

SPECIAL REPORT

September 2011
No. 195

U.S. Corporations Suffer High Effective Tax Rates by International Standards

By
Philip Dittmer
Adjunct Scholar
Tax Foundation

Introduction

The United States currently lays claim to the second-highest statutory corporate income tax rate in the developed world. At 39.2 percent, the rate is only 0.35 percentage points behind OECD-leading Japan.¹ Since 1997, 30 of the OECD's 34 member nations have lowered their statutory rates in an effort to retain and attract investment while the U.S. has sat idle.

In the process, the average statutory corporate tax rate for OECD nations has dropped from 36.5 percent to the current 25.1 percent.² While this shift has been noted by the Tax Foundation³ and others—including Presidents Obama⁴ and Clinton⁵—as reason for a competitive rate reduction, skeptics accurately note that statutory rates do not reflect the *effective* rates that corporations actually experience.

Key Findings

- *The U.S. has the second-highest statutory corporate income tax rate in the developed world. Despite anecdotes regarding a few companies that exploit the dubious carve-outs in the tax code to minimize their tax liabilities, the results of 13 unique studies of the effective tax rate on corporate investment across the globe show that the average U.S. effective corporate tax rate, like the statutory rate, is nearly the highest in the world.*
- *By every available measure, the U.S. imposes a very high tax burden on its corporate sector, in comparison to other nations, even after credits and deductions are considered.*
- *The most recent studies show that the average effective corporate tax rate for corporations headquartered in the U.S. is roughly 27 percent, while the average of other nations is about 20 percent. The effective average rate for new investment in the U.S. is roughly 29.8 percent, 7.4 point above worldwide competition.*
- *The U.S. effective corporate tax rate consistently ranks among the five highest of nations considered. The only nation with a higher effective tax rate in each study is Japan, which not by coincidence is the only developed nation with a higher statutory rate than the U.S.*
- *The literature shows that high corporate taxes and high effective tax rates are detrimental to attracting investment, and subsequently detrimental to economic growth.*

So how do U.S. effective corporate tax rates differ from the very high statutory rate? More importantly, how do effective tax rates for U.S.-headquartered firms compare to the rates of their competitors across the globe? This report addresses these questions by synthesizing the latest academic literature regarding effective corporate tax rates. Recent years have produced a multitude of credible studies to facilitate this enquiry.

The issue of corporate taxation is currently mired in a great deal of misinformation and confusion.

Taken as a whole, these studies indicate that the average effective tax rate for U.S. corporations—like the statutory rate—is one of the highest in the world. By every available measure, the U.S. imposes a very high tax burden on its corporate sector, in comparison to other nations, even after credits and deductions are considered. As the issue of corporate taxation is currently mired in a great deal of misinformation and confusion, this discussion should serve to illuminate the

facts underlying the ongoing corporate tax reform debate.

Effective Corporate Income Tax Rates

For corporate earnings, the effective tax rate (ETR) may be defined as the ratio of tax paid to pre-tax profits for a given period.⁶ Because U.S. profits are first subjected to a code of “above the line” preferences (which includes accelerated depreciation and the production activities deduction), the share of income subject to tax varies across firms and industries. The statutory rates are applied to this “taxable income” measure, but then various tax credits may reduce the tax liability further. Because deductions, credits, and other tax preferences vary greatly, firm-level effective rates can deviate substantially from the statutory rate.⁷ Effective rates account for the sum of tax benefits that accrue to the firm, industry, sector, or nation in question due to preferences in the tax code. ETRs thus measure the real tax cost of investment and reflect the corporate tax burden.

Calculating the ETR for a U.S. firm or investment is not as easy as plugging two numbers into an equation. Profit is the base of the corporate income tax, meaning that

-
- 1 The “statutory tax rate” is that defined in the tax code. 39.2 percent is the U.S. average tax rate including all states. Japan was scheduled to reduce its top rate by 5 percent in April, but has postponed action to help finance tsunami recovery efforts. See Junko Fujita and James Topham, “Japan business lobby gives OK to scrap corporate tax cut,” *Reuters*, March 28, 2011, <http://www.reuters.com/article/2011/03/28/us-keidanren-idUSTRE72R0XX20110328>.
 - 2 Reported OECD averages exclude the U.S. Weighted by GDP, the average statutory rate plunged from 43.2% in 1997 to a current 29.2%. See “Basic (non-targeted) corporate income tax rates,” *OECD Tax Database*, http://www.oecd.org/document/60/0,3746,en_2649_34533_1942460_1_1_1_1,00.html. This trend of reducing corporate tax rates is not exclusive to the developed world; see also “Paying Taxes 2011: The Global Picture,” joint report of the *International Finance Corporation (World Bank)* and *PricewaterhouseCoopers*, p. 15. Available online: <http://www.pwc.com/gx/en/paying-taxes>.
 - 3 Scott A. Hodge, “Countdown to #1: 2011 Marks 20th Year That U.S. Corporate Tax Rate is Higher than OECD Average,” *Tax Foundation Fiscal Fact* No. 261, March 8, 2011, available online, <http://www.taxfoundation.org/publications/show/27100.html>. See also 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, <http://www.taxfoundation.org/publications/show/23561.htm>.
 - 4 Richard Rubin, “Obama Seeks Business Support for Lower Corporate Tax,” *Bloomberg*, February 7, 2011, <http://www.bloomberg.com/news/2011-02-07/obama-seeks-business-support-for-cutting-burdensome-corporate-tax-code.html>.
 - 5 Alexander Eichler, “Bill Clinton: Lower the Corporate Tax Rate for Debt-Ceiling Deal,” *The Huffington Post*, July 5, 2011, http://www.huffingtonpost.com/2011/07/05/clinton-corporate-tax-rate_n_890166.html.
 - 6 While this seems simple, there are innumerable ways to define both the numerator and denominator of the ETR calculation. For a thorough discussion of various ETR computations, which vary by accounting systems, see Michelle Hanlon and Shane Heitzman, “A Review of Tax Research,” Working Paper (prepared for the 2009 *Journal of Accounting and Economics* Conference), latest draft March 18, 2010, <http://econ-www.mit.edu/files/5417>.
 - 7 See “Paying Taxes 2011: The Global Picture,” *International Finance Corporation, World Bank, and PricewaterhouseCoopers*, 2010, <http://www.pwc.com/gx/en/paying-taxes>. On p. 50 it is noted that “generous tax allowances in some economies significantly reduce the corporate income tax paid, while in others, disallowances can increase the effective rate of corporate income tax.”
-

a corporation's profits are subject to the tax rather than revenues or payroll or assets, etc. The complication is that profitability and tax liability are subjective measures,⁸ and both involve methodological and measurement issues. Based on the literature, there are essentially three methods for estimating the average or effective corporate tax rate for a nation or its corporations:

1. *Sample of financial reports:* By one method, a sample of firms' financial reports is analyzed to calculate the average tax liability, with respect to profitability, for companies headquartered in a given tax jurisdiction. This method has its pitfalls: public reports do not always match government-defined profitability or actual tax payments, and accounting rules vary by nation. Nonetheless, financial reports are widely considered the best available proxy for firm-level evaluation, and are widely used for this purpose. Effective rates calculated by this method reflect the actual experience of companies headquartered in the given tax jurisdiction, according to the accounting books.
2. *Hypothetical firm calculation:* By the second method, a hypothetical firm (or set of firms) is subjected to the specifics of a tax code to estimate the tax cost of new investment in a particular tax jurisdiction. This can involve the rather simple application of the tax code to a hypothetical entity, or can be calculated with more complex formulas which assess the tax effect on the rate of return of the new investment. Regarding the latter formulaic approach, the prevailing "Devereux/Griffith" methodology produces two distinct effective

tax rate measures. The "effective average tax rate" (EATR) is the average tax cost for a hypothetically profitable start-to-finish investment, such as a factory, over its life. This measure is comparable to other measures of effective tax rates.⁹ The "effective marginal tax rate" (EMTR) is the tax cost on the final dollar of a break-even investment over its life.¹⁰ These "forward-looking" methods are utilized in the business world to estimate effective tax rates before investments are undertaken; actual effective tax rates are only calculable after the tax bill is paid.

3. IRS aggregate statistics: Only relevant for U.S.-headquartered corporations, this final method involves analysis of aggregated IRS data. While specific tax returns are confidential, the IRS produces summary tables which include total corporate taxes paid and corporate profitability for all U.S. corporations. Various effective tax rate measures can be calculated from this data.¹¹

While these methods produce different effective rate measures, all alternate calculations contribute to our understanding of corporate tax competition. These studies we examine here provide multiple points of reference to gauge effective tax rates across the globe.

Summary of Reports

In the last seven years there have been no less than 19 unique and academically credible calculations of the U.S. effective corporate tax rate. Listed in Table 1 are the latest 13 studies which compare effective corporate tax rates across nations.¹² The table includes information on each study, including a brief note

8 U.S. corporations keep at least two sets of books: one for shareholders and the other for tax authorities. See appendix.

9 Michael P. Devereux, Rachel Griffith, Alexander Klemm, Marcel Thum, and Marco Ottaviani, "Corporate Income Tax Reforms and International Tax Competition," *Economic Policy* Vol. 17, No. 35 (Oct. 2002): p. 461.

10 The EATR and EMTR are different measures and inform different types of decisions. See Appendix.

11 The average effective tax rate on worldwide income for U.S. corporations can be distilled with IRS data and BEA estimates of deferred income. See William McBride, "Beyond the Headlines: What Do Corporations Pay in Income Tax?" *Tax Foundation Special Report* No. 194, August, 2011.

on methodology and the number of nations included in the analysis.

Column five reports where the U.S. ranks among the other nations included in each study. Column six reports the U.S. effective tax rate as estimated or calculated by each study. Column seven reports the simple average of all foreign national ETRs considered in each study; column eight is the GDP-weighted average ETR.¹³ Column

nine reports the number of percentage points the U.S. ETR scores above the cross-national average. At the bottom of the table is a row of the averages for columns five through nine. While these studies examine different measures of effective tax rates and thus cannot be averaged across each other to distill some form of definitive ETR, the averages nonetheless serve as a reference to facilitate comparison.

Table 1
Effective Corporate Income Tax Rates Across Nations, by Study

Methodology Category and Study	Methodology Note	Data Year(s)	Number of Nations in Study	U.S. Rank From Highest	U.S. Effective Tax Rate	Simple Average Rate, All Other Nations	Weighted (GDP) Average Rate	U.S. ETR Points Above Simple Average
Sample Data, ETR								
PwC/BRT (2011)	All Firm Types, Worldwide Income, National Mean	2006-2009	59	6	27.7%	19.5%	25.0%	8.2
Markle/Shackelford (2011)	Domestic Firms, Mean	2005-2009	15	3	23.0%	18.2%	24.2%	4.8
Markle/Shackelford (2011)	Multinationals, Mean	2005-2009	15	2	28.0%	20.6%	26.0%	7.4
Lee/Swenson (2009)	All Firm Types, Worldwide Income, Mean Firm ETR	2006-2007	70	8	29.5%	21.2%	28.5%	8.3
Average:					27.0%	19.9%	25.9%	7.2
Hypothetical Firm, ETR								
Devereux et al. (2011)	EATR, Investment in Four Asset Types	2010-2011	19	2	34.9%	25.7%	27.2%	9.2
Hassett/Mathur (2011)	EATR, Hypothetical Manufacturing Investment	2010	28	2	29.0%	20.6%	24.9%	8.4
KPMG (2010)	Average of 17 Hypothetical Firms	2009-2010	10	4	28.3%	23.4%	26.5%	4.9
PwC/World Bank (2010)	"Profit Tax" For Hypothetical Firm	2009	183	23	27.6%	17.8%	17.5%	9.8
Klemm/IFS (2005)	EATR, Manufacturing Investment	2005	19	3	29.0%	24.2%	27.4%	4.8
Average:					29.8%	22.3%	24.7%	7.4
Hypothetical Firm, EMTR								
Devereux et al. (2011)	EATR, Investment in Four Asset Types	2010-2011	19	4	23.3%	17.7%	19.0%	5.6
Hassett/Mathur (2011)	EMTR, Manufacturing Investment	2010	28	5	23.6%	17.3%	21.9%	6.3
Chen/Mintz (2011)	EMTR, Mixed Capital Investments	2010	84	5	34.6%	17.5%	23.6%	17.1
Klemm/IFS (2005)	EMTR, Manufacturing Investment	2005	19	5	23.6%	20.1%	23.4%	3.5
Average:					26.3%	18.2%	21.9%	8.1
Aggregate Average:					27.9%	20.3%	24.2%	7.6

12 It is worth noting that a 2007 Treasury report is not included in this analysis because it reports the "average tax rate" as "Corporate Tax/Corporate Surplus" based on OECD data. The *BEA* notes that corporate surplus does not equal corporate profit. For example, for the U.S. in 2004, "corporate surplus" as a share of GDP was 36%, but corporate profit made up only 8% of GDP. See Rosemary Marcuss, "Corporate Profits in the GDP Accounts," Bureau of Economic Analysis, Presentation at Conference for National Association of Business Economics, Kissimmee, Florida, May 2004, http://www.bea.gov/papers/pdf/nabeprofits_fv.pdf. Moreover, the OECD data is not cited or readily available to verify the methodology or definition of "corporate surplus." For the Treasury report, see "Treasury Conference on Business Taxation and Global Competitiveness," *Treasury*, July 23, 2007, p. 42.

13 Column eight reports the GDP-weighted average of all foreign national ETRs considered in the study. This metric is included in response to a recent *Congressional Research Service* critique of simple averages. See appendix.

PwC/BRT (2011) is a report commissioned by the Business Roundtable and conducted by PricewaterhouseCoopers (PwC). PwC analyzed financial statements for the 2,000 largest companies in the world, headquartered in 59 different nations, using the Standard and Poor's Global Vantage database. National ETRs were calculated for each year from 2006 to 2009 as a weighted average of all firms headquartered in a given nation (the sum of total taxes paid divided by the sum of pretax income for all firms). The study found that the U.S. ETR was 27.7 percent for the period, compared to a global average of 19.5 percent.¹⁴

Markle/Shackelford (2011) is a National Bureau of Economic Research working paper by Kevin Markle and Douglas Shackelford. The analysis considered 28,343 financial statements over the years 2005 to 2009, representing corporations headquartered in 82 nations. The data was split between multinational and domestic-only corporations in order to observe the effects of such structures—hence the two rows in Table 1. The mean ETR for U.S. domestic corporations was 23 percent, and for multinational corporations, 28 percent. Considering the median ETR, which controls for outliers and better represents the tax condition of the average firm, U.S. domestics experienced an ETR of 25 percent, and multinationals, 30 percent. For both domestics and multinationals the U.S. scored above the ETR average, ranking third- and second-highest, respectively, out of 15 nations.¹⁵

Lee/Swenson (2009) is another analysis of public financial reports, published by *Tax Notes International*. Charles Swenson

and Namryoung Lee used S&P's Compustat Global database to calculate mean and median effective corporate tax rates at the firm level for 70 headquarter-nations. Table 1 reports the mean ETR figures, with the U.S. placing eighth-highest out of the 70 nations, with an ETR of 29.5 percent, compared to the world average of 21.2 percent. Judging by the median ETR rather than the mean, the U.S. appears even less attractive to business, ranking third-highest.¹⁶

Devereux et al. (2011) is a report from the Oxford University Centre for Business Taxation, conducted by Katarzyna Bilicka, Michael Devereux, and Clemens Fuest. Effective average tax rates (EATR) and effective marginal tax rates (EMTR) were calculated for nations based on a hypothetical investment in a composite (that prevailing for European corporations) of four asset types: machinery, buildings, intangibles, and inventory. The hypothetical investment was financed by a mix of equity and debt. Of G-20 nations considered, the U.S. scored the second-highest EATR at 34.9 percent, nine percentage points greater than the average. For the EMTR, the U.S. ranked number four at 23.3 percent, nearly six points above the G-20 average.¹⁷

Hassett/Mathur (2011) is a report from American Enterprise Institute scholars Kevin Hassett and Aparna Mathur. The "report card" employed the Devereux/Griffith methodology to calculate the EATR and EMTR for OECD nations. The analysis considered investment in plant and equipment, financed by retained earnings, and found the U.S. EATR to be 29 percent (second-highest) as compared to a 27-nation average of 20.6

14 "Global Effective Tax Rates," *PricewaterhouseCoopers and Business Roundtable*, April 14, 2011, <http://businessroundtable.org/studies-and-reports/global-effective-tax-rates/>.

15 Kevin S. Markle and Douglas A. Shackelford, "Cross-Country Comparisons of Corporate Income Taxes," *National Bureau of Economic Research Working Paper* No. 16839, February 2011, <http://www.nber.org/papers/w16839.pdf>.

16 Namryoung Lee and Charles Swenson, "Is It a Level Playing Field? An Analysis of Effective Tax Rates," *Tax Notes International* 54, No. 8 (2009): 685-693.

17 Katarzyna Bilicka, Michael Devereux, and Clemens Fuest, "G20 Corporate Tax Ranking 2011," *Oxford University Centre for Business Taxation*, 2011, <http://www.sbs.ox.ac.uk/centres/tax/conferences/Documents/G20%20Corporate%20Tax%20Ranking%202011.pdf>.

percent. Considering the EMTR, the U.S. registered at 23.6 percent (fifth-highest), with the average at 17.3 percent.¹⁸

KPMG (2010) is the latest edition of KPMG's Competitive Alternatives publication. The study calculated the annual tax costs faced by 17 hypothetical businesses representing various industries (in manufacturing and non-manufacturing) in their first decade of operation. The hypothetical businesses were assumed to be foreign-owned and a new investment. National ETRs were distilled as averages of the 17 industry representatives situated in the largest business centers of each nation. Only ten of Europe's and North America's largest nations were included, yet the U.S. ETR, 28.3 percent, was found to be five points greater than the average, 23.4 percent.¹⁹

PwC/World Bank (2010) is the fifth edition of *Paying Taxes—the global picture*, a joint publication of the World Bank, the International Finance Corporation, and PricewaterhouseCoopers. The study estimated the effective corporate tax rate for a hypothetical firm for the year 2009, considering 183 different nations. The model firm was a domestically-owned company which produced ceramic flowerpots to sell at retail. The study found the U.S. ETR to register at 27.6 percent, nearly ten points above the 17.8 percent world average. The U.S. ranked number 23 among all 183 nations, but among the 37 larger OECD and BRIC²⁰ economies,²¹ it ranked third behind only New Zealand and Japan.

Klemm/IFS (2005) is data authored by Alexander Klemm using the Devereux/

Griffith methodology, published by the British Institute for Fiscal Studies. Reported in Table 1 is the “base case,” in which plant or machinery investment was financed by equity or retained earnings. The study found that the U.S. EATR for 2005 was 29 percent, compared to the study-wide average of 24.2 percent. Under the alternate condition of equity financing of investment in structures, the U.S. EATR was 41 percent, ten points above the average.²²

The latest studies indicate that the effective average tax rate for new investment in the U.S. is roughly 29.8 percent, 7.4 point above worldwide competition.

Chen/Mintz (2011) is a 2011 Cato Institute study of “effective tax rates on new investment.” Jack Mintz and Duanjie Chen estimated the EMTR on capital using an original methodology which considered not only corporate income tax but also retail sales taxes on capital purchases and asset-based taxes. Using 2010 conditions and data, a hypothetical multinational corporation selected its optimal financing mix from international markets and invested in a set of eight hypothetical industries within one nation. Of the 84 nations included in the study, the U.S. ranked fifth, with an EMTR of 34.6 percent, while the worldwide average was 17.5 percent.²³

18 Kevin A. Hassett and Aparna Mathur, “Report Card on Effective Corporate Tax Rates: United States Gets an F,” *American Enterprise Institute for Public Policy Research Tax Policy Outlook* No. 1, February 2011, <http://www.aei.org/outlook/101024>.

19 “Competitive Alternatives 2010: Focus on Tax,” KPMG, 2010, <http://www.competitivealternatives.com/highlights/taxfocus.aspx>.

20 “BRIC” denotes Brazil, Russia, India, and China.

21 “Paying Taxes 2011: The Global Picture,” *International Finance Corporation, World Bank, and PricewaterhouseCoopers*, 2011, <http://www.pwc.com/gx/en/paying-taxes>.

22 Alexander Klemm, “Corporate Tax Rate Data,” *Institute for Fiscal Studies*, <http://www.ifs.org.uk/publications/3210>. Data used in Devereux and Klemm, “Corporate Income Tax Reforms and the International Tax Competition,” *Economic Policy* Vol. 35 (2002): 451-495.

The U.S. Rate

Because the methodologies of the studies vary, so too does the reported U.S. effective corporate tax rate; the measure ranges from 23 percent to 34.9 percent. Though this may appear to indicate drastic miscalculation by one or more reports, it is important to remember that these are measures of different things. For example, the lowest reported U.S. effective rate, 23 percent, is the average ETR for domestic corporations operating solely in the U.S. The highest reported ETR, 34.9 percent, is an estimate of the tax cost of a mix of new investments of various types, based on the average federal and local tax conditions.

All studies weighted equally, the average U.S. effective corporate tax rate registers a cumbersome 7.6 percentage points above the aggregate study-wide averages.

The studies which consider a sample of financial reports of U.S. corporations reveal the average effective tax rate for corporations headquartered in the U.S. According to the latest studies, this effective tax rate is roughly

27 percent, while the average of other nations is about 20 percent.²⁴ This is different from the studies that consider hypothetical investments, which divulge the average or marginal effective tax rate for corporate investment within the U.S. The latest studies indicate that the effective average tax rate for new investment in the U.S. is roughly 29.8 percent, 7.4 points above worldwide competition, and the U.S. effective marginal rate is 26.3 percent, 8.1 points above the world average.²⁵

While it would be inaccurate to consider the cross-study aggregate average U.S. ETR of 27.9 percent to be a definitive measure of the U.S. corporate tax burden, the measure does function as an approximation of the average tax cost for headquartering and/or investing in the U.S.

The methodological differences notwithstanding, these studies provide consistent comparative measures of corporate tax conditions across nations. While it would be inaccurate to consider the cross-study aggregate average U.S. ETR of 27.9 percent to be a definitive measure of the U.S. corporate tax burden, the measure does function as an approximation of the average tax cost for headquartering and/or investing in the U.S.²⁶ This average is biased by the assumptions

Table 2
Other Reports on Effective Tax Rates for U.S. Corporations

Study	Data Year(s)	Methodology Note	Effective Tax Rate
McBride (2011)	2003-2008	IRS Data, Domestic+Repatriated Foreign Income	25.4%
GAO (2008)	2004	IRS Data, Domestic Income, Median of Firms	31.8%
GAO (2008)	2004	IRS Data, Domestic Income, Weighted Average	25.2%
Treasury (2007)	2007	EMTR, Hypothetical Investment in U.S.	29.4%
CBO (2005)	2005	EMTR, Hypothetical Investment in U.S.	26.3%
Gravelle (2004)	2003	Average firm-level ETR	27.0%

23 Duanjie Chen and Jack Mintz, "New Estimates of Effective Corporate Tax Rates on Business Investment," *Cato Institute Tax & Budget Bulletin* No. 64, February 2011, http://www.cato.org/pubs/tbb/tbb_64.pdf.

24 Of the four studies comprising this average, two considered both domestic and multinational firms, one study considered only domestic firms, and one study considered only multinational firms. See Table 1.

25 These averages are largely based on hypothetical investments in manufacturing.

26 Under alternate assumptions of the hypothetical investment, financed by debt rather than equity, for example, the average estimated ETR would be reduced.

embedded in the contributing studies, but importantly, the assumptions for each hypothetical calculation are static across nations. Therefore, the most important statistic—the gap between the U.S. and other nations—does not experience the same bias. All studies weighted equally, the average U.S. effective corporate tax rate registers a cumbersome 7.6 percentage points above the aggregate study-wide averages.

While the anecdotes abound regarding a select few companies that exploit the dubious carve-outs in the tax code to minimize their tax liabilities, the studies included here demonstrate that the average effective tax rate on U.S. corporate activity is very high by international standards.

While the anecdotes abound regarding a select few companies that exploit the dubious carve-outs in the tax code to minimize their tax liabilities,²⁷ the studies included here demonstrate that the average effective tax rate on U.S. corporate activity is very high by international standards.

Where the U.S. Ranks

The U.S. effective corporate tax rate consistently ranks among the five highest of nations considered. The only nation with a higher

ETR in each study is Japan, which not by coincidence is the only developed nation with a higher statutory rate than the U.S. Other major nations found to possess a higher ETR than the U.S. in at least one study include France, Italy, and Germany, but no clear patterns emerge; the U.S. outranks this sample more often than not. Significantly, both Italy and Germany have enacted rate cuts since many of these studies were conducted.²⁸

While the U.S. government is unable to take action to increase Chinese labor wages in order to level the playing field, it is entirely capable of reducing tax impediments for U.S. enterprises to be more competitive in international markets.

By several measures the U.S. imposes the second-highest ETR on corporate earnings of nations considered, and in only one study does the U.S. ETR fall out of the top eight: the U.S. ranks 23rd in the World Bank study because that study evaluates 183 nations, including many underdeveloped nations with high effective corporate tax rates.²⁹ Limiting each study to consideration of OECD-member nations, the U.S. never falls out of the top five, and in the Chen/Mintz study ranks number one.

27 News media coverage of corporate tax avoidance has, at times, suffered from misinformation and unjustified conclusions by writers who have misunderstood the relevant tax law and accounting procedures. See David Cay Johnston, "How I misread News Corp's taxes: David Cay Johnston," *Reuters*, July 13, 2011, <http://www.reuters.com/article/2011/07/13/column-dcjohnston-murdoch-idUSN1E76C25320110713>.

28 The average statutory rate in Germany dropped from 38.9% to 30.2% in 2008. Likewise, Italy's rate dropped from 33% to 27.9% in the same year. Source: OECD.

29 For the PwC/World Bank complete study, nations with ETRs higher than the U.S. include (in order, from highest): Central African Republic, Palau, Congo (D.R.), Mauritania, the Gambia, Bhutan, Yemen, Kenya, St. Kitts and Nevis, Comoros, Chad, New Zealand, St. Vincent and the Grenadines, Cameroon, Fiji, Thailand, Jamaica, Swaziland, Japan, Suriname, Mozambique, and Grenada. Only New Zealand and Japan are OECD members.

Other Studies

Table 2 reports the findings of several other recent studies of U.S. effective corporate rates. These studies exclusively considered U.S. corporations or investment, so there are no comparative measures across nations. These reported effective tax rates again represent various methodologies, and they do not vary markedly from the rates in Table 1. These studies³⁰ reinforce the conclusions drawn above, particularly regarding the U.S. corporate effective tax rate.

First and foremost, the OECD has found corporate income taxes to be the most detrimental of all tax structures to economic growth.

To put these rates in perspective, the effective tax rate for the wealthiest quintile in the individual income tax in 2006 was 14.1 percent, and the lowest quintile paid an effective rate of -6.6 percent.³¹ This means that individuals of the highest income group effectively paid \$14 on each \$100 they earned; the poorest individuals received \$7 from the government for each \$100 they earned; and corporations paid roughly \$28 on every \$100 of profit. While individuals are not able to deduct their “costs of business inputs” for tax purposes and effective rates are calculated differently for these tax structures, this sheds some light on the limitations of corporate tax avoidance.

Economic Implications

Corporate taxes reduce the real rate of return on corporate investment. In today’s world, capital is highly mobile and flows toward investments with the highest rates of return; the natural by-product is intense international tax competition. The multitude of nations that have reduced corporate tax rates in recent years bears witness to this present condition.³² While the U.S. government is unable to take action to increase Chinese labor wages in order to level the playing field, it is entirely capable of reducing tax impediments for U.S. enterprises to be more competitive in international markets.

The results of 13 unique studies of the effective tax rate on corporate investment across the globe are in remarkable accord. The resounding conclusion is that the average U.S. effective corporate tax rate, like the statutory rate, is nearly the highest in the world.

Beyond notions of worldwide business competitiveness, a vast literature abounds regarding the negative effects of corporate taxes on economic growth. First and foremost, the OECD has found corporate income taxes to be the most detrimental of all tax structures to economic growth. Property

30 McBride (2011); “GAO (2008): “U.S. Multinational Corporations: Effective Tax Rates Are Correlated with Where Income is Reported,” *GAO*, August 2008, <http://www.gao.gov/new.items/d08950.pdf>.

“Treasury (2007): “Treasury Conference on Business Taxation and Global Competitiveness: Background Paper,” *Treasury*, July 23, 2007, <http://www.treasury.gov/press-center/press-releases/Documents/07230%20r.pdf>.

“CBO (2005): “Corporate Income Tax Rates: International Comparisons,” CBO, November 2005, <http://www.cbo.gov/ftpdocs/69xx/doc6902/11-28-CorporateTax.pdf>.

“Gravelle (2004): Jane G. Gravelle, “Historical Effective Marginal Tax Rates on Capital Income,” *Congressional Research Service Report for Congress*, January 12, 2004, <http://www.policyarchive.org/handle/10207/bitstreams/3835.pdf>.

31 See “Effective Federal Tax Rates for All Households, by Comprehensive Household Income Quintile, 1979-2006,” *Congressional Budget Office*, 2009, http://www.cbo.gov/publications/collections/tax/2009/effective_rates.pdf

32 George R. Zodrow, “Capital Mobility and Capital Tax Competition,” *James R. Baker III Institute for Public Policy*, Rice University, July 3, 2009, <http://bakerinstitute.org/publications/TEPP-pub-ZodrowCapMobility-070309.pdf>.

and consumption taxes are the least destructive, and “the effect of corporate income taxes is significantly more negative than that of personal income taxes.”³³ These findings were echoed in a recent study by the World Bank and Harvard Department of Economics, which reports that higher corporate taxes carry adverse effects for corporate investment and entrepreneurial activity.³⁴

Specifically regarding effective rates, the Treasury Department reports that there is “ample empirical evidence that the location of capital invested by U.S. MNCs is sensitive to variations in effective tax rates.” It reports that for every one percentage point decrease in the effective corporate rate, a nation experiences a roughly 3 percent increase in capital investment.³⁵ Another report by DeMooij and Ederveen found that “on average...a one percentage point reduction in the EATR led to a 5.6 percent increase in inward flows of foreign direct investment.”³⁶ The literature is clear: high corporate taxes and high effective tax rates are detrimental to attracting investment, and subsequently detrimental to economic growth.

Conclusion

Compared to the field of international business competition, it is incontrovertible that the U.S. imposes a highly burdensome effective tax rate on its corporate sector. The results of 13 unique studies of the effective tax rate on corporate investment across the globe are in remarkable accord. The resounding conclusion is that the average U.S. effective corporate tax rate, like the statutory

rate, is nearly the highest in the world. This should not be too surprising, as it has been noted that “countries with high statutory rates tend to have high ETR.”³⁷

Investment that is shifted abroad boosts productivity and spurs job creation in foreign economies rather than in the U.S.; the high U.S. effective corporate tax rate is actively impeding current efforts at recovery.

At seven to eight percentage points greater than the world average, the U.S. ETR represents a substantial competitive disadvantage for U.S. firms selling in international markets. Not only are U.S.-headquartered companies burdened with tax costs not imposed by the rest of the world, but the U.S. domestic economy is hemorrhaging potential capital investment to other tax jurisdictions where the tax penalties are not so onerous. Investment that is shifted abroad boosts productivity and spurs job creation in foreign economies rather than in the U.S.; the high U.S. effective corporate tax rate is actively impeding current efforts at recovery.

The facts underlying the debate surrounding effective tax rates for U.S. corporations are unambiguous: the U.S. effective corporate tax rate is nearly the highest in the world. In light of the economic literature,

33 Jens Arnold, “Do Tax Structures Affect Aggregate Economic Growth? Empirical Evidence from a Panel of OECD Countries,” *OECD Economics Department Working Papers* No. 643, October 14, 2008, [http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=eco/wkp\(2008\)51&doclanguage=en](http://www.oecd.org/officialdocuments/displaydocumentpdf?cote=eco/wkp(2008)51&doclanguage=en).

34 Simeon Djankov, Tim Ganser, Caralee McLiesh, Rita Ramalho, and Andrei Shleifer, “The Effect of Corporate Taxes on Investment and Entrepreneurship,” *American Economic Journal: Macroeconomics* 2, no. 3 (July 2010): 31-64.

35 “Treasury Conference on Business Taxation and Global Competitiveness,” *Treasury*, p. 49.

36 A similar relationship was found for the EMTR. See Ruud DeMooij and Sjeff Ederveen, “Corporate Tax Elasticities: A Reader’s Guide to Empirical Findings,” *Oxford Review of Economic Policy* 24, no. 4 (2008): 680-697.

37 Markle and Shackelford, “Cross-Country Comparisons,” p. 13. This echoes a 2009 EU study which finds strong correlation between effective rates and the statutory rate. While preferences affect the base, effective rates are largely determined by the statutory rate. See Christina Elschner and Werner Vanborren, “Corporate Effective Tax Rates in an Enlarged European Union,” *European Commission Taxation Papers*, 2009, http://ec.europa.eu/taxation_customs/resources/documents/taxation/gen_infol/economic_analysis/tax_papers/taxation_paper_14_en.pdf.

these findings should alarm U.S. policymakers and provoke action.

Appendix

Book/Tax Accounting Complexity

Corporate profitability is a subjective measure. In order for corporations to be able to demonstrate stability to investors, GAAP accounting standards grant some flexibility to public reporting of costs and profitability. IRS tax reporting, with more rigid definitions and controls, is an altogether separate gauge. Likewise, accounting rules change from year to year, further complicating the determination of profitability.

One example is the new “expensing” rules in the U.S., which allow the cost of a long-life capital asset to be immediately expensed for tax purposes. Book value, however, measures the obsolescence of that asset over time. Douglas Shackelford notes that “after nearly a century of the corporate tax we now have a lot of departures from tax and book.” These differences may be appropriate due to diverging public policy and shareholder implications of using the different cost measures.³⁸

Tax paid is the other component of the effective corporate tax rate calculation. While tax liability is a more objective figure than profitability, this information is confidential to the IRS. It is also reported publicly to the SEC, but these figures again vary due to accounting treatment:

The total [book] tax expense is not
the taxes paid during the year by

the firm. Rather it is the amount of taxes paid in past and current years or expected to be paid in future years attributed to activity during the current year.³⁹

EATR and EMTR

Both measures are calculated by formula to estimate the impact of taxes on the cost of investment capital. The formulas require many assumptions regarding both the hypothetical firm and the macroeconomic conditions (net present value of allowances, discount rate, inflation, etc.). The EATR is the average tax cost for a hypothetically profitable start-to-finish investment over its life. In other words, it estimates the proportion of profit taken in tax. According to Devereux, the EATR measure is directly comparable to other measures of average tax rates. The EATR measure has been called a hybrid measure of effective and marginal statutory rates because the formula applies the statutory tax rate to economic rents.⁴⁰

The EMTR is the average tax cost for the final or marginal dollar of investment over its life, and is calculated as the difference between the cost of capital and the (given) real rate of return for the investment. The EMTR generally informs the scale of investment, as it estimates the tax costs for marginal rather than start-to-finish investments. The EATR informs decisions regarding the location of discrete investments. The EATR accomplishes this by summarizing the distribution of tax costs for an investment over the range of all profitability levels.⁴¹

38 See “Douglas Shackelford on the Future of the Corporate Income Tax and the Effect of Taxes on the Stock Market,” *Tax Foundation Tax Policy Podcast*, November 7, 2006. See also Rosemary Marcuss, “Corporate Profits in the GDP Accounts,” Bureau of Economic Analysis, Presentation at Conference for National Association of Business Economics, Kissimmee, Florida, May 2004, http://www.bea.gov/papers/pdf/nabeprofits_fv.pdf.

39 Kevin Markle and Douglas A. Shackelford, “Corporate Income Tax Burdens at Home and Abroad,” Paper presented at Northwestern Law School, Advanced Topics in Taxation Seminar, April 9, 2010, <http://www.law.northwestern.edu/colloquium/tax/documents/Shackelford.pdf>.

40 Economic rent may be defined as excess profit, or profit beyond the amount needed to bring the required factors into production. For further explanation of the EATR hybrid see Jane G. Gravelle, “International Corporate Tax Rate Comparisons and Policy Implications,” *Congressional Research Service*, March 31, 2011, p. 3, http://assets.opencrs.com/rpts/R41743_20110331.pdf.

41 Hassett and Mathur, “Report Card on Effective Corporate Tax Rates.” For more on the calculation methodologies see Devereux et al., “Corporate Income Tax Reforms and International Tax Competition,” p. 461.

One weakness of these measures is they do not take account of taxes related to cross-border flows. For example, the effects of foreign-source income taxation and withholding taxes on dividends, royalties, etc. are not included in the analysis. These factors “are assumed to be negligible relative to the main corporation tax charge in each country in their effect on investment incentives.”⁴²

Simple vs. Weighted Calculations of Worldwide ETR Averages

A 2011 CRS report argues that weighted measures are “more relevant to making comparisons of measures of the tax burden on capital deployed around the world.”⁴³ This weighted measure gives greater importance to the tax rates of larger economies, such as Japan and Germany. In the context of this discussion, however, there is little reason to grant the larger economies greater relative importance. The simple average more

accurately represents the actual opportunities of capital to find the highest rates of return around the world—which is largely influenced by tax burden. Under this logic, PwC uses simple averages across nations for worldwide comparative purposes.

Of course, U.S. corporations invest heavily in the larger economies such as Germany and Japan for a multitude of reasons (economic stability, educated workforce, etc.), but our measure of worldwide average tax rates should not discount the importance of nations such as Ireland and the Netherlands, which attract large foreign investments much due to low corporate tax rates. Nonetheless, the weighted average measure is presented in Table 1 to demonstrate that even controlling for size of economies, the U.S. effective rate is above average for all but one report, and markedly above average for most reports.



SPECIAL REPORT
(ISSN 1068-0306) is published
at least 6 times yearly by the Tax
Foundation, an independent 501(c)
(3) organization chartered in the
District of Columbia.

4–20 pp.
Single copy: free
Multiple copies: \$5 each

*The Tax Foundation, a nonprofit,
nonpartisan research and public
education organization, has moni-
tored tax and fiscal activities at all
levels of government since 1937.*

©2011 Tax Foundation

Editor, Alicia Hansen

Tax Foundation
National Press Building
529 14th Street, NW, Suite 420
Washington, DC 20045-1000

(202) 464-6200

www.TaxFoundation.org
TF@TaxFoundation.org

42 See Bilicka et al., “G20 Corporate Tax Ranking, 2011,” p. 8.

43 Jane G. Gravelle, “International Corporate Tax Rate Comparisons and Policy Implications,” *Congressional Research Service*, March 31, 2011, p. 3, http://assets.opencrs.com/rpts/R41743_20110331.pdf.