Political Economy of Fiscal Policy under Demographic Changes:

Public Pension, Social Security Financing, and Role of Private Sector

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June 5, 2017 @ Tokyo Fiscal Forum 2017

Three issues I like to discuss in this presentation

- The role of consumption tax to finance social protection expenditure in an aging society
  - Financing by consumption tax acts like changing its funding partially from pay-as-you-go to fully-funded, enhancing dynamic efficiency.
- Political viability of changing social security financing from wage tax to consumption tax in an aging society
  - Redistribution among the retired and improvement in dynamic efficiency of the public pension program are key factors for political support.
- The impact on income redistribution of shifting the provision of social protection services from public to private sector
  - Relying more on private provision may not lead to more unequal income distribution. Institutional factors may matter.

Financing Public Social Expenditure in EU and Japan

Table: Composition of Social Protection Revenues

Nation	Social Contributions			Government Subsidy	Other Revenues
	Total	Employers	Protected Persons		
Netherlands	0.66	0.49	0.51	0.20	0.14
Germany	0.65	0.53	0.47	0.33	0.02
Japan	0.48	0.47	0.53	0.33	0.20
France	0.62	0.69	0.31	0.35	0.03
UK	0.37	0.74	0.26	0.49	0.14
Italy	0.49	0.70	0.30	0.49	0.02
Norway	0.49	0.68	0.32	0.51	0.00
Sweden	0.46	0.80	0.20	0.52	0.02
Denmark	0.19	0.58	0.42	0.80	0.01

Source: EuroStat (2014), Financial Statistics of Social Security in Japan (2014)

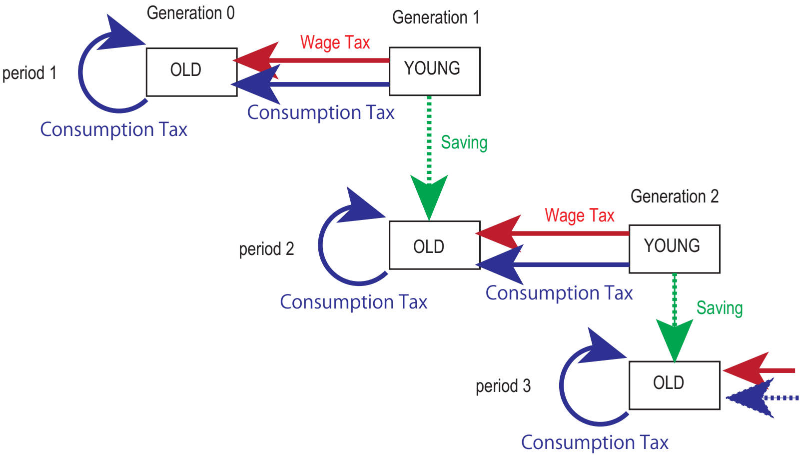
Financing Public Social Expenditure

- Three financial ways
  - Social contributions (payroll taxes or insurance premiums), divided between employer's and protected person's (mostly, employee's)
  - Government subsidies
  - Other revenues, mostly consisting of investment earnings on social security funds
- A large cross-country variation is observed in the composition of these three financial ways.
- What are the sources of the government subsidies?
  - EU countries have high VATs and Japan earmarks most of VAT revenues to public social protection expenditure.
  - A considerable part of the government subsidies are and will be financed by current and future consumption taxes.
- Consumption tax is indispensable for provision of social protection services in some countries, and is not in others. Why?

Economics of Financing Public Pensions

- Shifting pay-as-you-go program (PAYG) to Fully-funded program (FF) improves efficiency in the long run if the population growth is slower than the interest rate.
  - Intergenerational transfer becomes less and less efficient as the population in a society grows older.
- Financing public pension plans by consumption tax has a similar implication on efficiency as shifting PAYG to FF.
  - Suppose that consumption tax is used to finance public pensions in stead of wage tax.
  - Then, the young people will save more than before, since they will have to pay consumption taxes in their retirement period.
  - This means that the young will end up self-financing part of their own public pensions by saving more, as they do under a FF program.
- Generally, consumption tax is an economically reasonable way to finance public social expenditure in an aging society.

Financing Public Pension Program by Consumption Tax



Political Economy of Public Pension Financing 1

- Economically reasonable policies are not necessarily politically viable.
- Two key factors for a policy proposal to obtain majority support in an aging society
- Redistribution across the retired
    - As called "silver democracy" in Japan, the retired become more and more politically powerful as the population grows older.
    - Proposals harmful to the retired as a whole, such as changing PAYG into FF, are likely to be politically infeasible.
    - A politically-viable proposal need to redistribute income within the retired, stopping them from acting as a political monolith.
- Dynamic efficiency
    - Income transfer from workers to retirees becomes more and more costly to workers as the population grows older.
    - For an income-transfer proposal to obtain more support from workers, it needs to be more dynamically efficient.

Political Economy of Public Pension Financing 2

- Features of the set-up
  - Overlapping-generations economy with retirees and workers
  - Workers have different wages.
  - Pensions per retiree, a wag tax rate and a consumption tax rate are chosen in the structure-induced equilibrium of majority voting.
- Proposal to increase pensions per retiree with higher wage taxes
  - All retirees will be made better off.
  - Poorer workers will be made better off and richer ones worse off.
- Population aging has two effects on the political support
  - Support increases as retirees tend to outnumber workers.
  - Support decreases as a higher wage tax is required in response to a relative decline in labor force.

Political Economy of Public Pension Financing 3

- Proposal to increase pensions per retiree with higher consumption taxes
  - Owing to price indexation, only retirees who spend more than their public pensions will pay consumption taxes in real terms.
  - Poorer retirees will be better off and richer retirees worse off.
  - Poorer workers will be better off and richer workers worse off.
- Population aging increases the political support.
  - Consumption-tax financing is more dynamically efficient.
- Considering a majority voting equilibrium, we claim:
  - Given a population growth rate higher than or equal to the interest rate, financing only by wage tax is a unique equilibrium choice.
  - As population growth slows down, financing (at least partly) by consumption tax turns out to be another equilibrium choice.
  - Such a multiplicity of equilibria may explain the cross-country variation in the ways to finance public social expenditure.

Privately-Provided Social Protection Services

- In some countries the private sector provides quite a large amount of social protection services.
- Governments play a part there by mandating or giving tax advantages to privately-provided social protection services, which are called "private social expenditure." (Adema, 2001)
- There is a large variation in the degree of public-private mix in the provision of social protection services
  - The share of the "private" social expenditure in the total social expenditure (public + private) ranges from 2% in Sweden to 45% in New Zealand among OECD countries.
  - The USA, where the private sector accounts for 40%, is called the "hidden welfare state" (Howard, 1997).

Public and Private Social Expenditure in OECD countries

Table: Public and Private Social Expenditure (2013, in % of Gross GDP)

Country	Public	Private	Private/Total
Sweden	22.9	0.4	0.02
Norway	18.0	0.5	0.02
Italy	24.1	1.4	0.05
France	28.0	3.4	0.11
OECD	19.3	2.6	0.12
Australia	17.8	2.4	0.12
Germany	23.0	3.3	0.13
Japan	22.1	3.6	0.14
Denmark	22.5	4.7	0.18
Canada	16.5	4.5	0.22
UK	20.5	5.9	0.24
USA	19.8	11.4	0.40
New Zealand	17.0	7.8	0.45

Source: OECD, SOCX Database (2016)

Private Provision and Income Inequality

- Public-private mix will be increasingly important in providing social protection services, especially in advanced nations with aging population and lingering budget deficits.
- Efficiency reasons that support private provision
  - A larger size of the welfare state may increase tax distortions.
  - Market may deliver some social protection services more efficiently.
  - Market may remove some moral hazard by protected persons.
- From political economy point of view, income distribution issues are at least as important.
- How will income distribution be affected if we rely more on the private sector in providing social protection services?

Previous Research on income inequality and public-private mix

- Due to limited data availability, only a few studies such as Camidana and Goudswaard (2005) tackled empirical investigation on this issue.
- Their cross-sectional analysis shows that income inequality measures, such as Gini index, are:
  - negatively associated with public social expenditure, and
  - positively associated with private social expenditure.
- This result may seem reasonable, but we found it not very robust.
  - The estimated coefficients become statistically insignificant if we either change the sample period or slightly modify the sample size.
- This result also seems questionable from the point of political economy.
  - Why can such a large amount of private provision keep obtaining majority support in some countries in spite of making income distribution more unequal?

Our Primitive Fixed-Effect Estimation

- The dataset
  - Unbalanced panel data based on OECD SOCX database
  - Sample: 21 OECD advanced nations, 5 periods (1995-2010)
- Our hypothesis: structural difference
  - In countries depending highly on private provision, the association between social expenditure and income inequality is structurally different from one in countries depending highly on public provision.
- Simple fixed-effect estimation

$$\begin{aligned} y_{it} = \beta_0 + \beta_1 \mathsf{Pub}_{it} + \beta_2 \mathsf{Pub}_{it} \cdot \mathsf{Dum} \\ + \beta_3 \mathsf{Priv}_{it} + \beta_4 \mathsf{Priv}_{it} \cdot \mathsf{Dum} + \cdots + \epsilon_{it} \end{aligned}$$

where y_{it}: income inequality index, and Dum: a dummy variable taking 1 for counties whose private social expenditure accounts more than 10% of the total for more than or equal to 3 periods.

The Estimation Result

Table: Estimation result

	Gini	Ineq8020
Pub	-0.0055***	-0.1142***
	(0.0012)	(0.0293)
Pub·Dum	0.0052**	0.1603***
	(0.0019)	(0.0475)
Priv	0.0214***	0.3774**
	(0.0064)	(0.1533)
Priv·Dum	-0.0194**	-0.2724
	(0.008)	(0.1918)
N	80	80

Standard errors in parentheses, * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Dum =1: Australia, Canada, Iceland, Japan, Netherlands, UK, USA

Implication of the Estimation Result

- Our estimation suggests:
  - In countries with a lower share of private provision, income inequality is associated negatively with public provision and positively with private provision, as the previous research observed.
  - In countries with a higher share of private provision, however, the public-private mix may be almost neutral to income inequality.
- Why is there such a structural difference?
  - Institutional factors may matter.
  - Availability of private substitutes in the markets for public services
  - Possibility to opt out of public services to private ones
- Of course, our analysis is so primitive and the result so is crude and tentative that more work needs to be done.

Thank you!