

Conference on Wealth Accumulation and Inequality of Opportunity

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Changes in Wealth Distribution in China 2002-2010



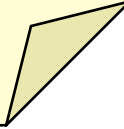
北京師範大學

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Hong Kong, 18, Oct., 2013



Outline

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- **Background**
 - **Datasets**
 - **Wealth and Wealth Structure**
 - **Wealth Distribution**
 - **Wealth Inequality Decomposition**
 - **Summary**
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Background

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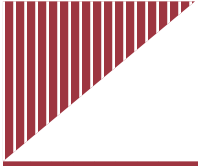
1. Fast economic growth and household income growth since 2000.
2. Rising income inequality
3. Dramatic rise of housing price
4. Going on urbanization process

Rising Wealth Inequality

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	1988	1995	2002	2005	2006	2007	2010
National	0.34	0.40	0.55	-	0.686	-	?
Urban	-	0.52	0.48	0.56	-	0.58	?
Rural	0.31	0.33	0.40	-	-	-	?
Urban wealth / <i>Household</i> <i>/thousand</i>	48.3 Mckinley, 1993	41.1 Li et.al, 2000	138 Li et.al, 2005	316 Chen, 2009	318 Pei et.al, 2008	280 Chen, '09	2476 Gan et.al, 2012

- Though the results can't be comparable, however...
- The common trend of wealth inequality is rising, particularly from 2002
- After 2005, few work devotes to examining wealth distribution, how is current case?
- Moreover, data and variable definitions are not the same, how to make a judgment on the results ?



Data Sets

Data Source

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CHIP 2002



National representative (weighting)

CPI+PPP adjusted to 2010

Obs: 16035

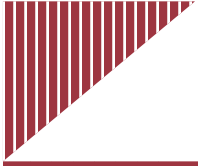
CFPS 2010



National representative (weighting)

PPP adjusted

Obs: 14798



Wealth growth and Wealth Structure



Wealth Definition

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- ✓ Wealth, asset, property...
- ✓ Income and Wealth (stock and flow)
- ✓ Wealth includes: land value(only for rural), financial assets, net housing value , productive fixed assets, durable consumer goods, other asset(for urban), non-housing debts
- ✓ Net wealth (gross wealth - debts), keeping obs. with the zero and negative net wealth
- ✓ Net household wealth per capita
- ✓ Use CPI, PPP to adjust variable in 2002 to the year of 2010

Household wealth growth in urban China, 2002-2010

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	2002/ Present value (A)	2002//CPI discounte d (B)	2002/CPI+ PPP discount (C)	2010 /present value(D)	2010 /PPP Discounted (E)	2002-2010a nnual real growth rate (E-C)
Urban areas						
Net wealth	45983	55886	51971	285495	256629	22.1
Finance	12084	14705	13713	46984	43301	15.5
Housing	29868	36252	33615	226129	201807	25.1
Productive fixed asset	855	1059	1034	1574	1498	4.7
Durable goods	3367	4102	3816	6384	5911	5.6
Other asset	655	802	759	883	809	0.8
Non-housing debt	-191	-232	-208	-560	-554	13.0

Household wealth growth in rural China, 2002-2010

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	2002/ Present value (A)	2002//CPI discounted (B)	2002/CPI+ P P P discount (C)	2010 /present value(D)	2010 /PPP Discounte d (E)	2002 - 2010 annual real growth rate (E-C)
Rural areas						
Net wealth	13334	17091	16257	40373	37536	11.0
Land	4251	5500	5277	7590	7178	3.9
Finance	1612	2075	1984	4518	4200	9.8
Housing	5577	7089	6681	22663	20789	15.2
Productive fixed asset	1248	1609	1537	3265	3141	9.3
Durable goods	859	1093	1039	2912	2768	13.0
Non-housing debt	-213	-275	-262	-576	-541	9.5

Household wealth growth in China as a whole, 2002-2010

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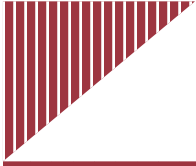
	2002/ Present value (A)	2002//CPI discounte d (B)	2002/CPI+ PPP discount (C)	2010 /present value(D)	2010 /PPP Discounted (E)	2 0 0 2 - 2 0 1 0 annual real growth rate (E-C)
1, National						
Net wealth	27251	33626	31479	158400	143030	20.8
Land	2439	3156	3028	3936	3722	2.6
Finance	6076	7458	6983	24966	23027	16.1
Housing	15931	19519	18161	120633	107950	25.0
Productive fixed asset	1080	1375	1323	2451	2350	7.4
Durable goods	1928	2376	2223	4584	4282	8.5
Other asset	279	342	324	425	390	2.3
Non-housing debt	-204	-257	-239	-568	-547	10.9



Some points

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- ✓ Rapid growth of total wealth. Net wealth per capita reaches to 143 thousand in 2010, is 4.5 times than that of in 2002. It increases with annual growth rate of 20.8%.
- ✓ Growth rate in urban area (annual rate 22.1%) is two times than that in rural regions (annual rate is only 11%)
- ✓ Rapid growth of wealth for all sub-groups, especially for the housing (annual growth rate is 25.0%), and financial wealth(annual rate 16.1%)
- ✓ Housing accounts for 76% of total wealth in 2010, while it is only 58% in 2002, present a serious abnormal wealth structure, potential crisis?
- ✓ Land wealth increases, but growth rate is rather small (2.6%)



Wealth Distribution

Wealth Decile

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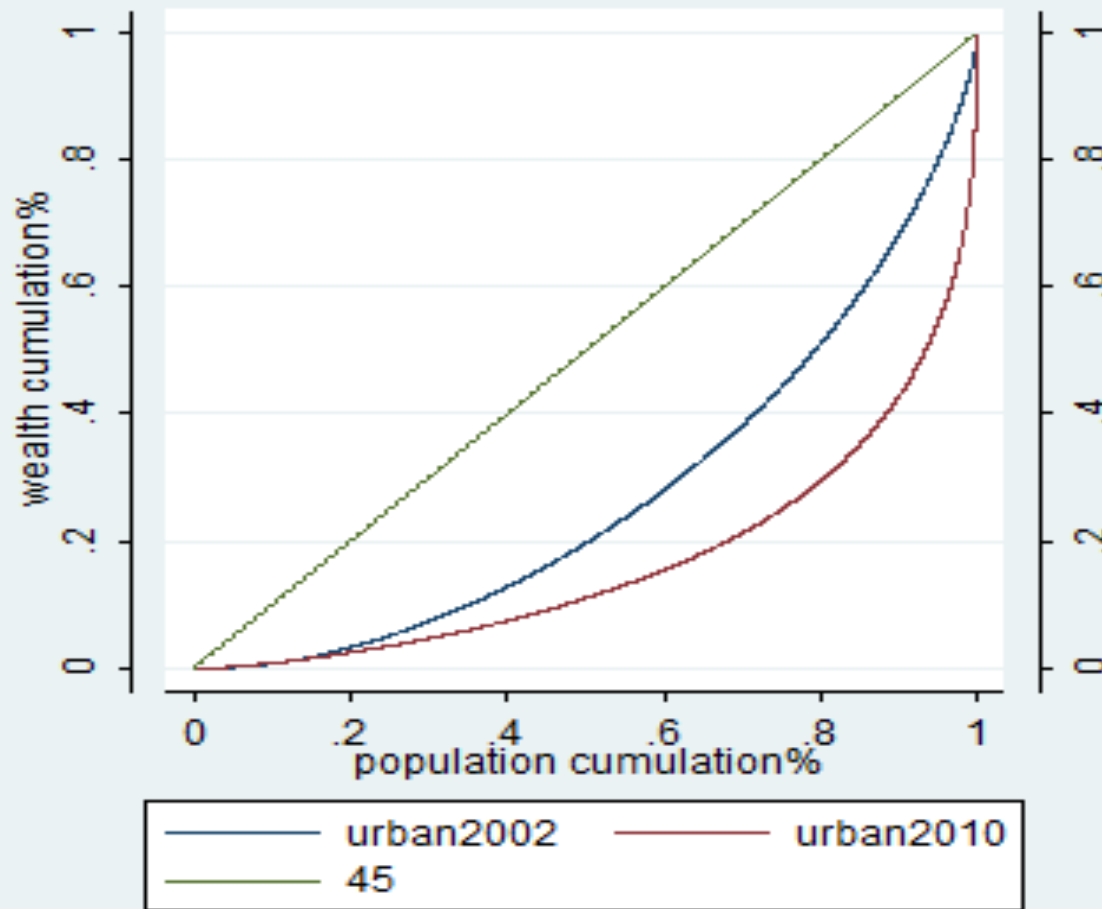
Decile (Low to high)	Wealth Share / Urban		Wealth Share / Rural		Wealth Share / National		Wealth Mean/National	
	2002	2010	2002	2010	2002	2010	2002	2010
1	0.8	0.8	0.7	0.3	0.6	0.1	1810	1305
2	2.5	1.7	2.6	1.2	1.8	0.5	5664	7119
3	4.1	2.2	4.1	1.7	2.9	0.9	9010	12517
4	5.5	2.8	5.4	2.3	3.9	1.5	12414	21401
5	6.8	3.5	6.8	3.1	5.2	2.4	16404	33774
6	8.4	4.5	8.3	4.2	6.9	3.5	21616	49990
7	10.2	5.8	10.2	5.7	9.1	5.1	28775	72255
8	13.0	8.3	12.7	8.0	12.6	7.5	39523	107899
9	17.2	13.3	16.7	12.1	18.3	13.2	57766	188257
10	31.7	57.1	32.5	61.5	38.7	65.4	121842	936077

- ✓ Wealth distribution goes more polarized, though its stock experiences a overall growth
- ✓ 90% of population's wealth shares decrease during 2002-2010
- ✓ Only 10% of the highest group's wealth proportion dramatically increases

Wealth Inequality in 2002 and 2010

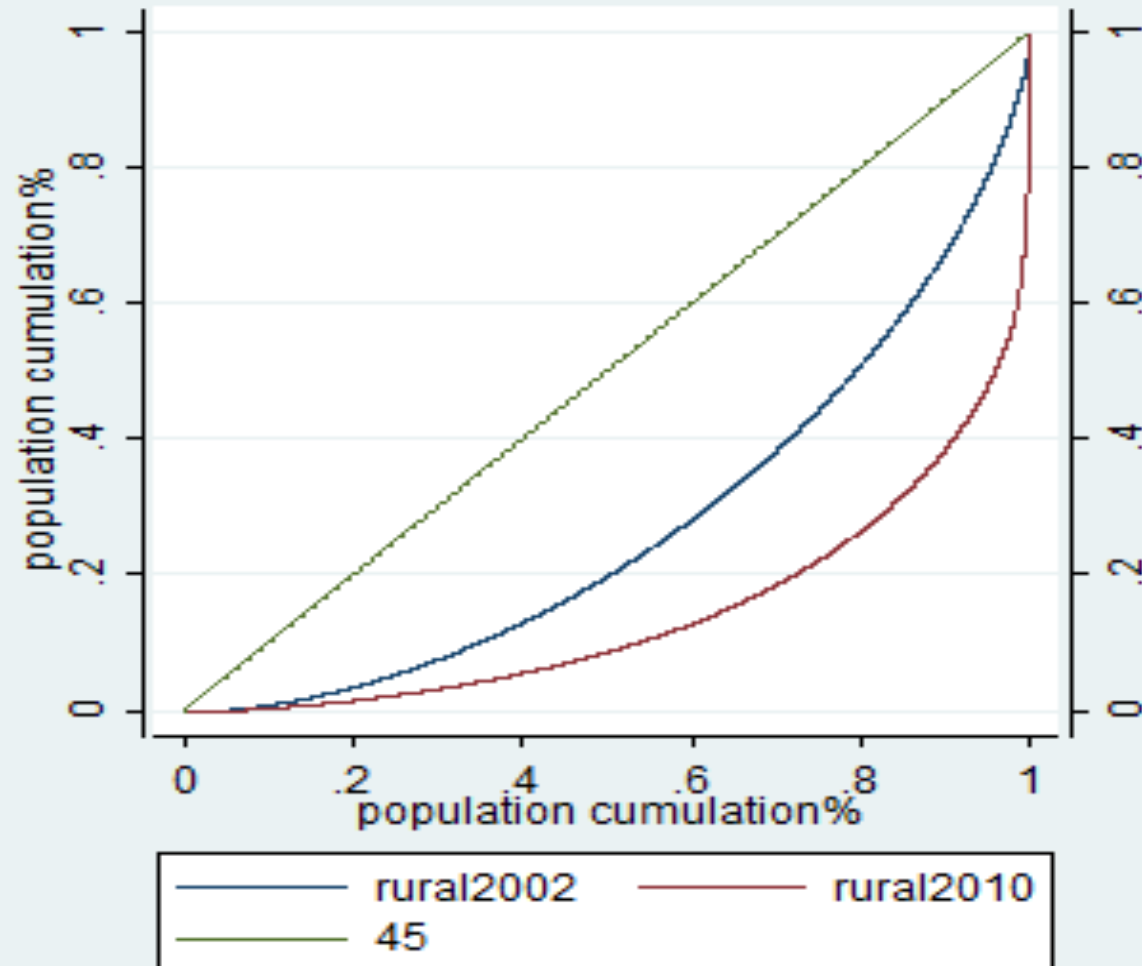
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Lorenz Curve: Urban sample, 2002 and 2010

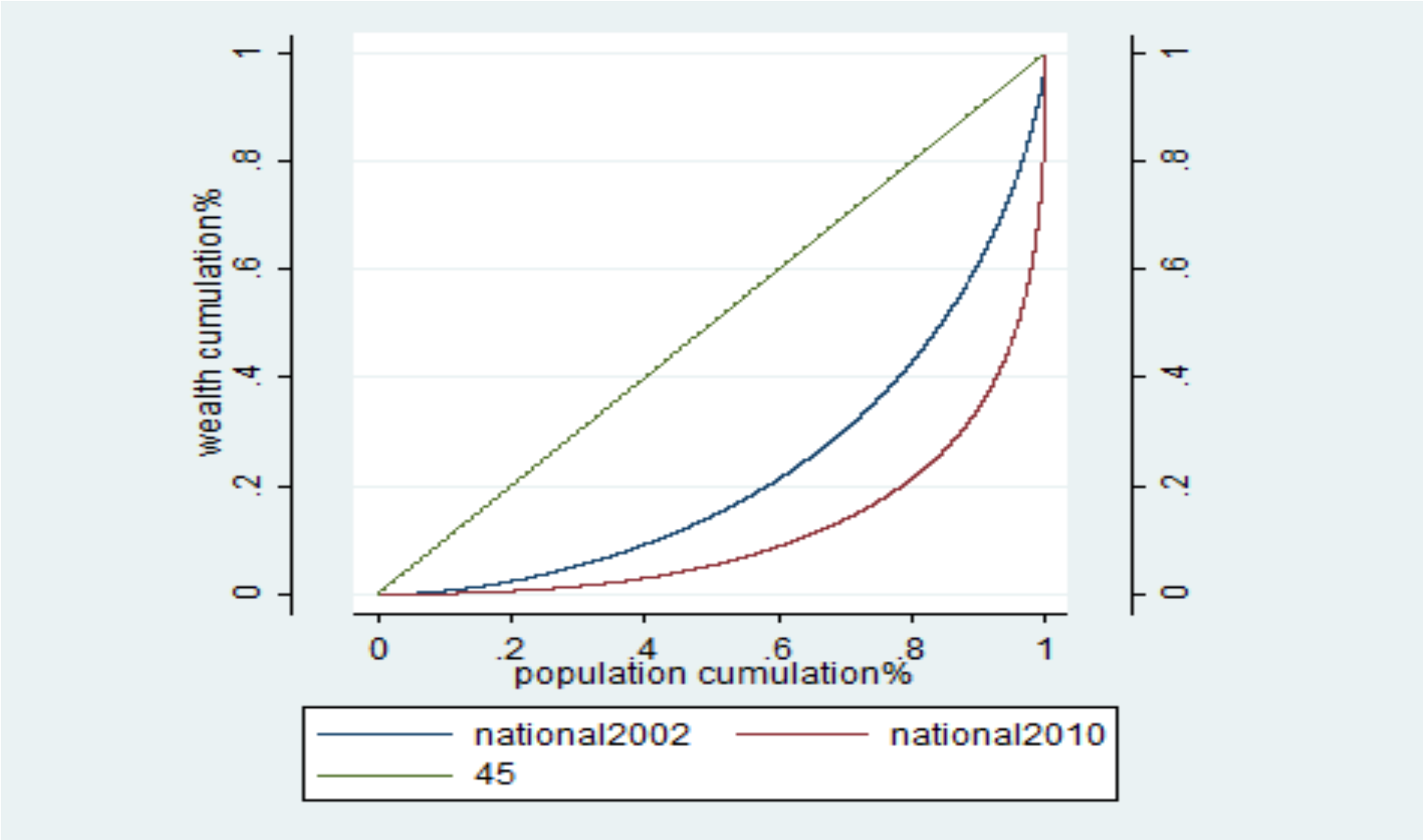


Lurenz Curve: Rural sample, 2002 and 2010

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Lorenz Curve: National sample, 2002 and 2010





Widening wealth inequality in terms of Gini

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- ✓ Rural gini: from 0.453 to 0.709
- ✓ Urban gini: from 0.450 to 0.659
- ✓ National gini: from 0.537 to 0.758



Wealth Inequality Decomposition

Wealth Structure Decomposition / 2002/2010

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Urban areas	Share of each type of wealth	Gini	concentration ratio	Contribution to overall inequality
2002				
Net wealth	1.00	0.450		
Finance	0.26	0.636	0.713	0.27
Housing	0.65	0.513	0.905	0.67
Productive fixed asset	0.02	0.984	0.539	0.02
Durable goods	0.07	0.524	0.590	0.05
Other asset	0.01	0.914	0.263	0.01
2010				
Net wealth	1.00	0.659		
Finance	0.17	0.352	0.605	0.05
Housing	0.79	0.791	0.986	0.93
Productive fixed asset	0.01	0.491	0.206	0.00
Durable goods	0.02	0.709	0.407	0.01
Other asset	0.00	0.825	0.524	0.00

Rural areas	Share of each type of wealth	Gini	concentration ratio	Contribution to overall inequality
2002				
Net wealth		0.453		
Land	0.32	0.682	0.639	0.31
Finance	0.12	0.790	0.657	0.14
Housing	0.41	0.576	0.785	0.41
Productive fixed asset	0.09	0.671	0.620	0.09
Durable goods	0.06	0.648	0.519	0.05
2010				
Net wealth		0.709		
Land	0.19	0.505	0.617	0.08
Finance	0.11	0.730	0.734	0.08
Housing	0.55	0.903	0.945	0.67
Productive fixed asset	0.08	0.913	0.754	0.08
Durable goods	0.07	1.156	0.690	0.08

National sample	Share of each wealth type	Gini	concentration ratio	Contribution to inequality
2002				
Net wealth	1.00	0.537		
Land	0.10	0.859	0.139	0.02
Finance	0.22	0.771	0.806	0.26
Housing	0.58	0.650	0.917	0.64
Productive fixed asset	0.04	0.852	0.380	0.03
Durable goods	0.07	0.636	0.701	0.05
Other assets	0.01	0.963	0.570	0.01
2010				
Net wealth	1.00	0.758		
Land	0.03	0.743	-0.234	-0.01
Finance	0.16	0.627	0.818	0.11
Housing	0.75	0.879	0.985	0.86
Productive fixed asset	0.02	0.852	0.311	0.01
Durable goods	0.03	0.902	0.529	0.02
Other asset	0.00	0.916	0.752	0.00

Wealth Inequality Decomposition: Urban VS Rural

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	National inequality	Between Urban-Rural	Within Urban-Rural
2002			
Theil index	0.50396	0.15336	0.35060
Proportion %	100.0	30.4	69.6
2010			
Theil index	1.43519	0.31975	1.11544
Proportion %	100.0	22.3	77.7

- For both year of 2002 and 2010, wealth inequality mainly comes from gap within urban or rural areas.
- Between inequality decreased due to more rapid rise within inequality.

Decomposition of Wealth Inequality Change

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	$\Delta c \times \Delta u_{02}$	$\Delta u \times c_{02}$	$\Delta c \times \Delta u$	Total
National sample				
Land	-1.1	-4.3	0.8	-4.6
Finance	17.5	-39.0	-4.8	-26.3
Housing	31.9	128.9	9.8	170.6
Productive fixed asset	-2.6	-8.0	1.6	-9.0
Durable goods	-8.9	-22.4	5.1	-26.2
Other asset	1.2	-3.3	-0.9	-3.0
Non-housing debt	-1.5	-0.7	0.8	-1.5
Total	36.4	51.2	12.4	100.0

- Housing assets are the main reason for the increased inequality during 2002-2010, it explains for 171% of the overall changes
- Other factors are the reason for the decreasing inequality during 2002-2010



Summary (1)

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- ✓ The accumulated wealth of Chinese households increases sharply during 2002-2010, net wealth per capita by more than 20% annually, while household income per capita by 8%.
- ✓ Changes in wealth structure indicate that housing value accounts an increasing from 58% in 2002 to 76% in 2010.
- ✓ Wealth distribution rapidly became unequal, gini coefficient increasing from 0.54 in 2002 to 0.76 in 2010.
- ✓ Rural inequality surprisingly jumped up, as a result, the rural inequality go beyond the urban inequality level.



Summary (2)

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- ✓ Unequal distribution of housing value is a major driving force for rising wealth inequality.
- ✓ Contribution of urban-rural gap to total inequality decreased, but the gap of itself increased during 2002-2010.



Comments are welcome!