Discussion: Taxing Sudden Capital Income Surges

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Summary

Key model features: from Benhabib, Cui, and Miao (2024)

- Each household i owns and runs a private company (earning capital incomes). Capital incomes are subject to a jump shock dJ_t, whose probability is proportional to k_t^i and magnitude follows a mixture of exponential distributions with different μ(s).

$$d\pi_t^i = \underbrace{R^k k_t^i dt}_{\substack{\text{Capital income} \\ \text{(production)}}} - \underbrace{\left(\chi k_t^i + \frac{\eta}{2}\left(k_t^i\right)^2\right) dt}_{\text{Maintenance cost}} + \underbrace{dJ_t^i}_{\text{Jump}}$$

- Uninsurable idiosyncratic labor income risk:

Precautionary savings

$$d\ell_t^i = \rho_\ell \left(L - \ell_t^i\right) dt + \sigma_\ell \sqrt{\ell_t^i} dW_t^{\ell,i}$$

- Individual household wealth $x_t^i = k_t^i + b_t^i$ follows

Transfer (affecting precautinary savings)

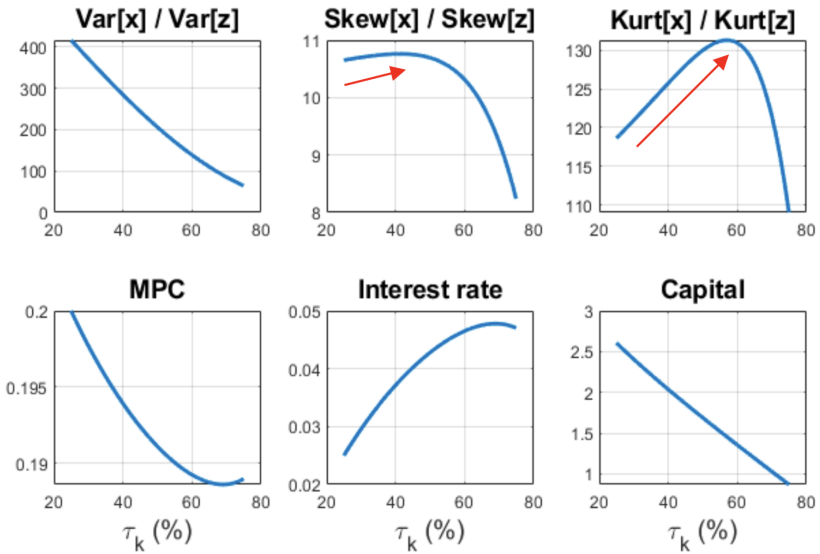
$$dx_t^i = r b_t^i dt + d\pi_t^i + w\ell_t^i dt - c_t^i dt + \Upsilon dt$$

Focus on tax policies on R^k (τ_k) and dJ_t (τ_J): $\tau_J\uparrow$ policy with additional government bond issuance can reduce inequality and the efficiency loss of taxation.

- Extremely interesting and policy-relevant paper with novel techniques.

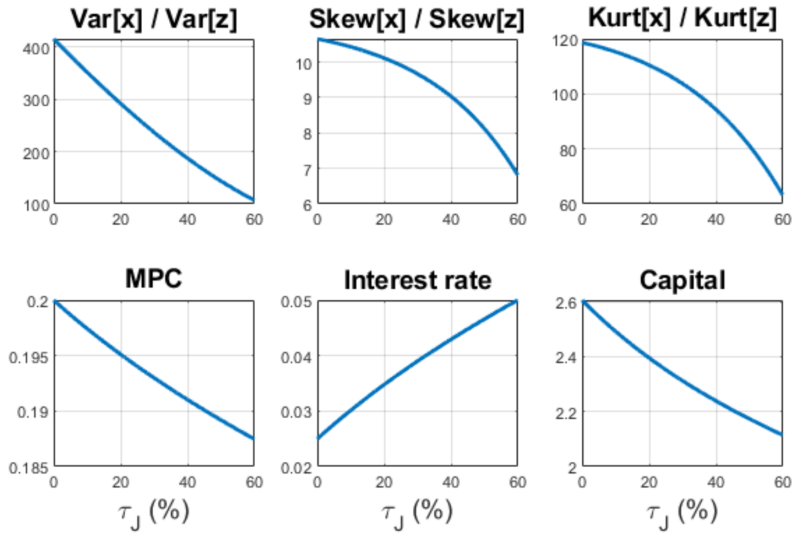
1. With adjustment in transfer Y

Figure 3: Inequality of Wealth and Income with Different τ_k in Equilibrium



Note: we use parameters obtained from calibration below and change the capital tax rate τ_k.

Figure 4: Inequality of Wealth and Income with Different Jump Tax τ_J in Equilibrium



Note: we use parameters obtained from calibration below and change the capital tax rate τ_J.

Both τ_k and τ_J reduces capital and saving, raising interest rates r.

- With transfer Y↑, the poor saves less (precautionary savings↓). Rich individuals save more from r↑, potentially exacerbating inequality.
- This pattern is only observed with τ_k, not τ_J here.

Table 3: Taxation with lump-sum transfer policy

	Capital K	Wealth X	$r(\%)$	MPC(%)	Bottom 50% (%)	Top 10% (%)	Top 1% (%)	Top 0.1% (%)	Gini Coeff. (%)
Benchmark ($\tau_k = 0.25$, $\tau_J = 0$)	2.61	4.19	2.50	20.00	1.70	63.6	33.7	14.7	79.4
$\tau_k = 0.3134$, $\tau_J = 0$	2.35	3.93	3.07	19.71	0.60	64.1	33.2	14.9	80.8
$\tau_k = 0.25$, $\tau_J = 0.1234$	2.47	4.03	3.13	19.69	0.90	64.0	33.4	14.7	80.4

Notes: For each tax policy, the corresponding row shows the result in the stationary equilibrium. Each of the tax policies in the last two rows raises additional 5% tax revenues relative to the benchmark in the first row. The four columns before "Gini Coeff." (Gini Coefficients) show the wealth shares.

Both τ_k and τ_J reduces capital and saving, raising interest rates r.

- With transfer $Y\uparrow$, the poor saves less (precautionary savings$\downarrow$). Rich individuals save more from $r\uparrow$, potentially exacerbating inequality.
- Both τ_k and τ_J policies raise inequality.
- Wage$\downarrow$ reduces dispersion of z (income), according to Figure 4, it surely reduces both skewness and kurtosis of x (wealth).

2. Marginal propensity to consume (MPC) out of wealth

In the paper, $\beta = 0.1417$ is calibrated to match MPC of 0.2 (20%).

- Carroll, Slacalek, and Tokuoka (2014) find 10%-40% MPC out of transitory shocks. But here,

$$c_t^i = \vartheta \left(\underbrace{x_t^i}_{\text{Wealth}} + a_h \underbrace{h_t^i}_{\text{Human wealth}} + \Gamma \right)$$

  ϑ is more like a MPC out of wealth.

- Garbinti, Lamarche, and Savignac (2024), based on the household-level panel dataset combining wealth and consumption surveys for 5 European countries, find 0.03 (3%), with MPC heterogeneity across the wealth distribution.

$\rightarrow$ The effect of transfer Υ on the poor's precautionary savings might become weaker.

$$c_t^i = \vartheta \left(x_t^i + \xi_\ell \ell_t^i + \frac{1}{r} \left[\frac{\eta}{2} k^2 + \Upsilon + \xi_\ell \rho_\ell L \right] \right)$$

Smaller

Table 2: Marginal propensity to consume out of wealth across the net wealth distribution – IV panel estimates

		All	Belgium	Cyprus	Germany	Spain	Italy
p0-p49	MPC	**0.003**	**0.061*** **	**-0.01**	**0.047** **	**0.003**	**0.036*** **
	Std. Err.	(0.008)	(0.022)	(0.006)	(0.024)	(0.007)	(0.010)
	Fstat	*9.5*	*3.3*	*10.2*	*4.6*	*9.5*	*8.9*
	Nb obs	3,086	331	322	447	1,029	957
p50-p69	MPC	**0.031*** **	**0.055*** **	**0.036*** **	**0.01**	**0.031*** **	**0.055*** **
	Std. Err.	(0.007)	(0.016)	(0.008)	(0.009)	(0.006)	(0.007)
	Fstat	*4.3*	*7.5*	*5.7*	*3.1*	*8.5*	*19.7*
	Nb obs	1,593	179	171	290	497	456
p70-p89	MPC	**0.014*** **	**0.027*** **	**0.001**	**0.03*** **	**0.014** **	**0.033*** **
	Std. Err.	(0.005)	(0.007)	(0.004)	(0.009)	(0.006)	(0.013)
	Fstat	*10.9*	*13.9*	*8.2*	*4.4*	*18.9*	*15.9*
	Nb obs	2,007	211	182	460	642	512
p90-p100	MPC	**0.004*** **	**0.01*** **	**0.002*** **	**0.005*** **	**0.008*** **	**0.027*** **
	Std. Err.	(0.001)	(0.003)	(0.001)	(0.002)	(0.002)	(0.010)
	Fstat	*19.2*	*19.9*	*10.0*	*23.2*	*10.3*	*20.4*
	Nb obs	1,773	114	133	372	854	300

Notes: Control variables: age and age^2 of the reference person, employment status (whether the reference person is retired (Yes/No), unemployed (Yes/No)), household composition (number of adults and number of children) and questions on income (is income in the reference period normal/above normal/below normal, is income in the next year expected to rise below/above price). The controls in the panel regression are measured in Wave 1. Confidence intervals robust to weak instruments following Andrews (2018) are available in Appendix Table B3. As robustness checks, alternative estimates using instruments based on the distributional wealth accounts are reported in AppendixTable B21, and those based on a lagged instrument approach are presented in Appendix Table B17.

3. Entrepreneurship

In the paper, capital investment k_t^i increase both production and the probability of a jump dJ_t (e.g., venture capital investment).

- τ_k affects both R^k (i.e., production return) and the certainty equivalent of dJ_t, while τ_J affects only the certainty equivalent of dJ_t.

  $\rightarrow$ τ_J is less distortionary.

- But entrepreneurship differs from capital investment: the probability $\lambda_k k_t^i$ is proportional to capital, but the size q could be determined by entrepreneurship and aptitude. High τ_J can lower the incentive of entrepreneur to innovate.

  $\rightarrow$ Realistically, $f(q)$ distribution will shift to the left $\sim$ superstar effect (Scheuer and Werning, 2015)

- No friction on the financing side: the ability of entrepreneurs to obtain external finance will be affected by τ_J (Boar and Knowles, 2024)

Big Question (Optimal Taxation on Entrepreneurship)

In this case, what would be the optimal τ_J?