IRS SOI Historical Table 2 for 2018

Don Boyd

September 24, 2020

Contents

Use the links above to navigate this document (Ctrl-home to return to the top to access the links).

What's done and what's to come

I have been assuming you are particularly interested in the following:

1. How have taxes on New Yorkers changed between 2017 and 2018, in comparison to the rest of the nation? To what extent might that result from the TCJA?

2. How high are taxes on New Yorkers in comparison to the rest of the nation?

3. How have SALT deductions changed and how has that affected taxes?

4. To what extent did taxpayers shift income and deductions in anticipation of and as a result of the TCJA?

5. Miscellaneous descriptive questions such as changes in numbers of returns and change in New Yorkers' federal income tax liability as a share of total U.S. federal income tax liability.

Some of these questions can be answered reasonably well with the new IRS Historical Table 2 data for 2018 and some cannot. Some can be answered much better or more confidently with microdata, if we go forward with the second part of this project, than with the aggregated Historical Table 2 data.

Here's how I think the analysis below measures up against these questions.

1. Changes in taxes: The analysis focuses on how effective tax rates have changed between 2017 and 2018. I think it does a pretty good job within the limits of the aggregated data.

2. How high are taxes on New Yorkers?: I didn't address this directly but you'll find scatterplots in the *Details* section that show where NY fits, by income range. (The scatterplots with the diagonal lines.)

3. SALT deductions: I have a placeholder for this. I've done a lot of looking but haven't put anything in the document yet.

4. Income and deduction shifting: Also a placeholder. I've done some looking and been surprised that it isn't as obvious as I expected, although I am sure it did happen.

5. Miscellaneous descriptive analysis: I did a lot of this as I was wandering through data in the beginning, and it is not well organized. Most of it is in the *Descriptive analysis* section. Among other things the section provides descriptive data on:

   - Changes in total tax liability
   - Each state's tax liability as a % of the national total
   - Changes in numbers of returns.

CAUTIONS

The main caution is that much of the analysis below relies on comparing a measure of effective tax rates that is cruder than we would like. That measure is federal income tax liability as a percentage of adjusted gross income. I examine changes in this measure over time, and differences across states and income ranges.

It is not a perfect apples-to-apples comparison for several reasons:

- There are many reasons for changes from one year to the next - people may have shifted income between years of have had economic changes that affected the measures. It is not the same as calculating 2017 tax law and 2018 tax law on the same exact data, which we can do in the second part of this project should we go forward.

- The definition of AGI may have had some changes across years although I do not think that will have a big impact on results.

- AGI is an imperfect measure of income or economic resources, but it's the only one we have available to us here.

Conclusions

How effective tax rates changed between 2017 and 2018

Key conclusions:

- New Yorkers in all adjusted gross income ranges below $1 million paid lower taxes as a percentage of AGI in 2018 than in 2017. (I call this the effective tax rate as shorthand, but see details below.)

- Millionaires in NY, CA, and CT paid higher effective tax rates than in 2017.
- Although non-millionaire New Yorkers received tax cuts, their tax reductions were much smaller than in other states.
- Many other high-tax states had similar changes.

Scatterplot of changes in effective tax rates between 2017 and 2018, by income range

The figure below illustrates the points above:

- The vertical axis shows the change in effective tax rate between 2017 and 2018. That is, it shows the effective rate in 2018 minus the effective rate in 2017, where the effective rate in each year is the federal tax liability in that year as a percent of adjusted gross income.
- The horizontal axis shows different income ranges. The first group on the left, "All income ranges," shows the average over all tax returns. The next group, "Under $1" shows the results for returns with zero or negative AGI. (Many taxpayers in this range are highly atypical and I wouldn't pay much attention to it.) As you move to the right, we have higher income ranges, ending with millionaires on the far right.
- Each gray point represents a state. I have labeled several states in each income range: NY (blue), US average (red), and selected other states (green). The other states always include CA, CT, FL, MA, NJ, and TX, and in addition I have included the two highest and lowest states in each group.
- The horizontal line is at zero - states above the line had an increase in the average effective tax rate; as you can see, millionaires in CA and CT, as well as in NY, had an increase.
- Here's an example of how to interpret it: In 2017, in the $500k - $1 million income range, federal income tax paid by New Yorkers was 26.54% of their AGI and in 2018, the effective rate was 25.39%, a reduction of 1.15 percentage points. The negative 1.15% points is the dot shown on the graph, which makes NY the highest state in this group – i.e., it had the smallest reduction in effective tax rate of all states.
- As you can see, NY is at or near the top for most ranges, meaning that tax reductions were smaller in NY than elsewhere (and millionaires had increases).

Some of the states are difficult to make out. While it is possible to improve the figure, it is probably better to just look at a table. In the details section I've provided tables with data underlying the figure.

Change from 2017 to 2018 in federal income tax liablity as % of adjusted gross income

The lower the value, the greater the reduction in tax. Values above 0 are increases.
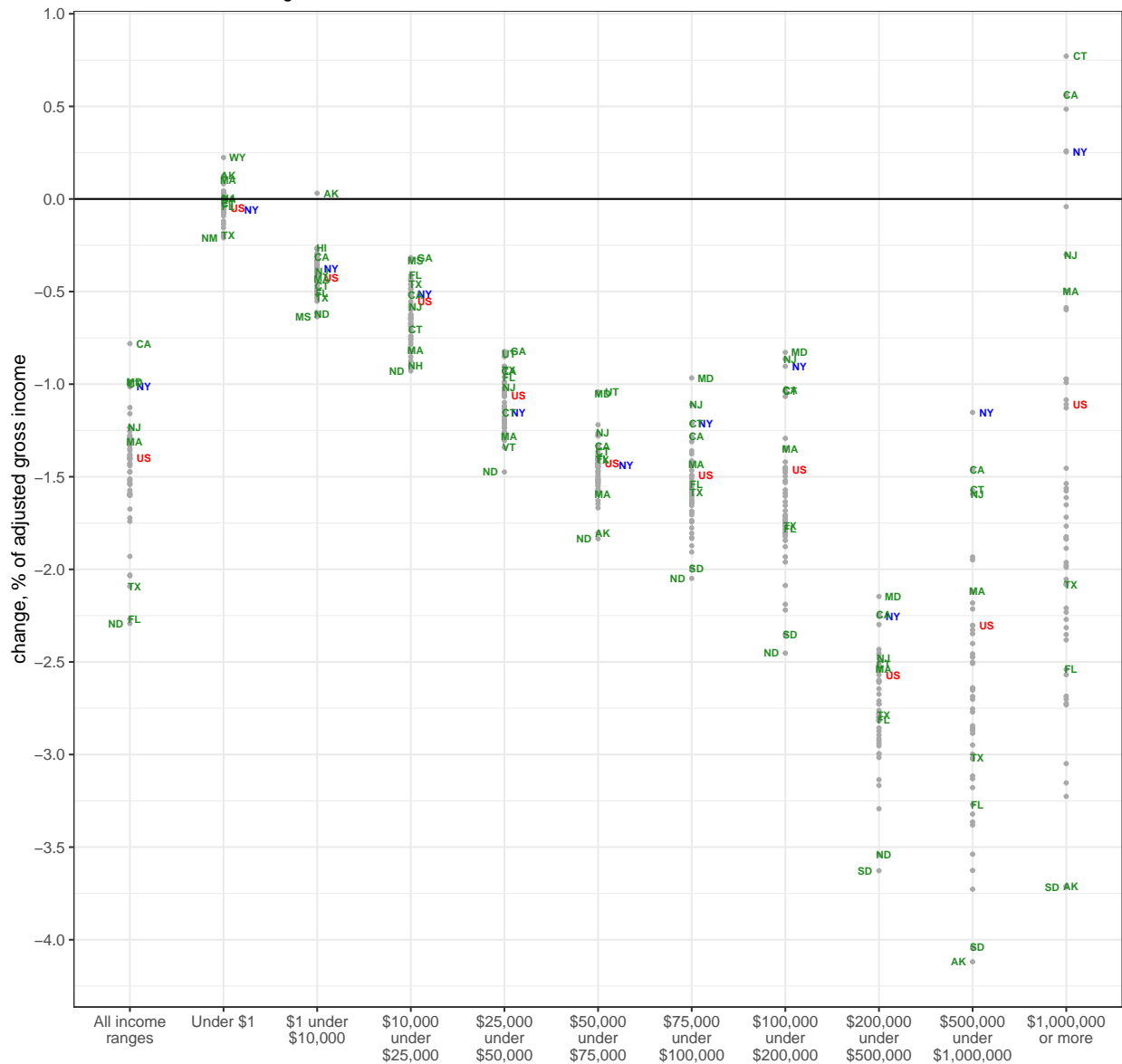
Maps of changes in effective tax rates

Map of changes for all taxpayers The figure below maps the change in effective federal tax rate for all taxpayers. The states with the largest decline are deepest red and those with the smallest decline are deepest blue. As expected, states with lower state and local taxes (e.g., Florida) have the largest federal tax reductions.

```
## Loading required package: grid
```

Change in federal effective tax rate from 2017 to 2018, all taxpayers

Effective tax rate defined as federal tax liability as % of adjusted gross income

Change in effective rate

- < −1.75%
- −1.75% to < −1.50%
- −1.50% to < −1.25%
- −1.25% to < −1.00%
- −1.00% or higher
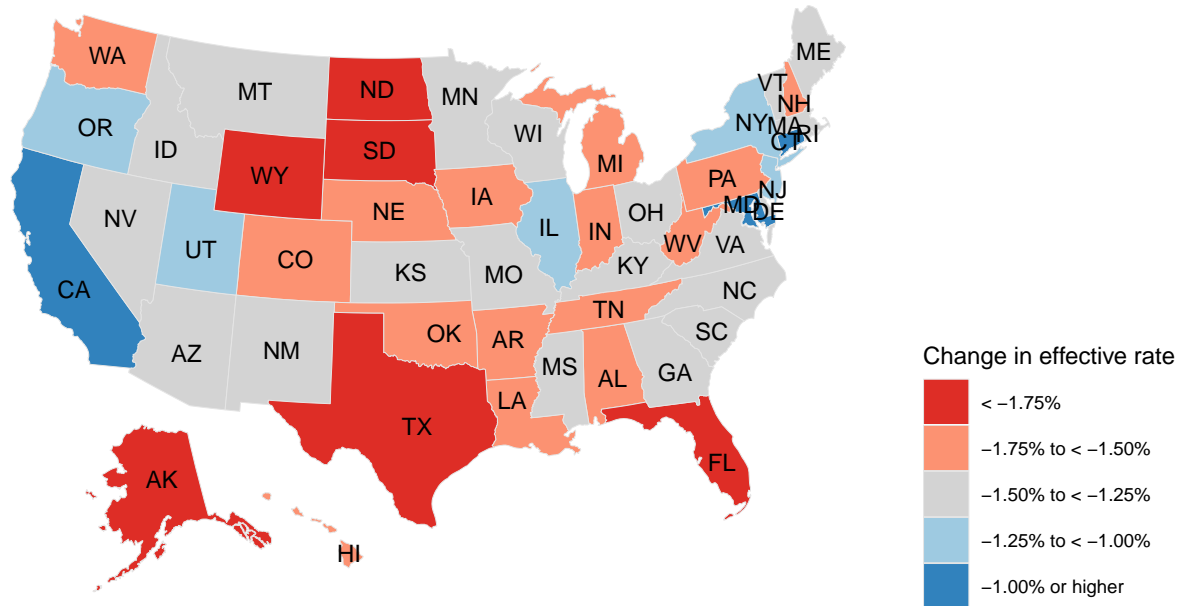
Map of changes for taxpayers in the \$100-200k AGI range   The next map shows the change for taxpayers with adjusted gross incomes in the \$100k to \$200k range. Caution: I have used different cutpoints in this map than in the first to keep the number of states in each group reasonably distributed.

Change in federal effective tax rate from 2017 to 2018, $100–200k inco

Effective tax rate defined as federal tax liability as % of adjusted gross income
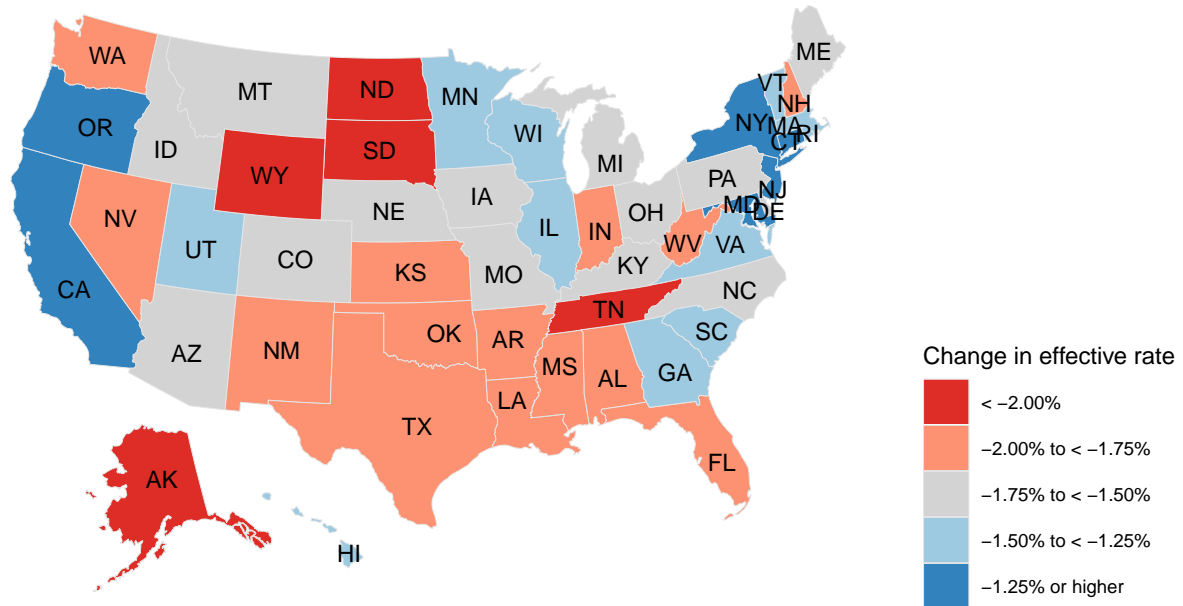
Change in federal income tax liability, NY vs. other states

Table of dollar and percent changes in federal income tax liability

Income tax liability of New Yorkers declined $2.7 billion (-1.8%) in 2018 after rising $17 billion in 2017. The table below gives the liability amounts, in $ millions, in 3 tax years, as well as the dollar changes and % changes. It is filterable and sortable, if you want to look at subsets.

Search: [   ]

Federal income tax liability in $ millions, 2016-2018

	stabbr	agi_stub	aginame	TY2016	TY2017	TY2018	2017 minus 2016	2018 minus 2017	% change 2016 to 2017	% change 2017 to 2018
	All	All	All	All	All	All	All	All	All	All
1	US	0	All income ranges	1,528,418.3	1,696,149.4	1,631,747.7	167,731.2	-64,401.7	11.0	-3.8
2	US	1	Under $1	1,164.6	1,001.0	970.1	-163.6	-30.9	-14.0	-3.1
3	US	2	$1 under $10,000	2,823.1	2,737.3	2,124.1	-85.8	-613.2	-3.0	-22.4
4	US	3	$10,000 under $25,000	21,011.5	21,216.8	17,704.4	205.3	-3,512.4	1.0	-16.6
5	US	4	$25,000 under $50,000	79,814.2	82,033.6	69,016.9	2,219.4	-13,016.8	2.8	-15.9
6	US	5	$50,000 under $75,000	110,434.0	114,712.6	98,759.1	4,278.6	-15,953.4	3.9	-13.9
7	US	6	$75,000 under $100,000	116,066.2	120,838.7	106,229.1	4,772.5	-14,609.6	4.1	-12.1
8	US	7	$100,000 under $200,000	335,745.2	357,660.7	338,173.3	21,915.5	-19,487.4	6.5	-5.4
9	US	8	$200,000 under $500,000	322,286.9	355,933.0	342,782.0	33,646.1	-13,151.0	10.4	-3.7
10	US	9	$500,000 under $1,000,000	157,141.3	176,846.9	178,958.7	19,705.6	2,111.8	12.5	1.2
11	US	10	$1,000,000 or more	381,931.3	463,168.8	477,030.0	81,237.6	13,861.2	21.3	3.0

Showing 1 to 11 of 572 entries

Table of each state's federal income tax liability as a percent of the U.S. total

Federal income tax liability of New Yorkers as a share of income tax liability for the U.S. as a whole increased slightly between 2017 and 2018, from 8.9% to 9.0%. This was true across most income ranges, although not for the $1 million+ range.

I don't find this measure particularly useful because so many things can affect it and it is hard to disentangle them.

There appears to have been rapid growth in this income group in many other states, but I haven't finished

investigating this.

The table below illustrates this. It has the same filtering and sorting capabilities as the table above.

Show 11 ▾ entries

Search: [   ]

Federal income tax liability in $ millions, and as a percent of the U.S. total, 2016-2018

	stabbr ⇕	agi_stub ⇕	aginame ⇕	TY2016 ⇕	TY2017 ⇕	TY2018 ⇕	TY2016_pct ⇕	TY2017_pct ⇕	TY2018_pct ⇕
	All	All	All	All	All	All	All	All	All
1	US	0	All income ranges	1,528,418.3	1,696,149.4	1,631,747.7	100.0	100.0	100.0
2	US	1	Under $1	1,164.6	1,001.0	970.1	100.0	100.0	100.0
3	US	2	$1 under $10,000	2,823.1	2,737.3	2,124.1	100.0	100.0	100.0
4	US	3	$10,000 under $25,000	21,011.5	21,216.8	17,704.4	100.0	100.0	100.0
5	US	4	$25,000 under $50,000	79,814.2	82,033.6	69,016.9	100.0	100.0	100.0
6	US	5	$50,000 under $75,000	110,434.0	114,712.6	98,759.1	100.0	100.0	100.0
7	US	6	$75,000 under $100,000	116,066.2	120,838.7	106,229.1	100.0	100.0	100.0
8	US	7	$100,000 under $200,000	335,745.2	357,660.7	338,173.3	100.0	100.0	100.0
9	US	8	$200,000 under $500,000	322,286.9	355,933.0	342,782.0	100.0	100.0	100.0
10	US	9	$500,000 under $1,000,000	157,141.3	176,846.9	178,958.7	100.0	100.0	100.0
11	US	10	$1,000,000 or more	381,931.3	463,168.8	477,030.0	100.0	100.0	100.0

Showing 1 to 11 of 572 entries

Previous 1 2 3 4 5 … 52 Next

8

The SALT deduction [TO COME]

Shifting of income and deductions [TO COME]

Descriptive analysis

Average tax rates

Change in average tax rates from 2017 to 2018

The figure below shows effective tax rates. Each panel shows total federal income tax as a percentage of adjusted gross income in 2017 and 2018 in each income range the IRS reports. The horizontal axis shows 2017 rates and the vertical axis shows 2018 rates.

In essence this is an effective tax rate, although we have to be a little cautious in treating it as precisely comparable across years because the definition of AGI changed between 2017 and 2018 and I need to investigate the extent to which the denominator changed. We would prefer to have the same definition in each year but we are limited by the data we have.

States above the diagonal line had a higher effective tax rate in 2018 than in 2017, while states below the line had a lower effective tax rate. States are labeled, with New York in blue and the national average in red. We can't identify all states in all panels. If that becomes important to you, I can show each panel separately and larger. I'll add some tables in a later iteration, also, which will allow separate identification of states.

Using language a little loosely, we can see that in all but the $1 million and higher income range, New Yorkers had a tax cut (lower effective tax rate). We can also see that for incomes of $100k and higher, the tax reduction for New Yorkers was less than for most other states and often it is near other New England or northeastern states (i.e., other high-tax states).

We have to be a little cautious about interpretation. Many factors affect the tax rate within an income range, most of which we can't get at with these data:

- Within each income range, New York is to the right - it has a higher effective rate than most other states in the same income range. New Yorkers may be more concentrated in the higher-income portion of each income range and thus subject to higher marginal rates.
- Single filers account for 52% of filers in NY and 48% nationally (including NY), and generally face higher effective rates for a given level of income than do married filers.
- NY has 1.8 exemptions per return versus 1.92 nationally, which would lead to higher taxable income for a given amount of AGI, all else equal.
- On the other hand, NY has higher deductions as a percentage of AGI (15.9%) compared to the nation (12.8%), which would lead to lower taxable income for a given amount of AGI, all else equal.

We would need microdata such as those we will use in the second part of this project (assuming you would like to go forward with it) to get at that issue.

In addition, both years are unusual in some way. The comparison year of 2017 is unusual because there were incentives to push income out of that year and into 2018 when rates were lower, and to accelerate deductions into 2017 when rates were higher, and of course there were incentives to push SALT deductions into 2017. I address this, partially, by putting a similar figure later in this document that compares 2018 to 2016. The general patterns are quite similar so I use 2017 here to reduce risk of confusion. Again, the best way to address this is with microdata.

Scatterplot: Average tax rates in 2017 and 2018, all taxpayers

Average tax rates as % of adjusted gross income in 2017 and 2018
Vertical distance from diagonal line measures change in tax rate
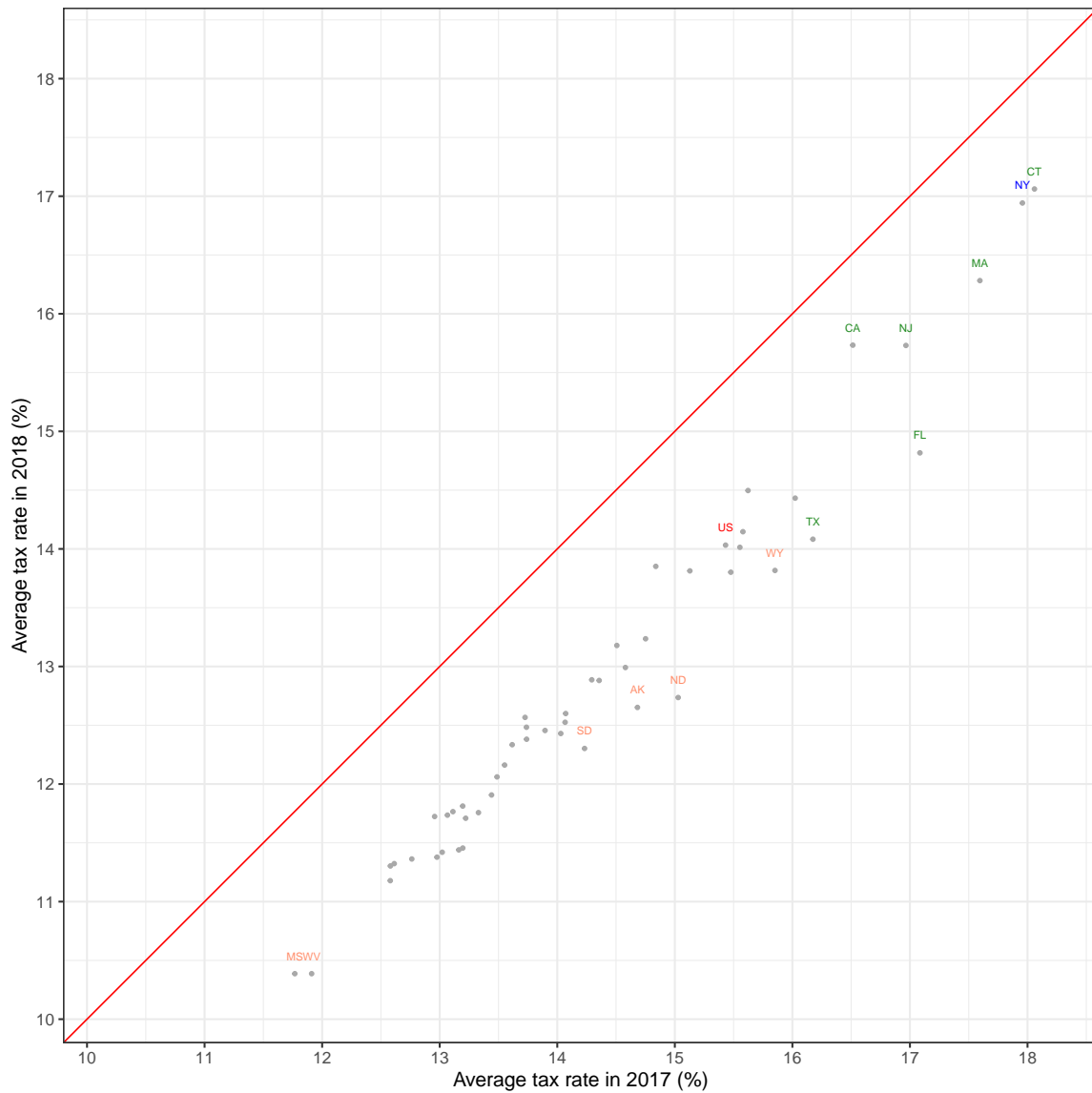
Caution: Adjusted gross income definition has changed across years

Scatterplot: Average tax rates in 2017 and 2018, by income range

Average tax rates as % of adjusted gross income in 2017 and 2018

Vertical distance from diagonal line measures change in average tax rate
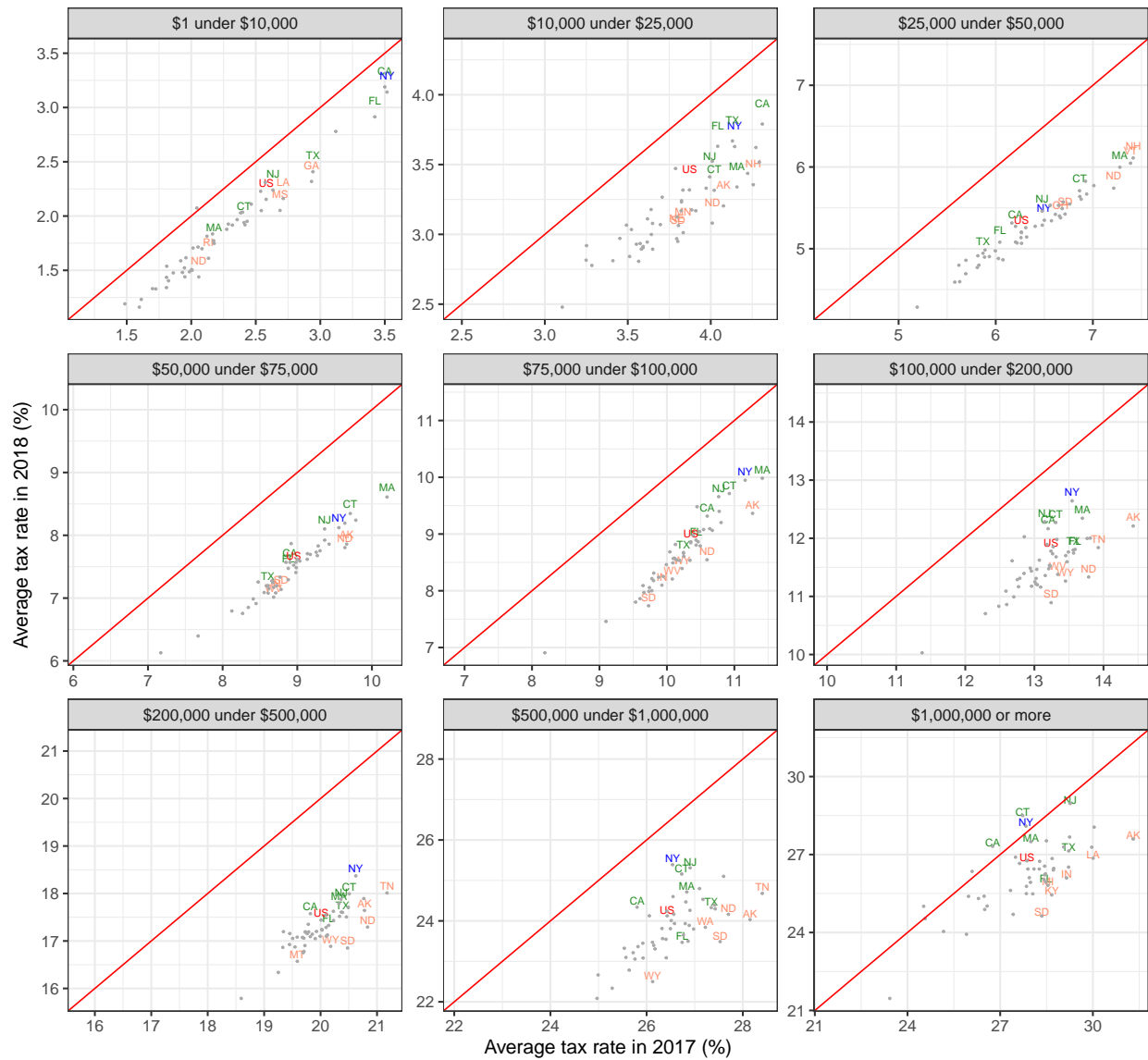
Caution: Adjusted gross income definition has changed across years

Table: Average tax rates in 2016, 2017, and 2018, all states and income ranges

Federal income tax liability as % of Adjusted Gross Income, 2016-2018

	stabbr	agi_stub	aginame	2016	2017	2018	2018 minus 2016	2018 minus 2017
	All	All	All	All	All	All	All	All
1	US	0	All income ranges	15.0	15.4	14.0	-1.0	-1.4
2	US	1	Under $1	-0.6	-0.4	-0.5	0.1	-0.0
3	US	2	$1 under $10,000	2.6	2.6	2.2	-0.4	-0.4
4	US	3	$10,000 under $25,000	3.8	3.9	3.3	-0.5	-0.6
5	US	4	$25,000 under $50,000	6.2	6.3	5.2	-1.0	-1.1
6	US	5	$50,000 under $75,000	8.9	9.0	7.5	-1.4	-1.4
7	US	6	$75,000 under $100,000	10.3	10.4	8.9	-1.4	-1.5
8	US	7	$100,000 under $200,000	13.3	13.2	11.8	-1.5	-1.5
9	US	8	$200,000 under $500,000	20.2	20.0	17.4	-2.7	-2.6
10	US	9	$500,000 under $1,000,000	26.7	26.4	24.1	-2.6	-2.3
11	US	10	$1,000,000 or more	28.1	27.9	26.8	-1.3	-1.1

Selected additional tables, tax as % of AGI

Table 1: Tax liability as % of adjusted gross income

stabbr	agi_stub	aginame	2012	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	15.6	16.9	17.4	17.6	17.3	18.0	16.9
NY	1	Under $1	-0.4	-0.5	-0.4	-0.5	-0.4	-0.4	-0.4
NY	2	$1 under $10,000	3.4	3.6	3.7	3.6	3.5	3.5	3.1
NY	3	$10,000 under $25,000	3.6	3.8	3.9	4.0	4.1	4.1	3.6
NY	4	$25,000 under $50,000	6.2	6.3	6.4	6.4	6.5	6.5	5.3
NY	5	$50,000 under $75,000	9.2	9.3	9.3	9.4	9.5	9.6	8.1

stabbr	agi_stub	aginame	2012	2013	2014	2015	2016	2017	2018
NY	6	$75,000 under $100,000	10.6	10.7	10.8	11.0	11.0	11.2	9.9
NY	7	$100,000 under $200,000	13.3	13.4	13.4	13.5	13.5	13.5	12.6
NY	8	$200,000 under $500,000	20.8	21.0	20.9	20.8	20.8	20.6	18.4
NY	9	$500,000 under $1,000,000	25.0	26.8	26.7	26.7	26.8	26.5	25.4
NY	10	$1,000,000 or more	22.3	27.6	27.6	27.9	27.6	27.8	28.1

Table 2: Tax liability as % of adjusted gross income

stabbr	agi_stub	aginame	2012	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	15.6	16.9	17.4	17.6	17.3	18.0	16.9
US	0	All income ranges	13.8	14.4	14.9	15.1	15.0	15.4	14.0
CT	0	All income ranges	16.6	18.1	18.4	18.3	18.0	18.1	17.1
MA	0	All income ranges	15.4	16.6	17.0	17.3	17.2	17.6	16.3
NJ	0	All income ranges	15.3	16.2	16.6	16.8	16.7	17.0	15.7
CA	0	All income ranges	14.5	15.4	15.9	16.2	16.1	16.5	15.7
FL	0	All income ranges	14.4	15.3	15.9	16.2	15.5	17.1	14.8
TX	0	All income ranges	14.5	15.4	16.0	15.8	15.1	16.2	14.1

Table 3: Tax liability as % of adjusted gross income

stabbr	agi_stub	aginame	2012	2013	2014	2015	2016	2017	2018
NY	9	$500,000 under $1,000,000	25.0	26.8	26.7	26.7	26.8	26.5	25.4
US	9	$500,000 under $1,000,000	24.6	26.9	26.7	26.7	26.7	26.4	24.1
CT	9	$500,000 under $1,000,000	25.2	27.2	27.0	27.0	27.0	26.7	25.2
MA	9	$500,000 under $1,000,000	25.0	27.3	27.1	27.1	27.2	26.8	24.7
NJ	9	$500,000 under $1,000,000	25.3	27.3	27.2	27.2	27.1	26.9	25.3
CA	9	$500,000 under $1,000,000	24.3	26.2	26.0	26.0	26.0	25.8	24.3
FL	9	$500,000 under $1,000,000	24.6	27.5	27.1	27.2	27.2	26.7	23.5
TX	9	$500,000 under $1,000,000	25.3	28.2	27.9	27.9	27.8	27.3	24.3

Number of tax returns

% change in number of returns: all returns and selected income groups

New York, all income ranges The first table below shows the % change in # of tax returns in NY by income range. We normally would expect returns to grow at somewhere near the rate of population or employment growth – say 0.5% to 1% on average over the long run. The total number of returns grew 0.5% in 2018, with declines in lower income groups and increases in upper income groups. This general pattern is not surprising although some specific numbers may be.

Table 4: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	n1	Number of returns	pch_value	0.8	0.9	1.0	-0.3	1.1	0.5
NY	1	Under $1	n1	Number of returns	pch_value	-2.2	-4.4	-2.8	-1.3	-5.5	-3.7

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	2	$1 under $10,000	n1	Number of returns	pch_value	-0.1	-2.3	-3.2	-4.6	-4.8	-8.1
NY	3	$10,000 under $25,000	n1	Number of returns	pch_value	-0.3	-0.8	-0.8	-1.9	-1.3	-4.0
NY	4	$25,000 under $50,000	n1	Number of returns	pch_value	-0.3	0.1	1.0	1.6	1.7	3.0
NY	5	$50,000 under $75,000	n1	Number of returns	pch_value	1.0	1.4	2.1	1.8	2.3	2.9
NY	6	$75,000 under $100,000	n1	Number of returns	pch_value	1.7	2.0	1.6	0.9	2.8	2.8
NY	7	$100,000 under $200,000	n1	Number of returns	pch_value	4.1	5.4	5.3	0.7	5.6	4.9
NY	8	$200,000 under $500,000	n1	Number of returns	pch_value	8.0	9.5	8.1	3.1	9.4	8.6
NY	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	5.2	9.0	6.7	1.7	8.2	9.5
NY	10	$1,000,000 or more	n1	Number of returns	pch_value	-5.2	14.3	5.6	-3.0	10.1	7.0

One reason the number in lower income groups declines while the number in upper income groups increases is that inflation and productivity growth tends to drive people into higher income brackets over time (unless we adjust brackets so that they are different each year, reflecting inflation).

A second major factor that affects year-to-year growth is the economy, and particularly capital gains. In stock market boom years people may find their taxable income boosted as a result of capital gains, driving them into higher brackets. This is most relevant to upper-income brackets. The table below, copied from here shows total (including dividends) % returns in the S&P 500 on a year-end over year-end basis. Stock market increases tend to be correlated with capital gains, so this likely drove the number of high-income taxpayers up in quite a few of the years in question, including 2016 and 2017. This correlation is not tight and lags and other issues come into play, so I would not over-interpret it.

Dec. 31, 2019	31.49%
Dec. 31, 2018	-4.38%
Dec. 31, 2017	21.83%
Dec. 31, 2016	11.96%
Dec. 31, 2015	1.38%
Dec. 31, 2014	13.69%
Dec. 31, 2013	32.39%

Figure 1: Total return, S&P 500, year-end to year-end

To test this, we look at capital gains income. The table below shows growth in total capital gains income (not average capital gains). It sure looks like the rapid growth in 2017 had a lot to do with the rapid growth in the number of returns in the highest brackets in 2017, and the general movement through the brackets, more than offsetting the impact of the incentive to defer income out of 2017. (Two notes: (1) this is capital gains reported on federal returns so it no doubt differs some from gains reported on NY returns as reported by the Budget Division, and (2) while the growth rates in the lower income brackets are substantial, they don't have much capital gains so it may not have had a big impact on their overall AGI.)

Capital gains growth in NY

Table 5: Percent change in net capital gains

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	a01000	Net capital gain (less loss) amount	pch_value	-12.3	32.7	-6.2	-19.4	30.3	3.0
NY	1	Under $1	a01000	Net capital gain (less loss) amount	pch_value	8.2	20.8	-2.3	-13.0	40.9	-16.8
NY	2	$1 under $10,000	a01000	Net capital gain (less loss) amount	pch_value	-186.1	123.4	-17.4	-63.6	201.6	3.8
NY	3	$10,000 under $25,000	a01000	Net capital gain (less loss) amount	pch_value	215.6	42.4	-14.8	-36.0	71.0	16.3
NY	4	$25,000 under $50,000	a01000	Net capital gain (less loss) amount	pch_value	107.9	48.7	-16.4	-32.6	74.1	5.0
NY	5	$50,000 under $75,000	a01000	Net capital gain (less loss) amount	pch_value	80.9	37.7	-14.7	-25.5	55.0	10.2
NY	6	$75,000 under $100,000	a01000	Net capital gain (less loss) amount	pch_value	74.0	41.3	-14.2	-25.8	55.7	8.2
NY	7	$100,000 under $200,000	a01000	Net capital gain (less loss) amount	pch_value	49.7	37.7	-12.0	-19.6	51.2	11.0
NY	8	$200,000 under $500,000	a01000	Net capital gain (less loss) amount	pch_value	26.1	35.0	-9.0	-14.3	44.3	12.8
NY	9	$500,000 under $1,000,000	a01000	Net capital gain (less loss) amount	pch_value	7.1	27.6	-5.4	-12.1	34.7	12.6
NY	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-19.0	32.8	-5.5	-20.3	26.3	1.4

A third major factor that affects year to year growth is behavioral shifts in response to actual tax changes and anticipated tax changes. We know there was an incentive to decelerate income out of 2017 into 2018 to take advantage of the lower tax rates enacted for 2018 in the TCJA. It's not obvious from the %-change table above that this happened, but we'll return to this.

The United States, all income ranges The next table shows the same thing for the United States as a whole. The same general pattern of slow growth or decline in the lower income ranges and rapid growth in the upper income ranges holds, for the same reasons.

Table 6: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
US	0	All income ranges	n1	Number of returns	pch_value	1.0	0.8	1.3	0.1	1.7	0.7
US	1	Under $1	n1	Number of returns	pch_value	3.2	-2.7	1.1	0.0	-1.7	-1.8
US	2	$1 under $10,000	n1	Number of returns	pch_value	0.2	-2.6	-2.0	-3.1	-2.4	-6.7
US	3	$10,000 under $25,000	n1	Number of returns	pch_value	0.9	-1.6	-0.9	-2.0	-1.3	-2.7
US	4	$25,000 under $50,000	n1	Number of returns	pch_value	0.6	0.7	1.9	1.5	1.4	1.2
US	5	$50,000 under $75,000	n1	Number of returns	pch_value	1.1	1.4	1.8	1.4	3.0	2.4

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
US	6	$75,000 under $100,000	n1	Number of returns	pch_value	2.1	2.1	2.1	0.9	3.3	2.7
US	7	$100,000 under $200,000	n1	Number of returns	pch_value	5.4	6.0	5.4	1.9	6.5	6.0
US	8	$200,000 under $500,000	n1	Number of returns	pch_value	8.5	10.6	8.0	3.4	11.2	10.2
US	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	1.5	13.2	7.4	1.0	13.7	10.9
US	10	$1,000,000 or more	n1	Number of returns	pch_value	- 11.5	18.2	6.9	- 3.1	16.6	9.3

% change in number of returns: New York and selected other states, selected income groups

In many of the tables that follow, I compare NY to the US, and to CA, CT, FL, MA, NJ, and TX. I chose these states, because they are large, or neighbors, or often considered comparison states for NY, or some combination of these reasons. FL and TX, of course, have no income tax and FL has a very low overall state-local tax burden.

The first table below shows % change in number of returns overall, just to position our heads. There's quite a bit of variation from year to year and I don't understand all of it. FL and TX have pretty big increases in 2017, which we explore further below.

Table 7: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	
NY	0	All income ranges	n1	Number of returns	pch_value	0.8	0.9	1.0	-0.3	1.1	
US	0	All income ranges	n1	Number of returns	pch_value	1.0	0.8	1.3	0.1	1.7	
CT	0	All income ranges	n1	Number of returns	pch_value	0.5	0.0	0.7	-0.4	0.7	
MA	0	All income ranges	n1	Number of returns	pch_value	1.1	1.3	1.6	0.4	1.4	
NJ	0	All income ranges	n1	Number of returns	pch_value	0.4	0.4	1.0	0.0	1.2	
CA	0	All income ranges	n1	Number of returns	pch_value	1.6	1.4	2.0	0.3	1.6	
FL	0	All income ranges	n1	Number of returns	pch_value	1.0	0.9	2.4	0.4	5.3	
TX	0	All income ranges	n1	Number of returns	pch_value	2.7	0.9	1.3	-0.3	3.3	

The next 3 tables show the top 3 income ranges.

Table 8: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	8	$200,000 under $500,000	n1	Number of returns	pch_value	8.0	9.5	8.1	3.1	9.4	8.6
US	8	$200,000 under $500,000	n1	Number of returns	pch_value	8.5	10.6	8.0	3.4	11.2	10.2
CT	8	$200,000 under $500,000	n1	Number of returns	pch_value	6.8	7.4	5.5	2.0	6.5	7.7
MA	8	$200,000 under $500,000	n1	Number of returns	pch_value	10.1	10.0	8.6	4.3	9.7	9.9
NJ	8	$200,000 under $500,000	n1	Number of returns	pch_value	7.1	8.4	7.0	4.0	7.5	8.5
CA	8	$200,000 under $500,000	n1	Number of returns	pch_value	10.3	11.2	10.7	5.9	10.2	9.7

16

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
FL	8	$200,000 under $500,000	n1	Number of returns	pch_value	10.6	12.0	9.0	0.1	23.6	7.4
TX	8	$200,000 under $500,000	n1	Number of returns	pch_value	10.7	11.3	6.1	-2.3	15.6	8.4

Table 9: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	5.2	9.0	6.7	1.7	8.2	9.5
US	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	4.5	13.2	7.4	1.0	13.7	10.9
CT	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	-0.2	9.1	5.5	0.2	5.9	6.7
MA	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	4.4	13.9	6.1	4.0	13.1	10.7
NJ	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	4.4	9.9	6.9	2.2	7.5	9.3
CA	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	7.0	16.9	10.9	4.1	14.7	15.3
FL	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	3.5	14.9	8.2	-6.3	34.7	5.0
TX	9	$500,000 under $1,000,000	n1	Number of returns	pch_value	2.1	15.5	2.7	-9.3	23.7	6.5

Table 10: Percent change in number of returns

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	10	$1,000,000 or more	n1	Number of returns	pch_value	-5.2	14.3	5.6	-3.0	10.1	7.0
US	10	$1,000,000 or more	n1	Number of returns	pch_value	-11.5	18.2	6.9	-3.1	16.6	9.3
CT	10	$1,000,000 or more	n1	Number of returns	pch_value	-9.3	10.6	5.0	-4.4	6.2	4.2
MA	10	$1,000,000 or more	n1	Number of returns	pch_value	-8.6	21.0	6.2	0.4	11.9	10.8
NJ	10	$1,000,000 or more	n1	Number of returns	pch_value	-7.0	14.9	7.6	-2.6	10.8	6.2
CA	10	$1,000,000 or more	n1	Number of returns	pch_value	-7.7	22.0	10.1	-1.6	16.2	10.6
FL	10	$1,000,000 or more	n1	Number of returns	pch_value	-11.1	18.6	9.7	-13.6	51.3	2.0
TX	10	$1,000,000 or more	n1	Number of returns	pch_value	-12.6	21.9	-2.8	-15.8	38.2	4.3

Given the extraordinary growth in FL and TX in 2017 in the number of returns in the upper income range, let's look at capital gains in all states in that income range. As you can see, they experienced phenomenal growth in capital gains. These data can't tell us whether the increase in the number of FL millionaire

17

returns was due to out-of-state millionaires moving into FL, or non-millionaire Floridians moving into the FL millionaire bracket due to increased income from realization of capital gains and other factors. The lack of state income taxes in FL and TX makes it relatively more attractive for residents of those states to realize capital gains than it is for residents of high-tax states. On the other hand, IRS migration data (not shown here) show that FL does have a steady annual inflow of high-income taxpayers from other places, and NY has a steady outflow. In my opinion based on reviews of research and other data, the 2017 increase likely was predominantly attributable to people being pushed into higher federal tax brackets although there probably was some of both effects.

Table 11: Percent change in capital gains

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-19.0	32.8	-5.5	-20.3	26.3	1.4
US	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-34.5	49.0	3.3	-10.1	35.2	6.8
CT	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-16.5	31.2	-5.5	-25.7	43.7	7.1
MA	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-22.8	52.5	-9.1	-11.1	52.6	-0.2
NJ	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-28.1	33.5	-0.4	-6.7	36.2	1.1
CA	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-32.9	54.9	4.6	0.7	17.2	8.7
FL	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-41.0	58.5	19.1	-30.6	103.2	0.7
TX	10	$1,000,000 or more	a01000	Net capital gain (less loss) amount	pch_value	-39.1	56.2	-16.1	-25.7	99.2	-13.7

Tax liability

Percent change in total tax liability

Table 12: Percent change in tax liability

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	a10300	Total tax liability amount	pch_value	8.3	11.7	4.6	-3.3	12.8	-1.8
NY	1	Under $1	a10300	Total tax liability amount	pch_value	26.4	-7.2	14.5	-16.5	10.8	0.0
NY	2	$1 under $10,000	a10300	Total tax liability amount	pch_value	7.6	-1.2	-5.8	-6.9	-4.8	-18.2
NY	3	$10,000 under $25,000	a10300	Total tax liability amount	pch_value	3.3	3.0	1.9	-0.5	1.4	-15.8
NY	4	$25,000 under $50,000	a10300	Total tax liability amount	pch_value	0.5	1.6	2.2	2.1	2.2	-15.4
NY	5	$50,000 under $75,000	a10300	Total tax liability amount	pch_value	1.6	2.3	3.1	2.3	3.0	-12.5
NY	6	$75,000 under $100,000	a10300	Total tax liability amount	pch_value	2.8	3.3	2.9	1.7	4.0	-8.3
NY	7	$100,000 under $200,000	a10300	Total tax liability amount	pch_value	5.1	5.8	6.3	1.3	6.0	-2.0

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	8	$200,000 under $500,000	a10300	Total tax liability amount	pch_value	9.1	8.7	7.5	3.0	8.5	-2.9
NY	9	$500,000 under $1,000,000	a10300	Total tax liability amount	pch_value	12.7	8.6	6.7	1.7	7.1	4.7
NY	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	11.4	20.8	3.0	-10.9	23.9	0.9

Table 13: Percent change in tax liability

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
US	0	All income ranges	a10300	Total tax liability amount	pch_value	4.6	10.8	5.9	-0.4	11.0	-3.8
US	1	Under $1	a10300	Total tax liability amount	pch_value	9.8	-3.9	-0.1	20.4	-14.0	-3.1
US	2	$1 under $10,000	a10300	Total tax liability amount	pch_value	9.8	-1.5	-4.5	-3.7	-3.0	-22.4
US	3	$10,000 under $25,000	a10300	Total tax liability amount	pch_value	3.0	3.2	2.1	0.9	1.0	-16.6
US	4	$25,000 under $50,000	a10300	Total tax liability amount	pch_value	0.9	2.7	3.2	2.6	2.8	-15.9
US	5	$50,000 under $75,000	a10300	Total tax liability amount	pch_value	2.0	1.9	2.6	1.8	3.9	-13.9
US	6	$75,000 under $100,000	a10300	Total tax liability amount	pch_value	2.8	3.1	3.0	1.2	4.1	-12.1
US	7	$100,000 under $200,000	a10300	Total tax liability amount	pch_value	5.8	6.2	5.7	1.9	6.5	-5.4
US	8	$200,000 under $500,000	a10300	Total tax liability amount	pch_value	9.7	9.8	7.6	3.2	10.4	-3.7
US	9	$500,000 under $1,000,000	a10300	Total tax liability amount	pch_value	10.5	12.6	7.5	0.7	12.5	1.2
US	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	-0.1	23.2	6.8	-7.1	21.3	3.0

Average tax liability amount (dollars)

Table 14: Average tax liability

stabbr	agi_stub	aginame	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	a10300	Total tax liability amount	avgvalue	11,626	12,485	13,825	14,326	13,896	15,498	15,144
NY	1	Under $1	a10300	Total tax liability amount	avgvalue	516	667	647	763	645	757	786
NY	2	$1 under $10,000	a10300	Total tax liability amount	avgvalue	177	190	193	187	183	183	163

stabbr	agi_stub	aginame	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
NY	3	$10,000 under $25,000	a10300	Total tax liability amount	avgvalue	616	638	663	680	690	709	622
NY	4	$25,000 under $50,000	a10300	Total tax liability amount	avgvalue	2,261	2,280	2,313	2,341	2,353	2,365	1,944
NY	5	$50,000 under $75,000	a10300	Total tax liability amount	avgvalue	5,664	5,695	5,744	5,804	5,831	5,875	4,993
NY	6	$75,000 under $100,000	a10300	Total tax liability amount	avgvalue	9,149	9,246	9,362	9,487	9,556	9,671	8,623
NY	7	$100,000 under $200,000	a10300	Total tax liability amount	avgvalue	17,943	18,115	18,187	18,354	18,448	18,520	17,298
NY	8	$200,000 under $500,000	a10300	Total tax liability amount	avgvalue	59,761	60,397	59,960	59,654	59,635	59,169	52,884
NY	9	$500,000 under $1,000,000	a10300	Total tax liability amount	avgvalue	171,117	183,222	182,499	182,488	182,539	180,648	172,728
NY	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	915,918	1,077,167	1,138,626	1,111,291	1,020,448	1,148,474	1,083,663

Table 15: Average tax liability

stabbr	agi_stub	aginame	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
NY	0	All income ranges	a10300	Total tax liability amount	avgvalue	11,626	12,485	13,825	14,326	13,896	15,498	15,144
NY	1	Under $1	a10300	Total tax liability amount	avgvalue	516	667	647	763	645	757	786
NY	2	$1 under $10,000	a10300	Total tax liability amount	avgvalue	177	190	193	187	183	183	163
NY	3	$10,000 under $25,000	a10300	Total tax liability amount	avgvalue	616	638	663	680	690	709	622
NY	4	$25,000 under $50,000	a10300	Total tax liability amount	avgvalue	2,261	2,280	2,313	2,341	2,353	2,365	1,944
NY	5	$50,000 under $75,000	a10300	Total tax liability amount	avgvalue	5,664	5,695	5,744	5,804	5,831	5,875	4,993
NY	6	$75,000 under $100,000	a10300	Total tax liability amount	avgvalue	9,149	9,246	9,362	9,487	9,556	9,671	8,623

stabbr	agi_stub	aginame	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
NY	7	$100,000 under $200,000	a10300	Total tax liability amount	avgvalue	17,943	18,115	18,187	18,354	18,448	18,520	17,298
NY	8	$200,000 under $500,000	a10300	Total tax liability amount	avgvalue	59,761	60,397	59,960	59,654	59,635	59,169	52,884
NY	9	$500,000 under $1,000,000	a10300	Total tax liability amount	avgvalue	171,117	183,222	182,499	182,488	182,539	180,648	172,728
NY	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	915,918	1,077,167	1,138,626	1,111,291	1,020,448	1,148,474	1,083,663

Top income ranges

Table 16: Percent change in tax liability

stabbr	agi_stub	aginame	varname	description	measure	2013	2014	2015	2016	2017	2018
NY	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	11.4	20.8	3.0	-10.9	23.9	0.9
US	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	-0.1	23.2	6.8	-7.1	21.3	3.0
CT	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	8.3	11.9	-1.8	-13.1	14.4	0.3
MA	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	10.4	24.1	6.7	-5.4	21.7	3.9
NJ	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	10.0	15.3	4.9	-4.0	16.1	-3.4
CA	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	0.7	26.6	11.7	-4.2	16.6	11.7
FL	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	-1.6	26.4	13.1	-17.8	72.3	-11.5
TX	10	$1,000,000 or more	a10300	Total tax liability amount	pch_value	-0.7	27.4	-8.4	-22.5	56.3	-9.9

Table 17: Average tax liability

stabbr	agi_stub	aginame	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
NY	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	915,918	1,077,167	1,138,626	1,111,291	1,020,448	1,148,474	1,083,663
US	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	797,327	900,214	938,845	938,093	898,937	934,958	881,088
CT	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	983,713	1,114,003	1,126,740	1,053,989	957,351	1,031,809	992,726

stabbr	agi_stub	agiiname	varname	description	measure	2012	2013	2014	2015	2016	2017	2018
MA	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	810,765	979,407	1,004,188	1,008,468	950,719	1,033,769	969,931
NJ	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	718,919	850,751	854,027	832,396	820,865	860,052	782,287
CA	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	831,688	906,920	941,345	955,140	930,541	934,128	943,735
FL	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	883,948	978,576	1,042,911	1,074,765	1,022,594	1,164,751	1,009,801
TX	10	$1,000,000 or more	a10300	Total tax liability amount	avgvalue	858,747	976,554	1,020,769	961,405	884,888	1,000,868	864,011