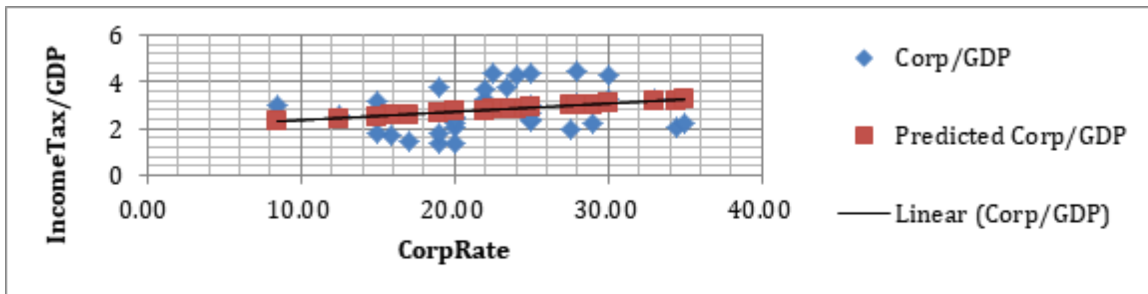
Does a Lower Corporate Tax Rate Mean Less Tax Revenue? Maybe not.

Analysis of OECD Countries suggests certain tax rates raise more revenue

Intuitively many pundits, politicians and voters believe if tax rates are lowered then tax revenue falls. This reasoning follows the formula: tax revenue (R) = tax rate (t) times income (Y) or, R = tY. This equation does not necessarily hold if the tax rate and income are said to be interdependent as many economists (including the present author) suggest. The question then becomes an empirical issue that is addressed herein.

An analysis of the 35 OECD countries produces the following graph depicting a linear relationship between the corporate tax rate and resultant income tax revenues as a percent of each country's GDP. Taken as a whole this result would seem to confirm the notion that variations in the corporate tax rate do not make a lot of difference in terms of revenue raised. Note: the slope of the fitted line is statistically insignificant, i.e., insignificantly different from zero, therefore, for all practical purposes, horizontal.



However, upon closer inspection the graph revels three distinct categories of corporate tax rates: 15 to 20 percent, 20 to 30 percent, and 30 percent and above. These categories are itemized in the follow table. It appears from this analysis that if a country wants to maximize its income tax revenue it should set the corporate tax rate somewhere between 20 and 25 percent. Tax rates between 25 and 30 percent produce slightly less revenue while tax rates above 30 percent result in substantially lower total revenue. Revenue in this analysis is defined as national government revenue from income taxes, corporate profits and capital gains. Data from just the corporate tax were unavailable. The last column indicates the annual anticipated revenue garnered assuming $20 trillion per year GDP a level the US economy is rapidly approaching.

Corp Tax Rate (%)	***Revenue/GDP (%)***	***Mean (%)***	***Revenue: $20 Trillion GDP***
0 – 20	8.5 - 3.8	2.24	$448B/year
21 – 25	2.7 – 4.4	3.34	$668B/year
26 - 30	2.0 – 4.5	3.23	$643B/year
31 – 35	2.1 – 3.3	2.53	$506B/year

These results suggest that lowering the corporate tax rate from 35 percent to 21 percent may, after a period of adjustment (three to nine quarters), produce more income tax revenue rather than less. With a 35 percent corporate tax rate the USA garnered approximately 2.2 percent of GDP in the form of income tax revenues. Over a 10 year period income tax revenue would significantly exceed that forecasted using the current 35 percent corporate tax rate. The difference in revenue produced by reducing the corporate tax rate from 35 percent to the 21 to 25 percent range averages $162B per year or $1.62 trillion over the coming decade.

There are at least three potential reasons for greater tax revenues given a lower tax rate: 1) Greater incentive for businesses to invest in new plant and equipment because after-tax returns are higher, 2) Less incentive for firms to engage in tax avoidance (move overseas), and 3) Less incentive for firms to engage in tax evasion (cheat).

This analysis further suggests that the adverse effect on the government deficit could be less than currently anticipated. Most current projections are based on the static formula given above, $R = tY$. OECD experience suggests otherwise. Which is closer to reality? We'll soon see.

Sources:
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