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 over time?

• Why should we care about it?
  As in the previous literature, human capital plays an important role in determining economic growth. Hence, the results regarding 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

- $\pi^H$: the fraction of the high-skilled
- $\pi^L$: the fraction of the low-skilled
- $c_i$: consumption
- $l_i$: work effort
- $z_i = l_i h_i$: effective labor
- $h_i$: human capital
- $h_{i+1} = \psi_i(h_i, e_i)$: human capital technology, where $e_i$ is educational expenses
- $Y_i = F(K_i, Z_i)$: production function
- $k_i$: physical capital
- $K$: aggregate capital
- $Z$: aggregate effective labor
- $\delta_k$: 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
- $\lambda_i$: shadow price of the resource constraint
- $\mu_i$: shadow price of the IC constraint
- $\tau_{z_i}$: labor wedge
- $\tau_{k_i+1}$: capital wedge