

Generational Outcome of Labor Market Shocks:

Application of NTA-techniques in Predicting Political Processes

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A lengthy introduction

or how we convinced the H National Development Agency to finance an NTA project

- Labor market shocks tend to have clear generational effects
- Such effects can be quantified in an NTA context (changes in age-profiles and net flows, shifts in average ages, new composition of means of intergenerational resource reallocations)
- The effects in question could produce an impact on the welfare system that is difficult to return
- All this might be interesting in an Asian context



Empirical evidence

1. Labor force participation by cohort over time
2. Changes in the age-profile of wage taxes
3. Changes in the average age of the wage-tax payer (A_{wt})
4. Changes in $A_{ct} - A_{wt}$
5. Turnover duration in the social security
6. Political business cycle in the pension system

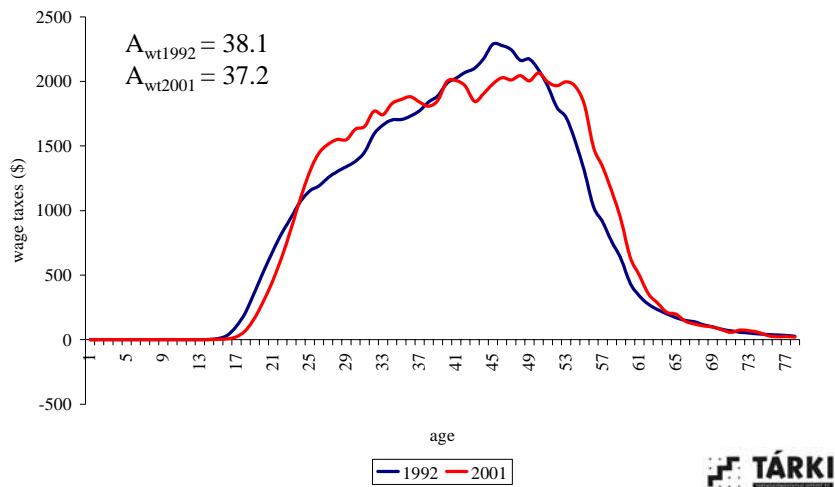


Labor force participation rates by birth cohorts in various years

	1992	1997	2002	2006
A. 1973-1977	21.8	59.7	75.1	81.1
B. 1968-1972	69.7	71.9	78.0	83.4
C. 1963-1967	77.3	76.3	82.1	83.7
D. 1958-1962	84.3	81.9	81.6	80.6
E. 1953-1957	88.6	82.5	77.8	73.0
F. 1948-1952	88.6	78.0	68.8	52.0
G. 1943-1947	84.9	62.4	40.9	13.8
H. 1938-1942	69.7	28.7	9.8	4.0
I. 1933-1937	34.3	7.4	3.1	1.2
J. 1928-1932	13.9	2.6	1.4	na
K. 1923-1927	9.0	2.3	na	na
L. 1918-1922	5.3	na	na	na



Age profile of wage taxes in 1992 and in 2001



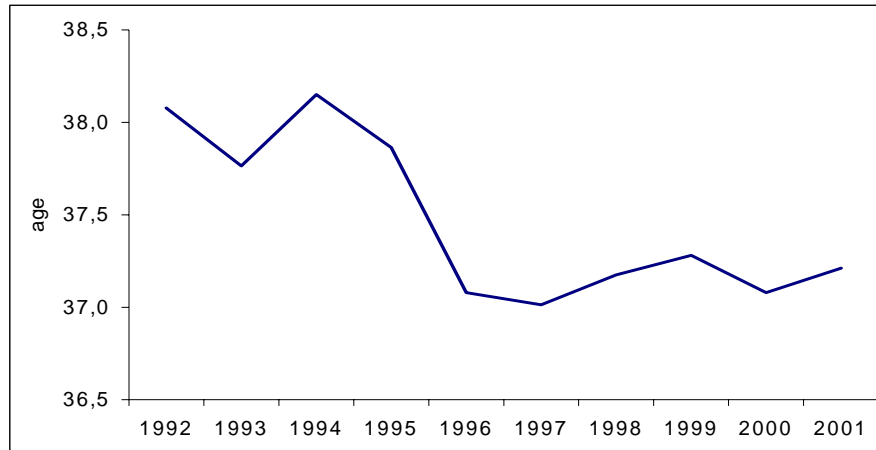
A note on the average age of the wage-tax payer

The weighted average age of the tax-payer changes over time due to

- * changes in the age-profile of the tax burden and
- * changes in the age-composition of cohorts in tax-paying age

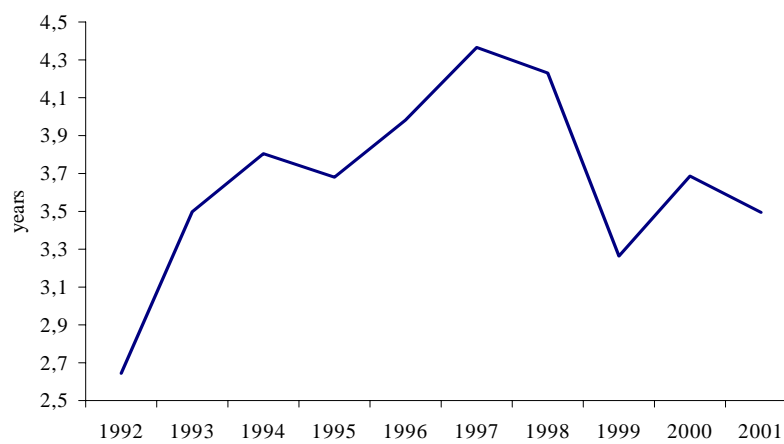
It depends on the purpose of the analysis if we want to normalize for the latter. Here we did.

Average age of the wage-tax payer (A_{wt}), 1992-2001



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$A_{ct} - A_{wt}$, 1992-2001



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A short introductory note to turnover duration (TD)

The concept of turnover duration

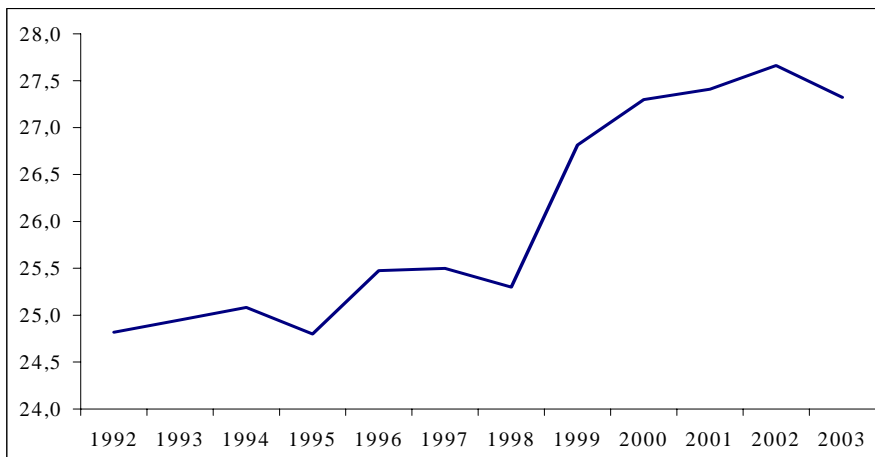
- It is derived from $A_c - A_y$
- $TD = A_p - A_{ssc}$

The application of TD

- measuring life-time rate of return vs cross-section rate of return
- cross-section rate of return (notional interest rate) in NDCs
- the Swedish method



$A_p - A_{ssc}$ (turnover duration)

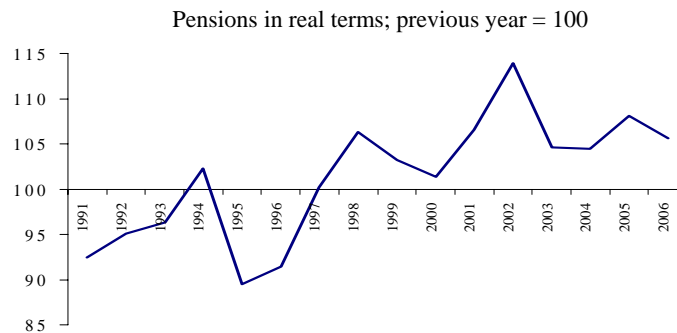


A brief summary of the empirical evidence

- The collapse of communism generated a labor market shock that affected various cohorts differently.
- The analysis of NTAs with measures, such as
 - shifts of weighted average ages
 - net flows of inter-age resource reallocations
 - differences between ages of income and consumption
 - differences between taxes and transfers
 - changes in composition of incomeoffer a quantitative insight to such shocks.



Consequences of the shock in the transfer system



- The political business cycle of the pension system
- A major pension reform despite decreasing age dependency
- The collapse of the pension reform



The Asian context

- Since there exist political systems in Asia (e.g. N-Korea, Myanmar) that are likely to open up in the future, similar labor market shocks can be predicted.
- If governments are unable to mitigate these shocks and keep the older labor force in the labor market they will face serious generational pressures in (or for the creation of) the welfare system.