



Università
Ca' Foscari
Venezia



清华经管学院
Tsinghua SEM

Saving Rates of Urban Households in China

Agar Brugiavini (Università Ca' Foscari di Venezia),
Guglielmo Weber (Università di Padova)
and
Binzhen Wu (Tsinghua University, Beijing)

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Motivation

- Investigate the determinants of households saving in China on microdata (Urban Household Survey UHS)
- High and rising saving rates (Chamon and Prasad 2010)
- Increasing mobility of younger Chinese people (Modigliani and Cao, 2004)
- Important reforms in the last 20-25 years

Motivation

- Chamon and Prasad point out that there is a puzzle:

The age profile of the saving rate is U-shaped, this is in contrast with the life-cycle theory of saving

Possible explanations

- Response to welfare reforms (social security, health...)
- Response to housing reforms
- Effects of the one-child policy:
 - Providing a “dowry” for a son to be married

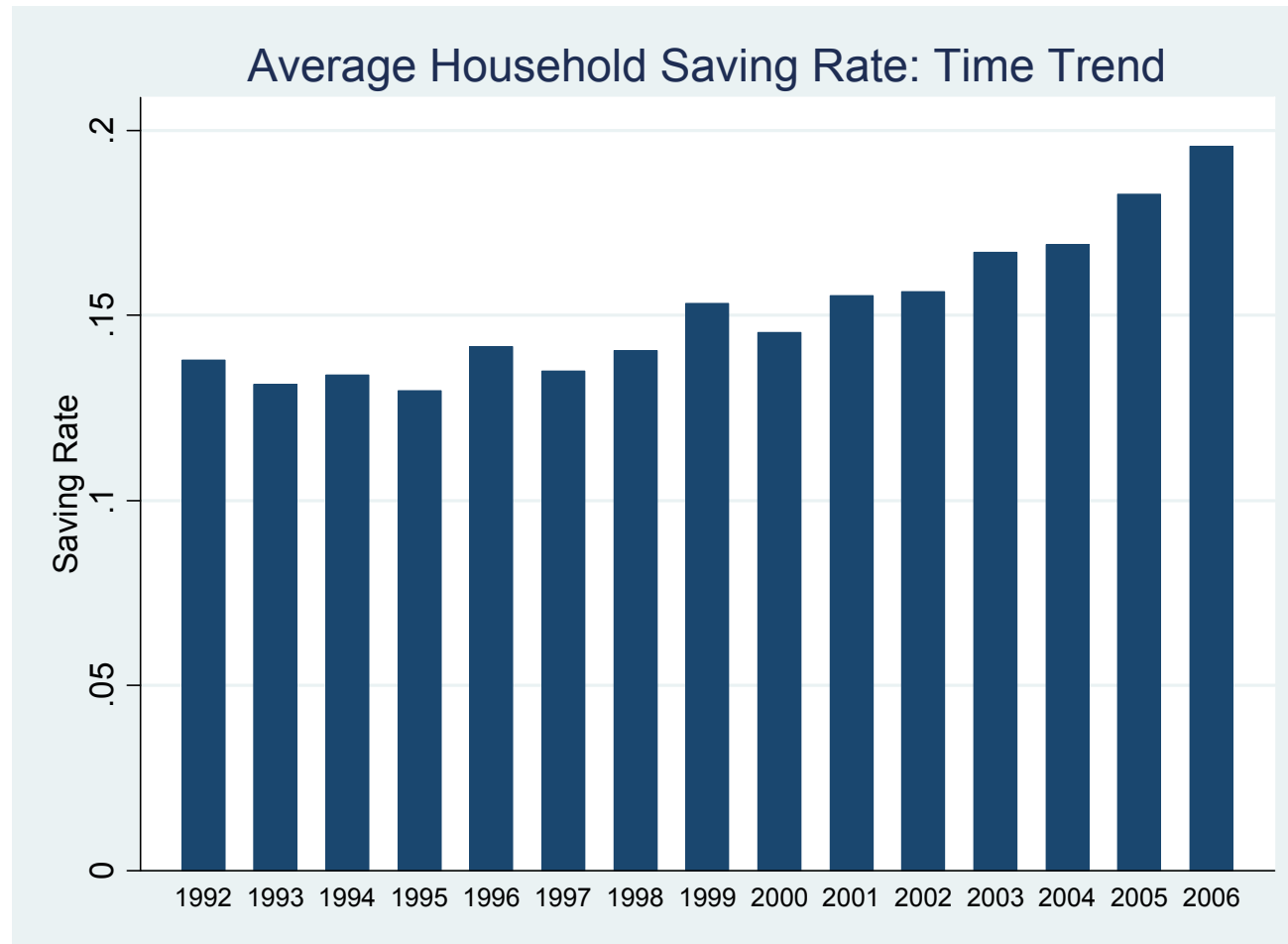
Motivation

- We provide two novel findings which might help explain the puzzle:
 - (1) The behaviour of long-term residents of urban areas is different from the behaviour of “new migrants”
 - (2) Social security/pension reforms may have induced lower saving

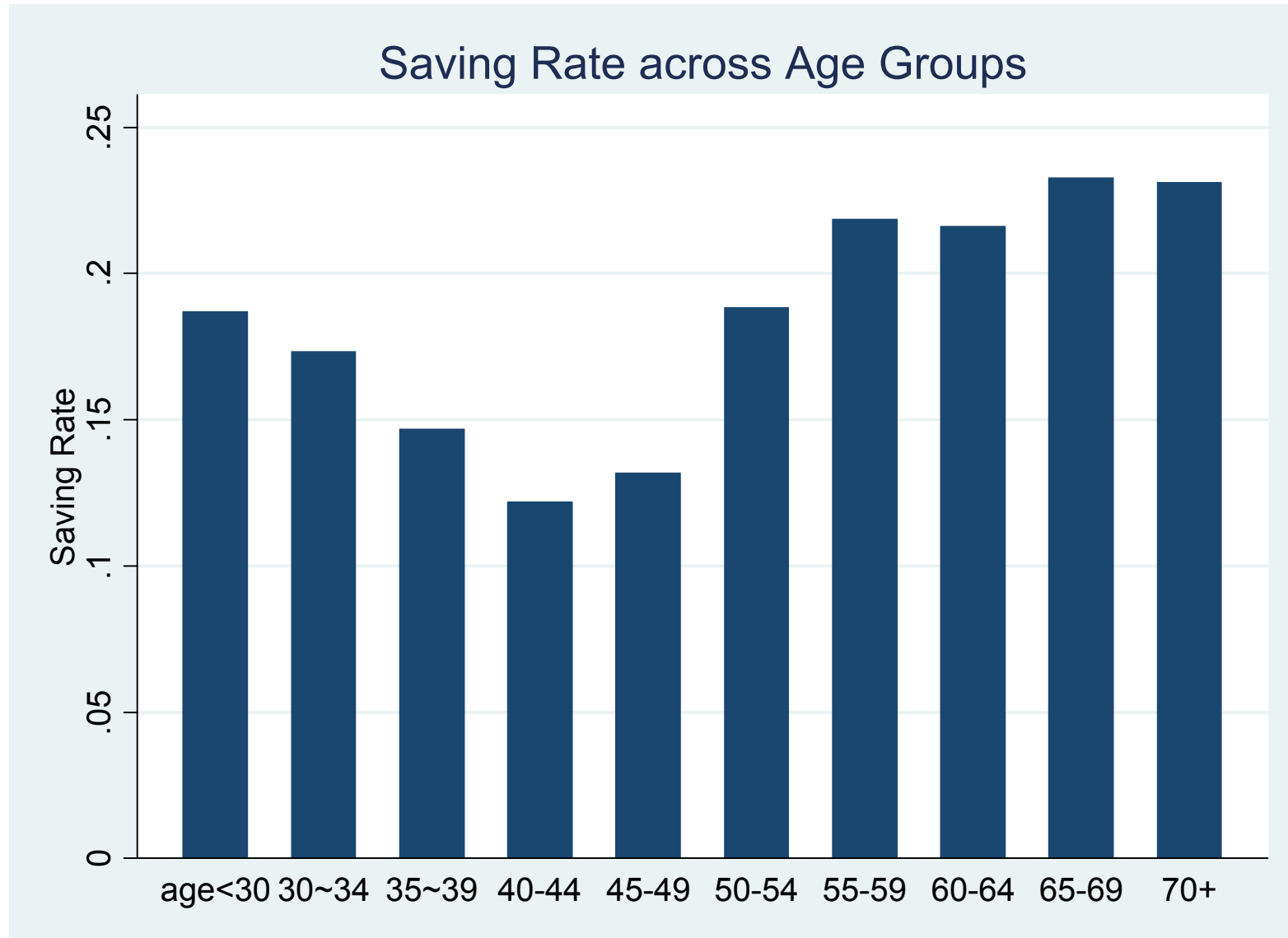
Data

- The Urban Household Survey is a wide survey covering 9 provinces out of a total of 31: Beijing, Liaoning, Zhejiang, Anhui, Hubei, Guangdong, Sichuan, Shanxi³ and Gansu
- It collects information on demographic and economic characteristics, including disposable income and consumption expenditure
- We have access to the period 1992 to 2006

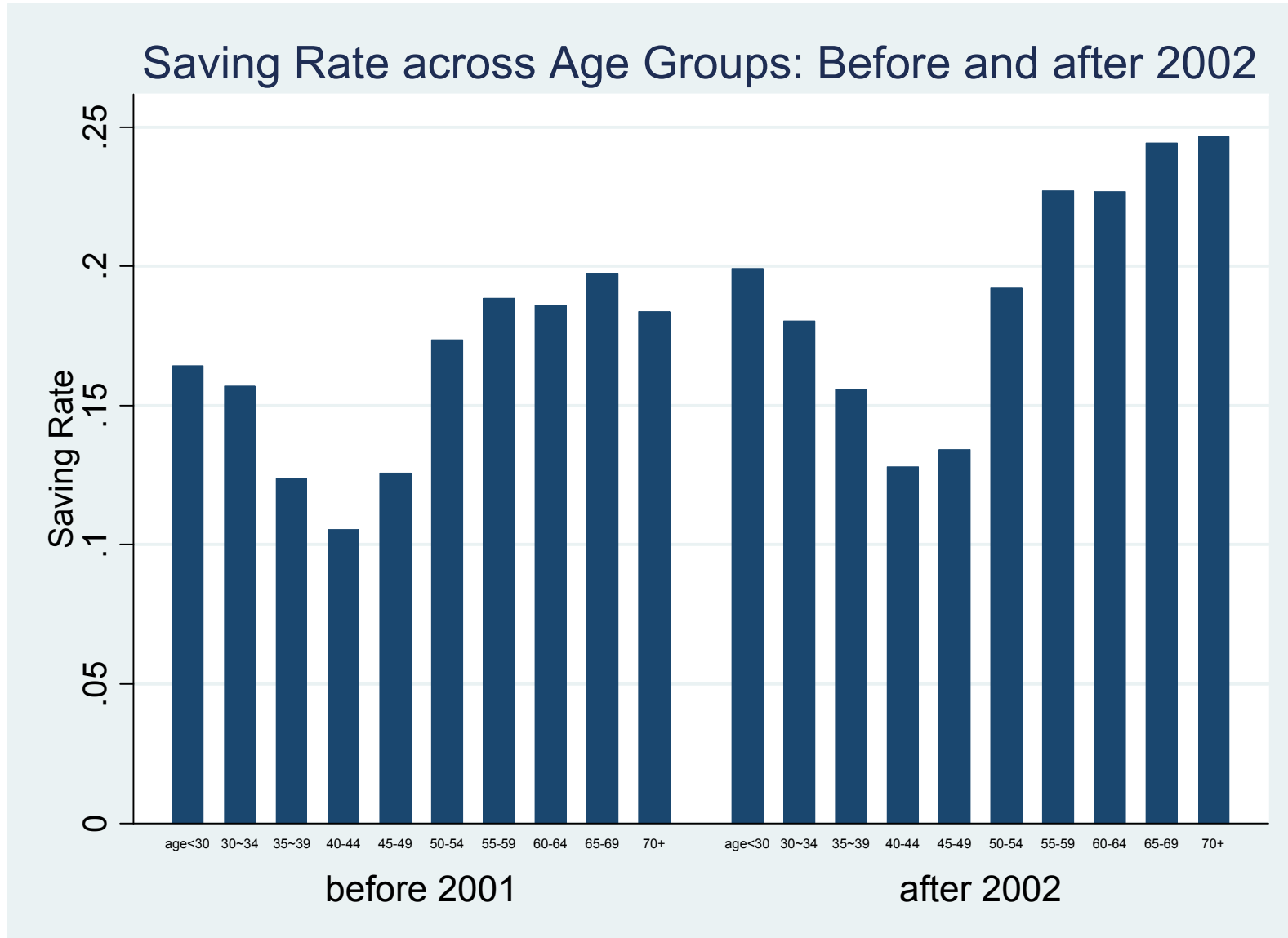
Average urban household saving rates by year



Average urban household saving rates by age of the head of the household



Average urban household saving rates by age of the head of the household before and after 2002



Demographics

- China is ageing
- In the UHS sample 61% of households have three members and 93% have just one child (or no children) residing. The “one-child” policy has been “effective”.
- Although extended households are still common, in urban areas nuclear households are more frequent

Demographics

- China is ageing
- In the UHS sample 61% of households have three members and 93% have just one child (or no children) residing. The “one-child” policy has been “effective”.
- Although extended households are still common, in urban areas nuclear households are more frequent

Household composition in a subsample of UHS

Family size	Freq.	Percent
1	107	1.2
2	1,874	20.98
3	5,427	60.77
4	1,087	12.17
5	369	4.13
6	53	0.59
7	14	0.16
Subsample	8,931	100

number of children younger than 25	Freq.	Percent
0	2,651	29.68
1	5,717	64.01
2	534	5.98
3	28	0.31
4	1	0.01
Subsample	8,931	100

Welfare reforms

The year 1997 is a landmark as the pension (social security) system moved from one based on SOE to one administered by local governments. A three-pillars system was established.

- Also benefits were changed on a seniority criterion.
- Retirement age at 60 for males and 55 for females.
- **In 2001** a pilot program in the Liaoning province was launched, separating individual accounts from the rest, increasing employer's contribution and increasing maximum benefits.
- **In 2004-2006** the pilot was extended to other provinces, particularly to Hubei in 2006.

Welfare reforms

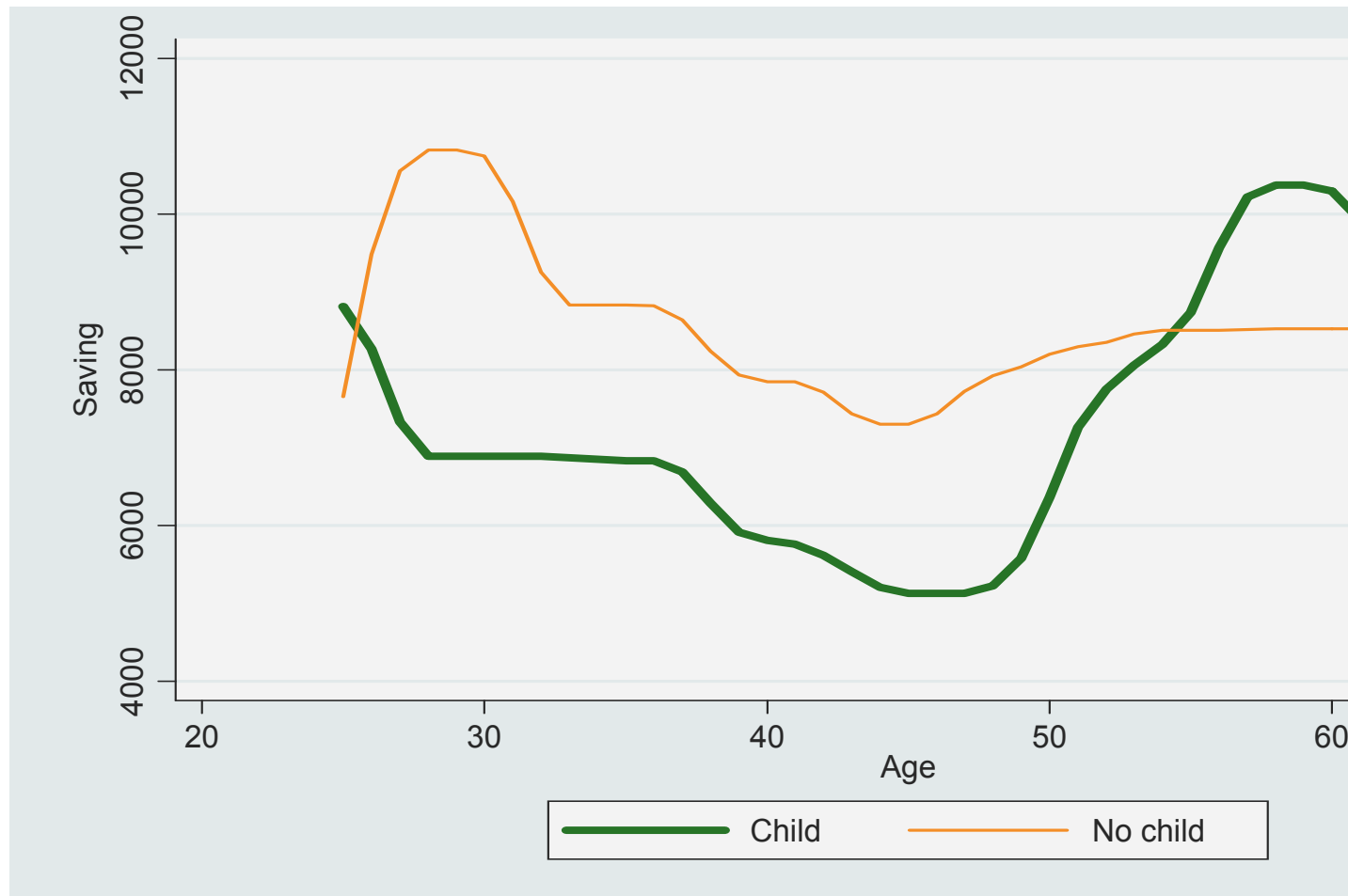
At the same time complex reforms to the Health System.

The Health System in China

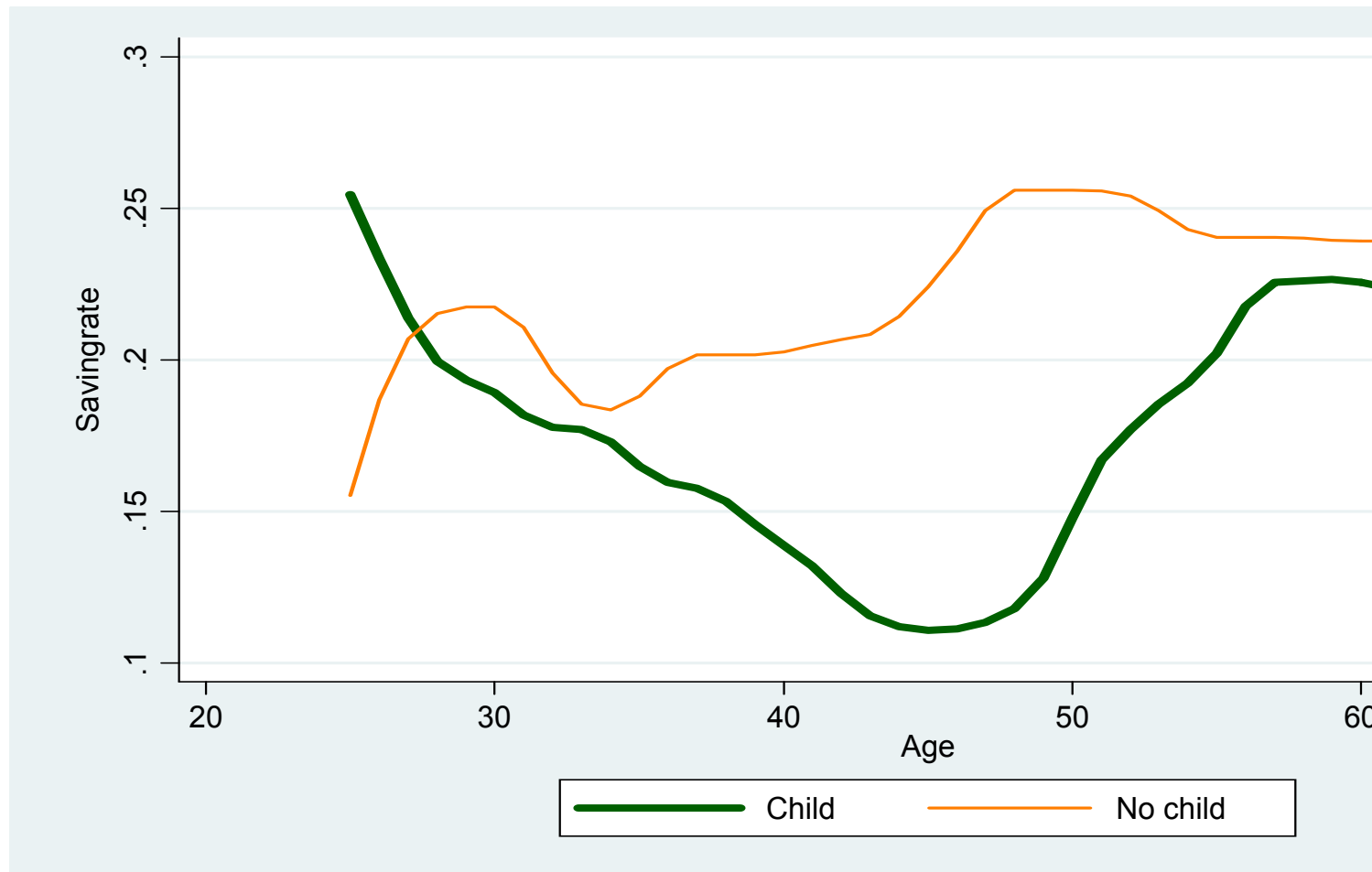
	1949-1978	1978 “Economic liberalization policy”	1990’s	2003 “Health system reform”	2007
Urban population	Labor Insurance Scheme (LIS) and Government Insurance Scheme (GIS) financed health care for state-owned enterprise (SOE) workers and government officials, respectively.		Basic Medical Insurance (BMI) to cover all urban formal - sector workers (not their dependants) called Urban Employee Basic Medical Insurance (UEBMI)		Urban Resident Basic Medical Insurance (URBMI)
Rural population	Cooperative Medical Scheme (CMS)			New Cooperative Medical Scheme (NCMS)	

Source: Xiaoyan Lei, Wanchuan Lin, 2009.

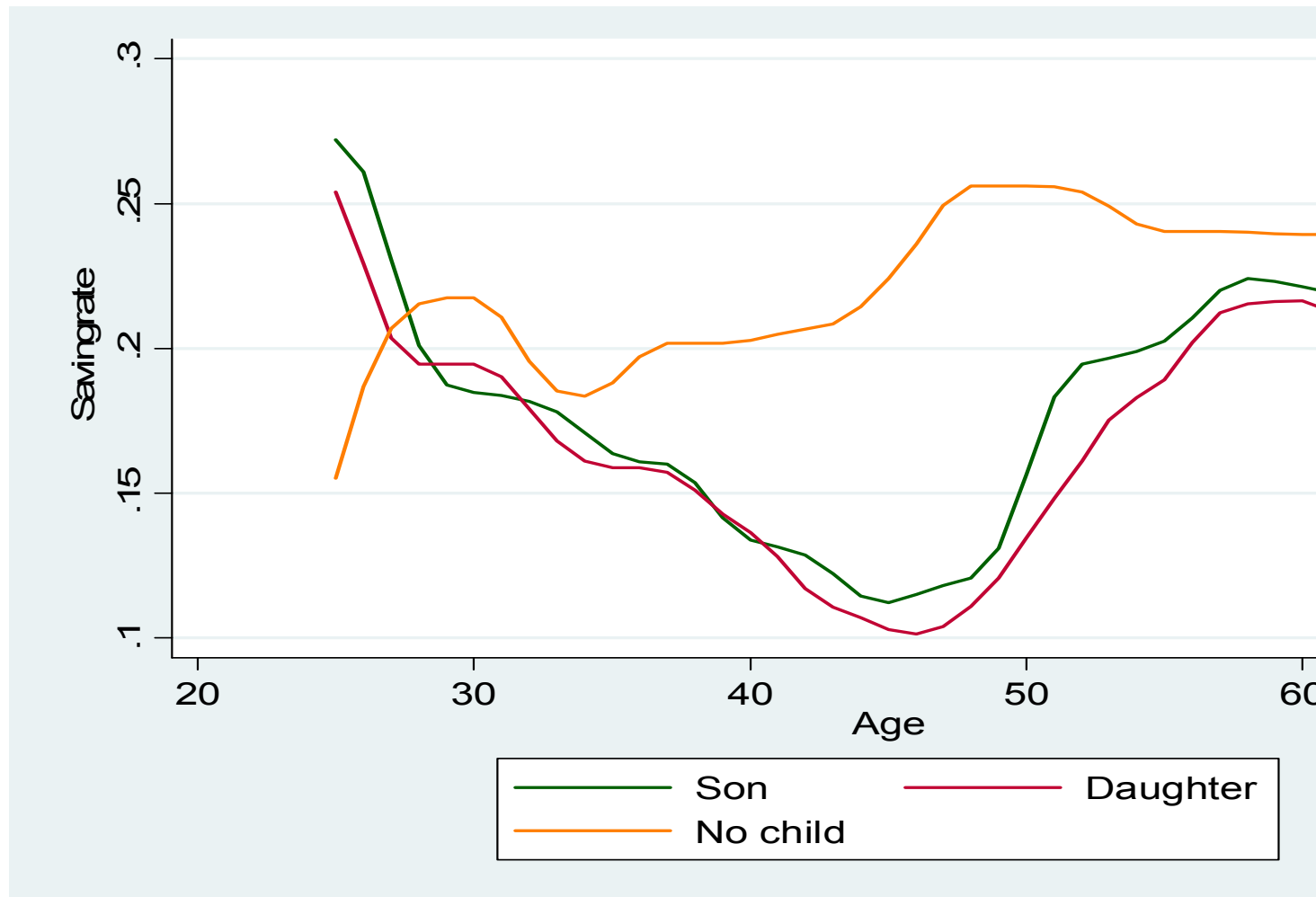
Saving by age of head of household (with children *vs* without children)



Saving rate by the age of household head (with children vs no children)



Saving rate by the age of household head (son vs daughter vs no children)



Households according to migration status of their members

province	Resident since birth	One migrant	Two migrants	Total
Beijing	57.88	18.28	23.84	100
Liaoning	50.9	17	32.1	100
Zhejiang	48.4	17.37	34.23	100
Anhui	42.74	20.52	36.74	100
Hubei	38.53	18.21	43.26	100
Guangdong	38.04	19.17	42.79	100
Sichuan	42.24	21.57	36.19	100
Shanxi	39.8	22.1	38.1	100
Gansu	43.59	17.03	39.38	100
Total	44.66	19.03	36.3	100

Subsample: 2002-2006

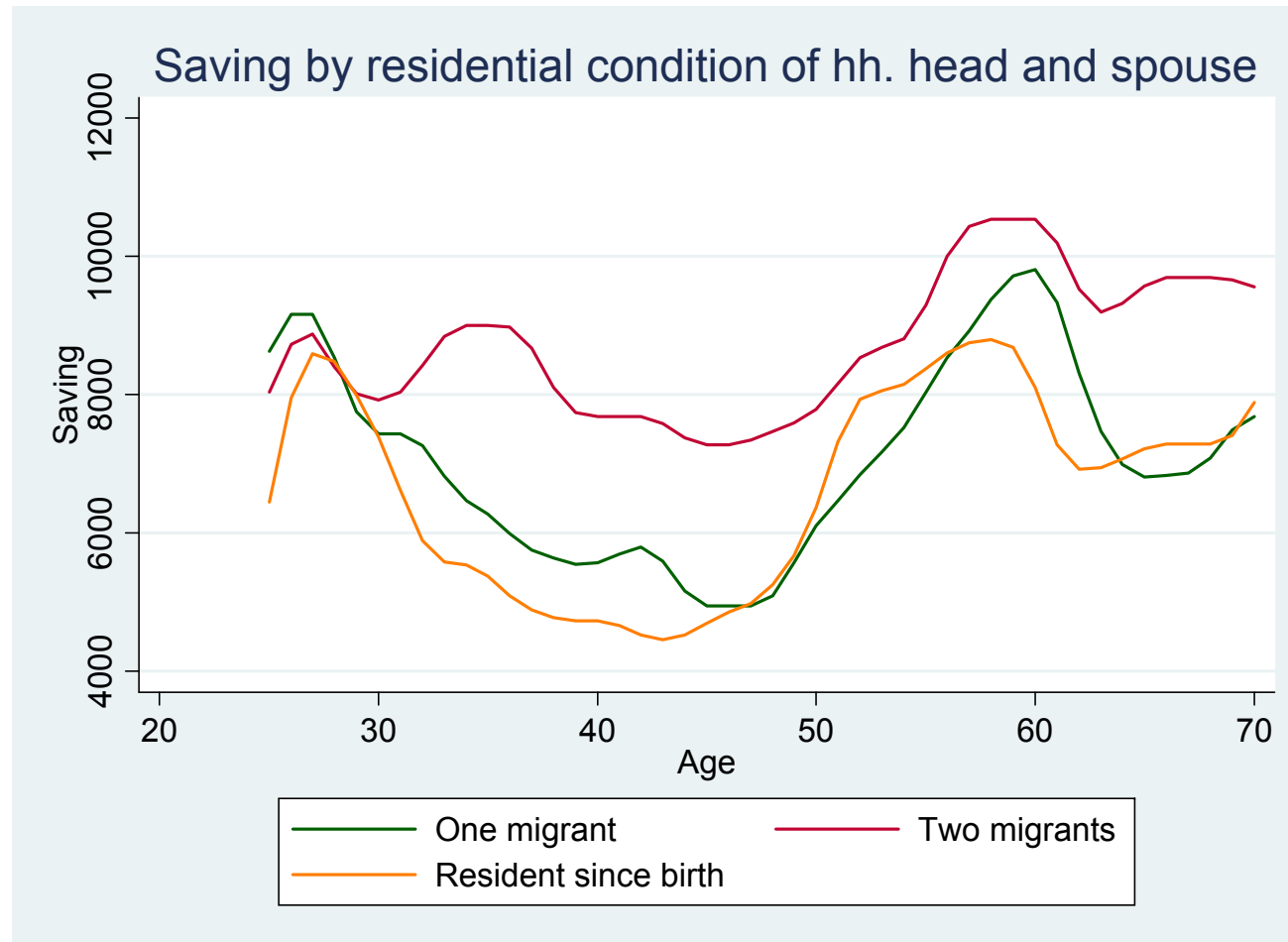
Descriptive statistics by migration status

	Resident from birth	One migrant	Two migrants
saving rate (mean)	14.57	16.72	21.00
saving rate (median)	17.48	19.11	24.57
amount			
disposable income (mean)	14,156.35	14,424.29	15,963.72
disposable income (median)	11,977.85	11,983.81	12,723.19
percentage			
private employee	52.07	18.16	29.78
public employee	46.58	18.52	34.91
self-employed	44.67	18.44	36.89
retired	34.78	20.55	44.67
Total	44.66	19.03	36.3

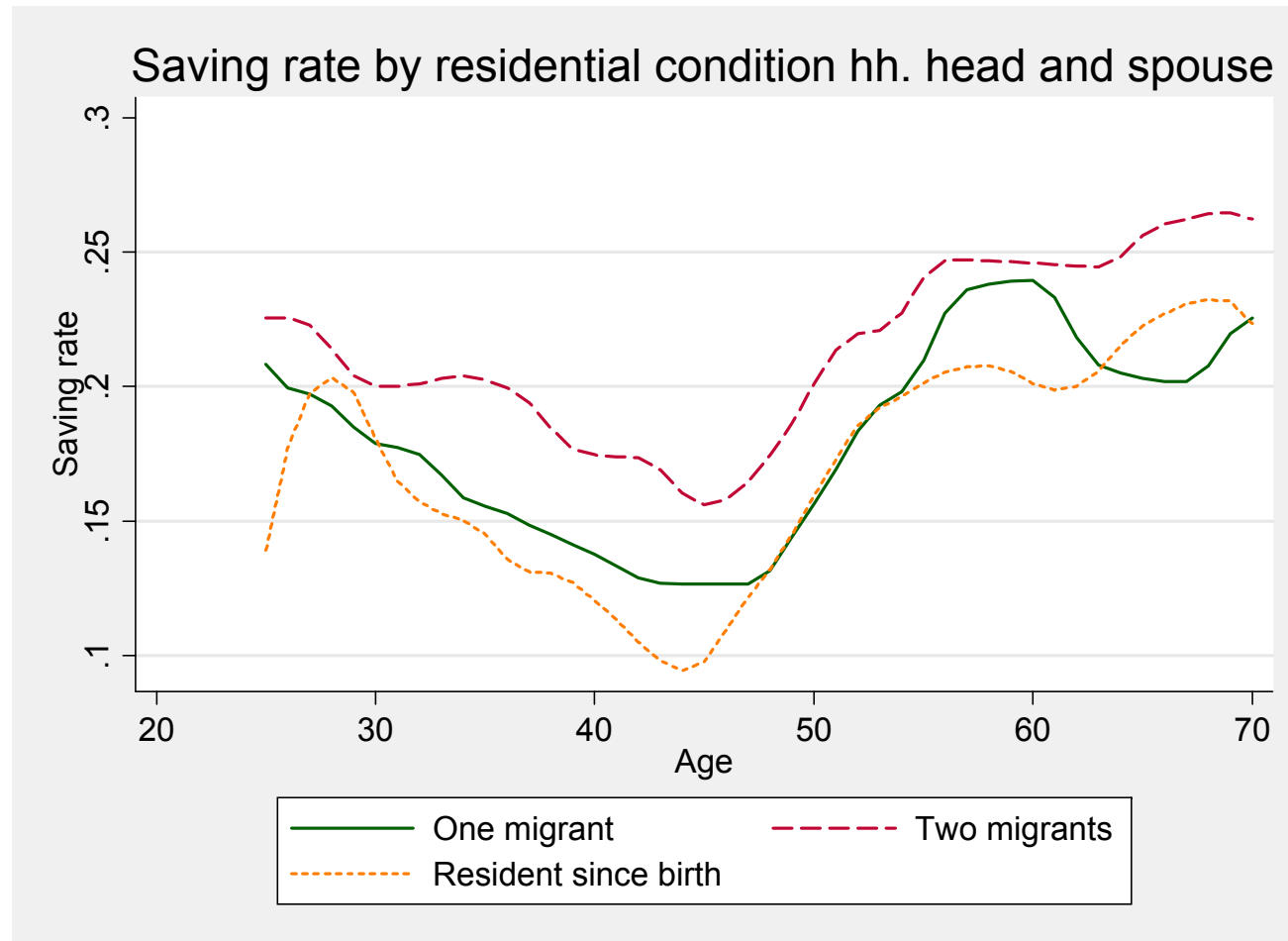
Descriptive statistics by migration status

	Resident from birth	One migrant	Two migrants
Total	44.66	19.03	36.3
percentage			
n° members of hh = 1	44.86	55.14	0
n° members of hh = 2	38.42	19.48	42.10
n° members of hh = 3	47.93	18.26	33.81
n° members of hh = 4	42.96	18.77	38.27
n° members of hh = 5	36.31	17.62	46.07
n° members of hh = 6	26.42	28.30	45.28
n° members of hh = 7	35.71	7.14	57.14
n° members age $55 \geq 0$	48.70	18.08	33.22
n° members age $55 \geq 1$	46.02	26.47	27.51
n° members age $55 \geq 2$	31.16	16.46	52.38
n° members age $55 \geq 3$	43.10	18.97	37.93
n° members age $55 \geq 4$	50.00	33.33	16.67
n° members age $55 \geq 5$	0	100	0

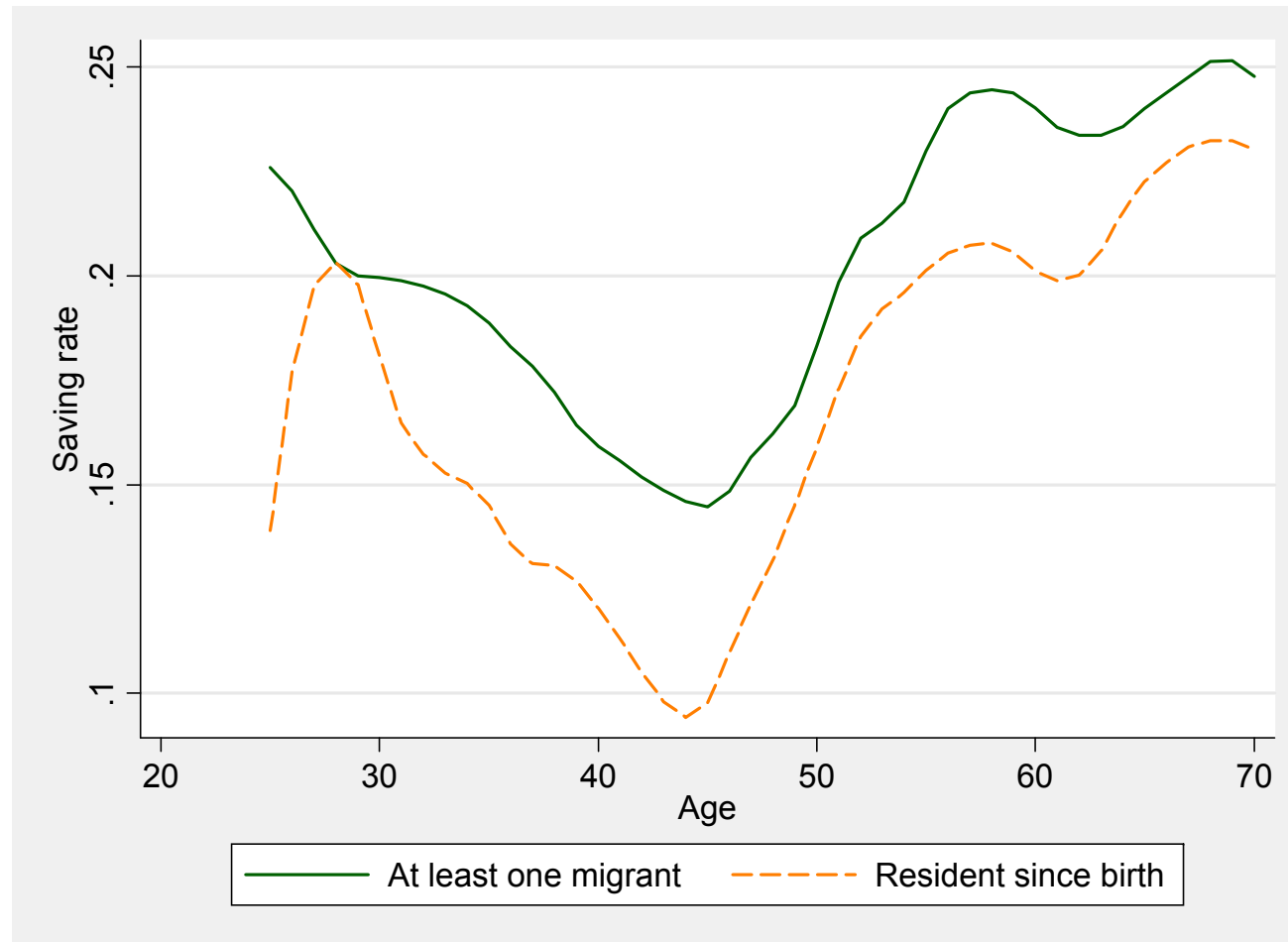
Savings and migration



Saving rate by migration



Saving rate by age and residential condition of household members



Housing reform

- Before the housing reform of the mid 1980's, housing was allotted in accordance with the length of service, position, number of children and their age. The housing market was virtually non-existent.
- In the late 1980's, experiments were carried out to privatize part of the public housing stock.

Housing reform

- In 1991, a State Council resolution recognized ownership of private housing purchased from the public sector, but private housing ownership was still vaguely defined and terms such as “standard price” and “prime-cost” price were introduced to bring public properties to the market.
- By July 1998 no newly built apartments were allowed to be allotted according to the old system and all houses had to be sold in the market

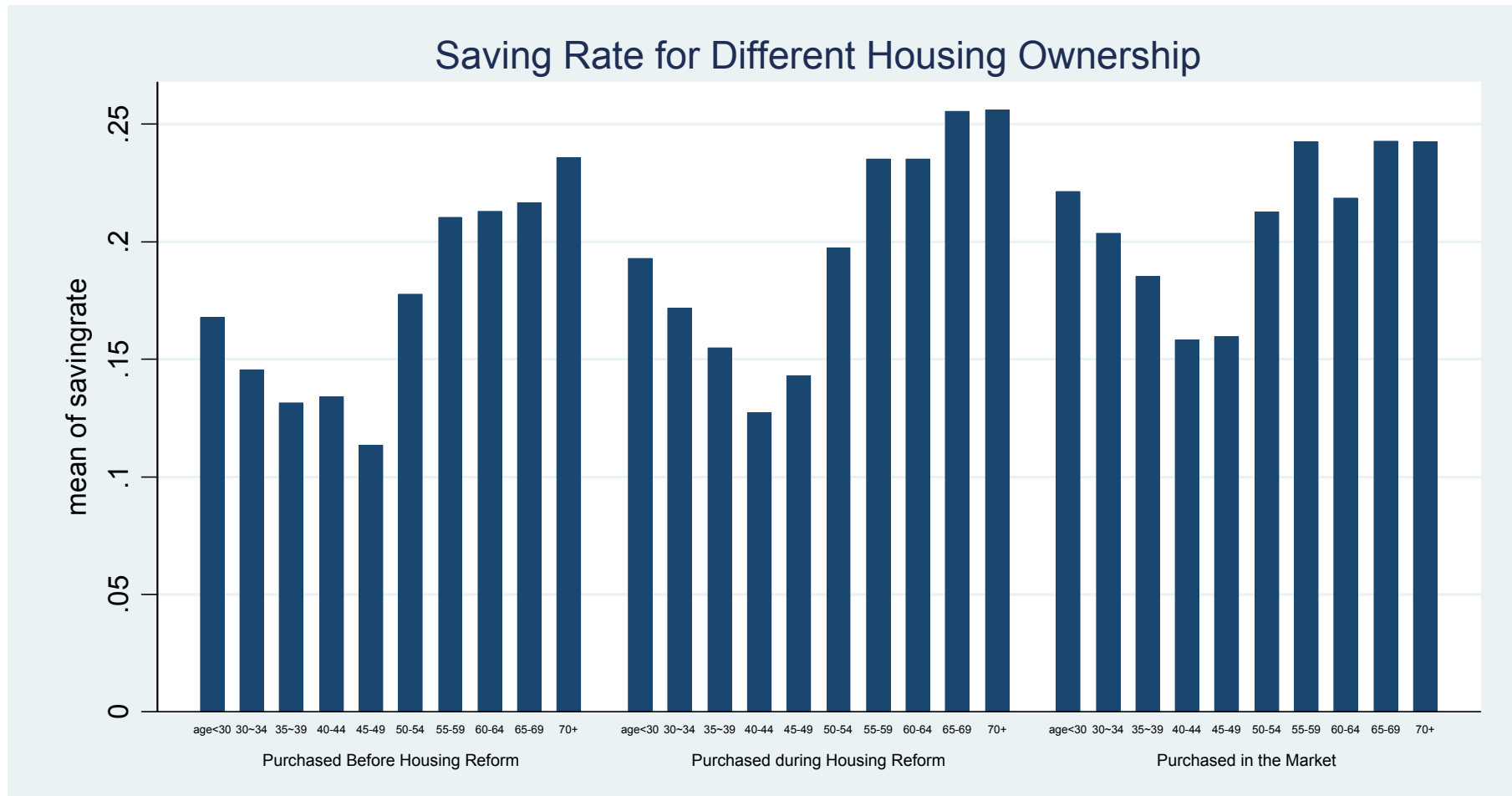
Housing in the HUS data

- Detailed information on housing tenure becomes available in our data from 2002 onwards
- A distinction is drawn between home-owners before the 1998 reform, home-owners who acquired their property thanks to the reform, and those who bought on the market after the reform.

Housing tenure of Chinese households

Year	Public housing tenant	Private housing tenant	Pre-reform home-owner	Home-owner after housing reform	Home- owner after market purchase
2002	13.46	1.91	11.90	63.00	8.15
2003	12.22	1.94	11.83	60.08	9.85
2004	10.98	1.73	11.63	59.02	13.79
2005	9.01	2.03	11.01	55.87	18.61
2006	8.90	2.09	10.44	54.19	21.59

Saving rate by age and house-ownership



Effect of child's sex on the saving rate

Saving Rate	(1)	(2)	(3)
Age	-0.00302***	-0.00432***	-0.00429***
Age²/000	0.00467***	0.00652***	0.00648***
One migrant	0.01032***	0.00952***	0.01029***
Two migrants	0.04186***	0.04596***	0.04503***
Famsize	0.00989***	-0.01360***	-0.00795***
Not employed	-0.12742***	-0.12627***	-0.12650***
Private empl.	-0.02893***	-0.02834***	-0.02832***
Self-employed	-0.01457***	-0.01221**	-0.01232**
Other empl.	-0.08057***	-0.08038***	-0.08008***
Retired	-0.00794**	-0.00364	-0.00412
Child	-0.07638***		
Son		-0.00613**	
Daughter			-0.02730***
Number of obs	77329	77329	77329
R-squared	0.0372	0.0322	0.0336

Sample period 2002-2006: House property and year dummies also included in the regression.

*** p<0.01, ** p<0.05, * p<0.1

Effects of housing tenure on the saving rate

Saving Rate	Coefficients
Age	-0.00306***
Age ² /000	0.00417***
Liaoning prov.	-0.04695***
One migrant	0.01088***
Two migrants	0.04352***
Famsize	0.01426***
Not employed	-0.12800***
Private empl.	-0.02808***
Self-employed	-0.00548
Other empl.	-0.07692***
Retired	-0.02170***
Private Rental	-0.00017
Owned originally	0.02344***
Bought with reform	0.02658***
Bought in the market	0.04690***
# Children aged<25	-0.07344***
# elderly >55	0.01041***
Number of obs	77329
R-squared	0.0422

Sample period: 2002-6. *** p<0.01, ** p<0.05, * p<0.1

Effects of
pension
reform on
the saving
rate.

Sample
period:
1998-2006

	(1)	(2)
In (real disp. income)		0.184***
Age	-0.006***	-0.006***
Age ² /000	0.007***	0.007***
Child	-0.060***	-0.059***
Num. Children aged<18	-0.034***	-0.008*
Num. of elderly >55	0.016***	0.012**
Famsize	0.019***	-0.013**
Years of education	0.007***	-0.004***
Liaoning prov. post2001	-0.013*** 0.019	0.072*** -0.016
Liaoning X post2001	-0.025***	-0.030***
Hubei province post2006	-0.004** 0.030**	0.087*** -0.025
Hubei prov. X post2006	0.009**	0.018***
Not employed	-0.121***	-0.045***
Private employee	-0.031***	-0.010**
Self-employed	-0.003	0.015*
Other employees	-0.077***	-0.000
Retired	-0.013**	-0.011*
Number of obs	99005	99005
R-squared	0.043	0.120

Summary and conclusions

- Our analysis has highlighted the role of a number of factors that can explain the changes over time and age of saving rates in China
- In particular, we have found that households that recently migrated to the urban areas tend to save more – to the extent that this type of migrations will peter down over the years, we should see a drop in the saving rate in years to come.

Summary and conclusions

- Also, we confirmed the important role of the housing market.
- We found that home-owners who recently bought on the free market save more than tenants and home-owners who acquired their property long time ago or at the time of the housing reform at much reduced prices.

Summary and conclusions

- Finally, we investigated the role of pension reforms that took place in different years across different provinces.
- Our results are mixed.
- In the case of the province that was first affected (Liaoning) we find that the pilot reform had a sizeable, negative effect on private savings.
- In another case, where the reform was implemented at the end of our sample period (Hubei) , the effect on savings was instead smaller, but positive.

Family composition

Variable	Mean
at least one child	78.64%
only one son	34.86%
only one daughter	30.59%
more than one child	13.19%

Family size	number of employee (%)							Total
	0	1	2	3	4	5	6	
1	51.4	44.86	2.8	0	0.93	0	0	100
2	39.38	30.74	29.78	0.05	0.05	0	0	100
3	5.21	22.7	66.52	5.55	0.02	0	0	100
4	7.45	25.11	54.83	11.04	1.56	0	0	100
5	6.5	21.68	52.57	14.09	4.88	0	0.27	100
6	7.55	16.98	43.4	18.87	11.32	1.89	0	100
7	0	28.57	21.43	28.57	7.14	7.14	7.14	100
Total	13.27	24.88	55.84	5.46	0.5	0.02	0.02	100

Family size	number of retired (%)					Total
	0	1	2	3	4	
1	47.66	51.4	0.93	0	0	100
2	39.75	28.98	31.27	0	0	100
3	74.7	16.33	8.84	0.13	0	100
4	54	30.73	14.9	0.37	0	100
5	24.39	29	44.44	1.9	0.27	100
6	22.64	26.42	50.94	0	0	100
7	28.57	21.43	50	0	0	100
Total	62.06	21.74	15.98	0.2	0.01	100

Family characteristics – number of migrants

year	Resident since birth	One migrant	Two migrants	Total
2002	43.31	20.28	36.42	100
2003	42.38	19.52	38.1	100
2004	44.94	19.28	35.78	100
2005	45.49	17.69	36.82	100
2006	47.16	18.45	34.39	100
Total	44.66	19.03	36.3	100