To: Kevin Willens

From: Don Boyd

Date: December 18, 2024

Subject: Distribution of tax burden

You asked for information on analyses of tax burden, such as for the sales tax.

This memo provides preliminary information. I'm happy to delve more deeply but would like to be sure I understand your specific interests before I do so.

What do we mean by distribution of tax burden?

Usually, people mean how much do people pay in taxes as a percentage of income, by income range? Sometimes, people are interested in other measures, such as taxes as a percentage of wealth, or taxes paid by industry or age group. I'm assuming you mean taxes as a percentage of income, at least initially.

Usually, analysts try to estimate who bears the burden of taxes, after shifting. That requires assumptions about behavioral responses. Does the consumer bear the burden of the sales tax through higher prices or does the seller bear it through lower net revenue? Does the worker bear the burden of a payroll tax or does the employer? Does the landlord bear the property tax or does the tenant? And so on. Ordinarily, analysts draw on economic theory and empirical economic studies to help make assumptions about how much of a tax is borne by one party versus another.

Tax shifting is rarely simple – often it depends on circumstances, such as whether we're looking at a large economy where it's not easy to move away from the tax, or a small economy where it may be easy to avoid a tax by moving across a border or doing business with someone on the other side. The extent of tourism and interstate activity can be important. Whether the internet makes it easy to avoid a tax is important. Often research is not definitive on what shifting assumptions are appropriate, and analysts examine more than one set of assumptions.

Another question is whether to reflect the benefits of federal income tax deductibility of state and local taxes. This had been very important before the 2017 federal TCJA tax cut. It is a bit less important now but remains important for some taxpayers. Good studies usually take this into account, at least in an alternative set of calculations.

Who does these studies, and how?

These studies are not easy to do. Often, they require data that can't be found in any single database. For example, there is no ready database on how much households in subnational geographic areas buy of different taxable and potentially taxable goods and services by income range. It's further complicated because the sales tax applies to business purchasers as well as households. It's especially hard if you want to know the net burden of multiple taxes, or how burdens might change if multiple taxes are changed.

Constructing the necessary databases is a large part of the work. Often, researchers construct merged household-level databases that may include information on:

- Income, family composition, age, and occupation using microdata (household-level data) from sources such as the Current Population Survey (CPS) or the American Community Survey (ACS)
- Spending patterns (useful for the sales tax), imputed from or statistically matched with the Consumer Expenditure Survey
- Income taxes, statistically matched with or imputed from often-confidential tax data files (there are some public use files)
- Other sources as needed, sometimes matched (statistically) against administrative property tax files, or against the Survey of Consumer Finances, or other microdata files.

These are specialized and computer-intensive activities. Some variants of this approach instead construct representative or hypothetical taxpayers at different points in the income distribution and calculate taxes they pay under different policies. This approach has the benefit of requiring less data, and providing many insights, but the disadvantage that it doesn't attempt to replicate the overall structure of the economy – *how many* of each kind of taxpayer we have.

Empirical studies for specific areas that estimate the distribution of tax burden under current law and alternatives, in detail, are done by large organizations, and for specific purposes:

- State tax study commissions often do these studies, as do state tax departments, and sometimes legislative committees.
- The Institute for Taxes and Economic Policy (ITEP) does a periodic study, *Who Pays?* (see this and this), that estimates the distribution of income, sales, property taxes, and certain other state and local taxes, by state, by income decile. It is reasonably well respected.

- The last New York state analysis I am aware of was in a 2013 tax study commission. See the last section for details.
- I looked for but did not find any MTA-specific studies.
- There are some New York City studies of the distribution of the income tax. The Independent Budget Office regularly does studies (see this and this). The City comptroller does occasional analyses. The Furman Center has examined the distribution of the property tax, albeit not by income range.

It's not that these studies can't be done; it's just that they're time- and resource-intensive and have limited general applicability and limited shelf life.

Alternatives to full-blown studies

Because of the work these databases take, it's useful to have alternatives. The main alternatives are:

- Draw on theory and general empirical studies for robust conclusions that aren't tailored to the geographic area in question. For example, we know that the sales tax is regressive. That's useful information when thinking about sales tax changes versus other taxes, although it doesn't quantify how much one policy change would change the distribution of burden, relative to another change.
- Draw on older studies in the area in question.
- Draw on summary data that gives insight into the distribution of tax burden. For example, the Consumer Expenditure Survey often is used to understand spending patterns and potential distribution of the sales tax. Unfortunately, it has little geographic detail and broad income ranges.
- Representative or hypothetical taxpayers, as discussed above.

More about the New York study

One of New York's two 2013 tax study commissions issued a report with appendices that examined tax burden ("New York State Tax Reform and Fairness Commission Final Report." New York State Tax Reform and Fairness Commission, November 2013.) I've attached the report – the appendices start on electronic p.49. One appendix examined household tax burdens, and another appendix examined business tax burdens.

The report examined total state and local sales taxes; federal, state, and NYC income taxes; and local property taxes, for New York City taxpayers and New York State taxpayers.

I've copied the key non-NYC and NYC tables below. Obviously, things have changed since 2013, particularly the impact of federal deductibility, but it gives you a sense of the relative importance of the different taxes, and their pre-deductibility distribution across income ranges.

Table 17. Total Tax Burden by Income for a Typical Household 1/

Outside New York City						
Income 2/	Percent of Income					
	Personal Income Tax		State and Local Sales Tax	Real Property Tax /3	TOTAL (Including Federal)	TOTAL State and Local
	Federal	New York State				
$ 15,000	-47.7%	-14.7%	3.8%	N/A	-58.7%	-10.9%
$ 25,000	-27.7%	-7.4%	2.6%	13.4%	-19.0%	8.7%
$ 50,000	0.9%	1.7%	2.2%	7.8%	12.5%	11.6%
$ 75,000	5.5%	3.2%	1.9%	6.6%	17.3%	11.7%
$ 100,000	6.0%	3.7%	1.7%	6.1%	17.5%	11.5%
$ 250,000	17.0%	5.9%	1.1%	4.7%	28.6%	11.6%
$ 500,000	24.3%	6.2%	0.9%	4.3%	35.6%	11.4%
$ 1,000,000	26.4%	6.4%	0.8%	3.1%	36.7%	10.2%
$ 2,000,000	27.1%	6.6%	0.6%	2.2%	36.6%	9.4%
$ 5,000,000	29.9%	8.6%	0.5%	1.2%	40.3%	10.4%

1/ Two-person household with two dependents

2/ Defined as total Federal Adjusted Gross Income (FAGI) for Personal Income Tax purposes; FAGI, less any IRA and retirement annuity distributions for Real Property Tax purposes; and the total money earnings of a household as defined by the Consumer Expenditure Survey for State and Local Sales Tax purposes.

3/ Results are for all Economic Development Council Regions outside New York City.

Table 18. Total Tax Burden by Income for a Typical Household 1/

New York City							
Income 2/	Percent of Income						
	Personal Income Tax			State and Local Sales Tax	Real Property Tax 3/	TOTAL	TOTAL minus Federal Personal Income Tax
	Federal	New York State	New York City				
$ 15,000	-47.7%	-14.7%	-2.6%	5.6%	N/A	-59.4%	-11.7%
$ 25,000	-27.7%	-7.4%	-0.6%	3.9%	8.8%	-22.9%	4.8%
$ 50,000	0.9%	1.7%	1.8%	3.2%	4.6%	12.1%	11.2%
$ 75,000	5.5%	3.2%	2.4%	2.8%	3.5%	17.4%	11.9%
$ 100,000	5.7%	3.7%	2.5%	2.5%	2.9%	17.2%	11.5%
$ 250,000	17.0%	5.9%	3.1%	1.6%	2.1%	29.6%	12.6%
$ 500,000	24.3%	6.2%	3.2%	1.3%	2.7%	37.7%	13.4%
$ 1,000,000	25.9%	6.4%	3.5%	1.1%	2.1%	39.0%	13.1%
$ 2,000,000	25.5%	6.6%	3.7%	0.9%	1.6%	38.3%	12.8%
$ 5,000,000	28.2%	8.6%	3.8%	0.8%	1.1%	42.5%	14.3%

1/ Two-person household with two dependents
2/ Defined as total Federal Adjusted Gross Income (FAGI) for Personal Income Tax purposes; FAGI, less any IRA and retirement annuity distributions for Real Property Tax purposes; and the total money earnings of a household as defined by the Consumer Expenditure Survey for State and Local Sales Tax purposes.
3/ Results are for the New York City Economic Development Council Region

Next steps (if any)

Hopefully this gives you a sense of the issues, and what has been done. It's possible to delve into this further but I wanted to get you some preliminary information first.