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# Institutional Determinants of the Retirement Patterns of China's Urban and Rural Residents

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# Introduction

- China is facing the challenge of rapid population aging, which threatens to slow economic growth
- The projected sharp rise in the old-age dependency burden can be alleviated if the working life can be extended
- The length of working life depends on many factors, labor supply (health, preferences and wealth), demand (mainly firm behavior), and institutions

# This Paper

- Focuses on institutions, whose role is most evident when comparing the retirement patterns of urban and rural residents
  - Giles, Cai, Wang (2012), using 2008 CHARLS pilot, conclude that the differing retirement patterns of older workers in rural and urban China stem from two different retirement systems
- Utilizes CHARLS national baseline data and takes a closer look at different features of institutions that cause retirement patterns to diverge
  - Worker's retirement policy
  - Long-standing economic and social policies that put rural residents at great disadvantage relative to their urban counterparts

# Paper Structure

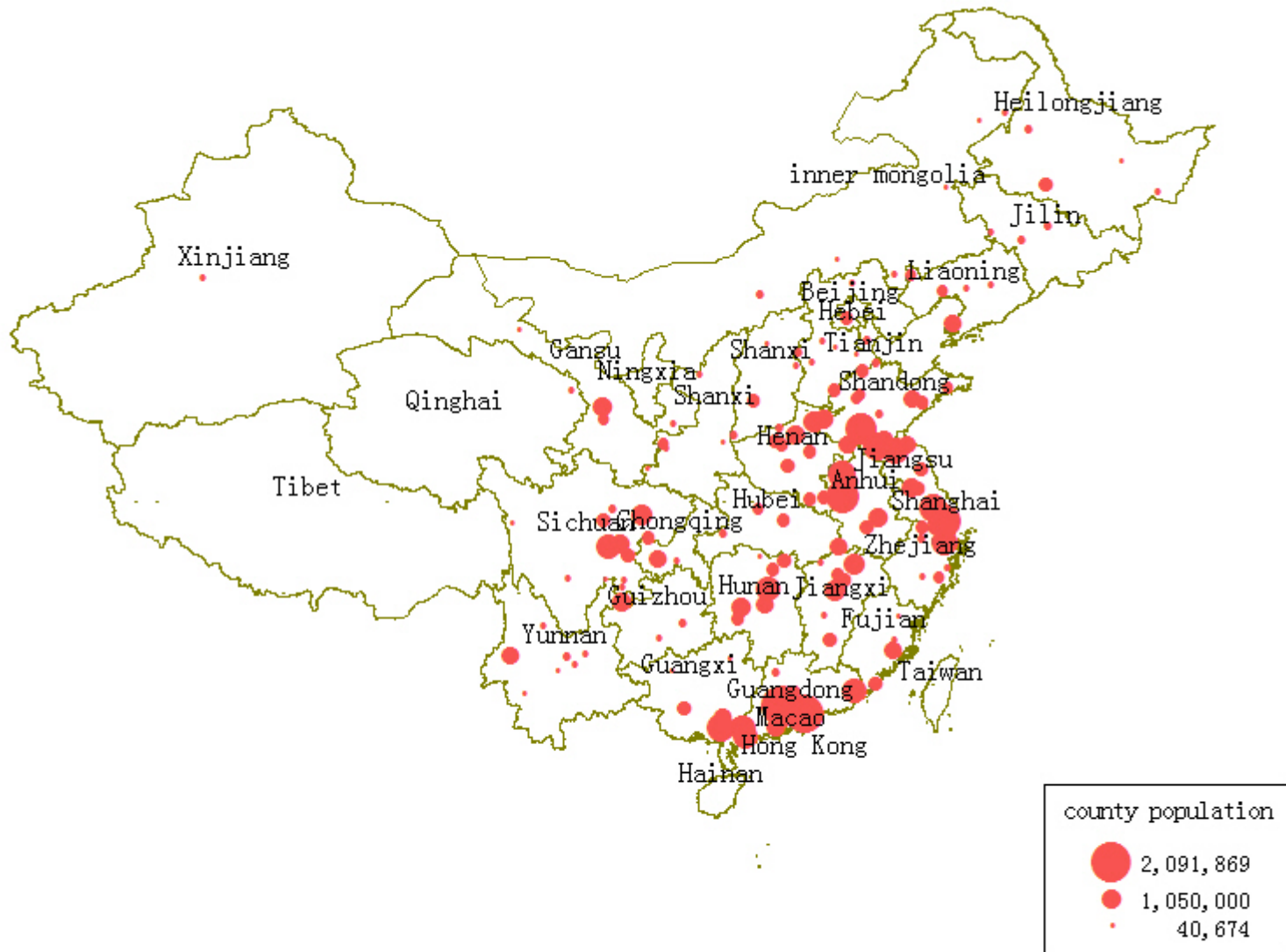
- Data and descriptive of retirement patterns
- Institutions: Retirement policy for urban workers
  - Hazards of retirement
  - Early retirement and internal retirement
- Institutions: economic resources
  - Pension coverage and generosity
  - Economic divide
    - Wealth gap
    - Children gap
  - Expectations on sources of elderly support

# Data: China Health and Retirement Longitudinal Study (CHARLS)

- HRS-type survey
- Biennial panel
- Nationally representative of population over age 45
- Multi-stage PPS random sampling
  - Counties, Villages, Households, individuals
- Pilot survey in 2008: Zhejiang and Gansu
- Baseline survey in 2011-2012: **10,257** households, **17,708** respondents
  - 150 counties in 28 provinces
  - Tibet, Hongkong, Macau and Taiwan were excluded
  - Hainan and Ningxia had no counties sampled



# County distribution



# Questionnaire Structure

- **Demographics**
- **Family structure/transfers**
- Health status and physical functioning
- Biomarkers
- Health care and insurance
- **Work, retirement and pension**
- **Income and consumption**
- Assets (individual and household)
- Community survey
- Policy survey



## CHARLS 2011-2012 Sample Size and Response Rate

	Total	Rural	Urban
Assigned households	23,422	10,597	12,825
Age eligible rate(%)	66.8	73.8	59
Response rate(%) (cv complete)	82.5	95.1	71.7
Sample Households	10,509	6,094	4,415
Response rate(%) (main module complete)	80.5	94.1	68.6
Sample Households	10,257	6,033	4,224





# The Retirement Patterns



# Key Definitions

- An individual is **retired** if once worked but is not currently active in any of these economic activities: farming, employed, self-employed and unpaid family business, unemployed, and other employments (includes part-time job).
- Processed administrative retirement
  - If “yes” to the question “Have you completed retirement procedures (including early retirement) or internal retirement?”



# Work Status – All Respondents

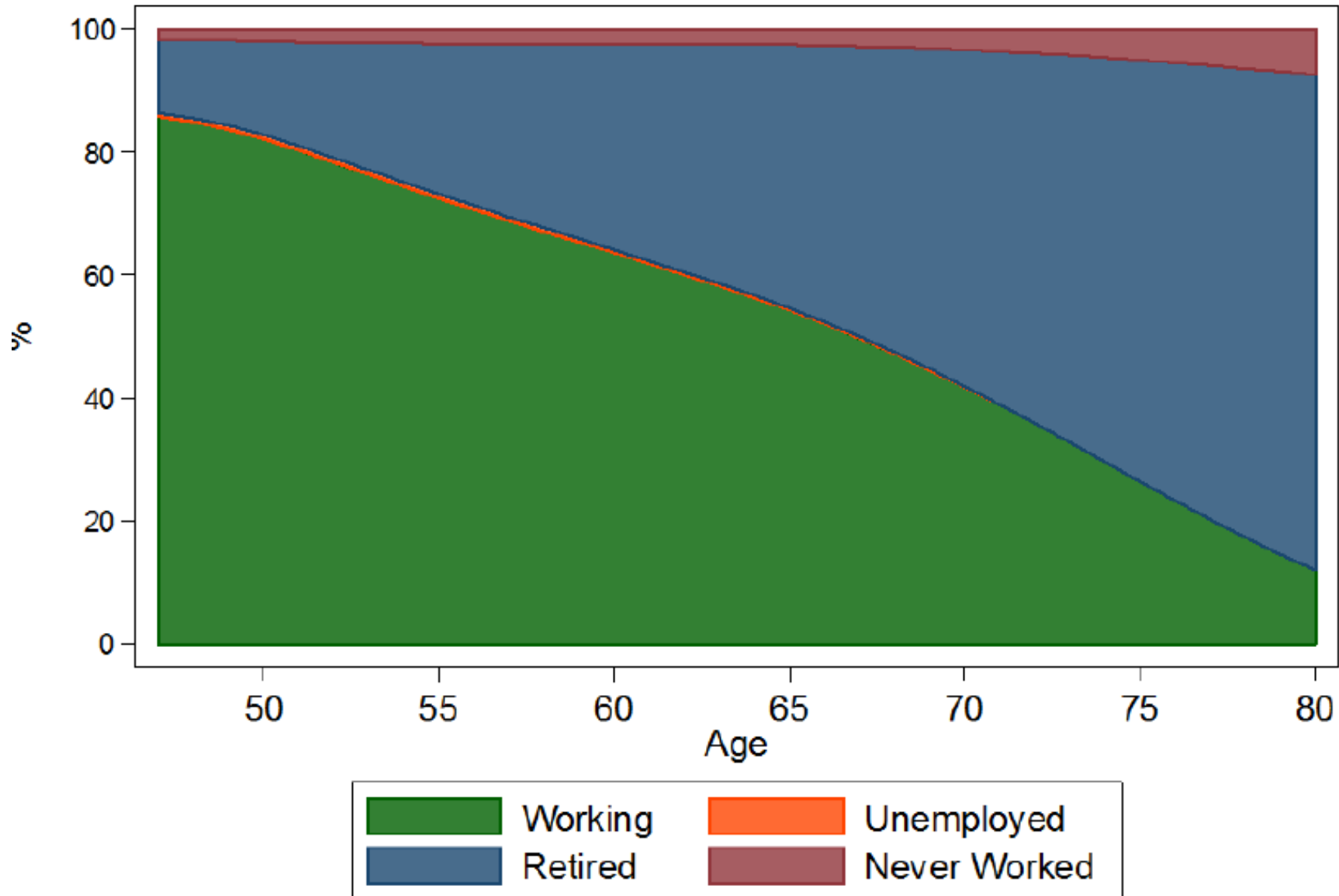


Table 1: Retirement Rate by Hukou, Gender and Age (%)

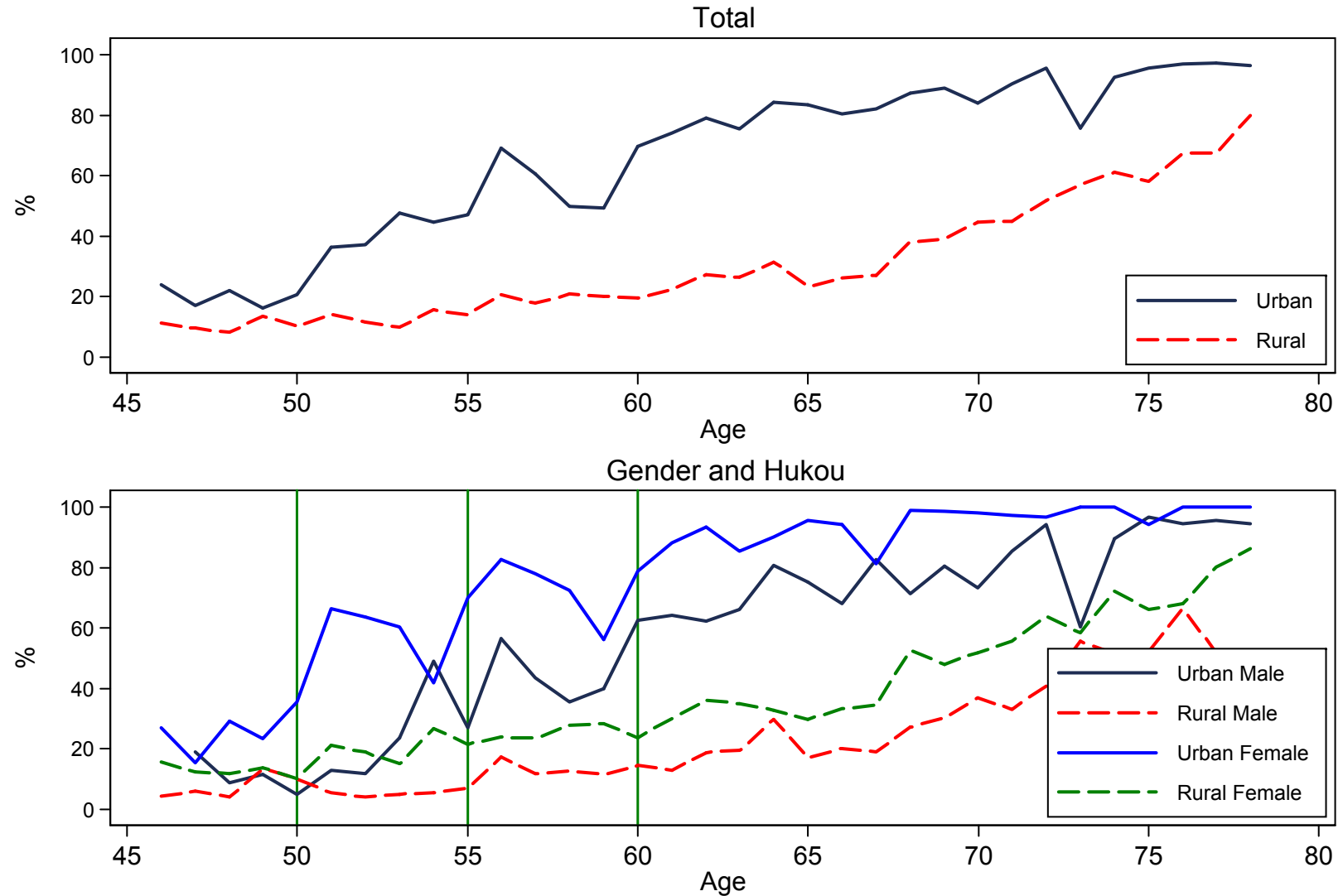
Age_Group	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	19.2	10.5	14.1	7.1	24.0	13.4
50_55	38.5	12.4	20.8	5.7	53.3	18.7
55_60	55.7	18.7	40.9	12.1	71.2	25.1
60_65	76.6	25.1	67.2	19.0	87.8	31.1
65_70	84.6	30.2	75.3	22.4	94.7	38.7
70_75	86.5	51.2	78.0	43.3	98.2	59.2
75_80	96.2	68.5	94.9	60.7	98.2	75.6
80+	98.5	86.5	98.7	79.7	98.2	90.6
Total	59.5	26.1	52.0	19.5	67.5	32.2
OBS	3,607	12,963	1,922	6,277	1,685	6,686

- Urban workers retire much earlier than rural counterparts
  - Urban workers reach high retirement rate between age 50 and 60
  - Large fraction of rural workers remain working even after 70
- This urban/rural distinction exists for both men and women but is more prominent for women



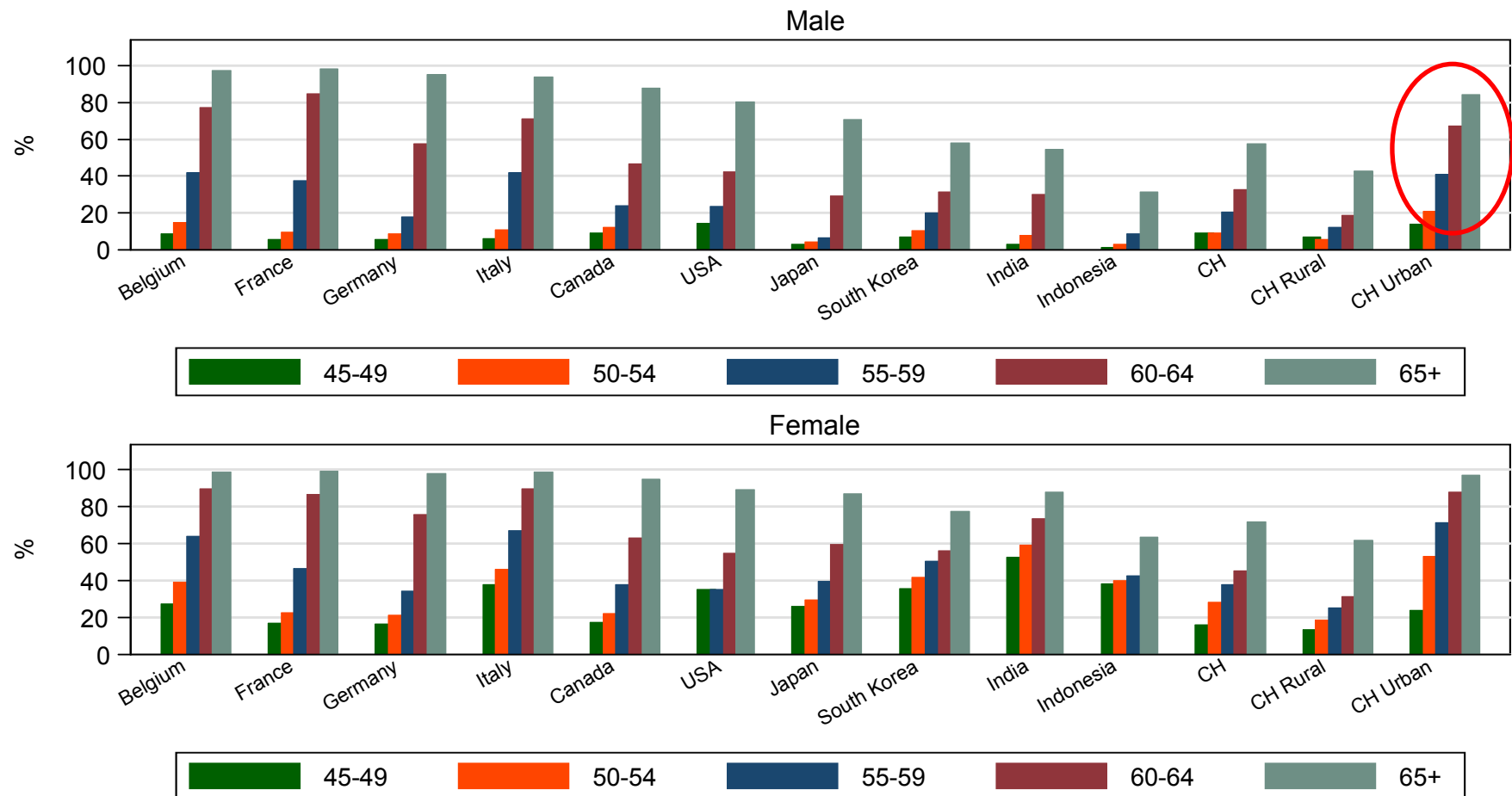
- Graphically...

## Retirement Rate by Age, Hukou, and Gender



# International Perspective:

## Retirement Rate by Country, Gender, and Age

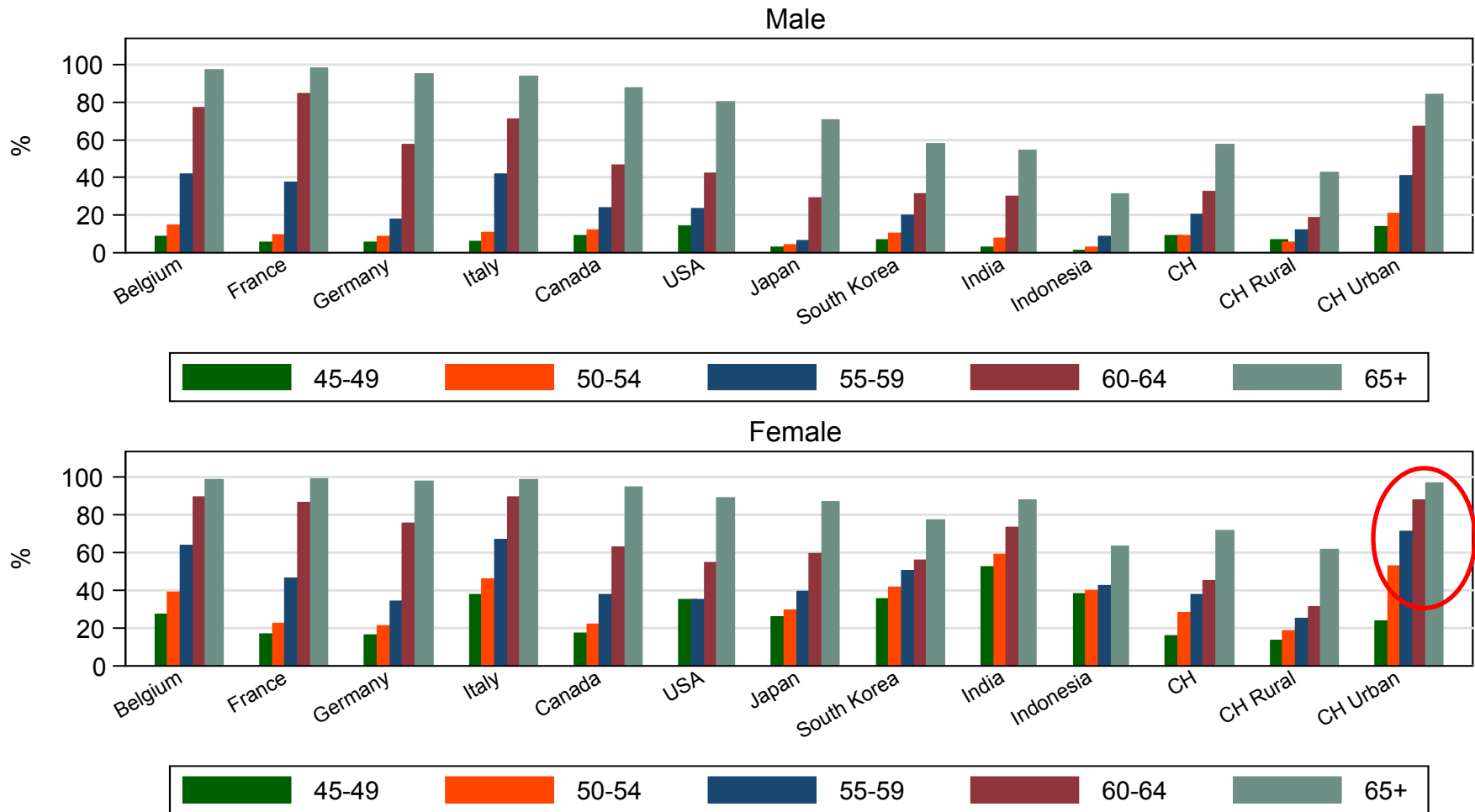


Data for China comes from CHARLS (Weighted), data for other countries come from "An Aging World: 2008", issued by NIA of NIH, U.S. Department of Health and Health Services

- Urban Chinese men not only retire earlier than men of other developing countries, but also earlier than men in developed countries, including the U.S. , South Korea and Japan, and show patterns similar to Western Europe<sup>4</sup>

# International Perspective

## Retirement Rate by Country, Gender, and Age

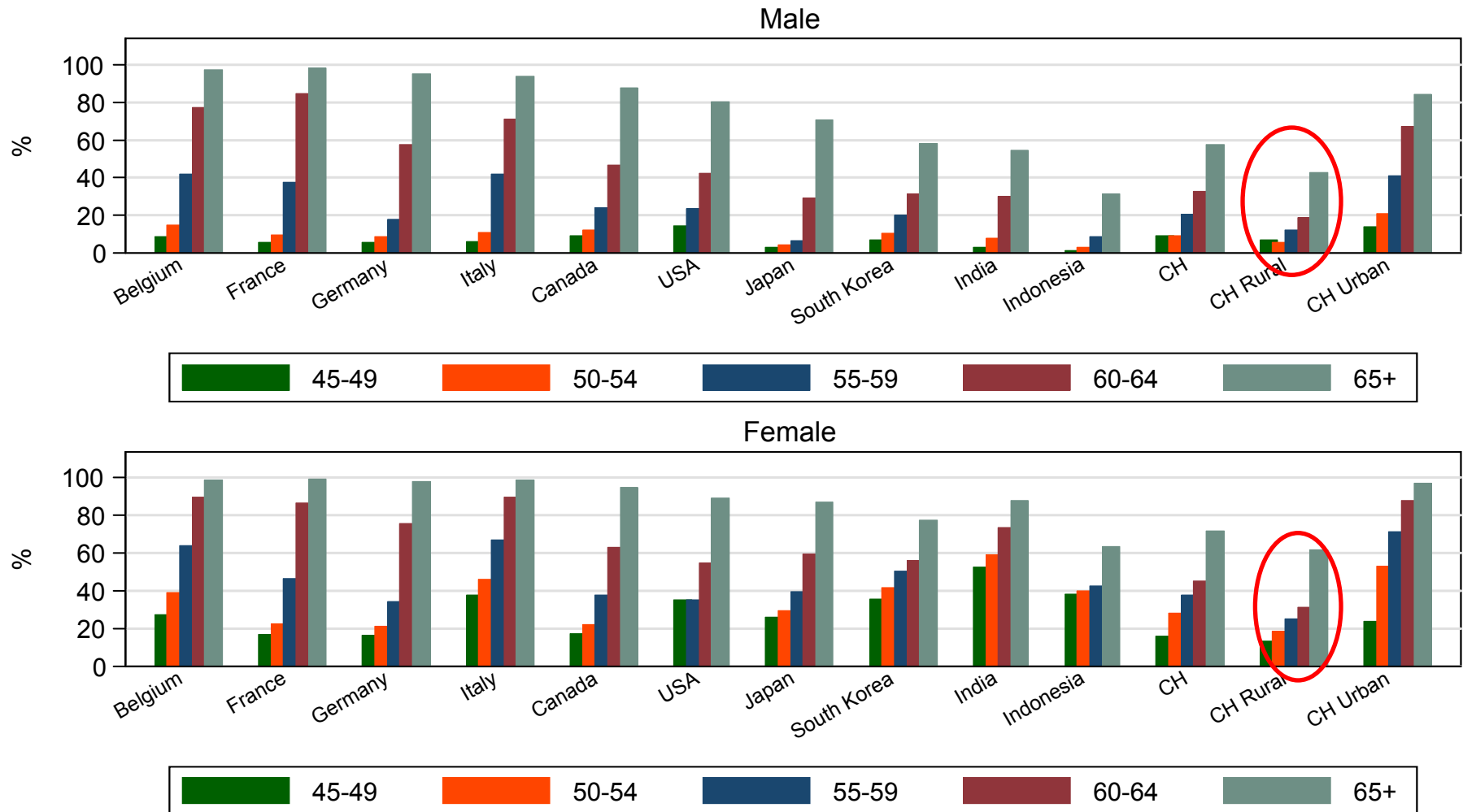


Data for China comes from CHARLS (Weighted), data for other countries come from "An Aging World: 2008", issued by NIA of NIH, U.S. Department of Health and Health Services

- Urban Chinese women retire even earlier than Western European women

# International Perspective

## Retirement Rate by Country, Gender, and Age



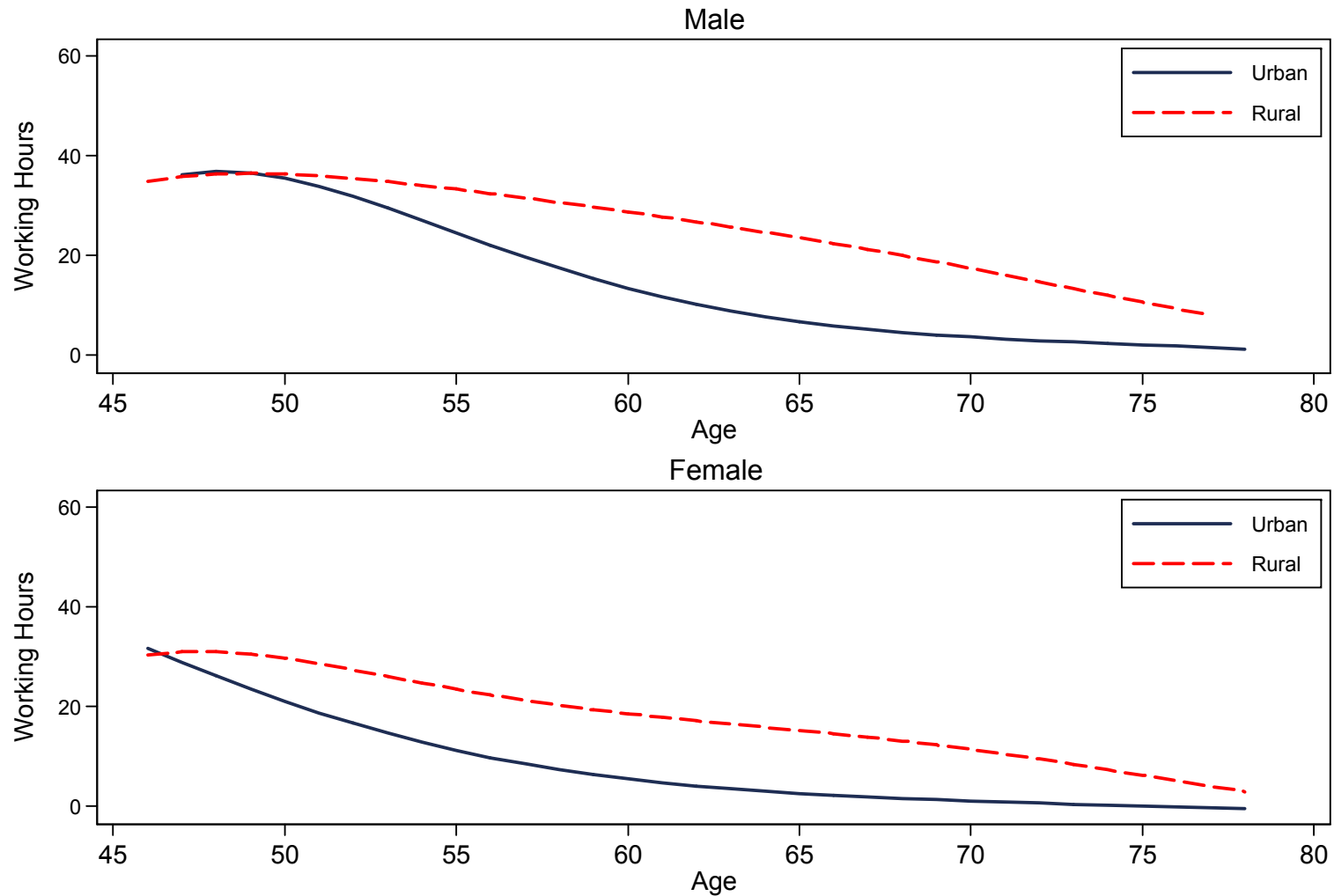
Data for China comes from CHARLS (Weighted), data for other countries come from "An Aging World: 2008", issued by NIA of NIH, U.S. Department of Health and Health Services

- Rural Chinese retire late, with retirement age much lower than that in other countries, except for Indian and Indonesian men



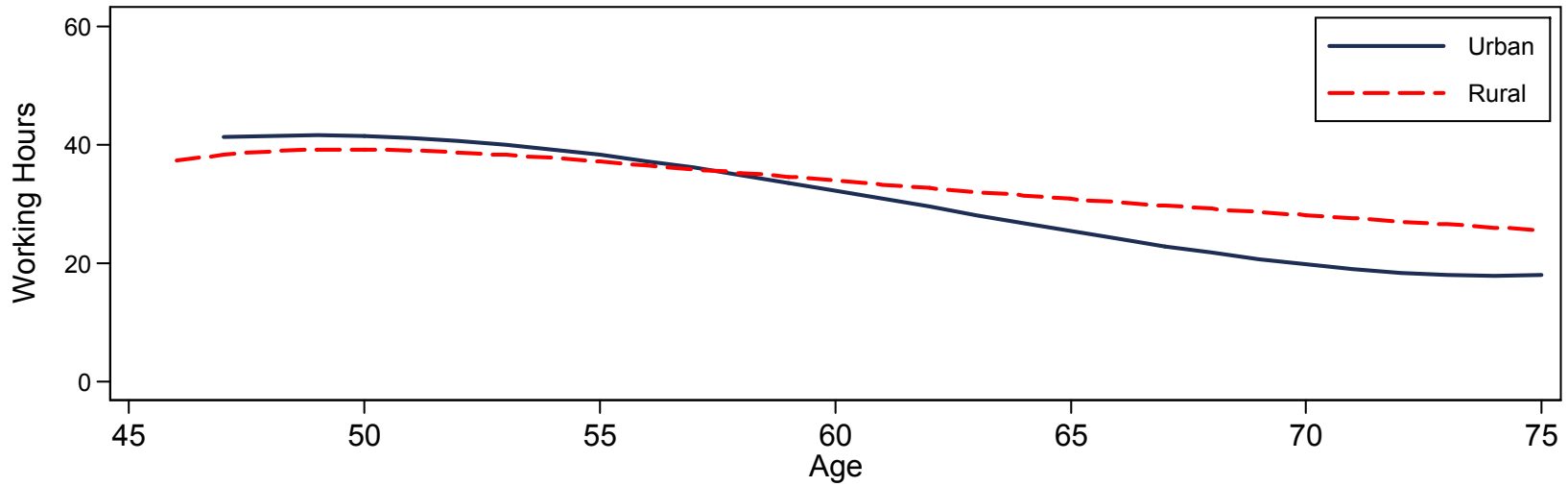
# The Urban-Rural Difference Cannot be Explained by Lower Work Intensity in Rural Areas

Average Hours of Work Per Week (Unconditional on Work Status)

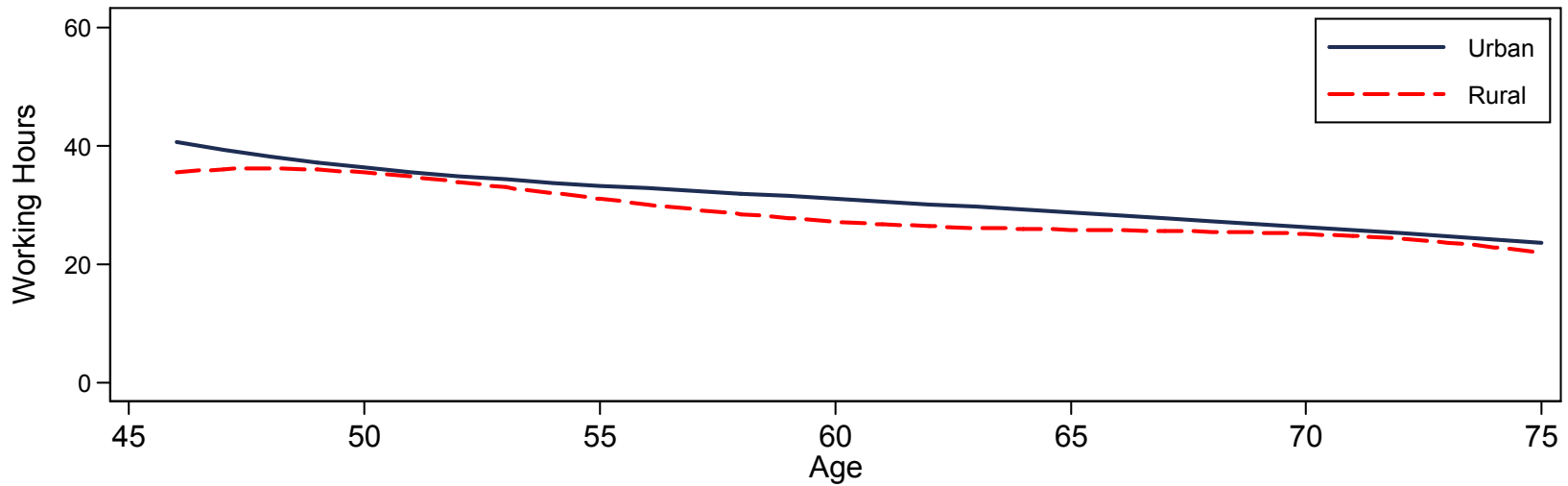


# Average Hours of Work Per Week (Conditional on Working)

Male



Female



# Institutional Background: Worker's retirement policy



# Retirement Policy for Workers

- The Worker's retirement system covers urban residents only
  - Established in the 1950s
  - Initially covered only government employees and urban workers in state-owned enterprises
  - Later (after 1997) it is required to cover all urban enterprises
  - Retirement age:
    - Men: 60
    - Women: 50 for manual workers, 55 for cadres/professionals
- **No worker's retirement system in rural areas**
  - **NRPP is not worker's retirement, strictly speaking.**
  - Eligibility is not conditional on past employment**



# Evidence: Prevalence of Processed Retirement

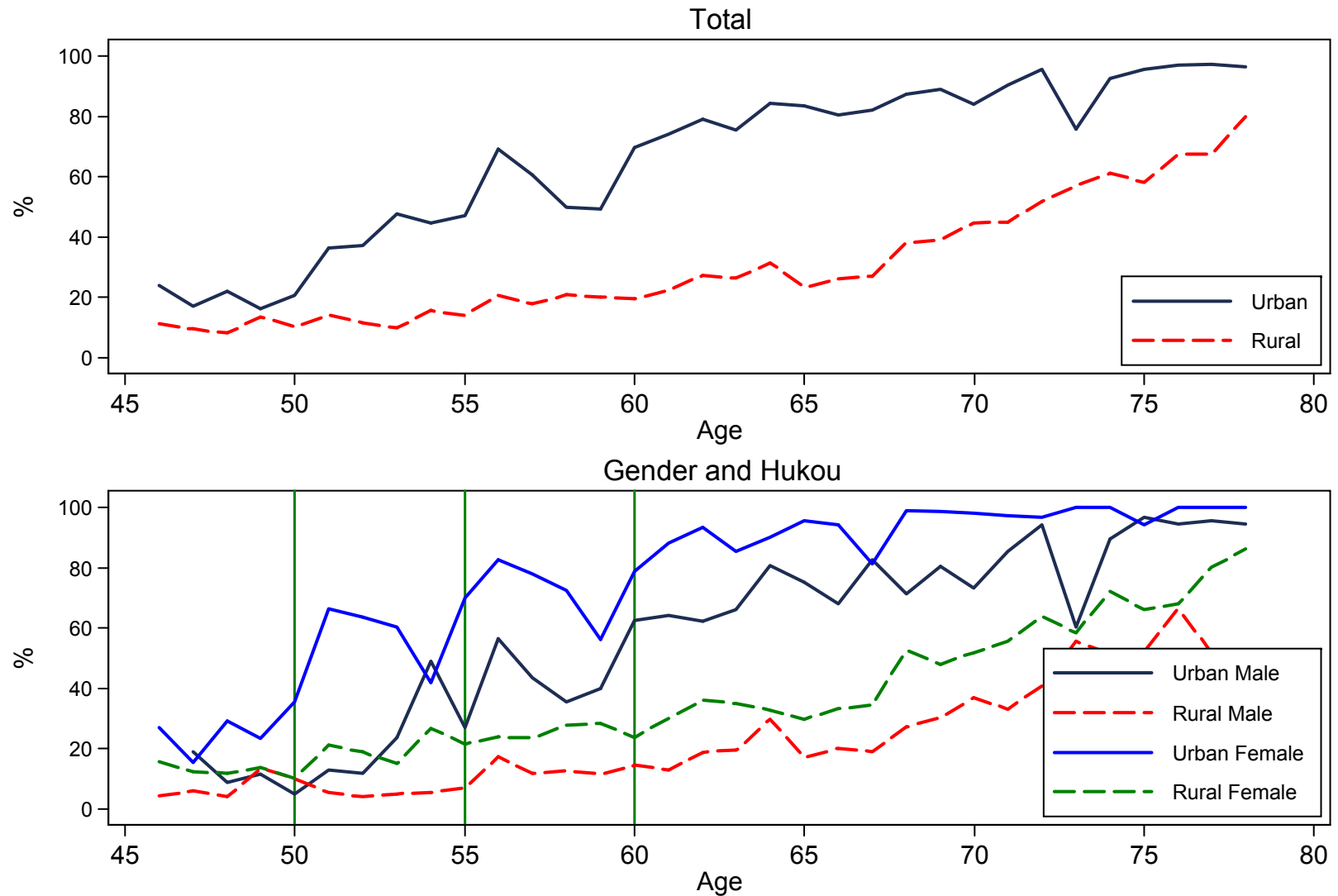
Table 2\_1: Processed Administrative Retirement Rate of Retirees (%)

Age_Group	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	27.6	0.6	38.1	0.0	21.8	0.8
50_55	61.1	3.2	23.7	3.5	73.4	3.2
55_60	76.4	3.1	62.6	4.7	84.7	2.4
60_65	80.2	2.8	87.7	4.6	73.4	1.7
65_70	80.4	5.7	89.6	11.1	72.5	2.2
70_75	84.4	6.3	95.5	12.4	72.5	1.8
75_80	82.5	4.6	95.0	9.3	64.6	1.1
80+	78.1	4.8	92.7	13.3	58.8	0.4
Total	75.0	4.0	81.3	8.4	69.8	1.6
OBS	2,112	3,024	957	1,071	1,155	1,953

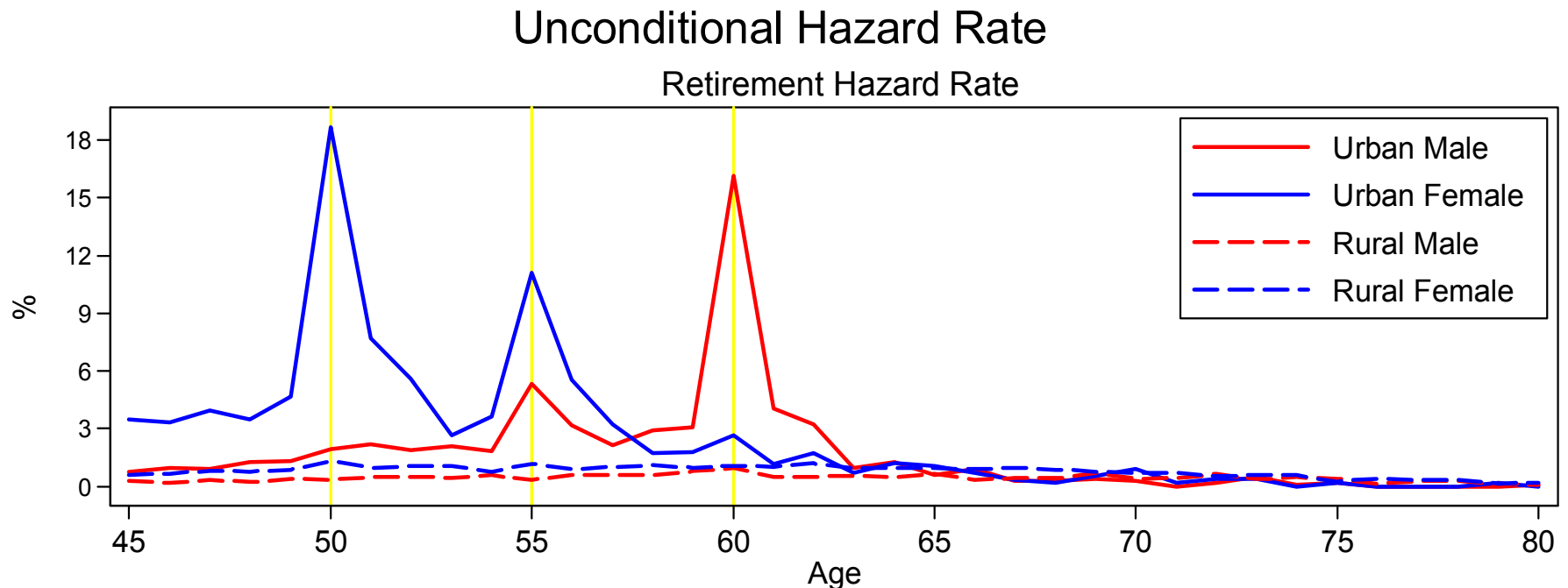
Conditional on retirement, the great majority of urban retirees had retirement “processed” while this is rare for rural retirees

# Evidence of Retirement Policy Effect

## Retirement Rate by Age, Hukou, and Gender



# Evidence of Retirement Policy Effect



- Spikes of retirement exist for urban workers:
  - Urban men at 60, women at 50 and 55
- Smooth retirement for rural people

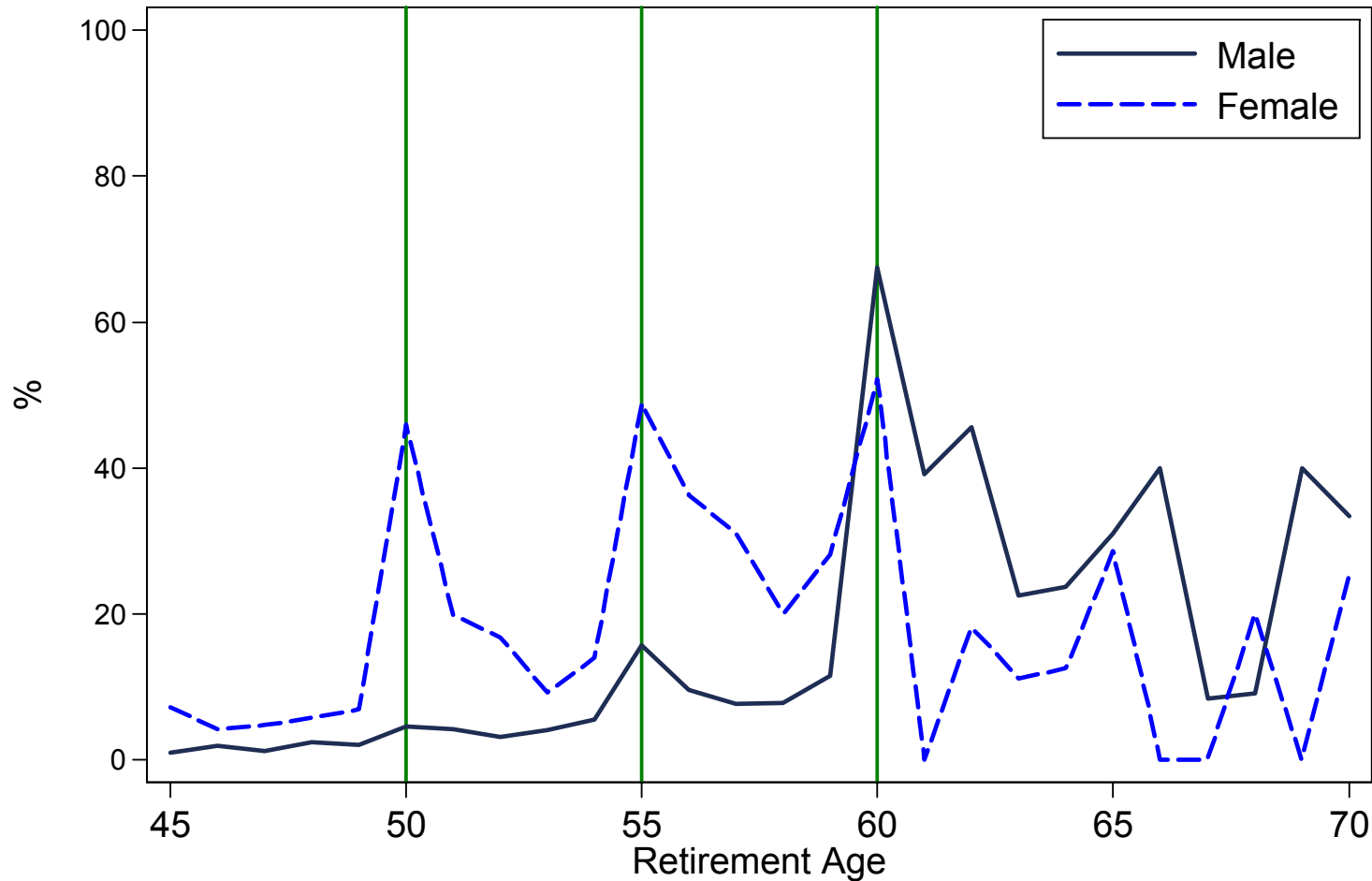
# What Specific Feature of the System Explains the Urban Spikes?

- U.S. literature:
  - Pension incentive induces retirement
    - Penalty for continuing to work
  - No mandatory retirement
- China:
  - Mandatory retirement policy forces a worker to leave job at an inconvenient age
    - Costly to transition to employment after mandatory retirement



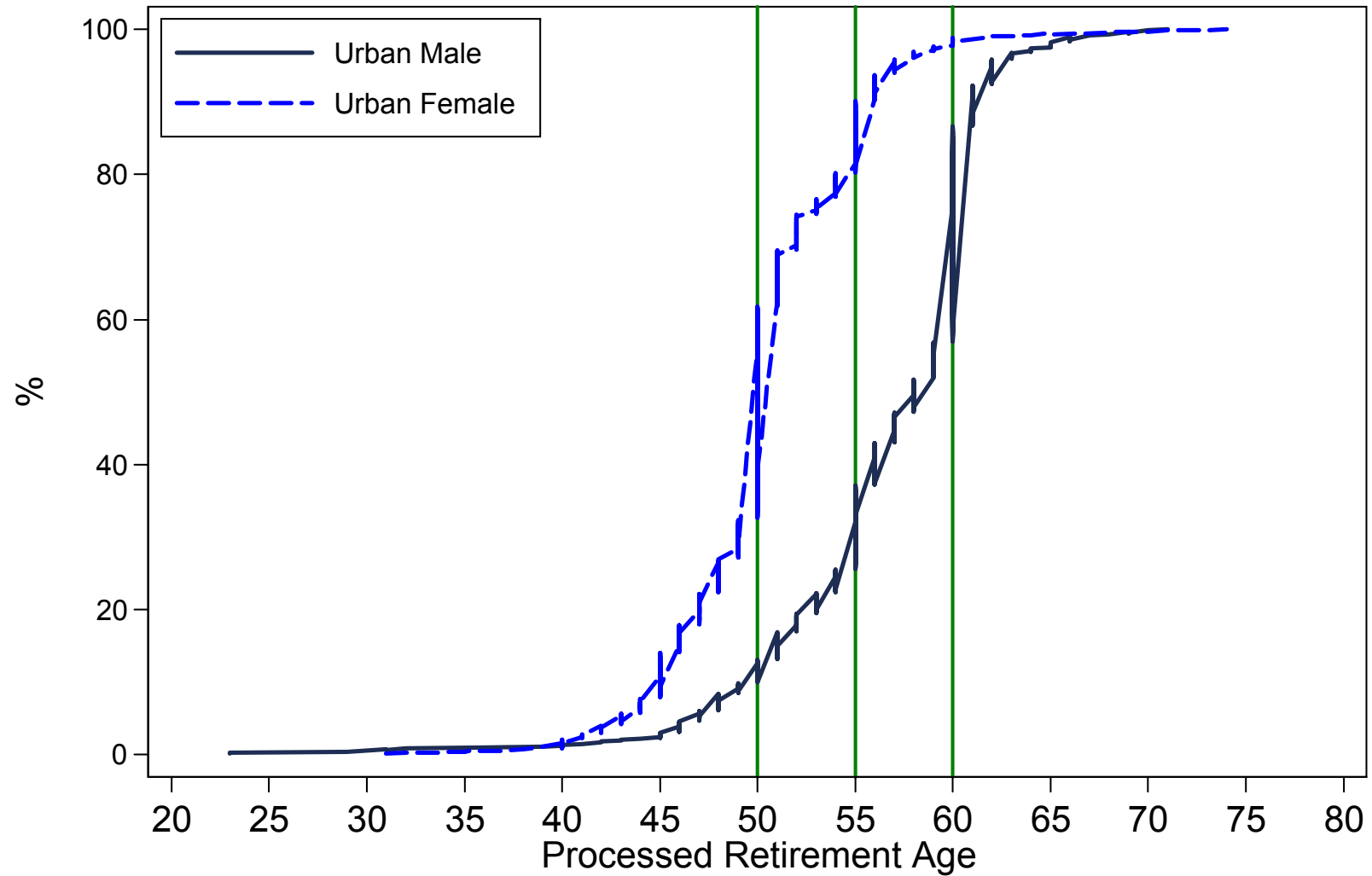
# An Anomaly in the Retirement System: Early Exits

Processed Retirement Hazard Rate  
of those Processed Retirement



- Positive hazard rate before official retirement ages

Cumulative Processed Retirement Age  
of those Processed Retirement



- Substantial processed retirement occurs before the official retirement ages.

# Early Retirement

- “Early retirement” is permitted in the worker’s retirement system
  - Jobs that are dangerous, harmful to health or extremely onerous
  - Civil servants who have worked for 30 years and are within 5 years of the retirement age
- However, early retirement has been granted liberally in practice by the firm to shed redundant workers



Table 3: Mechanisms of Early Retirement (%)

Mechanism	Total	Male	Female
1 I have 30 years of job experience, which is enough for early retirement.	8.5	8.3	8.8
2 My work unit belonged to the category of high-risk and hard manual labor and thus was eligible for offering early retirement	6.3	3.8	10.3
3 My work unit was restructuring/bankrupt, so it offered early retirement	16.8	14.3	20.9
4 Due to poor health	37.2	45.1	24.4
5 Due to family reason	7.6	2.6	15.8
6 Other	23.6	25.9	19.8



Table 5: Distribution of Early Retirement Date (%)

Early Retired Date	Total	Male	Female
Before 1990	23.6	27.2	17.8
1990-1995	12.7	8.4	19.6
1995-2000	26.7	28.1	24.5
2000-2005	19.3	18.0	21.3
After 2005	17.8	18.3	16.9

Early retirement continued after massive enterprise restructuring in the late 1990s

# Internal Retirement

- A practice in the 1990s when many firms experienced financial difficulties
- Firms let redundant workers exit the work force before the normal retirement age at the firms' expense, and turn to the Social Insurance Administration for pensions after reaching the normal retirement age
- Internal retirement enables workers to maintain eligibility for social insurance after retirement

Table 4: Mechanisms of Internal Retirement (%)

	Total	Male	Female
1 I have 30 years of job experience, which is enough for internal retirement.	10.2	13.0	4.7
2 My work unit was restructuring or bankrupt so offered internal retirement	30.0	28.0	34.0
3 Due to poor health	15.5	13.6	19.4
4 Due to family reason	2.5	1.2	5.1
5 Other	41.7	44.2	36.8



Table 6: Distribution of Internal Retirement Date (%)

Early Retired Date	Total	Male	Female
Before 1990	8.6	10.0	5.7
1990-1995	6.3	5.1	9.0
1995-2000	12.1	11.1	14.0
2000-2005	37.1	33.7	44.1
After 2005	35.9	40.2	27.3

- Internal Retirement also continued after the 1990s
- Firms still have difficulty shedding redundant workers
- Workers volunteer?



# Incentive for Early Retirement

- Cost:
  - Financial penalty is minimal
  - Only loss is foregone pension gains due to salary increases in years between early retirement and retirement at official age
- Gain:
  - double salary
  - early transition to a bridge job that lasts

Table 7  
Re-Employment Rate of Workers who have Processed Retirement (%)

Age_Group	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	49.2	58.0	11.3	100.0	68.9	31.5
50_55	33.8	66.1	42.7	47.3	33.4	68.3
55_60	23.3	52.3	23.0	37.9	23.5	65.1
60_65	15.8	60.5	23.8	71.3	6.3	-
65_70	9.9	47.3	17.7	54.7	1.7	27.7
70_75	13.2	40.2	18.8	43.5	1.3	30.2
75_80	2.3	19.8	2.7	20.9	1.4	-
80+	1.9	6.4	0.5	7.0	5.9	-
Total	16.5	42.6	15.3	40.9	17.8	46.3
OBS	1,018	125	552	87	466	38

The processed retirement population is restricted to those with firm or government pension

## Institution # 2: Urban-Rural Divide in Economic and Social Policies

- Pension coverage and generosity
- Wealth gap
- Children's human capital investment

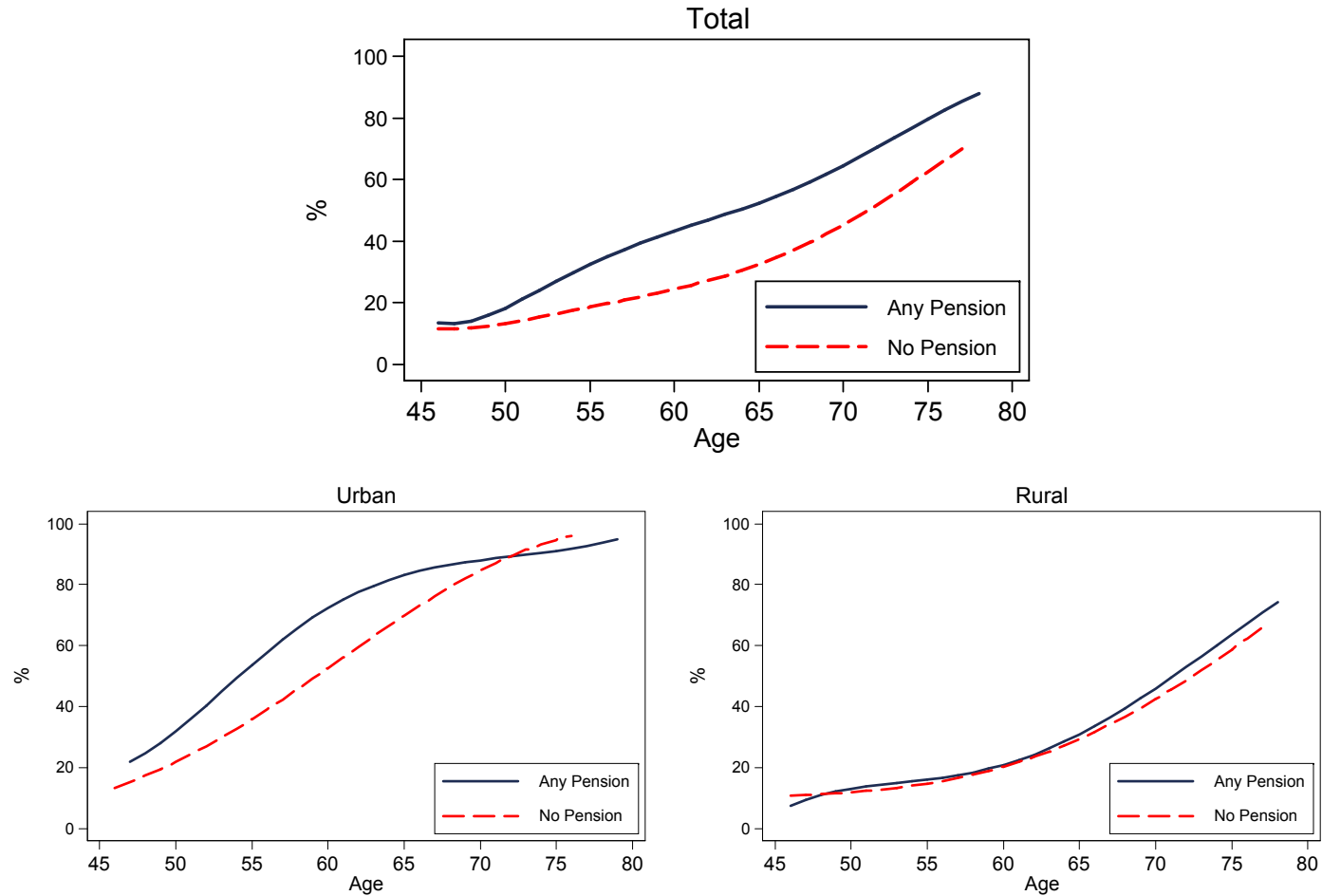


Table 8: Pension Type and Coverage (%)

Pension Type	Urban	Rural	Total
Worker's Pension	43.2	3.1	14.6
Firm's Pension	20.6	1.0	6.6
Government or Institutions' Pension	23.4	2.2	8.3
Other Pension	20.3	38.3	33.1
Pension Subsidy to the Oldest Old	0.5	1.6	1.3
New Rural Social Pension Insurance	1.1	26.4	19.1
Urban Residents' Pension	10.0	0.4	3.2
Residents' Pension	2.4	0.9	1.3
Rural Pension	0.7	10.3	7.6
Commercial Pension	1.4	0.8	1.0
Other Pension	4.5	1.0	2.0
Any Pension	75.5	40.8	50.7

- Pension coverage is much higher in urban areas
  - The urban are mainly covered by worker's pension
  - The rural mainly the newly implemented rural pension, which is much less generous

## Retirement Rate by Pension Coverage



- The retirement rate of urban people covered by any pension is higher than those who are not
- The difference in rural is trivial

Table 9: Median Pension Income of Retirees with at Least One Pension (Unit Yuan/Month)

Age_Group	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	1300	0	7000	0	1100	0
50_55	1260	329	1240	0	1260	329
55_60	1300	400	1300	200	1300	480
60_65	1600	60	1900	70	1300	60
65_70	1600	60	1800	100	1400	60
70_75	1600	70	1800	120	1400	60
75_80	1700	60	1780	90	1382	60
80+	2000	70	2300	120	1300	60
Total	1500	65	1800	90	1300	60
OBS	1,717	1,310	820	477	897	833

- Pension is much more generous among urban residents

Table 10: Premium of NRPP (Unit: Yuan/Year)

Premium	Freq.	Percent
<=100	1,716	72.28
(100, 200]	247	10.4
(200, 300]	123	5.18
(300, 400]	56	2.36
(400, 500]	113	4.76
>500	119	5.01
Total	2,374	100

- The incentive embedded in the rural pension is poor, so rural people tend to choose the pension plans with lowest premiums
  - Low capability of accumulation, will result in low payment in the future

Table 11: Median PCW by Hukou, Gender and Age (Unit: 1000 Yuan/Year)

Age_Group	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	74.3	22.9	71.4	22.4	76.9	24.0
50_55	75.3	25.9	61.9	25.9	80.1	25.9
55_60	92.1	23.4	91.9	24.8	94.7	21.7
60_65	60.6	18.5	61.0	18.4	59.0	18.5
65_70	66.4	14.8	58.5	14.4	81.7	15.0
70_75	52.4	14.5	48.6	14.1	56.9	15.0
75_80	59.1	17.3	62.4	13.8	59.1	19.1
80+	68.2	14.8	75.3	13.7	61.8	15.0
Total	69.7	20.0	67.6	19.9	71.8	20.1
OBS	3,607	12,963	1,922	6,277	1,685	6,686

- Rural residents have far less wealth.
- This is partly caused by long-standing income gap between R-U areas, and partly by urban housing boom that disproportionately benefitted urban residents.
- Rural residents have not fully benefitted from land sales that fueled the urbanization.



Table 14: Expected Elderly Support (%)

Type	Total		Male		Female	
	Urban	Rural	Urban	Rural	Urban	Rural
Children	20.1	80.8	16.8	77.3	23.6	84.0
Savings	4.0	4.4	3.9	5.4	4.2	3.6
Pension or salary	73.0	9.1	77.0	11.0	68.6	7.3
Other	2.9	5.7	2.3	6.3	3.6	5.1

- Urban elderly mainly expect pension or salary for support
- Rural elderly mainly expect reliance on children

# Social policy: Education of children

Table 15: Average Years of Education of Children

Age_Group	Total		Retired		Working	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	12.5	9.9	12.8	9.4	12.4	10
50_55	13	9.7	13.4	9.9	12.8	9.7
55_60	13	9	13.1	9.5	12.9	8.9
60_65	12.3	7.9	12.6	7.9	11.4	7.9
65_70	11.6	7.1	11.9	7.1	9.9	7
70_75	11.4	7	11.5	7.2	9.6	6.8
75_80	10.8	6.4	10.9	6.5	8.8	6.2
80+	10.8	6.3	10.8	6.3	8.8	6.4
Total	12.2	8.5	12.2	7.8	12.3	8.8
OBS	3,535	12,703	2,060	2,947	1,475	9,756

Table 16: Median of Average Income of Children and their Spouses (Unit 1000 Yuan/Year)

Age_Group	Total		Retired		Working	
	Urban	Rural	Urban	Rural	Urban	Rural
45_50	15.0	15.0	15.0	17.5	15.0	15.0
50_55	25.0	17.5	35.0	25.0	21.3	17.0
55_60	35.0	17.5	35.0	25.0	35.0	16.3
60_65	35.0	19.3	35.0	19.2	28.3	19.3
65_70	35.0	17.5	35.0	17.9	25.0	17.1
70_75	27.0	17.5	27.1	19.2	15.2	15.0
75_80	23.0	18.1	25.0	17.1	20.0	19.2
80+	25.0	15.0	25.0	15.0	25.0	15.7
Total	30.0	15.0	35.0	17.5	25.0	15.0
OBS	3,053	11,934	1,945	2,844	1,108	9,090

The sample is restricted to have at least one child and at least report one child's income

# Conclusions

- Retirement patterns are very different in urban and rural China
  - Urban elderly retire very early
  - Rural elderly “work until dropping”
- The retirement patterns are possibly explained by
  - Mandatory retirement policy applicable to urban workers
  - Greater coverage and generous pension in urban areas
  - Large urban-rural gap in economic and family resources for elderly support
- Policy implications
  - Urban and rural China need different policies regarding retirement: while urban young elderly should be encouraged to stay on the labor force, rural elderly should be given the freedom to retire
  - Equalization in institutional treatments is key for facilitating the transformations



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**Thank You!**

