



# Findings from China Household Finance Survey

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# Data Collection

# Sampling and Implementation

- Nationally representative sample:
  - Among 2585 counties/districts of China, 80 counties/districts are randomly selected according to per capita GDP.
  - Four communities are randomly selected within each county/district.
- 232 people in 41 groups were sent to each of the 320 communities to draw detailed maps for all houses/apartments in the community. The detailed map serves as our sampling frame.
- Total 343 interviewers in 32 groups were sent to the communities to do face-to-face interviews.

# Sampling and Implementation

- Help from local branches of People's Bank of China (and NORC/Fed).
- Tremendous help from local communities.
- Rigorous training: 56 hours per interviewer.
- Implementation Design:
  - Only after six refusals at different time periods, the sampled household is allowed to be dropped.
  - Working as a group reduces moral hazard.
  - Very strict privacy design.
- Dedicated and innovative interviewers.
- Chinese people are more supportive than we originally expected.

# Low Refusal Rate

Project	Time	Non-response Rate
CHFS	2011	Overall: 11.6%
		City: 16.5%
		Rural: 3.2%
CHARLS (China's HRS)	2008 Pilot	Overall: 15.2%
		City: 20.7%
		Rural: 10.1%
Survey of Consumer Finance	2010	Regular sample: 30%
		List sample: 67%

# Comparing CHFS to NBS data:

Items	NBS	CHFS	Difference
Urban resident ratio (2011)	0.513	0.514	0.001
Urban registered resident ratio	0.338 (2009)	0.355 (2011)	0.017
Per capita income rural (2010)	5,919 RMB	9,373 RMB	58.35%
Per capita income urban (2010)	19,109 RMB	24,688 RMB	29.20%

# Quarterly Interviews

- Quarterly interviews: a mixture of Computer Assisted Telephone Interviews (CATI) and face-to-face interviews.
- Quarterly Interview questionnaire includes:
  - Expectations about *interest rate, CPI, housing price, stock index*.
  - Employment status
  - Financial market participation and earning status
  - Assets: house price, loan, vehicle, debts
  - Income and consumption

# Quarterly Interviews

- Successfully finished two rounds of Quarterly Interviews this year.
- Benefits of Quarterly Interviews.
  - A timely picture of household economic situation in China.
  - Quickly build-up a panel.





# Some Main Findings

## **Finding #1:**

- Inequality of household income and assets in China is much more serious than previously thought.
- High household saving rate in China is likely caused by income inequality in China.

**Implications:** Income redistribution has to be one of the key public policies in China.

## **Finding #2:**

- China total net household wealth is more than US by 21%.
- An overbuilt real estate sector and a rising housing price in China and is likely one of the key reasons.

**Implications:** a likely housing bubble in China.

### **Finding #3:**

- China has one of the highest home ownership rate in the world.
- Residential demand is no longer an serious issue.

**Implications:** Housing policy should focus on satisfying differential demands by adjusting the structure of housing supply.

### **Finding #4:**

- Home owners enjoy substantial capital gains (on paper).
- Home prices are too high to be affordable to home buyers.

### **Implications:**

- Policies for affordable housing are necessary.
- Banks can survive a large percentage drop in prices.

### **Finding #5:**

- Very low participation rate of the formal financing sector, but very active informal finance.
- People are risk averse – a large portion of their financial asset is riskless.

### **Implications:**

- Potential for a tremendous growth of household finance sector in China.
- Systemic risk may arise from informal financing sector rather than formal financing sector.

**Finding #6:** Myth of the size of the Chinese rural migrant workers.

- NBS two different surveys produce two very different numbers.
- CHFS is almost identical with one NBS survey.

**Implication:**

- Importance of having independent surveys.



# Finding #1: Inequality in income and assets



# Household Disposable Income (RMB)

	Overall	City	Rural
Average	59,174	79,944	35,806
Median	27,900	37,500	19,619

# Household Disposable Income (RMB)

	Overall	City	Rural
25 percentile	10,800	17,000	7,860
75 percentile	55,804	72,230	19,619
90 percentile	107,495	144,000	67,470
95 percentile	174,880	229,500	93,077
99 percentile	559,000	663,200	284,000
Roughly 1.5 million Chinese families' disposable income is more than 1 million RMB.			

## Close inter-personal relationship: *Guanxi*

	Inter-personal spending	As a percentage of income	Inter-personal income	As a percentage of income
City	7,837 RMB	11.1%	3,522 RMB	5.0%
Rural	3,818 RMB	17.1%	2,120 RMB	9.5%
Overall	6,051 RMB	11.7%	2,899 RMB	5.6%

## Gov't employees' *Guanxi* income

		Proportion with inter-personal income
Non-Gov employees		50.3%
Gov employees		49.7%
	Proportion from non-relatives	Amount
Non-Gov employees	21.7%	2,839 RMB
Gov employees	30.4%	3,749 RMB

# Income Distribution

	Top 10% households in total income	Top 5% households in total income
Salary	55.6%	37.5%
Investment	67.2%	49.2%
Agriculture	32.0%	24.7%
Business	76.9%	67.8%
Transfer Inc	43.2%	31.0%
<b>Total Income</b>	<b>57.0%</b>	<b>44.0%</b>

# Distribution of Household Saving

- Top 10% income households
  - ◆ Average saving rate: 66.5%
  - ◆ Proportion in the total household saving: 74.9%.
  
- Top 5% income households
  - ◆ Average saving rate: 69.0%
  - ◆ Proportion in the total household saving: 61.6%。

# Income and Saving

About half of the households at the year have more or equal consumption than their income.

The puzzling high saving rate in China is NOT about insufficient consumption but about income distribution.

Raising low-income family income is probably the most efficient way of reducing China's high saving rate.

# Assets (RMB)

Urban <i>Hukou</i>	Average	Median
Financial Assets	112k	17k
Non-financial assets	1,457k	14k
Housing assets	930k	400k
Total assets	<b>2,476k</b>	<b>405k</b>
Debts	101k	0
Net Assets	2,375k	373k



# Asset distribution

Assets range	Proportion
Less than 100K	19.0%
Between 100K and 405K	31.0%
Between 405K and 1 million	18.3%
Between 1 mil and -2.47 million	17.4%
Between 2.47 mil and 10 mil	12.5%
More than 10 million	1.8%

Only **14.3%** of households have assets higher than the mean.

# Asset distribution

## Top 10% households

- 84.6% of total households assets
- 61.0% of total financial assets
- 88.7% of total non-financial assets

# Policy implications

- Redistribution of household assets and income is the key policy to promote domestic demand.
- Possible venues:
  - Improving New Rural Medical Insurance System.
  - Improving current unemployment benefits.
  - Raising minimum wages.



# Finding #2: Total Net Household Assets in China and US

# Total Net Household Wealth in 2010

	GDP	Net Assets
China	7.3 trillion US\$	69.1 trillion US\$
US (2010)	15.1 trillion US\$	<b>57.1 trillion US\$</b>
US (2007)		<b>66.7 trillion US \$</b>

Total net household wealth in China is now more than US by 21%.

# Components of total assets

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	China	US
Housing assets	40.7%	32.3%
Other assets	54.0%	29.8%
Financial assets	5.3%	37.9%

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## Mean and median comparison

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	China (Urban registered residents)	US
Mean	368k US\$	499k US\$
Median	61k US\$	77k US\$
Ratio	6.03	6.48

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# Finding #3: High Home Ownership Rate and Residential Demand





# Home ownership rate (%)

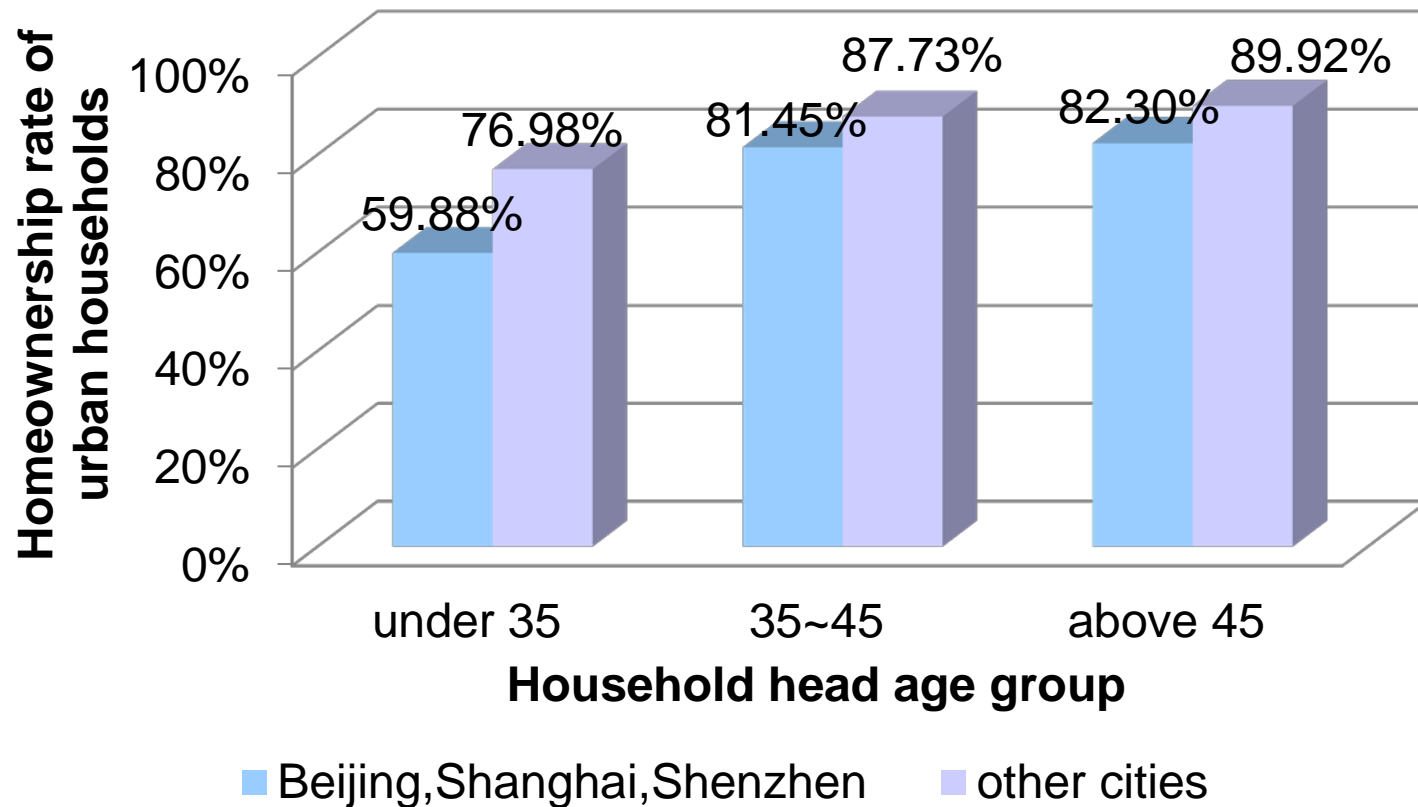
Overall	Urban and rural		Regions		
	Urban	Rural	East	Central	West
<b>89.68</b>	<b>85.39</b>	<b>92.60</b>	<b>87.35</b>	<b>94.42</b>	<b>90.41</b>

International home ownership rate:

- World average: 63%
- United States: 65%
- Japan: 60%

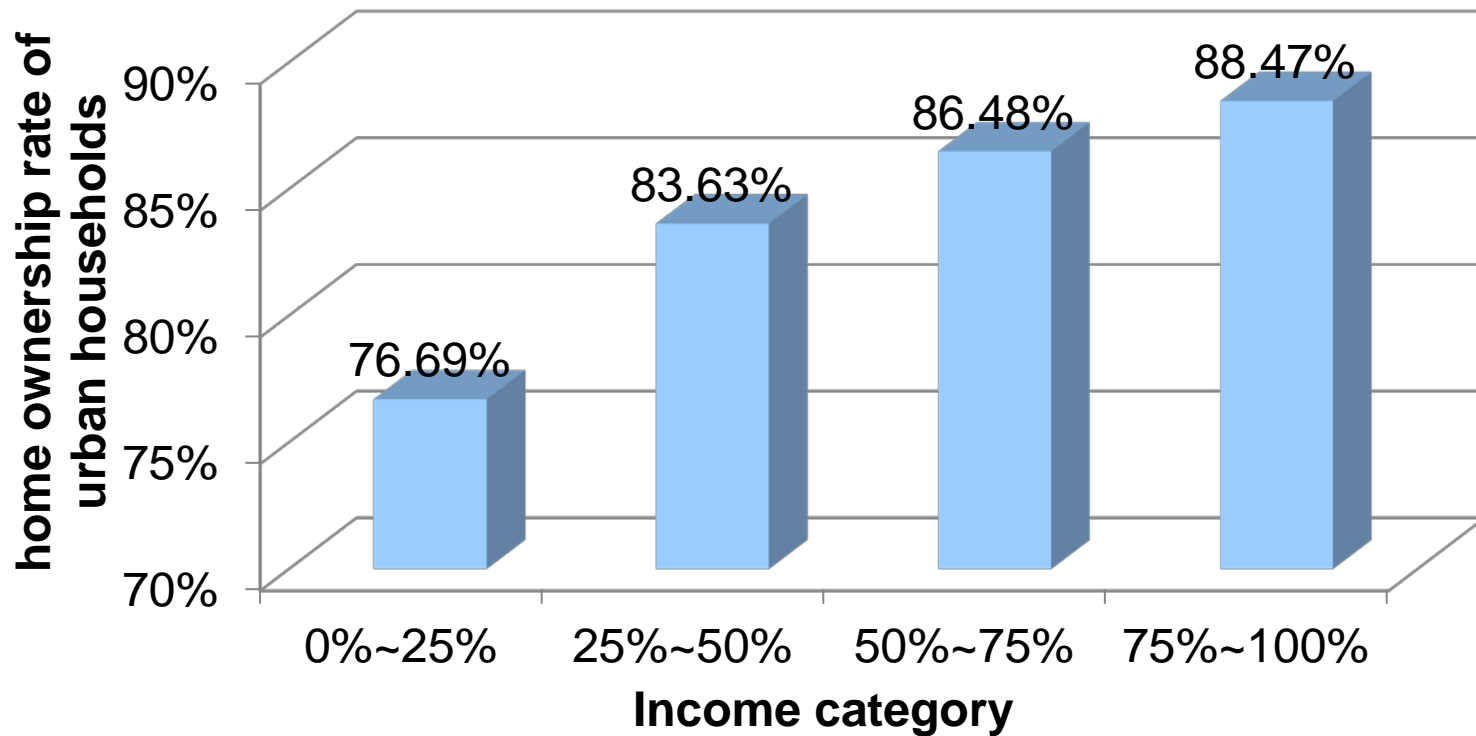


# Home ownership rate by cities and age groups (%)





## Urban Home ownership rate by income category (%)





# Current residential demand

Sources of Residential Demands	% of households
➤ Households without apartments	15.3%
➤ Migrants who have apartments at their home towns	8.8%
➤ Grownups living with parents (“啃老”)	5.9%
Current residential demand	30.0%
Total number of units	64.59 million



## Incremental residential demand (2011-2015)

Sources of incremental demand	% of households
➤ New grown-ups	4%
➤ New migrants	8.23 mil units
➤ Demolition and relocation	12.1 mil units
Total number of units	28.94 mil units
Per year incremental demand	5.79 million



## Current supply

Household owning 2 apartments	13.0%
Household owning 3 apartments	5.0%
Unsold apartments	1.86 million units
Total number of units	40.68 million



## Housing sector current demand and supply

	Amount
Current residential demand	64.59 million
Current supply	40.68 million
Difference	24.11 million
Incremental demand per year	5.79 million
Housing starts in 2011	19 million units



## Housing supply and demand

- Less than two-year of work at current production capacity of the housing sector.
- Only 1/3 of current capacity is needed to satisfy incremental demand.



## Caveats: demand

- Demand that not yet explicitly considered:
  - Depreciation of housing.
    - Most apartments are built recently. Depreciation should not be a serious problem.
    - Already consider “demolition and reallocation” – the process of tearing down very old houses.
  - Demand for better/larger housing – already per capita housing is already pretty large: at 35 square meters.



# Finding #4: Capital Gains in the Housing Market



## Housing prices are too expensive

Ratio of bank loans/household income

Age of household head	Total bank loans/family income	Balance of bank loans/family income	Repayment duration (years)
18-30	6.53	4.67	17
30-40	11.59	8.53	13
40-50	5.88	3.99	10
50-60	8.31	6.26	8
Above 60	2.96	1.03	4



# Housing prices are too expensive

Ratio of bank loans/family income

Household income	Bank loans/family income	Balance of bank loans/family income	Repayment duration (years)
below 25%	32.39	22.77	9
25%-50%	13.53	9.47	9
50%-75%	3.6	2.1	11
above 75%	3.24	2.55	15



## Ratios of Bank loans/family income:

	Total bank loans/family income	Balance of bank loans/family income	Repayment duration (years)
Elementary school	5.84	4.03	4
Junior high school	6.33	3.66	8
Senior high school	11.84	8.59	10
Technical secondary school	8.04	6.11	12
Junior college	13.94	10.29	18
College	5.83	4.78	16
Graduate school	5.45	3.93	23



## Huge capital Gains (10k RMB)

	First apt		Second apt		Third apt	
	Mean	Median	Mean	Median	Mean	Median
Historical costs	19.1	6.8	39.3	27.5	62.0	47
Current value	84.1	30	95.7	57	122.0	82
Nominal gains (%)	340%	344%	143%	107%	97%	75%



## Huge Capital Gains (10 k RMB)

	First		Second		Third	
	All	Commercial housing	All	Commercial housing	All	Commercial housing
History costs	29.5	47.6	33.3	55.6	39.1	82.1
Current values	74.3	96.7	68.0	96.7	73.9	124.9
Real gains (%)	152%	103%	104%	74%	89%	52%



## Capital Gains of the first apartment (10K RMB)

Household Income	Below 25%		25%-50%		50%-75%		above 75%	
	mean	median	mean	median	mean	median	mean	median
History costs	14.0	6.84	11.66	6.68	17.61	9.70	38.92	17.54
Current values	22.2	10.00	20.71	9.00	46.04	18.00	93.45	40.00
Capital gains	58%	46%	78%	35%	161%	86%	140%	128%





## Capital gains of the first apartment (10k)

	Beijing/Shanghai/ Shenzhen		Other cities	
	mean	median	mean	median
History costs	64.0	30.9	14.6	8.2
Current values	177.5	150.0	27.3	12.0
Capital gains	177%	385%	87%	46%



## Capital gains by the time of purchase (10k RMB)

	before 1998		1998-2001		2001-2004		2004-2007		2007-2011	
	mean	median	mean	median	mean	median	mean	median	mean	median
<b>History costs (10K RMB)</b>	12.6	5.4	22.1	11.4	35.3	14.4	28.8	14.8	25.9	12.5
<b>Current values (10K RMB)</b>	25.7	7.5	58.3	20.0	95.9	25.0	66.7	25.0	47.8	20.0
<b>Total capital gains</b>	104%	39%	164%	76%	172%	74%	131%	69%	84%	61%



## Capital Gains: Public servants vs non-public servants

	Public servants		non-public servants	
	mean	median	mean	median
History costs	31.59	15.49	24.86	11.08
Current values	81.49	34.00	54.93	20.00
Capital gains	158%	120%	121%	80%



## Percentages of houses experiencing capital loss if price decreases

	Loss proportion
Decreasing 5%	14.13
Decreasing 10%	16.11
Decreasing 20%	20.80
Decreasing 30%	27.80
Decreasing 40%	35.76
Decreasing 50%	45.84
Decreasing 60%	55.89
Decreasing 70%	65.00
Decreasing 80%	75.02



## Percentage of houses with loan balance higher than house value if price decreases

Decrease by 5%	0.29
Decrease by 10%	2.22
Decrease by 20%	2.22
Decrease by 30%	2.91
Decrease by 40%	9.38
Decrease by 50%	13.31
Decrease by 50%	19.77
Decrease by 70%	27.51
Decrease by 80%	42.48

**Chinese banking industry can sustain a large housing price drop.**



## Summary of findings:

- High home ownership – residential demand is no longer a big issue.
- Multiple-houses and industry capacity generate over-supply of housing.
- Prices are already very high relative to income.
- Capital gains are substantial – banks would be fine even with 30% across-board drop in prices.



## Possible public policies:

- Most future demands are for investment.
- So far policies to control demand seem not effective –
  - Real estate tax may work but facing objections.
  - Suggest “mortgage tax” instead of “real estate” tax.
- Differentiate two types of market – high-end market and low-end market.



## High home ownership rate of the households that bought new home in the first half year of 2012

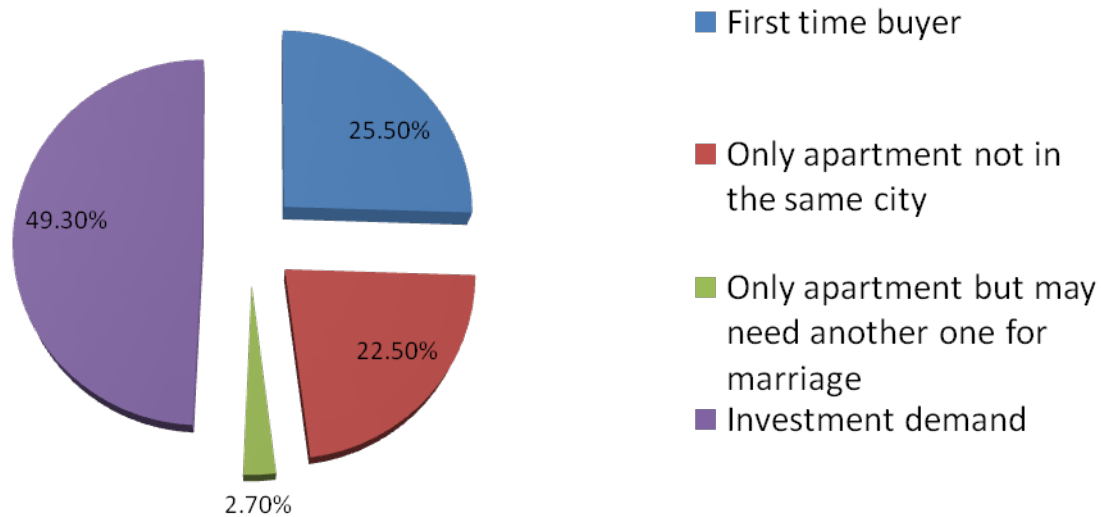
	home ownership rate	Owning at least two houses or apartments
The first quarter	75.5%	27.1%
The second quarter	87.3%	24.0%





# Buying home Motivation Analysis ——the first quarter

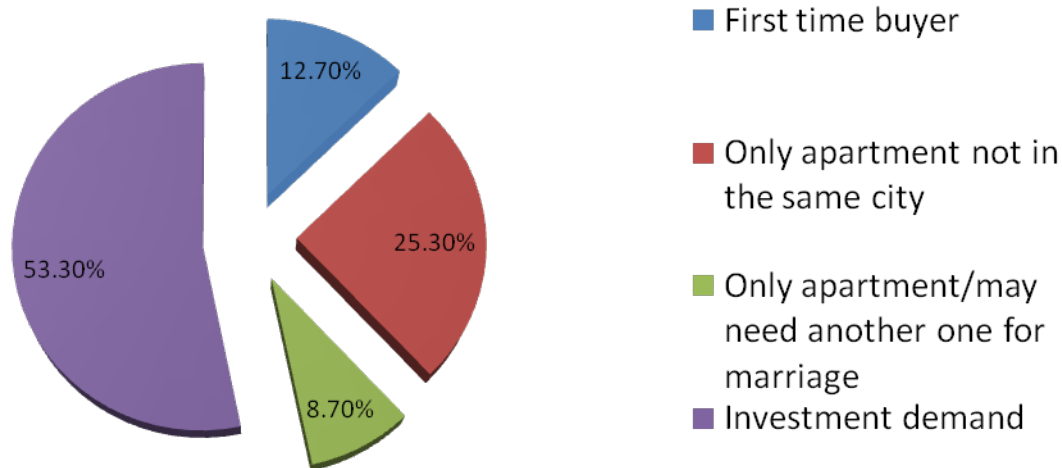
Motivation





# Buying home Motivation Analysis ——the second quarter

Motivation





# Finding #5: Under-developed Household Financial Market

# Low participation rates

- Stock markets: 8.84%
- Bonds: 0.77% ;
- Mutual funds: 4.24% ;
- Derivatives: 0.05% ;
- Other bank financial products: 1.10%

# Components of financial assets

- Bank saving: 57.75% (US: 12.7%)
- Cash: 17.93% ;
- Stocks: 15.45% ;
- Mutual funds: 4.09% ;
- Other bank financial products: 2.43%



# Stock market loss/profit 2-8 rule:

- **22.3% profitable**
- **21.8% breakeven**
- **56.0% losing money**

## Stock market worsen in the first and second quarter

	First quarter 2012	Second quarter 2012
Profitable	17.5%	9.1%
Breakeven	16.1%	11.1%
Losing money	66.4%	79.8%

## Older the families, more likely to be profitable

- Young families, 16.1% profitable
- Middle-age families, 23.7% profitable
- Older families, 30.3% profitable



# Low household debt

- Average debts: 62,576 RMB
  - City: 100,815 RMB
  - Rural: 36,504 RMB
- Debt as a ratio of total assets: 4.76%
  - City: 4.08%
  - Rural: 9.81%

# Active informal finance

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Percentage lending money:	11.9%
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Percentage borrowing money:	33%
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Agriculture/Business	11.8%
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Housing	20%
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Autos	2%
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Education	7%
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## Informal borrowing: high interest rate (%)

	Urban	Rural
Bank loan	5.08	7.92
Mortgage loan	4.94	6.33
Informal Borrowing	9.15	26.47



# Finding # 6: Myth of the size of the Chinese rural-to-urban migrant workers

## Myth: the size of rural-to-urban migration

Identical between NBS urban/rural survey and CHFS:

- Urban residents 51.4%
  - Urban registered residents (*Hukou*): 35.5%
  - Difference: 15.9%
- Total number of rural to urban migrants (including workers and their family members): ***214 million or 30.9% of urban residents***

## Migrants composition (CHFS)

Work status	Percentage
Younger than 16 and/or students	25.0%
Housewives	6.7%
Disabled	5.2%
Retired	5.7%
Agricultural work	10.8%
Unemployed	2.0%
Employed or self-employed	44.6%

## A Different Survey of NBS: Survey on Chinese Rural-to Urban Migrant Workers

	NBS	CHFS
Total (in mil)	252.8	119.4
Different city/county	158.6	46.7
by themselves	125.8	10.4
whole family	32.8	36.3
Same city/county	94.2	72.6

There are 23.2 million people who live in the rural but have short urban work spell.

## Still a myth: the size of rural-to-urban migration

- The Survey on rural-to-urban migrant workers is conducted at villages.
- If this survey were correct, 60% of urban residents in China have rural *Hukou*.
- Two NBS survey provide vastly different estimates of the size of the rural-to-urban migrant workers.
  - NBS urban/rural survey and CHFS: 119.4 million
  - NBS migration survey: 252.8 million





# Other Findings

# Assets: Land

- Huge shortage in agricultural land – 1.8 billion mu Red-Line.
- However, at least 12% is completely wasted.

# Assets: Business

- **Self-employment rate:**
  - Overall: 14.1%
  - City: 12.4%
  - Rural: 15.2%
- **United States: 7.2%**

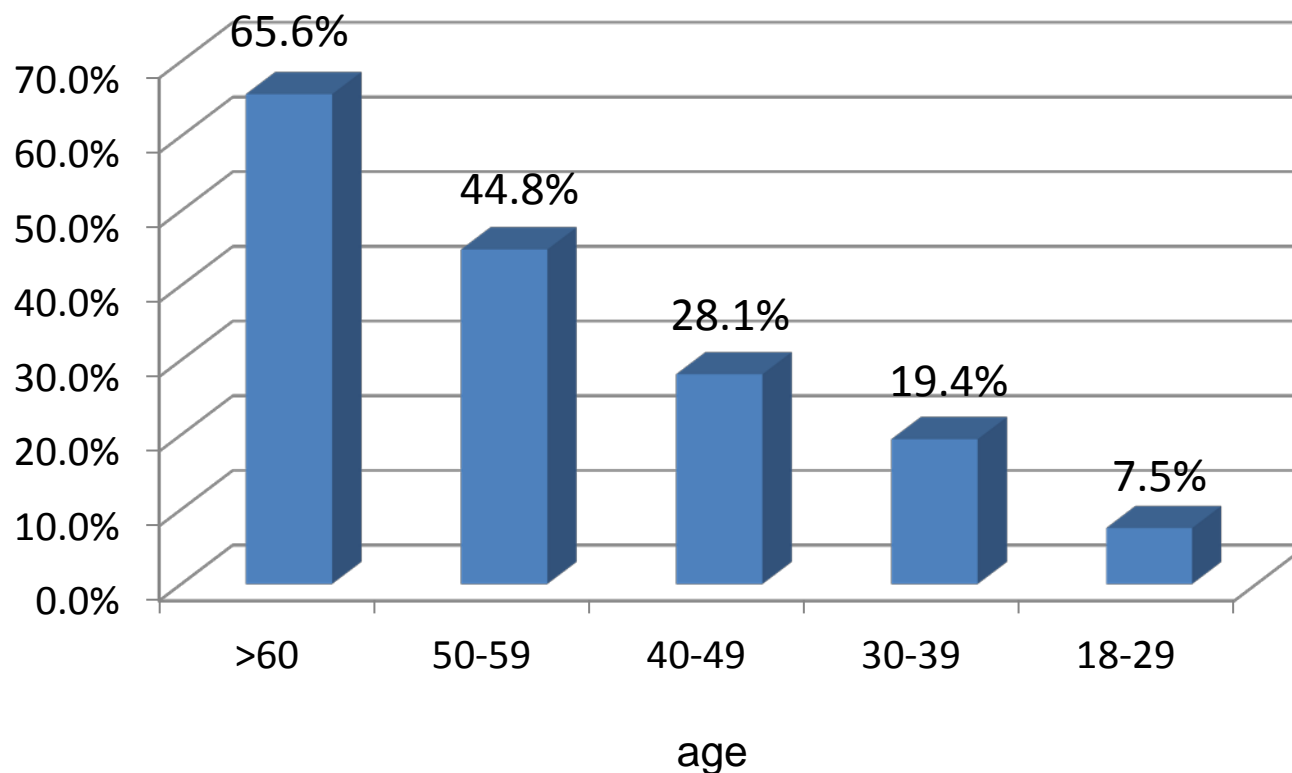
# Education and entrepreneurship

Years of schooling:

- With family business: 9.8 years
- No family business: 8.9 years
- bottom 20% scale: 8.1 years
- medium 40%~60% scale: 9.6 years
- largest 20% scale: 12.5 years

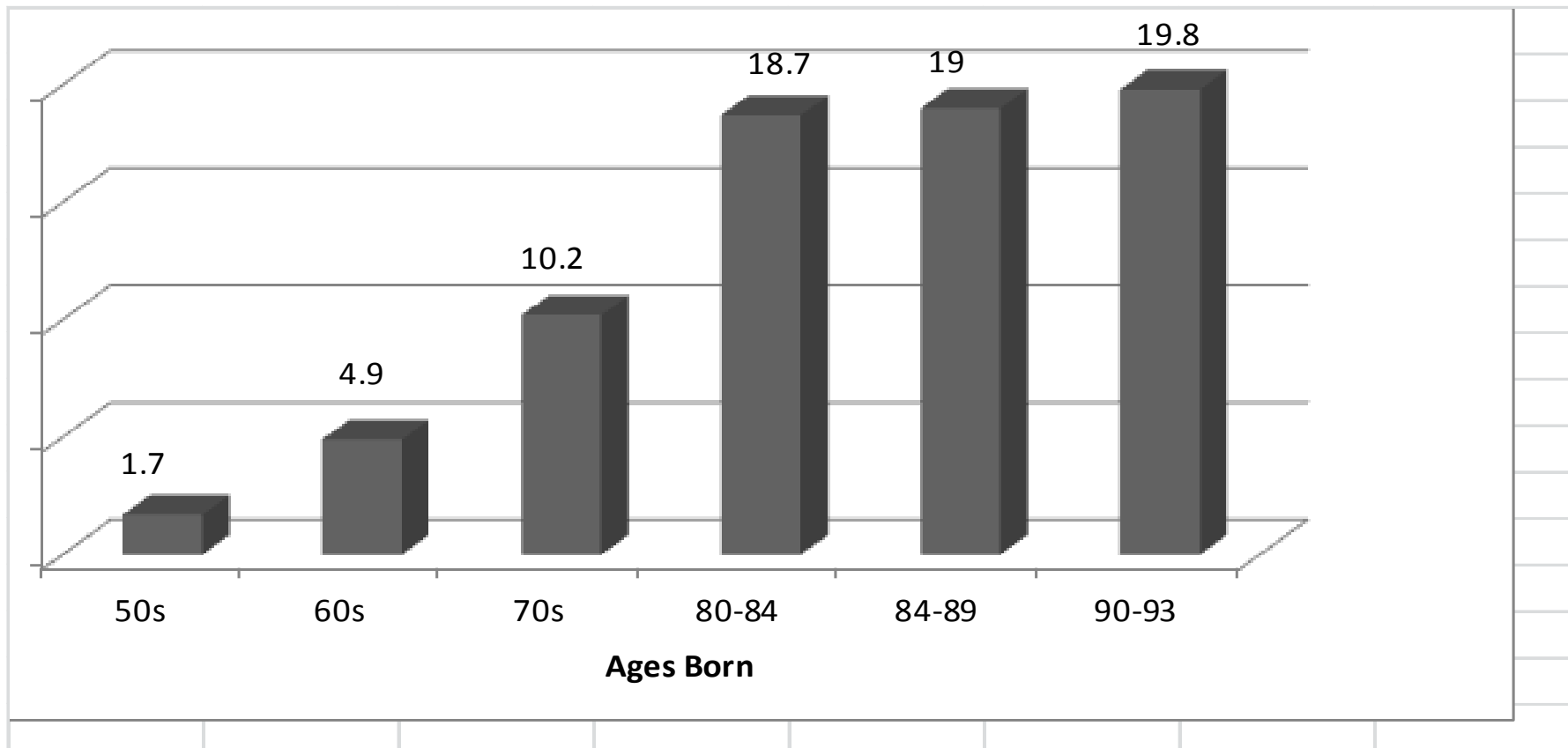
## Education: 9-year mandatory schooling policy is very effective

—Age 18-29 people with lower than 9 year schooling: 7.5%.



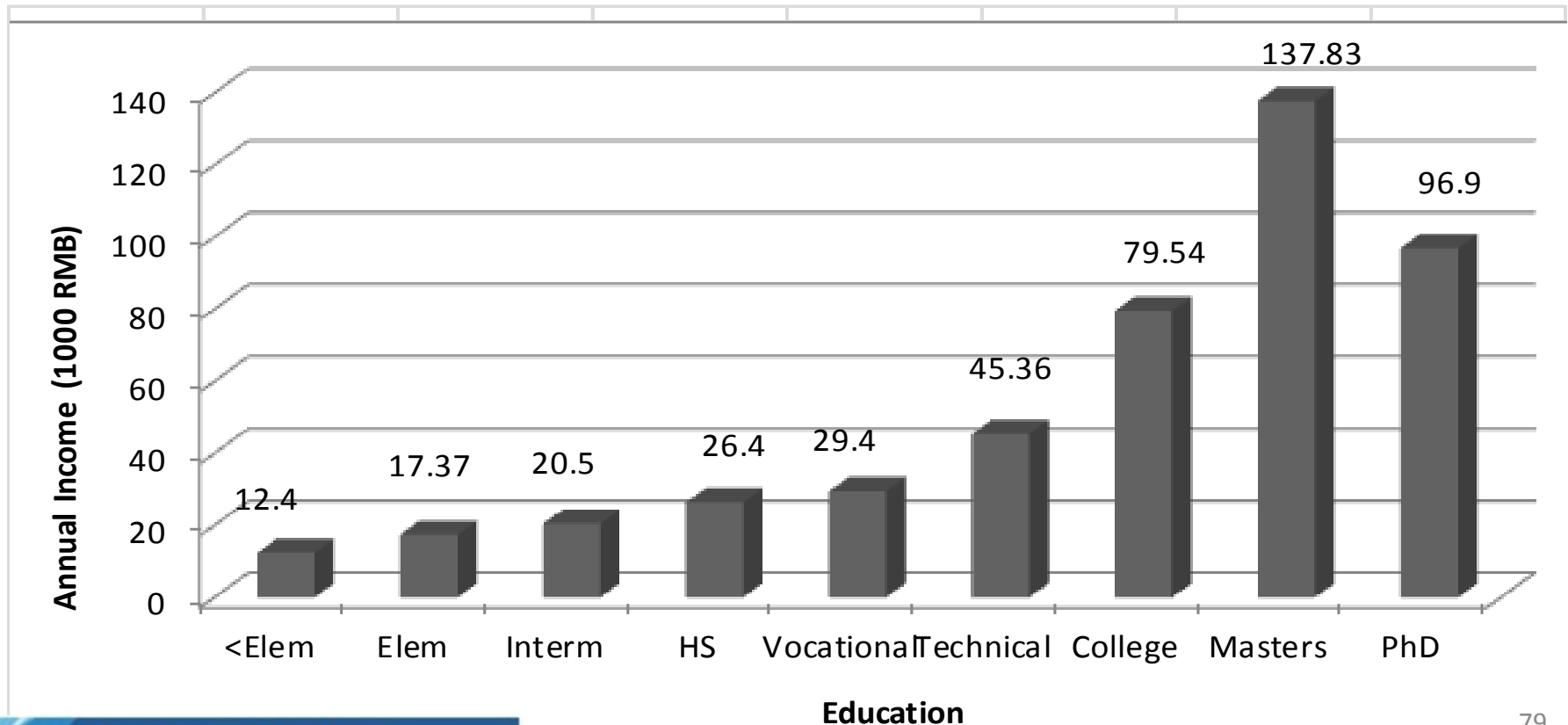
# Education: expansion of higher education

— **Born in 1980's or later: percentage with college degree is stabilized at 19%.**



## Education: high returns from higher education

- College degree earns 75% higher than high school.
- Master degree earns 73% higher than college degree.
- PhD degree earns 30% lower than master degree.



## Education: International competition of China's higher education

- **9.78% of students are studying abroad**
  - City: 12.93%
  - Rural: 5.53%
- **Families with kids younger than 15 years old**
  - Definitely studying abroad: 8.31%
  - Possibly studying abroad: 29.43%



# Thanks !

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