



Corporate Income Tax Elasticity: How Republicans Can Have Lower Tax Rates and Democrats Can Collect More Tax Revenue!

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Elasticity of Taxation: What It Is

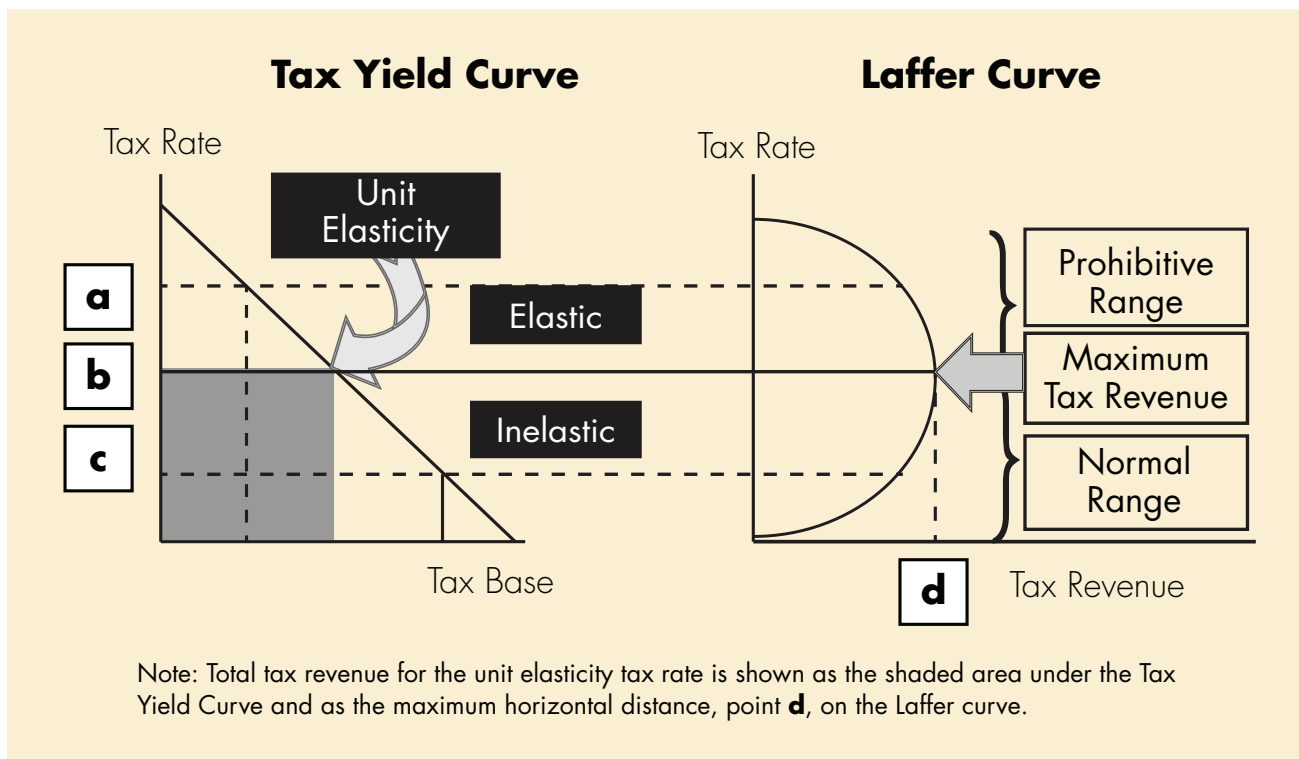
With the *net* national debt climbing to more than 70 percent of the nation's GDP, the deficit at unsustainable levels, unemployment and underemployment remaining stubbornly high, and economic indices faltering, Americans have been bombarded with pleas on the one hand for the nation's businesses and wealthy to pay their *fair share* (i.e., higher taxes) and on the other for *no new taxes*. But what if in one bold move, the Republicans could have lower tax rates and the Democrats could have greater tax revenues? Historical evidence and macroeconomic modeling suggest that in the case of corporate income taxes this may not just be possible, but even likely.

Conventional wisdom says that in order to increase tax revenue, we must increase tax rates. Yet business people have known, at least since Adam Smith (1776), that raising prices will not always increase sales revenue and, in fact, may have quite the opposite effect. Termed *price elasticity of demand* by Marshall (1890), the concept of *elasticity* took nearly 100 years to find its way into serious income tax thought. Then in 1974 the senior author of this paper drew what later was to be termed the *Laffer curve* on a napkin during a dinner meeting at a Washington DC hotel. (Laffer - 2004) The concept of elasticity later began to appear in scholarly economics literature under such terms as *elasticity of taxable income* (Lindsey-1987; Grueber and Saez-2002; Giertz-2009) and *tax base elasticity* (Dwenger and Steiner-2009).

Total tax revenue is the product of two factors: the **tax rate** and the **tax base**, or number of dollars or units to which the tax rate applies. Typically, the tax rate and tax base move in opposite directions. If we increase the domestic tax rate on corporate profits, we would expect to see corporations report lower profits as they reduce investment in new capacity, defer realizing profits this year if they expect future rates to be lower, or force profits into foreign subsidiaries where tax rates are more favorable. Whether an increase in the tax rate will increase tax revenue depends on which effect is proportionally greater: the percentage change in the rate (inelastic) or the percentage change in the base (elastic).

Taxation Elasticity	Dominant Effect	Relationship Between Tax Rate and Total Tax Revenue
Inelastic	Rate effect	Move in same direction. Increasing the tax rate increases tax revenue.
Unit(ary) elasticity	Rate and base effects are equal	Rate and base effects exactly offset each other. Changing the tax rate causes no change in tax revenue.
Elastic	Base effect	Move in opposite direction. Increasing the tax rate decreases tax revenue.

When we look at a tax yield curve graphically, it looks much like the traditional downward-sloping demand curve. We have drawn it below as a straight line to illustrate the elastic and inelastic segments more clearly, but in reality it is probably a curve. In addition, we can place the Laffer curve along side the tax yield curve, using the same vertical axis (tax rate) to show how the point of unit elasticity on the tax yield curve corresponds to the tax-revenue-maximizing point on the Laffer curve.



The first thing we should note is that the elasticity of the tax yield curve is likely to vary between different points on the same curve. Points **a** and **c** above illustrate two different tax rates that generate the same level of tax revenue, but one is in the elastic range and the other in the inelastic range. If the tax rate at point **a** (elastic) is lowered slightly, more revenue will be collected. The elastic range (or *Prohibitive*) range is the worst of all possible worlds. Tax rates are high and revenues are low. A lower tax rate would offer the advantages of more tax revenue and most likely higher levels of employment, investment and output (GDP). If the tax rate at point **c** (inelastic) is raised slightly, more tax revenue also will be realized. The maximum tax revenue, **d**, will be collected at tax rate **b** (unit elasticity) where the rate and base effects exactly offset one another.

Two generalizations can be offered here about the elasticity of taxation: 1) taxes are more likely to be elastic at higher rates than lower ones, and 2) taxes are more likely to be elastic in the long run than in the short run.

The first point recognizes that people are motivated by expected after-tax rewards, not by the tax rates themselves. If the tax rate is 90 percent and we increase it by 10 percent (to 99 percent), we leave the businessman with a reward of only 1 percent of his profit, so he is likely to invest and produce less (elastic). On the other hand, if the tax rate has been 10 percent and we increase it by 10 percent (to 11 percent), the businessman still keeps 89 percent of his profit and may not change his output very much (inelastic). The argument still would have prevailed had we used equal *percentage-point* rather than equal *percentage* increases in our example.

In our increasingly global economy, when we refer to “higher” corporate tax rates, we are speaking in a comparative sense. If two nations with roughly-comparable economic environments offer different tax rates, generally the one with lower tax rates will attract more domestic and foreign capital investment and achieve higher growth rates. (Altshuler et. al. – 2001; CBO – 2005; Djankov et. al. - 2010)

The second point is that the time period affects the elasticity of taxation. If a company completes a new factory just before an announced tax increase that now makes the factory an unattractive investment, it is unlikely that it would simply abandon the facility (unless it cannot cover the marginal costs of operation). Rather the company would be more likely to operate it until it needed extensive renovation or technological updates, at which time it might shut down the operation, sell it or move it offshore.

The reality that changes in tax rates may not have immediate economic impact makes it more difficult to assess elasticity. Brill and Hassett (2007) in their personal income tax research observed better fit of the data with both one and five-year lags. Romer and Romer (2010) in their 60-year analysis of the impact of changes of US personal income tax rates found it took an average of nine or ten quarters for the effects to level out and that they continued strong for up to 20 quarters. And Greg Mankiw, former Chairman of the Council of Economic Advisers under George W. Bush, observed that an increase in tax rates may be inelastic in the first year but more elastic over a five or seven year period when declining economic growth takes effect. (Mankiw – 2006; Matthews - 2010) Selection of a meaningful time frame is critical, and ideally it would be one long enough for all effects of a tax change to work through the economy. If a multi-year period is selected, changes in future-year tax revenues from the baseline should be discounted by an appropriate rate of interest in computing income tax elasticity.

Empirical Evidence

What does the historical evidence suggest about the relationship between corporate income tax rates and the tax revenues collected? In asking this question, we acknowledge that correlation does not demonstrate causation. But by using statistical tools to isolate some of the external influences on tax revenue, we can look to see if a preponderance of evidence supports a causal relationship between rates and revenue.

The following table summarizes empirical evidence regarding the primary, or first order, effects of a change in corporate income tax rates on corporate income tax revenues.

Corporate Tax Rates and Revenues Collected
<p>Devereaux’s Oxford Study (2006) – Appears elastic</p> <ul style="list-style-type: none"> • While the average corporate tax rate in a sample of 20 OECD countries had fallen over the period 1965-2004, the level of corporate tax revenues as a percentage of GDP had risen. Previously-higher corporate tax rates had encouraged businesses to employ debt financing, to reduce the domestic share of reported profits, and to shift to non-corporate legal entities.
<p>Clausing Study (2007) – Elastic</p> <ul style="list-style-type: none"> • A study of 29 OECD countries over period from 1979 to 2002 found parabolic relationship, consistent with a Laffer curve, between tax rates and tax revenues and concluded that lowering corporate tax rates would increase tax revenues.
<p>Brill and Hassett Study (2007) – Elastic</p> <ul style="list-style-type: none"> • Their study of 29 OECD countries for the period 1980 to 2005 (using five-year subsamples and adjusted top marginal tax rates to include federal, state and local taxes, with offsets in the federal rates for payments of state and local taxes) showed that the revenue-maximizing corporate income tax rate had declined steadily, from close to 34% in 1987 to near 26% in 2003 and that the lost-tax-revenue penalty from having rates above the peak (or in the elastic portion of the curve) had increased sharply in recent years.

The next table summarizes empirical research on secondary and tertiary effects of a change in corporate income tax rates on such factors as employment, investment, and economic growth.

Corporate Tax Rates and Economic Growth
<p>Three OECD Studies (2008) (See also Arnold and Schwellnus - 2008; Vartia - 2008)</p> <ul style="list-style-type: none"> • The burden of corporate taxes exceeds the tax revenue raised due to the often-hidden negative effects on savings, investment, productivity, labor supply, and costs of compliance and administration. • Per dollar of revenue raised by the government, the corporate income tax imposes a greater penalty on economic growth than any other tax studied.
<p>Lee and Gordon Study (2005)</p> <ul style="list-style-type: none"> • In study of a sample of 70 countries between 1970 and 1997, higher corporate tax rates were associated with lower per capita GDP growth, both across countries and within the same country over time.
<p>World Bank Study (2010) (See also Djankov, 2010, p.47)</p> <ul style="list-style-type: none"> • Concluded that raising corporate tax rates by 10 percentage points in a sample of 85 countries would have the effects of lowering investment by 2.2 percentage points as well as entrepreneurial activity, including reducing gross fixed capital formation as a percent of GDP, reducing direct investment by foreign investors; and reducing the entry rate for new firms.
<p>Joint Committee on Taxation Study (2005)</p> <ul style="list-style-type: none"> • JCT analyzed three proposals to reduce taxes by \$500 billion over the period from 2005-2014: (1) cut individual income taxes; (2) increase the personal exemption; (3) decrease the corporate income tax rate. JCT concluded that reducing the US corporate income tax rate has the greatest effect on long term growth because the stock of productive capital accumulates and leads eventually to higher labor productivity. • Results were based on simulations using Macroeconomic Equilibrium Growth (“MEG”) and Tax Policy Advisers’ overlapping generations (“OLG”) life cycle models.

The various large-sample, cross-country analyses of empirical data as well as the domestic macroeconomic modeling results consistently support two conclusions: 1) domestic and foreign corporate income taxes generally appear to be in the elastic range where total tax revenues could be increased by lowering tax rates and 2) corporate income taxes have many and serious negative effects on employment, labor productivity, wage levels, investment and economic growth. (DeMooij and Ederveen – 2003; Felix – 2007; Harberger – 1962; Price - 2010) This article focuses on the first order effect but acknowledges that, in some instances, the secondary and tertiary effects may be even more detrimental to the nation's well being.

Where Is the US Now?

In addition to historical evidence, there are at least three reasons to believe that US corporate income tax rates are currently in the elastic range. First, an estimated \$1 trillion in unrepatriated corporate profits earned by US corporations lie overseas and probably will not come back to the this country until tax rates are lower. Why should domestic corporations bring these profit dollars back to the US without some incentive? In many cases they are close to emerging growth markets and highly-talented labor pools while enjoying, almost without exception, more favorable tax treatment.

Marginal corporate income tax rates are of particular importance when businesses consider the repatriation and the subsequent investment of US corporate profits that remain overseas. Investment decisions are made *on the margin*. Businessmen make *after-tax* comparisons of the time-discounted marginal revenues and time-discounted marginal costs for alternative investment opportunities. For this reason lower marginal corporate tax rates with fewer exclusions and loopholes will encourage more domestic investment than higher marginal rates with more exclusions, unless a particular investment opportunity just happens to fall in a loophole bucket.

Secondly, the United States on April 1, 2012 achieved the distinction of having the highest corporate tax rate in the industrialized world. Between 1990 and 2010 the average combined (federal, state, and municipal) corporate tax rate for the Organization for Economic Cooperation and Development (OECD) nations dropped from 41.2 percent to 25.5 percent. During the same period US rates increased from 38.7 to 39.2 percent. (OECD – 2009; 2010). While U.S. corporate income tax rates rose during this twenty-year period, corporate tax revenues as a percentage of GDP decreased from 1.7 % to 1.2%, using three year averages to smooth out single-year anomalies. (OMB – Table 2.3)

Regardless of whether effective or statutory measures of corporate income tax are used, US rates come out high and corporate income tax revenues as a percent of GDP come out low compared to other industrialized nations.

Comparative Corporate Income Tax Rates and Revenues: 2010

Measure	US	OECD Average
Combined Statutory Tax Rates	39.2%	25.5%
Effective Average Tax Rate	29.0%	20.6%
Corporate Income Tax Revenue / GDP	1.3% ^a	3.9%

^a Over half of U.S. business income is generated by firms which are not C-Corporations.

Third, attempts to model or simulate the effect of varying US corporate tax rates to maximize tax revenues have concluded that the rate should be lowered. Of particular interest was the Brill and Hassett study (2007) which estimated that the revenue-maximizing corporate income tax rate had declined from close to 34 percent in 1987 to near 26 percent in 2003.

A Course of Action

In contemplating a change in US corporate income tax rates when the nation is experiencing record-high deficits, Congress is unlikely to seriously consider reducing the corporate income tax rate without convincing evidence of increased tax revenue, even though both Republicans (Congressman Ryan) and Democrats (President Obama and Secretary Geithner) have advocated it. (Calmes and Cushman – 2012) At a minimum, Congressional leaders will want to know what the established government forecasting agencies have to say on the subject.

Currently the Congressional Budget Office (CBO) and the Congressional Joint Committee on Taxation (JCT) provide two types of projections for Congress: *baseline* forecasts based on continuing the current policy and *scoring* forecasts of the changes that would result from proposed legislation. For proposed changes in tax rates, baseline forecasts are provided to Congress by the CBO, while scoring is done by the JCT.

Scoring may be either *static*, which in the case of tax policy would ignore issues like capital accumulation and assume no impact on economic growth, or *dynamic*, which would involve the use of macroeconomic models to estimate the feedback effect of taxes on national income (GDP). Historically, virtually all of the JCT's staff's analysis has been static. In 1996 they began an investigation of several types of models to provide a macroeconomic analysis of the economy, and by 2003 were incorporating some behavioral responses in their analyses. For example, in the case of changes in the capital gains tax rate, changes in capital gains realizations could be included, but no changes that might affect the baseline GDP forecast were permitted. (JCT – 2003)

These restrictions led Alan Auerbach (2005a) to term the JCT's process as one of "micro-dynamic scoring" rather than "macro." Tracy Foertsch and Ralph Rector (2006) argue that failure to take into account the macro effects of a tax cut can lead to significant over estimation of the revenue losses that will be generated, as in the case of the CBO's projections of the 2001 and 2003 Bush-era tax cuts.

Bruce Bartlett, domestic policy adviser to President Reagan and a Treasury official under President George H. W. Bush, believes that both the Democrats and Republicans are responsible for the JCT continuing to employ predominately static analysis. Bartlett contends that when the Democrats controlled Congress, they opposed dynamic scoring fearing that it would make it harder to raise taxes and easier to cut them. Since it ignores the higher growth resulting from tax cuts and the lower growth from tax hikes, Bartlett (2002) argues that static scoring systematically overestimates revenue losses from the former and increases from the latter.

When the Republicans took control of Congress in 1995, they would have been in a position to implement dynamic scoring but did not take advantage of the opportunity. Bartlett believes that budget hawks in the Republican leadership didn't want to use dynamic scoring, because they wanted the revenue loss from tax cuts to appear as large as possible. Since they planned to pay for tax cuts with budget cuts, Bartlett argues that they thought this would lead to larger budget cuts than would be the case with dynamic scoring.

So now Congress, the Administration and the American people are left with a scoring process that virtually everyone acknowledges does not provide accurate revenue estimates for changes in tax rates. The estimates it yields, though consistently wrong, are generally tolerated because they are judged to be *non-partisanly* wrong!

The importance of having the most accurate forecasts of not only the primary, but also the secondary and tertiary, effects of changes in tax policy make it critical that the JCT adopt *macro-dynamic scoring*. We can no longer continue to simply generalize from previous studies or pretend that changing tax rates will have no effect on GDP.

Some hopeful signs of bi-partisan support for dynamic scoring were even evident in the deliberations of the ill-fated Debt Commission in 2011. Senators Rob Portman (R-Ohio) and John Kerry (D-Mass.) were supportive of dynamic scoring of proposals for tax reform. However, other Commission members from the House Ways and Means Committee and the Senate Budget Committee considered "dynamic scoring" to be a dirty word and too open to partisan manipulation. (Montgomery – 2011).

The difficulty of introducing macro-dynamic scoring should not be minimized. Auerbach (2005a) has identified several technical difficulties in doing it correctly.

- It would rely on more assumptions and be susceptible to political pressure;
- It would require careful integration between the CBO and the JCT;
- It would need to account for both supply-side incentives as well as expenditure-side effects;
- It would require assumptions about fiscal and monetary policy response of Congress and the Fed.

In spite of the difficulties, they are not insurmountable, and the potential for improved tax policy decisions is too great not to proceed with macro-dynamic scoring. The JCT staff is knowledgeable, familiar with macroeconomic modeling and capable of handling the dynamic scoring assignment. Many of the necessary models are already available. The JCT staff now needs a green light.

Private organizations like Macroeconomic Advisors, IHS Global Insight and the non-profit National Bureau of Economic Research, not to mention the economics departments of many of our nation's universities, already have such models. The Delphi method, in which a panel of expert economists would systematically review the other panel members' estimates and reasoning and then modify their own estimates as they see fit, is an iterative forecasting method that also may have application here.

If dynamic scoring by the JCT becomes national policy, the learning curve for macro-dynamic scoring should be relatively steep, especially if we monitor predictive accuracy and reward its attainment. Because of the complexity of the macro dynamic scoring process, one practical approach may be initially to take the arithmetic average of four or five econometric models' and Delphi groups' predictions. The predictions of the most accurate models could then gradually be weighted more heavily over time.

In our discussion of corporate income taxes, we technically have been referring to the traditional "C" corporation. In 1958 Congress added Subchapter S of Chapter 1 to the Internal Revenue Code. The initial intent of the law, which was extensively revised in 1982, was to aid small businesses by avoiding double taxation of dividends and income, to pass a corporation's income directly to shareholders (who might be in lower tax brackets than their corporations); and to permit the shareholders to net their corporate losses against income from other sources. (TaxHub – 2012) Typically "S" corporations do not pay any federal income taxes. Instead, the corporation's income or losses are divided among and "passed through" to its shareholders, who must then report the income or loss on their own individual income tax returns.

Today most businesses in the US are not C-corporations but rather are sole proprietorships, partnerships or S-Chapter corporations whose profits are "passed through" to the owners and taxed at their individual rates. According to IRS data, these non-C-Corporation firms account for over half of all business income. (WSJ – 2012) While changes in the corporate form that small businesses elect ("C" versus "S" corporations) can change over time, Congress and the Administration would do well to keep these differences in mind in developing optimum individual and corporate tax rates if the objective is to create jobs and economic growth. Once again, macroeconomic modeling and macro-dynamic scoring could be of help.

Three Caveats

To be effective in stimulating economic growth, a cut in corporate tax rates cannot be perceived by business as a temporary policy which may, or may not, last only through the end of the year. While such a move may work like a tax holiday to encourage repatriation of foreign profits by US corporations, it would be unlikely to generate real gains in employment, investment or economic growth. As George Schultz reminds us, in order to "expand the pie" we need to both lower tax rates and provide business people with predictability and clearly-defined rules (Pollock – 2012).

Second, while we should always lower tax rates when they are in the elastic range, just because they are in the inelastic range does not mean that we should raise them. As Seth Giertz (2009) points out, the tax rate that optimizes revenue should not be confused with an optimal tax rate, which economists use to describe the rate that raises a given amount of revenue with the fewest distortions to the economy. Martin Feldstein (1999, 2011) takes the position that as tax rates get close to maximizing revenue, so too does the “deadweight loss” (real loss in economic growth) to the economy. He proposes having higher national income (GDP), rather than maximizing tax revenue, as the goal, arguing that is what drives consumption and our standard of living.

Third, for those who would see higher taxes on business as a desirable method of providing greater redistribution of wealth, more income equality to enable the “American Dream” and the allocation of more resources to underserved segments of our society, we need to remind ourselves that the cost is very likely to be a reduction in the total size of our economic pie. A healthy economy is a best friend for funding social welfare programs and enabling upward mobility. With lower levels of GDP, the need for unemployment assistance, food stamps, and social services increases while total government revenues, and thereby government’s means to meet these increased needs, decline. We cannot tax our way to prosperity, but if we fail to consider the implications of the elasticity of taxation, we can make everyone poorer as we try.

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REFERENCES

Altshuler, R., H. Grubert and T.S. Newlon (2001). "Has U.S. Investment Abroad Become More Sensitive to Tax Rates?" In James R. Hines, Jr. (ed.), *International Taxation and Multinational Activity*, Chicago, IL: University of Chicago Press.

Arnold, Jens and Cyrille Schwellnus. 2008. "Do Corporate Taxes Reduce Productivity and Investment at the Firm Level? Cross-country Evidence from the Amadeus Dataset." *OECD Economics Department Working Paper No. 641*, September 30, 2008.

Arulampalam, Wiji, Michael P Devereux and Giorgia Maffini. 2007. "The Direct Incidence of Corporate Income Tax on Wages," *Oxford University Centre for Business Taxation Working Paper 0707*.

Auerbach, Alan J. 2005a. "Dynamic Scoring: An Introduction to the Issues." *American Economic Review*, 95(2), (April): 421-425.

Auerbach, Alan J. 2005b, "Who Bears the Corporate Tax? A Review of What We Know." *National Bureau of Economic Research Working Paper 11686*. (Cambridge, MA: NBER, October) at <http://www.nber.org/papers/w11686>

Bartlett, Bruce. 2002. "Dynamic Due: We Can Do A Lot Better Than Static Budget Accounting." *National Review*. (July 17) at http://old.nationalreview.com/nrof_bartlett/bartlett071702.asp

Brill, Alex and Kevin A. Hassett. 2007. "Revenue-Maximizing Corporate Income Taxes: The Laffer Curve In OECD Countries." *American Enterprise Institute for Public Policy Research: Tax Policy Outlook Working Paper No. 137*. (July 31, 2007): 1-19..

Calmes, Jackie and John H. Cushman, Jr. 2012. "Obama Unveils Plan to Cut Corporate Tax Rate to 28 Percent." *The New York Times*. February 22. at <http://www.nytimes.com/2012/02/23/business/economy/obama-introduces-plan-to-cut-corporate-tax-rate.html?pagewanted=all>.

Clausing, Kimberly A.. 2007. "Corporate Tax Revenues in OECD Countries." *International Tax and Public Finance*. 14:115-133.

Congressional Budget Office (CBO). 2005. "Corporate Income Tax Rates: International Comparisons." (November). at <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/69xx/doc6902/11-28-corporatetax.pdf>.

DeMooij, Rudd A. and Sjeff Ederveen, 2003. "Taxation and Foreign Direct Investment: A Synthesis of Empirical Research," *International Tax and Public Finance*, 10, pp. 673-693.

Devereux, Michael. 2006. "Developments in the Taxation of Corporate Profit in the OECD Since 1965: Rates, Bases and Revenues," *Oxford Center for Business Taxation Working Paper 07/04*, (December) at http://www.sbs.ox.ac.uk/centres/tax/Documents/working_papers/WP0704.pdf.

Djankov, Simeon, Tim Ganser, Caralee McLiesh, Rita Ramalho, and Andrei Shleifer. 2010. "The Effects of Corporate Taxes on Investment and Entrepreneurship," *American Economic Journal: Macroeconomics*, 2(3): 31-64.

Dwenger, Nadja and Viktor Steiner. 2009. "Effective Profit Taxation and the Elasticity of the Corporate Income Tax Base: Evidence from German Corporate Tax Return Data." *Federal Ministry of Finance-Berlin*. (February 10):1-29. at <http://econstor.eu/bitstream/10419/30838/1/607983663.pdf>.

Feldstein, Martin. 1999. "Tax Avoidance and the Deadweight Loss of the Income Tax." *Review of Economics and Statistics*, 81(4): 674-80.

Feldstein, Martin. 2011. "The Tax Reform Evidence from 1986." *Wall Street Journal*, (October 24). at <http://online.wsj.com/article/SB10001424052970204002304576629481571778262.html>.

Felix, R. Alison. 2007. "Passing the Burden: Corporate Tax Incidence in Open Economies," Chapter 1, Ph.D. Dissertation, University of Michigan.

Foertsch, Tracy L. and Ralph A. Rector. 2006. "A Dynamic Analysis of the 2001 and 2003 Bush Tax Cuts: Applying Alternate Techniques for Calibrating Macroeconomic and Microsimulation Models." *Heritage Foundation Center for Data Analysis Report No. CDA06-10*, (November 22).

Giertz, Seth H. 2009. "The Elasticity of Taxable Income: Influence on Economic Efficiency and Tax Revenues and Implications for Tax Policy," *Tax Policy Lessons from the 2000s* ed. Alan D. Viard, Washington, DC: AEI Press. at <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1063&context=econfacpub>.

Gruber, Jonathan, and Joshua Rauh. 2005. "How Elastic is the Corporate Income Tax Base?" Presented at Taxing Corporate Income in the 21st Century, co-sponsored by the Office of Tax Policy Research at the University of Michigan and the Burch Center at the University of California, Berkeley. at http://www.kellogg.northwestern.edu/faculty/rauh/research/Gruber_Rauh_paper_NTA.pdf

Gruber, Jonathan, and Emmanuel Saez. 2002. "The Elasticity of Taxable Income: Evidence and Implications." *Journal of Public Economics*, 84 (1): 1-32.

Harberger, Arnold C. 1962. "The Incidence of the Corporation Income Tax," *Journal of Political Economy* 70(3), June: 215-240.

Hassett, Kevin A. and Aparna Mathur. 2006. "Taxes and Wages," *American Enterprise Institute for Public Policy Research Working Paper #128*, (June) at http://www.aei.org/files/2006/07/06/20060706_TaxesandWages.pdf.

Hassett, Kevin A. and Aparna Mathur. 2011. "Report Card on Effective Corporate Tax Rates: America Gets an F." *American Enterprise Institute for Public Policy Research: Tax Policy Outlook*, (February 9):1-8.

Joint Committee on Taxation (JCT). 2003. *Overview of Work of the the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Tax Legislation to Comply with House Rule XIII.3.(h)(2) JCX-105-03*. (December 22). at <http://www.jct.gov/x-105-03.pdf>.

Joint Committee on Taxation (JCT). 2005. *Macroeconomic Analysis of Various Proposals to Provide \$500 Billion in Tax Relief, JCX-4-05*, (March 1) at <http://www.jct.gov/x-4-05.pdf>

Laffer, Arthur B.. 2004. "The Laffer Curve: Past, Present and Future." *The Heritage Foundation. Backgrounder #1765*, (June 1): 1-21.

- Lee, Young and Roger H. Gordon. 2005. "Tax Structure and Economic Growth," *Journal of Public Economics*, 89(5-6):1027-1043.
- Lindsey, Lawrence. 1987. "Individual Taxpayer Response to Tax Cuts: 1982-1984, with Implications for the Revenue Maximizing Tax Rate." *Journal of Public Economics*, 33(2): 173-206.
- Mankiw, N. Gregory and Matthew Weinzierl. 2006. "Dynamic Scoring: A Back-of-the-Envelope Guide," *Journal of Public Economics*, 90(8-9): 1415-1433.
- Marshall, Alfred. 1890. *Principles of Economics*, London: Macmillan and Co.
- Matthews, Dylan. 2010. "Where Does the Laffer Curve Bend?" *The Washington Post*, (August 9) at http://voices.washingtonpost.com/ezraklein/2010/08/where_does_the_laffer_curve_be.html
- Merrill, Peter R. 2007. "The Corporate Tax Conundrum." *Tax Analysts*, Washington DC: PricewaterhouseCoopers. at http://www.pwc.com/en_US/us/washington-national-tax/assets/corporate_tax_conundrum.pdf.
- Montgomery, Lori. 2011. "Debt Supercommittee Weighs 'Dynamic Scoring' Concept as Part of Approach on Taxes." *The Washington Post*. (September 22). at http://www.washingtonpost.com/business/economy/debt-supercommittee-weighs-dynamic-scoring-concept-as-part-of-approach-on-taxes/2011/09/21/gIQATrv5oK_story.html.
- Office of Management and Budget (OMB). Historical Tables, Table 2.3. <http://www.whitehouse.gov/omb/budget/Historicals/> (Last accessed April 13, 2012).
- Organization for Economic Cooperation and Development (OECD). 2009. *Revenue Statistics*, 2009, Tables 3 and 13 and OECD Tax Database, at http://www.oecd.org/document/60/0,3343,en_2649_34533_1942460_1_1_1_1,00.html#cci.
- Organization for Economic Cooperation and Development (OECD). 2010. "Taxation of Corporate and Capital Income." Table II.1. "Corporate Income Tax Rate." (December 9). at <http://www.oecd.org/dataoecd/26/56/33717459.xlsx>.
- Pollock, Robert L. 2012. "The Weekend Interview with George Schultz – Memo to Romney: Expand the Pie." *Wall Street Journal* (July 14-15), p. A11.
- Price Waterhouse Coopers. 2010. "Corporate Taxes and Economic Growth." Report prepared for Technology CEO Council. (February 1). at http://www.techceocouncil.org/clientuploads/reports/Corporate_taxes_and_Economic_Growth_FEB.pdf
- Romer, Christina and David H. Romer. 2010. "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks." *American Economic Review*. (June): 763-801.
- TaxHub. 2010. "S-Corporation Background." at <http://taxhub.net/S-Corporation-Background.html>.

Vartia, Laura. 2008. "How Do Taxes Affect Investment and Productivity? An Industry-Level Analysis Of OECD Countries, *OECD Economics Department Working Papers No. 656*, (December 19) at: [www.oecd.org/olis/2008doc.nsf/LinkTo/eco-wkp\(2008\)64](http://www.oecd.org/olis/2008doc.nsf/LinkTo/eco-wkp(2008)64)

Wall Street Journal (WSJ). 2012. "Romney's Tax Reboot." *Wall Street Journal*, (February 24). at <http://online.wsj.com/article/SB10001424052970203918304577239092290860440.html> .

World Bank. 2010. *Paying Taxes 2011: The Global Picture*. PricewaterhouseCoopers. (November 18). at <http://www.pwc.com/gx/en/paying-taxes/pdf/paying-taxes-2011.pdf>.

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