

INEQUALITY, TAXATION, AND SOVEREIGN DEFAULT RISK

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Abstract

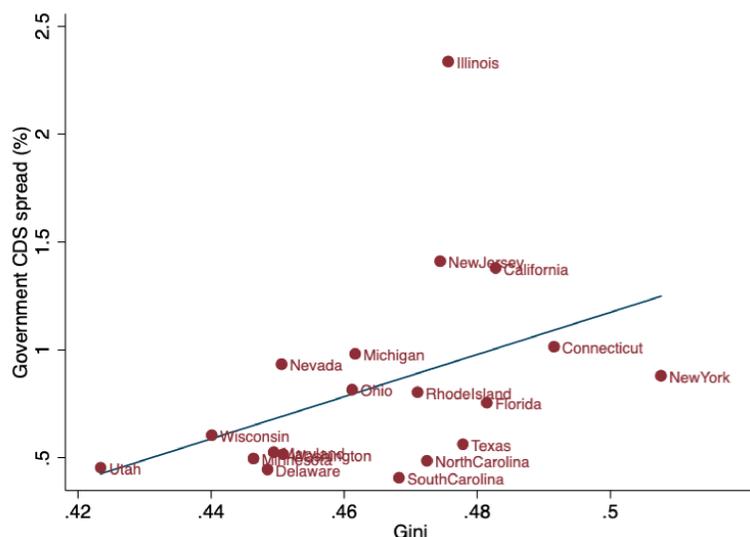
Government debt repayment relies on its tax revenue, the amount of which crucially depends on the micro features of the economy. This paper argues that income inequality and its interactions with migration significantly affect sovereign default risk. With high income inequality, the government imposes progressive taxes, which redistribute income but discourage labor supply and induce emigration, eroding the tax base and government's ability to repay debt. I develop a sovereign default model with endogenous non-linear taxation and heterogeneous labor with labor mobility to match those patterns. In the model, government chooses the optimal combination of tax and debt, considering its impact on the households' decisions and welfare. With the estimated model, I find that income inequality and its interactions with migration explain 23% of the variations in spreads across the states in the US.

Introduction

- The capacity and willingness for the governments to service their debt payment depend crucially on the tax revenues, the amount of which rely on the micro features of the economy.
- With income inequality, the governments need to redistribute income by imposing a progressive taxation. With labor mobility, the governments also need to consider the potential consequences of a progressive taxation, for example, the high-income workers might migrate away if they face high marginal tax rate.
- **This paper studies sovereign default risk incorporating the role of income inequality and its interactions with migration**, which has been largely ignored in the sovereign default literature originated in the seminal work of Eaton and Gersovitz (1981).
- I develop a sovereign default model with heterogeneous labor, migration, and endogenous progressive taxation. A progressive tax redistributes income, but distorts labor supply. To reflect the labor distortions, the model features elastic labor supply and migration choices, thus considering labor distortions in both intensive and extensive margin. I use the model to study the role of income inequality and its interactions with migration on sovereign spreads theoretically and quantitatively.

Empirical Evidence

- High inequality is associated with high sovereign default risk and spreads.



- Cross-state: Gini index \uparrow 0.1 (e.g. Utah \rightarrow Connecticut), spreads \uparrow 80 bp
- Cross-country: Gini index \uparrow 0.1 (e.g. Sweden \rightarrow Portugal), spreads \uparrow 50 bp
- Migration interacts with sovereign debt crisis.

See, for example, Gordon and Guerron-Quintana (2019) studies the interactions between regional borrowing, migration, and default using U.S. county-level data.

Alessandria, Bai, and Deng (2020) finds that countries at the core of the European debt crises, Spain, Ireland, Portugal, and Greece, experienced a substantial labor outflows, and emigration intensifies default risk by lowering tax base and investment

Sketch of Model

- A sovereign default model with heterogeneous labor (with mobility) and endogenous non-linear taxation
 - Labor is elastic and can migrate
 - Marginal tax rate varies with income level (Heathcote-Storesletten-Violante (HSV) tax structure (2014, 2017))
- Model key ingredients
 - Heterogeneous households:
 - * Choose labor supply, can migrate
 - * Heterogeneous in productivity and migration cost
 - Redistributive government:
 - * Chooses tax progressivity, issues state-uncontingent debt, but can default
 - * Faces spreads reflecting default risk
 - * Internalizes impact of policies on labor supply and migration

Model Mechanism

- For households, facing a more progressive tax, they reduce labor supply and increase outward migration (mostly high-income labor)
- Redistributive government faces **redistribution-spreads** tradeoff: with progressive taxes
 - Redistribute income
 - But distort labor, increase emigration, erode tax base, and increase default risk
- Thus, facing large inequality, government is more likely to opt for a more progressive tax, but suffers high debt spreads

Main Results

- Parametrize to U.S. state-level data
 - Similar magnitude as country-level spreads
 - States share same national institutions, comparable measures for tax progressivity, migration and income inequality
 - Higher level of labor mobility
- Results:
 - Income inequality and its interactions with migration explain 23% of the variations in spreads across the states in the US
 - Without migration, the impact of income inequality on government spreads is 34% lower
 - In a recession, government facing high inequality suffers larger increase in debt spreads
 - High level of labor mobility across the states explains the stronger correlation between income inequality and government spreads for cross-state sample than cross-country sample

Conclusions

- Income inequality and migration significantly affect sovereign default risk and sovereign debt spreads
- With the model estimated to US state level, this paper finds that inequality and its interactions with migration explains 23% of the variations in government spreads across the states
- This paper provides a new framework that incorporates endogenous non-linear taxation and heterogeneous labor with labor mobility to sovereign default models

Please do not hesitate to contact me if you have any comments/suggestions or are interested in the possibility of future collaboration.