Human Capital Investment and Optimal Income Taxes over the Life Cycle

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1. What is the question (of the paper)?

It studies how human capital investment affects the design of optimal income tax polices.

2. Why should we care about it?

To study optimal income tax policies and to have a better understanding of the effect from using the assumption of unobservable human capital investment rather than stochastic uncertainties.

3. What is your (or the author's) answer?

In the conclusion of this paper, we can know:

(1) The capital wedge on low skills is positive (the model is without uncertainties and thus no role for insurance purposes.)

(2) The labor wedge on low skills is neither always positive nor constant over time, but it is positive in the terminal period and negative in first period and ambiguous in all other periods of the life cycle.

4. How did you (or the author) get there?

The study is based on a discrete skill-type model under following assumptions.

(1) There are two types of agents (High and Low skill), differing in abilities to acquire skills but having the same utility function.

(2) All agents in the model choose working, saving and human capital investment.

(3) Agents' heterogeneities in skills mainly come from endogenous human capital investment.

(4) When born, both types of agents have identical human capital levels and thus identical skills, but the high-skill type has advantages in accumulating skills.

(5) Private expenditures for consumption may be pretended as private expenses for education purposes and are not distinguishable from the view point of the government.

Symbols

H	high skilled type agent
L	low skilled type agent
π^{L}	$\pi^{L} \equiv 1-\pi^{H}$; fraction of each type of agent
β	discount facotr
c_t	consumption at time t
l_t	work effort at time t
h_t	accumulate human capital
k_t	physical capital
z_t	$z_t = l_t h_t$; effective labor
e_t^i	educational expense, where $i = H, L$
Y_t	$Y_t = F(K_t, Z_t)$; technolgy
δ	depreciation rate
G	government expenditure
τ_z^i	The labor wedge(intertemporal wedge) -- A labor wedge is the ratio between the marginal rate of substitution of consumption for leisure and the marginal product of labor and acts as a distortionary labor tax, making hiring workers less profitable (i.e. labor market frictions).
τ_k^i	The capital wedge(intertemporal wedge) -- A capital wedge is a gap between the intertemporal marginal rate of substitution in consumption and the marginal product of capital. In this wedge, there's a "deadweight" loss that affects capital accumulation and savings decisions acting as a distortionary capital (savings) tax.(WiKi)