Taxes on the Rich: The Effect Taxes Have Had on Growth Rates

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introduction:

Taxes fund almost everything the government does. It wouldn't be an overstatement to say that **no tax** equals virtually **no government**.
On the other hand, it also wouldn't be an overstatement when we say a 100% tax means virtually no US economy.

The problem then becomes one of trying to find a balance between the two: trading off tax revenues vs. growth, or whether that tradeoff even occurs.

In the era of "tax the rich," it seems apt that we look at the effect of the income tax, which directly affects rich people, on growth, through GDP per capita.

This is what my research looks into: the correlation between taxes and GDP per capita, with the last measure being used to control for population, while still looking at growth.

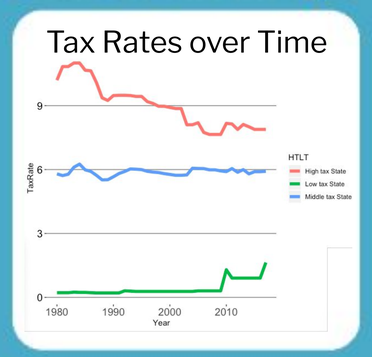
Previous works in this field (such as Waslyenko 1997) are dated, don't use the same analysis techniques, or both.

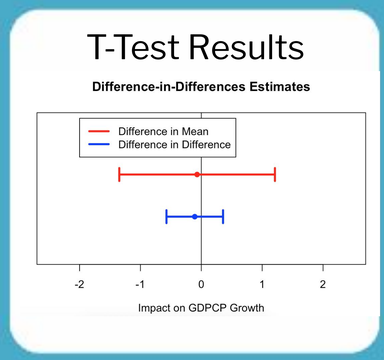
research methodologies:

The research uses a difference in difference analysis to detect possible correlations between the tax rate of the state and the GDP per capita, with a T-test done to confirm whether that difference was significant. In addition to the analysis, a simple linear regression is used for visualization.

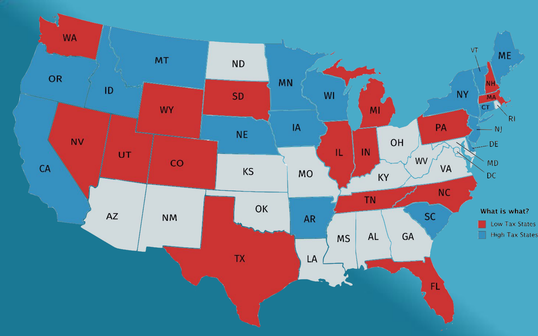
The states with the highest tax rates are grouped, while the states with the lower tax rates are also bundled. After doing so, the data is graphed. All of this work is done within R.

data & findings





The first graph shows how tax rates have started to converge in all states. The second graph shows the GDP per capita over time. On top of the chart is an overlaid smoothing function, which shows the general movement of the growth. The third graph is the results of a T-test, a test that shows the difference in means for the states. The red line shows the difference in growth for high vs. low tax states. The blue line indicates the difference between middle tax states that significantly increased taxes vs. those that didn't.



A map of all the high and low tax states

conclusion & data analysis

Growth ≠ tax rate

The data suggest that growth and tax rate don't really affect each other. Although there was slight growth in the GDP per capita for low tax states, and vice versa,
a. **the change wasn't significant** (less than 0.5% in change), and
b. low tax **states increased their tax rates**, while **rich states decreased their taxes.**

Whatever gains that a state could have gotten, as a result, might have been erased due to decreasing tax rates and vice versa.

implications & next steps

The results indicate that increasing income taxes for the richest won't have as much of an impact on growth as feared, and reaffirm how taxes only play a small part in driving growth.
If I were to revisit this project, I would most likely use a higher powered analysis that would use multiple regression to better dis/prove a relationship between the tax rate and GDP. This would allow for the analysis to be more controlled for factors such as the income of the state or the disposable income.

acknowledgements/ references

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