The Economic Benefits of Reducing the US Corporate Income Tax Rate

Prepared for the Reducing America's Taxes Equitably Coalition

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Quality In Everything We Do

Executive Summary

The US corporate income tax rate is the second highest among the largest 50 economies – exceeded only by Japan. The high US corporate income tax rate is an impediment to US investment and economic growth.

A lower US corporate income tax rate will provide important benefits to the US economy, US households, and the US tax system:

- Increased competitiveness of the United States in the global economy.
- Increased capital investment in the United States.
- Increased employment and living standards for Americans.
- Reduced impact of taxes on economic decisions.
- Expansion of the corporate tax base.

There is a broad consensus that the US statutory federal corporate tax rate should be lowered from its current 35 percent. Both President Obama and prominent members of Congress have pointed to the importance of lowering the corporate income tax rate to improve the competitiveness of the United States. Virtually all major tax and entitlement reform proposals have included a lower corporate income tax rate as a principal component.

Making the United States a more attractive place to invest for both US companies and foreign-based companies will help increase employment and improve living standards for Americans. A recent OECD study states that the corporate income tax, of all the different types of taxes, is the most harmful to economic growth. A lower corporate income tax rate will spur additional investment and employment, and increase productivity, and ultimately, living standards.

A lower corporate tax rate would also benefit all Americans by “leveling the playing field” for US based companies and improving the allocation of resources throughout the economy. The corporate tax system has been crafted over time in such a way as to favor some industries, sectors, assets, sources of finance, and various activities over others. At the time these features were put in place, they were done so with worthwhile objectives. However, when considered on an individual basis or in the context of a system with a significantly lower corporate income tax rate they may be viewed in a very different light. More even treatment through a lower corporate income tax rate would help expand the US economy and improve Americans’ living standards.

A significantly lower US federal corporate income tax rate is critical to a 21st century US economy and tax system.

The Economic Benefits of Reducing the US Corporate Income Tax Rate

Introduction

The current 35% federal corporate income tax rate has been identified as a serious impediment to US competitiveness, economic growth, and American households' standard of living. Most other developed countries have reduced their corporate income tax rates, some sharply, over the past several decades, leaving the United States with one of the highest corporate income tax rates among developed nations. The US statutory corporate tax rate is exceeded only by Japan[1] within the Organisation for Economic Cooperation and Development (OECD), and Japan is currently considering lowering its corporate tax rate by five percentage points. Importantly, the US corporate income tax rate ranks as one of the highest under several alternative measures.

There is a growing consensus that the US corporate tax rate should be lowered. Virtually all recent tax and entitlement reform proposals have included significant corporate rate reduction. In December 2010, the President's National Commission on Fiscal Responsibility and Reform proposed lowering the top federal corporate income tax rate to 28%. A plan cosponsored by Sens. Ron Wyden (D-OR) and Dan Coats (R-IN) proposed that the corporate rate be lowered to 24%, and a plan by House Budget Committee Chairman Paul Ryan (R-WI) included a top 25% corporate tax rate.

President Obama highlighted the need to lower the corporate tax rate in his State of the Union address earlier this year and in subsequent public remarks. Members of Congress have also pointed to the importance of lowering the corporate tax rate to improve US competitiveness. House Ways and Means Committee Chairman Dave Camp (R-MI) has advocated a 25% corporate tax rate, saying, "The current top corporate tax rate of 35% is 'out of step' with the tax rates of other industrialized nations, putting the United States at a competitive disadvantage for international business."[2] Senate Finance Committee Chairman Max Baucus (D-MT) has emphasized the need for corporate tax reform without specifying a specific target for the corporate tax rate.[3] Congress has held hearings on corporate and business tax reform almost every week they have been in session.

A lower corporate tax rate would provide significant benefits to the US economy and American households. A lower corporate tax rate would better enable the United States to encourage additional domestic investment, attract foreign investment, and compete in the global economy. More investment made by companies means more capital flowing into the US economy. In turn, workers have more capital – newer computers, updated facilities and technologies, additional research – with which to work. This translates into more jobs, higher worker productivity and, ultimately, higher living standards.

Over the past several decades most other developed nations have reduced their statutory corporate income tax rates significantly. A number of recent studies have examined the effect of these lower corporate income tax rates and have found that lower corporate income tax rates affect workers by raising their wages. This new research indicates that workers have a considerable stake in lowering the US corporate income tax rate.

A lower corporate tax rate would also offer other benefits. It would reduce the current income tax system's penalty on saving and investment, reduce the tax barriers to investment in the corporate sector, reduce the incentive for firms to finance investment with debt rather than equity, and reduce the incentive for tax-motivated transactions and restructuring. A lower corporate tax rate would also reduce the disparate tax treatment of investment across asset types under the current tax system. Reducing the role played by taxes in these decisions would improve the allocation of resources and boost living standards by freeing up resources to be used more efficiently in the economy.

The corporate tax as a second layer of tax

The income of C corporations is subject to two levels of tax, first when income is earned at the corporate level, and again when the income is paid out to shareholders in the form of dividends or retained and later realized by shareholders as capital gains.[4] These two levels of tax are often referred to as the "double tax" on corporate profits. Moreover, the corporate tax is primarily a tax on equity-financed investment because interest is a deductible expense while dividend payments to investors are not.

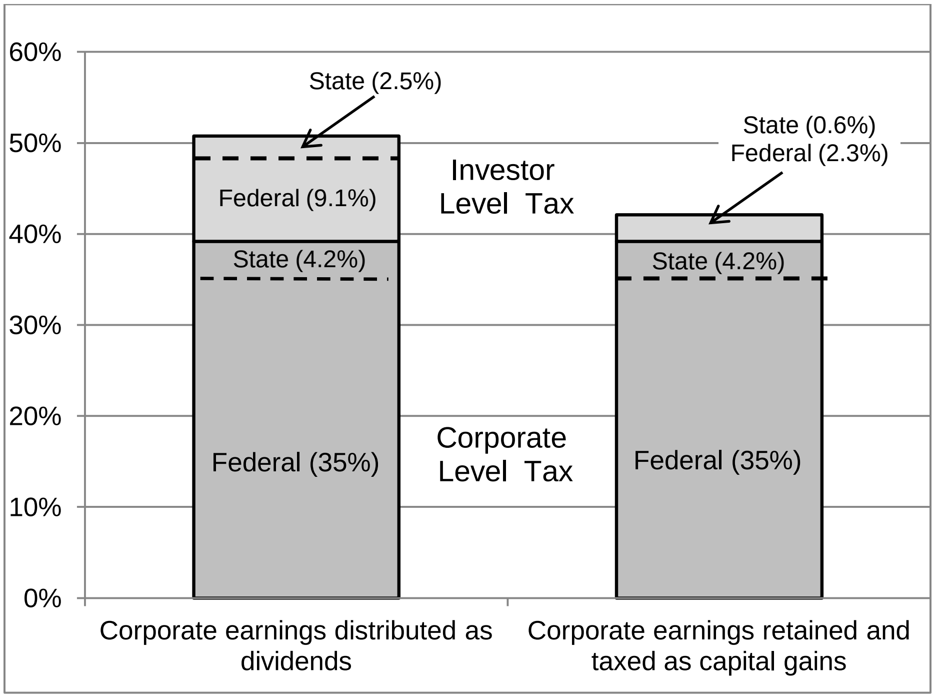
As shown in Figure 1, the overall effective tax rate on corporate earnings is much higher than simply the federal 35% statutory tax rate. First, corporate income tax is paid on earnings at the firm level at a top US corporate income tax rate of 39.2%, after combining the 35% federal corporate income tax rate with an average 4.2% state corporate income tax rate.[5] Earnings paid to individual shareholders as a dividend are then subject to a current top federal tax rate of 15% and an average state tax rate of 4.0%. Thus, the overall top effective tax rate on corporate earnings paid out as dividends is 50.8%.[6] For corporate earnings that are retained and reinvested in the firm, shareholders pay tax at a maximum statutory federal capital gains tax rate of 15% on the appreciation in stock value. The overall effective tax rate on corporate earnings that are retained is 42.1% after taking into account deferral of tax until realization.[7]

Considering corporate earnings from the broader perspective of the overall income tax is important because it illustrates not only how the corporate tax works to discourage investment in the US, but also how it discourages investment in the corporate sector compared to other sectors, and equity finance over debt finance.

Increased competitiveness of the United States in the global economy

Most other developed nations have lowered their corporate tax rates over the past decade while the U.S. corporate tax rate has remained unchanged. At the same time, increasing globalization amplifies the importance of differences in corporate tax rates across countries. In a global economy capital flows more freely across borders. Increased capital mobility makes it more sensitive to differential in its tax treatment. In addition, other advantages the United States once held such as a highly educated work force, large open markets, and infrastructure are less significant as formerly developing countries mature in the global economy.

Figure 1. Overall effective tax rate on corporate earnings, 2011



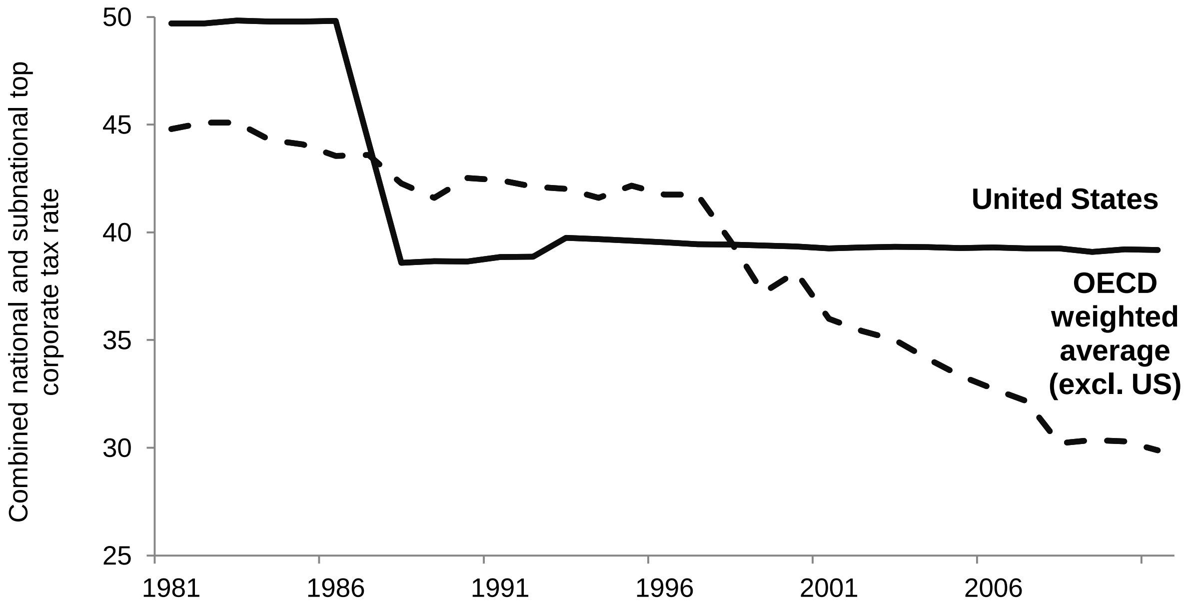
Source: Ernst & Young LLP.

Rates have fallen in other nations, while the US corporate tax rate has remained unchanged

As shown in Figure 2, the US statutory corporate income tax rate has remained largely unchanged for over two decades. The Tax Reform Act of 1986 lowered the top federal corporate income tax rate from 46% to 34%, which was followed by a 1% increase in 1993, bringing the rate to its current level of 35%. At the beginning of the 1980s, the US statutory corporate income tax rate was slightly above the OECD average, but since the late 1980s most other developed nations have reduced their statutory corporate income tax rates to levels often significantly below those of the United States. Today, the United States has a 39.2% combined federal-state statutory corporate income tax rate, which is significantly above the average 25.5% rate within the OECD (or 29.9% when weighted by GDP).

Countries continue to lower their corporate tax rates. Of the 34 OECD nations, 30 have lowered their statutory corporate income tax rates since 2000. The United Kingdom is scheduled to lower its corporate tax rate to 23% by 2015. Canada has lowered its federal corporate tax rate to 16.5% in 2011, with a reduction to 15% in 2013.[8] The Japanese government earlier proposed lowering their corporate tax rate by five percentage point, but has been deferred due to the tsunami.

Figure 2 Average OECD member country corporate tax rate, 1981-2011



Note: Average weighted by exchange rate adjusted nominal GDP.
Source: Organisation for Economic Co-operation and Development, 2011.

Some policy analysts argue the US statutory corporate income tax rate is not the right measure for comparing the United States to other nations because it does not reflect differences in the tax base. The same trends, however, are reflected in other metrics for comparing effective corporate income tax rates. In several recent studies the effective marginal tax rates on new investment were found to be higher in the United States than the average for member nations of the OECD.[9] In another study on effective tax rates based on financial statement data, the United States had an effective tax rate that was the second highest among the 15 countries analyzed, exceeded only by Japan.[10] Furthermore, statutory tax rates do matter, and have significant economic effects as described below.

Globalization amplifies the economic effects from differences in corporate tax rates

Changes in the corporate income tax rate are much more important in the current global economy than in the past. Capital flows more freely across borders, and other countries' economies have grown rapidly as they have adopted more market-economy policies.

Nearly one-third of the US economy is now integrated with the rest of the world through international trade. US imports and exports increased dramatically over the past half century, growing 311% between 1962 and 2007, and now representing 29% of US gross domestic product (GDP). The total stock of foreign direct investment by US companies grew to 30.3% of GDP in 2009, up from just 7.7% in 1980.[11] For many US companies, foreign operations account for more than half of all sales. Foreign investments by US companies are expected to accelerate, as the International Monetary Fund projects 69% of the world's growth through 2014 will occur in developing countries.

Table 1 shows the rapidly changing global economy from the perspective of the locations of headquarters of the Fortune Global 500 companies. The number of Fortune Global 500 headquarters in the United States and Japan, the two major economies with the highest corporate income tax rates, has fallen 30 percent in just the past eleven years. The United States is the only country in the top ten that has not reduced its corporate tax rate in the past eleven years. The US corporate rate is eight percentage points above the average for the other top ten countries and almost ten percentage points above all of the other major global companies.

Table 1. Headquarter Locations of Fortune Global 500 Companies, 2000 to 2011

Country	2011	2000	Change in Number of Companies	2011 Corporate Tax Rate	Rate Reduction Since 2000
United States	**133**	**179**	**-46**	39.2%	0.0%
Japan	**68**	**107**	**-39**	40.7%	-2.6%
China	**55**	**10**	**45**	25.0%	-8.0%
France	**36**	**37**	**-1**	34.4%	-3.4%
Germany	**34**	**37**	**-3**	33.0%	-19.0%
United Kingdom	**32**	**38**	**-6**	26.0%	-4.0%
Switzerland	**15**	**11**	**4**	21.2%	-3.7%
Korea	**14**	**12**	**2**	24.2%	-6.6%
Netherlands	**11**	**10**	**1**	25.0%	-10.0%
Italy	**10**	**10**	**0**	31.4%	-8.1%
Total Top 10*	**408**	**451**	**-43**	**31.2%**	**-8.6%**
Other countries	92	49	43	26.5%	-9.2%
Total Global 500*	**500**	**500**	**-**	**30.0%**	**-9.2%**

* Average tax rates weighted by number of companies in the Global 500. Total and Top 10 averages exclude the United States for purposes of comparison.

Source: Fortune Global 500, Ernst & Young LLP, *2011 Worldwide Corporate Tax Guide,* 2011.

This globalization makes it easier for businesses and investors to reallocate or move their capital across borders in response to differences in countries' tax policies, which amplifies the detrimental effects of a high US corporate income tax rate. Research has found that the corporate income tax can have a large impact on where multinational companies choose to place their production facilities and on the size of these investments.[12] A lower US corporate tax rate would reduce the tax on repatriated earnings of US-headquartered multinational corporations, and reduce the competitive disadvantage US multinationals currently have in bidding against foreign competitors for acquisition targets.

Additional US investment is important because it can spur additional local employment, increases in productivity that spill over to other segments of the local economy, and other benefits commonly associated with foreign direct investment. Research generally finds that foreign direct investment is highly sensitive to cross-country differences in after-tax returns. One study summarizing research in this area found that a 1 percentage point reduction in a host country's tax rate increased foreign direct investment by 2.9% and also found that the responsiveness of foreign direct investment has risen over time.[13] Foreign direct investment in the US supported 5 million US jobs in 2010[14]; additional foreign investment would result in additional US employment.

<u>Increased capital investment in the United States</u>

A lower corporate income tax rate would enhance US economic performance by encouraging additional investment and capital formation in the US. A lower corporate income tax rate reduces the tax on the return to savings and investment in the US economy. Consequently, it would provide a greater incentive for investment by US companies and also make the United States a more attractive place to invest for foreign-headquartered companies.

A recent OECD study states that corporate income taxes, of all the different types of taxes, are most harmful to economic growth, emphasizing their effect of the tax rate on capital accumulation.[15] The study notes that the adverse effects increase with the openness of the economy, although investment is affected across all firms.

Changes in capital investment – whether increasing the amount or productivity of existing US companies or encouraging location of a new manufacturing or research facility in the US – and its related employment and other economic activity are referred to as *real responses* to the tax system. They involve a change in the level of resources employed in the US. In contrast, *financial responses* involve the shifting of income and expenses between affiliated entities in different jurisdictions. Such responses might involve, for example, changes in a firm's financial structure or changes in the location of intangibles.

Real responses are generally regarded as more significant because they involve a fundamental change in the level of resources employed in the economy, while financial responses, often tax-rate motivated, involve principally the shifting of taxable income or deductions. Nevertheless, both types of responses are influenced by the statutory corporate income tax rate in the US relative to the statutory tax rates in other countries and both affect the revenues the US government can expect to collect from its corporate income tax. That is, lowering the corporate tax rate can help reduce the distortionary effects of taxes for both types of responses.

Increased employment and living standards for Americans

The accelerating pace of globalization over the last several decades has also prompted a rethinking of how the corporate income tax affects workers. While many economists once thought the corporate income tax fell only on investors by lowering their after-tax returns, a growing body of recent research indicates workers bear a significant share of the corporate income tax in the form of reduced employment opportunities and lower wages.[16] These studies are recent and have received some skeptical responses[17] but, nevertheless, the studies generally suggest that workers bear 40% to 75% of the burden of the corporate tax.[18] If US workers, for example, bear 50% of the corporate tax, workers' compensation would be lower by $100 billion to $200 billion in aggregate (1.2% to 2.4% of total compensation) at the average level of corporate taxes between 2000 through 2010.

An increasing number of economists and policymakers believe globalization has shifted a significant percentage of the tax burden to labor. The US Treasury Department, for example, which for decades assumed corporate tax rates had no effect on labor, now assumes 25% of the incidence of corporate tax is borne by workers.

One implication of this view is that workers have a stake in ensuring that the US corporate tax rate is globally competitive. This research suggests looking beyond the corporate income tax system for the revenues needed to reduce the corporate tax rate to help attract investment to the United States, increase employment and living standards.

Reduced impact of taxes on economic decisions

More neutral treatment of investment – "leveling the playing field" – improves the allocation of capital in the economy. This allows economic resources to be used more productively in the economy. The end result is a higher level of overall economic activity and higher living standards for American households.

Sources of uneven treatment

Many types of investment face uneven tax treatment because of the various ways tax rates, depreciation deductions, tax deferral, and inflation interact and lead to different effective tax rates on investment. The double tax on corporate profits creates a bias against business capital investment by raising the overall US effective tax rate, and specifically on capital investment in the corporate sector, resulting in reduced corporate investment.

The greater taxation of equity-financed investments leads to an over-reliance on debt finance for corporate investment. This tax bias misallocates capital towards debt-financed investment. Higher debt burdens increase a firm's risk of bankruptcy during periods of industry or economy-wide weakness. Business failures generate significant losses to both shareholders and employees, and the heightened bankruptcy risk can make the entire economy more volatile. These issues are particularly relevant in light of the recent financial crisis.

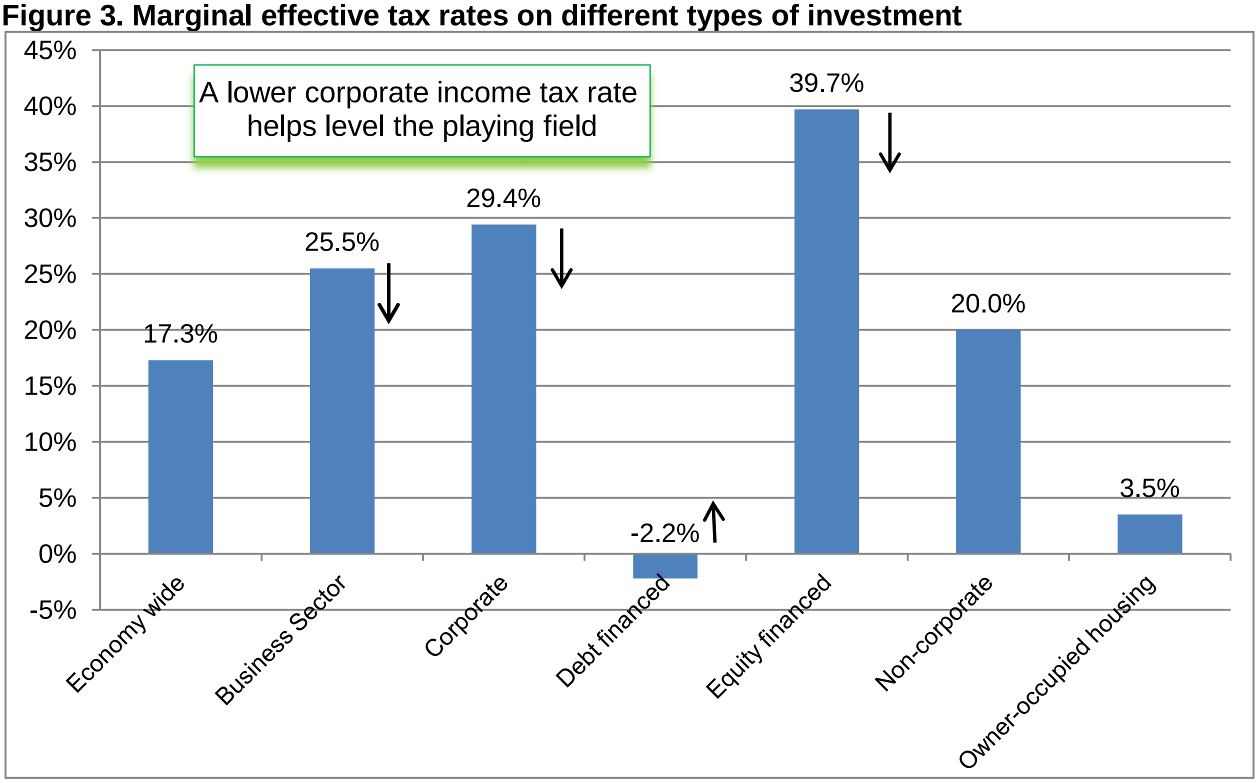
A lower corporate income tax rate would reduce the degree of uneven tax treatment and reduce the amount of tax-induced economic distortions in the US economy.

Measuring uneven treatment

Economists often use marginal effective tax rates (METR) to measure the impact of taxes on investment decisions. Marginal effective tax rates capture how various provisions in the tax code, including the statutory tax rate, depreciation deductions, interest deductions, deferral of tax liability, and both the individual and corporate levels of tax affect the after-tax rate of return to a new investment. The concept shows how much larger an investment's economic income needs to be to cover taxes over its lifetime.

In 2005, the US Treasury Department estimated the overall METR across all types of investment in the economy to be 17.3% (Figure 3). There is substantial variation in the METR across sectors, investment types, and source of finance, all indicating the potential for the misallocation of capital throughout the economy. For example, the METR for new investment in the corporate sector is estimated to be 29.4%, while the METR for investment in the non-corporate sector is only 20%. The higher METR of tax in the corporate sector primarily reflects the effect of the double tax on corporate profits.

Figure 3. Marginal effective tax rates on different types of investment



Source: US Department of the Treasury, *Treasury Conference on Business Taxation and Global Competitiveness: Background paper*, July 26, 2007.

While not illustrated in the graphic above, the same Treasury report found the METR for investment in structures is 34.2%, which is nearly 10% higher than the METR for investment in new equipment (25.3%). This difference reflects the benefit of accelerated depreciation provided to most equipment, but not to structures. Finally, the METR for an equity-financed investment in the corporate sector is estimated at 39.7%, while the METR for a debt-financed investment is actually less than zero, -2.2%. This negative tax rate reflects the deductibility of interest expenses and the fact that a significant share of interest income is lightly taxed because it is held by pension funds, 401(k)s, or foreigners.

A lower corporate tax rate would reduce the METR on the business sector, the corporate sector, and equity financed capital investments, thus making a more level playing field.

Expansion of the corporate tax base

A lower corporate tax rate could increase the size of the corporate income tax base and provide some additional corporate tax revenue that would partially offset the static effect of a rate reduction. As noted above, a lower US corporate tax rate would make US-headquartered companies more competitive in the global economy, increasing their exports and overall global footprint including in the US. A lower corporate tax rate would also increase foreign investment in the US, as well as increase capital investment of domestic companies which would increase productivity and jobs.

With increasing globalization and the mobility of income, companies are able to arrange their affairs in a manner that reduces taxable income or increases deductions in response to differences in corporate tax rates across countries. One study finds that a 1% increase (decrease) in a country's tax rate leads to a decline (an increase) in reported before-tax income of 2.7%, based on a sample of fifteen industrial sectors in a group of sixteen OECD countries.[22] This study suggests that the revenue increase (decrease) from a unilateral increase (decrease) in the statutory tax rate is on average reduced by roughly more than 65%.

Broadly similar results are obtained by a more recent study of the experience with changes in statutory corporate tax rates in Europe, which finds that for every 1% decrease in the statutory corporate income tax rate, the corporate tax base (i.e., corporate taxable income) expands by 0.45 percent.[23]

Another recent study found that for every percentage point difference in corporate tax rates between the United States and a particular foreign country, reported taxable profits abroad can be expected to increase by one-half a percentage point.[24] This can have potentially large effects on the size of the US corporate tax base and corporate income tax revenues by inducing US and foreign-owned multinational corporations to reduce taxable profits in the United States.

A one percentage point lower corporate tax rate has been estimated to cost approximately $100 billion over 10 years (CBO estimate).[25] If the US were to significantly lower its corporate tax rate, and achieved both higher capital investment, more level capital tax treatment, and reduced taxable income shifting, the potential revenue cost per percentage point reduction could be significantly less than the static revenue estimate.

Tradeoffs in financing a lower corporate tax rate

Finding sources of funding for a lower corporate tax rate in the current economic and budget environment may be difficult, but is important to achieve. Some have suggested corporate tax reform might help raise additional revenue to address the federal government's long-term fiscal imbalance. Using corporate tax reform to help reduce the deficit, however, would make lowering the corporate tax rate more difficult. Making the US more competitive would help improve economic growth, create jobs and lift living standards, and, at the same time, help address the nation's fiscal imbalance by expanding the size of the tax base.

It should be noted that the United Kingdom as part of its 2011 deficit reduction program included an immediate reduction in their corporate income tax rate from 28% to 26%, and is phasing its corporate tax rate down to 23% by 2015. Their deficit reduction program included significant spending reductions (while enhancing certain parts of their social safety net), some income tax base broadening, increased tax enforcement, plus a 2.5% percentage point increase in their value added tax rate. The UK government considered making their tax system more globally competitive sufficiently important to enact corporate tax rate reductions along with deficit reduction.

Others have looked to broadening the corporate tax base to finance a lower corporate tax rate. However, it is unclear how much the corporate income tax rate could be lowered through broadening of the corporate tax base alone. One study on corporate tax reform has suggested that the globalization of the world economy may provide a rationale for looking beyond the corporate tax base for revenue to lower the corporate tax rate.[26] This study suggests that the changes in the global economy, particularly the increased mobility of capital compared to labor, have made it increasingly difficult to tax capital. This may be part of the explanation for why other countries have lowered their corporate income tax rates.

Summary

Most other developed countries have sharply lowered their corporate tax rates over the past several decades, leaving the United States with the second highest corporate income tax rate among the 50 largest economies. Other countries continue to lower their corporate income tax rates, leaving the United States further out of step.

Lowering the corporate income tax rate would benefit the American economy by increasing employment and Americans' standard of living. It would benefit workers by making the United States a more favorable place to invest by both US companies and foreign companies. In addition to spurring capital formation and increasing employment, a lower corporate tax rate would also benefit Americans by improving the allocation of resources throughout the economy and increasing workers' productivity and living standards.

Endnotes

[1] Japan had proposed earlier this year to lower its corporate tax rate to 35.7%, which would have ranked the United States as the country with the highest statutory corporate tax rate among developed nations. This proposal, however, has not moved forward.
[2] Brett Ferguson and Heather M. Rothman, "Camp Sets 25 Percent Goal for Top Business, Individual Tax Rates," BNA *Daily Tax Report,* March 18, 2011.
[3] Statement by Sen. Max Baucus (D-MT) on How the Tax Code Affects Hiring and Business Growth. Senate Finance Committee hearing, on July 27, 2011.
[4] In contrast, flow-through businesses – S corporations, partnerships, limited liability companies, sole proprietorships – are generally only taxed once, at the owner level.
[5] This calculation takes into account the deductibility of state corporate income taxes for federal tax purposes.
[6] The top effective tax rate on corporate earnings paid out as dividends is calculated as 39.2% + (100%-39.2%)*19.1%, where the combined federal-state corporate tax rate is 39.2% and the combined federal-state dividend tax rate is 19.1%.
[7] The top effective tax rate on corporate earnings paid out as capital gains is calculated similarly to the same effective rate for dividends except that the calculation reflects the benefit of deferral of tax until gains are realized and the step-up of basis at death, each of which reduce the combined federal-state statutory tax rate on capital gains by one-half.
[8] Canada lowered its corporate tax rate from 30.5% to 28.5% effective January 1, 2011. This rate will be further lowered to 26.0% effective January 1, 2012.
[9] Effective marginal tax rates measure the taxes paid on the last dollar of new investment and take into account statutory rates plus features of the tax code that affect the taxes paid on new investment such as depreciation deductions, inventory allowances, and interest deductions. See Robert Carroll, "Comparing International Corporate Tax Rates: U.S. Corporate Tax Rate Increasingly Out of Line by Various Measures," Tax Foundation Fiscal Fact No. 143, August 28, 2008 and Duanjie Chen and Jack Mintz, "Taxing Business Investments: A New Ranking of Effective Tax Rates on Capital," World Bank, July 2008.
[10] See Kevin S. Markle and Douglas A. Shackelford, "Cross-Country Comparisons of Corporate Income Taxes," University of North Carolina, NBER Working Paper No. 16839, February 2011.
[11] United Nations Conference on Trade and Development, ''World Investment Report'' database. Foreign direct investment by foreign companies into the United States also has grown. Foreign direct investment into the United States grew from 3% of GDP in 1980 to 15.7% of GDP in 2008.
[12] For example, see Michael Devereux and Ben Lockwood, "Taxes and the size of the foreign-owned capital stock: Which tax rates matter? Mimeo, April 2006.
[13] Ruud de Mooij and Sjef Ederveen, "How Does Foreign Investment Respond to Taxes: A Meta-Analysis," Tinbergen Institute Discussion PaperTI2005-108/3, Rotterdam, 2005. Examples of specific studies include Rosanne Altshuler and Harry Grubert, "Taxpayer Responses to Competitive Tax Policies and Tax Policy Responses to Competitive Taxpayers: Recent Evidence," Tax Notes International 34, June 28, 2004, pp. 1349-1362; and, Rosanne Altshuler, Harry Grubert and T. Scott Newlon, "Has U.S. Investment Abroad Become More Sensitive to Tax Rates?" In *International Taxation and Multinational Activity*, ed., James R. Hines, Jr., (Chicago, University of Chicago Press, 2001), pp. 9-32.
[14] U.S. Department of Commerce, "Foreign Direct Investment in the United States," Economics and Statistics Administration Issue Brief #02-11, June 2011.
[15] Johansson et al, *supra* note 1.
[16] Mihir A. Desai, C. Fritz Foley and James R. Hines, "Labor and Capital Shares of the Corporate Tax Burden: International Evidence," Prepared for International Tax Policy Forum Conference, Who Pays the Corporate Tax in an Open Economy, December 18, 2007; Alison R. Felix, "Passing the Burden: Corporate Tax Incidence in an Open Economy." Federal Reserve Bank of Kansas City, October 2007; Alison R. Felix and James R. Hines, "Corporate Taxes and Union Wages in the United States," NBER Working Paper No. 15263, August 2009; Robert Carroll and Gerald Prante, "Corporate Income Taxes and Wages: Evidence from the 50 States," Tax Foundation Working Paper, 2010; Kevin Hassett and Aparna Mathur, "Spacial Tax Competition and Domestic Wages," American Enterprise Institute Working Paper, November 2010; Li Liu and Rosanne Altshuler, "Measuring the Burden of the Corporate Income Tax Under Imperfect Competition," Oxford University Center for Business Taxation, WP 11/05, April 27, 2011; and Arulampalam, Michael P. Devereux and Giorgia Maffini, "The Direct Incidence of Corporate Income Tax on Wages," Oxford University Centre for Business Taxation, WP 07/07, May 2011. For a recent review of these studies, see Jennifer C. Gravelle, "Corporate Tax Incidence: A Review of Empirical Estimates and Analysis," Congressional Budget Office Working Paper 2011-01, June 2011.
[17] See, for example, William Gentry, "A Review of the Evidence on the Incidence of the Corporate Income tax," U.S. Treasury Department, Office of Tax Analysis Working Paper No. 101, December 2007; Jane Gravelle and Thomas Hungerford, "Corporate Tax Reform: Issues for Congress," Congressional Research Service, Updated July 24, 2008; Jennifer C. Gravelle, "Corporate Tax Incidence: Review of General Equilibrium Estimates and Analysis," Congressional Budget Office, Working Paper Series, May 2010, p. 34; and Jennifer C. Gravelle, "Corporate Tax

Incidence: A Review of Empirical Estimates and Analysis," Congressional Budget Office Working Paper 2011-01, June 2011.

[18] The U.S. Treasury Department, for example, which for decades assumed a zero impact, now assumes 25% of the incidence of corporate tax is borne by labor.

[22] Eric J. Bartelsman and Roel M. W. J. Beetsma, "Why Pay More? Corporate Tax Avoidance Through Transfer Pricing in OECD Countries," *Journal of Public Economics,* Vol. 87, 2003, pp. 2225-2252.

[23] Harry Huizinga and Luc Laeven "International Profit Shifting within Multinationals: A Multicountry Perspective," *Journal of Public Economics,* Vol. 92, 2008, pp.1164-1182.

[24] Kimberly Clausing, "Multinational Firm Tax Avoidance and Tax Policy," *National Tax Journal*, December 2009.

[25] Congressional Budget Office, Budget Options – Volume 2, August 2009.

[26] Rosanne Altshuler and Harry Grubert, "Corporate Taxes in the World Economy: Reforming the Taxation of Cross-Border Income," Department of Economics, Rutgers University Working Paper 2006-26, December 2006.