Fiscal Federalism as Insurance

James R. Hines Jr. University of Michigan and NBER

jrhines@umich.edu

October 2023

1. Federalism and Tax Competition.

Economic mobility forces governments to compete, both within and across federations. Not every jurisdiction openly acknowledges this competition, or even necessarily understands that it is happening; nor do they all welcome it; but all feel its effects. Tax competition arises because economic activity gravitates to locations where it finds the best deals. Governments are eager to attract economic activity, and loath to lose it, so they try to avoid policies that would drive valuable activity elsewhere. Economic actors with the most income at stake benefit from low tax rates. This inevitably puts downward pressure on tax rates, which is the basis of classic works on horizontal tax competition and the associated race to the bottom.¹

Roger Gordon's intriguing paper calls attention to a fascinating alternative possibility: that at least some governments might compete with others by offering higher tax rates. How is it possible to compete this way, given that nobody who pays taxes actually prefers to be subject to a higher tax rate, all other things equal? Naturally, it has to be the case that not all other things are equal. In particular, in the Gordon framework governments imposing high tax rates use tax revenue to provide larger-than-average transfers to all residents. If governments differ in the taxes they exact and the transfers they offer, with higher tax rates accompanied by larger transfers, then taxpayers in choosing where to locate get to select whether they prefer socialism (high tax rates and generous government transfers) or capitalism (low tax rates and skimpy transfers). The point of the Gordon paper is that many, including some with high expected incomes, will choose socialism – doing so strictly on the basis of self-interest. Tax payments by rich socialists provide much of the funding that makes it possible for governments to finance the promised transfer payments, and so a high-tax party is sustainable.

The governments in this model do not know that they compete with others, nor do they care; the model posits that governments choose policies designed to maximize outcomes for their existing residents, regardless of policy options elsewhere. The reality is that not everyone will continue to live in the jurisdiction once these governments adopt policies designed to help them, because taxpayer circumstances will change and they will discover even more attractive deals

elsewhere; and some existing residents of other places will move in to take their places. While government policies are therefore myopic, and as a result suboptimal from the standpoint of the people that the governments represent, these myopic policies are not *too* bad in this context, since the model assumes away the existence (or at least the importance) of land. Without land, the only things fixed in a location are the people who find it too costly to move. These less-thanfully-mobile residents would prefer their government to be a bit more forward-looking, adopting policies that might draw in rich socialists who will help fund generous transfers for themselves and others. Governments do some of that without really trying, but of course if you try you can do even better. Tax policy is therefore not quite ideal from the standpoint of current residents, though arguably good enough for government work.

The Gordon model serves as a useful reminder that any time there is economic mobility of any kind governments face a competitive setting. Indeed, even without mobility it is possible to have competition – residents of Maine might compete with Alaskans to produce the most elegant ice sculptures, even if neither the sculptures nor the sculptors ever move and nobody else cares – but mobility surely stiffens competition, a reality that governments ignore at their peril.

2. Taxes as Insurance.

The point of departure for the Gordon paper is the insurance function of taxation. If individuals are risk-averse, have uncertain incomes, and are unable to obtain private insurance, then government can provide a form of insurance through compulsory taxation. In the Gordon model, tax-based insurance takes the form of paying a fixed percentage of income to the government in return for a lump-sum transfer that is the same for all taxpayers in the jurisdiction. This is a stylized arrangement, and viewed strictly as an insurance policy, would not be much of a deal for high-income taxpayers, because while their expected tax payments increase with their expected incomes, their expected transfer receipts do not. For the same reason it is an excellent deal for low-income taxpayers. The analogy to a fire insurance policy would be one where homeowners pay insurance premiums that are proportional to the value of their homes, but in the event that a house burns down the homeowner receives the average value of a house in his or her

¹ See, for example Zodrow and Mieszkowski (1986), Wilson (1986), Wildasin (1988), Black and Hoyt (1989), Bucovetsky and Wilson (1991), Bucovetsky (1991), Wilson (1999), Baldwin and Krugman (2004), Keen and Konrad (2013), and Rota-Graziosi (2019).

town. The problems of such policy terms are obvious: those in fancy homes would pay heavily for inadequate insurance, while those in low-value homes would have strong incentives to store kerosene in the basement.

A private market can do better, and so can governments. In the paper's model, forwardlooking governments would have incentives to condition their taxes and social insurance policies on any information they can glean about taxpayers. Second-period taxes and transfers would therefore be functions of first-period incomes; those who move into a jurisdiction would face taxes and transfers that are not the same as those facing first-period residents; and governments would also condition taxes and transfers on the prior locations of new arrivals. Furthermore, taxes and transfers would be nonlinear functions of taxable income.

In order to simplify the analysis and abstract from distributional concerns, the paper assumes that governments are restricted to collecting taxes that are scalar functions of income. Such taxes, together with the transfers they finance, will indeed offer insurance, though not enough to tempt many high-productivity individuals to seek jurisdictions with higher tax rates. It would have to be a very risk averse high-productivity person who chooses to relocate to a jurisdiction that imposes high taxes in return for modest transfers. All that said, however, it is absolutely true that even a flat-rate income tax extracts more from taxpayers in states of the world when their needs for funds are less acute, and less when needs are more acute, so in that sense offers insurance.

One of the puzzling aspects of Silicon Valley is that it is located in California, where individual income tax rates on successful tech entrepreneurs are unusually high. Given how potentially mobile start-up firms appear to be, why do so many founders locate their companies in California and not, say, Nevada, where there is no state income tax?² The Gordon paper posits that entrepreneurs who understand the riskiness of their business ventures will appreciate the relatively more generous social safety net that high-tax California can provide. In practical terms, this corresponds to California entrepreneurs reassuring themselves that just in case their start-up firms fail they can live on government transfer payments, and that this justifies locating

² Anyone who has ever visited both California and Nevada may have noticed that these two states also differ in their non-tax attributes. Rauh and Shyu (forthcoming) offer evidence that the three-point hike in the marginal income tax

their potentially very profitable businesses in a high-tax state. This implication perhaps takes the model specification too literally. A slightly different, and perhaps more intuitive, interpretation is that entrepreneurs might for various reasons – including what the public sector offers – prefer to live in California, and ex ante they consider the expected probabilistic cost in present consumption terms of paying high tax rates in states of the world in which they are very rich to be very low.

3. Which taxes?

The paper characterizes the taxes that it analyzes as "income taxes," even though tax obligations are scalar functions of income. While there exist flat-rate income taxes, the paper's taxes might more naturally be classified as sales taxes or VATs, which are commonly applied at flat rates on broad ranges of consumption. There is no saving in the Gordon model, so all income is consumed, and would, therefore, be taxed by a sales tax or VAT. Income taxes, by contrast, apply to what the taxpayer earns, whether or not the taxpayer consumes the income that year. Income taxes are also commonly applied in progressive fashion, with average tax rates that rise with income. This progressive feature of most income taxes clearly illustrates their potential role in mitigating uninsured income risk, and makes it natural to think of governments designing income taxes with population risk-sharing in mind.

One of the nice aspects of the Gordon model is that it illustrates that more than just income taxes can reduce idiosyncratic income risk, as sales taxes and other flat-rate consumption taxes will also serve this function. The same is largely true of property taxes, since they increase the cost of property ownership that is associated with higher incomes, though the details of property tax implementation and incidence can somewhat complicate this picture. The reality is that governments rely on higher income taxpayers to finance most public sector expenditures, and fiscal systems therefore inevitably introduce at least some risk-sharing compared to outcomes in the absence of taxation. Of course systems will vary in their degrees of risk-sharing, and governments can be purposeful in their actions and thereby attract high-income risk-averse taxpayers who can contribute to the tax base.

rate of top bracket taxpayers introduced by the 2012 California ballot measure appears nonetheless to have prompted significant out-migration by high-income California residents.

4. Equilibrium diversity.

The classic Tiebout (1956) model does not rely on any intrinsic differences among jurisdictions; instead, communities differentiate themselves by endogenously selecting different levels of taxes and expenditures. Of course, a realistic model acknowledges and incorporates genuine differences, and the original Tiebout model does so; but one of its implications is that such intrinsic differentiation is not necessary to produce ultimate jurisdictional heterogeneity. In the Tiebout model, two Florida towns with identical pristine beaches will offer widely different combinations of taxes and public services, thereby accommodating differences in demands for public services among those who also insist on proximity to warm water and sand. The analogy to private market differentiation is clear: companies that do not differ in any intrinsic characteristics nonetheless may choose different paths that ultimately, and in equilibrium, make them do very different things.

The Gordon model shares the feature of the Tiebout model that nothing relies on intrinsic differences between jurisdictions. In the Gordon model, jurisdictions differ only in their initial populations – and since populations are mobile, these differences endogenously change as governments adjust their fiscal policies. Differently situated taxpayers prefer different fiscal bundles, and governments choose policies to accommodate these preferences. As a result, government policies have the effect of doubling down on any differences between jurisdictions in the characteristics of their populations, since the process of accommodating the preferences of the current majority will make people with its attributes less likely to leave, and others like them more likely to arrive from outside.

The Gordon model has the feature that there exists an equilibrium in which all jurisdictions offer the same fiscal bundles and have the same population distributions. In such a setting, nobody will have a policy-based incentive to move, and governments – which ignore the possibility of population mobility – will not have incentives to change what they do. Lest one be concerned that our world will settle into bland uniformity, it may be reassuring to note that such a symmetric equilibrium is unstable. Any random population movement, any change in population characteristics, or any deviation from a government policy tailored ideally for the

existing population, will drive the asymmetric dynamics just mentioned, accentuating the differences.

5. Fiscal federalism as insurance.

While insurance is valuable, not everyone wants the same policy, nor would private markets offer insurance to everyone on the same terms. To the extent that governments feel compelled to provide all residents the same social insurance, there is an obvious possible problem. Significant population differences in demands for social insurance, together with majoritarian decision making, almost inevitably means that those in unusual situations or with uncommon preferences will find that government policies do not conform to their preferences. And what is true of social insurance is also true of everything else that government does.

Fiscal federalism offers insurance against being in the minority. If I prefer that my town spend significantly more money on public libraries, and am willing to pay for the libraries with higher taxes, but 90 percent of my community feels otherwise, then it is very unlikely that the town will budget any extra money. If ten percent of the U.S. population agrees with me, then in a Tiebout world with population mobility, five states would offer excellent public libraries, and 45 would not. Despite my minority preferences, I would get to live in a town with the libraries that I want, not by having my town spend more money, but by moving to a town that does.

The Gordon paper identifies an important channel by which governments can provide insurance, where what the paper models is a type of financial insurance against idiosyncratic shocks to income. Federalist governments are not generally thought to have much ability to offer social insurance that redistributes income, given the prevalence of horizontal externalities in taxsetting and fiscal adverse selection introduced by population mobility. The paper's model shows that this critique can easily be overstated, since there remains an important channel for insurance. It seems, however, that one might further broaden the framework of the Gordon model, and acknowledge that a federalist system itself provides a more fundamental type of insurance against being on the wrong side of the majority. Relying on population mobility together with government willingness to accommodate differences, a federalist system has the potential to get closer than any alternative to meeting the needs of all of its residents.

References

Baldwin, Richard E. and Paul Krugman, Agglomeration, integration and tax harmonisation, *European Economic Review*, February 2004, 48 (1), 1-23.

Black, Dan A. and William H. Hoyt (1989), Bidding for firms, *American Economic Review*, December 1989, 79 (5), 1249-1256.

Bucovetsky, Sam, Asymmetric tax competition, *Journal of Urban Economics*, September 1991, 30 (2), 167-181.

Bucovetsky, Sam and John Douglas Wilson, Tax competition with two tax instruments, *Regional Science and Urban Economics*, November 1991, 21 (3), 333-350.

Keen, Michael and Kai A. Konrad, The theory of international tax competition and coordination, in Alan J. Auerbach, Raj Chetty, Martin Feldstein, and Emmanuel Saez eds., *Handbook of Public Economics*, Vol. 5 (Amsterdam: North-Holland, 2013), 257-328.

Rauh, Joshua and Ryan J. Shyu, Behavioral responses to state income taxation of higher earners: Evidence from California, *American Economic Journal: Economic Policy*, forthcoming.

Rota-Graziosi, Grégoire, The supermodularity of the tax competition game, *Journal of Mathematical Economics*, 2019, August 2019, 83 (1), 25-35.

Tiebout, Charles M., A pure theory of local expenditures, *Journal of Political Economy*, October 1956, 64 (5), 416-424.

Wildasin, David E., Nash equilibria in models of fiscal competition, *Journal of Public Economics*, March 1988, 35 (2), 229-240.

Wilson, John D., A theory of interregional tax competition, *Journal of Urban Economics*, May 1986, 19 (3), 296–315.

Wilson, John Douglas, Theories of tax competition, *National Tax Journal*, June 1999, 52 (2), 269-304.

Zodrow, George R. and Peter Mieszkowski, Pigou, Tiebout, property taxation, and the underprovision of local public goods, *Journal of Urban Economics*, May 1986, 19 (3), 356–370.