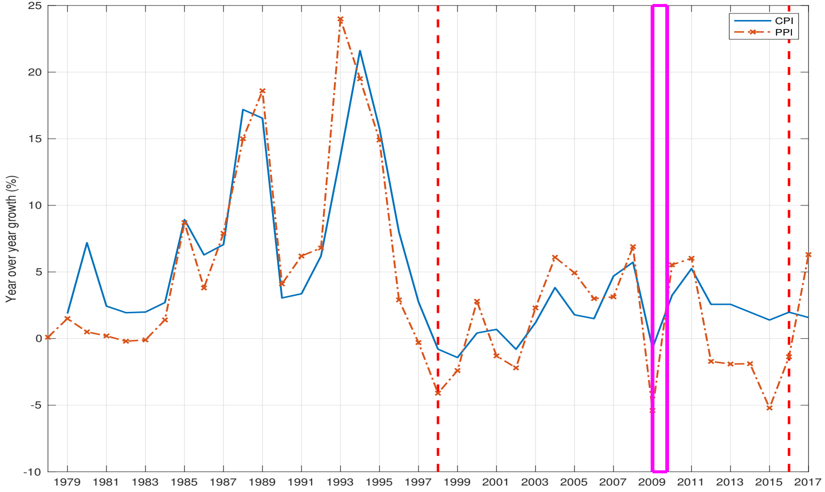
Ratio of gross output in the heavy sector to gross output in the light sector.

Heavy versus light sectors

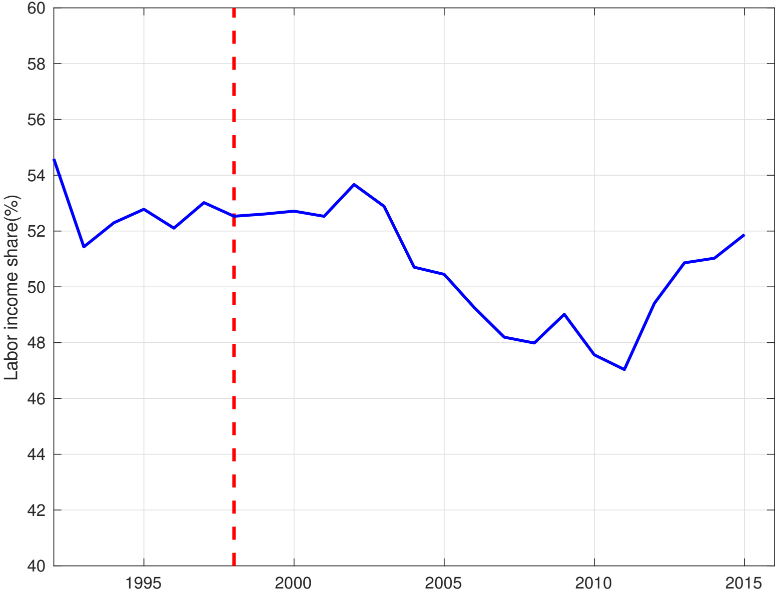


Ratio of gross fixed assets in the heavy sector to that in the light sector.

Inflation rates



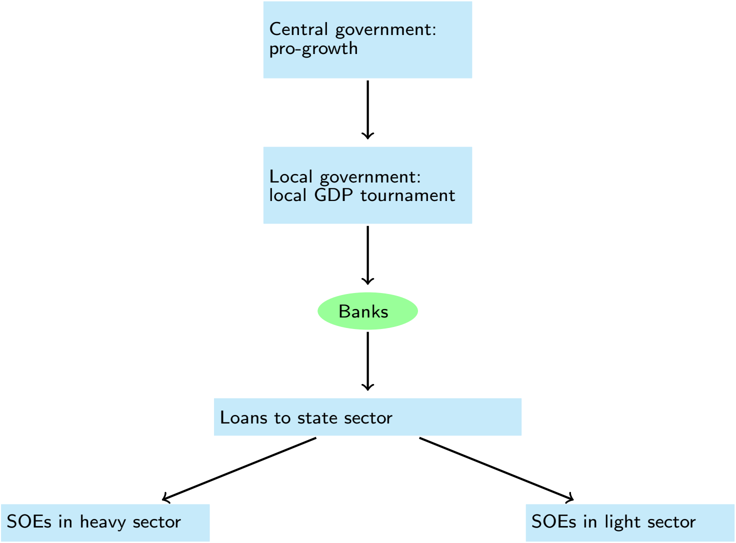
Share of labor income in GDP



Trends and cycles in the SOE-led economy

- Trends:
  - T1 Stationary investment-output ratio.
  - T2 Stable ratio of gross output and capital stock in the heavy sector to those in the light sector.
  - T3 Stable labor share of income.
  - T4 High shares of SOEs in FAI and in investment loans.
- Cycles:
  - C1 Aggregate investment and household consumption tended to comove.
  - C2 MLT and short-term loans tend to comove together.
  - C3 The volatility of PPI inflation had a magnitude similar to the volatility of CPI inflation.
  - C4 Booms and busts of investment and its credits were driven mainly by SOEs.

Credit policy in the SOE-led economy (Chen and Zha, 2018)



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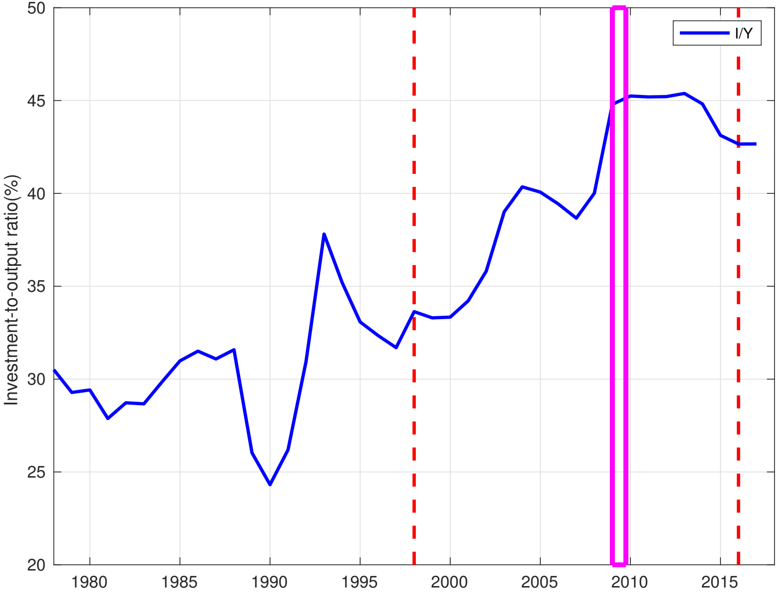
Ratio of investment to GDP



Secular pattern of the investment-to-GDP ratio.

Correlations between HP-filtered log annual series in 1998-2015

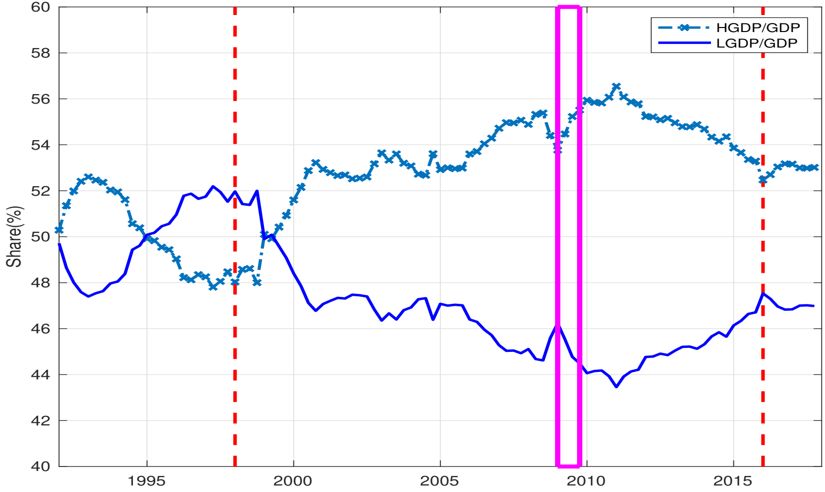
Panel A: Real variables deflated by own price index		
	(C, I)	(I, LaborComp)
Correlation	-0.350	0.026
p-value	0.155	0.919

C: household consumption (including durables). I: gross fixed capital formation.

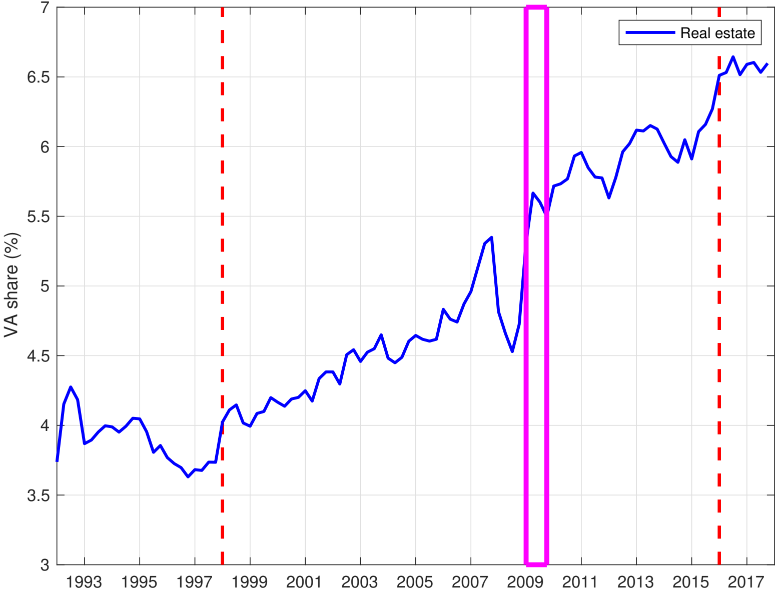
Correlation between short-term and long-term loans (quarterly data) up to 2015Q4

Start of the sample	Loan growth (yoy) China	New loans as % of GDP China
1998Q1-	-0.37	-0.29

Heavy vs. light



Real estate

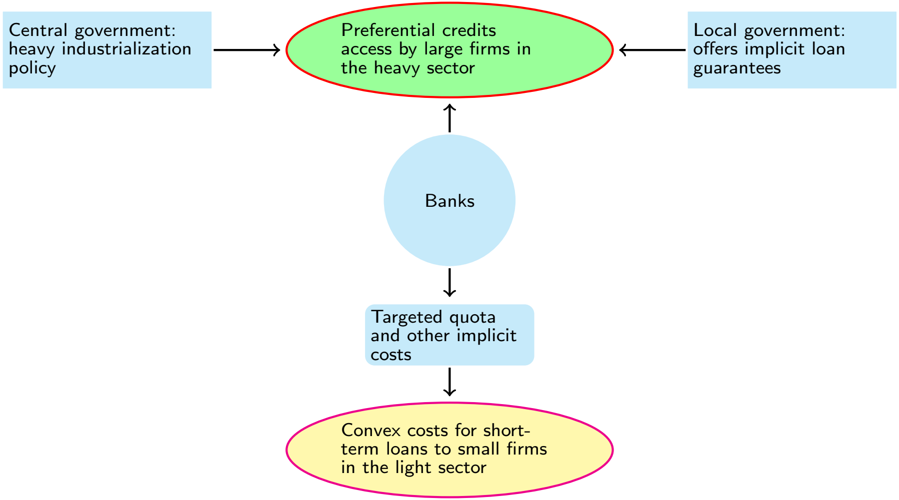


The share of value added to the real estate sector in total value added (GDP).

Trends and cycles in the investment-driven economy

- Trends:
  1. (T1) A steady increase of the ratio of new MLT loans to short-term loans.
  2. (T2) A steady increase (decrease) of the ratio of aggregate investment (consumption) to GDP.
  3. (T3) A steady increase of the ratio of value added and gross fixed assets in the heavy sector to those in the light sector.
  4. (T4) A decline of the labor income share.
- Cycles
  1. (C1) A negative comovement between long-term loans and short-term loans.
  2. (C2) No comovement between aggregate investment and consumption.
  3. (C3) No comovement between aggregate investment and labor income.

Credit/monetary policy in the investment-driving economy (Chang, Chen, Waggoner and Zha, 2016)



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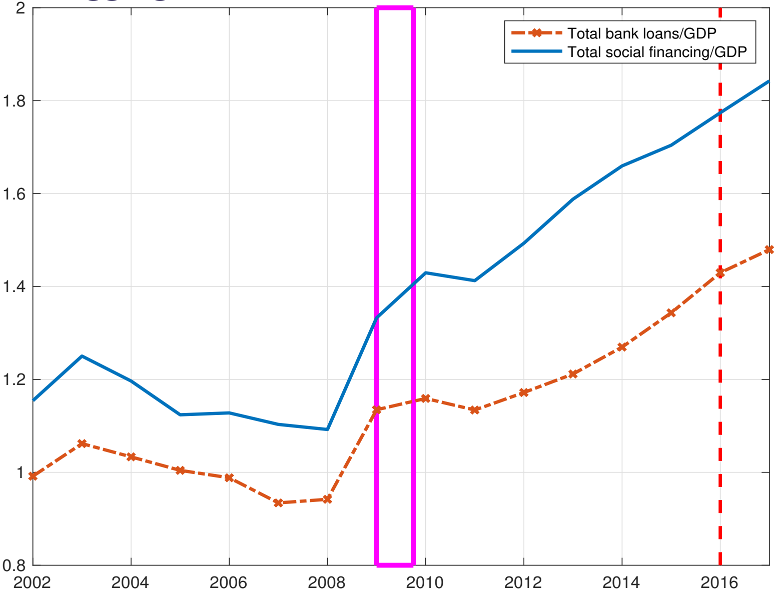
Ratio of aggregate debts to GDP

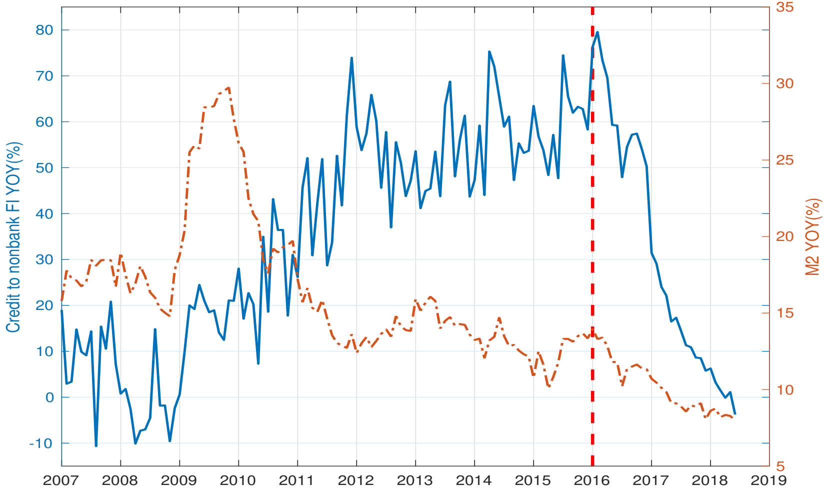


Ratios of aggregate social financing and bank loans to GDP.

The new normal economy

- In recent years, Chinese central government strived to achieve a balance between GDP growth and financial stability.
- The Central Economic Work Conference held in December 2015 called for supply-side structural reforms
    - deleveraging, reducing overstock of real estate, and cutting excess capacity.
- Deleveraging of the financial sector and real sector were achieved via
    - a strengthened regulation on shadow banking products
    - a better coordination between monetary and regulatory policies under the MPA system.

Bank assets invested in NFCs (**on balance sheet**)



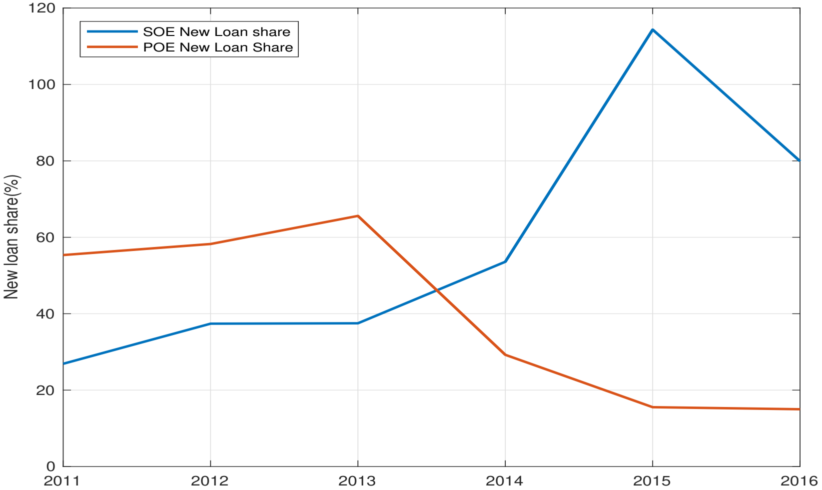
Credits to nonbank financial institutions. Growth (yoy) of banks' investments in NFCs.

Challenges facing the new normal economy

Financial reforms in the new normal economy (2016-present) have unintended consequences.

- In particular, financial deleveraging has reduced bank credits to nonbank financial institutions and thus shadow banking loans to POEs.
- The default rates by POEs and thus systemic risks have increased.
- Upstream SOEs, however, have continued to receive preferential credits and remain unproductive and monopolistic.
- Government's implicit guarantees to such unproductive firms make the deleveraging of corporate debts difficult.

Share of bank loan by SOEs and POEs



The share of newly issued bank loans to SOEs and POEs in total newly issued bank loans.

Summary and looking forward

- The regime switching from the SOE-led economy to the investment-driven economy and then to the new normal economy has been a product of the government's active financial policies.
- Policy tools since 2016 have been adapted to a switch to a new normal economy.
- Such a transition, however, will not be smooth under China's institutional constraints.
  - The GDP growth target still remains the foremost goal of monetary policy.
  - Credit policy will continue to guide banks to allocate loans to different industries or sectors.
  - The tension between GDP growth and financial stability challenge the government's determination for further deleveraging via tightening banking regulation.

China Time Series for Scientific Research

- English version: `https://www.frbatlanta.org/cqer/research/china-macroeconomy.aspx?panel=1`
- Chinese version: `http://cmf.cafr.cn/` under 数据下载.

Growth accounting

Growth rate (%)	1978-1997	1998-2015	2016	2017
	Long and Herrera (2016)			
GDP per worker	6.67	8.36	6.26	6.55
Capital per worker	2.89	5.71	4.55	4.11
TFP	3.78	2.65	1.71	2.45
Contribution by investment	43.4%	68.3%	72.7%	62.7%
	Bai, Hsieh, and Qian (2006)			
GDP per worker	7.05*	8.36	6.26	
Capital per worker	2.48*	5.61	4.69	
TFP	4.57*	2.75	1.57	
Contribution by investment	35.1%*	67.1%	74.9%	

References I

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