

# Introduction to China's Financial System

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# Roles of financial and monetary systems

- Allocating resources (from social planners' point of view):
  - Channel savings of household to firms that need capital for investment
  - Channel resources to the most productive firms and most rewarding projects
- Funding resources (from firms' point of view)
- Investment channels (from households' point of view)
- Provides a tool for central banks to manage inflation and stimulate real economy (from the central bankers' point of view)

# Roles of financial and monetary systems

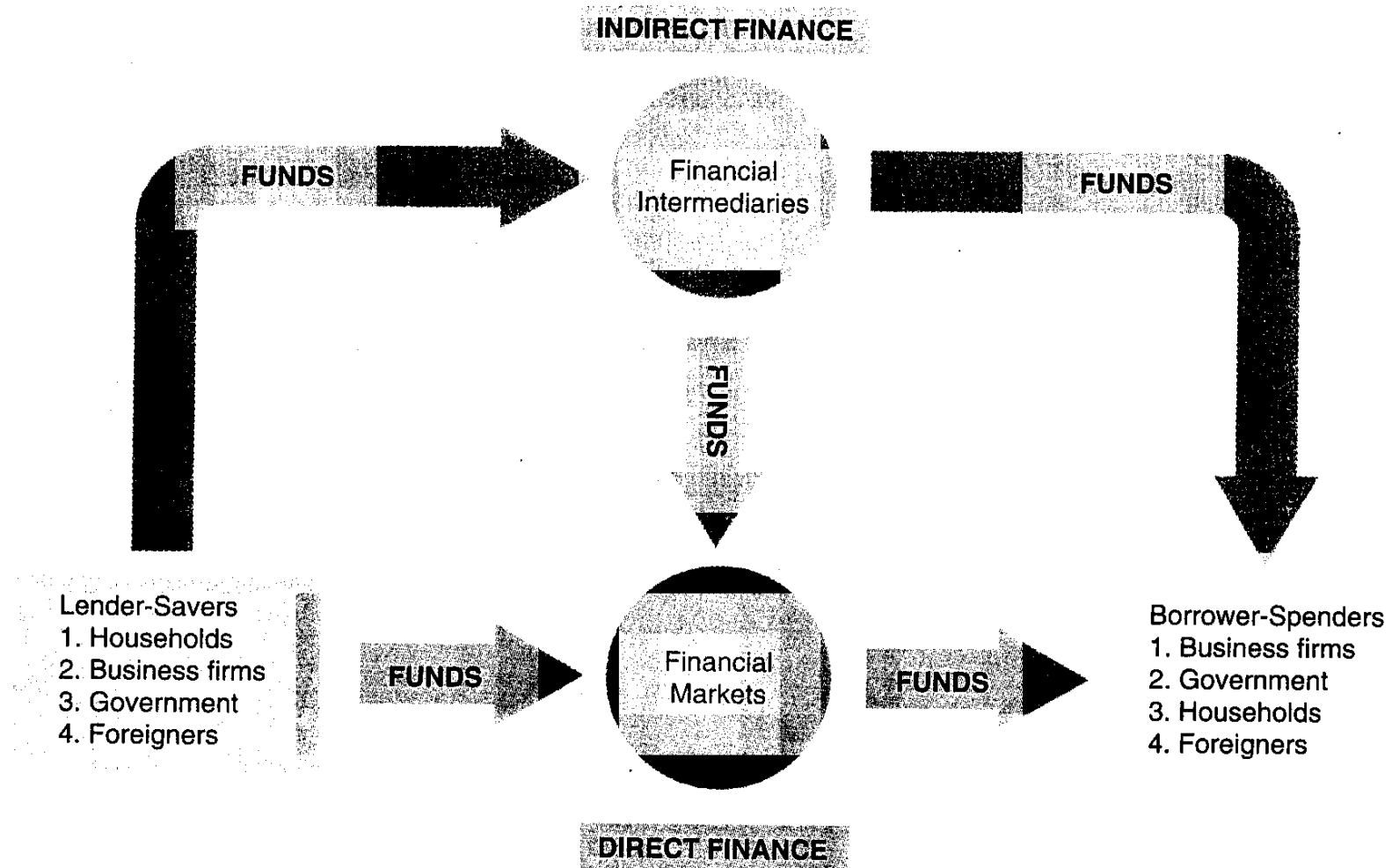
- A price-based system
  - Price as signals

- An incentive system

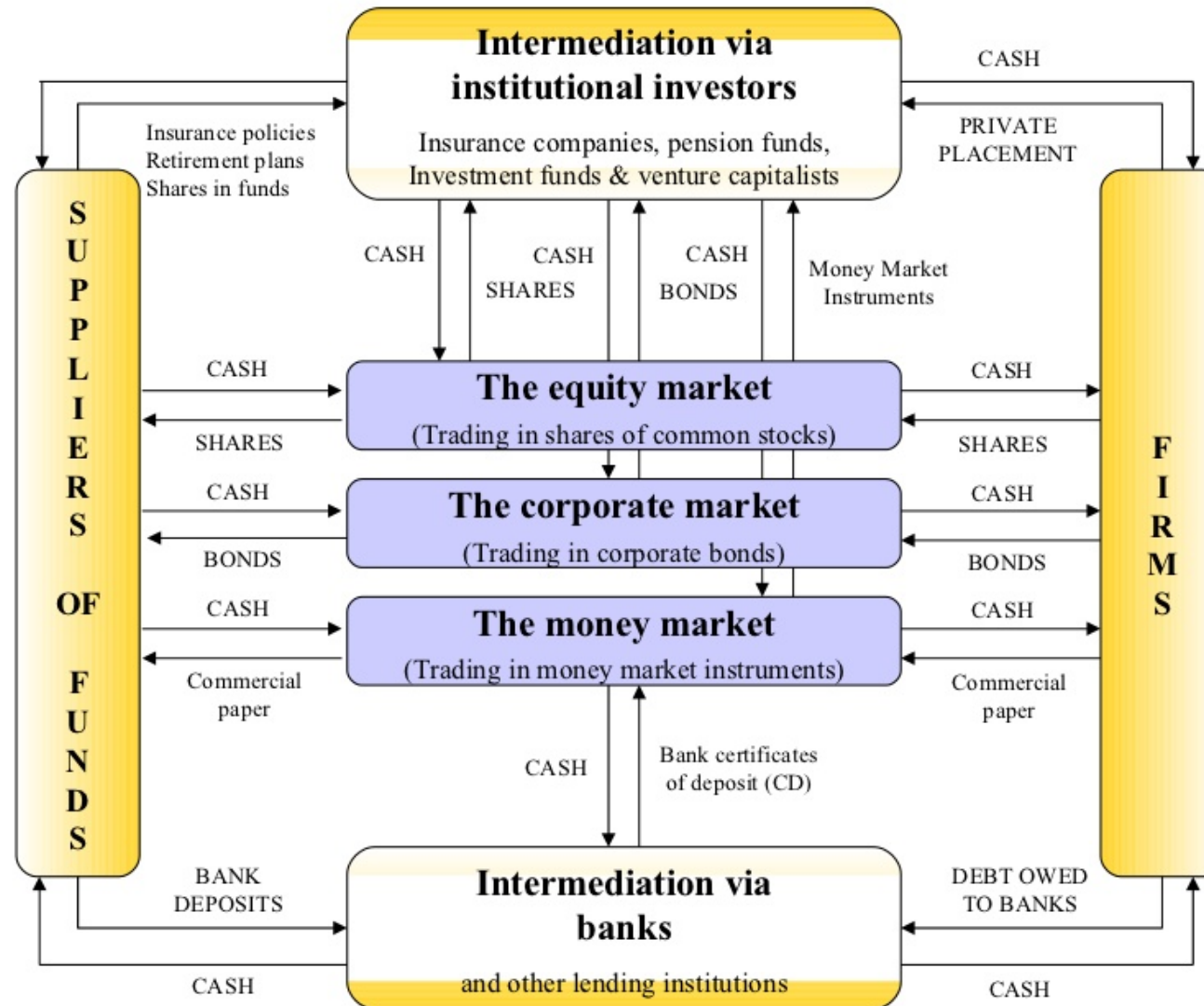
- Every agent's goal is return/profit maximization

(股价上涨动力)

# Direct vs indirect finance



# A Typical Financial System in a developed economy



# U.S. financial system – Key Components

- Financial intermediaries

- Depository institutions:

- commercial banks
    - Savings and loan associations (thrifts) & mutual savings banks
    - Credit unions

} 类似信用社

- Contractual savings Institutions

- Insurance companies
    - Pension funds

退休基金资产管理

- Investment Intermediaries

- Financial service providers:

- Broker-dealer
      - Underwriters

} investment bank

- Asset management companies

资产管理

- Regulatory institutions:

- The Federal Reserve System
    - The Office of the Comptroller of the Currency
    - The Office of Thrift Supervision
    - The Securities and Exchange Commission
    - National Association of Securities Dealers
    - The Commodity Futures Trading Commission

Central Bank

美国之大监管机构  
监管机构

美联储

Bitcoin: SEC 反对  
CFTC 支持

(比特币监管混乱的问题)

(美联储诞生  
于84年前)

货币发行机构

# U.S. financial system – Key Components

- Financial markets

- By traded instruments :

- Stock markets: NYSE, NASDAQ (major exchanges) among many other trading platforms
    - Debt markets: bond (government & corporate), 货币 (中国主要是机构投资者 (银行), 近年来规模增大)
    - Money markets (中国: 银行间市场)
    - Asset-backed → asset-backed security (最近一次 financial crisis)
    - Derivatives: CBOE
    - Foreign exchange (OTC)

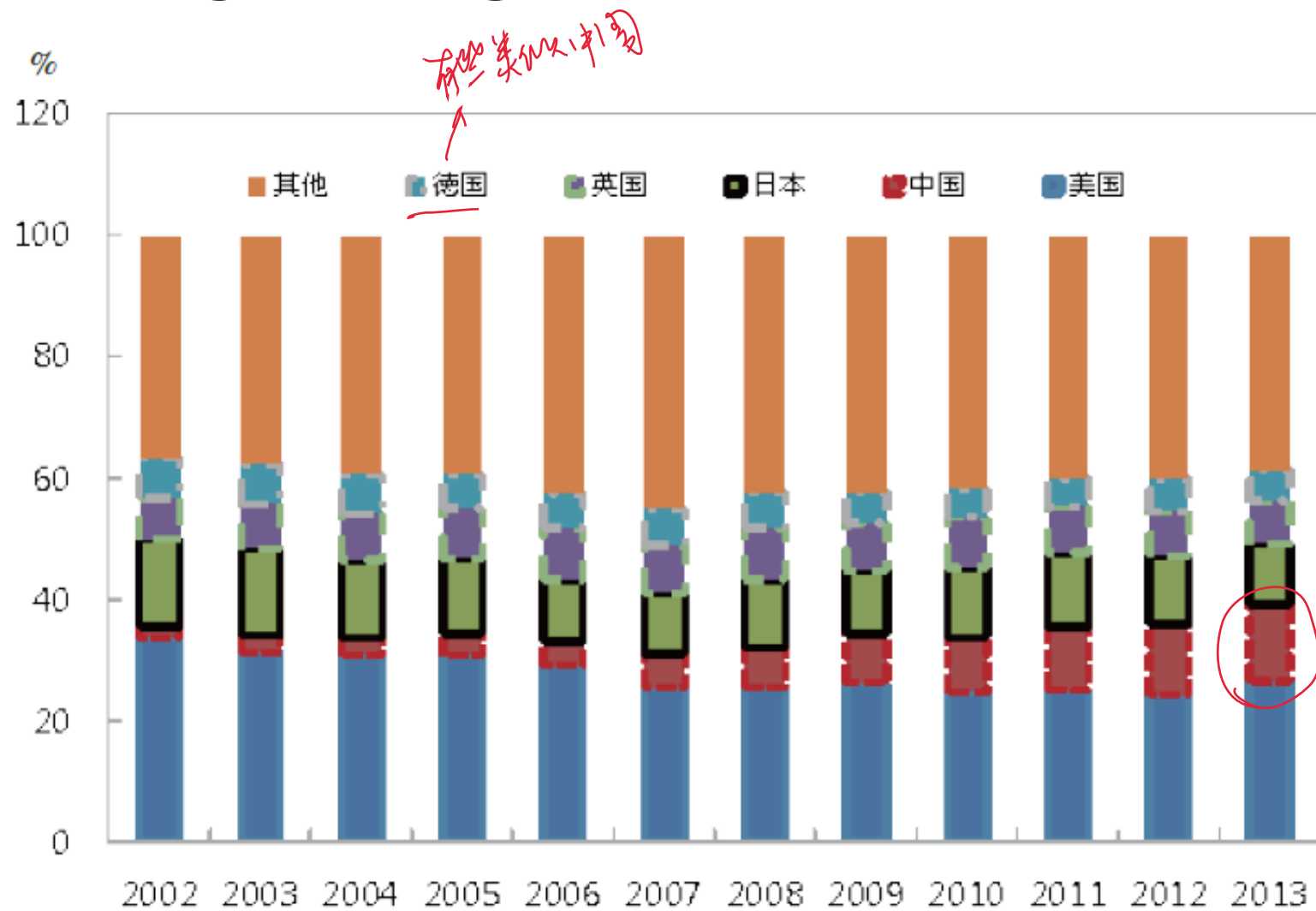
- By trading platforms:

- Exchanges
    - OTC (over-the-counter)

- By stages:

- Primary market
    - Secondary market

# China's growing share of financial assets



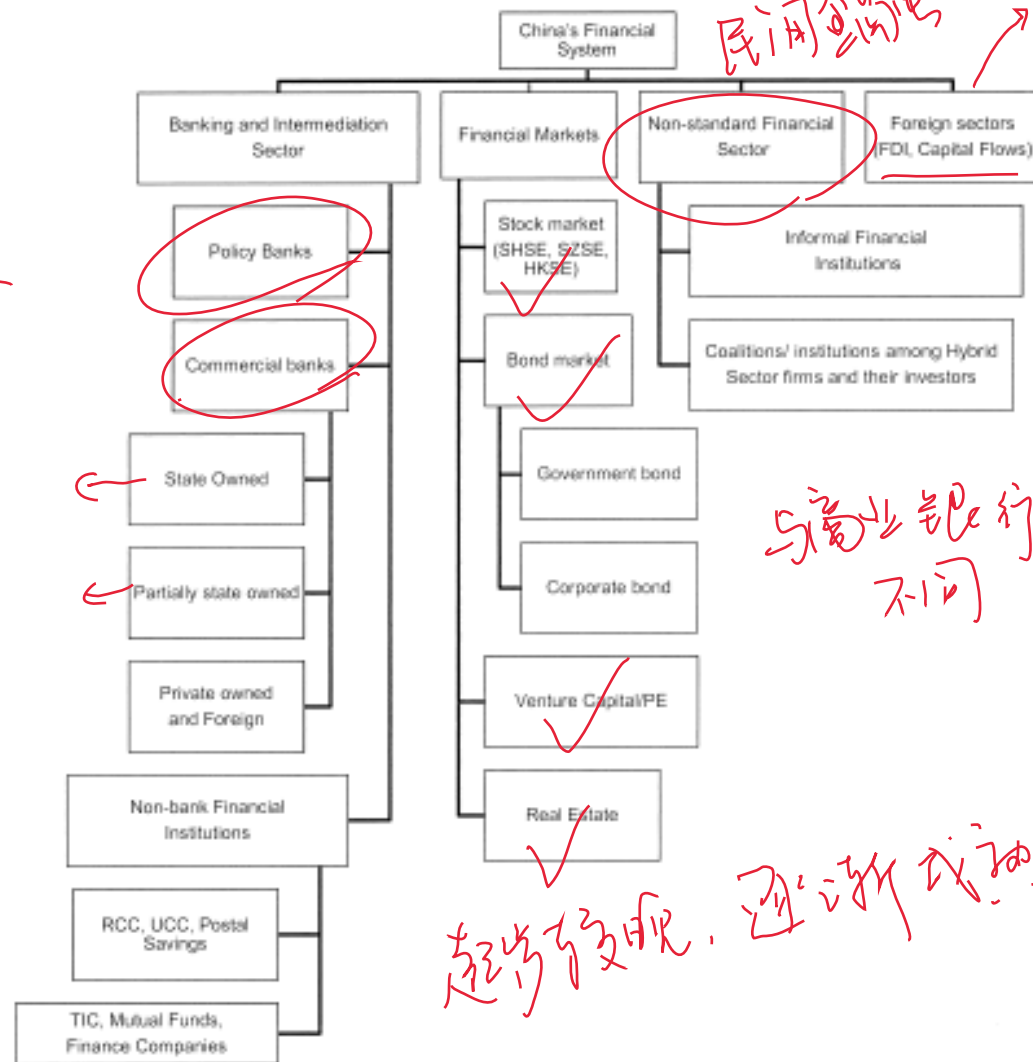
Source: BIS, Bankscope, Federal Reserve, IFS, etc.



# Increasing importance of China's financial system

- Size of the markets 股票市场 (全球第二, 市值)  
债券市场 (全球第三, 发行量)  
中国金融市场在全球 importance ↑
- RMB internationalization
  - Development of offshore RMB markets RMB 国际使用 ↑
  - IMF's SDR inclusion 更多体现国际金融市场认可
- Liberalization of capital accounts
  - Shanghai-Hong Kong shuttle
  - Shenzhen-Hong Kong shuttle
  - QFII & QDII programs
  - Admission to MSCI emerging market index (June 2017) 沪港通 深港通 QFII 额度够用
- Fast-changing dynamics
  - Growth in financial innovation: internet finance 创新很快
  - Regulation arbitrage 监管套利
  - Growth of the asset management industry 资产管理行业  
互联网金融 智能投顾

# Structure of China's Financial System



因为市场不完善  
导致不同市场

民间金融

外商投资 (套利、稳定性)

银行在中国的独特性:

银行融资占比大

政府干预  
↓  
(上市公司)  
四大行  
混合

政策性银行:

国开行、农发行、进出口银行

(bad investment)

与商业银行不同

逐步发现，逐渐成熟

**Table 3.1 | Net Assets by Sector: China vs. U.S.**

China	US\$ TN		% GDP		% National total	
	2007	2011	2007	2011	2007	2011
National net assets	22	47	624	644	100	100
Of which: Households	12	23	335	315	54	49
Nonfinancial enterprises	6	12	165	169	26	26
Central govt.	1	3	32	38	5	6
Local govt.	5	9	135	129	22	20
U.S.	US\$ TN		% GDP		% National total	
	2007	2011	2007	2011	2007	2011
National net assets	80	71	574	475	100	100
Of which: Households	67	64	478	425	83	89
Nonfinancial enterprises	12	10	82	65	14	14
Federal govt.	-5	-10	-33	-63	-6	-13
State/local govt.	7	7	49	43	8	9

家庭资产/负债

中国的钱在企业 & 政府

350 万亿金融资产

Source: Li et al 2013, FRB 2014, authors' calculations.

**Table 3.2 | Net Assets by Sector: China vs. U.S.**

	China				U.S.			
	US\$ TN		% GDP		US\$ TN		% GDP	
	2007	2011	2007	2011	2007	2011	2007	2011
Nonfinancial assets	21	45	596	611	68	62	488	416
Real estate	9	19	262	253	53	46	380	305
Financial assets	17	40	475	546	142	147	1017	983
Total assets	37	85	1071	1156	210	210	1505	1399
Financial liabilities	16	37	447	512	130	139	930	926
Net financial assets	1	2	28	34	12	8	87	57
Net assets	22	47	624	644	80	71	574	475
Net assets excl real estate	13	29	362	391	27	26	195	170
GDP	3	7	100	100	14	15	100	100

*Source: Li et al 2013, FRB 2014, authors' calculations.*

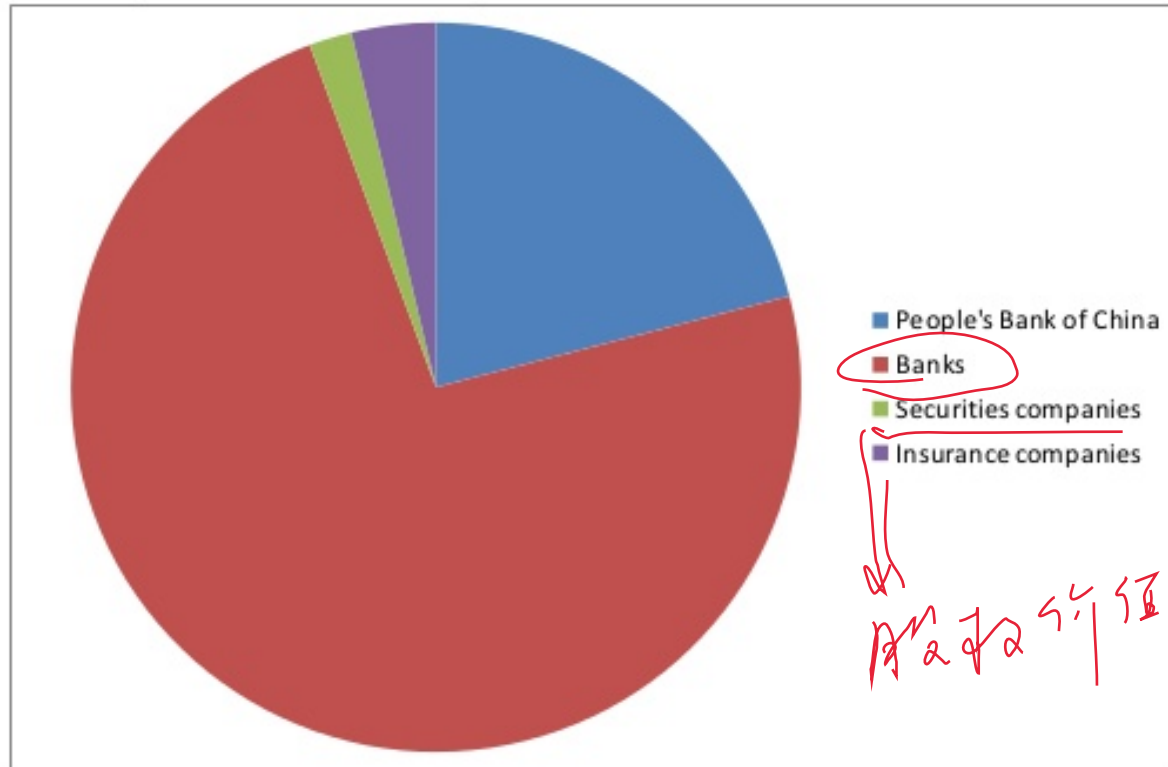
Table 3.4 | Balance Sheet of Households: China vs. U.S.

	China				U.S.		
	RMB TN	RMB TN	%GDP	%Total assets	US\$ TN	%GDP	%Total assets
	2007	2011	2011	2011	2011	2011	2011
Total assets	94	162	343	100	75	482	100
Nonfinancial assets	61	104	221	64	23	151	31
Real estate	57	96	204	59	18	119	25
Of which:							
Urban	50	81	171	50	n/a	n/a	n/a
Rural	7	16	33	10	n/a	n/a	n/a
Automobiles	2	5	12	3	5	31	6
Fixed assets for rural production	1	3	6	2	n/a	n/a	n/a
Financial assets	34	58	122	36	51	331	69
Currency	3	4	9	3	8	49	10
Deposits	18	36	77	22	7	43	9
Debt securities	1	0	0	0	5	34	7
Equities	5	6	13	4	9	57	12
Investment fund shares	3	1	2	0	4	29	6
Securities company client margins	1	0	1	0	n/a	n/a	n/a
Insurance reserves	3	6	12	4	1	6	1
WMP	n/a	4	9	3	n/a	n/a	n/a
Financial liabilities	5	14	29	8	13	87	18

股票市场 7.4% 还  
↓  
以银行为主

## China's financial system is dominated by banks

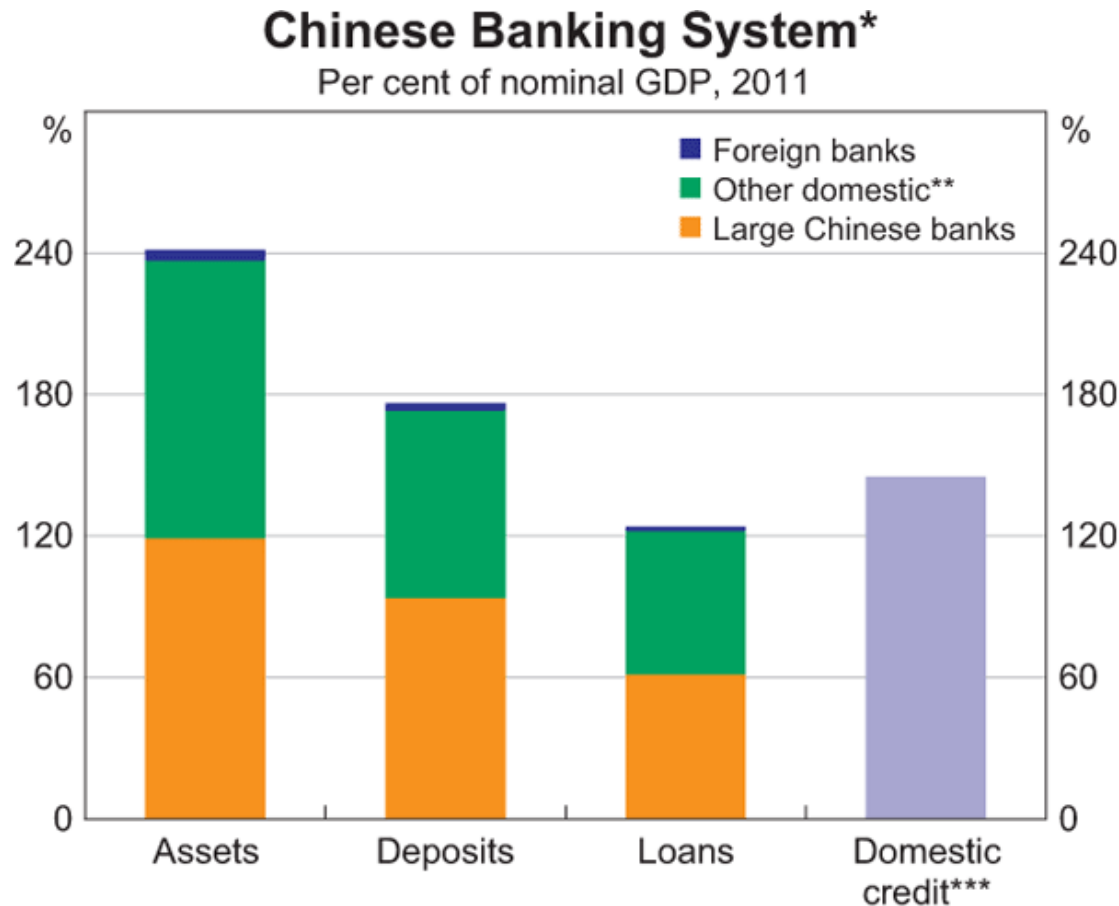
Holdings of financial assets, 2012



央行和银行

股价下跌

And the banking system is dominated by large banks...



\* Consolidated assets of domestic and foreign operations

\*\* Includes a small non-bank financial intermediary sector

\*\*\* Includes renminbi loans, entrusted loans, trust loans, letters of credit and bank-accepted bills

Sources: CEIC; China Banking Regulatory Commission (CBRC); RBA; banks' annual reports

**Table 3.9 | Balance Sheet of the Financial Sector: China vs. U.S.**

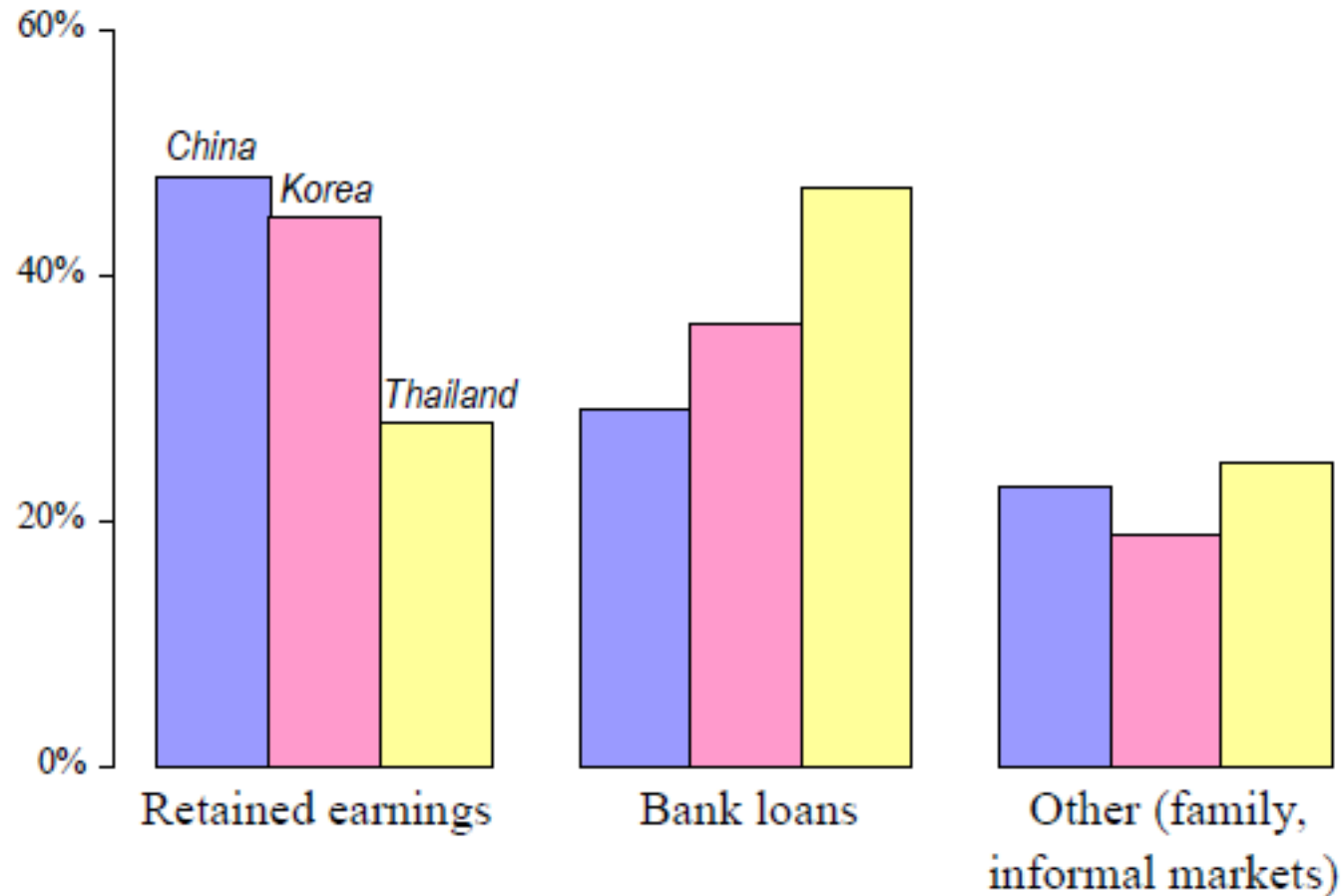
	China				U.S.		
	RMB TN	RMB TN	%GDP	%Total assets	US\$ TN	%GDP	%Total assets
	2007	2011	2011	2011	2011	2011	2011
<b>Total assets</b>	47	95	201	100	68	437	100
<b>Loans</b>	26	55	116	58	20	129	30
<b>Securities and     investments</b>	8	15	31	15	40	261	60
<b>FX</b>	13	25	54	27	n/a	n/a	n/a
<b>Total liabilities and equity</b>	47	95	201	100	68	437	100
<b>Deposits</b>	39	81	171	85	13	87	20
<b>Debt securities</b>	1	1	2	1	13	84	19
<b>Currency</b>	3	5	11	5	n/a	n/a	n/a
<b>Insurance reserve</b>	2	4	8	4	16	105	24
<b>Paid in capital</b>	2	3	6	3	n/a	n/a	n/a
<b>Net other</b>	0	1	3	1	1	8	2

*Source: Li et al 2013, FRB 2014, authors' calculations.*



# Chinese firms have much less access to formal finance...

Figure 2.22 Access to capital, large firms  
(Share of working capital from various sources)



...especially SMEs

Figure 2.23 Access to capital, SMEs  
(Share of working capital from various sources)

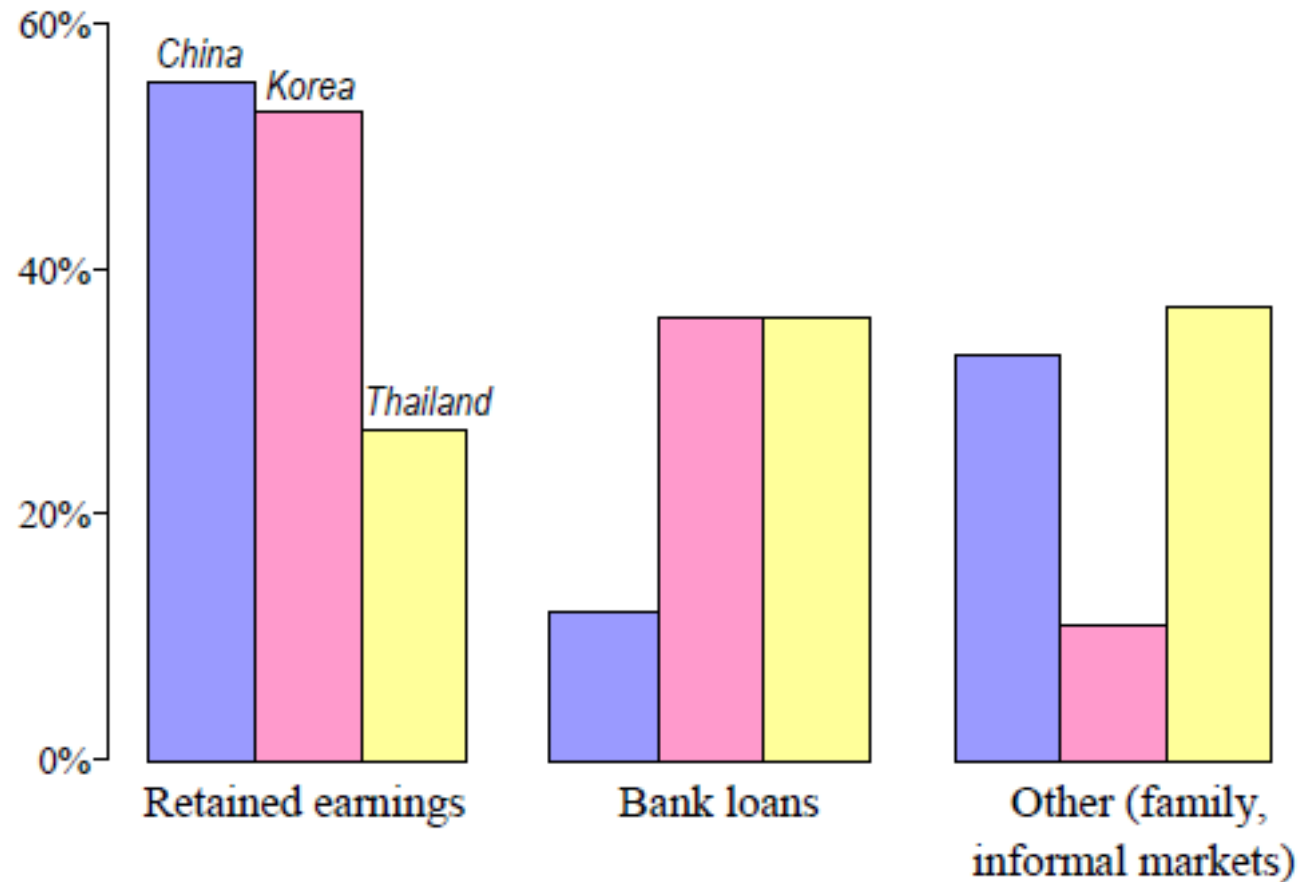
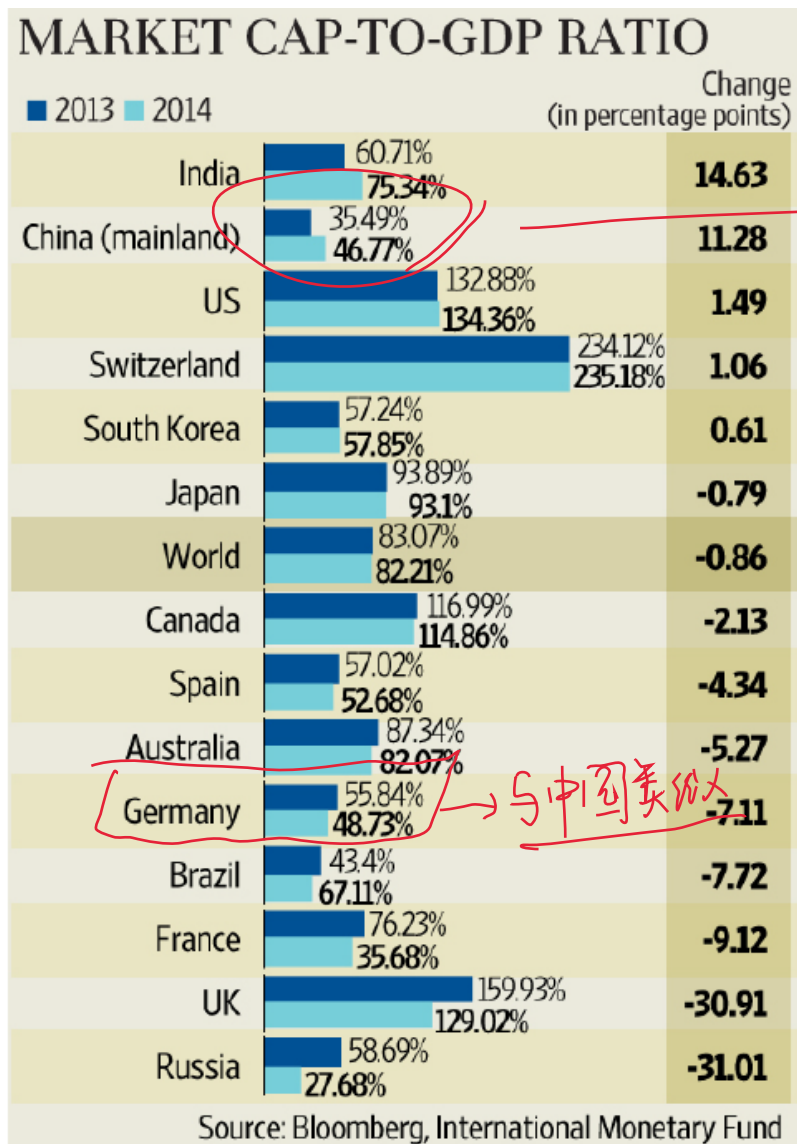


Table 3  
Bank efficiency by ownership type

Ownership type	Profit efficiency		Cost efficiency	
	Profit efficiency level	Profit efficiency rank	Cost efficiency level	Cost efficiency rank
1. Big Four banks	0.234 (0.212)	0.222 (0.230)	0.892 (0.068)	0.454 (0.242)
2. Non-Big Four majority state-owned banks	0.480 (0.198)	0.495 (0.267)	0.915 (0.042)	0.587 (0.273)
a. Non-Big Four majority state-owned banks without foreign minority	0.421 (0.161)	0.410 (0.200)	0.906 (0.045)	0.528 (0.280)
b. Non-Big Four majority state-owned banks with foreign minority	0.617 (0.209)	0.694 (0.296)	0.938 (0.023)	0.722 (0.200)
3. Majority private domestic	0.589 (0.215)	0.642 (0.305)	0.828 (0.076)	0.235 (0.309)
a. Majority private domestic without foreign minority	0.558 (0.219)	0.599 (0.312)	0.802 (0.050)	0.109 (0.114)
b. Majority private domestic with foreign minority	0.748 (0.089)	0.868 (0.119)	0.964 (0.009)	0.884 (0.068)
4. Majority foreign	0.692 (0.086)	0.797 (0.109)	0.915 (0.041)	0.563 (0.281)
5. No majority ownership (mixed ownership)	0.454 (0.234)	0.458 (0.331)	0.896 (0.048)	0.427 (0.228)
Full sample	0.476 (0.231)	0.500 (0.300)	0.897 (0.062)	0.500 (0.300)

# Stock markets



11.28

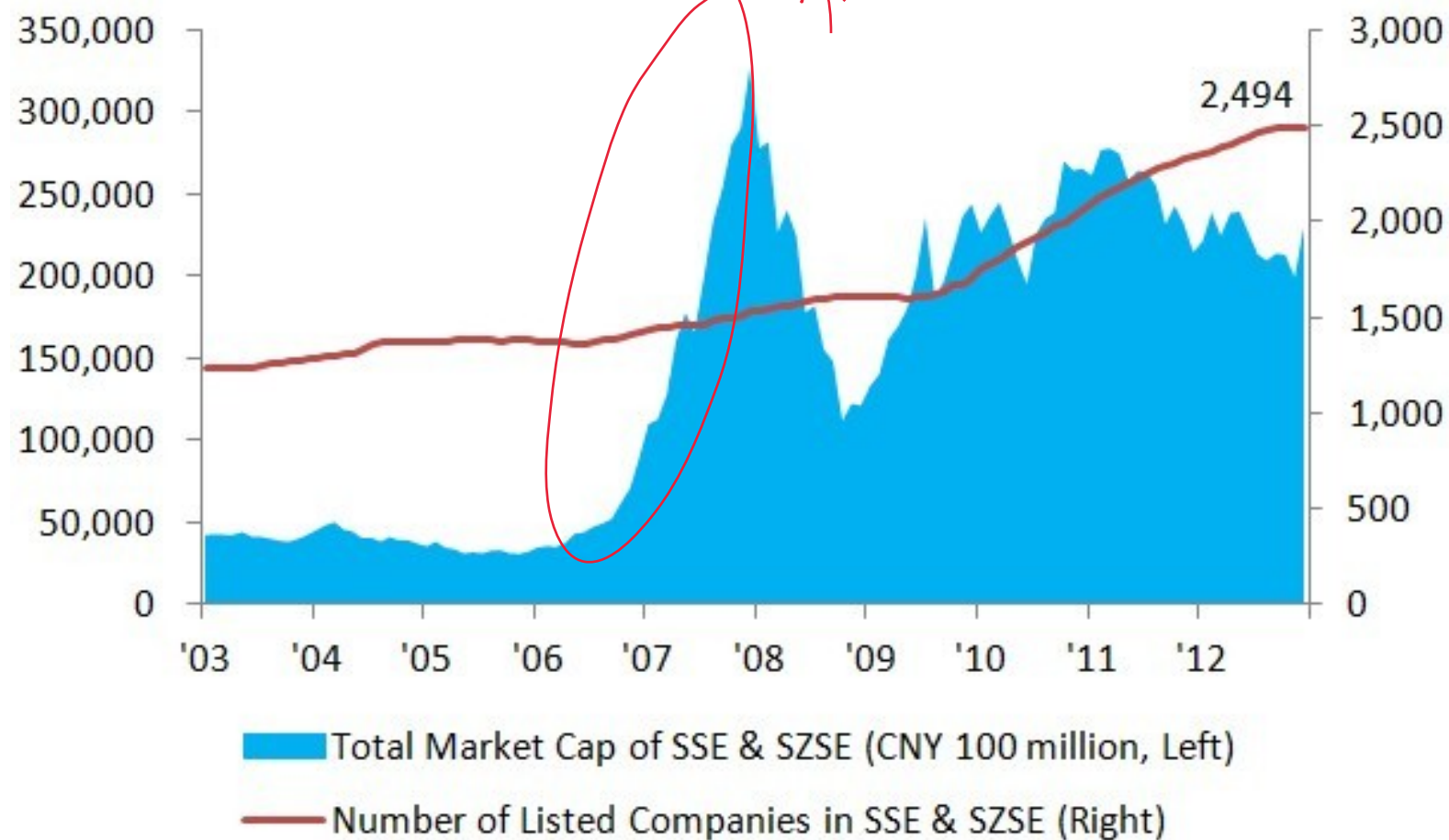
1.49, 1.06

中国市值虚高 (P/E)

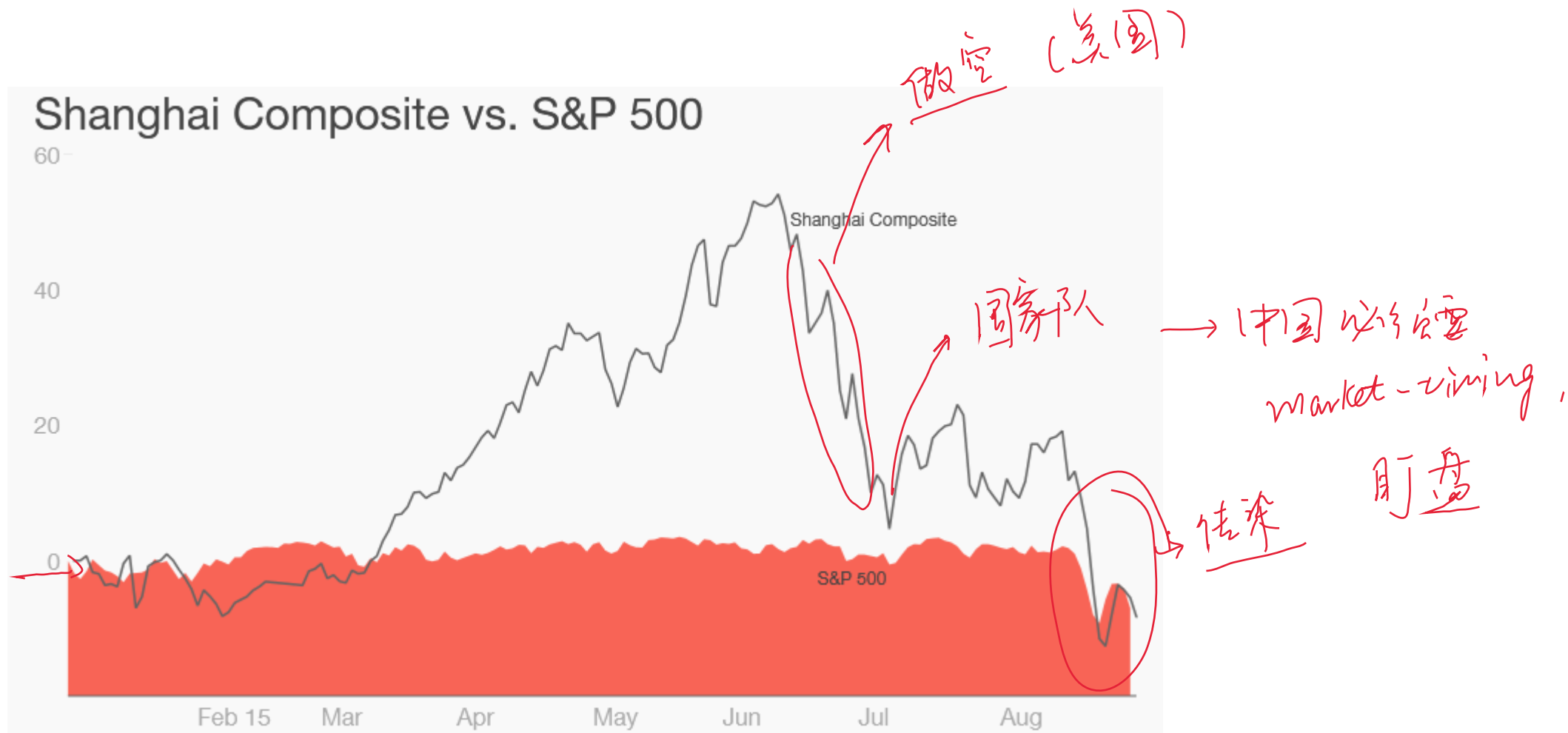
经济疲软?

与中国类似

# China's stock markets



# Chinese stock markets' volatile episode in 2015



# Margin trading

高换手率

Figure 17: Turnover ratio related to margin trading is much higher than overall market



Source: WIND

# Efficiency of the system

- Banks not efficient in serving small and medium enterprises
- Stock markets too speculative
- Bond markets not fully developed yet
- This system does not seem compatible with the status of China, the second largest economy in the world



# How to Understand China's Financial System?

- China had phenomenal economic growth over the past 35 years, averaging 10% per year!
- Despite its seemingly inefficiency and under-development, the financial system supported the economic growth
  - How does the system operate?
  - What is the exact role played by the financial system?
  - How would the system evolve over time?
- Over 70% of the Chinese economy has been liberalized, why is the reform of the financial system lagged behind?

# China's Economic Model

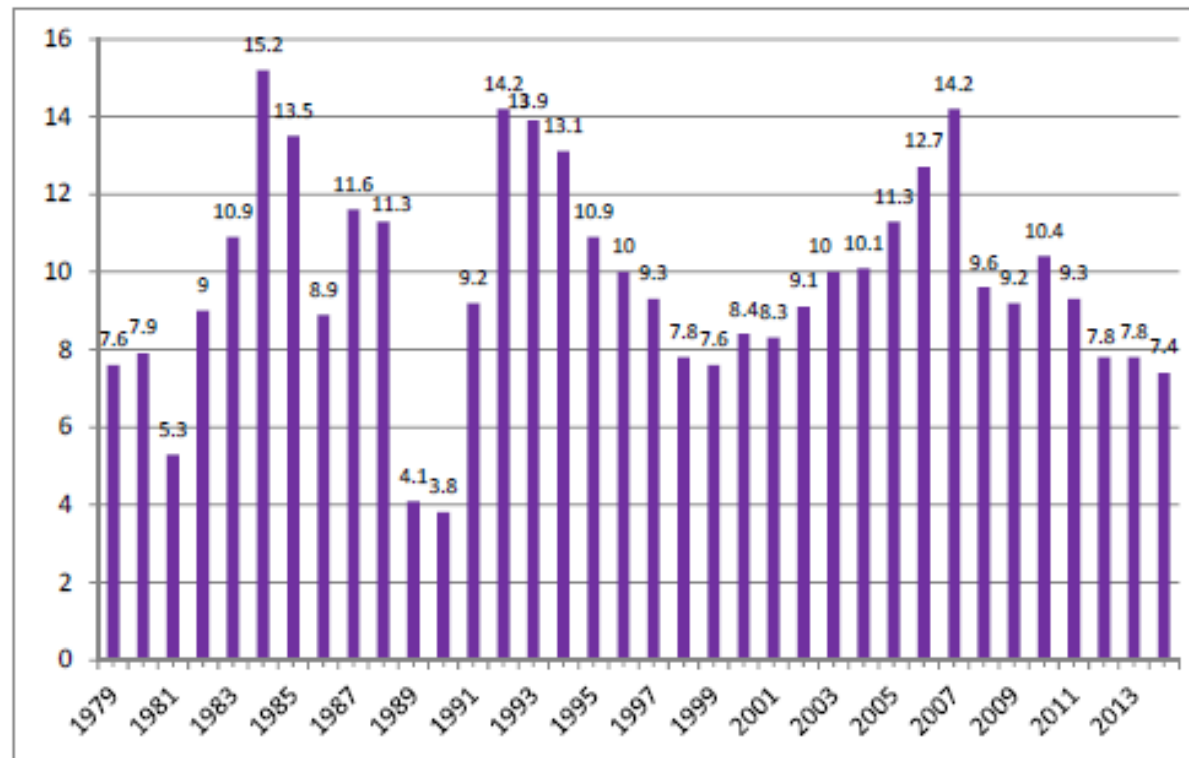
- Gregory Chow (2011) “Economic Planning in China”
  - The Chinese economy is a mixed economy as it combines important features of a market economy and a planned economy.
- In 1953-1978, the State Planning Commission directed the economy through a large number of ministries and the making of five-year plans
  - Set production goals, controlled prices and allocated resources
  - In 1978, three-quarters of industrial production done by centrally controlled state-owned enterprises (SOEs)
- After 1978, China changed the economic system gradually towards a market economy, allowing non-state enterprises to produce and compete with state enterprises.
  - “socialist-market economy”
  - The economic reform allowed elements of both the market economy and economic planning (through National Development and Reform Commission, NDRC) to coexist and serve the Chinese economy. State and non-state enterprises coexist and compete with one another.
  - Although a market economy functions effectively in China, the idea that planning is essential for China's economic development remains in the mind of government officials until today

# China's Economic Model

- NDRC continues to make 5-year plans for many aspects of the economy
- Implemented by ministries and offices of the State Council
  - Using resources under the direct control of the government (as in a socialist economy) by directing state-owned enterprises and government agencies to produce specific kinds of goods and services.
  - Influencing the activities of economic agents in the private sector
    - Use government expenditures to obtain work by private economic organizations and to contract out government projects.
    - Use economic incentives to influence work of non-government economic organizations, including tax and subsidies in fiscal policies and setting interest rates and money supply in monetary policies.

Reform has led to stunning economic growth

**Figure 3. Chinese Real GDP Growth: 1979-2014**  
(percent)



Source: International Monetary Fund, World Economic Outlook.

# Causes of China's Economic Growth

- Large-scale capital investment (Mayne Morrison (2014) “China’s Economic Rise: History, Trends, ...”)
  - Financed by large domestic savings and foreign investment
  - Chinese households have historically maintained a high rate of savings
  - SOEs also had high profits in early years, which were used by central government for domestic investment
  - Nevertheless, the high level of savings exceeded domestic investment, making China a large net global lender, despite the high level of domestic investment
- Rapid productivity growth, mostly caused by reallocation of labor and other resources to more productive uses (Brandt, Hsieh, and Zhu (2010) “Growth and Structural Transformation in China”)
  1. from less efficient agricultural production to industries
  2. from less efficient SOEs to private firms (the most important channel)

# Reforming State-Owned Enterprises

- The inefficiency of SOEs was a key stimulus for reform
  - To introduce private firms to compete and complement SOEs
  - “Grasp the large, let go of the small” (抓大放小)
- The government’s commitment to SOEs
  - A reform process without losers
  - Fiscal support and credit support to state-owned enterprises in 1980s and 1990s
  - The reform led to unexpected shortfall in fiscal revenue in 1980s, instead the government had to rely on the financial system as an alternative source of fiscal budget
  - Banks supplied a large amount of credit to state-owned enterprises, guided by the central government’s credit plan
  - Stock markets also served the role for state-owned enterprises to raise capital

# The Credit Plan

- As part of the five-year plan, the credit plan was to provide working capital for industry and commerce
  - Due to the decline in state budget during the reform of monetary control, investment had to increasingly rely on non-state funds
  - The plan disproportionately favored the state sector, in particular, heavy industry, crowding out other investment
  - Banks were a mechanism for taxing depositors (through low or negative real interest rates) and subsidizing capital-intensive industries targeted by the 5-year plan
- The credit plan led to the lack of separation between the fiscal and monetary functions of the government and the role of the central bank
  - The credit plan helped to stabilize the employment in the state sector in 1990s despite its low productivity relative to the private sector—in 1979-1993, 84% of all new credits from the state banking system were allocated to the state sector
  - Brandt and Zhu (2000) “Redistribution in a Decentralized Economy...”: the growing transfers to the inefficient state sector are the source of inflationary pressure in China

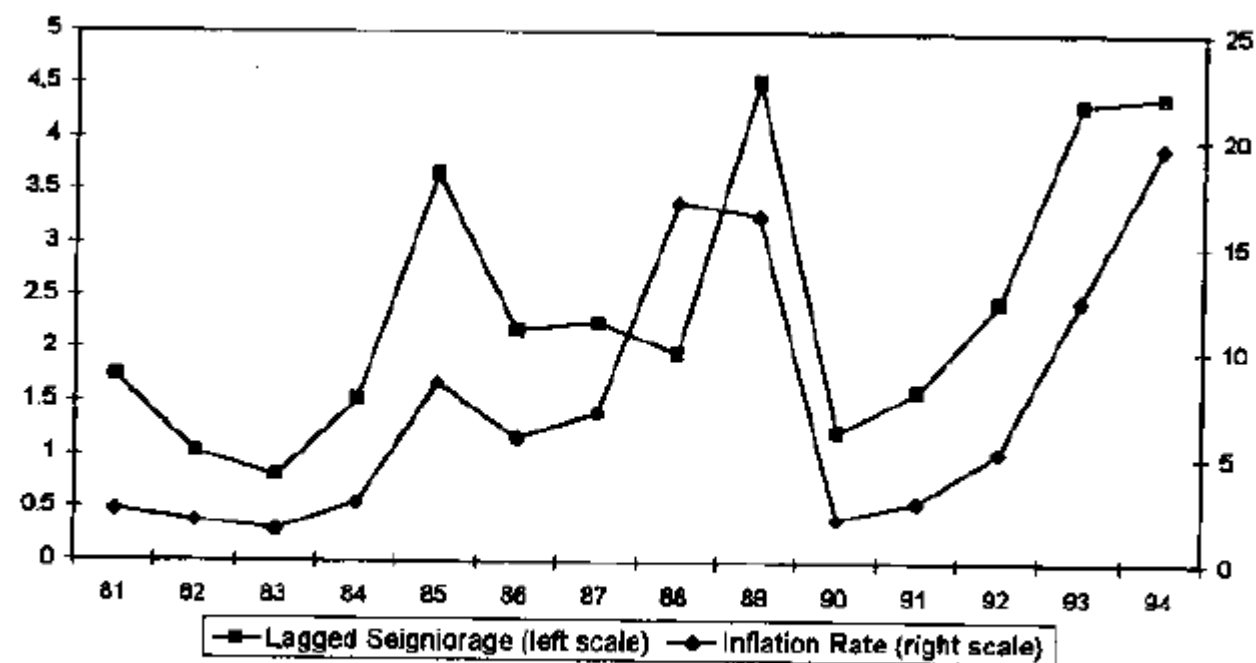


FIG. 5.—Money creation and inflation. Source: *Zhongguo Tongji Nianjian*, various issues.



# IPO Approval System

- China Securities Regulatory Commission (CSRC) maintains a strong control of all aspects of stock IPOs, from aggregate IPO volume and distribution of IPO quotas across provinces and industries to approval of individual firms
  - Allen and Shen “Assessing China’s Top-Down Securities Markets”: In 2009, about 570 private companies listed on the two Chinese stock exchanges, representing 34.8% of the total number of all listed companies and only 12.2% of the market capitalization
- Private firms have tended not to be approved for listing by the CSRC due to several reasons
  - the fundamental mission of the securities markets, at least for the first 15 years of their existence, has been to support SOEs with additional capital. Allocation of listings were heavily influenced by capital needs of inefficient provincial level SOEs.
  - CSRC also tended to view private firms as more risky than state-owned enterprises

# 2008 Stimulus Program

- Faced with the economic pressure from the 2008 world financial crisis, China instituted a massive economic stimulus program
  1. an investment program
    - initially announced in November 2008 to be RMB 4 trillion (US\$ 587 billion), comprising 1.18 trillion in central government funding, plus local government input and bank credit.
    - 12.5% of China's GDP in 2008 (to be spent over 27 months), 3 times the US effort.
    - actual size of the program several times bigger
  2. accommodative monetary policies
  3. tax cuts
  4. measures to ease the burden on state-owned enterprises.
- Christine Wong (2011) "The Fiscal Stimulus Program and Problems of Macroeconomic Management in China"

**Table 1. Sectoral Composition of Stimulus Investment (March 2009 plan, as percent of total)**

Transport & power infrastructure (railroad, road, airport, electricity grid)	37.5%
Rural village infrastructure	9.3%
Environmental investment;	5.3%
Affordable housing	10.0%
Technological innovation and structural adjustment	9.3%
Health & education	3.8%
Post-earthquake reconstruction	25.0%

*Source:* NDRC website.

# Implementation of the Stimulus

四万亿 → 影子银行

- local governments (and central ministries) submitted projects to NDRC for budgetary funding as well as bank credit
  - all projects implemented by local governments require counterpart funding, the proportions for which vary by sector and by region
- Several efforts made to facilitate local government application for projects
  1. introduced several new measures to make it easier for local governments to meet the co-financing requirements
  2. in a more radical move, the government officially endorsed the use of local government financial platforms and other means of raising debt
  3. the Ministry of Finance relaxed the standards on what is eligible as counterpart funds to qualify for stimulus projects, specifying that local governments can use the following sources: budgetary resources, land revenues, proceeds from local bonds issued by MOF, funds raised by local financial platforms, and all other resources at the discretion of local governments
- Banks carried out the program as they were instructed to provide the credit to local governments to support their projects

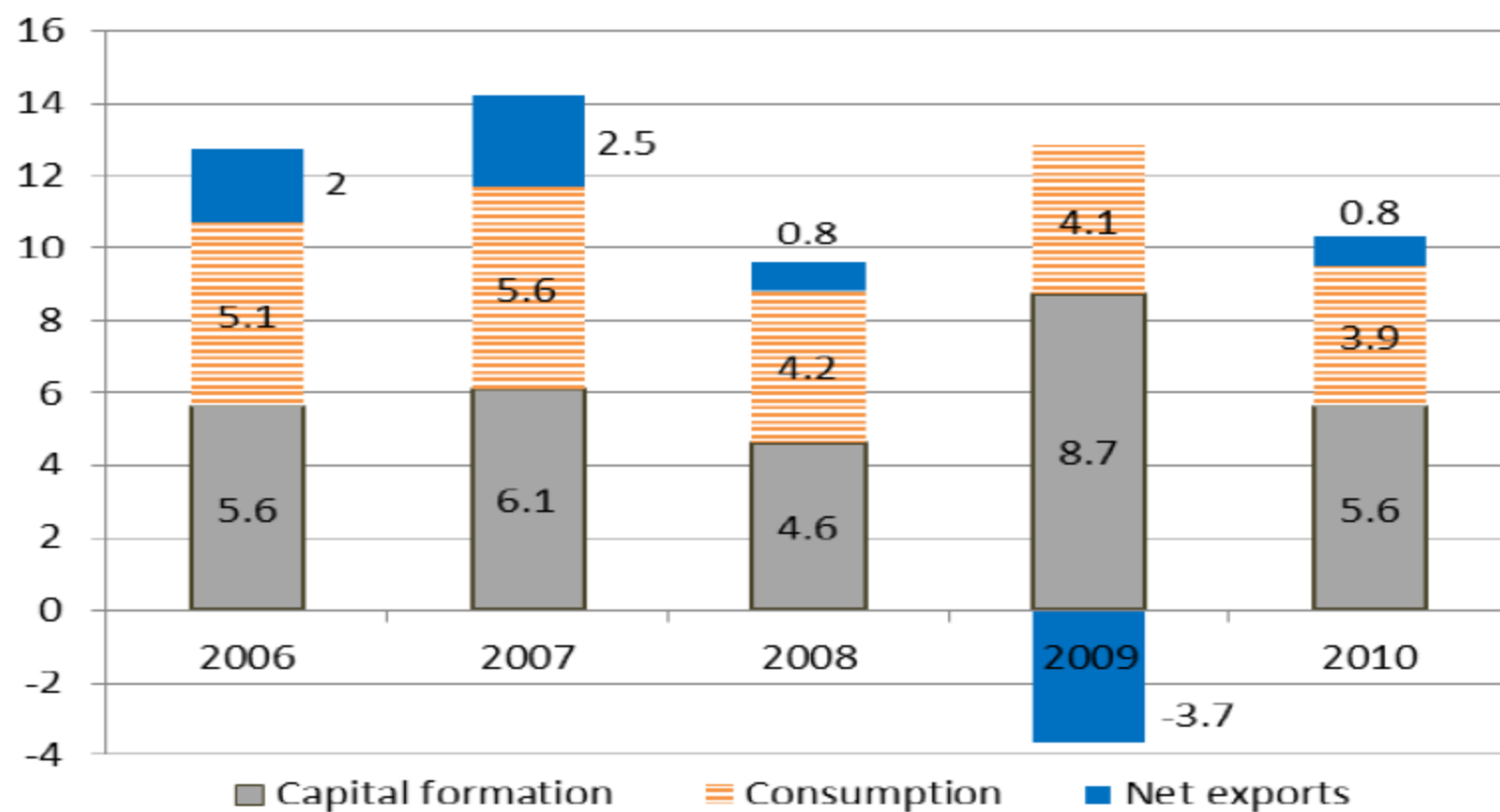
地方债

**Table 4. Estimated Size and Composition of Stimulus**

<b>Stimulus (RMB billion)</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Fiscal deficit	111	950	650
Net new bank loans	252	5070	1936
Net new bond finance	251	467	-232
<b>Total</b>	<b>614</b>	<b>6487</b>	<b>2354</b>
<b>Stimulus (% GDP)</b>			
Fiscal deficit	0.4%	2.8%	1.6%
Net new bank loans	0.8%	15.1%	4.9%
Net new bond finance	0.8%	1.4%	-0.6%
<b>Total</b>	<b>2.0%</b>	<b>19.3%</b>	<b>5.9%</b>

*Source:* China Data Online, and author's estimates.

**Figure 7. Sources of Growth (% GDP)**



Source: CSY 2010 and DragonWeek (March 2011).

# Consequences of the Program

地方政府债务水平居高不下

- It produced growth and jobs – the two ingredients for stability that the top leaders most urgently sought.
- But the costs were high.
  - all of the growth came from investment, which jumped to 66 percent of GDP, and investment in infrastructure leapt to 16 percent of GDP.
  - the government went beyond pumping in new fiscal spending and easing monetary policy to changing fiscal rules and liberalizing financial regulations
    - much painstaking progress on governance reform was reversed – building professionalism in the banking sector and cleaning up balance sheets, improving budgeting and public investment management, refocusing local governments on public service provision rather than investment
    - with the huge spike in easy credit to state-owned enterprises and government agencies – especially at the local levels, the private sector was squeezed out in some industries and services, reversing the decades-long retreat of the state from economic activities
  - a huge run-up in local government debt with lasting impact to date

# An Overall Picture of Chinese Financial System

- A system historically designed to aid the inefficient state sector
  - due to political and structural reasons
  - successful in insuring low unemployment and social stability during the reform
  - Its mission dictates that the system cannot be evaluated based on the usual economic efficiency measures
- Still in transition
  - Increasingly market driven, and government shows strong interests to reform the system and improve its efficiency: interest rate reform, exchange rate reform, allowing private banks, etc
  - government is still a visible hand in almost all sectors of the financial system, and it has the tendency to retreat back to the use of administrative orders during crisis situations
  - The reform progress potentially driven by the balance between pro-market camp, conservative camp, and vested interest groups (see the book by Victor C. Shih, *Factions and Finance in China*, Cambridge Press 2008)
- Intricate interplay between market and government
  - Market participants not only know the presence of the visible hand but also “game” the move of the hand from time to time



# 2015 Stock Market Turmoil

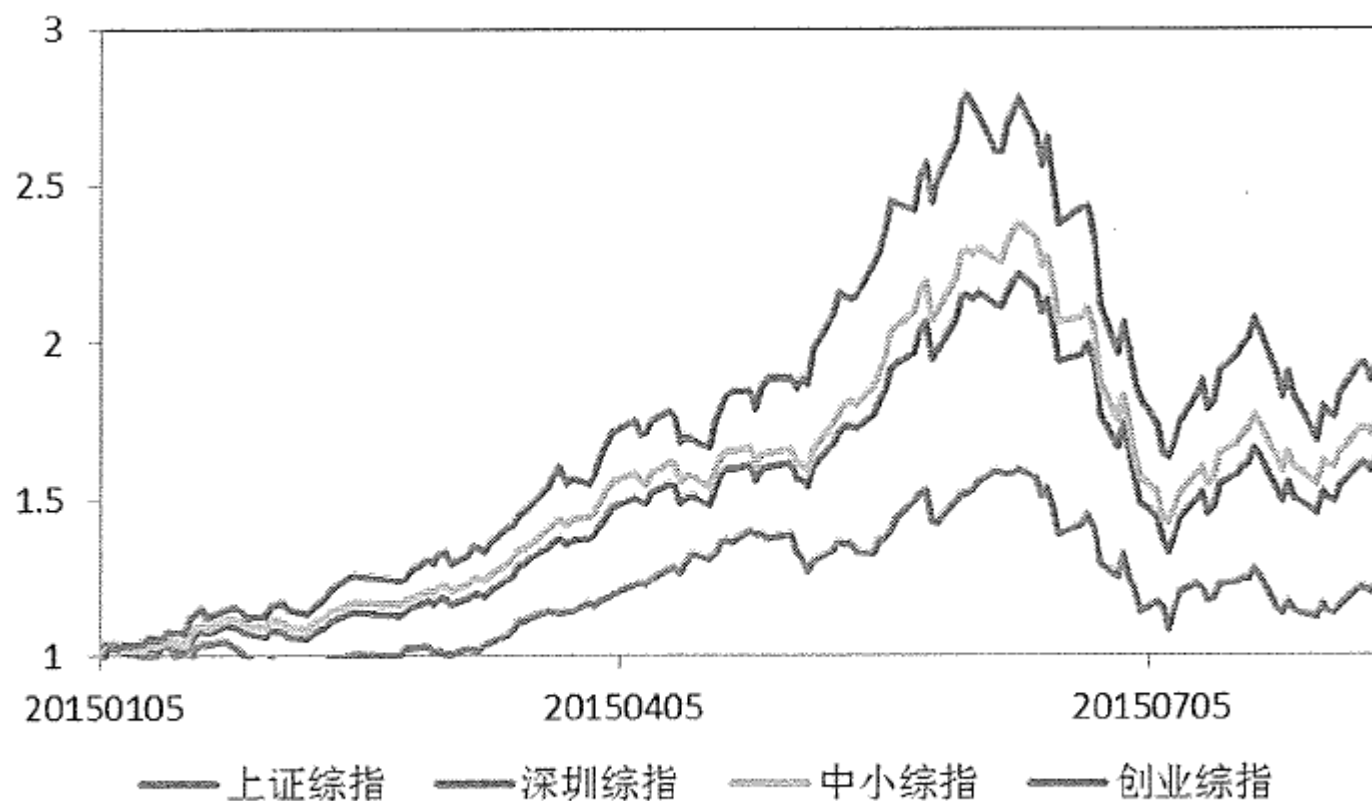


图 4.1 各综合指数于 2015 年的价格变动

# 2015 Stock Market Turmoil

- A failed attempt by government to use stock market to stimulate real economy
- Like QE of US, Chinese government engineered a stock market boom in late 2014 and early 2015 to help solve various economic challenges
  - whenever stock market tumbled, officials from CSRC, PBC, or MoF would provide positive comments in the public to restore market confidence
  - a series of unusual commentaries in People's Daily in early 2015 strongly signaled to the public the stock market boom was a policy backed by top leadership of CCP
- Instead of getting a slow market boom, there was a rapid boom, fueled by heavy use of leverage
  - A natural response from market
  - The leverage was largely hidden outside the official margin system, staggered in multiple layers through a variety of forms
- The CSRC's crackdown of anonymous trading in 恒生HOMS triggered a deleverage process in June 2015
  - The extent and scope of leverage largely unknown to the regulators and the market (See *Leverage Network and Market Contagion* by Bian et al, 2017)
  - The massive liquidation and market crash forced the government to eventually organize a “national team” to bail out the stock market

# Shadow Banking

- Due to various constraints (credit plan, reserve requirement, risk control), banks are not able to provide sufficient loans to borrowers, often private SMEs
  - Lending outside the official banking system flourished in recent years
  - Off-balance sheet lending by regular banks through trust loans and wealth-management products
  - Re-intermediation by large firms with access to cheap credit
  - Underground banks
- The shadow system complements the official system
  - Due to its opacity and lack of regulation, it may also be a source of systemic risk and financial instability
- 资管新规: Shadow banks to seek funds on the bond market?