

Crack the Mystery of China's Consumption Share Decline

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Consumption is a basic economics topic

1. There is a direct relationship between consumption and welfare of economic development
2. Consumption and economic development model is closely related
3. In a long term, we made a large number of studies about consumption on the basis of household and behavior, but rarely on the basis of whole macroeconomic consumption share.

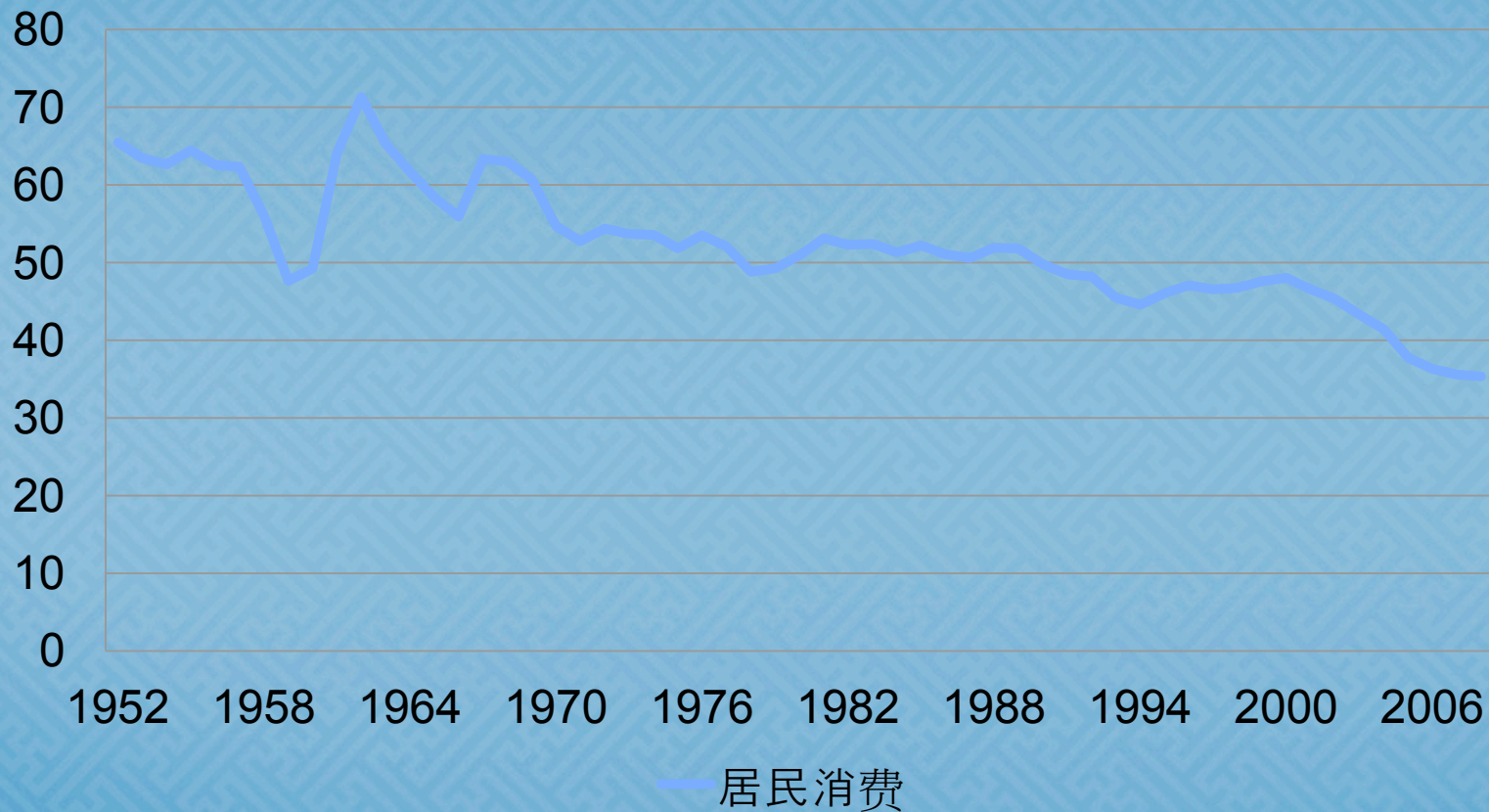
The research about China's consumption has great practical significance

1. Since the reform and opening up, China's economic macro-consumption rate decreased significantly
2. Consequences
 1. Dependent on export markets
 2. Growth rely on investment
 3. As an important factor of the global economic imbalances
 4. Benefits of economic development is not fully reflect
3. How to promote consumption become an important policy issue in China's economy

中国经济最终消费及居民消费下降的趋势相当明显

The downward trend of final consumption and residents consumption in China's economy is quite obvious.

中国居民消费占GDP比重变化图（1952-2008）



Why China's economic consumption rate decreased? Review.

1. Structure theory: A direct result of structural changes in economic is consumption decline.
 1. Payment share of residents decreased;
 2. The income gap became large;
 3. The demographic structure changed。
2. Behavior theory: (which research mainly focused on) the change of economic social structure led to change of household behavior and decrease of consumption accounts for the proportion of disposable income,for example:
 1. Social insurance,medical care,welfare got behind relatively ,increased uncertainty and led to an increase of precautionary savings;
 2. The investment opportunities increased. Savings up.
 3. Repaid growth led to the consumption which formed by habit lags behind income rose;
 4. Channels of wealth accumulation increased,enhanced preference for wealth accumulation.

Overseas research

Behavior theory:

- habits:
 - Karen E. Dynan(2000) AER
 - Jeffrey C. Fuhrer(2000) AER
 - Christopher D. Carroll, Jody Overland, David N. Weil(2000) AER
- High GDP growth rate (the specific mechanism is unclear):
 - Karry (2000) view: The high saving rate in China can be explained by rapid economic growth and changes in demographic factors.
 - Modigliani and Cao(2004) view:Chinese household savings is the joint effect of high economic growth and population pattern changes.
- Aging
 - Wakabayashi and MacKellar(1999)were estimated the savings function in the urban and rural areas in China and paid attention to impact of savings caused by demographic changes. Then, they confirmed that China's savings rate and the elderly dependence ratio as well as the presence of minors dependence ratio changed in the reverse,but the savings rate and the elderly dependency ratio has a stronger negative correlation. Therefore, the aging of the population will encourage people to increase savings in general.

Overseas research (continued)

Behavior theory:

- Uncertainty
 - Carroll Hubbard Skinner and Zeldes(1992) Expected unemployment rate is used as an alternative variable. Studies have shown that a sound social security can effectively improve the consumption level of residents
 - Gles and Ypp RCRD, rural household” service flow” consumption provided by "non-durable goods" consumption as well as durable goods
 - Meng (2003) The classification of total consumption expenditure of urban household, as well as food and education expenditures Career and income risks UHIEE
- Lack of financial services
 - Harbaugh (2003)
 - Jahangir Aziz, Li Cui IMF

Overseas research (continued)

Structure theory:

- unequal distribution of income:
 - Della Valle and Oguchi (1976) Tested the total consumption impacts caused by Gini coefficient and income levels using the cross-sectional data of 37 countries and 10 OECD countries.
 - Musgrove (1980) Re-checked the results by packet data.
 - Cutler(1992) Studied the relationship between distribution of income and consumption of different income levels using the data of U.S. 80 years 20th century.
 - Income distribution will affect the total consumption, such as *Blinder (1975)*, *Musgrove(1980)*

Domestic research

Behavior theory:

- High economic growth rate:
 - Liu Jinquan and Guo Zhengfeng (2002) used the data of 1990 Q1 to 2001 Q1 and found that the savings rate in China at the present stage does not exist significant Granger causality test to economic growth, but the actual GDP level exists significant Granger causality test to savings incremental.
 - Gong Liutang (2007) said that the high saving rate in China mainly due to China's high economic growth rate, high capital-output elasticity, high subjective discount rate (high return on capital) and the expectations in the short time.
- Aging (different to the life-cycle theory, behavior theory)
 - Yuan Zhigang and Song Zheng (2000) An iterative model studies have shown that aging of the population will strongly increase savings in general. "Population age structure, pension insurance and the optimal savings rate," "economic research".
 - Wang Dewen, Cai Fang and Zhang Xuehui (2004) Their empirical research also shows that China's population changes has significant impact on current saving rate. However, with the accelerated aging of the population, population change in the contribution rate for savings will continue to weaken.
- Wealth accumulation
 - Zou Hengfu (2001) Lead wealth into utility function. Investors accumulate wealth not only for consumption, but also for social status.

Domestic research (continued)

Behavior theory:

- The uncertainty of reform, liquidity constraints
 - Li Shi and Knight (2002) Low-income urban household consumption, unemployment risk, medical, education and housing expenses UHIEE
 - Luo Chuliang (2004) "Economic Transition, Uncertainty and urban residents consumption behavior " non-durable goods and durable goods stocks consumption, unemployment and income risk UHIEE
 - Wan Guanghua (2003) Rural household consumption & "The effects of income risks to residents consumption of durable goods" (RCRD) Wan Guanghua, Zhang Yin and Niu Jiangao(2001), use Chinese data from 1961 to 1998 and find that the interaction between liquidity constraints and uncertainty further strengthen impact of the two to residents, resulting in decline of consumption level and consumption growth rate at the same time.
 - Shi Jianhua and Zhu Haiting (2004) Chinese residents really has preventive motivation, but not too strong .
 - Yuan Zhigang and Song Zheng (1999) The uncertainty of reform promote cautious savings, while the liquidity constraints further resulted slow growth of residential housing and education consumption levels.
 - Long Zhihe and Zhou Haoming (2000) China's urban residents Empirical Study of precautionary savings" , Urban residents' strong precautionary savings motivation in recent years has a historical reason.The results show that urban residents in China has significant motivation for precautionary savings.
 - Chinese household savings behavior , Song Zheng, the Chinese University of Hong Kong, "Financial Research " , mainly about precautionary savings
 - The theory of precautionary savings Zhu Yanchun,Zang Xueheng 2001
 - High savings, high investment and China's economic growth in the process of labor transfer, Li Yang and Yin Jianfeng, mainly about rapid economic growth
 - Liu Jianguo (1999) The study about consumption in rural areas shows that fuzzy property rights, government intervention and unsound ONO industrial insurance system led to a significant increase of peasant incomes, which is the main reason for China's current low consumption tendency in rural areas.
 - Li Yan (1999) Due to liquidity constraints and low income levels, more than 50% of household savings are used to specific future expenditure.

Domestic research (continued)

Structure theory (Disposable income sources, initial distribution)

- High corporate savings
 - Kuijus (2005) Through the cross-comparison and cross-comparative distribution analysis of China's savings and investment sectors, found that: The difference of national saving rate between China and other countries partly due to the high savings of household, but most of the differences should be adopted by the Chinese Government and corporate high savings.
 - He Xinhua and Cao Yongfu (2005) Make similar analysis about China's high savings on the basis of the funds flow data from China Statistical Yearbook. Found that: over the past decade China's household savings rate showed a rapid downward trend. The national savings rate was high mainly because of the high rise of business and government in the national disposable income proportion and the high sustained rate of government.
 - Li Yang, Yin Jianfeng (2007) The exploration about China's high savings rate - 1992-2003 China's funds flow table analysis
 - Xu Xianchun(2002)、GuoHao(2001) and Louis(2005a,2005b) Made analysis about savings and investment behavior in every economic sector on the basis of China's funds flow table available at that time. As Louis (2005a, 2005b) using the latest data, his research findings may be more meaningful. He found that: First, compared with other countries, not only the household sector's savings rate in China is higher , but also corporate and government savings rate; second, the enterprise's high savings rate due to the increased profitability which allows enterprises to retain profits rapidly; and third, the government has been engaged in savings, mainly due to the adoption of "capital transfer" to support state-owned enterprise development.

Domestic research (continued)

- Unfair income distribution
 - distribution and overall consumption of consumption theory - and the analysis of China's consumption slump Yuan Zhigang, Zhu Guolin
 - The empirical research about how China's income distribution affect consumption demand. Yang Tianyu, select the Gini coefficient data from the income distribution task force of Chinese Academy of Social Sciences (Zhao Renwei, Li Shi, etc.). The data show the complete gaps of income distribution of urban residents in China in 1978-1995 relatively. Marginal propensity to consume to do with the Gini coefficient of regression, the results of urban residents was significantly negative, in rural areas was positive but not significant.

Relative deficiencies in the existing literature

1. Greater emphasis on the role of an individual factor, lack of relative explanatory power to judge theories comprehensively
2. Lack of a comparative large-span analysis of time and countries relatively
3. Why China's consumption rate decline is still a mystery

Hoping contribution of this paper

According to the analysis of international comparisons and historical data of China's economy, try to make a systematic analysis about the main reason of consumption rate decline in China from economic reform and opening up, as a more comprehensive basis for relevant discussion.

Basic conclusion of this paper

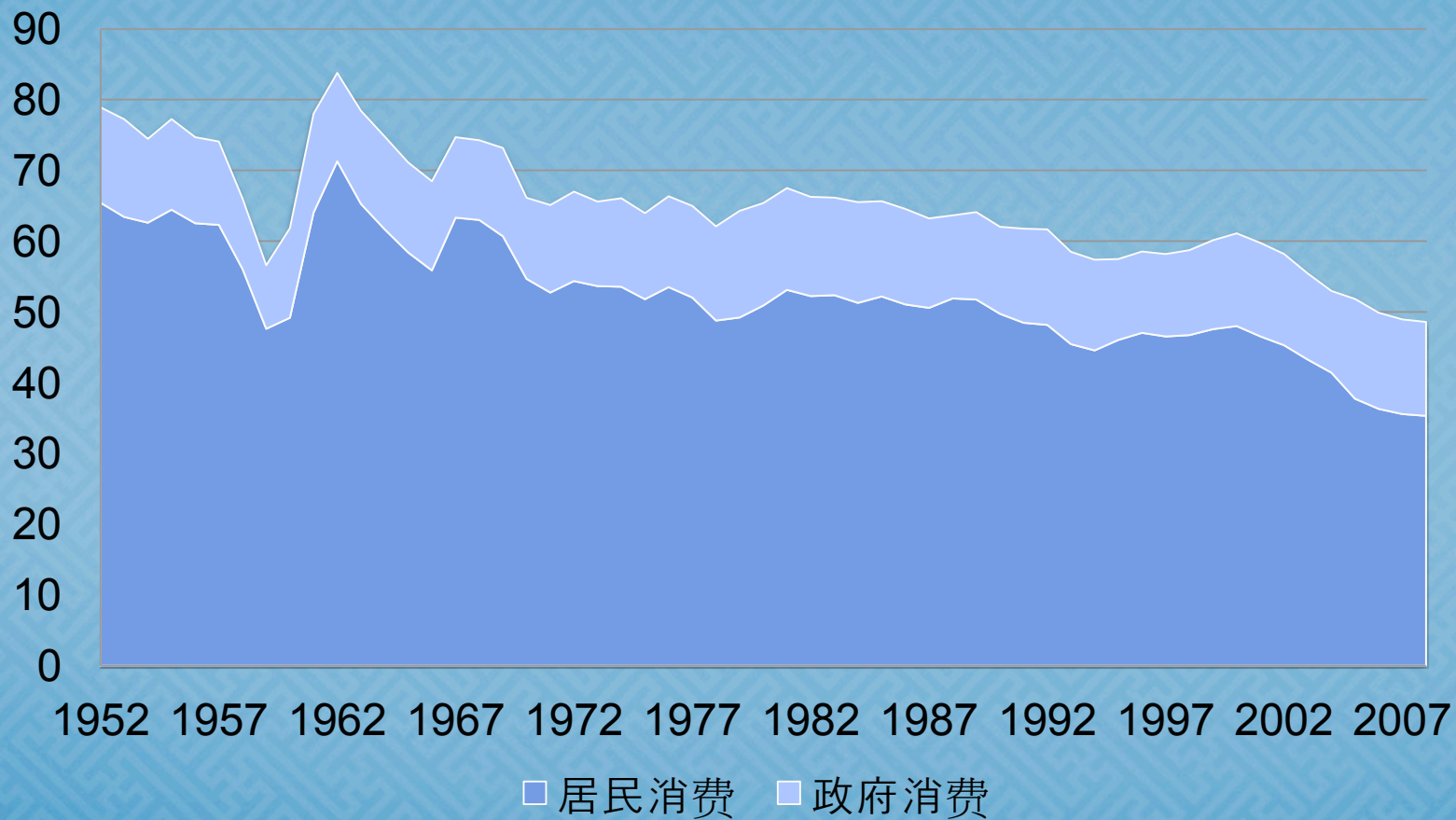
From China's economic reform and opening-up, the rate of consumption decline is mainly due to changes in economic structure, specifically, the sustained decline of disposable income of residents in the proportion of GDP. This factor not only changes with the proportion of consumption in the same direction, but also can explained more than 60% decline in the proportion of consumption level.

2. The facts of consumption rate decline in China

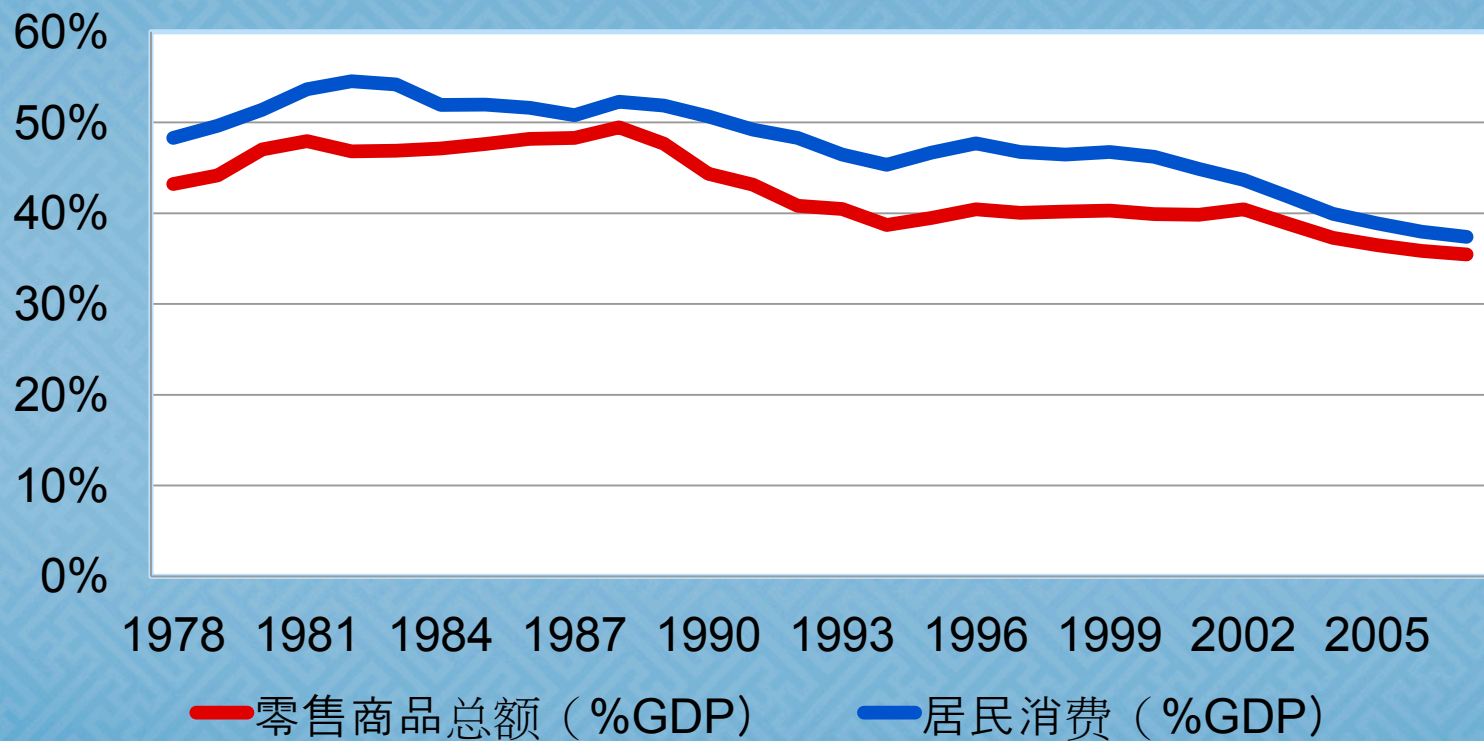
First, take a look at whether the consumption decline in China can be explained by the decrease of group consumption

- 1) total consumption/GDP
- 2) government consumption/GDP
- 3) the relationship between total retail sales and consumption
- 4) large consumption= (retail sales + the un-marketing transactions of resident consumption)

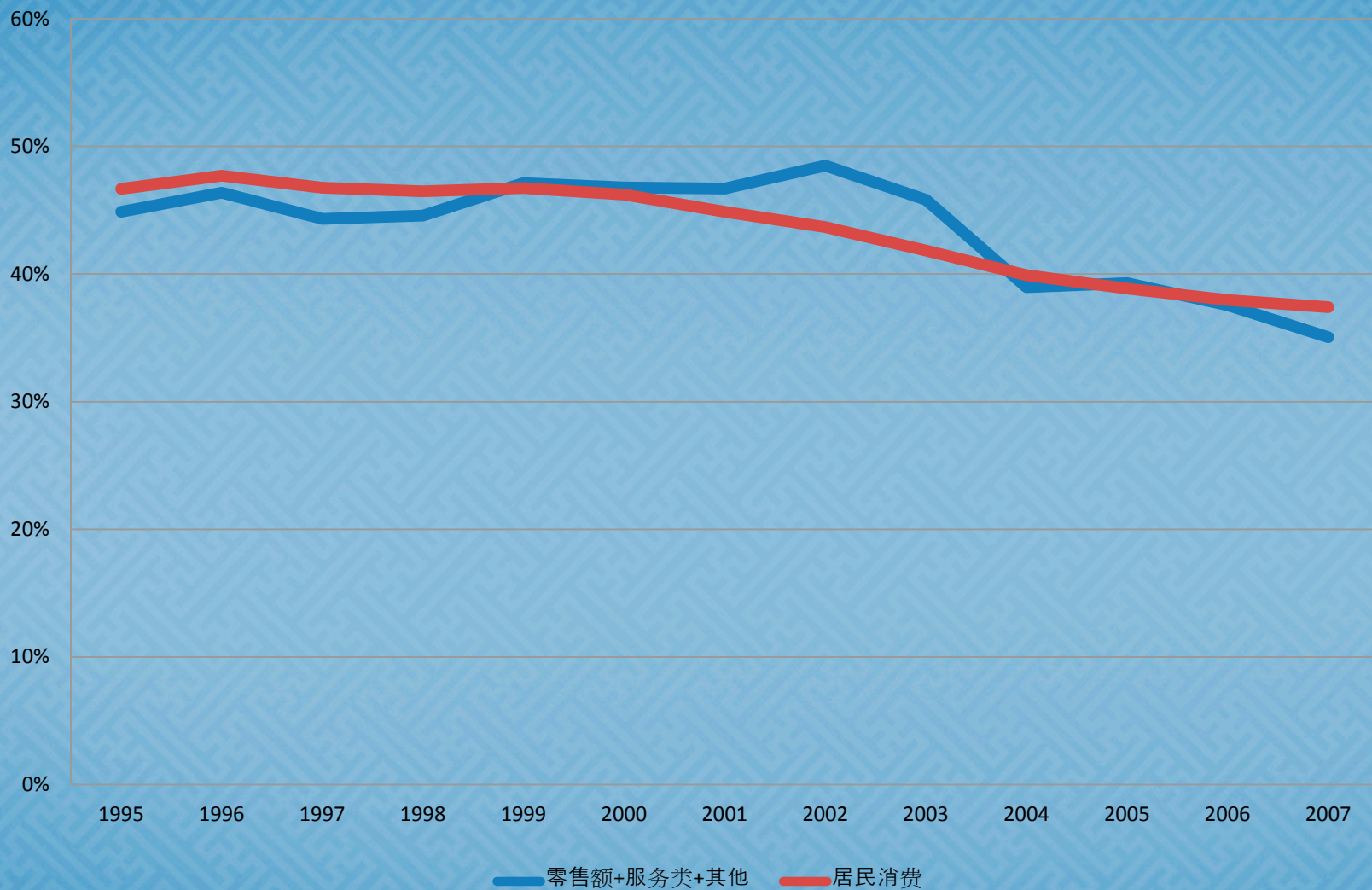
中国消费演变图（1952-2008）



中国零售商品总额与居民消费比重比较图 (1978-2007)

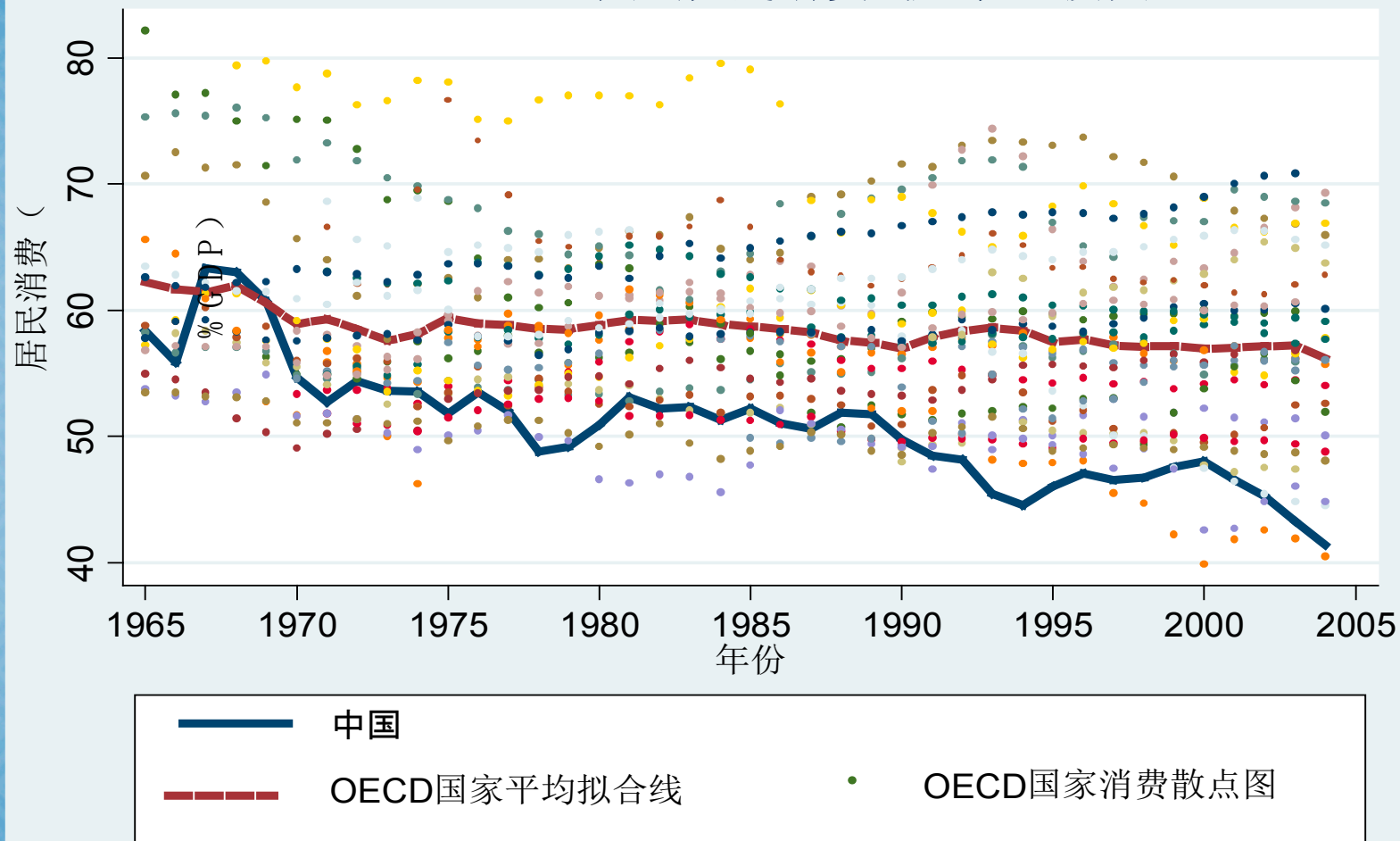


大消费走势 *Largest consumption trend*



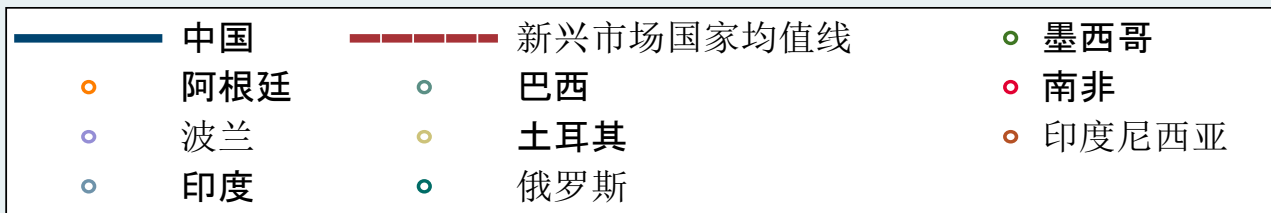
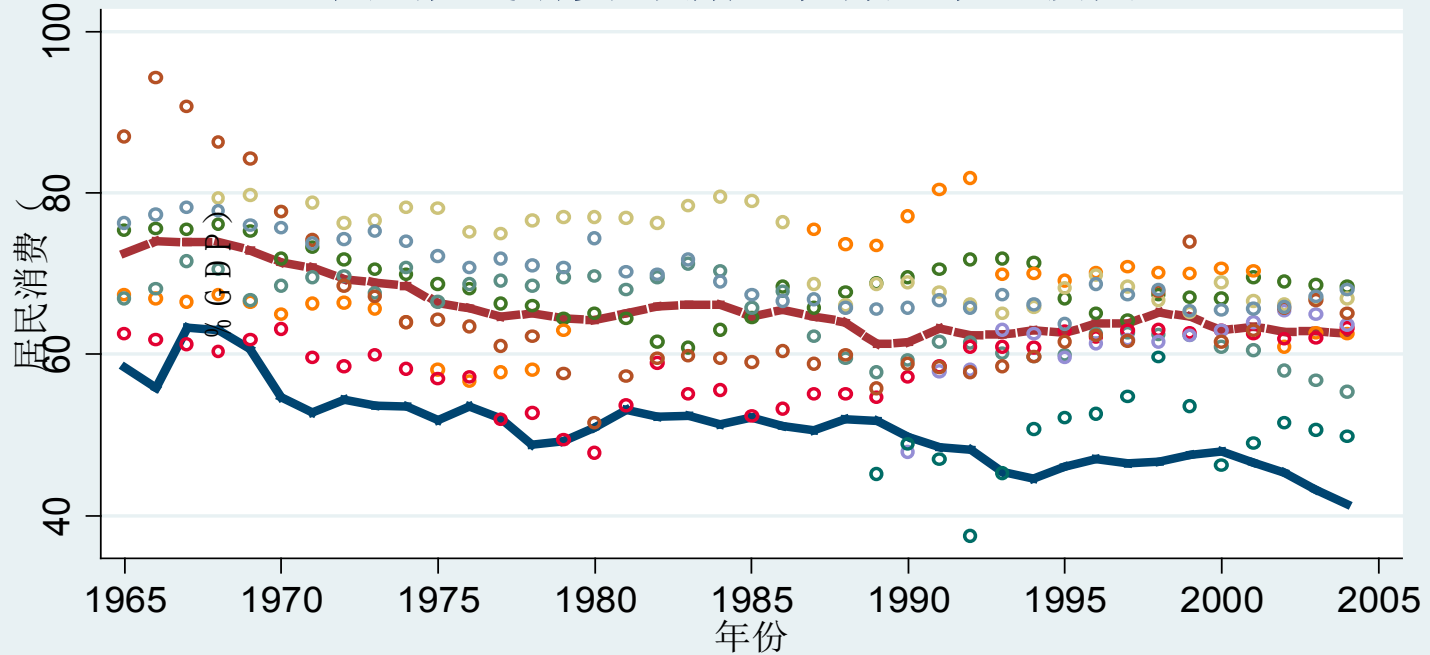
Compared with OECD countries

中国居民消费与国家比较图（1965-2005）

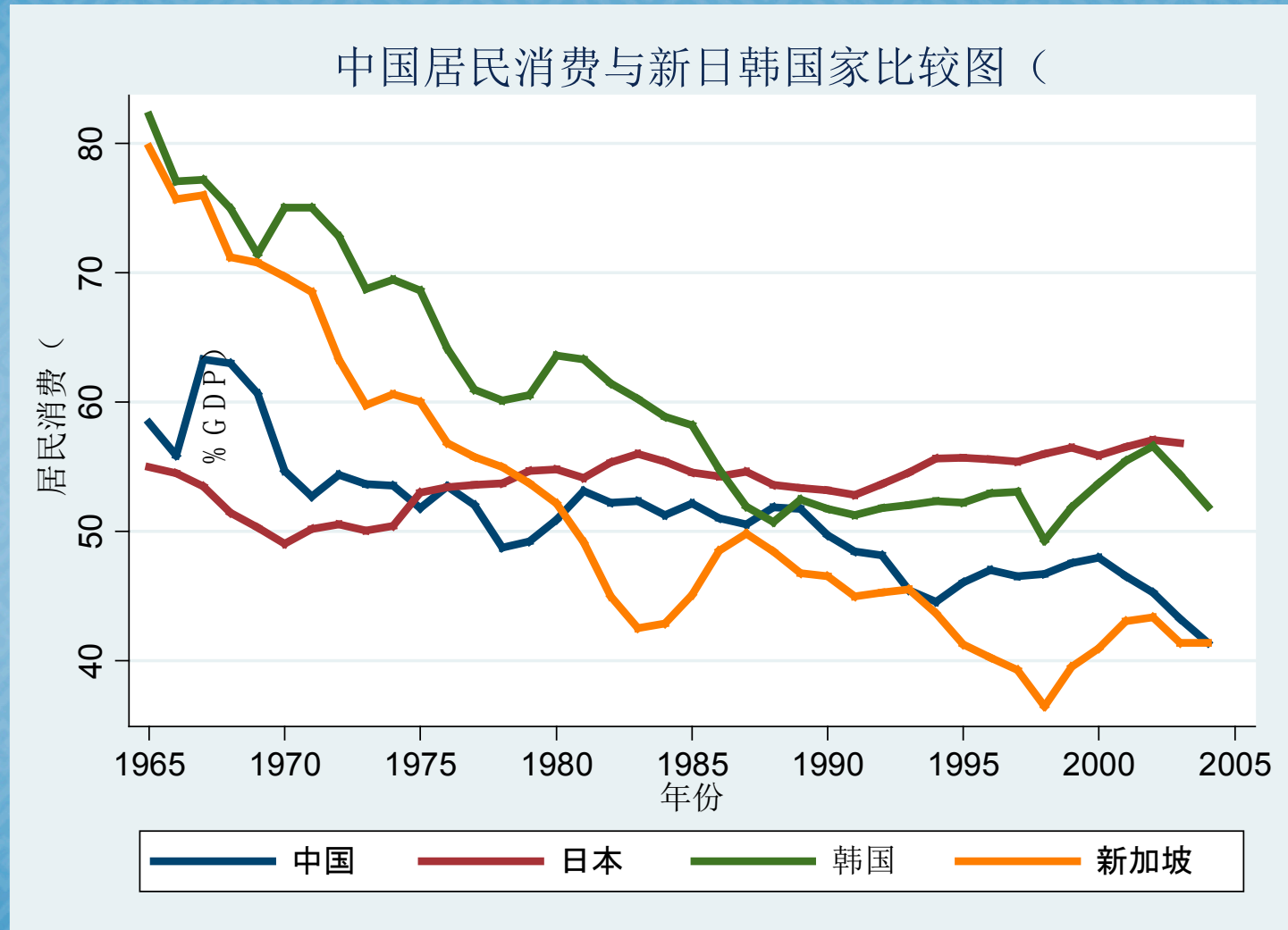


Compared with the countries in the same level of economic development

中国居民消费与新兴市场国家比较图 (



Compared with Other East Asian Economies



3. The reasons of consumption decline

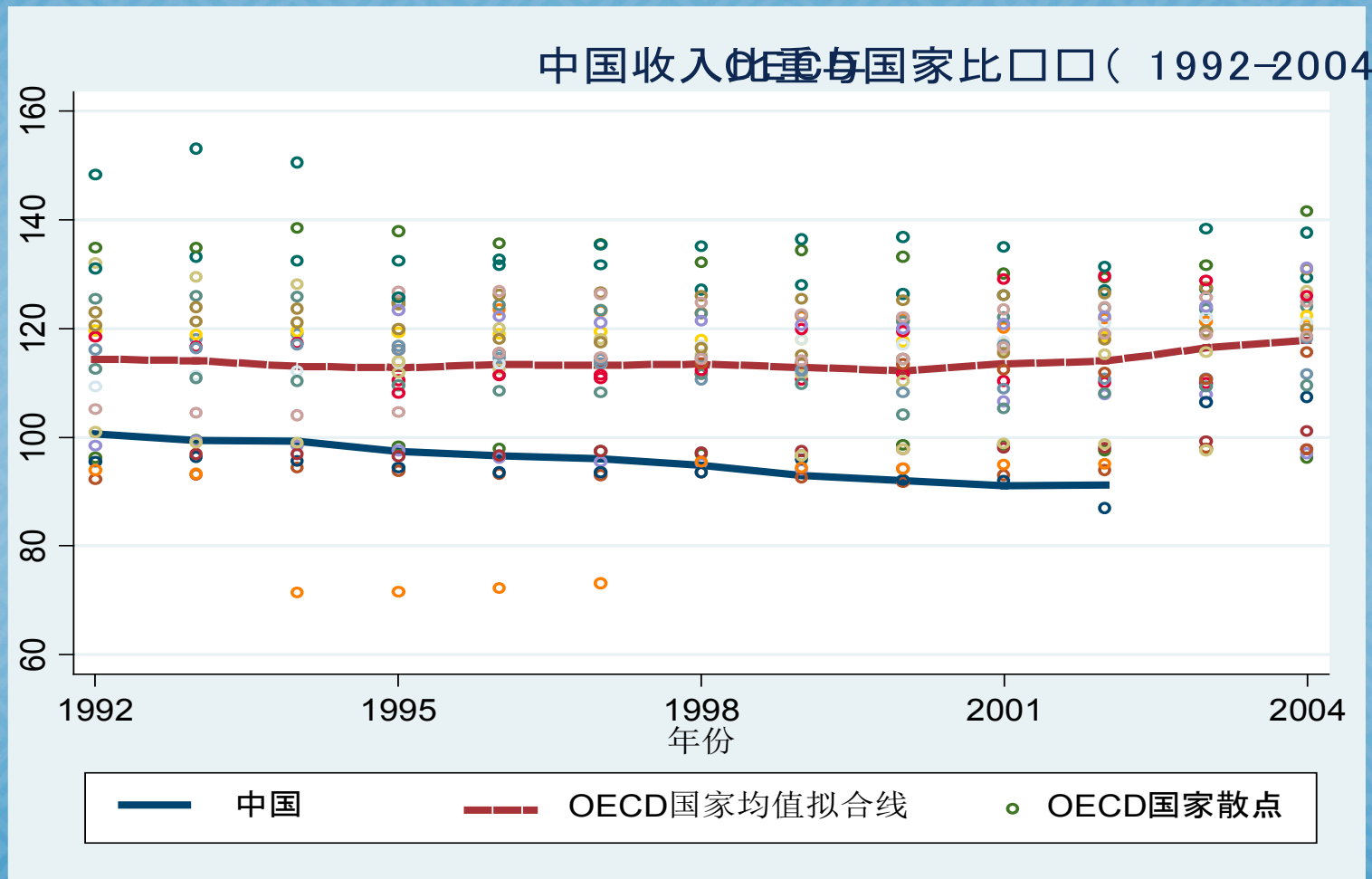
Research methods

1. Firstly, make research about the reasons of household income change
2. Secondly, make research about the consumption change in disposable income

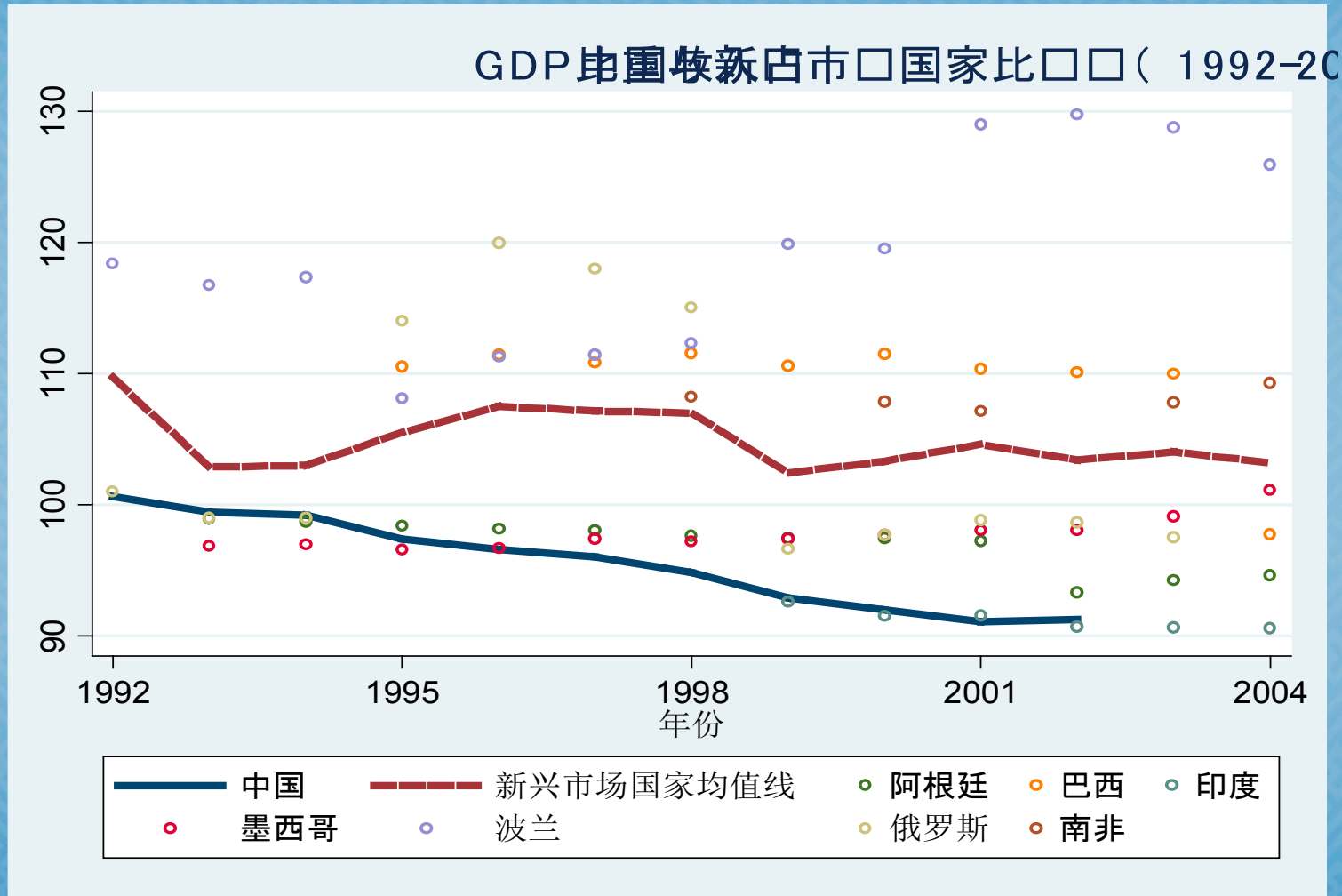
Household disposable income calculation, data sources and projections

1. UN database
2. National Statistical Yearbook
3. Overall

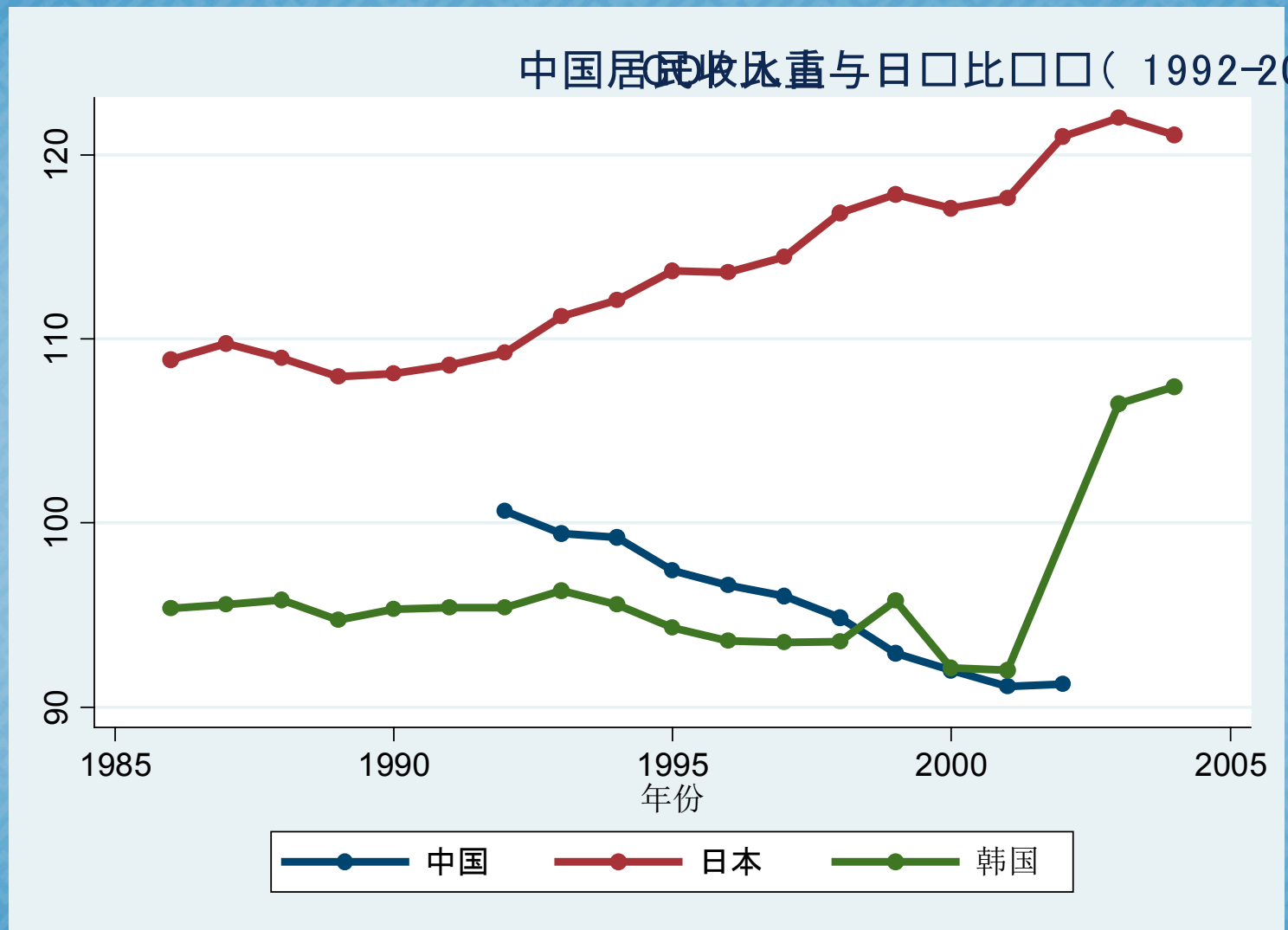
The proportion of disposable income to GDP in China, compared with OECD (UN database)



The proportion of disposable income to GDP in China, compared with the countries in the same level of economic development (UN database)

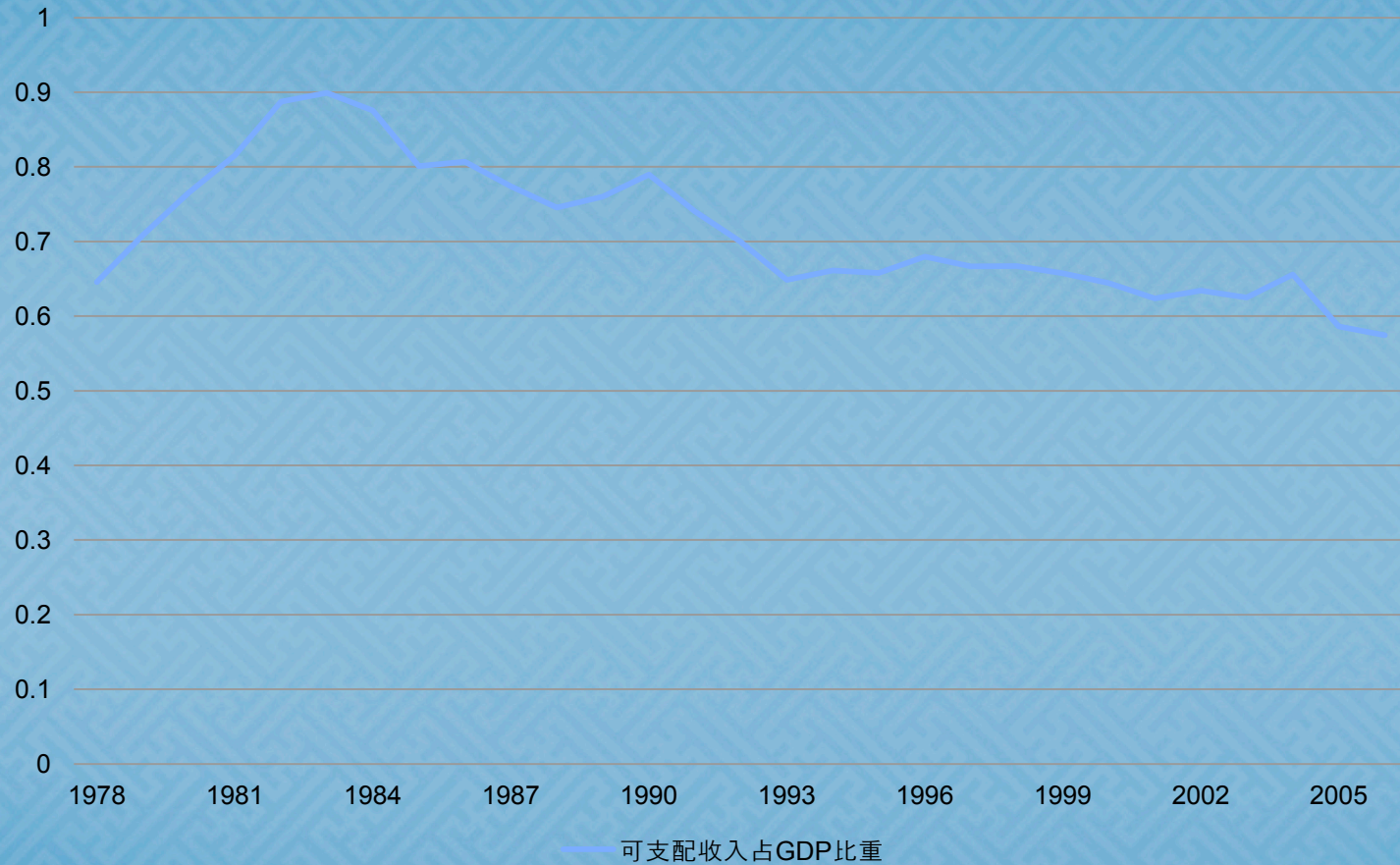


The proportion of disposable income to GDP in China, compared with other east Asian countries



Disposable income /GDP

中国居民可支配收入占GDP比重



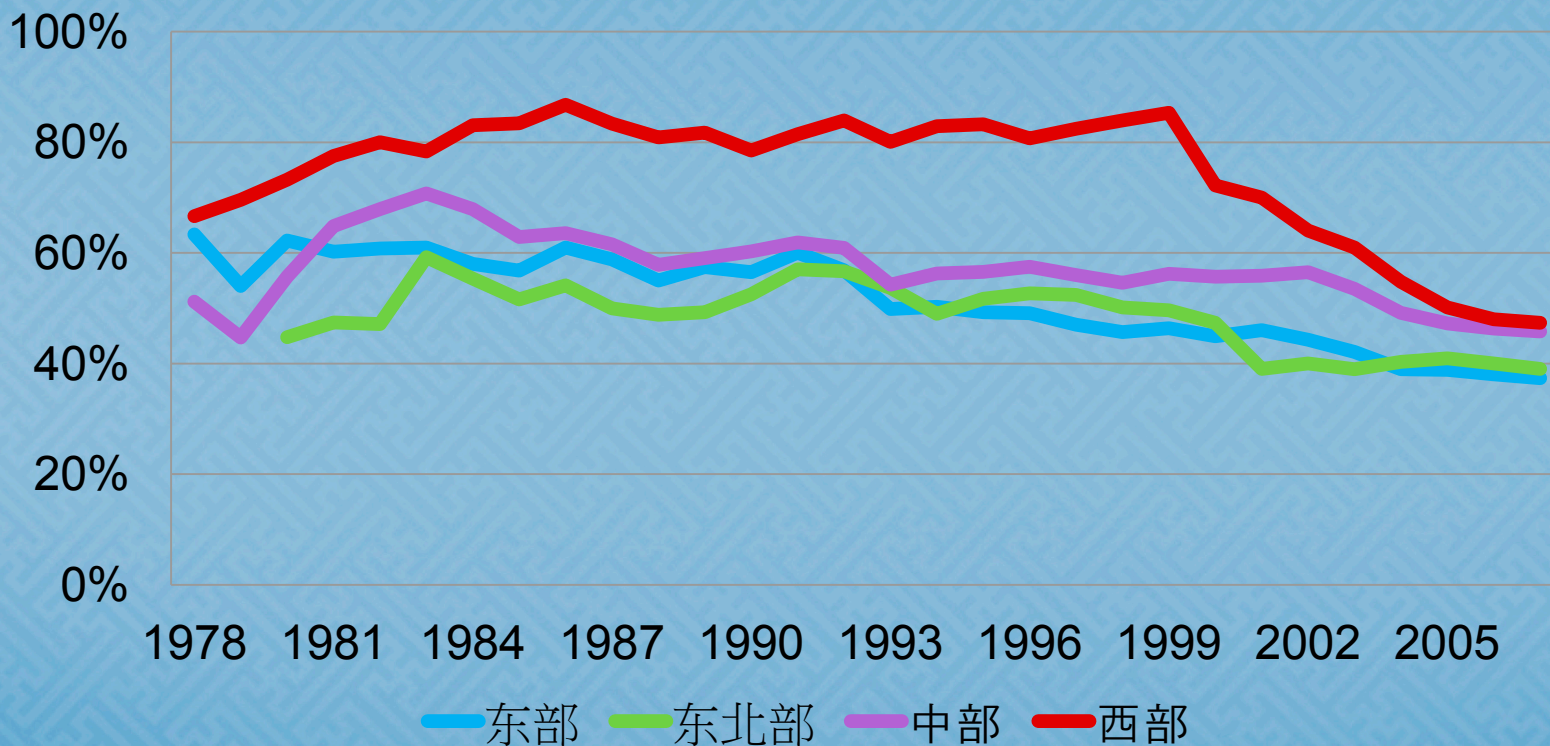
Compare disposable income results calculated by different methods (billion, Renminbi)

	Li Xunlei (2009)	Data in this paper	家计调查加总
1992		18,090.27	13184.27
1993		22,374.21	16415.31
1994		30,862.01	22407.82
1995		38,491.19	28624.88
1996		46,442.91	34439.25
1997			37950.7
1998		52688.56	40550.43
1999		54354.3	43742.94
2000		57562.71	47044.78
2001		61499.21	51797.77
2002		68448.3	58046.64
2003			64525.86
2004		93387.8	73373.29
2005		110609.5	83165.5
2006	118103	117100.3	94310.63
2007	162055	139039.3	111979.9
2008	184460	161515.6	130082

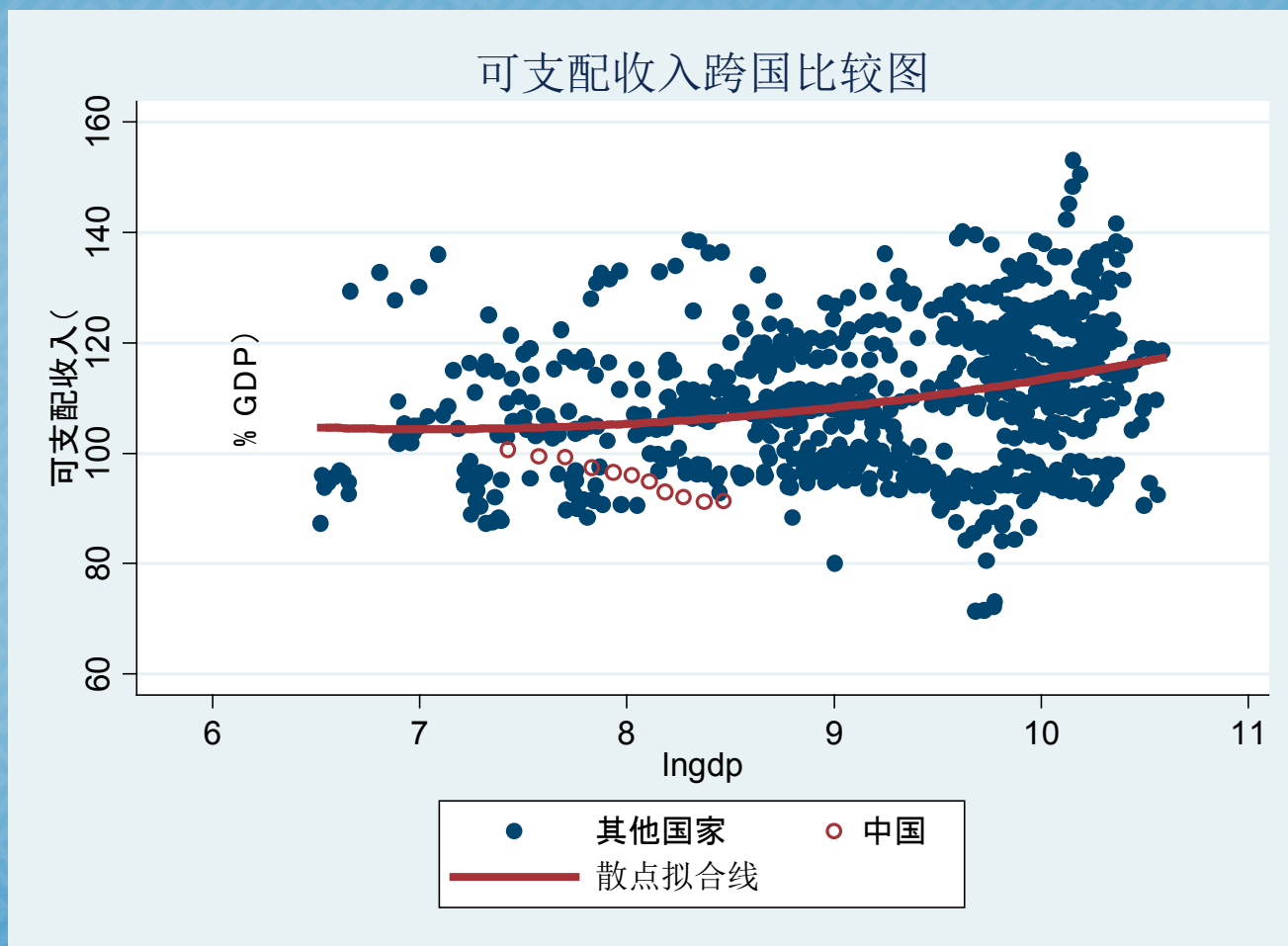
各省可支配收入占GDP比重

Provincial Disposable income/GDP

中国各地区可支配收入占GDP比重图 (1978-2007)



Disposable income after logistic changing (%GDP)



Theoretical analysis: the factors which explained disposable income

- Proportion of labor income to GDP
- Tax
- Development speed
- Proportion of three industries
- Openness

	(1)	(2)	(3)	(4)
VARIABLES	Di_low	Di_high	Di_low	Di_high
Labor_share			1.181*** (0.0831)	0.315*** (0.0898)
gdp_growth			-0.052 (0.0630)	-1.74 (0.0640)
open			-0.0832*** (0.0209)	1.76 (0.0228)
industry			-0.24*** (0.0586)	-0.396*** (0.0634)
lngdp	-54.72*** (10.20)	-27.60** (13.87)		
lngdp_2	2.542*** (0.545)	1.583** (0.735)		
Constant	349.7*** (47.42)	228.9*** (64.93)	22.83*** (4.992)	108.4*** (5.409)
Observations	690	779	514	535
R-squared	0.171	0.017	0.414	0.093

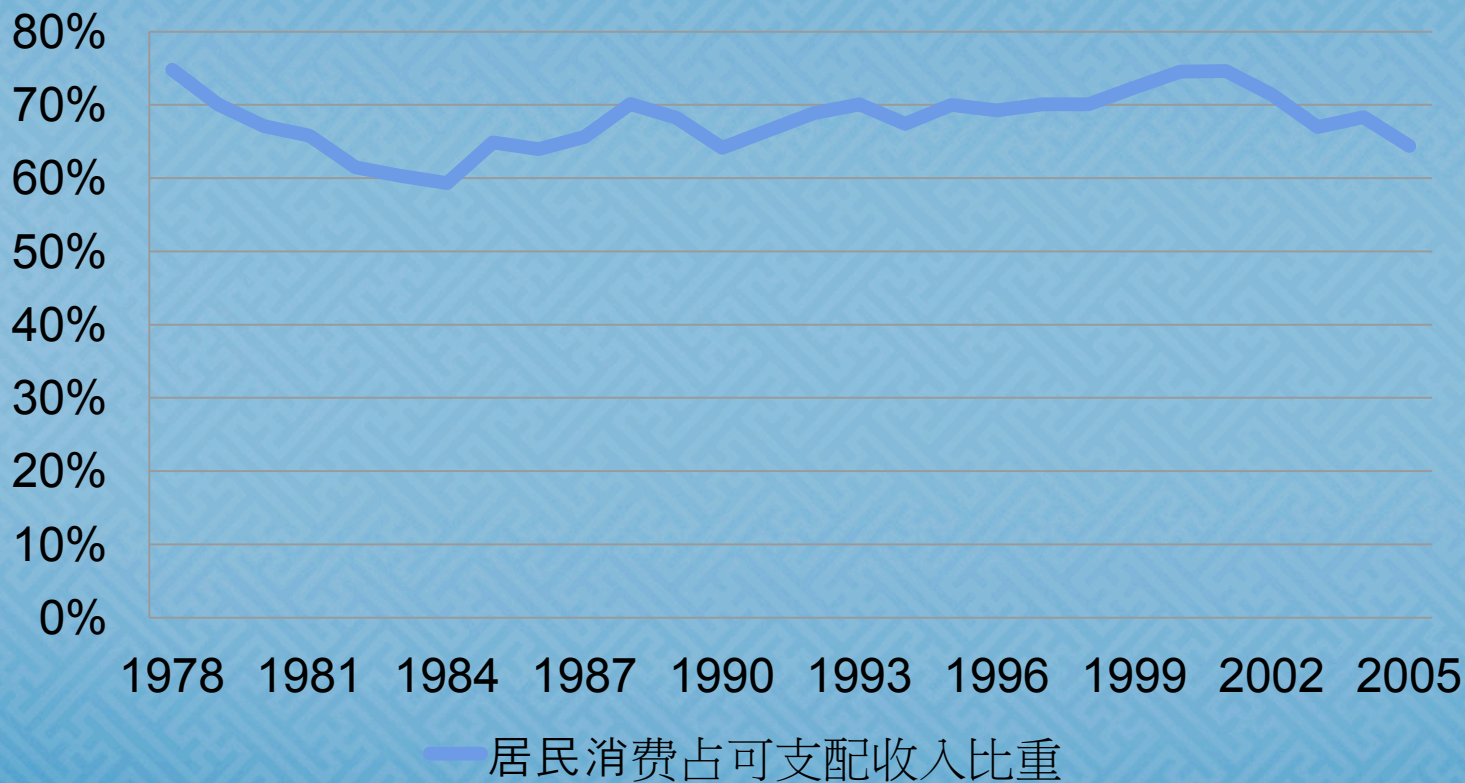
Disposable income /GDP Inter-provincial data research (labor; SOE proportion: government income, speed, industry)

	(1)	(2)	(3)
VARIABLES	di_percent	di_percent	di_percent
labor_share	0.689*** (0.0931)		
gov	0.2114 (18.25)		
gdpgrowth	10.55* (6.011)		
soe	0.2322*** (4.079)		
industry	-0.06893** (2.734)		
lngdppc		-5.474*** (0.375)	8.592* (4.608)
lngdppc_2			-0.818*** (0.297)
Constant	11.70** (5.648)	102.6*** (4.005)	44.51** (17.81)
Observations	421	744	657
R-squared	0.245		
Number of province	29	29	29

消费占可支配收入的比重变化

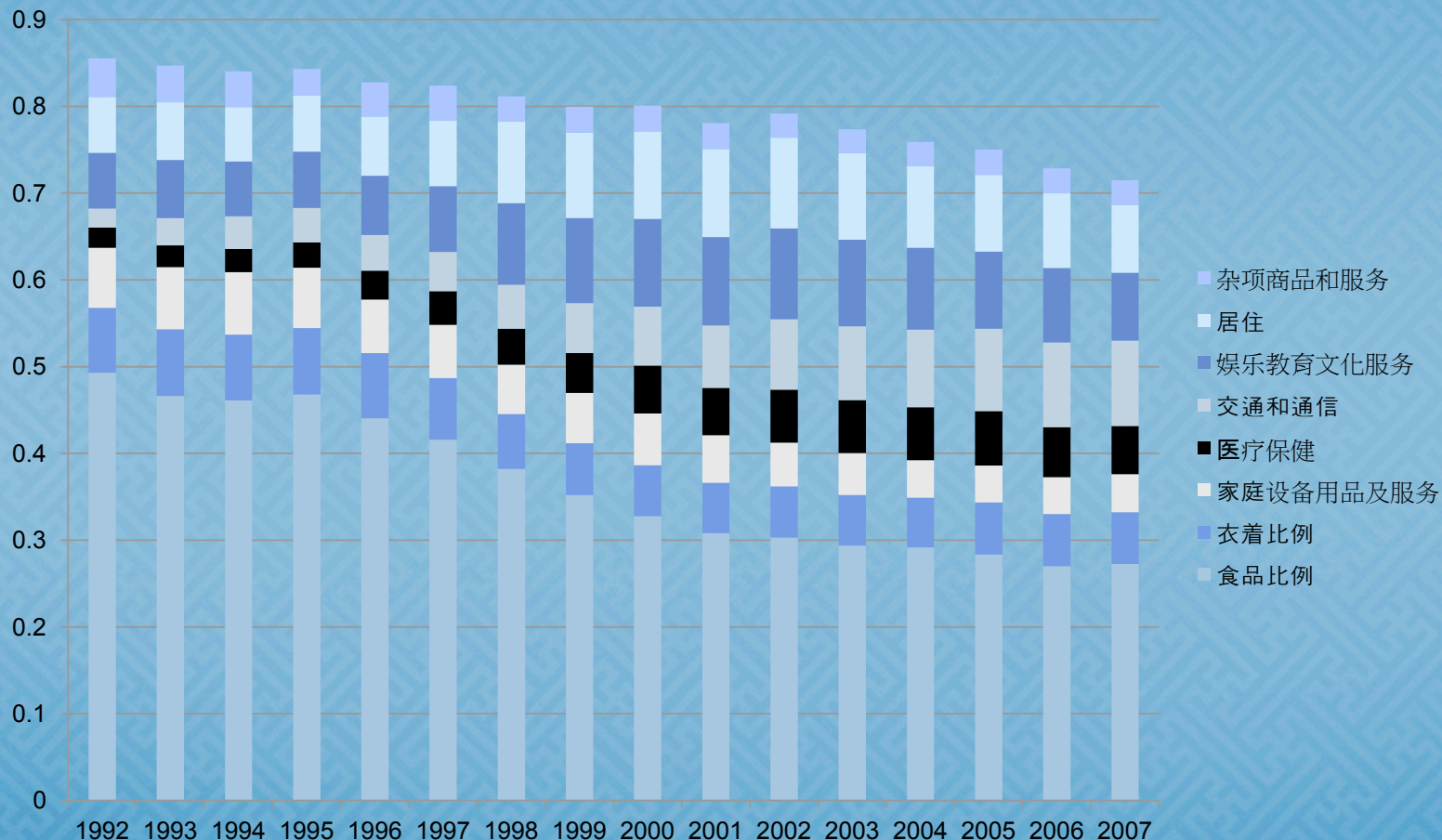
The change of consumption proportion of disposable income

中国居民消费占可支配收入比重变化图 (1978-2007)



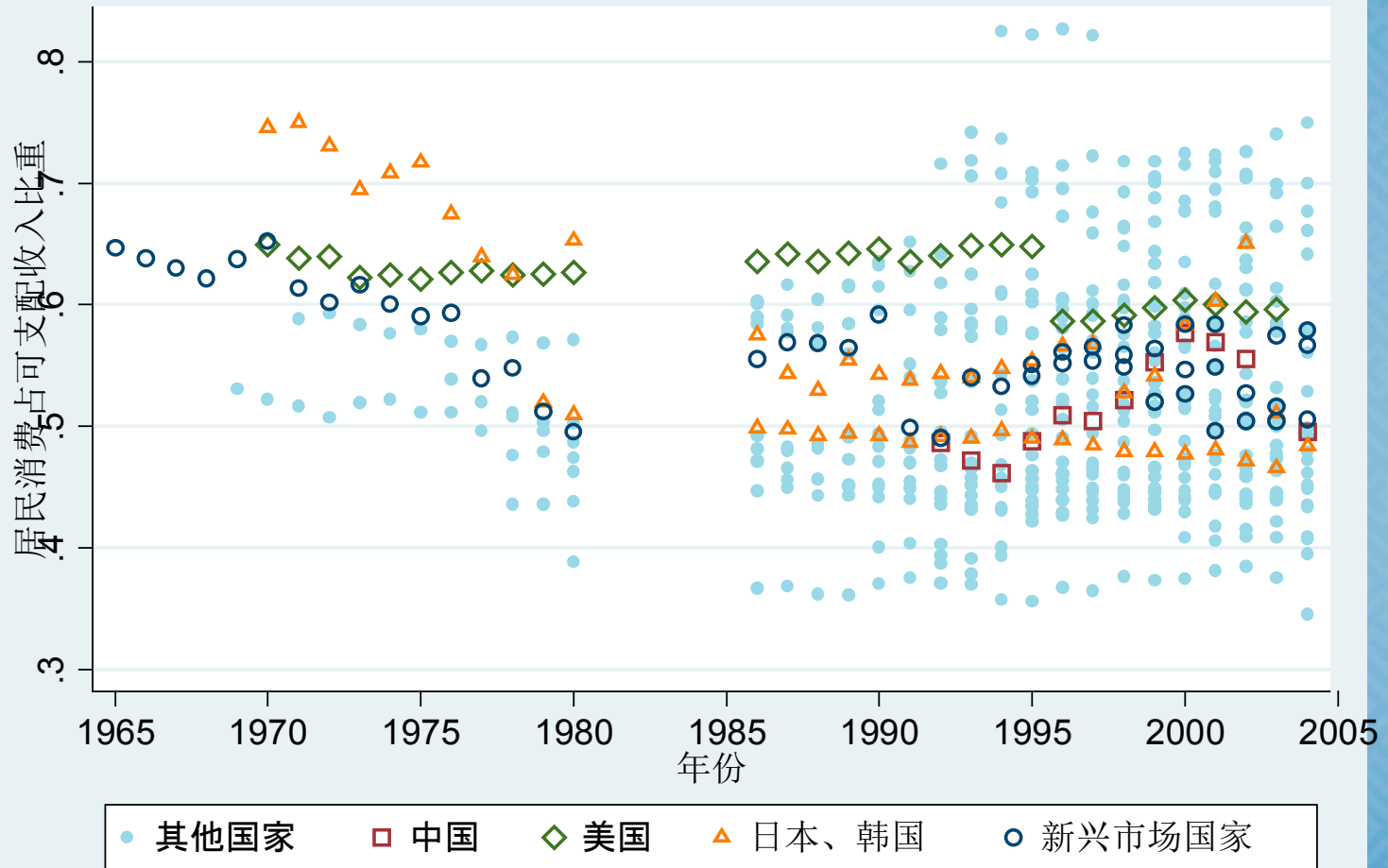
The proportion of consumption to disposable income ,changes

中国城镇居民消费占可支配收入比重变化图（1992-2007）



Consumption/disposable income

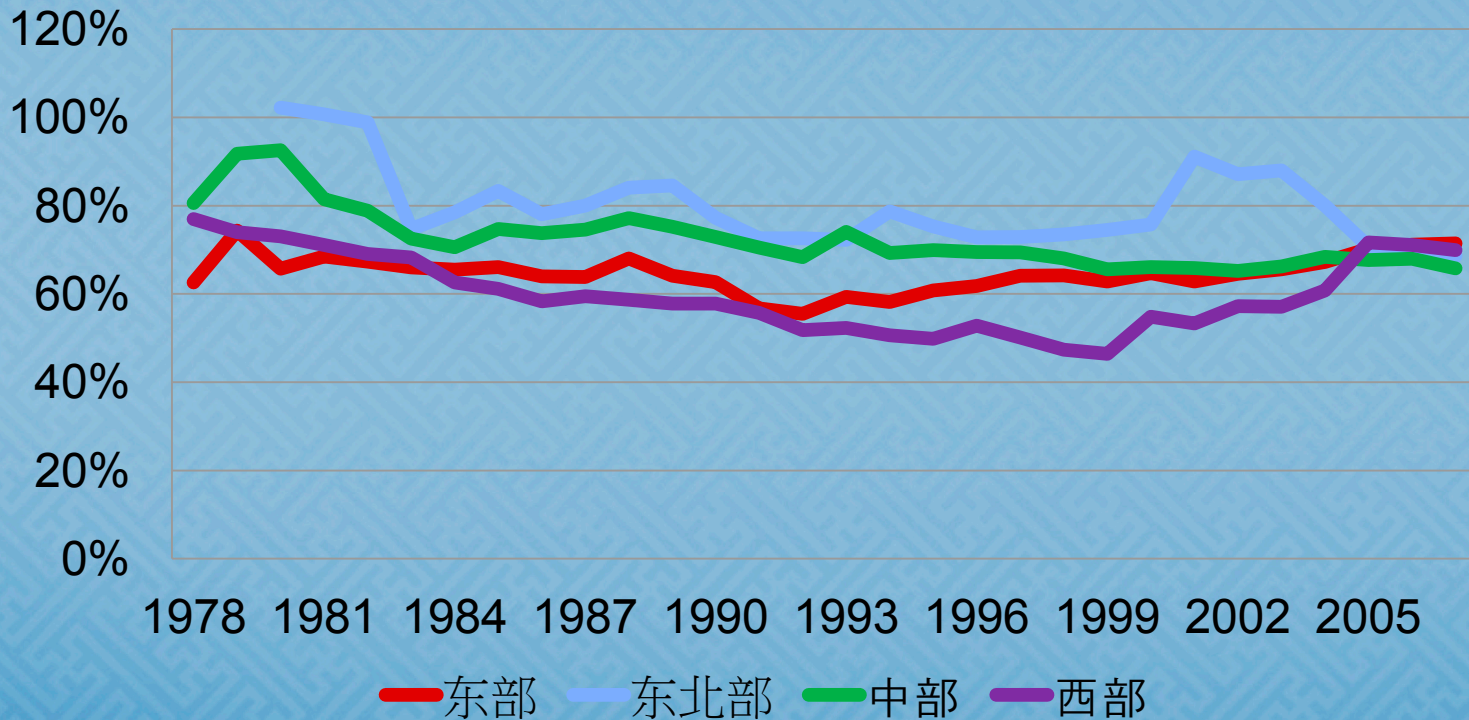
居民消费占可支配收入比重跨国比较图（



消费占可支配收入的比重变化：中国经济省际数据分析

*The change of consumption proportion of disposable income:
provincial data analysis in China's economy*

全国分地区消费占可支配收入比重 (1978-2008)



The proportion of consumption to disposable income ,changes: theoretical analysis

- Habit Theory
- Demographic
- Wealth
- Income gap

The proportion of consumption to disposable income ,changes, International historical data analysis

(1)

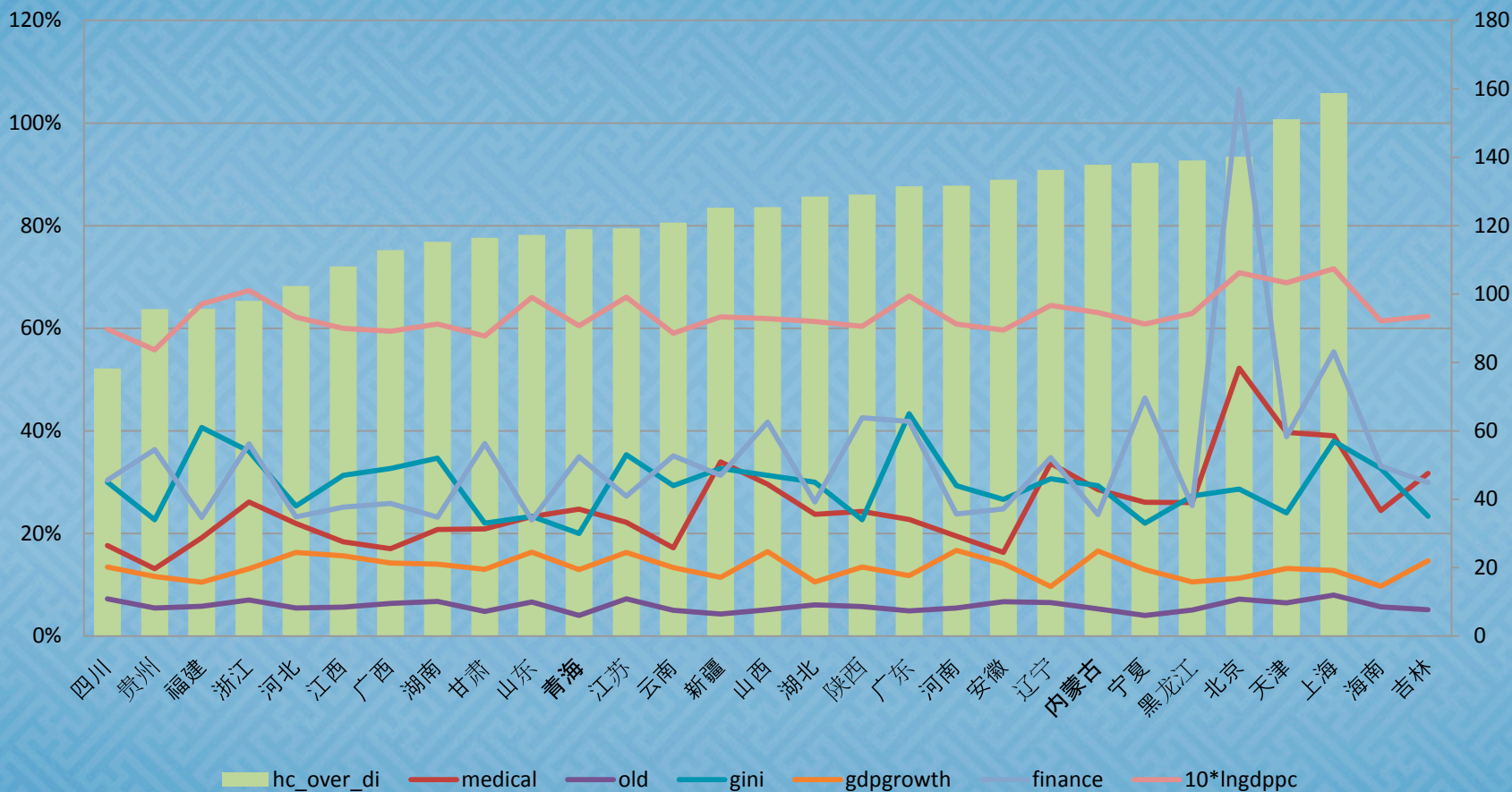
VARIABLES	hc_over_di
lngdp	-0.182 (0.206)
gdp_growthl	-0.0307 (0.0341)
open	-0.00141 (0.00236)
old	-0.0324 (0.0243)
urbanization	0.00260 (0.00497)
gini	0.00148 (0.00960)
Constant	3.181 (1.847)
Observations	21
R-squared	0.662

The proportion of consumption to disposable income ,changes, China's economic inter-provincial data analysis

(1)	
VARIABLES	hc_over_di
lngdppc	-0.0843 (0.62)
old	-0.004 (-0.23)
open	0.0000 (0.08)
urbanlization	-.0037 (-2.02)
gini	-0.0008 (-0.29)
medical	0.0046 (1.53)
fst	-0.003 (-0.33)
Constant	0.1418 (-0.33)
Observations	27
R-squared	0.3837

Provincial household consumption in 2004/Disposable income

2004年中国各省家庭消费占可支配收入比重图



Overall analysis: explain the difference of consumption proportion in China and the rest of the world (structure theory VS behavior theory)

	time	Consumption gaps	Disposable Income gaps	Consumption /income gaps
Compare with America	1992-1998	21.39%	8.10%	13.29%
	1999-2004	22.54%	21.98%	0.56%
Compare with emerging markets countries	1992-1998	16.97%	8.37%	8.60%
	1999-2004	17.86%	10.37 %	7.50%
Compare with OECD countries	1992-1998	11.48%	15.73%	-4.25%
	1999-2004	11.60%	19.23%	-7.63%

The factor of China's consumption decline :structure theory vs behavior theory

time	Consumption change	Income change (structure theory)	Consumption /income change (behavior theory)
1978-1983	12.2%	28.2%	-16.0%
1984-1999	-13.8%	-18.1%	4.3%
2000-2006	-17.8%	-10.9%	-7.0%
1979-2006	-23.5%	-14.2%	-9.3%

Summary

1. Since the reform and opening up the proportion of China's consumption declined significantly ,resulting in more serious macroeconomic consequences. How to understand this phenomenon? There is no recognized and more reasonable explanation. Two types of opposing views explained the question from macroeconomic structure and distribution of changes in consumer behavior relatively. Most of the paper focuses on the factors of residents behavior.
2. According to the basic theory of economics, we will decompose the changes of consumption proportion as disposable income for residents and the changes in consumption to disposable income, we found that the disposable income of residents in the proportion of GDP, basically at the age of reform and opening up, declined, not only with the changes in GDP in the same direction, but also can explain 60% of the latter changes. In contrast, household consumption accounted for the changes in disposable income is relatively limited. The same pattern can explain why the proportion of China's consumption is much smaller than that of U.S., OCED economies and other emerging market countries.
3. Based on this discovery, we propose to raise the proportion of household consumption, policies should focus on raise the proportion of disposable income of residents. In the short term, we should reduce tax, and should be changed industrial structure in the long term,develop labor-intensive industries and also find ways to improve the proportion of labor income to GDP.

Suggestions

1. Big fiscal, wide fiscal, government profit sharing in the short-term, expanding the proportion of labor income
 1. Promote the personal income tax system reform: Combine labor income and capital income and cut personal income tax rate Significantly
 2. Subsidize the cost of labor and employment of labor-intensive enterprises
 3. Five insurance and pension can be afforded by fiscal in the short term
2. Reform of monetary policies and capital market, enlarge capital income steadily
 1. Monetary policies and other policies stabilize the capital market expectations and prevent the volatility of capital market
 2. Expand the capital market capacity, and resolve high-risk of money stock
3. Enlarge consumer credit
 1. Control macro risk of financial consumer loans, simplify procedures of durable goods consumer loans
 2. Further liberalize distribution and consumer loan business of marketing companies