Preliminary—Comments Welcome

OPTIMAL FISCAL FEDERALISM IN THE PRESENCE OF TAX COMPETITION

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Question: How to allocate spending responsibilities and taxing powers between the central and lower-level governments

Previous Approaches

Oates: Tradeoff between uniformity at the central level and cross-border spillovers at the local level.

Besley-Coate: Centrally-provided public good supplies differ across regions in inefficient ways, because their provision is controlled by the minimum winning coalition (MWC) of a legislature.

Lockwood: The voting process within the central legislature allocated "projects" in a way that is not sufficiently sensitive to the "within-region" benefits of projects.   Spillovers are a determining factor.

Janeba-Wilson: Countries use a federal structure to gain a strategic advantage over foreign rivals in their competition for internationally mobile capital.

Our Approach

- Use a minimum winning coalition at the central level.
- Replace spillovers with tax competition at the local level.
- Assume a continuum of public goods, so we can look for cases where both centralized provision and decentralized provision exist at the same time.

Results

- Some decentralization is always desirable.
- Under some conditions, both centralization and decentralization are desirable.

Assumptions

- 2 identical regions, each with a representative resident possessing endowments of immobile labor and mobile capital

- Factors produce output, which is used as private consumption and to produce public goods (Zodrow-Mieszkowski).

- Quasi-linear utility, with a continuum of public goods:

$$U = x + G; \qquad G = \int_0^1 u\big(g(n)\big)dn$$

- Efficiency rule:

$$u'(g(n)) = 1.$$

- Two levels of government: Central and Regional.

- The central government provides public goods in the set C, which we are seeking to determine, financed with a uniform tax on capital.
- Regions provide goods in R (where R and C cover the unit interval), financed with a tax on capital, but may also provide goods in C.
- The central government moves first, and then regions play a Nash game in tax rates (tax competition).
- Regional government care only about their own residents.
- Central government decisions are controlled by one of the two regions ("minimum winning coalition").

The Central Government's Problem

- Budget constraint:

$$\int_{n\in C} g(n)dn = 2TNK*$$

- Public good rule:

$$u'(g(n)) = \frac{1}{2}.$$

- Conclusion: Overprovision of public goods in insider region, no provision in outsider region.

A Region's Problem

- Budget constraint for an insider (use R and C for outsider):

$$\int_{n \in R} g(n)dn = tK(r + T + t),$$

- Public good rule:

$$u'(g(n)) = \frac{1 + \left(1 - \frac{K^*}{K}\right)\frac{dr}{dt}}{1 + \frac{t}{K}K'\left(1 + \frac{dr}{dt}\right)},$$

- Numerator--terms of trade effects; Denominator—tax-induced capital outflows.

- Conclusion: Underprovision for regions, unless a region is a capital importer with large "terms-of-trade effects"

Proposition 1. Assuming a quadratic production function, there exists an n' > 0 such that decentralizing the provision of public goods between 0 and n' raises expected utility.

Discussion

- Basic argument: When regional governments provide only a small number of public goods, the tax rates needed to finance them are small, and fiscal externalities from tax competition are small (denominator approximately equals one).

- As number of public goods rises, the fiscal externalities grow until they offset terms-of-trade effects (numerator), implying efficient provision. As a result, some amount of decentralization dominates complete centralization.

- Decentralization causes insider regions to raise their tax rates, which causes an efficiency-improving flow of capital to the high-tax outsider regions.

- Under the quadratic-production-function assumption, the outsider region responds to the inflow of capital by raising public good levels—a further efficiency gain (which should hold under more general production functions).
- Note: Decentralization must help the outsider region, but it can be expected to hurt the insider region.

Proposition 2: Assuming a CES production function, a sufficiently low substitution elasticity ensures that no central provision is optimal. If centralized provision of some public goods is preferable to no provision of these goods, then a sufficiently high substitution elasticity ensures that some centralized provision is optimal.

Discussion

- Basic argument: High elasticities make tax competition worse.

Many Regions

- One region is an agenda setter, which proposes the central tax and public good levels so that a majority of regions vote for the proposal over a default proposal, which is no centralization.
- Once again, we find that some decentralization is always beneficial.

Concluding Remarks

- Our main results suggest that some decentralization is always desirable, but some or no centralization may be optimal.

- Extensions:
  - Other political processws at the central level.
  - Political processes at the local level.
  - Different tiers of lower-level governments (lower tiers operate more efficiently?)
  - Income distribution issues: Centralization leads to capricious interregional differences in public good expenditures.