Introduction to

"Human Capital Investment and Optimal Income Taxes over the Life Cycle"

- **What is the question?**

  What's the optimal income tax policy in a model with heterogeneous skill-type agents whose unobservable skills evolve endogenously overtime?

- **Why should we care about it?**

  As in the previous literature, human capital plays an important role in determining economic growth. Hence, the reults regaring optimal tax and human capital in the current paper provide us a better understanding of how to promote human capital accumulation via tax policy.

- **What is the author's answer?**

  1. Given that capital wedge is constantly positive but labor wedge can be positive or negative regarding the period of life cycle, a history-dependent tax system is proposed to implement wedge.

  2. In this system, capital and labor income are tax linearly, along with lump-sum taxes, and the tax rates are consistent with optimal capital and labor wedge.

- **How did the author get there?**

  The author built a discrete skill-type model where the heterogeneities in skills mainly comes from endogenous human capital investment but not from stochastic shocks.

Notation

- π^H: the fraction of the high-skilled

- π^L: the fraction of the low-skilled

- c_t: consumption

- l_t: work effort

- $z_t = l_t h_t$: effective labor

- h_t: human capital

- $h_{t+1} = \psi_t(h_t, e_t)$: human capital technology, where e_t is educational expenses

- $Y_t = F(K_t, Z_t)$: production function

- k_t: physical capital

- K: aggregate capital

- Z: aggregate effective labor

- δ_k: capital depreciation rate

- $\sigma(r|i)$: strategy of reporting type r given true type i, $\sigma \in \{H|H, L|L, L|H\}$

- G: government expenditure

- λ_t: shadow price of the resource constraint

- μ_t: shadow price of the IC constraint

- τ_{z_t}: labor wedge

- $\tau_{k_{t+1}}$: capital wedge