

# **Pension Reform of PRC: Incentives, Governance and Policy Options**

by

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# Organization

2

- 1. Introduction**
- 2. Historical Background**
- 3. Current Provisions**
- 4. Main Indicators of PRC Pensions**
- 5. Major Issues**
- 6. Basic Evidences from Microdata**
- 7. Future Policy Options**
- 8. Challenges for Better Implementation**
- 9. Concluding Remarks**

# Historical Background

- **The 1951 Legislation**
- **Period of the Cultural Revolution**
- **The 1978 Amendments**
- **The 1986 Enforcement**
- **The 1991 Resolution**
- **The 1997 Establishment of A New System**
- **The 10<sup>th</sup> Five-Year SS Plan in 2001**
- **2001/2002 Experiments in Liaoning**

# The 1951 Legislation

## **Covered People:**

workers of SOE, COE, Gov't & Gov't-related institutions

## **Normal Retirement Age:**

60 for men (min. 25 yrs of coverage)

55 for white-collar women (min. 20 yrs)

50 for blue-collar women (min. 20 yrs)

## **Special Rules for those in hazardous occupations:**

5 yrs before NRA

# The 1951 Legislation (cont'd)

## **Replacement Rate (RR):**

50-70% depending on covered years  
(no flat-rate benefits)

## **Contribution Rate**

3% by employers only

## **Pooling of Contributions**

nationwide (30%) & each local level across  
enterprises

## **Current A/C**

substantial surplus until 1965

## Period of Cultural Revolution (1966-1977)

**The system ceased to exist. The funds were used for other purposes. All SOEs stopped collecting money for public purposes. Individual enterprises virtually became responsible for paying pensions to their employees out of current revenues (an Enterprise-based Protection!). Payments of old age pensions were often postponed. Many older persons were forced to continue working beyond the NRA.**

# The 1978 Amendments

## **Providing Incentives to Early Retirement**

- full pensions from 10 yrs of coverage
- 60% RR for those with 10-14 contributing yrs
- 70% RR for those with 15-19 CY
- 75% RR for those with 20 CY and more
- A job in a state sector was promised to one child per retiree for all state employees.

## **Rapid Expansion of Pension Expenditure**

**Forcing Each Enterprise to Bear Full Responsibility  
for Old Age Pensions of Its Employees**

## Economic Reforms in the Early 1980s

- giving enterprises more financial autonomy
  - competition among enterprises intensified
  - SOEs facing cost disadvantages due to social obligations
  - great difficulty in downsizing the SOE work force  
strong resistance from SOE workers
- ⇒ **Lack of Pension Portability**  
becoming a major stumbling block to the SOE restructuring



# The 1986 Enforcement

- **pooling of contributions within each municipality started. Social Insurance Agencies (SIA) were newly established to administer the pension funds.**
- **3% contributions of basic wages introduced to all new SOE employees**
- **15% contributions of pre-tax wages by employers**

## The 1991 State Council Resolution

- **integration of local programs promoted at the provincial level and eventually at a national level with unifying pension provisions**
- **guidelines of a three-tier system shown: mandatory basic pensions with state subsidy voluntary occupational & individual pensions**
- **new experiments without basic pensions permitted in private and joint-venture enterprises**
- **introduction of old age pensions in rural areas decided**

# The 1995 State Council Circular

- **establishing individual pension a/c announced**
- **expanding coverage to all urban workers regardless of firm ownership proposed**
- **great diversity in choosing system design for local pensions pools allowed**

## Two Major Developments after 1995

### 1. Massive Lay-off Emerged

8.2 million workers in 1996

14.4 million workers in 1997

→ Building pension portability became urgent.

### 2. A serious financial crisis began. Payment delays experienced in many areas and the current a/c of old age pensions turned into deficit from 1998.

← rising dependency ratio

← non-compliance in paying contributions

## The 1997 Establishment of A New System

- **consolidation of pension pools at the provincial level requested**
- **unification of the pension system (including benefit formula, contribution rates and eligibility requirements) across consolidated pools also requested**
- **shift to the three-tier system promoted**
  - **Mandatory DB tier for redistribution**
  - **Mandatory DC tier for each worker**
  - **Voluntary tier of occupational or individual pensions**

# The 1999 State Council Order

## **Speed-up of Expanding Coverage:**

**including non-state enterprises and  
migrant workers into the pension pools**

# The 2001 10<sup>th</sup> Five-year SS Plan

- **Contributions to the Individual A/C**
  - to be reduced from 11% to 8% from employees only
  - separate management from the social pooling funds
- **20% contributions from employers are to be deposited into the social pool.**
- **Increases in Basic Benefits**
  - from 20% RR to 30% RR
- **Unifying pension programs between civil servants and urban employees**
  - 8% payroll tax for each civil servant
  - 20% payroll tax for employers (state)

## 2001/2002 Experiments in Liaoning Province

- **Creating Real Individual A/C**
  - 8% payroll tax for employees, separately managed from the social pool
- **Encouraging Employees' Contributions**
  - basic benefits to be increased up to 30% of provincial average wages with coverage of 15 yrs or more
- **Creating Guaranteed Minimum Pensions for those with no pensions**
- **Promoting the Third-tier Supplementary Pensions**
  - Contributions from employers are tax-deductible up to 4% of total pre-tax wages.



# Current Provisions

1. **A New Benefit Structure**
2. **Group Category**
3. **Benefit Payments**
4. **Eligibility Conditions**
5. **Contributions**
6. **State Subsidy**
7. **Variations**

## A New Benefit Structure for Mandated Pensions

1. **The 1<sup>st</sup>-tier (DB)**

a flat-rate basic benefit:

20% of the average regional wage at retirement

2. **The 2<sup>nd</sup>-tier (DC, individual a/c)**

the pensionable age: 55

monthly benefits = (total pension wealth)/120

**In total, 58.8% RR will be assured for the average-wage earner with 35 covered years.**

## Group Category for the Transition Period

### **1. Old Men**

**People who retired prior to 1997**

### **2. Transitional Men (Middle Men)**

**People who joined firms before 1997  
and had not retired by that year**

### **3. New Men**

**People who joined firms after 1997**

# Benefit Payments for Each Category

## 1. Old Men

previous benefits maintained, financed from the social pool

## 2. Transitional Men

1) a basic benefit from the social pool

2) a benefit from the individual a/c

3) a transitional benefit from the social pool depending on covered yrs prior to 1997

## 3. New Men

1) a basic benefit from the social pool

2) a benefit from the individual a/c

## **Eligibility Conditions for Old Age Pensions**

- **Coverage of 15 yrs and more**
- **NRA Remains Unchanged**
- **Early retirement is permitted to those who are totally disabled from age 45 for women, and from age 50 for men with 10 yrs coverage.**
- **Lump Sum Retirement Benefits:**  
**those with less than 15 yrs coverage**

# Contributions

(in 1997)

## 1. The Social Pool

13% of payroll: employers only

## 2. The Individual A/C

1) 4% of wages: employees

2) 7% of pretax wages: employers

**Total: 24% payroll tax with state subsidy**

**contributory wages:**

**60-300% of average local wages**

## Contributions (Cont'd)

### **Employer/Employee Split in the Individual A/C to Be Changed**

- 1. The employee contribution rate was to rise every 2 years by 1% until it reached 8%.**
- 2. There was to be an offsetting decrease every 2 yrs by 1% from the employer until its contribution rate equals to 3%.**
- 3. In total, 11% payroll tax is to be maintained.**

## Fiscal Subsidies to Pensions

(billion yuan)

<b>Year</b>	<b>Subsidies</b>
<b>1997</b>	<b>Over 5</b>
<b>1998</b>	<b>Over 10</b>
<b>1999</b>	<b>Over 20</b>
<b>2000</b>	<b>Over 40</b>
<b>2001</b>	<b>Over 40</b>

Source: Zhao-Xu (2002)



## Fiscal Subsidies (Cont'd)

- **heavily transferred to provinces which had the relatively high share of retired SOE workers: For example, Liaoning and Heilongjiang combined received 26% of total state subsidies in 1999.**
- **State subsidies were equivalent to 17% of aggregate pension benefits in 2000.**

## Variations

### **Between-urban Differences in the Mandatory Contribution Rate**

#### **Highest Extremes:**

**49.39%: Xinjiang Production & Construction Corps.**

**29.00%: Jinan**

**26.55%: Liaoning**

**25.12%: Heilongjian**

#### **Lowest Extreme:**

**13%: Shenzhen**

## Variations (Cont'd)

### Urban/Rural Differences

**Rural pensions launched in 1991. The core is voluntary individual contributions from age 12 to 50 at one of 9 levels between 4 and 20 yuan a month. The NRA is 60.**

- 62m contributors & 1m pensioners currently
- 1% coverage
- low benefits (50 yuan or less per pensioner)

## Variations (Cont'd)

### Occupational Differences

Civil servants and employees of state organizations/institutions have a different program of generous benefits with no individual contributions. The program covered 30m people with aggregate benefits at 0.44% of GDP in 1999.

### Time Differences

Significant changes for the past 10 yrs  
Further changes probable in the future

## Pension Benefits for Civil Servants

Length of Service	Replacement Rate
~9 Years	40%
10 to 19	60%
20 to 29	75%
30 to 34	82%
35 and over	88%

Source: Ministry of Labor and Social Security, 2001.

# Main Indicators of PRC Pensions

**Coverage**

**System Dependency Ratio**

**Replacement Rate**

**Contributions/wages**

**Aggregate Benefits/GDP**

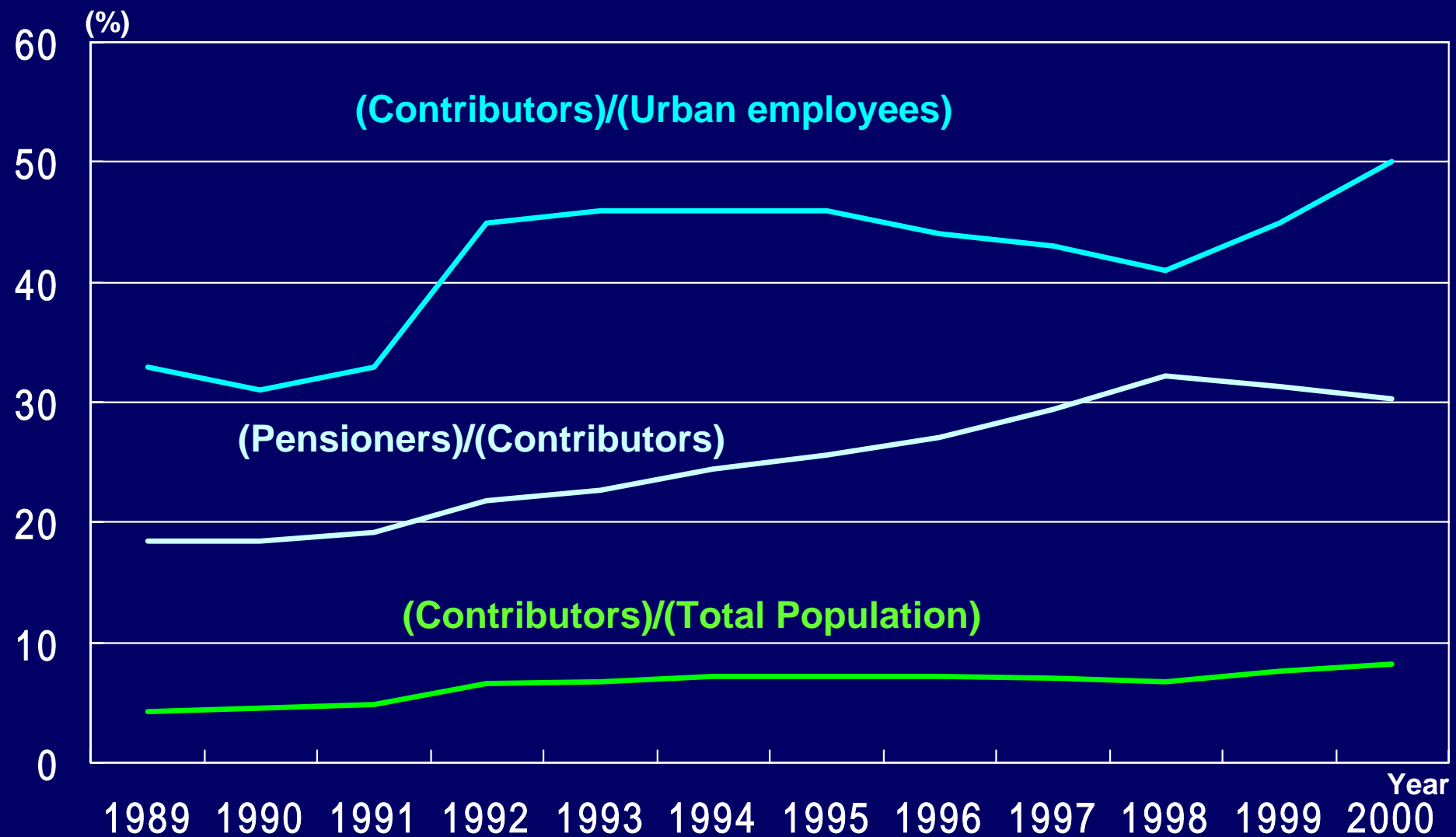
**Speed of Aging**

**TFR & Life Expectancy**

**Long-term Financial Performance**

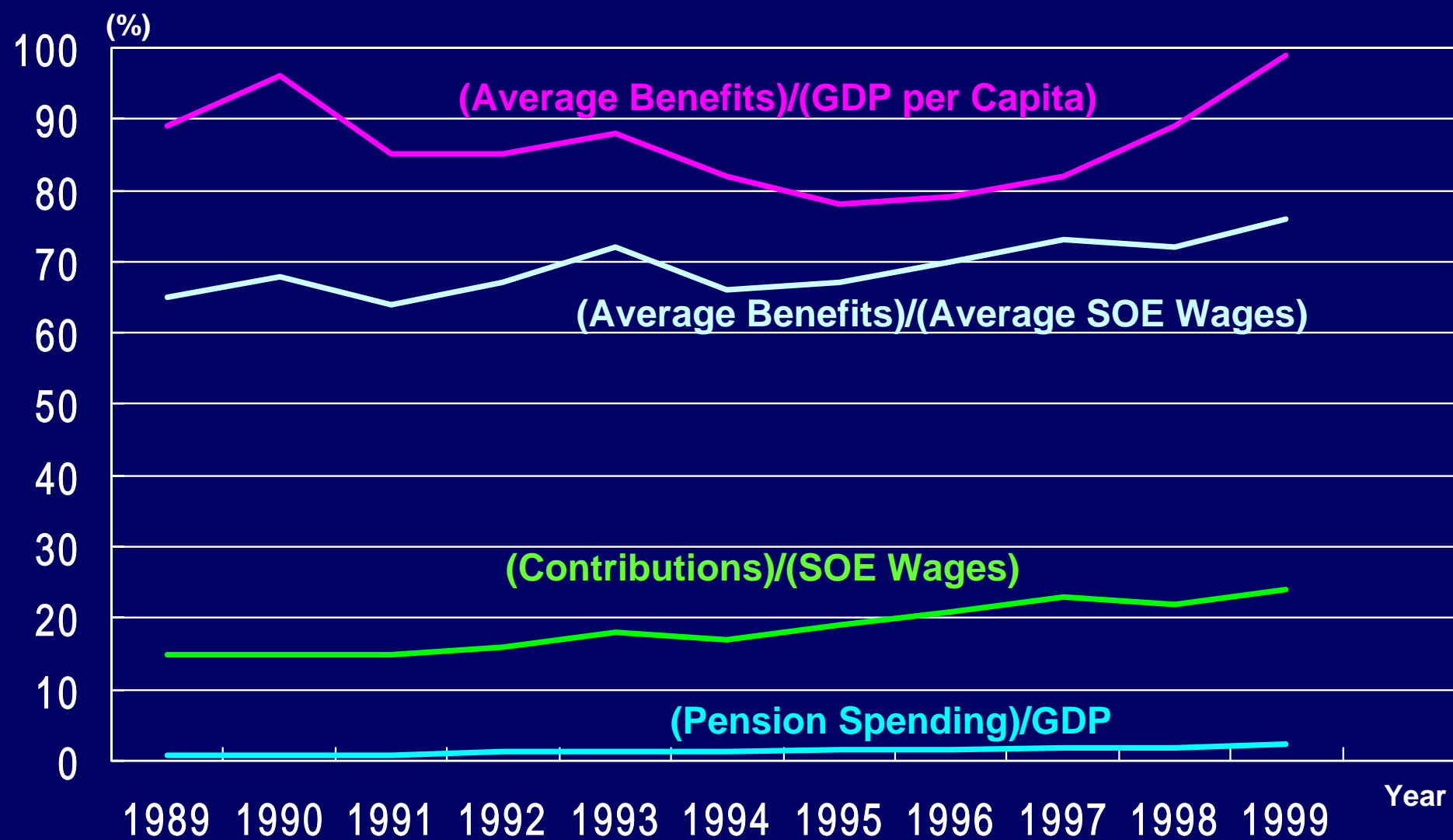
# Public Pensions: Coverage & Dependency Ratio

31



Source: Whiteford (2001)

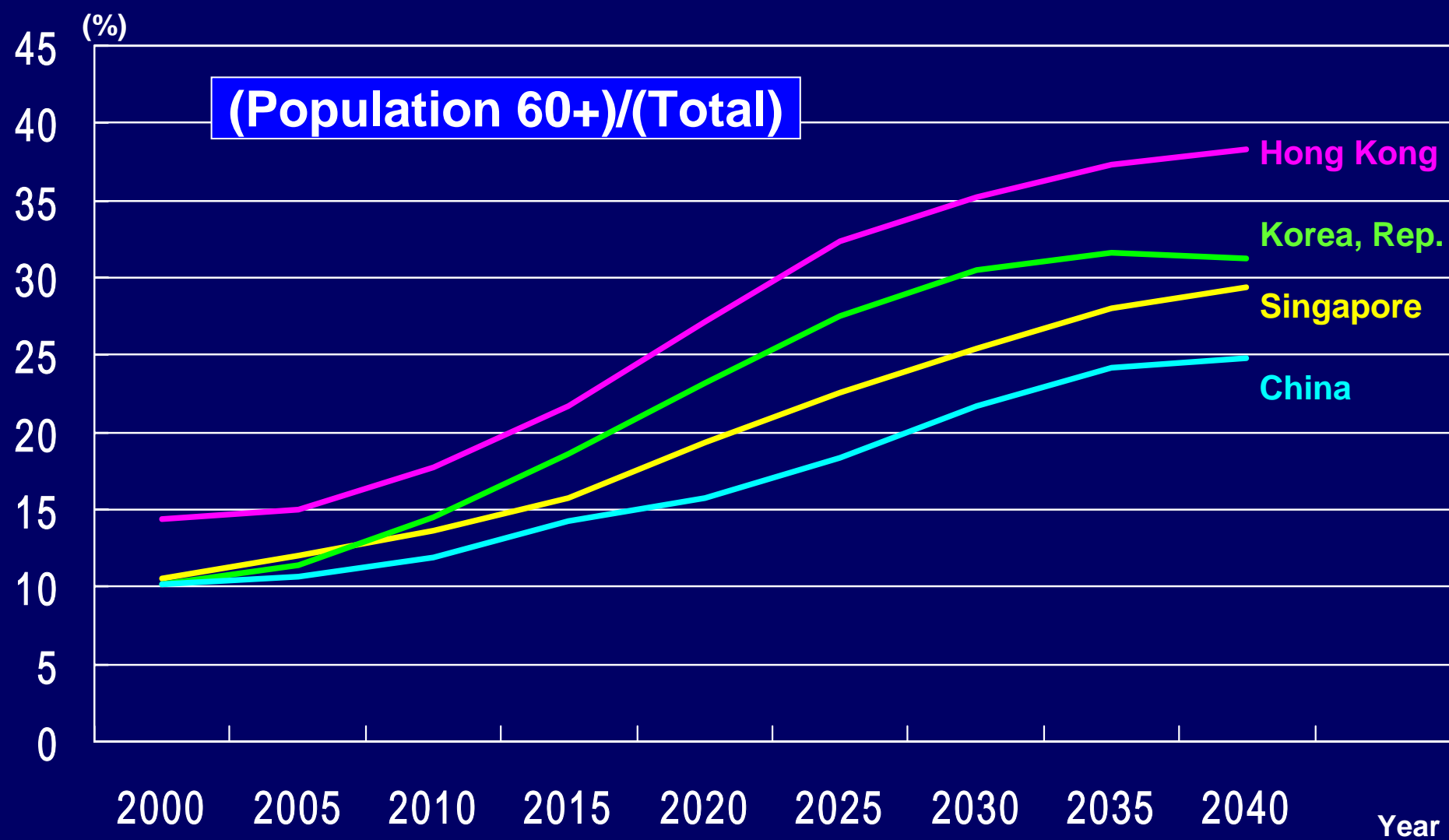
# Pension Indicators of PRC



Source: Whiteford (2001)

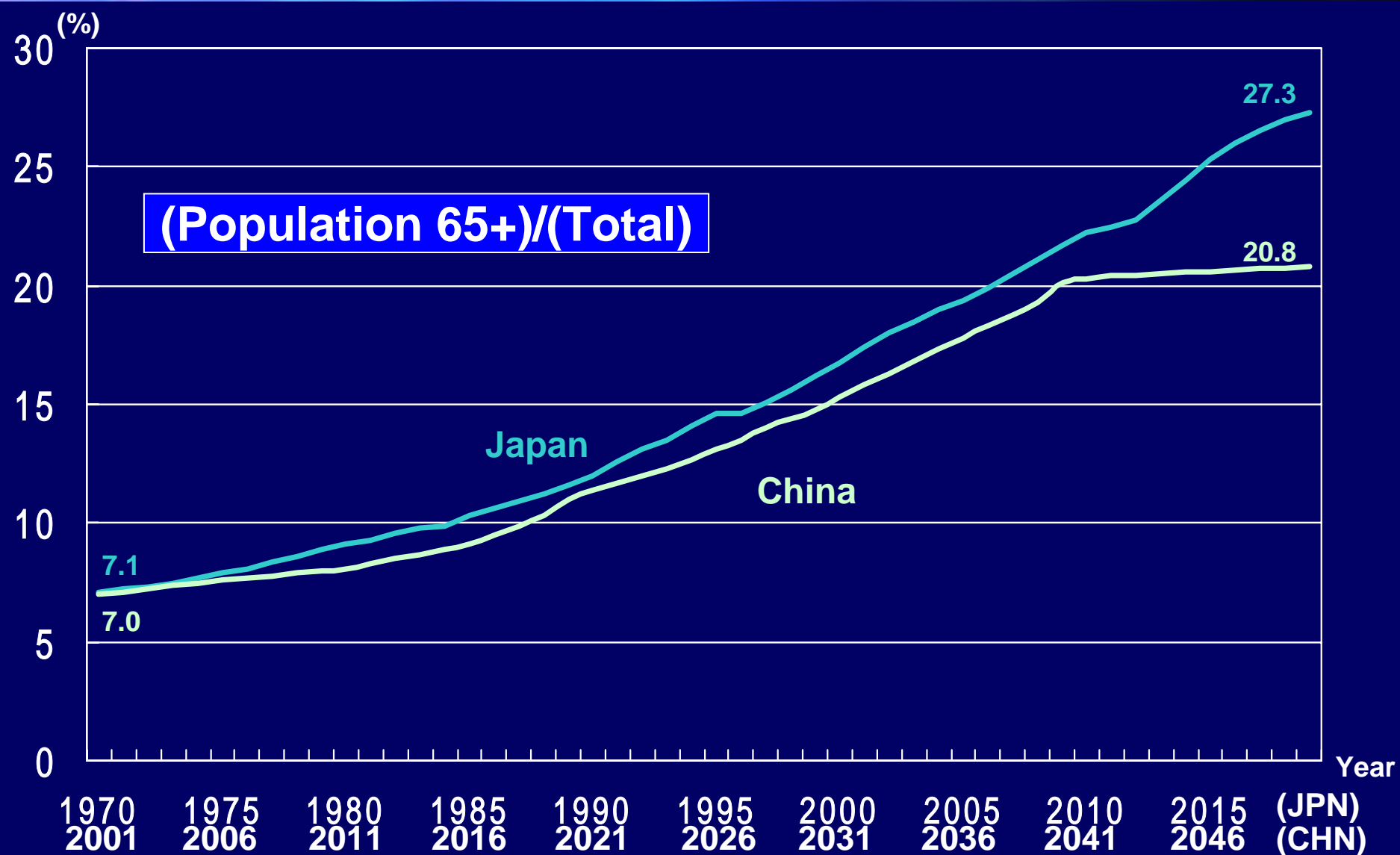


# Speed of Aging in Selected Asian Countries



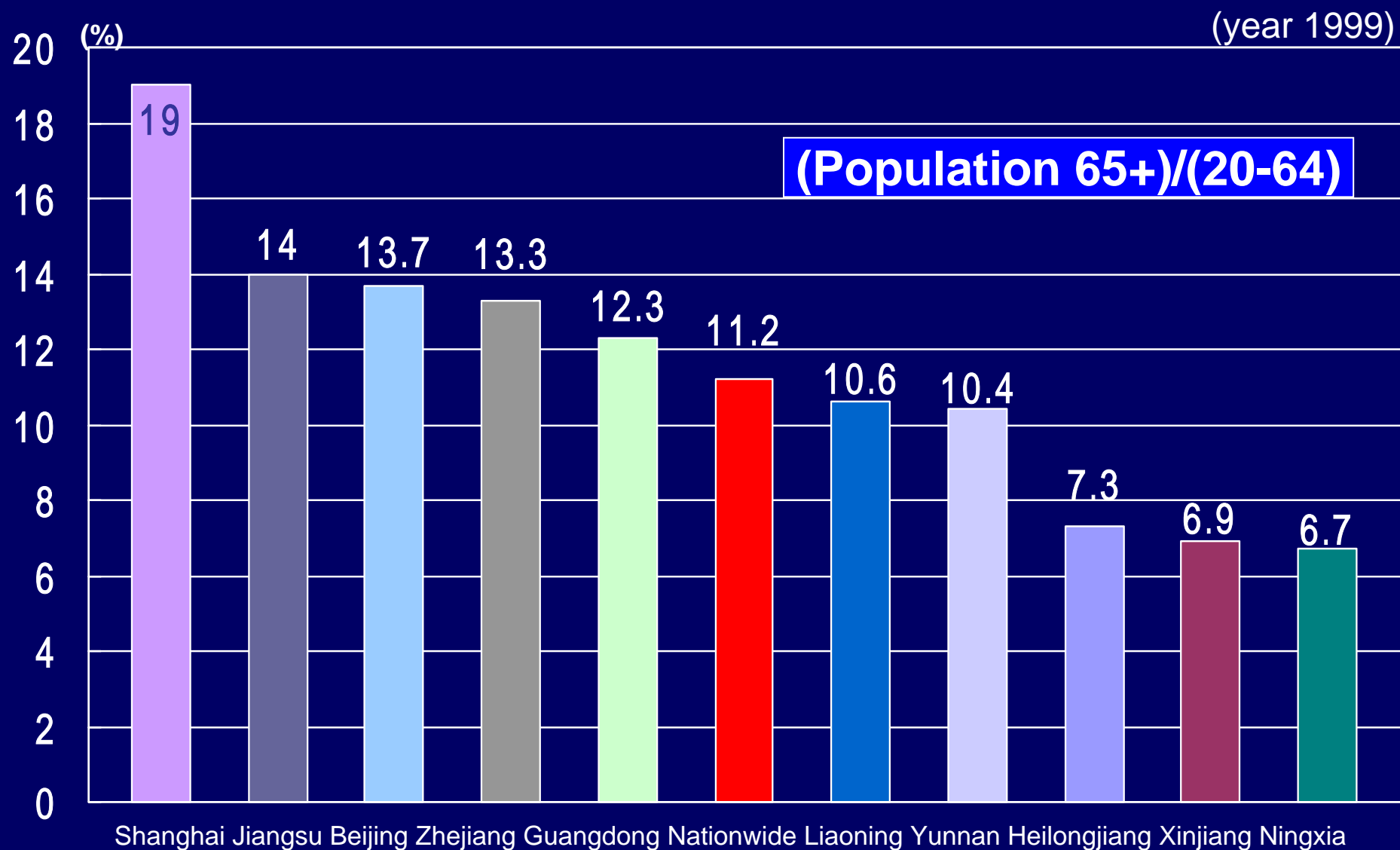
Source: Palacios & Pallares-Miralles (2000)

## Speed of Aging: China vs Japan



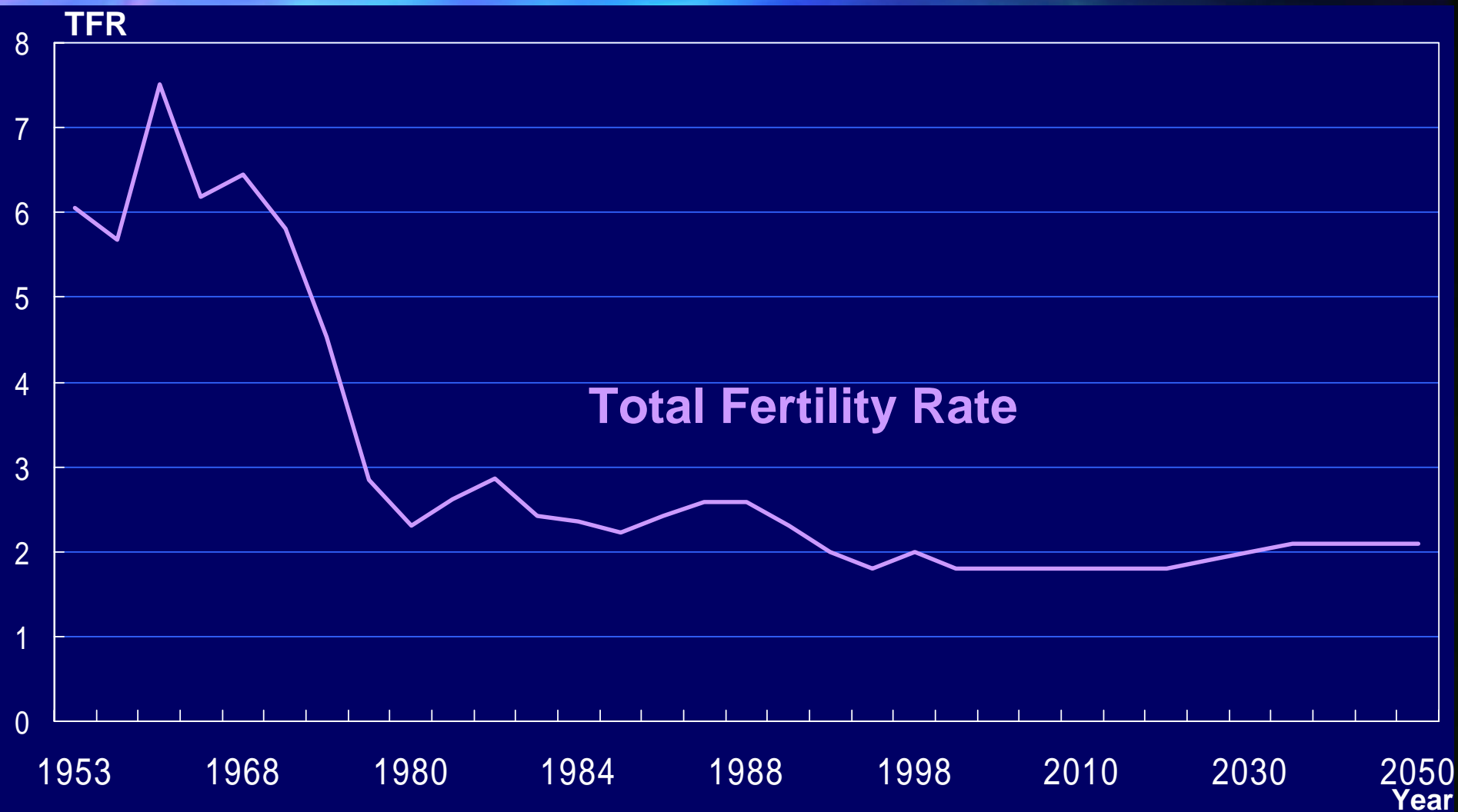
Source: NIPSSR, Japan (2002); State Family Planning Committee, China (1999)

## Provincial Differences in Dependency Ratio



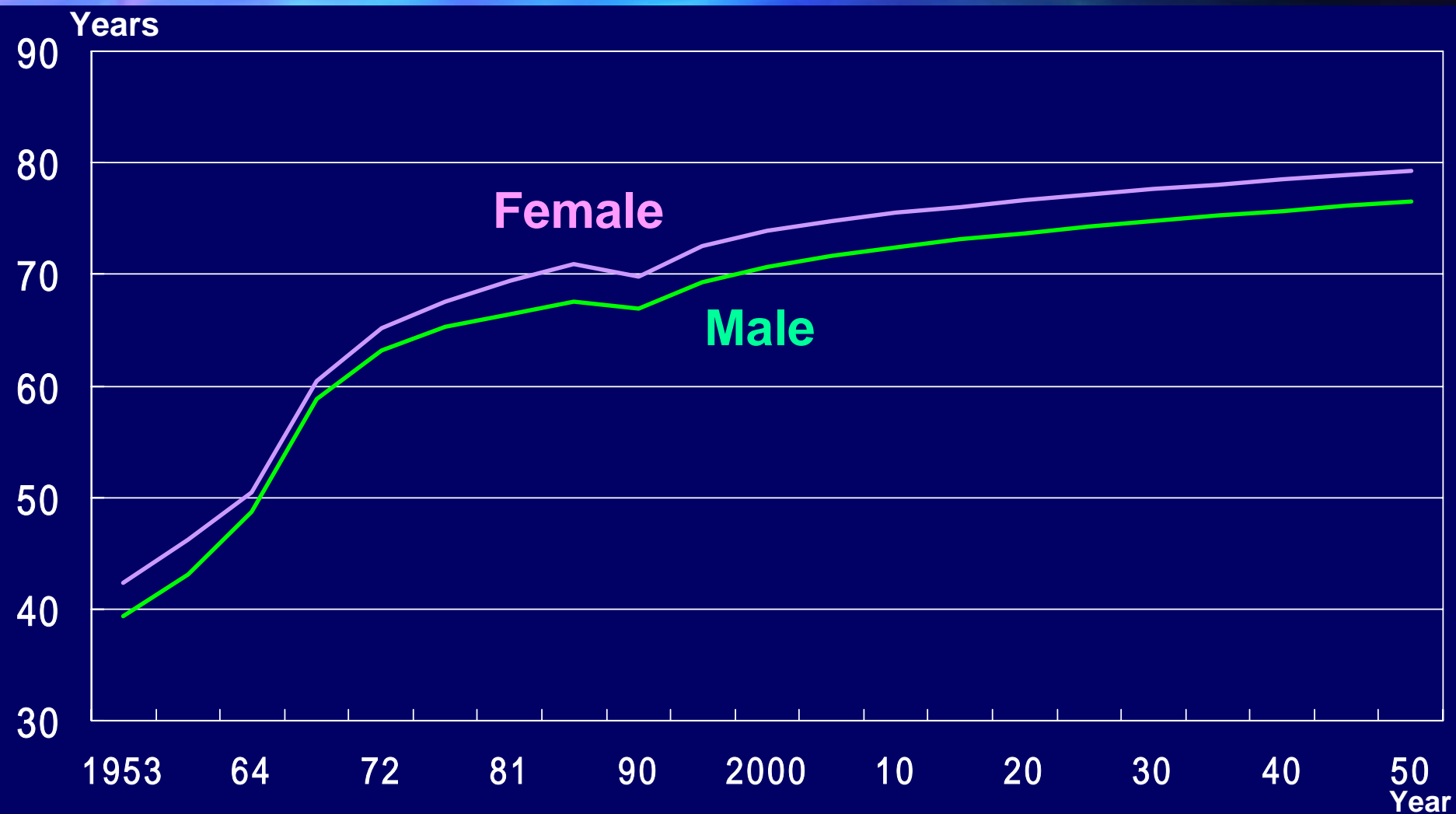
Source: Whiteford (2001)

# TFR in PRC



Sources: State Family Planning Commission, 2002; *China Population Yearbook*, China Science and Technology Press, 1995; Li Jianmin, Yuan Xin and Wang Jinying, *The Sustainable Challenges- the Population Trends, Issues and Policies*, Science Publishing House, 2000; Ding (2002).

# Life Expectancy at Birth



Sources: State Family Planning Commission, 2002; Jiang Zehnghua, *The Projection for the National and Regional Populations*, China Population Press, 1997; Ding (2002).

## Major Issues

**Financing**

**Implementation/Governance**

**Program Design**

**Coverage**

**Detailed Studies**

# Long-term Financial Performance

## Pension Benefits over Aggregate Wages

Year	Benefits/Wages
2000	22.4%
2020	34.9
2030	42.8
2040	42.4

Source: Chen, J. (2001), *China Social Security Report: 1997-2001*, China Academic Literature Publishing House; Ding (2002)

# Financing Issues

## Deficit Financing from Increased General Revenue

- **Recognition Bonds** (Sun-Maxwell, 2001)
- **Sales of SOEs (cf. Timing)**  
(Sun-Maxwell, 2001, James, 2001, Zhao-Xu, 2002)
- **A Lottery** (James, 2001, Sun-Maxwell, 2001)

cf. Persistent Gov't Deficit since 1979



## Financing Issues (Cont'd)

### **Deficit Financing from Increased Contributions**

**full reporting of wages with full tax deductions of contributions** (Sun-Maxwell, 2001)

**Full Funding of the 2<sup>nd</sup>-tier Contributions with a Higher Rate of Return** (Sun-Maxwell, 2001, Zhao-Xu, 2002)

**Reducing RR to 60%** (Sun-Maxwell, 2001, James, 2001)

**Increasing the NRA to 65** (Whiteford, 2001, James, 2001, Dorfman-Sin, 2001)

**Shift to CPI Indexation** (Whiteford, 2001, James, 2001, Dorfman-Sin, 2001)

**Extending the Min. Covered Years** (Whiteford, 2001)

## The 2<sup>nd</sup>-Tier Program

- **An “Empty Box” (merely an entitled accounting book)**  
Ding (2002), Zhao-Xu (2002), Sun-Maxwell (2001)
- **Administered Rate of Return, Too Low**  
set to equal the 3-month time deposit rate (1.98% in 1999)  
James (2001), Ding (2002), Zhao-Xu (2002)
- **10-yr Life Expectancy Assumption**  
→ a shift to pensions on an actuarially fair basis required  
James (2001), Zhao-Xu (2002), Sun-Maxwell (2001)
- **Development of Domestic Financial Market, Lacking**  
James (2001)

# Implementation Issues

43

## Weak Enforcement Capability with Little Incentives

- Enterprises still often operate as an administrative body, while financing obligations of pensions are separated.
- Most SOEs are owned by sub-national Gov'ts which have no power to issue debt.
- Central Gov't has the power to issue debt, but fiscal resources are mostly controlled by provincial gov'ts. Thus, Central Gov't is unlikely to issue debt for pensions.

**Separation of Administration from Financial Responsibility**

**Moral Hazard and Low Compliance**

**Increased Financial Difficulties**

# Implementation Issues (Cont'd)

44

## **Moral Hazard** (Zhao-Xu, 2002)

- **Removing the control of pension pools by municipalities**

(pension funds: an important source of investment for each municipality)

Disincentive to collecting contributions

- **Cross-subsidization through the pension pool**

No incentive for a municipality to generate a surplus

No incentive to keep the deficits down

⇒ **Provincial Pooling Achieved by 2000**

complete pooling in 5 provinces

partial pooling in 17 provinces

no pooling in 8 provinces

**unwillingness of municipalities**

# Implementation Issues (Cont'd)

45

## **The 15-yr Rule**      **Massive Early Retirement**

### **Underreporting of wages**

**unreported payments: about 50% of reported wages**

Sun-Maxwell (2001)

### **Underreporting of No. of Employees** (Zhao-Xu, 2002)

### **Disincentives to Honest Reporting**

- **a heavy payroll tax for employers of non-SOE enterprises**
- **a lower rate of return from the 2<sup>nd</sup>-tier investment**
- **smaller tax deductions permitted in corporate income tax provisions, up to 800 (960 yuan in large cities) per employee per month**
- **no penalty against underreporting or delay of payments**

Sun-Maxwell (2001), Zhao-Xu (2002)

## Implementation Issues (Cont'd)

### Liaoning Experiment:

#### Increasing Disincentive to Participation?

increases in contributions to the  
social pool

reduction in contributions to the  
2<sup>nd</sup>-tier

Zhao-Xu (2002)

# Program Design

47

## **The 1997 Provisions:**

partial applications to the World Bank model (1994)

few doubts yet from PRC domestic pension experts

hot debate around the world

## **The 2<sup>nd</sup>-tier in Practice:**

A PAYG DB plan instead of an envisaged funded DC plan

Switching to what?

to a funded plan or to a Notional DC plan

# Coverage

**Urban workers**

**Rural farmers**

**Migrant workers**



## Detailed Studies

- **Lacking are detailed studies using micro data.**
- **Figures on average are only available.**
- **Deeper understanding is required before assessing the effects of alternative policy options.**

**Whiteford (2001)**

## Basic Evidences from Microdata

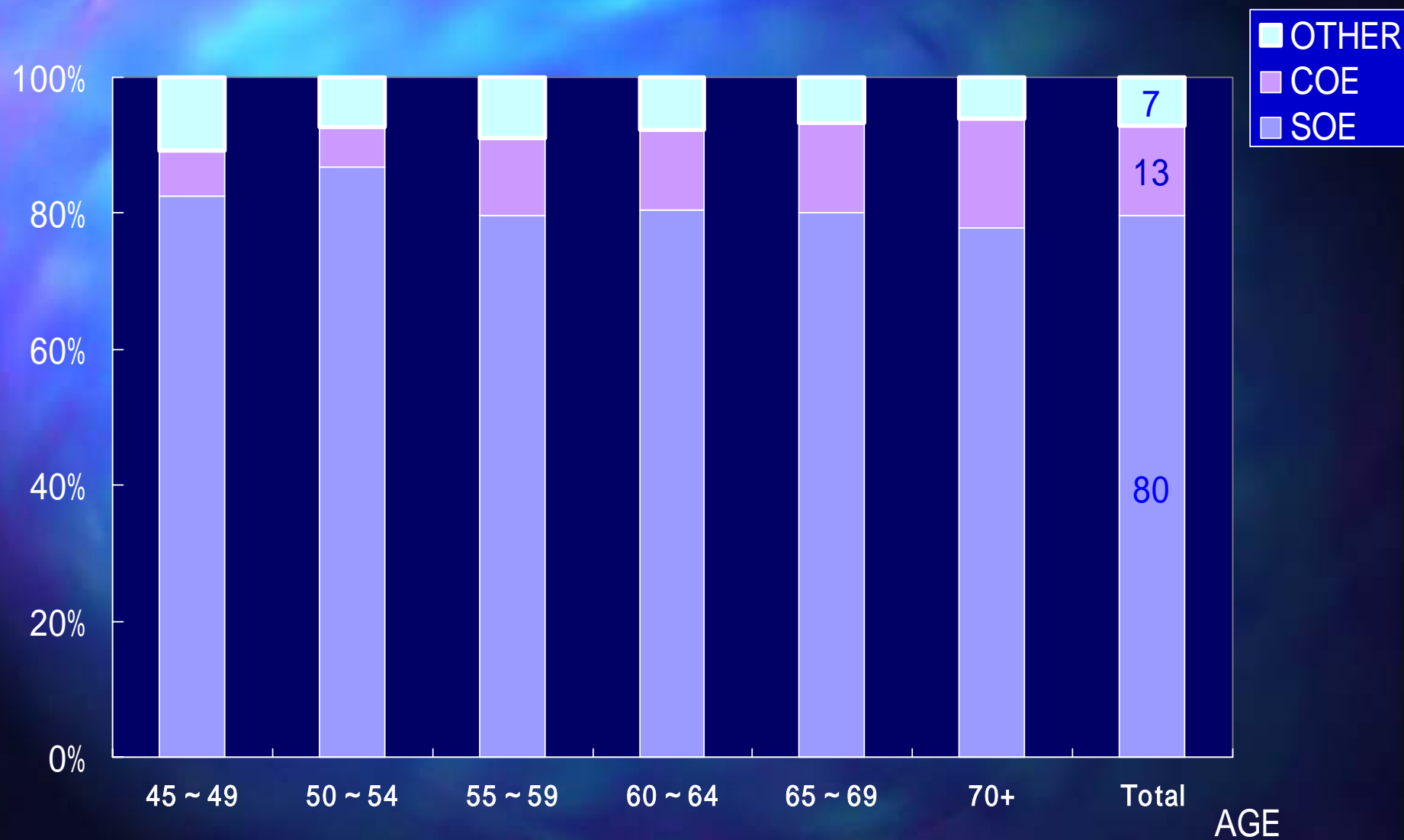
### Data Guide

- 1) *The 2000 Survey of Workers and Pensioners in 42 Major Cities of PRC*, conducted by MOLSS in June-August 2001
- 2) *The 1995 Family Income and Expenditure Survey*, conducted by Chinese Academy of Social Science, containing 6935 hh observations (21,696 persons) in urban areas

# China Map

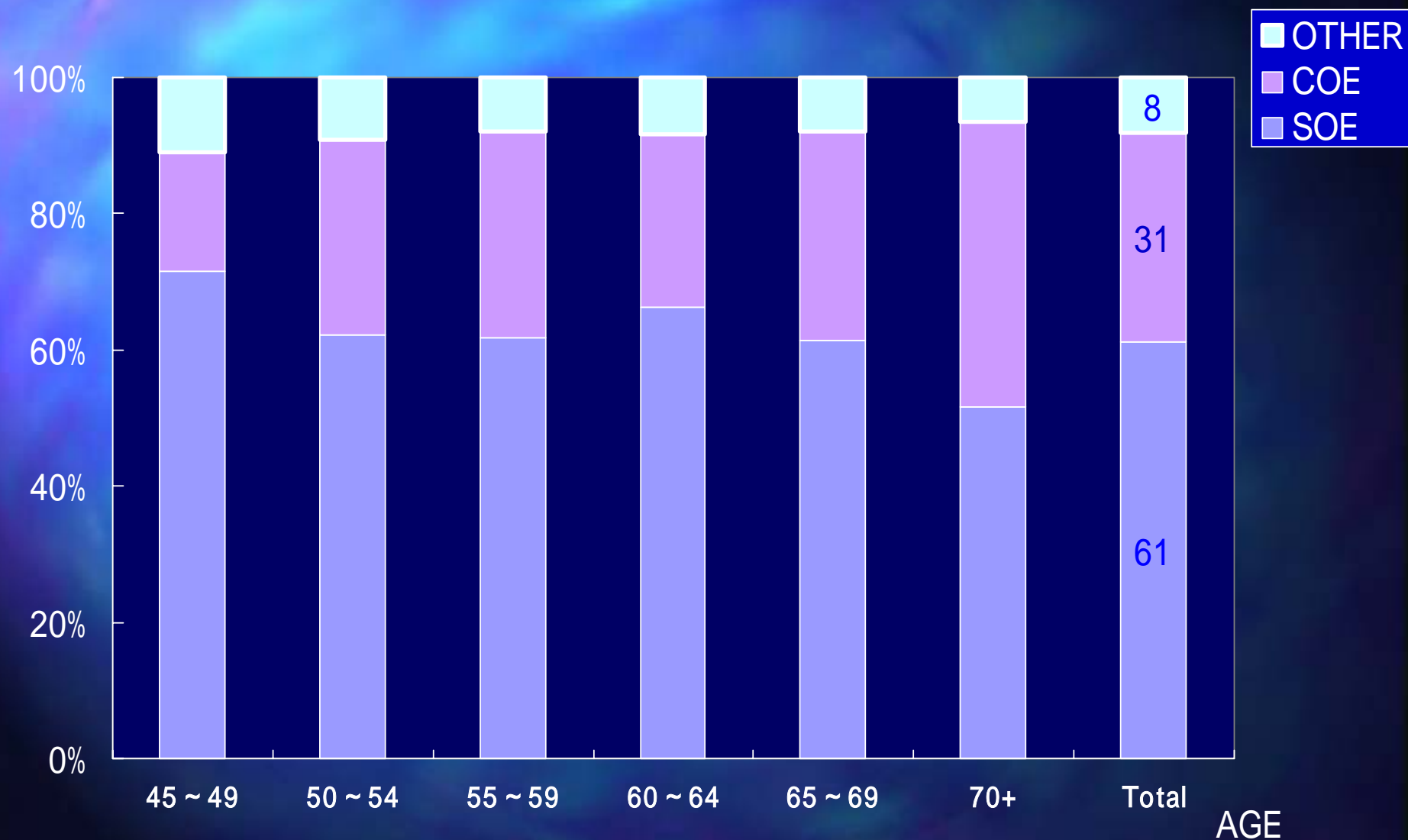


## Proportion of SOE Pensioners 1) Males



Source: Ding-Takayama (2003)

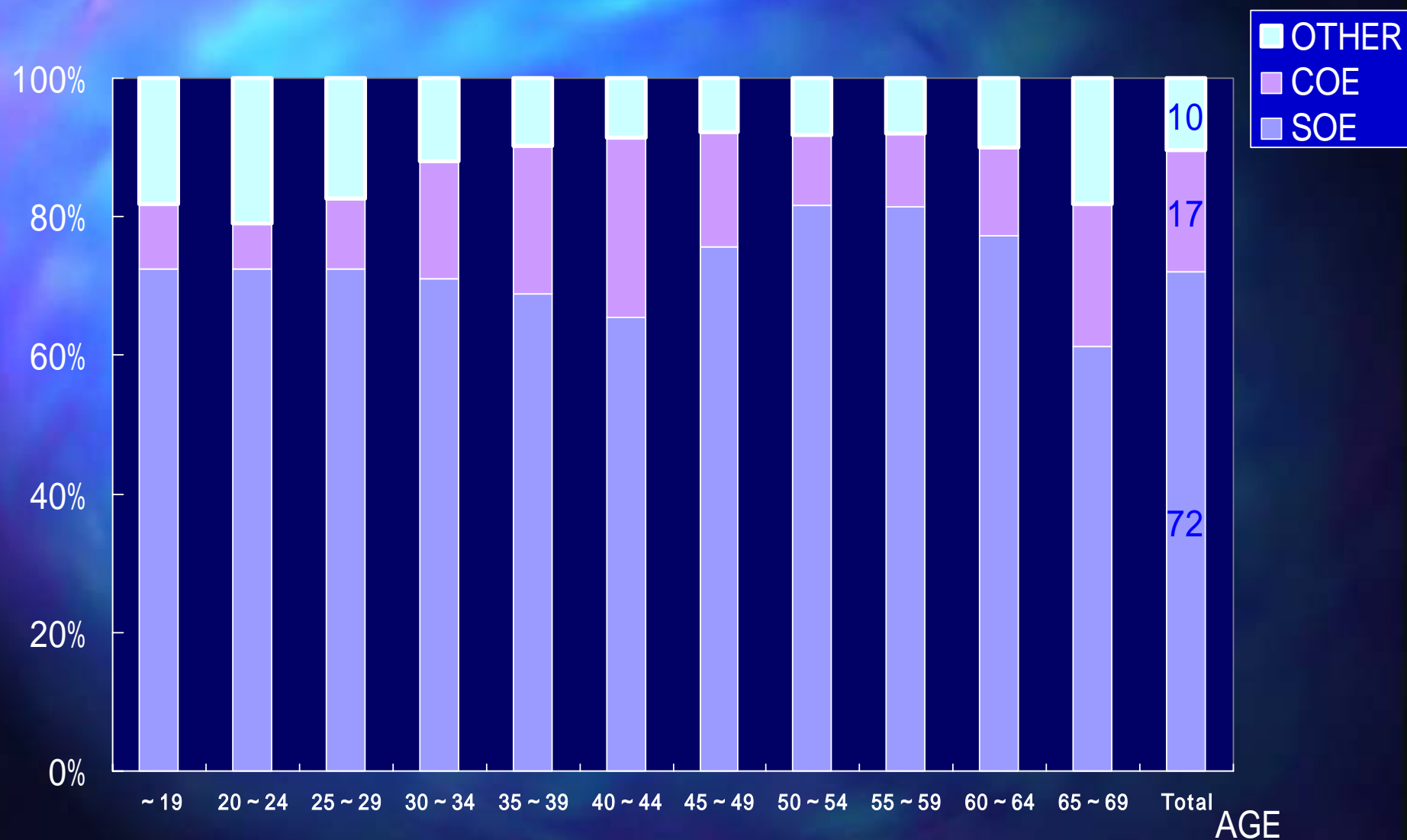
## Proportion of SOE Pensioners in 2000 2) Females



Source: Ding-Takayama (2003)

# Proportion of SOE Workers in 2000

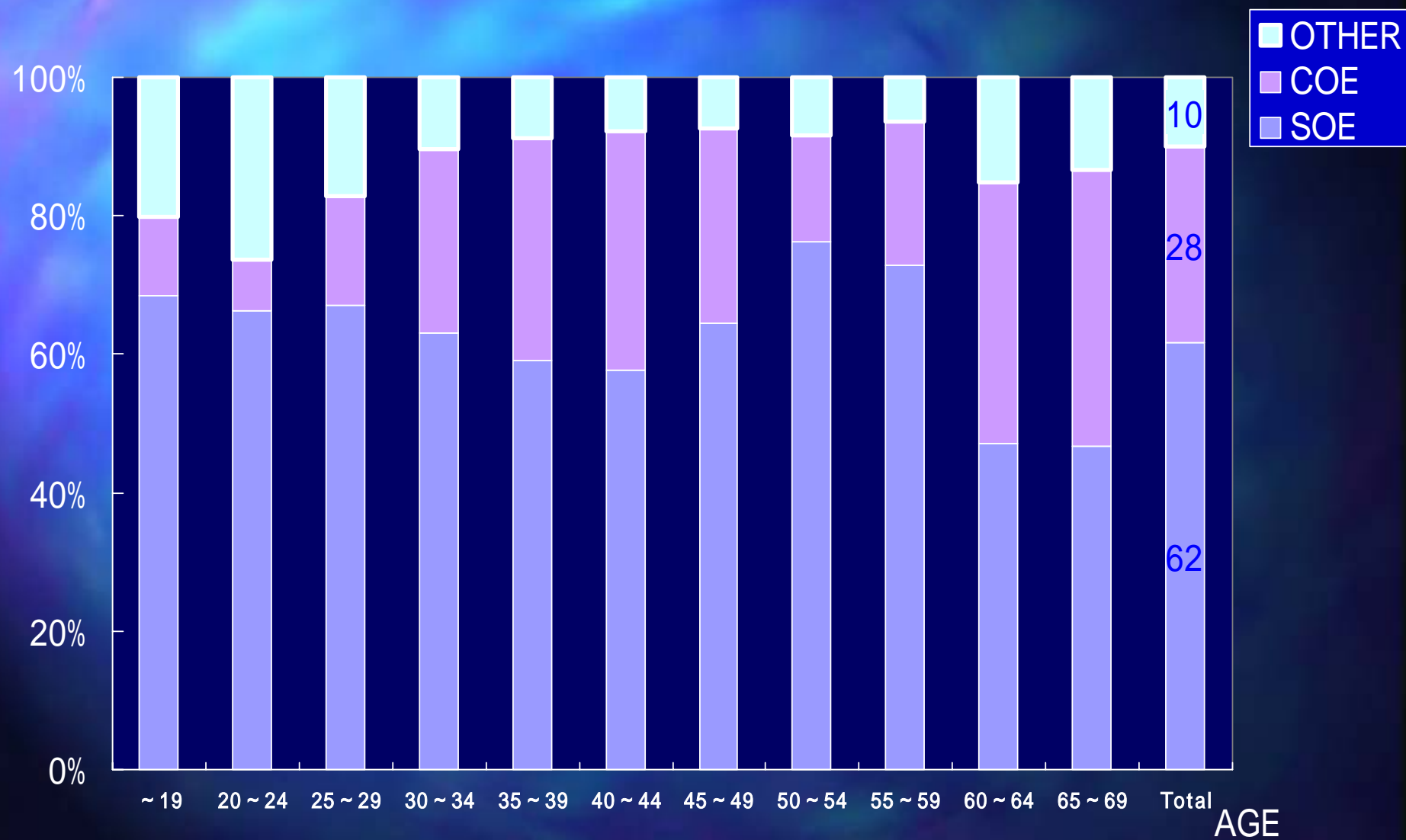
## 1) Males



Source: Ding-Takayama (2003)

## Proportion of SOE Workers in 2000

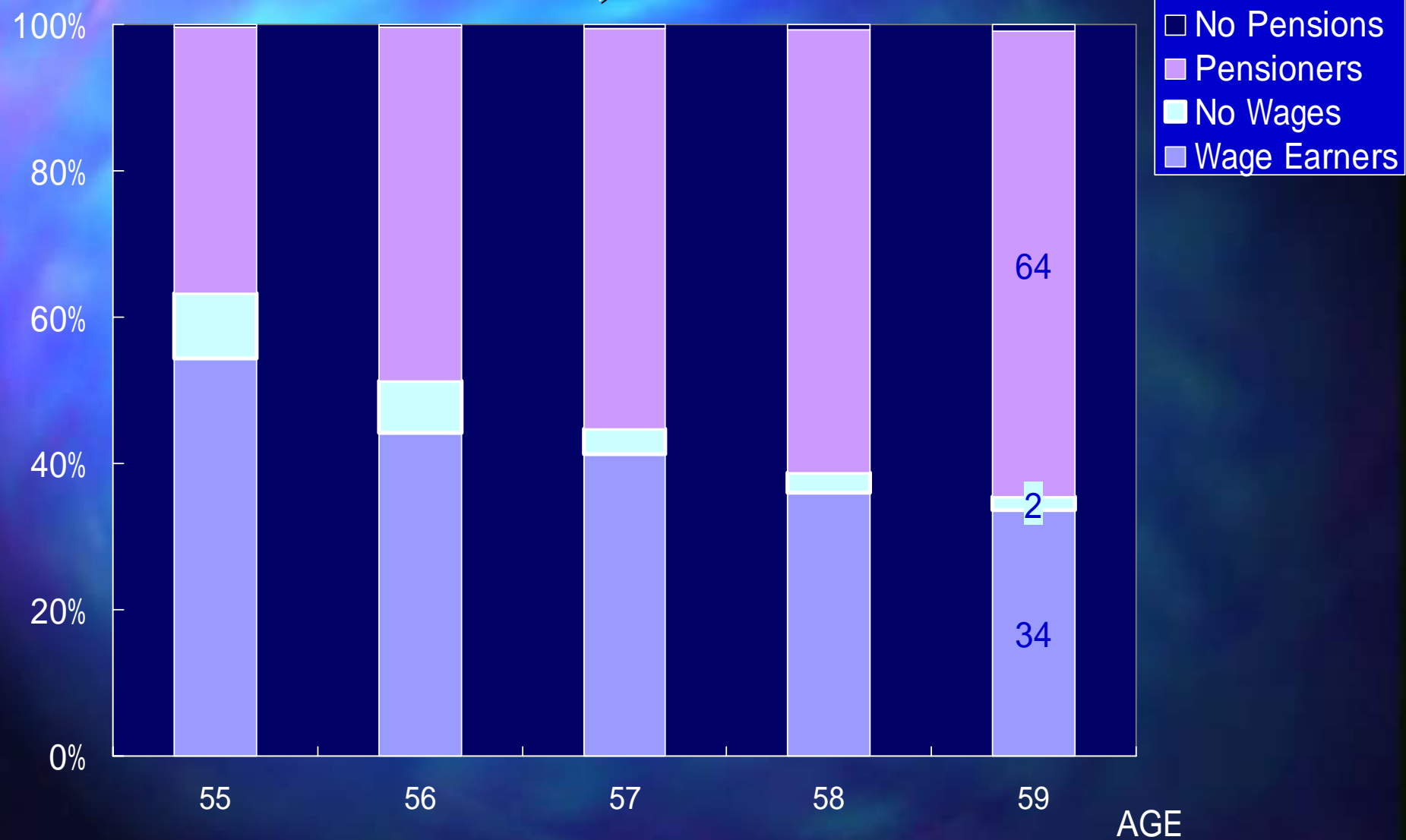
### 2) Females



Source: Ding-Takayama (2003)

## Early Retirement in 2000

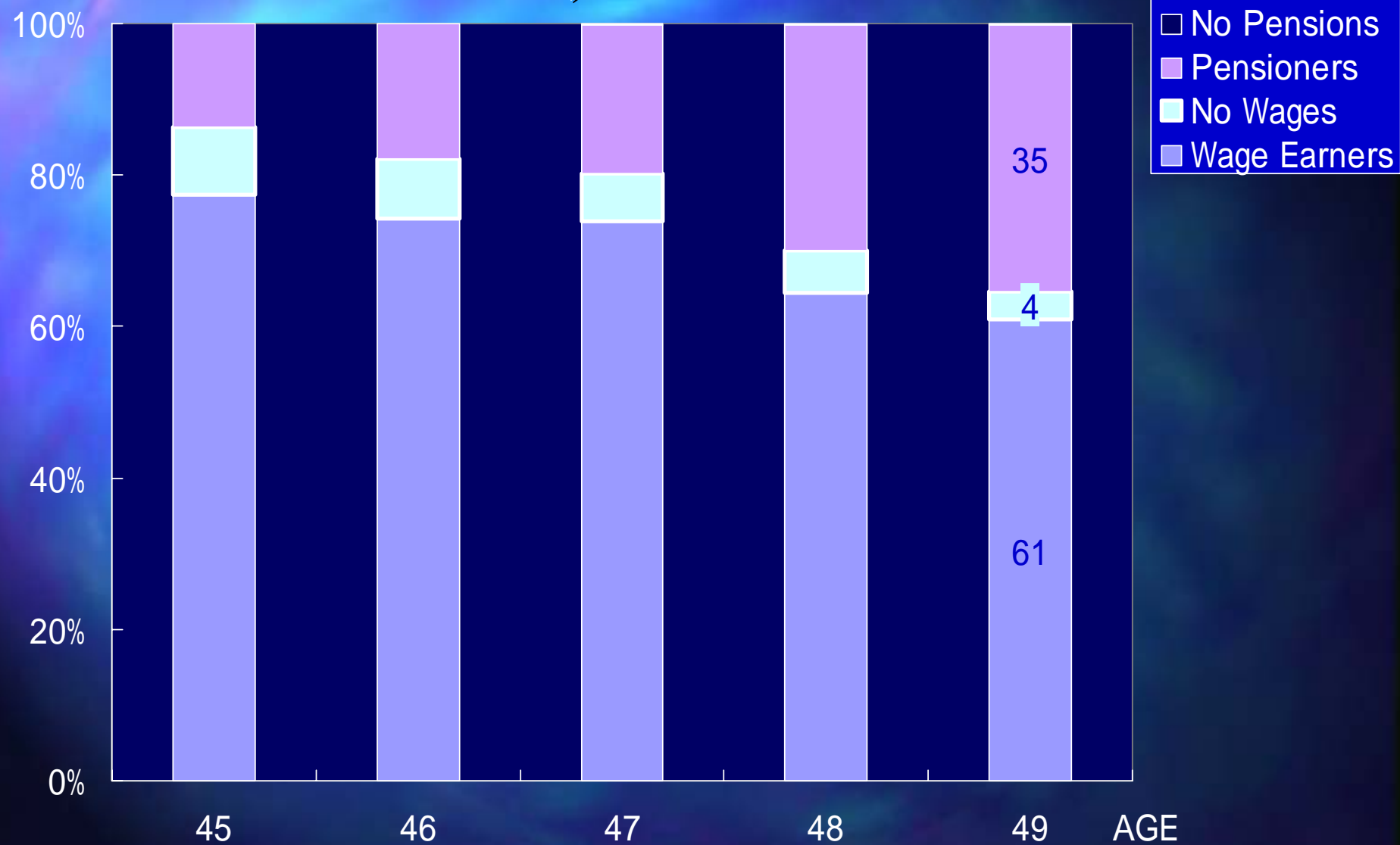
### 1) Males



Source: Ding-Takayama (2003)



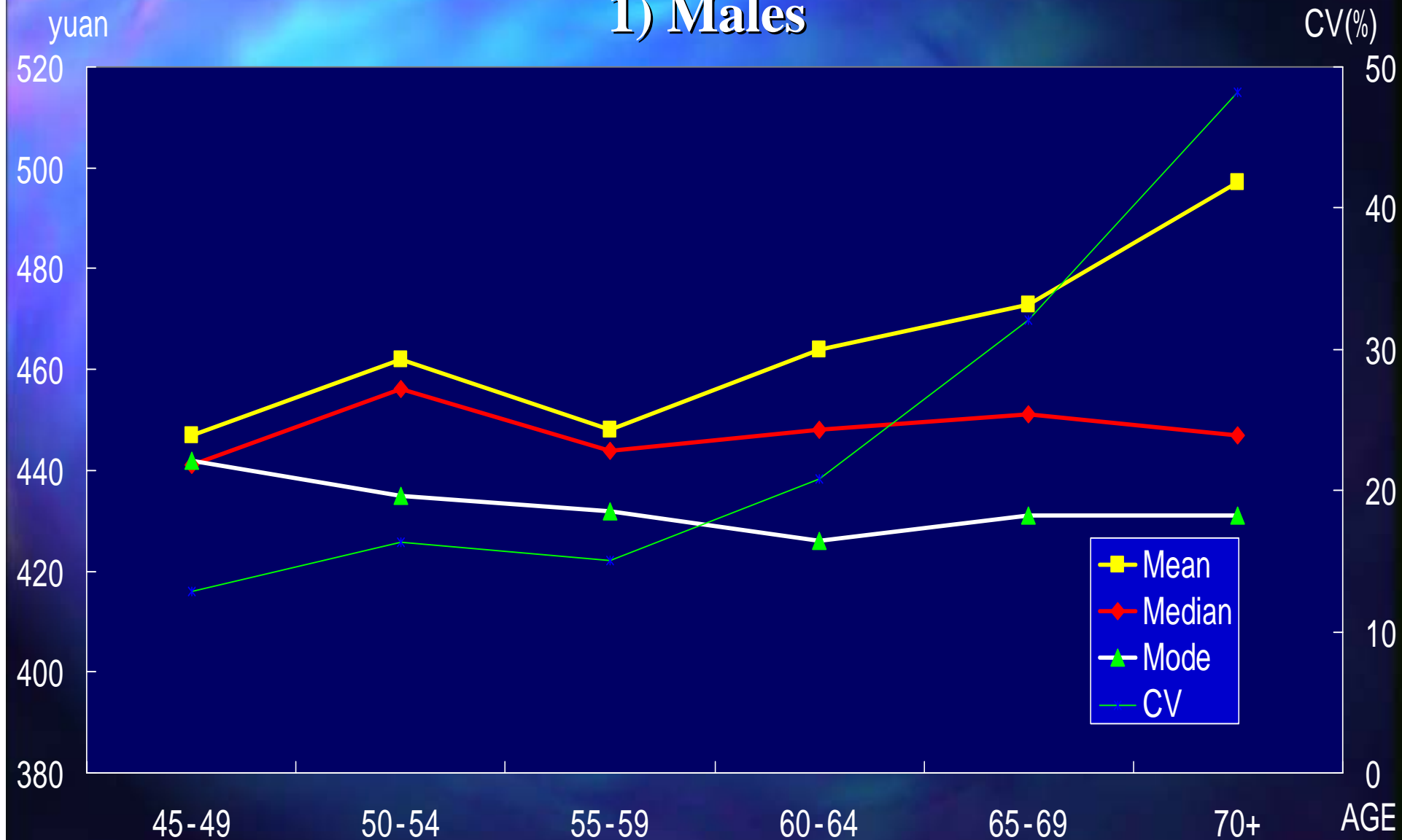
## Early Retirement in 2000 2) Females



Source: Ding-Takayama (2003)

# Age Profile of Monthly Pension Benefits (DEC 2000)

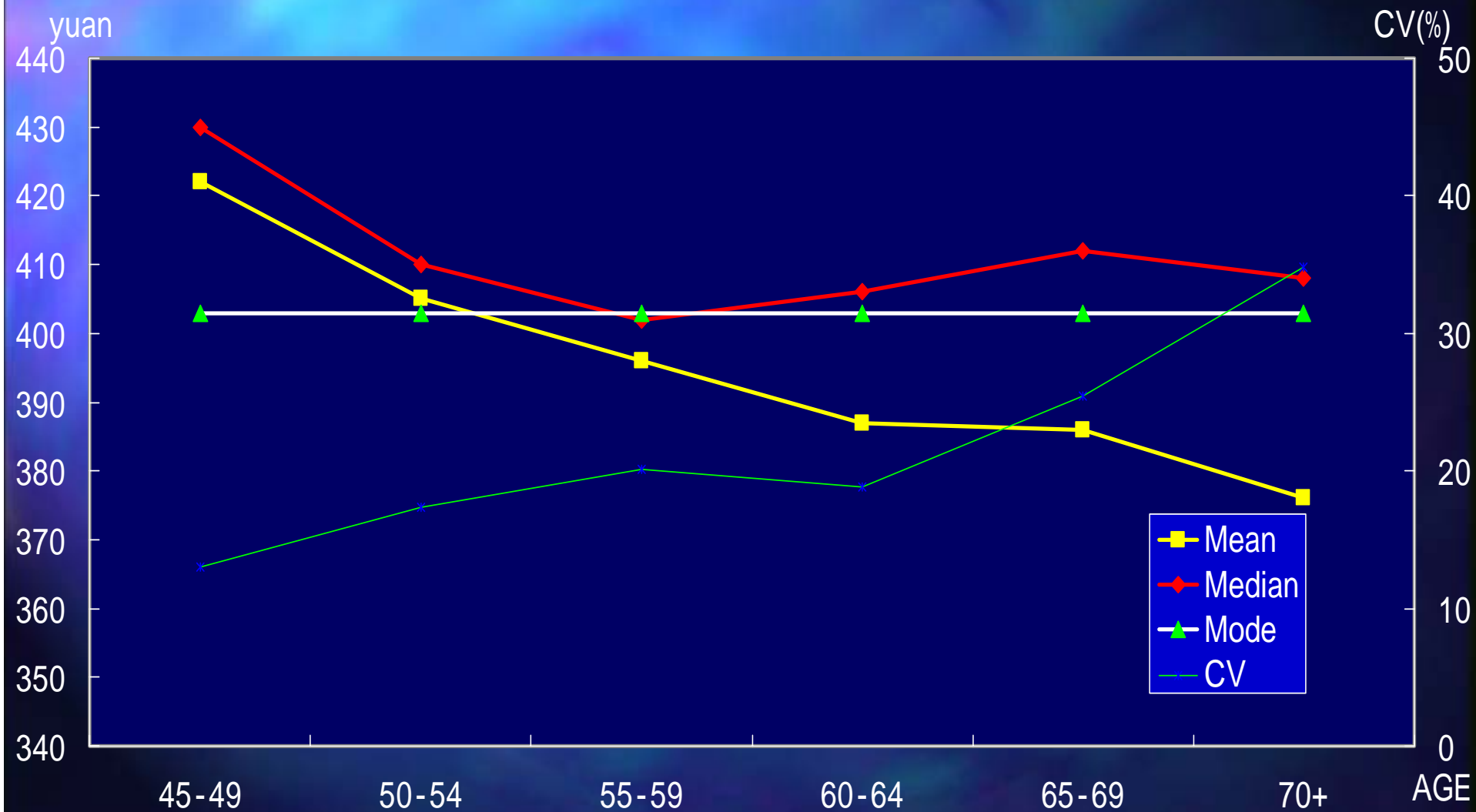
## 1) Males



Source: Ding-Takayama (2003)

## Age Profile of Monthly Pension Benefits (DEC 2000)

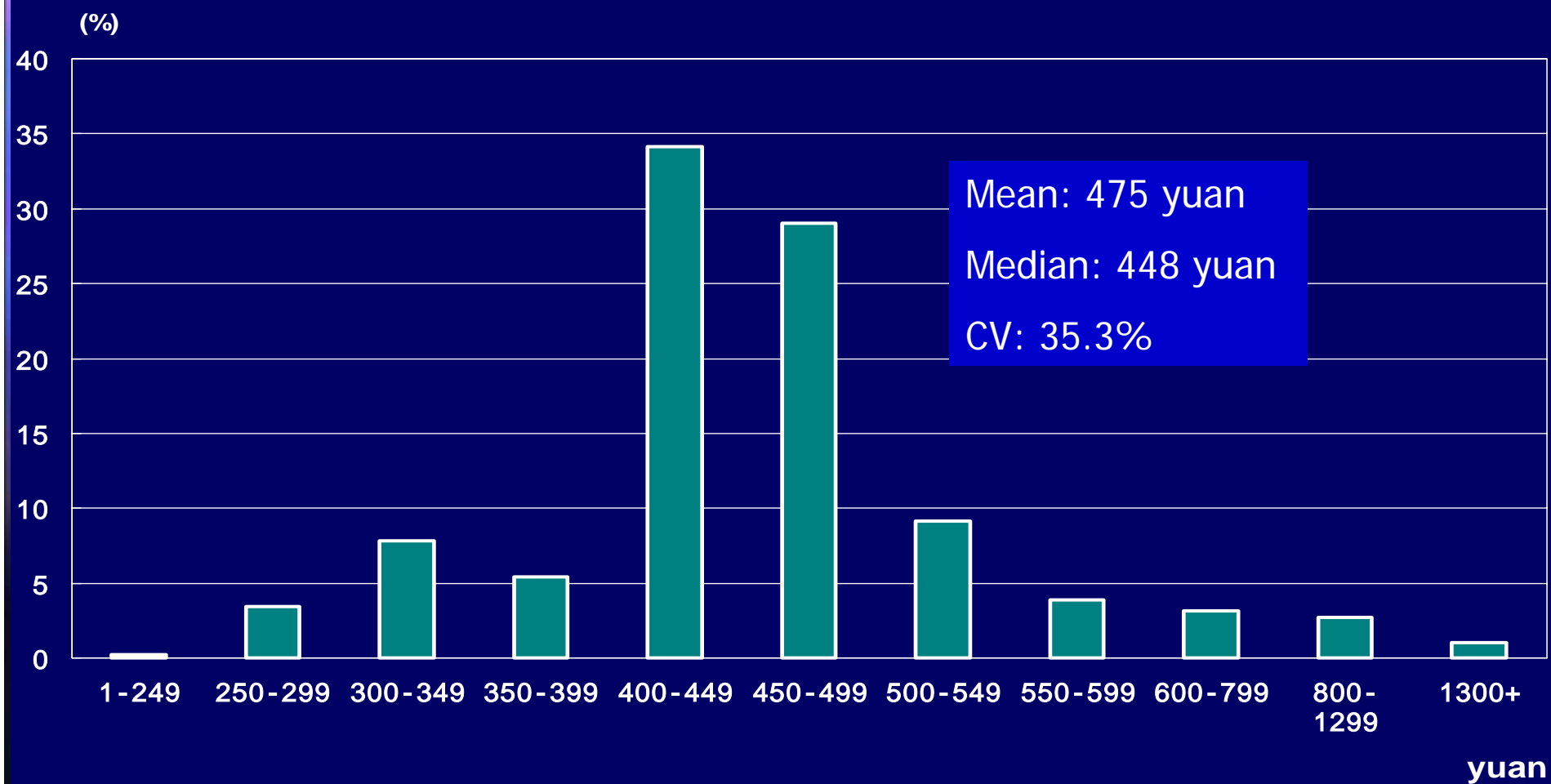
### 2) Females



Source: Ding-Takayama (2003)

# Distribution of Monthly Pension Benefits (DEC 2000)

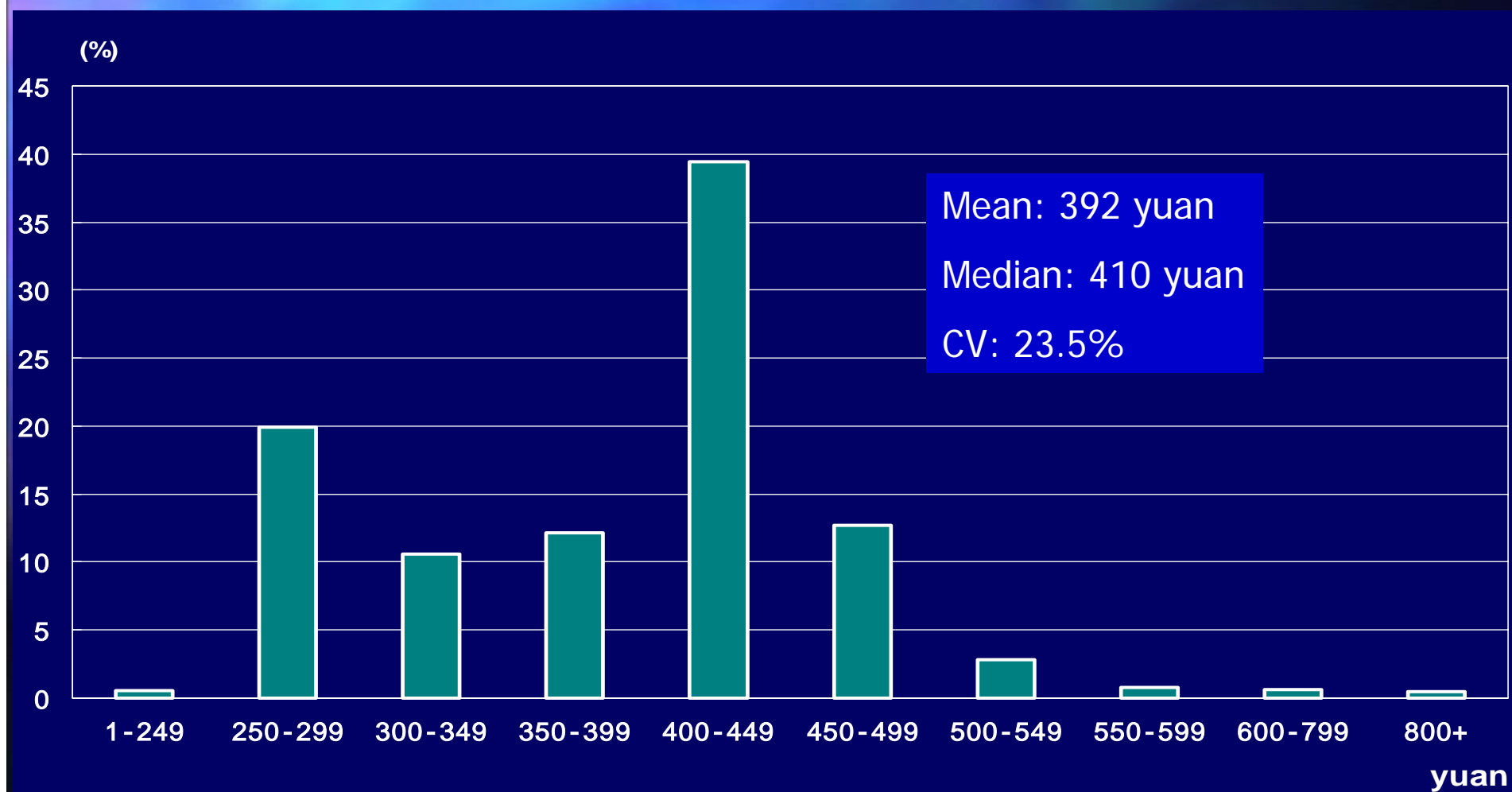
## 1) Males (Total)



Source: Ding-Takayama (2003)

## Distribution of Monthly Pension Benefits (DEC 2000)

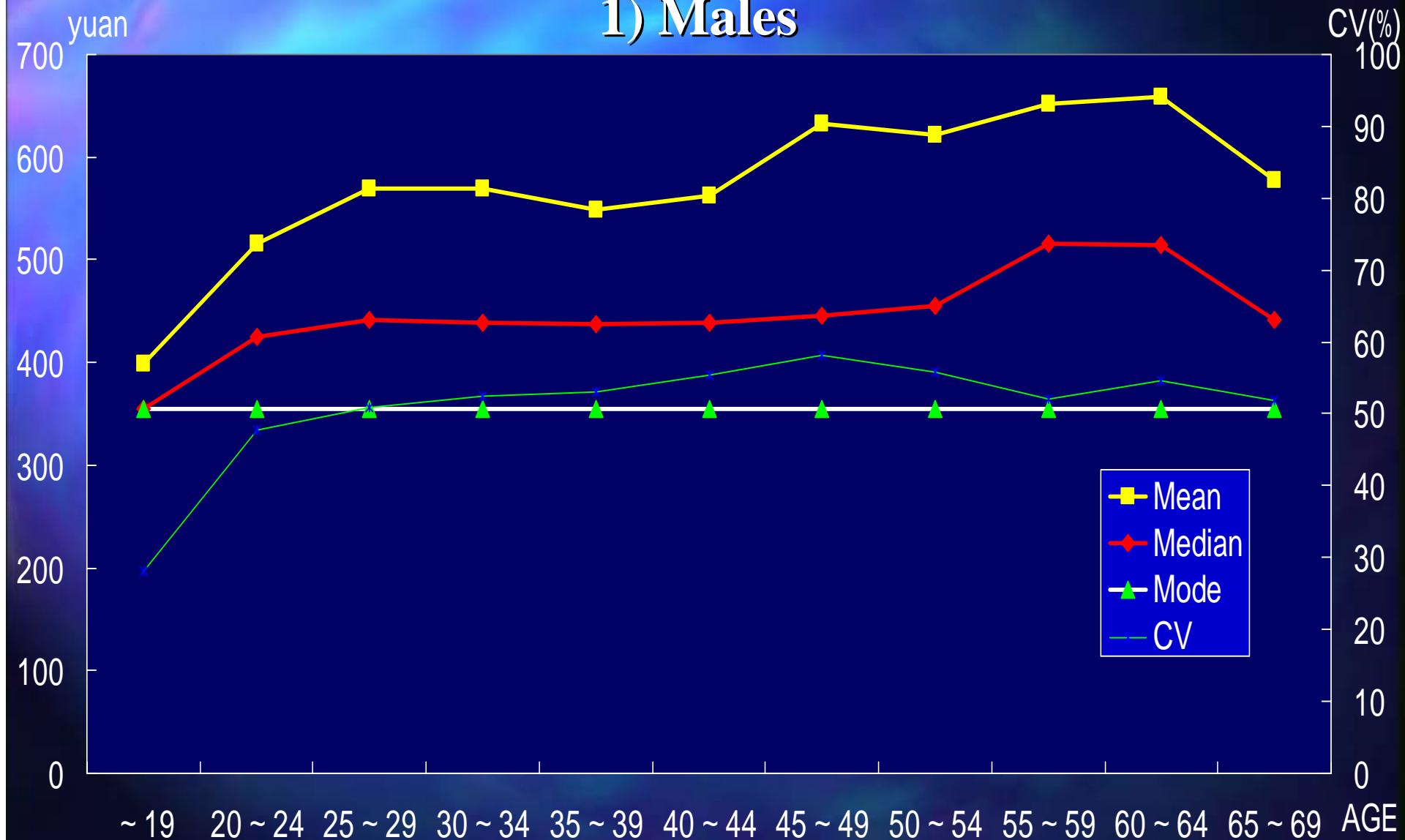
### 2) Females (Total)



Source: Ding-Takayama (2003)

# Age Profile of Monthly Wages (DEC 2000)

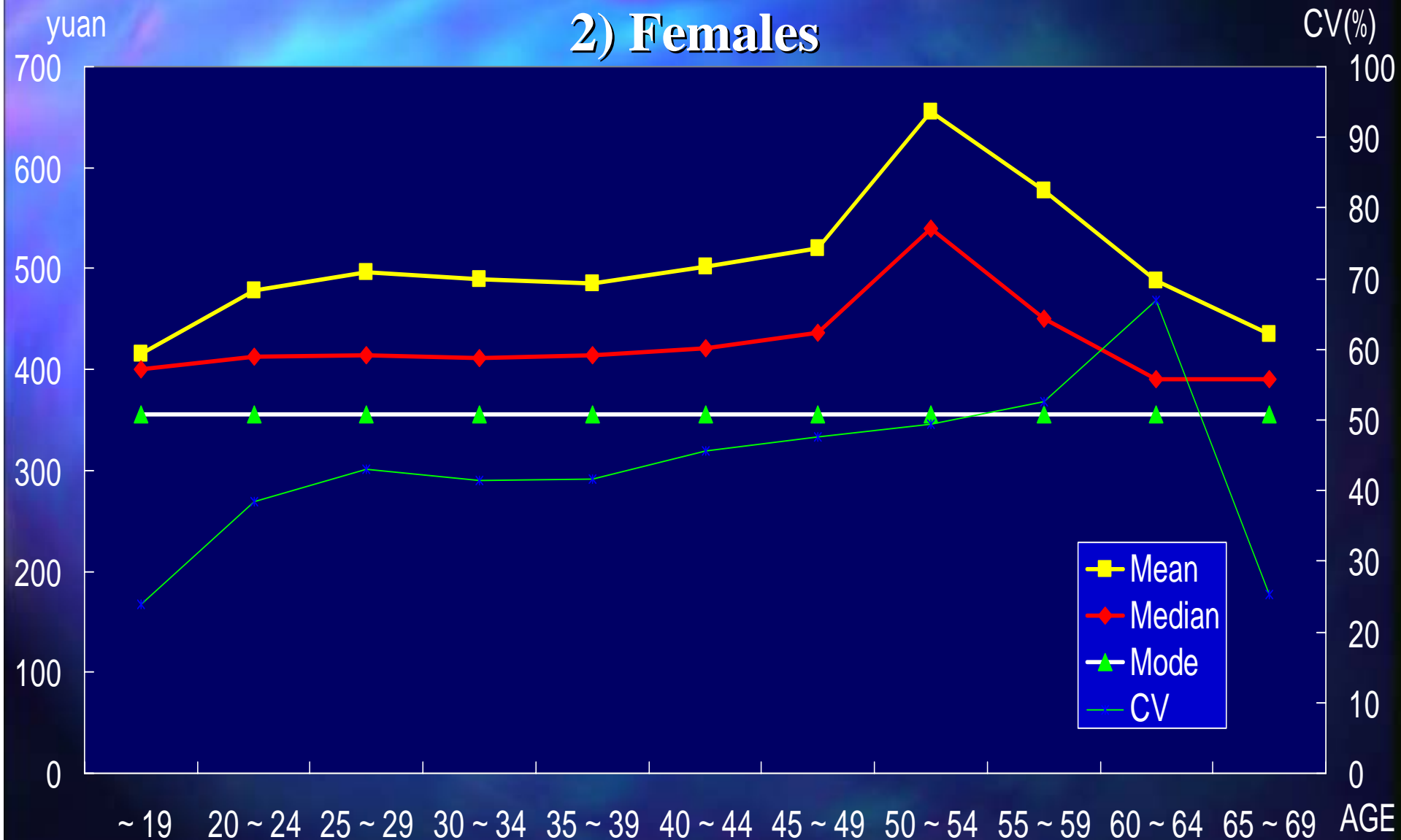
## 1) Males



Source: Ding-Takayama (2003)

# Age Profile of Monthly Wages (DEC 2000)

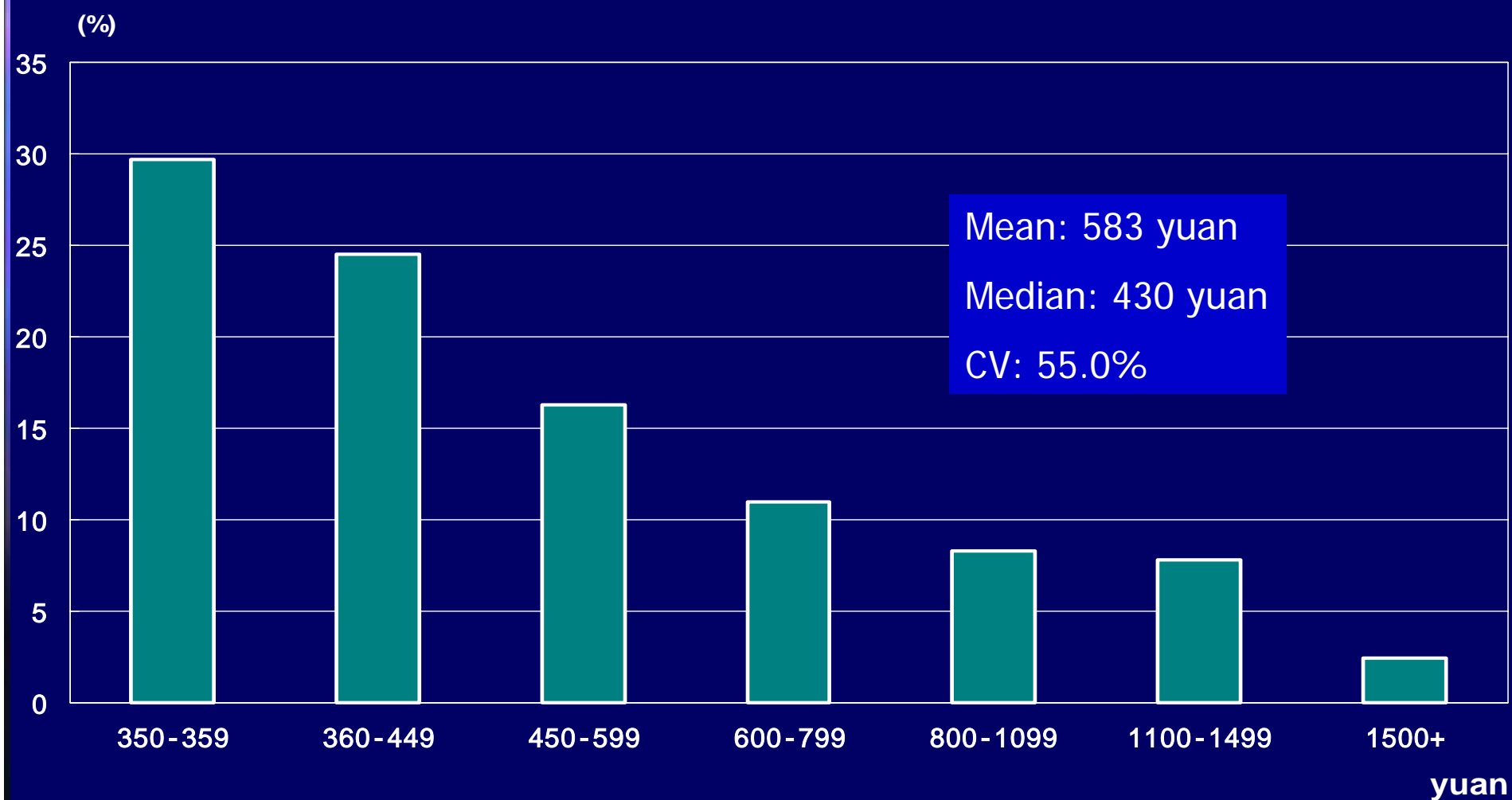
## 2) Females



Source: Ding-Takayama (2003)

# Distribution of Monthly Wages (DEC 2000)

## 1) Males (Total)

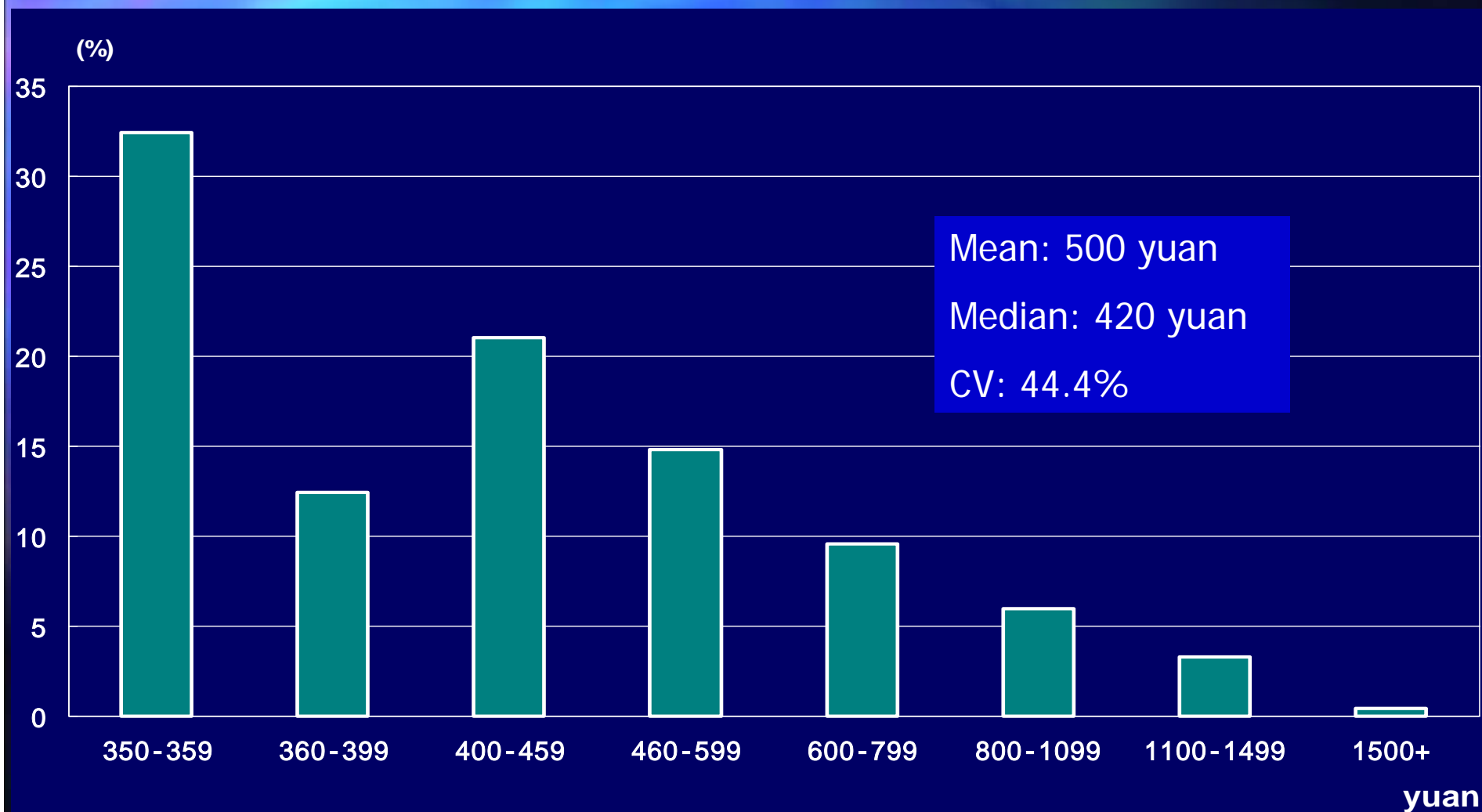


Source: Ding-Takayama (2003)



# Distribution of Monthly Wages (DEC 2000)

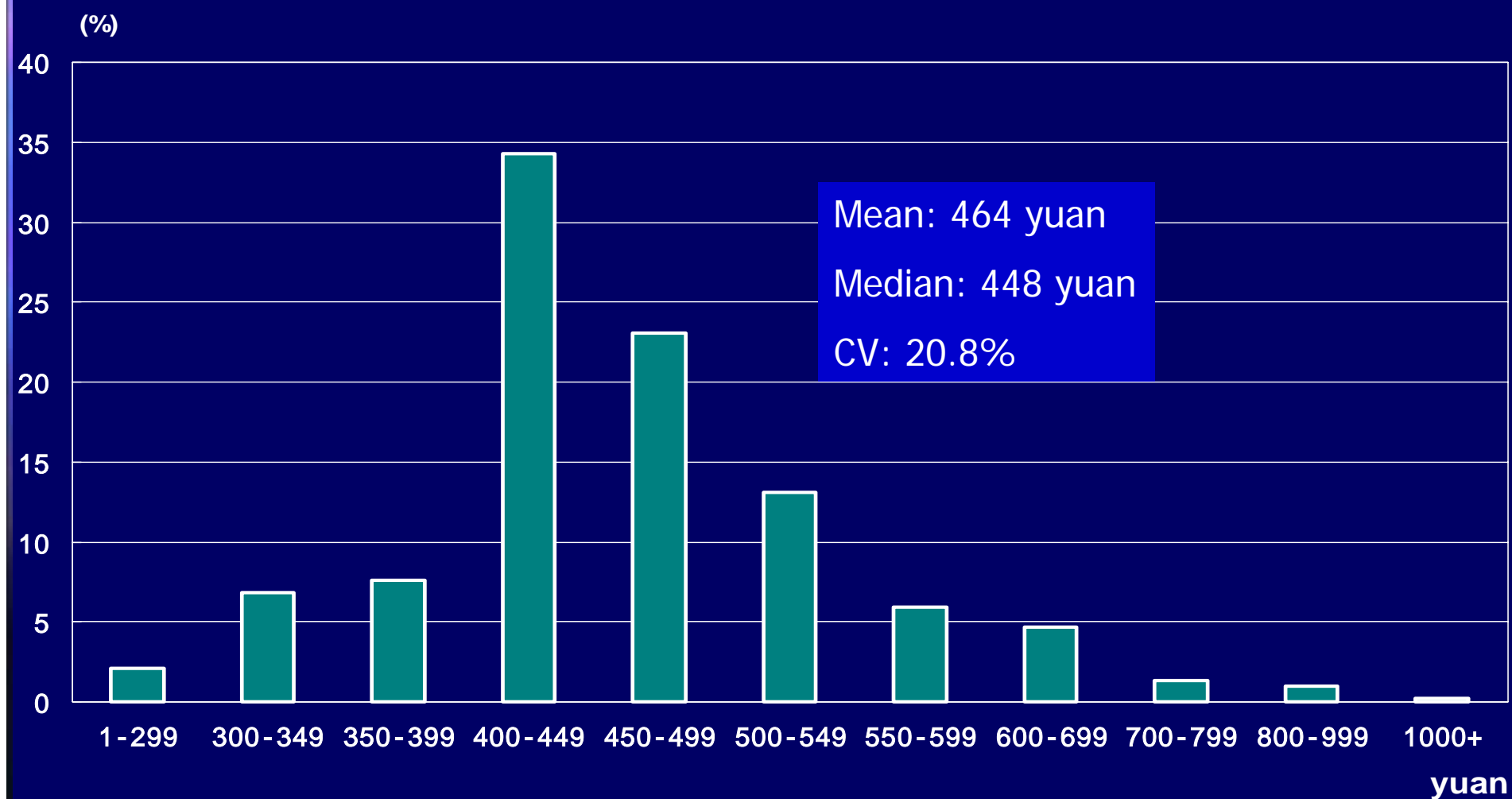
## 2) Females (Total)



Source: Ding-Takayama (2003)

# Distribution of Monthly Pension Benefits (DEC 2000)

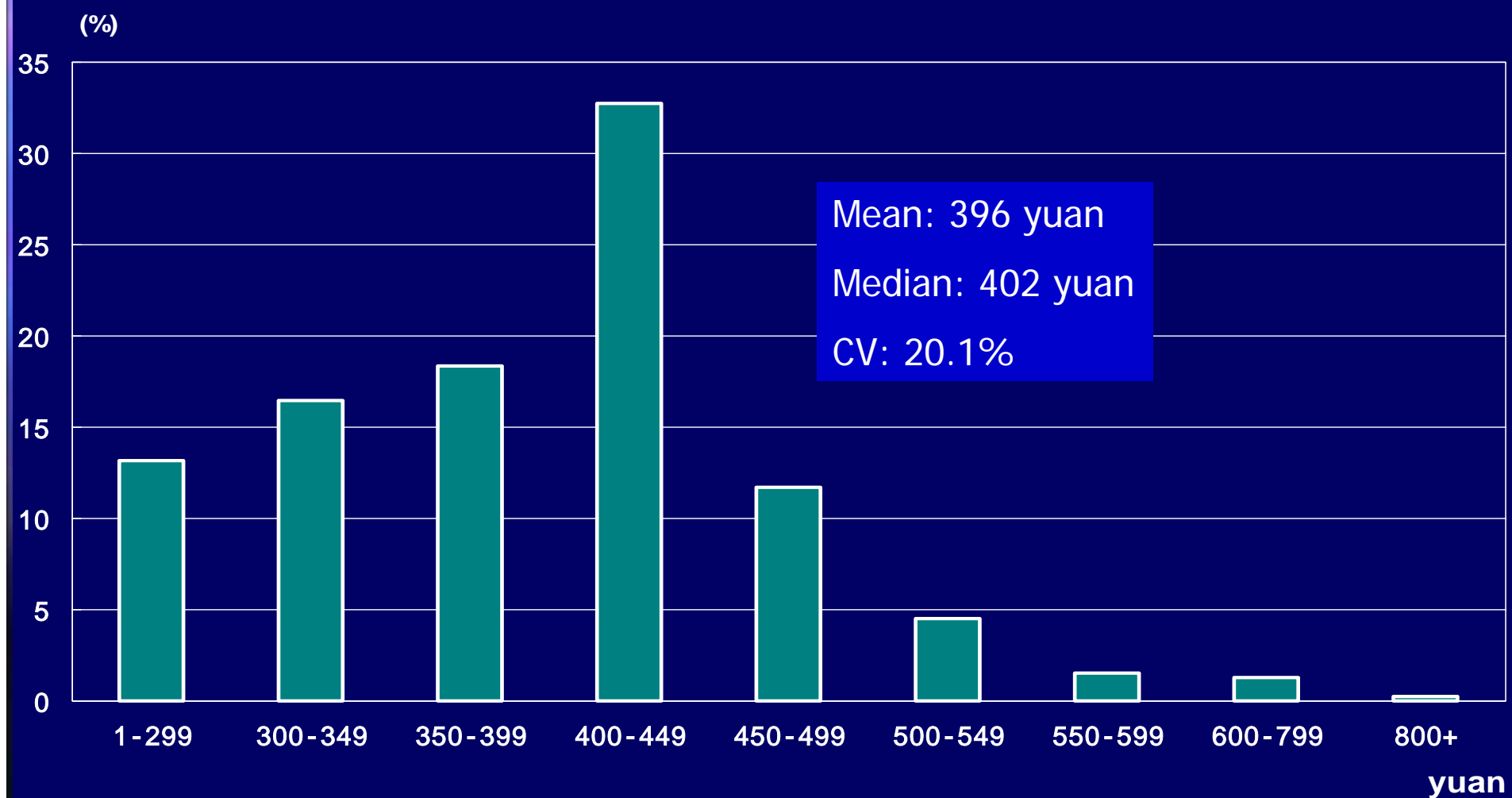
## 1) Males (Age: 60-64)



Source: Ding-Takayama (2003)

## Distribution of Monthly Pension Benefits (DEC 2000)

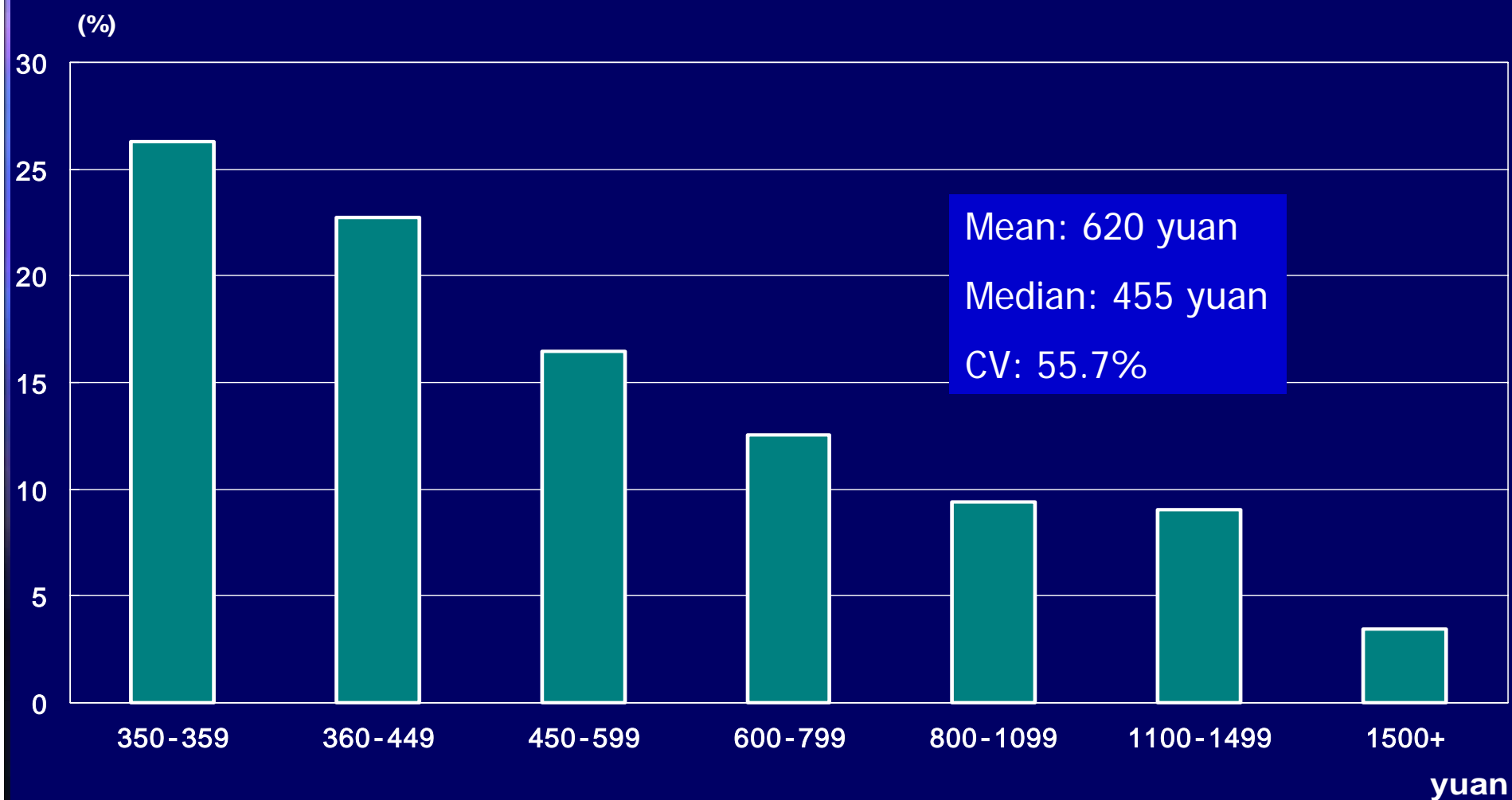
### 2) Females (Age: 55-59)



Source: Ding-Takayama (2003)

# Distribution of Monthly Wages (DEC 2000)

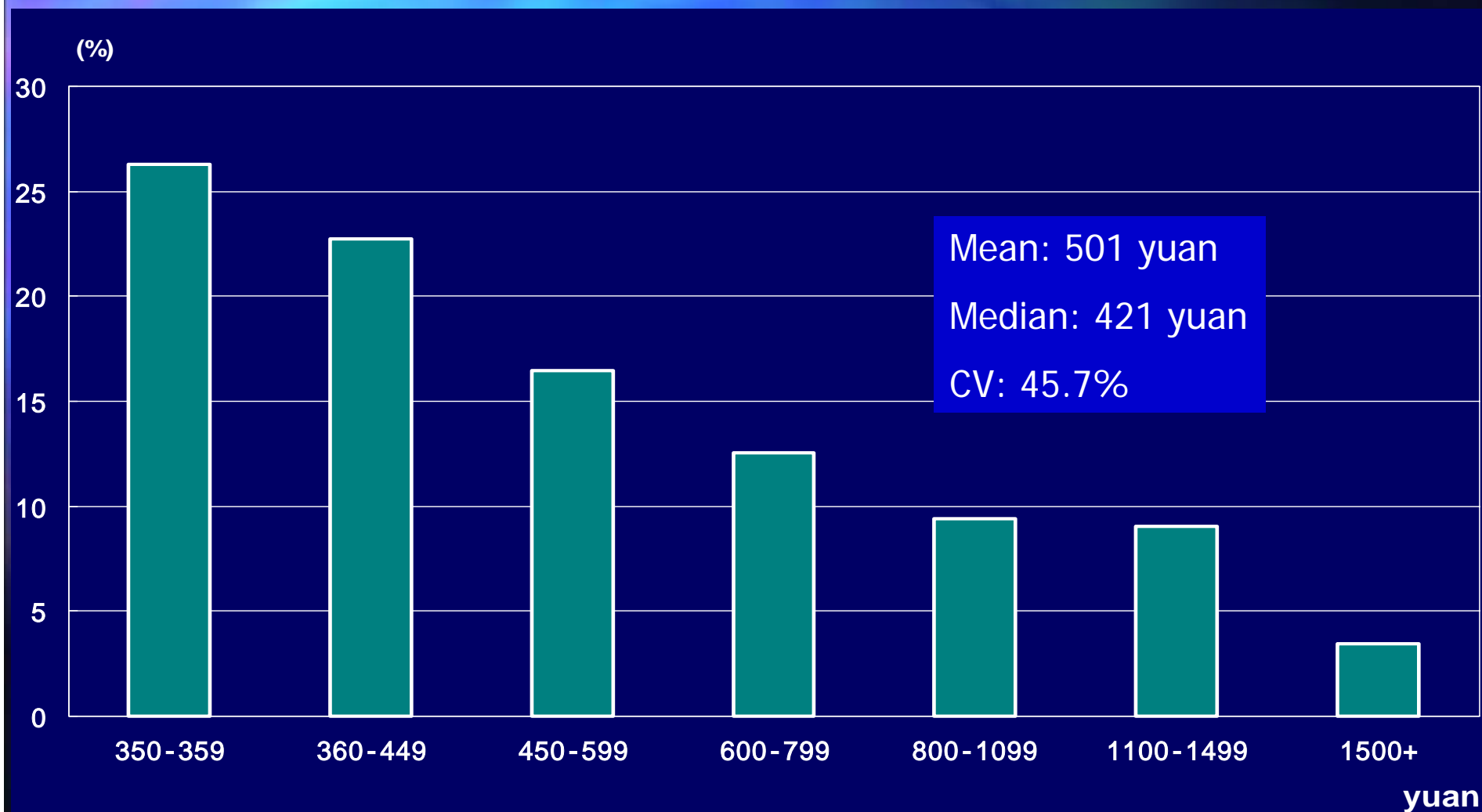
## 1) Males (Age: 50-54)



Source: Ding-Takayama (2003)

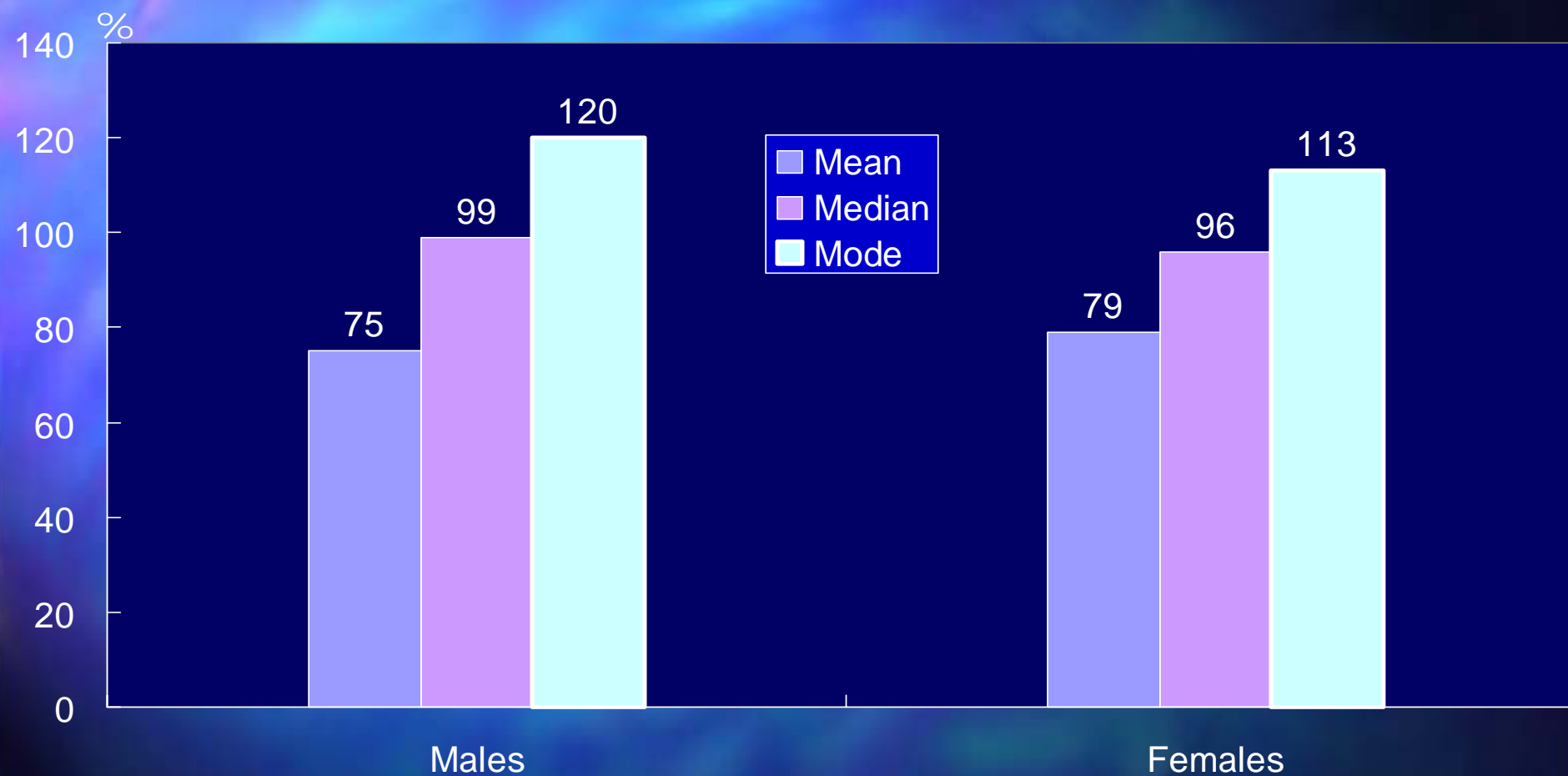
# Distribution of Monthly Wages (DEC 2000)

## 2) Females (Age: 40-44)



Source: Ding-Takayama (2003)

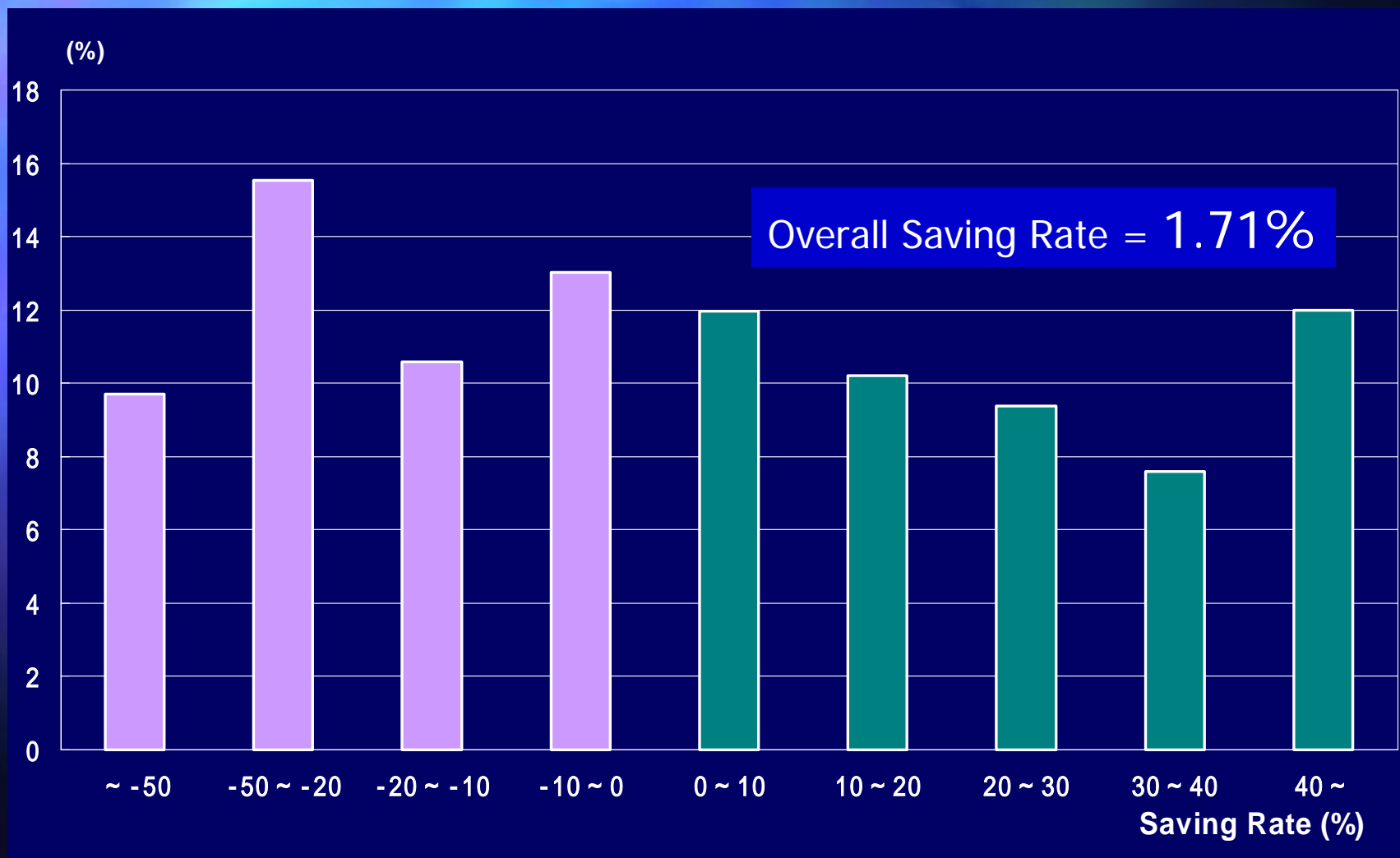
## Replacement Rate (RR) in 2000



Notes: RR=Benefits (age of 60-64)/Wages (age of 50-54) for males  
RR=Benefits (age of 55-59)/Wages (age of 40-44) for females

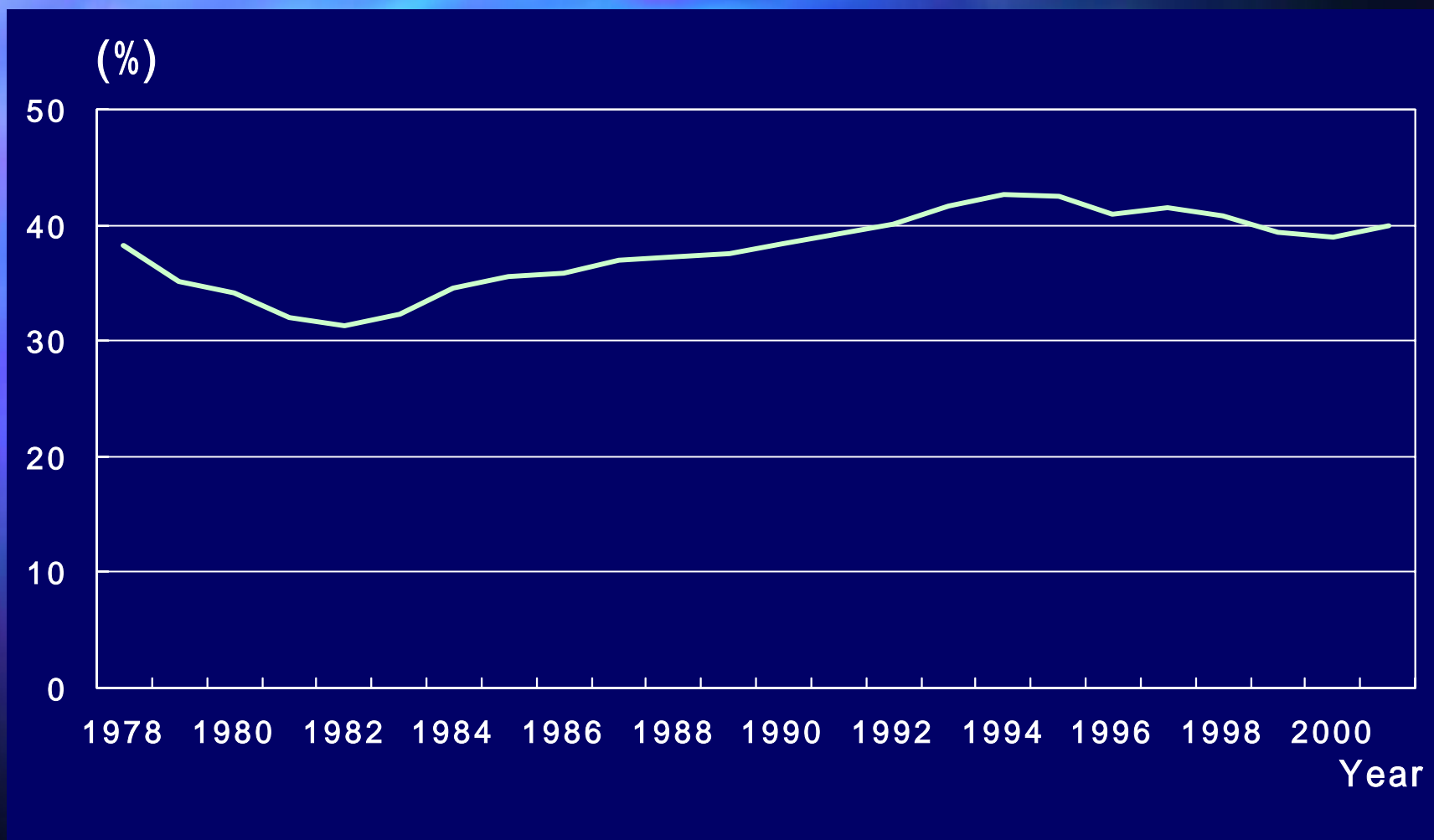
Source: Ding-Takayama (2003)

## Distribution of Household Saving Rate in 1995



Source: The 1995 FIES

## Saving Rate in the PRC Economy

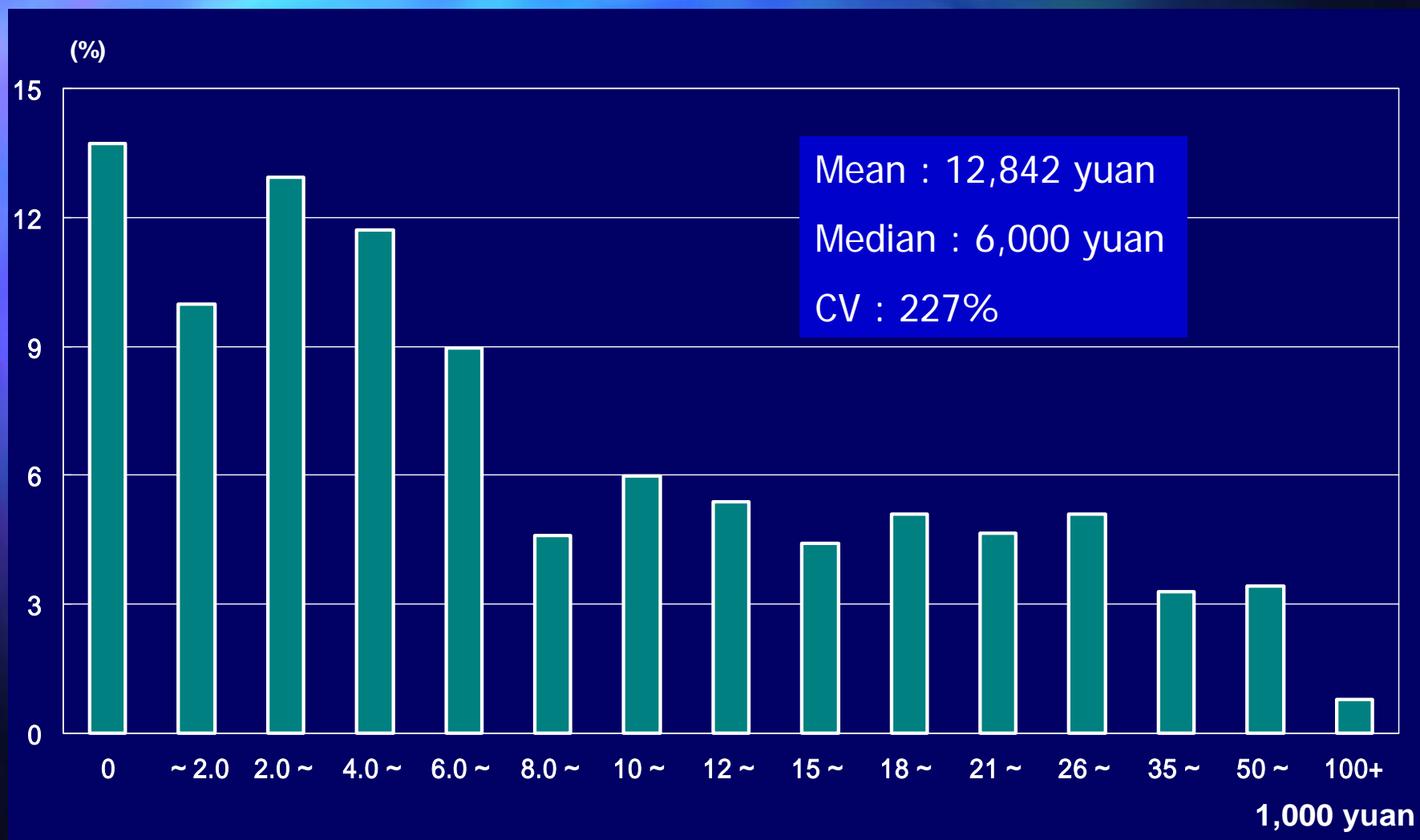


**Note: Saving Rate =  $1 - (\text{Final Consumption}) / \text{GDP}$**

Source: Dr. Ding's own calculation from *China Economic Yearbook*

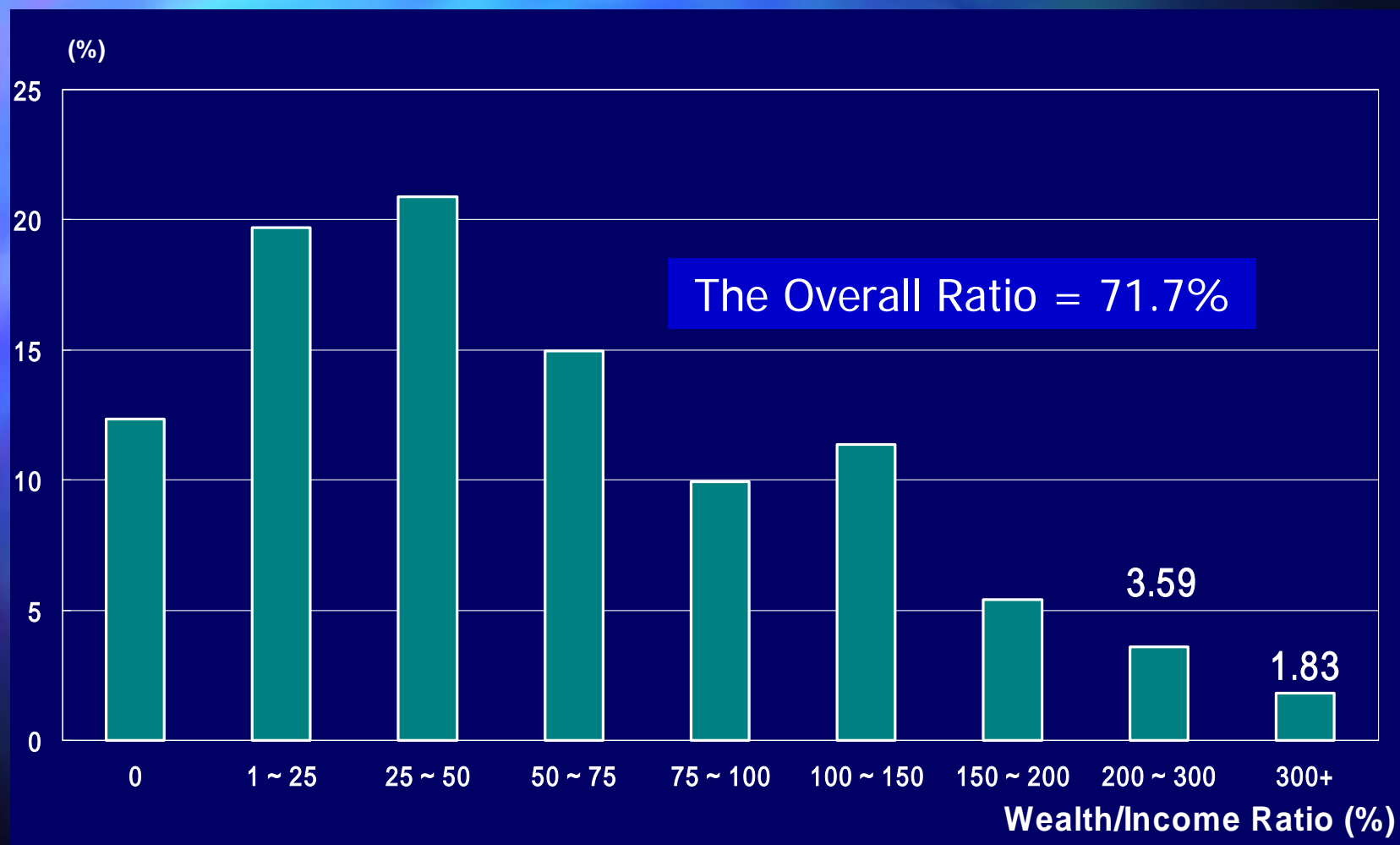


## Distribution of Monetary Asset Holdings for the Elderly (Age of 55+) in 1995



Source: The 1995 FIES

## Distribution of Wealth/Income Ratio in 1995



Note: Wealth = Gross Monetary Assets

Source : The 1995 FIES

## Summary of Main Findings

- 1. Economic status of PRC workers and pensioners basically varied by sex.**
- 2. SOE pensioners and SOE workers were overwhelming in 2000. Social security pensions involved income transfers from non-SOE male workers to SOE male pensioners.**
- 3. Early retirement was very often taking place in 2000. More than 50% of male workers retired by age 57 and nearly 40% of female employees stopped working by age 49 in 2000.**

## Summary of Main Findings (Cont'd)

76

- 4. As for the amount of wages and pension benefits, the mode is usually below the mean or the median. Discussions only based on the mean (the average) would be misleading. Rather, the mode or the median will clarify much more the realities of workers and pensioners. For example, about 30% of workers were earning the minimum monthly wages around 355 yuan in 2000. The mean value of monthly wages was about 580 yuan for males and 500 yuan for females respectively, both standing at about the top 30th percentile of the respective wage distributions.**

## Summary of Main Findings (Cont'd)

77

- 5. The typical amount of monthly pension benefits was around 450 yuan for males and 410 yuan for females in 2000. For female pensioners, there was another typical amount of a little less than 300 yuan.**
- 6. Income disparity of pension benefits was relatively small in 2000. Wage disparity was a little wider, whereas the gap in wealth holdings was much larger.**
- 7. Pension benefits played quite an important role in securing old age income. The replacement rate of social security pension benefits was considerably high in 2000. It was about 100% or more for the middle- and low-wage earners. This would operate as a great incentive to early retirement for them.**

## Summary of Main Findings (Cont'd)

78

- 8. The saving rate varied very much from household to household in 1995. Nearly 50% of urban households reported negative saving rates, and consequently the overall saving rate was very low at 1.71%. Those households with saving rates of 20% and over remained minor, consisting of 29% of the entire households.**
- 9. Small savers were quite predominant in PRC and their wealth/income ratio was accordingly very low in 1995. Those households enjoying higher wealth/income ratio at 2.0 and over consisted of only 5.4% of the entire urban households in 1995. The percentage will gradually increase in the future, but will still remain minor.**

## Hot Pension Debate for the Past 10 Years

### New Consensus Reached

- No pension plan is demographically immune. The crucial variable is economic growth.
- The game is a zero net sum, whether it is PAYG or funded.
- Important are incentives and governance, as well.

The latest position of the World Bank;  
changing

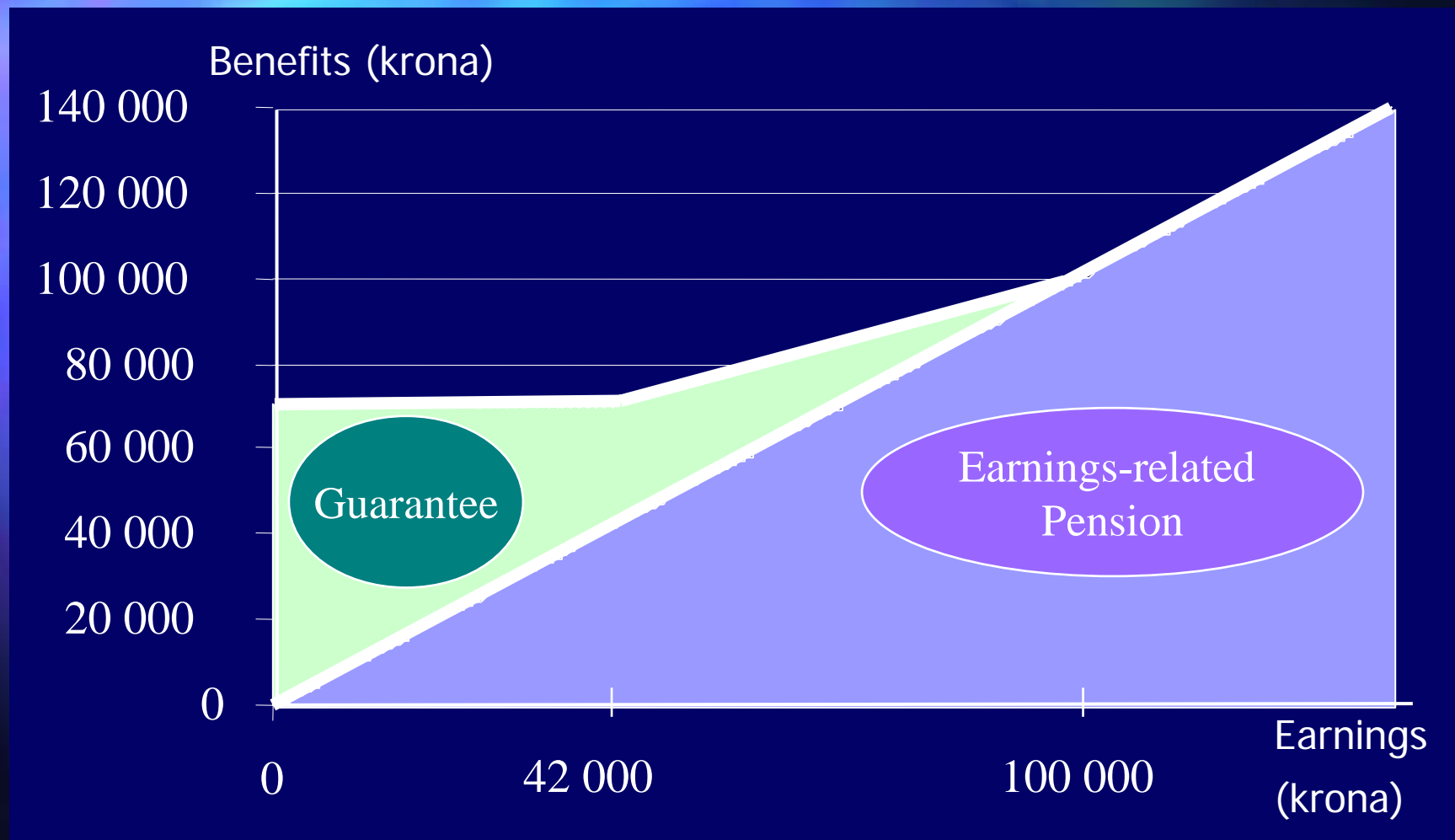
**Notional DC Plans Implemented in Sweden,  
Italy, etc.**

### **Shift to NDC Plans**

- **Any penny counts. incentives increased**
  - **political risks prevented**
  - **the transition cost problem escaped**
  - **evasion deterred**
  - **undesirable redistribution eliminated**
- increased policy options**



# The Swedish Pension System



## Challenges for Better Implementation

- **No matter how well a pension system may be designed, the system will fail unless participants comply with their contribution obligations. The system has to be incentive-compatible.**
- **The administration should have enough enforcement capabilities.**
- **Lacking are accurate data, record keeping (which is independent of employment) and effective communication with transparency.**
- **Financial literacy is still weak both for the majority of urban workers and for the regulatory body (Gov't).**

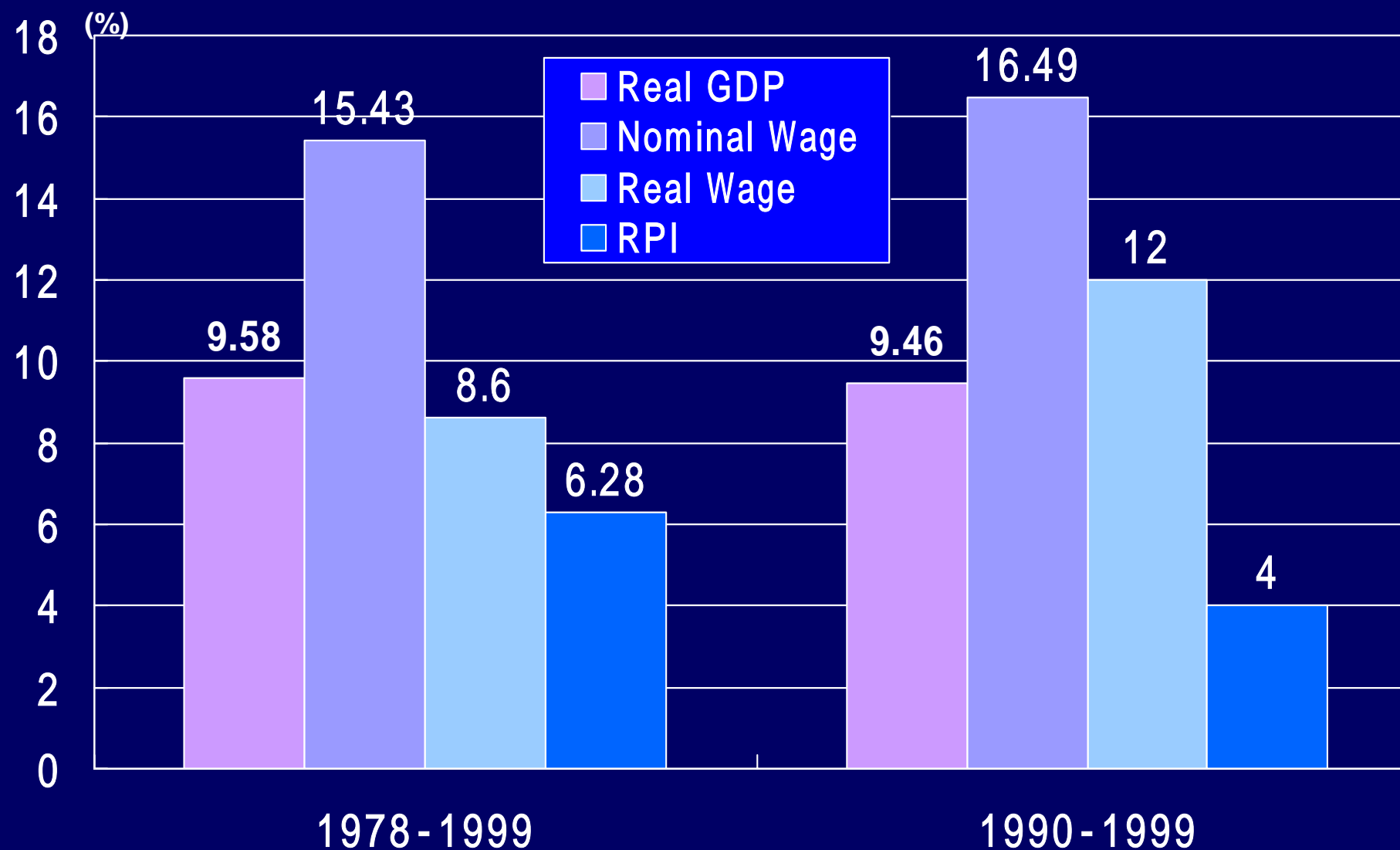
Asher-Newman (2002), Hoskins (2001)

# Conclusion

83

- **Incentives, governance/implementation, and system design, are major challenges for PRC pensions.**
- **The current 2<sup>nd</sup>-tier pension operates as a “PAYG DB” plan, which would be opposite to an originally envisaged “funded DB” plan.**
- **The administratively set low rate of return from investment to the 2<sup>nd</sup>-tier incurs a “hidden” tax.**
- **Lacking is accumulation of microdata analyses.**
- **The prospects of PRC pensions in the future will not be gloomy if parts of the dividend of economic growth are properly transferred to the elderly population through the pension scheme.**

## Annual Average Growth Rate in Urban PRC



Source: SSB, cited from Zhao-Xu (2002)