The Tax and Transfer System

Research Statement: Stefanie Stantcheva

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How can we best use the tax and transfer system to raise revenues, reduce inequality, and foster the productivity of firms and individuals? Designing a just and efficient tax and transfer system for firms and individuals has become increasingly important in light of tightening governmental fiscal constraints and rising income and wealth inequality. Taxes and transfers are extremely powerful tools that affect everyone, whether they are operating invisibly in the background or highly salient. They are used not only to raise revenues, but also to redistribute income and wealth, reduce inequality, improve opportunities, and even to improve the functioning of markets. Poorly designed tax and transfer systems could outright discourage productive activity, economic growth, and progress.

My research in taxation develops theoretical frameworks, creates new datasets to provide empirical evidence, and combines theory and data to improve our understanding of the effects of taxation and help guide the debate on tax design.

I focus on three main issues: (i) the dynamic effects of taxation, (ii) the corrective role of taxation in the presence of asymmetric information and other market imperfections, and (iii) social preferences, attitudes, and perceptions to understand the determinants of tax and transfer policy.

In one formula: Heuristically, the optimal tax formula for any tax τ typically takes the following form:

$$\tau^* = \frac{1 - \overset{\substack{\text{Social}\\\text{preferences}}}{\bar{g}} + \overset{\text{Externalities}}{C}}{1 - \bar{g} + \underset{\substack{\text{Efficiency}\\\text{effects}}}{e}}$$

Each term in this formula represents one of the three issues I focus on, described in turn below:

1. e is the elasticity of the tax base under consideration to the tax τ and captures the efficiency effects of taxation. I particularly study the dynamic efficiency effects.
2. C captures the corrective role of taxes, when there are externalities or market imperfections.
3. $\bar{g}$ is the average social welfare weight across individuals or firms affected by the tax, weighted by their income taxable under that tax. It captures social preferences.

1. The Dynamics of Tax Policy

The effects of taxes are not just contemporaneous and short-lived. Instead, one needs to take into account their medium- and longer-term dynamic effects, such as their impacts on (i) the acquisition of human capital by individuals, (ii) innovation by firms and individuals, and (iii) savings and capital accumulation.

Taxation and Human Capital:

How should we finance human capital acquisition, formal education, college, job training, throughout life? In my first line of research, I constructed a model of the life cycle in which people decide how much human capital to acquire at each stage of their life, either in the form of formal schooling (Stantcheva, 2017) or job training (Stantcheva, 2015a). I derive the optimal integrated tax and education policies. It turns out that the solution is income-contingent education loans provided throughout life. Repayments depend on agents' incomes and provide incentives for human capital accumulation while also insuring against earnings risk. How generous should this system be, i.e., to what extent should we allow agents to repay less on net than they borrowed? A central result is that it matters greatly whether education and training mostly benefit the more talented and already advantaged people, in which case it is not optimal to subsidize them, or if they level the playing field across people with different abilities or backgrounds, in which case it is optimal to subsidize them. One can extend this result to an intergenerational setting where parents invest in the human capital of their children, and apply it to the design of education subsidies and bequest taxation (Stantcheva, 2015b).

In Akcigit et al. (2018), we show theoretically and empirically that high-skilled individuals, namely inventors, acquire human capital by interacting with others around them. Inventors' human capital or knowledge is a key input into the innovation process. We model knowledge diffusion of inventors as nested inside an endogenous growth model and highlight the implications for productivity growth and technological improvements.

Taxation and Innovation:

The interplay between taxation and innovation can be seen in two ways. First, taxation may affect innovation in perhaps unintended ways. This may be an unwelcome by-product of taxes, even if they are set for completely unrelated goals, such as to raise revenues. Thus, reduced innovation could be one of the efficiency costs of taxation. Second, one may go further and realize that tax policy could intentionally be designed so as to stimulate innovation.

In Akcigit et al. (2016), we study the optimal design of R&D policies and corporate taxation to correct for technology spillovers across firms and the non-appropriability of innovations. Our key contribution is the consideration of asymmetric information: the government does not know which firms are the most productive. Simple, often used innovation policies, such as linear R&D subsidies and linear profit taxes, lead to large revenue losses relative to the optimal mechanism. The way to improve these policies is to condition R&D subsidies and corporate taxes on firms' age, size, and past performance.

Taxation can also have detrimental effects on innovation if it sets the wrong incentives for innovators. In Akcigit et al. (2016), we use patent data from the U.S. and Europe since 1977 to find that "superstar" inventors are significantly less likely to remain in or move to countries

with higher top tax rates. This sensitivity to top tax rates is especially high for inventors who work for multinationals.

In Akcigit et al. (2018), we leverage three brand new datasets, which we constructed from historical data sources: a panel of the universe of U.S. inventors since 1920 and their associated patents, citations, and firms; a panel of all R&D labs in the U.S. since 1921, matched to their patents and with data on their research employment levels and location; and a historical state-level corporate and personal income tax database. This unique combination of data allows us to systematically study the effects of both personal and corporate income taxation since 1920 on individual inventors and individual firms that do R&D – i.e., the "micro" level– and on innovation at the "macro" state-level. We find that personal and corporate income taxes affect the quantity, quality, and location of innovation. At the macro level, cross-state spillovers or business-stealing from one state to another are important, but do not account for all of the effect. Agglomeration effects from local innovation clusters tend to weaken responsiveness to taxation. Corporate inventors, who patent within companies, respond more strongly to taxes than their non-corporate counterparts.

Capital and Wealth Taxation:

In Saez and Stantcheva (2018), we develop a simpler theory of optimal capital taxation that expresses optimal tax formulas in terms of empirical elasticities and social preferences. We use them to simulate optimal taxes with U.S. tax return data on labor and capital incomes. In ongoing work, I study how capital income in 20 OECD countries has reacted to taxation since the 1960s, whether this has changed with more global integration, and how tax elasticities have been influenced by other policies. This line of work starts with the collection of a new half-century-long systematic database of capital tax rates across countries.

2. Market Imperfections and Tax Policy

Market imperfections, such as asymmetric information, modify the responses of agents to taxation, imply a potential corrective role for taxation, and can affect optimal tax design. In Stantcheva (2014), I consider asymmetric information as a major market imperfection in the labor market: firms do not know workers' talents before hiring them. As a result, high productivity workers are caught in a "rat race," in which they have to work excessively to signal their talent. Surprisingly, this may help the government redistribute income at a lower efficiency cost.

In Piketty et al. (2014), top earners' incomes are not equal to their economic product, and they can respond to taxes through three channels: labor supply, tax avoidance, and compensation bargaining or rent-seeking. We present empirical evidence consistent with such avoidance and bargaining effects using U.S. and international CEO pay data. CEOs are paid not only for performance, but also "paid for luck" and especially so when top tax rates are lower. This suggests a partially corrective role for top tax rates.

Another type of frictions that arise are cognitive or behavioral: people may not fully understand the tax system and may thus value tax simplicity, i.e., a tax system that is easy to understand and that has low administrative hassle costs. In Aghion et al. (2017) we leverage

new population-wide tax returns for France and show that small entrepreneurs and business-owners value tax simplicity. But it turns out that there is a trade-off, since a tax that is simpler to file is also simpler to evade.

3. Social Preferences, Attitudes, and Perceptions

The tax and transfer system is fundamentally the result of a balance struck by society in accordance with core principles of social fairness and justice. Most modern taxation theory relegates these considerations to the background and focuses almost entirely on the efficiency costs of taxation. A richer social choice theory based on empirical evidence that accounts for how society decides on taxes and public goods is needed. What are the social attitudes, values, and perceptions that drive support for some policies rather than others?

A New Theory of Social Preferences:

It is challenging to include broader and more complex social objectives that can justify some important features of the real world tax and transfer system without compromising tractability. In Saez and Stantcheva (2016), we propose a new way to evaluate tax reforms by aggregating losses and gains of different individuals using "generalized social marginal welfare weights" that directly capture society's concerns for fairness allowing us to cleanly separate individual utilities from social weights. Suitable weights can help reconcile discrepancies between the welfarist approach and actual tax practice as well as unify in an operational way the most prominent alternatives to utilitarianism, such as Libertarianism, Equality of Opportunity, or Poverty Alleviation.

Experimental and Survey Evidence on Social Preferences:

A major part of my research agenda is to explore social preferences empirically, making use of the new "social laboratories" offered by online surveys. I design large-scale surveys, run on representative samples in several countries, which carefully elicit quantitative and qualitative information on respondents' perceptions, knowledge, attitudes, and policy views. My focus on self-designed large-scale survey data comes from the recognition that there are things such as perceptions and attitudes that one cannot see in other data sources – such as administrative data– no matter how high-quality those are. This research has line has confirmed that people have much more complex social attitudes than we typically model in public policy design, and that behind these social preferences lie perceptions (and misperceptions).

In Kuziemko et al. (2015), we show that providing U.S. respondents with information about increasing inequality barely moves their support for redistribution, but reduces their trust in the government.

In Alesina et al. (2018), we collect new cross-country survey and experimental data from five countries to investigate how beliefs about intergenerational mobility affect preferences for redistribution. Americans respondents are too optimistic about the "American dream," i.e., the likelihood of making it from the bottom to the top quintile; European respondents are too pessimistic about the probability of getting out of poverty. Our randomized treatment shows pessimistic information about mobility and increases support for redistribution, mostly

for "equality of opportunity" policies. But there is strong political polarization: right-wing respondents do not want to support more redistribution policies, because they see the government as a "problem" and not as the "solution."

We also explore whether generosity travels equally well across ethnic, national, and religious groups by investigating how people's perceptions of immigrants shape their preferences for redistribution (Alesina et al., 2018). We find strikingly large biases in natives' perceptions of the number and characteristics of immigrants: in all countries most respondents greatly overestimate the total number of immigrants, think immigrants are culturally and religiously more distant from them, and are economically weaker – less educated, more unemployed, poorer, and more reliant on government transfers – than is the case. Given the very negative baseline views that respondents have of immigrants, simply making them think about immigration in a randomized manner makes them support less redistribution, including actual donations to charities.

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