Discussion of "Capital Income Taxation, Corporate Taxation, Wealth Transfer Taxes and Consumption Tax Reform"

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Overview

- An excellent overview of the existing theories of capital taxation
- My goal: put numbers for some of the arguments, discuss recent quantitative work
Focus

In the interest of time, one aspect of taxation: taxation of saving of individuals in a life-cycle framework

Focus:

- what are the key parameters that determine the size of taxes?
- how much do we know about them from empirical work?
A lifecycle economy

- Finitely lived household with preferences

\[ \mathbb{E} \sum_{t=0}^{T} \beta^t \left( \frac{c_t^{1-\gamma}}{1-\gamma} - \frac{1}{1+1/\varepsilon} l_t^{1+1/\varepsilon} \right). \]

- Idiosyncratic (private info) shocks to person’s productivity \( \theta_t \), labor income \( y_t = \theta_t l_t \)
  - born with skill \( \theta_0 \) drawn from \( F(\theta_0) \)
  - \( \theta_t \) follows a Markov process

- Partial equilibrium: interest rate \( r = \beta^{-1} \)

- Goals of the tax policy: to redistribute across heterogeneous individuals and provide insurance against idiosyncratic shocks
Two benchmarks are easy to solve

- fully optimal taxes (e.g. Golosov-Troshkin-Tsyvinski (2013), Farhi-Werning (2013))
- for a given simple tax function, e.g. linear tax on savings/labor (e.g. Aiyagari (1995), Conesa-Kitao-Krueger (2009))

Focus on the first

- many quantitative insights similar in both because the underlying forces are the same
Savings tax as a way of providing insurance

- Uncertainty is important
  - savings taxes are zero if shocks are deterministic
- Stochastic process for $\theta_t$ can be estimated from the data.
  - general consensus: it is quite persistent
  \[ \ln \theta_t = \ln \theta_{t-1} + \varepsilon_t \]
- Distribution for $\varepsilon_t$
  - PSID: normal, s.d. about 0.1 - 0.2 (Storesletten-Telmer-Yaron (2004))
  - SSA administrative data: s.d. about 0.5, higher moments are much larger than in normal distribution (Guvenen-Ozkan-Song (2013))
Representative marginal labor and savings taxes

Here $\varepsilon = 0.5$, $\gamma = 1$, Utilitarian planner
Quantitative properties of labor tax

- Left portion of labor tax: driven mainly by redistributory objectives and $\varepsilon$
- Right portion of labor tax: driven by tail hazard ratio of shocks and $\varepsilon$
- Log-normal shocks
  - taxes are (almost) flat $\Leftrightarrow$ many results are (almost) identical to those from Aiyagari model
  - taxes for high incomes $\tau^y \sim (1 + \frac{1}{\varepsilon}) \sigma^2_{\theta}$
- Higher moments
  - pronounced U shape
  - taxes for high income $\tau^y \sim (1 + \frac{1}{\varepsilon}) \sigma^2_{\text{higher}}$
Quantitative properties of savings tax

- Savings tax is driven mainly by idiosyncratic uncertainty
- With log-normal shocks, tax on total savings is
  \[ \tau^S = 1 - \exp(-\sigma^2) \]
- PSID: \( \sigma = 0.1 \rightarrow \tau^S = 0.01 \leftrightarrow \) about 15% tax on interest income
- SSA data: higher moments undo some of the effect of standard deviation, optimal tax is about double of the PSID numbers.
- General equilibrium effects substantially reduce these numbers!
Discussion

- Theory provides not only qualitative but also quantitative implications as a function of parameters that can be estimated empirically.
- Idiosyncratic uncertainty and importance of general equilibrium effects are some of the key components.
  - updated empirical estimates will allow to get better quantitative predictions.
- Elasticity of labor supply
  - standard parameter $\varepsilon \approx 0.5$
  - but does not include educational decisions, occupational choice, etc., which are also distorted by labor taxation.
- Importance of consumption-labor complementarity?
  - if it is important for high labor income individuals, their labor taxes should be much lower, capital taxes much higher.
Example: $U(c - v(l))$
Understanding wealth distribution

- The life-cycle model is standard, but off the mark for the right tail of capital distribution
  - capital holdings are much more skewed than labor income
- Key empirical parameter for normative theories: how much of wealth is inherited vs earned by entrepreneurs
- The two have very different normative implications
  - inheritance tax depend mainly on which Pareto weight we believe we should assign to different generations
    - can be small and negative (Farhi-Werning (2008, 2013)), or big and positive (Piketty-Saez (2013))
  - taxation of entrepreneurs follows generally the same principle as labor but with appropriate measures of elasticity of moral hazard
    - e.g. Shourideh (2012), Golosov-Tsyvinski-Werquin (2013)
    - can be big
Conclusion

- Theory provides quantitative predictions about the magnitude of capital and labor taxes as a function of empirically measurable objects.
- We have good idea about some of them, less about others.
- Theory can guide empirical investigation to uncover key parameters that determine quantitative properties of optimal taxes.