The original intention of transitional pension and the solution to the problem of "one dominant" basic endowment insurance

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Outline

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How the research question was raised

"Decision of The State Council on Improving the Basic Pension Insurance System for Enterprise Employees" State Council Document [2005]

- After the implementation of the Decision of The State Council on the Establishment of a Unified Basic Pension Insurance System for Enterprise Employees (Guofa [1997] No.26), those who have worked and paid for a total of 15 years (including equivalent payment years) will be given a basic pension monthly after retirement. The basic pension consists of a basic pension and a personal account pension.
- **For individuals who started working before the implementation of State Council Document [1997] No.26 and retire after this decision takes effect with a cumulative contribution period of 15 years or more, transitional pensions will be additionally granted on top of the basic pension and individual account pension.** Provincial-level governments shall formulate specific transitional measures based on reasonable benefit level alignment and smooth policy transition between old and new systems, after thorough calculations. These measures shall be filed with the Ministry of Labor and Social Security and the Ministry of Finance for record.

How the research question was raised

Pension calculation method

- The monthly standard of basic pension at retirement is based on the average of the local average monthly wage of employees in the previous year and the individuals average monthly wage of indexed contributions, with 1% for each full year of contributions.
- The monthly standard of personal account pension is the amount saved in the personal account divided by the number of months for payment, which is determined according to the average life expectancy of urban population at retirement, the retirement age of the employee, interest and other factors.
- **In most provinces, the transitional pension is equal to the product of the insured persons indexed average contribution wage, equivalent contribution years and transition coefficient.**
  - The insured persons indexed average contribution wage is the product of the average provincial wage of on-job workers in the year before retirement and the average contribution wage index.
  - The average contribution wage index is the average of the proportion of individual contribution wages to the average wage of on-the-job workers in the province in the previous year.
  - The transition coefficient ranges from 1% to 1.4%.

Possible problems with the method of accounting

- **According to the data released by the Ministry of Finance, the payment gap of Chinas basic pension insurance for enterprise employees has increased year after year, and the financial subsidy has grown rapidly from 97.1 billion yuan in 2006 to 661.3 billion yuan in 2021.**
  - In accordance with the principles of logical continuity and smooth transition, the "intermediary" should receive personal account pension benefits equivalent to their deemed contribution years. However, local governments have retroactively calculated transitional pensions based on the insured persons indexed average contribution wage in accordance with State Council Document [2005] No.38. The latter amount exceeds the former.

How the research question was raised

This paper intends to study the following problems

- **It is verified that the financial subsidies for enterprise employees basic endowment insurance are mainly used to cover the transitional pension paid by local governments.**
  - This paper first calculates the product of the indexed average contribution wage, deemed contribution years, and transition coefficient for insured individuals, and compares it with the fiscal subsidies for enterprise employees basic old-age insurance published in the "Explanations of the National Social Insurance Fund Final Accounts", "National Social Insurance Fund Income Final Accounts", and "China Fiscal Yearbook". This verification examines the current calculation methods for transitional pensions by local governments and confirms that fiscal subsidies are primarily used to cover transitional pensions under deemed contribution years.
- **Calculate the personal account pension under the deemed contribution period, and analyze the impact of the results on the payment gap of enterprise employee basic endowment insurance.**
  - This paper compares the personal account pension under the deemed contribution period with the transitional pension paid by local governments, and verifies that the financial burden can be reduced under the spirit of State Document [2005] No.38.

Model building

- **According to document No.38 [2005] of The State Council, the actuarial model constructed in this paper is as follows:**

- If a retiree is 10 years old and x years old, the transitional pension corresponding to the deemed contribution period is:

$$T_{t,x} = \varepsilon a[x - e - t + z]\left(\frac{\bar{S}_{t-(x-r)-1}}{t-(x-r)-z}\sum_{k=1}^{t-(x-r)-z}\frac{d_{t-(x-r)-k-1}S_{t-(x-r)-k-1,r-k-1}}{\bar{S}_{t-(x-r)-k-1}}\right)\frac{\prod_{h=t-(x-r)}^{t}(1+\rho_h)}{1+\rho_{t-(x-r)}}$$

- The personal account pension corresponding to the contribution period of the retiree who retired at age x in year t is regarded as:

$$I_{t,x} = [\frac{12}{m_r}a\sum_{k=t-x+e}^{z-1}c_k d_{k-1}S_{k-1,k-t+x-1}\prod_{n=k}^{t-x+r-1}(1+j_n)]\frac{\prod_{h=t-(x-r)}^{t}(1+\rho_h)}{1+\rho_{t-(x-r)}}$$

Actuarial models

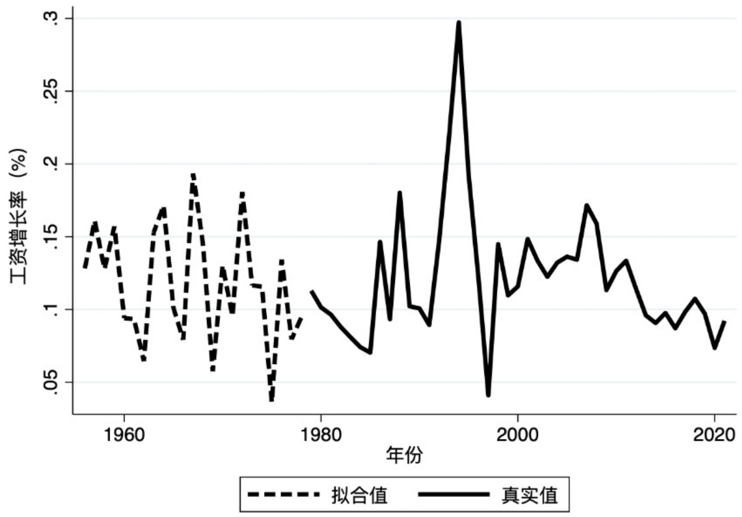
parameter estimation

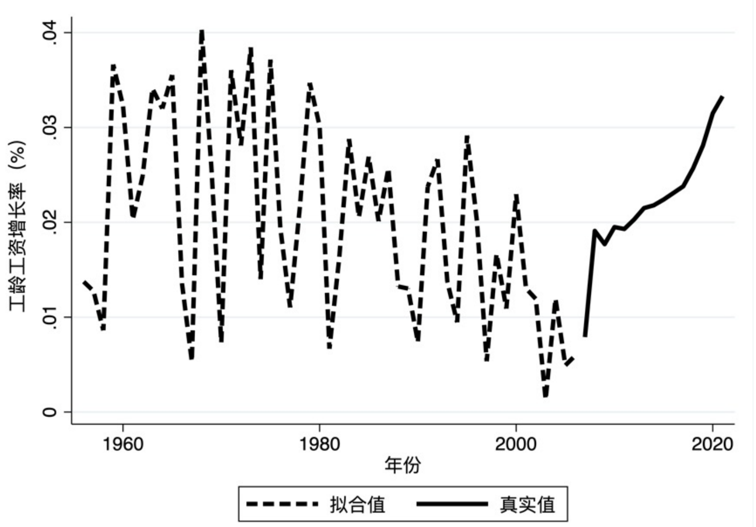
- **Wage growth rate, seniority wage growth rate and compliance rate**

$$\Delta g_t = -0.0265\Delta g_{t-1} + 0.4114\Delta g_{t-2} - 0.2984\Delta g_{t-3} - 0.3579\varepsilon_{t-1} - 0.6675a\varepsilon_{t-2} - 0.0254 + \epsilon_t$$

$$s_t = 0.9421 s_{t-1} + \epsilon_t$$

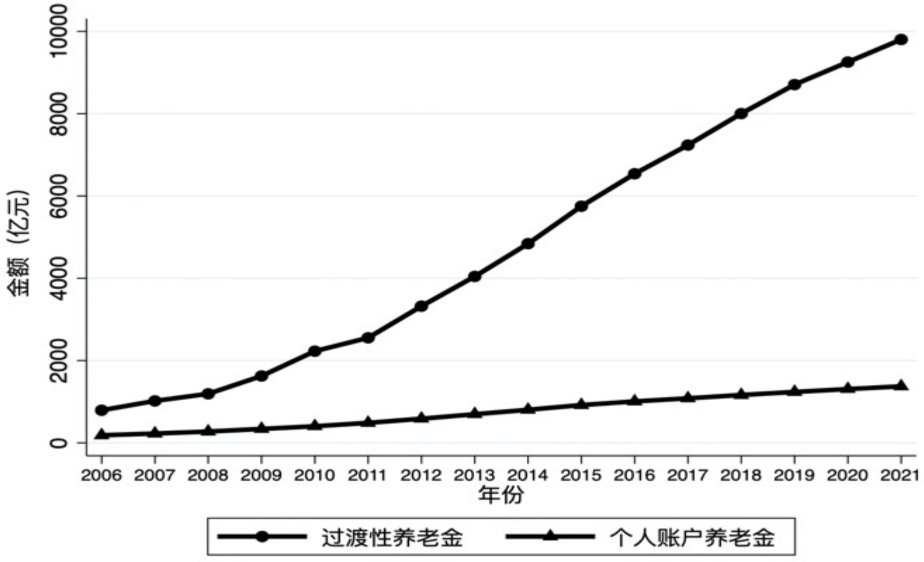
$$d_t - 2d_{t-1} + d_{t-2} + 0.3343(d_{t-1} - 2d_{t-2} + d_{t-3}) = \epsilon_t - 0.8888\epsilon_{t-1}$$

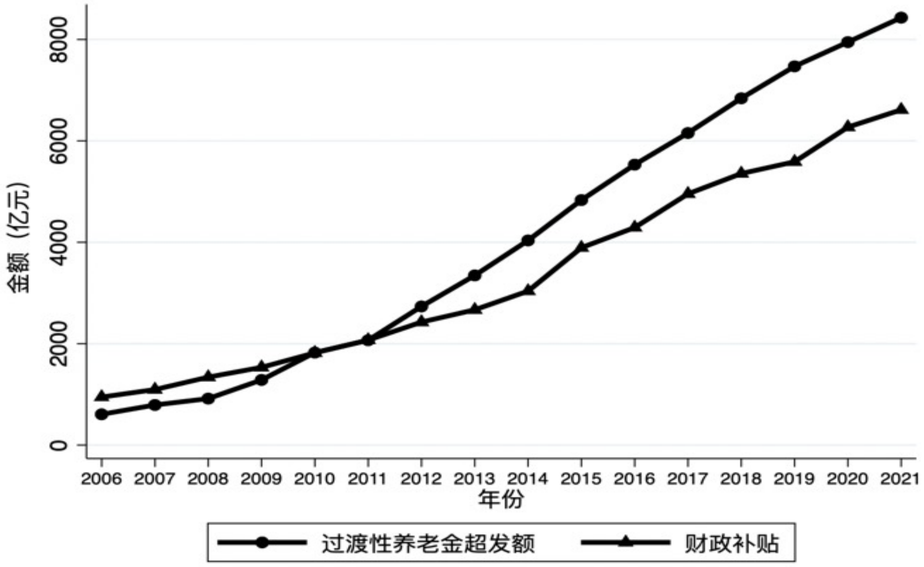




Transitional pensions and overpayments

- **Transitional pension, personal account pension, overpaid amount and financial subsidy under deemed contribution years 2006-2021**





Actuarial results

Solving the problem of a single dominant player

Amounts that can be transferred to the second and third pillars

t	E_t		F_t	
	Second pillar	Third pillar	Second pillar	Third pillar
2012	1953.56	781.43	220.21	88.08
2013	2390.77	956.31	484.35	193.74
2014	2883.04	1153.22	713.04	285.22
2015	3451.87	1380.75	671.16	268.46
2016	3950.97	1580.39	885.97	354.39
2017	4396.52	1758.61	857.15	342.86
2018	4885.80	1954.32	1060.49	424.20
2019	4979.77	2489.89	1254.60	627.30
2020	5298.45	2649.23	1117.58	558.79
2021	5619.97	2809.99	1211.29	605.65

Conclusions and suggestions

- **At present, the financial subsidies of basic endowment insurance for enterprise employees in China are mainly used to cover the transitional pension paid by local governments.**
  - By comparing the calculation results of transitional pension and the amount of financial subsidy of local governments from 2006 to 2021, it can be found that the financial subsidy of enterprise employees basic endowment insurance is mainly used to cover the transitional pension of "middle retirees" at present.
- **The personal account pension under the same contribution period will replace the current transitional pension, which will reduce the payment gap of the basic pension insurance for enterprise employees.**
  - According to the spirit of State Document [2005] No.38, for qualified retired "middle people", the transitional pension can supplement the personal account pension under the deemed contribution period to meet the principle of reasonable linkage of treatment level and smooth transition between old and new policies, thus significantly reducing the financial burden of enterprise employees basic endowment insurance.
- **Solve the problem of pension monopoly**
  - We will adjust the calculation and payment methods of transitional pensions, develop and expand the second and third pillars of old-age insurance without increasing financial subsidies, solve the problem of "one pillar dominating" in basic old-age insurance, and optimize the old-age insurance system for enterprise employees

Thank You