
International Comparision of Effective Corporate Tax Rates

Prepared for

Alliance for Competitive Taxation

September 2016



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Executive Summary

There is little disagreement that the US statutory corporate tax rate is high by international standards. OECD data show that the US top combined federal and average state corporate income tax rate, at 38.9 percent, is the highest among the 35 OECD member countries and is 14.7 percentage points above the OECD average (excluding the United States) of 24.2 percent. Indeed, the US corporate tax rate is one of the highest in the world.¹

As a result of tax provisions adopted by governments to promote domestic research and investment and to avoid double taxation of income, among other things, *effective* tax rates typically are lower than the generally *applicable* statutory tax rates in the United States and other countries. Some have questioned, however, whether the *effective* US corporate tax rate is high by international standards taking into account provisions that defer or exempt income and allow credits. To answer the question, this study reviews recent, independent studies published by government and academic organizations that compare corporate effective tax rates (ETRs) across countries using a variety of methodologies.

We identified four international comparison studies of corporate ETRs that meet the criteria of: (1) published by government or academic organizations; (2) use of a consistent methodology; (3) wide country coverage, and (4) use of the most recent data available. These studies were published by:

1. European Commission (35 countries, 2015 data)
2. University of Calgary (45 countries, 2015 data)
3. World Bank (189 countries, 2014 data)
4. National Bureau of Economic Research (15 countries and 6 country groups, 2006-2011 data)

The European Commission study measures the ETR using tax code parameters and representative domestic investments that are alternatively assumed to break even (marginal ETR, or METR, also known as EMTR) or generate profits in excess of the break-even return (effective average tax rate, or EATR). The University of Calgary study also derives ETRs for representative break even investments. The World Bank study is based on the corporate taxes that would be paid by a small, domestic manufacturing company over the first two years of operation. The National Bureau of Economic Research (NBER) study is based on company financial statements. While the NBER study is based on older data than the other studies, we did not find a more recent academic or government study of international ETRs that utilizes financial statement data.

All four studies conclude that the US corporate ETR ranks in the highest 12 percent of the respective comparison countries and thus is relatively high by international standards. Among these four studies, the US corporate ETR was between 26 percent and 114 percent higher than the average for the comparison countries.

Recent International Corporate Effective Tax Rate Comparisons

ETR measure	European Commission		U. of Calgary	World Bank	NBER
	EATR	EMTR	METR	Cash Tax	Book Tax
Year(s) of data	2015	2015	2015	2014	2006 to 2011
Number of countries/regions	35	35	45	189	21
US ETR	36.5%	34.3%	34.6%	28.1%	21.9%
Average ETR (excluding US) ^a	21.1%	16.0%	19.2%	16.2%	17.4%
US rank from top	2	3	5	16	2
US percentile ranking	5.7%	8.6%	11.1%	8.5%	9.5%

Note: See section 2 for a description of the methodologies used to calculate the ETR measures used in these studies. Effective tax rate measure acronyms are: EATR for Effective Average Tax Rate, EMTR for Effective Marginal Tax Rate, and METR for Marginal Effective Tax Rate.

^a Average ETRs are simple averages for the countries included in each study. The US average book tax ETR is 28 percent, and 21.9 percent after controlling for industry and other effects.

¹ PwC, Worldwide Tax Summaries, <http://www.pwc.com/gx/en/services/tax/corporate-tax/worldwide-tax-summaries.html>.

A recent report by the White House compares the US statutory and effective tax rates with the other G-7 countries for 2015. It finds that the US EMTR is slightly below the GDP-weighted average of the other G-7 countries, but slightly above the unweighted average for these countries.² In addition to having a much smaller sample size than the studies summarized in this report, the White House study included temporary provisions, such as bonus depreciation, that had no incentive effect for most of the year, since they were not signed into law until December 18, 2015. This is one reason why the other studies do not include temporary tax incentives.³

A review of nine earlier studies, using data for a range of years in the 2005-2011 period, also found that the corporate ETRs in the United States were relatively high by international standards.⁴

This report was prepared for the Alliance for Competitive Taxation (ACT).

² The White House and the Department of the Treasury, “The President’s Framework for Business Tax Reform: An Update,” April 2016, Table 1, page 5, available at <https://www.treasury.gov/resource-center/tax-policy/Documents/The-Presidents-Framework-for-Business-Tax-Reform-An-Update-04-04-2016.pdf>.

³ In an earlier report, the White House finds the US EMTR is above average for G-7 countries when temporary tax incentives are excluded for 2014. See the White House, “Economic Report of the President,” February 2015, Figure 5-5, page 210, available at https://www.whitehouse.gov/sites/default/files/docs/cea_2015_erp_complete.pdf. The White House approach has been criticized for use of inconsistent assumptions about property taxes. See Jack Mintz and Duanjie Chen, “The U.S. Corporate Effective Tax Rate: Myth and the Fact,” Tax Foundation, Special Report No. 214, February 6, 2014, available at <http://taxfoundation.org/article/us-corporate-effective-tax-rate-myth-and-fact>.

⁴ Tax Foundation, “U.S. Corporations Suffer High Effective Tax Rates by International Standards,” Special Report no. 195, September 2011, available at <http://taxfoundation.org/sites/default/files/docs/sr195.pdf>.

1. *Introduction*

There is little disagreement that the US statutory corporate tax rate is high by international standards. OECD data show that the US top combined federal and average state corporate income tax rate, at 38.9 percent, is the highest among the 35 OECD member countries and is 14.7 percentage points above the OECD average (excluding the United States) of 24.2 percent. Indeed, the US corporate tax rate is one of the highest in the world.¹

Some have questioned, however, whether the effective US corporate tax rate is high by international standards taking into account provisions that defer or exempt income and allow credits. To answer the question, this study reviews four recent, independent studies published by government and academic organizations that compare corporate effective tax rates (ETRs) across countries using a variety of different methodologies.

This report was prepared for the Alliance for Competitive Taxation (ACT).

¹ PwC, Worldwide Tax Summaries, <http://www.pwc.com/gx/en/services/tax/corporate-tax/worldwide-tax-summaries.html>.

2. Measurement of Effective Tax Rates

The effective tax rate (ETR) published in a company's financial statement represents income tax expense (or benefit) divided by accounting profit before deducting tax expense (or benefit). Due to timing differences in the recognition of income and expense for tax and financial accounting purposes, income tax expense has a current and a deferred component. Current income tax expense generally is tax liability based on the tax law's measure of income in the period while deferred tax expense represents future tax liability (or benefit) arising from timing differences between taxable income and financial statement income.

In the United States and most other advanced economies, effective tax rates typically are less than the generally applicable statutory tax rates, i.e., the tax rates specified in law. This occurs due to permanent differences between actual tax liability and the hypothetical tax liability determined by multiplying accounting profits by the statutory tax rate. Examples of permanent differences that arise under the U.S. corporate tax include: interest on tax-exempt municipal bonds, the credits for increasing domestic R&D and investing in low-income housing, and the deduction for US manufacturing income.

By contrast, temporary differences (i.e., differences in the timing or recognition of income or expense that reverse over time) do not affect the ETR because they change deferred tax liability (or assets) by the same amount as they change current period tax liability (or benefit). Some analysts focus on the "current" ETR, which is current income expense divided by accounting profits. The current ETR may be less than the generally applicable statutory rate due to both timing and permanent differences.

The legislatures of most countries, including the United States, have adopted tax provisions intended to encourage specific types of investment (e.g., equipment, research, low-income housing, municipal bonds), promote specific types of activities (e.g., manufacturing), and reduce multiple taxation of the same income (e.g., deductions for intercorporate dividends, state income taxes, and net operating losses). Some of these tax provisions create permanent book-tax differences, e.g., the research credit, while others create temporary differences, e.g., accelerated depreciation.

A. Statutory versus effective tax rates

The difference between statutory and effective tax rates is illustrated by the following example. Consider a US corporation with \$100 million of financial statement income (i.e., "book" income). If taxable income is equal to book income and there are no tax credits, then federal tax liability at the 35-percent corporate tax rate would be \$35 million, and both the statutory and effective tax rates would be 35 percent.

Since 1981, Congress has sought to encourage domestic R&D by providing a tax credit for increasing research and experimentation expenditures. In addition, since 1986, Congress has encouraged private development of affordable housing through the Low Income Housing Tax Credit. Consequently, by conducting qualified research in the United States and financing affordable housing, the company may be eligible for, say, \$2 million of research credits and \$3 million in low-income housing tax credits. This would reduce its tax liability by \$4.3 million (\$5 million less 35% of \$2 million), from \$35 million to \$30.7 million, after accounting for the reduction in the research expense deduction by the amount of the credit. This would reduce the company's effective tax rate to 30.7 percent.

If the hypothetical company's income qualifies for the 9-percent manufacturing deduction, then the company's tax would be reduced by another \$3.15 million (35 percent of \$9 million) from \$30.7 million to \$27.55 million (\$30.7 million less \$3.15 million), and the company's effective tax rate would be 27.55 percent.²

Depending on the location of its operations, the hypothetical company may be subject to state and foreign income taxes in addition to federal income tax. For example, suppose the company owes \$5 million of state income tax. To avoid double taxation, Congress allows companies to deduct state income tax from federal taxable income. This reduces federal tax liability by \$1.75 million, reducing the federal effective tax rate by 1.75 percent, from 27.55 percent to 25.8 percent.

The above mentioned provisions reduce both the financial statement ETR as well as the current ETR (which excludes deferred tax expense). Some tax provisions reduce the current ETR but not the ETR. For example, the current ETR might be reduced by investment in property eligible for accelerated cost recovery. Suppose the company purchases \$10 million of equipment on July 1, with an economic life of 5 years, and that the value declines on a straight-line basis. For a calendar-year taxpayer using the straight-line method of depreciation, book income would be reduced by \$1 million (one-half of one-fifth of \$10 million) in the year of purchase, \$2 million per year for the four subsequent years, and \$1 million in the last year.

By contrast, under the Modified Accelerated Cost Recovery System (MACRS), US tax law allows a deduction of \$2 million in the year placed in service (with deductions in the five subsequent years of \$3.2 million, \$1.92 million, \$1.152 million, \$1.152 million, and \$0.576 million). As a result, in the year placed in service, the \$10 million equipment investment will cause taxable income to fall below economic income by \$1 million (\$2 million less \$1 million), reducing tax liability by \$0.35 million (35 percent of \$1 million) and reducing the *current* federal effective tax rate by an additional 0.35 percent, from 25.8 percent to 25.45 percent. The financial statement ETR (which includes both current and deferred tax expense) is not affected by accelerated depreciation because the reduction in the current tax expense is offset by a corresponding increase in the deferred tax expense.

The current ETR might be reduced further if the taxpayer had a loss for tax purposes in a prior year that it carries forward into the current year. Congress does not allow taxpayers to report negative taxable income, but instead allows recovery of losses by offsetting the loss against income earned in other years. The financial statement ETR generally is not affected by utilization of net operating losses in the current period because the reduction in the current tax expense is offset by a corresponding reduction in the deferred tax asset.

In summary, this example illustrates how a profitable US corporation can have a 25.8 percent effective tax rate (25.45 percent current effective tax rate), notwithstanding the 35-percent statutory corporate income tax rate, solely as a result of provisions passed by Congress to encourage research, affordable housing, equipment investment, and manufacturing in the United States, and to avoid double taxation of income by federal and state governments. The provision of tax incentives for domestic research and investment and enactment of rules to avoid double taxation of income are commonplace features of the tax systems of other countries, and typically result in effective tax rates and current effective tax rates that are materially lower than these countries' generally applicable statutory tax rates.

² For simplicity we have not taken into account the increase in the manufacturing deduction as a result of the reduction in the R&D deduction attributable to the \$2 million research credit. This would reduce the ETR by one-quarter percentage point below the rate shown in the text.

B. Cross country comparisons of effective tax rates

For purposes of cross-country comparison of ETRs, researchers have settled on a few standard ETR measures, each of which captures a somewhat different aspect of tax paying behavior. There are two major types of ETR measures: 1) forward-looking measures, based on current or prospective tax law, and 2) backward-looking measures, based on taxes paid or incurred by companies for prior years.

The European Commission uses forward-looking ETR measures based on tax code parameters and representative domestic investments that are alternatively assumed to break even (effective marginal tax rate, or EMTR) or generate profits in excess of the break-even return (effective average tax rate, or EATR).³

Under the assumption that companies make incremental investments until the return is just equal to its opportunity cost or “break even” return, the EMTR provides a measure of the influence of the tax system on the scale of investment. In contrast, the EATR is a measure of the influence of the tax system on a discrete investment choice, such as the decision to locate a manufacturing plant in one country versus another, where the investment earns economic rents (i.e., profits in excess of the break-even return).

The EMTR and EATR both take into account national and subnational statutory corporate income tax rates, corporate surcharges, depreciation allowances, deductions for interest and other items, credits, treatment of inventories, capital asset taxes, and property taxes.⁴ The EMTR and EATR measures cited in this report apply to domestic investment.⁵ They are calculated for an investment that includes a mix of assets (i.e., industrial buildings, machinery, financial assets, inventories, and intangibles) and is financed with a mix of debt, new equity and retained earnings. Both ETR measures are defined as the difference between the pre-tax real return and the after-tax real return, as a share of the pre-tax real return, however the pre-tax return is the break-even return in the case of the EMTR and is an above break-even return (assumed to be 20 percent) in the case of the EATR.

Researchers at the University of Calgary use an ETR measure known as the marginal effective tax rate (METR), which is similar to the EMTR but it excludes property taxes and includes sales taxes on business inputs.⁶ For example, most US states levy sales taxes that fall on capital purchases, such as equipment, and these taxes are a significant contributor to the US METR. In contrast, most other developed countries have value-added taxes that do not fall on business inputs, and therefore do not affect the METR calculation. Property taxes are not included because of data limitations and the difficulty of comparing property taxes across countries. Another difference with the EMTR is that the METR uses country-specific economic parameters, such as the inflation rate and the mix of assets, instead of assuming the same economic parameters across countries.

³ Christoph Spengel, Dieter Endres, Katharina Finke, and Jost Heckemeyer, “Effective Tax Levels using the Devereux/Griffith Methodology: Intermediate Report 2015,” Centre for European Economic Research (ZEW), Project for the EU Commission TAXUD/2013/CC/120, October 2015.

⁴ For a description of the methodology, see Michael P. Devereux and Rachel Griffith, “Evaluating Tax Policy Decisions for Location Decisions,” *International Tax and Public Finance*, Vol. 10, 2003, pp. 107-26.

⁵ Since the measures presented here are for domestic investments, they do not consider the effects of taxation of foreign source income, withholding taxes on financial flows, controlled foreign corporation regimes, and other provisions that apply to multinational corporations.

⁶ For a description of the methodology, see Jack Mintz and Duanjie Chen, “U.S. Corporate Taxation: Prime for Reform,” Tax Foundation, Special Report No. 228, February 4, 2015, available at <http://taxfoundation.org/article/us-corporate-taxation-prime-reform>, and Jack Mintz, “Corporation Tax: A Survey,” *Fiscal Studies*, Vol. 16, Issue 4, pp. 23-68, 1995.

In contrast to the EATR, EMTR, and METR measures, company financial statements are used to compute “book” ETRs based on reported taxes and income for a prior year.⁷ The accounting measure of ETR uses the worldwide total tax provision for income tax, including national, subnational, and foreign income taxes, as a share of pretax worldwide net income. The total tax provision includes current income taxes as well as the change in net deferred tax liabilities for the year.⁸ For multinational companies, this measure of ETR reflects tax laws in the home country and foreign countries in which income is earned and taxes are incurred.⁹ In making cross-country comparisons of book ETRs, accounting researchers typically control for industry effects. Some industries tend to be low-taxed for a variety of reasons such as above average use of debt financing or research tax incentives. By contrast, other industries may be subject to above average taxes due to special regimes. For example, many countries, such as Norway, subject oil and gas companies to a higher income tax rate than the regular tax rate.¹⁰

The ETR measure in the World Bank report is based on tax liability relative to a measure of accounting earnings for a hypothetical, case study company. The ETR is calculated in each of 189 countries. As this ETR measure is based on tax liability, it differs from financial statement ETRs that additionally include the change in net deferred tax liabilities. The World Bank measure is described in more detail below.

⁷ See, for example, Kevin Markle and Douglas Shackelford, “The Impact of Headquarter and Subsidiary Locations on Multinationals’ Effective Tax Rates,” National Bureau of Economic Research, *Tax Policy and the Economy*, vol. 28, 2014, available at <http://www.nber.org/papers/w19621>.

⁸ Some researchers report effective tax rates based on the current tax provision (excluding deferred taxes) while others use the cash tax payment. Cash taxes are problematic in that they reflect settlements for prior years and estimated (not final) taxes for the current year. For cross-country comparisons, use of the cash tax payment or current provision for tax may bias the results because many countries do not require separate financial reporting of the cash tax payment or the current and deferred provisions for tax. See, for example, Reuven Avi-Yonah and Yaron Lahav, “The Effective Tax Rate of the Largest US and EU Multinationals,” *Tax Law Review* 65, No. 3, 2012, available at <http://repository.law.umich.edu/cgi/viewcontent.cgi?article=2473&context=articles>.

⁹ For non-US multinational companies, data typically are not available to calculate the effective tax rate separately for domestic operations.

¹⁰ The Avi-Yonah and Lahav study referenced in footnote 7 does not control for industry effects.

3. Recent Effective Tax Rate Studies

A. European Commission Study

The European Commission compares 2015 effective tax rates in 35 countries: 28 European Union member states, four other European countries (Macedonia, Norway, Switzerland, and Turkey), and Canada, Japan, and the United States, based on tax law in those countries as of July 1, 2015.¹¹ The study uses both the EMTR and EATR measures of corporate effective tax rates and includes subnational income taxes as well as non-income taxes on capital investments (e.g., capital asset and property taxes).¹²

The European Commission study finds that the US corporate EATR is 36.5 percent, second highest among the 35 countries (see **Figure 1**). The US EATR is more than 15 points above the average EATR for the other 34 countries (21.1 percent). France has the highest EATR, at 38.3 percent, and the only other countries with an EATR above 30 percent are Japan (35.7 percent), Spain (32.9 percent), and Malta (32.2 percent).

The European Commission study finds that the US corporate EMTR is 34.3 percent, third highest among the 35 countries studied (see **Figure 2**). The US EMTR is more than 18 points above the average for the other 34 countries (16.0 percent). Japan has the highest EMTR, at 39.1 percent, and the only other countries with an EMTR above 30 percent are Spain (38.6 percent) and France (32.5 percent).

These studies are in contrast to a recent report by the White House that finds the US EMTR is slightly below the average for G-7 countries in 2015.¹³ However, this study included temporary provisions, such as bonus depreciation, that had no incentive effect for most of the year, since they were not signed into law until December 18, 2015. This is one reason why the other studies do not include temporary tax incentives.¹⁴

¹¹ Christoph Spengel, Dieter Endres, Katharina Finke, and Jost Heckemeyer, “Effective Tax Levels using the Devereux/Griffith Methodology: Intermediate Report 2015,” Centre for European Economic Research (ZEW), Project for the EU Commission TAXUD/2013/CC/120, October 2015.

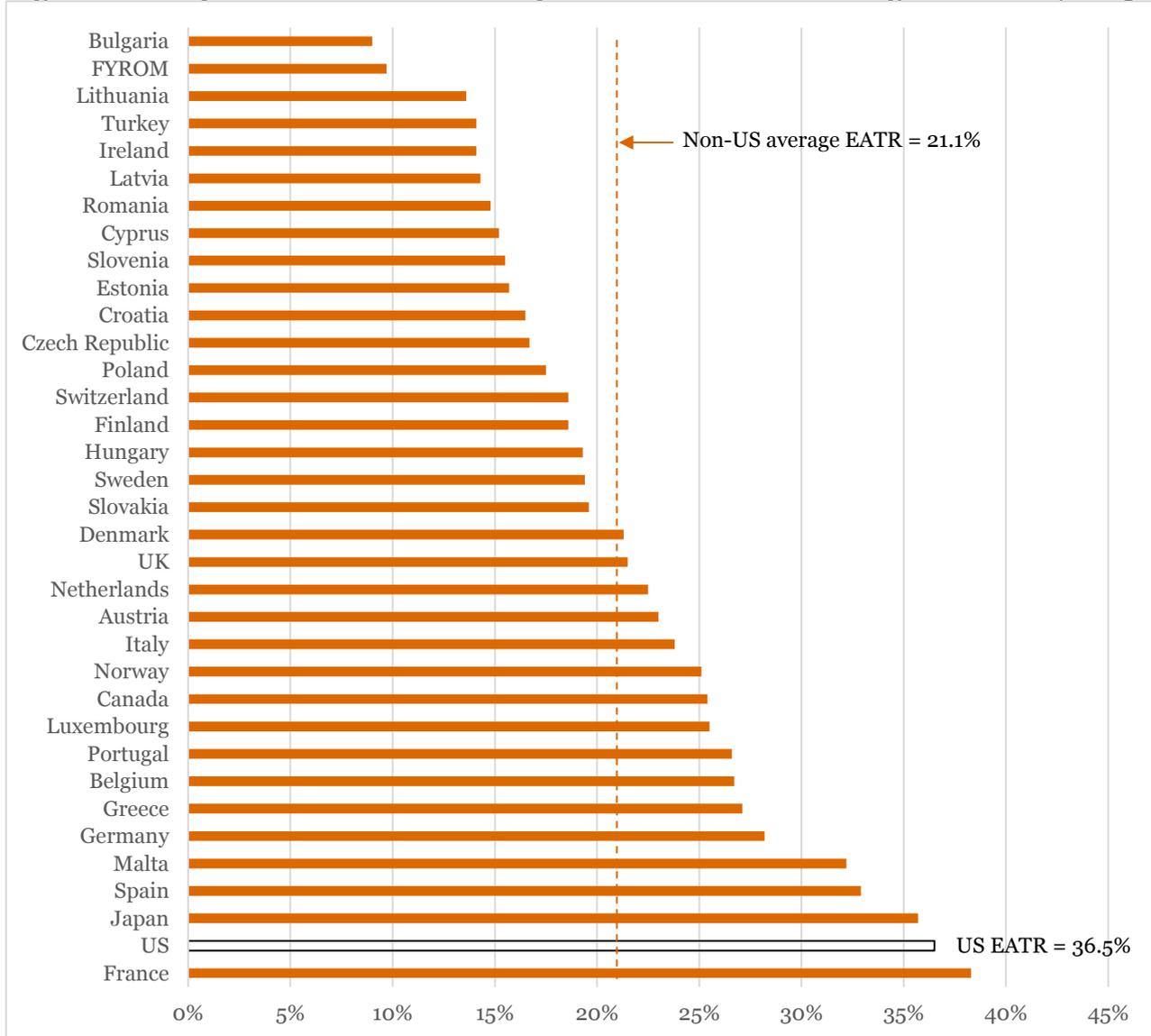
¹² The study excludes temporary tax incentives, such as bonus depreciation in the US. It includes the domestic manufacturing deduction for the US, and assumes that it applies to all income.

¹³ The White House and the Department of the Treasury, “The President’s Framework for Business Tax Reform: An Update,” April 2016, Table 1, page 5, available at <https://www.treasury.gov/resource-center/tax-policy/Documents/The-Presidents-Framework-for-Business-Tax-Reform-An-Update-04-04-2016.pdf>.

¹⁴ In an earlier report, the White House finds the US EMTR is above average for G-7 countries when temporary tax incentives are excluded for 2014. See the White House, “Economic Report of the President,” February 2015, Figure 5-5, page 210, available at https://www.whitehouse.gov/sites/default/files/docs/cea_2015_erp_complete.pdf.

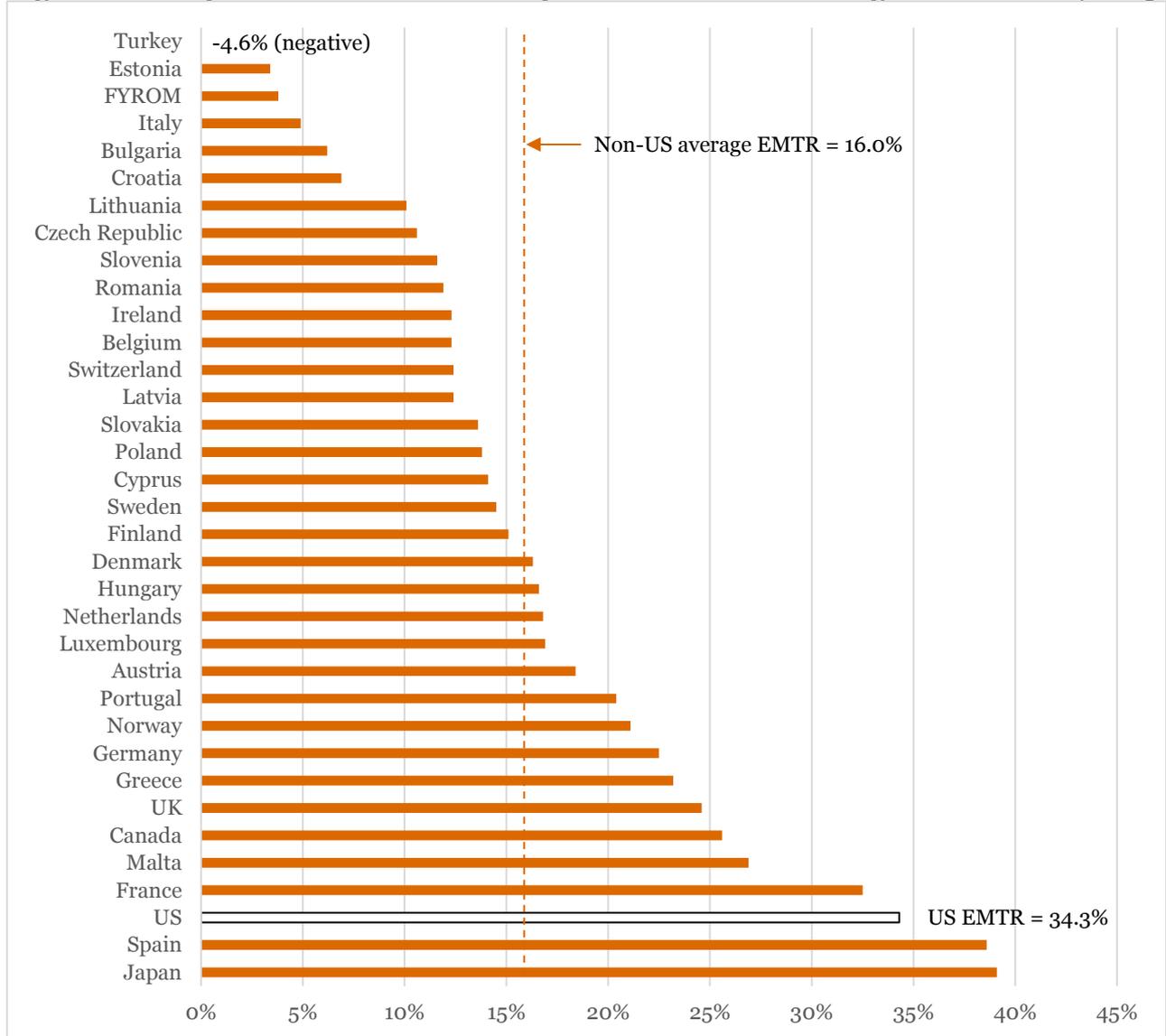
The White House approach has also been criticized for use of inconsistent assumptions about property taxes. See Jack Mintz and Duanjie Chen, “The U.S. Corporate Effective Tax Rate: Myth and the Fact,” Tax Foundation, Special Report No. 214, February 6, 2014, available at <http://taxfoundation.org/article/us-corporate-effective-tax-rate-myth-and-fact>.

Figure 1: European Commission's Comparison of Effective Average Tax Rates, 2015



Source: European Commission.

Figure 2: European Commission’s Comparison of Effective Marginal Tax Rates, 2015



Source: European Commission.

B. University of Calgary Study

Based on 2015 data, Jack Mintz, Philip Bazel, and Duanjie Chen of the University of Calgary calculated METRs for 45 countries. Their measure of METR is similar to the EMTR measure used by the European Commission but excludes property taxes and includes sales taxes on business inputs.¹⁵ This methodology has also been used by the Canadian Government in its official budget and other government publications.¹⁶

The University of Calgary study finds that the US METR is 34.6 percent, third highest among the 34 developed countries of the OECD, and the fifth highest among all 45 countries included in the study (see **Figure 3**).¹⁷ India has the highest METR, at 48.4 percent, followed by Brazil (45.5 percent), Japan (42.1 percent), France (36.1 percent), and then the United States. The US METR is more than 15 percentage points higher than the average METR for the other 44 countries (19.2 percent), and more than double the average METR for the other 33 OECD member countries (17.2 percent).¹⁸

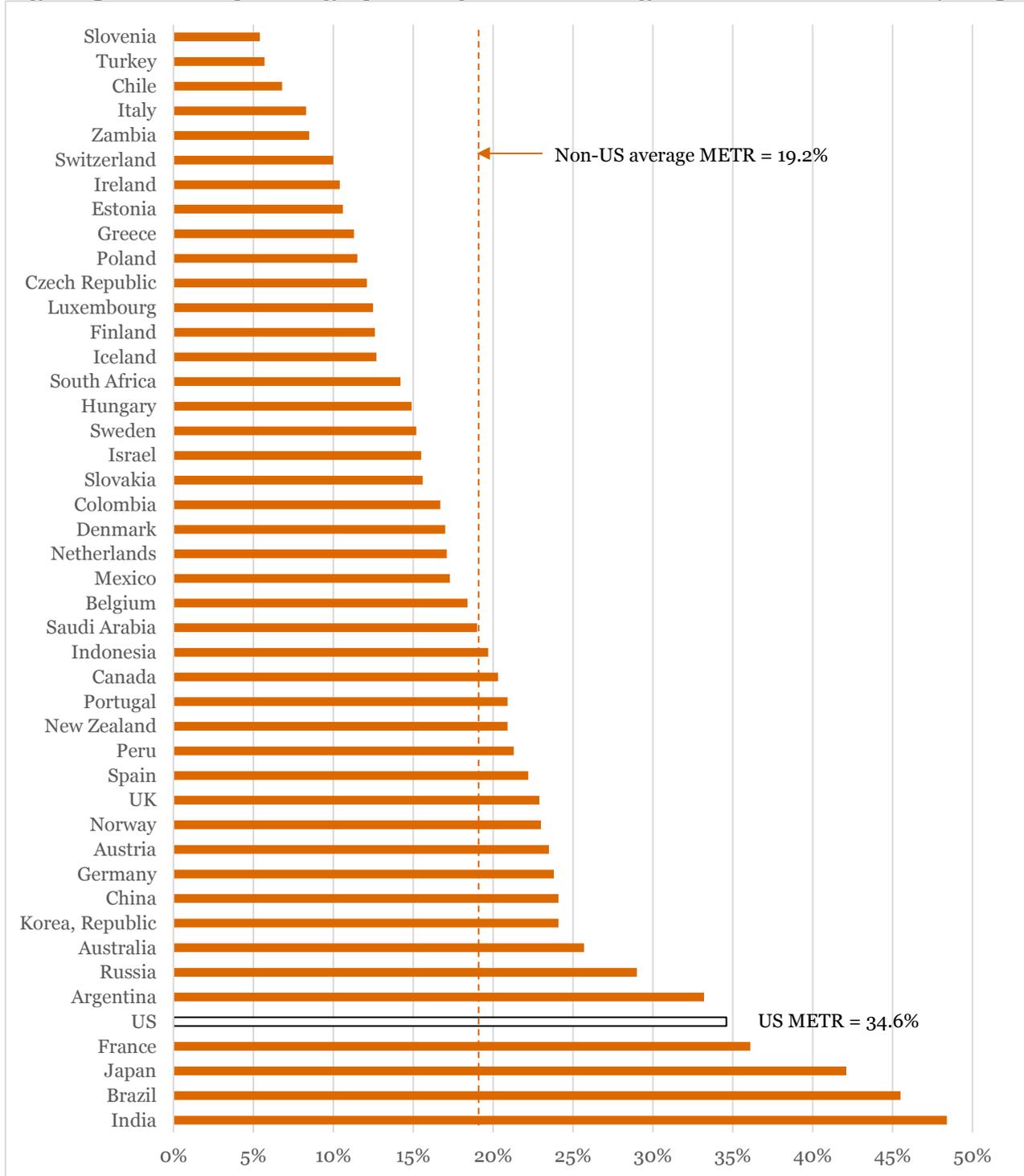
¹⁵ For a description of the methodology, see Jack Mintz and Duanjie Chen, “U.S. Corporate Taxation: Prime for Reform,” Tax Foundation, Special Report No. 228, February 4, 2015, available at <http://taxfoundation.org/article/us-corporate-taxation-prime-reform>, and Jack Mintz, “Corporation Tax: A Survey,” *Fiscal Studies*, Vol. 16, Issue 4, pp. 23-68, 1995.

¹⁶ See, for example, Government of Canada, Budget 2016: Growing the Middle-Class, <http://www.budget.gc.ca/2016/docs/plan/budget2016-en.pdf>.

¹⁷ Jack Mintz, Philip Bazel, and Duanjie Chen, “Growing the Australian Economy with a Competitive Company Tax,” Minerals Council of Australia, March 2016, available at http://www.minerals.org.au/file_upload/files/media_releases/Growing_the_Australian_economy_with_a_competitive_company_tax_WEB.pdf.

¹⁸ This comparison does not include Latvia, which became the 35th OECD member on July 1, 2016.

Figure 3: University of Calgary’s Comparison of Marginal Effective Tax Rates, 2015



Source: Jack Mintz, Philip Bazel, and Duanjie Chen of the University of Calgary.

C. World Bank Study

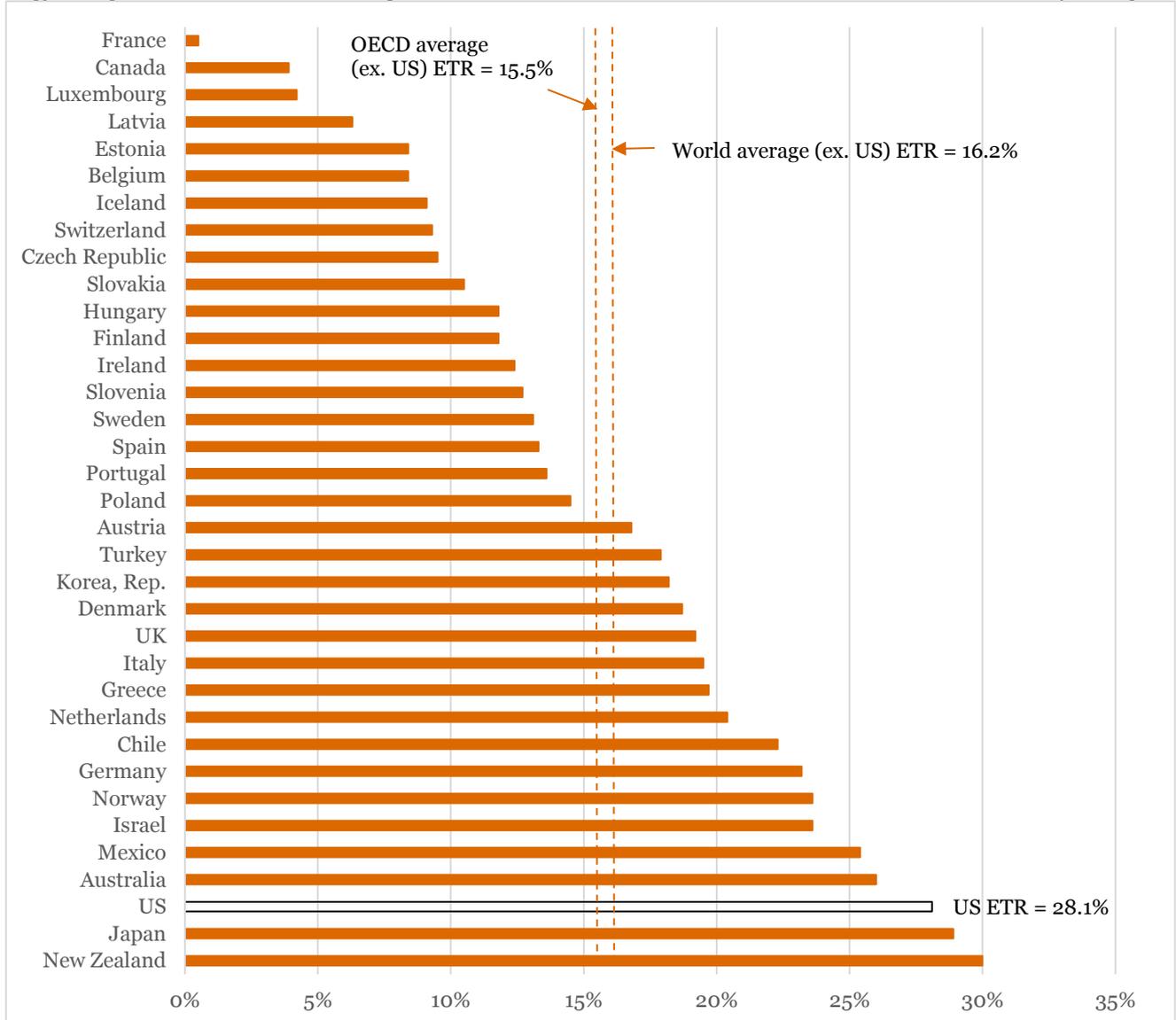
The World Bank annually publishes *Doing Business*, a report that compares the ease of doing business around the world based on a number of indicators including tax burdens. The most recent *Doing Business* report includes a measure of the 2014 corporate tax burden for a small, domestic manufacturing company located in each of 189 countries.¹⁹

The ETR in this study is based on national and subnational income taxes paid over the first two years of business divided into accounting profits, taking into account allowable deductions, credits, and other adjustments. For each country, the ETR is computed for a standardized case study company with income and assets scaled according to income per capita in each country. The case study company has 60 employees. It produces ceramic flowerpots and sells them at retail, and does not participate in foreign trade. The company is two years old and is organized as a taxable limited liability company. In the first year of operation, the company makes a loss and in the second year of operation the company earns a gross margin (pre-tax) of 20 percent. The company operates in each country's largest business city and second largest city for large economies. In the United States, the company operates in New York City and Los Angeles.

The World Bank study finds that the US corporate ETR is 28.1 percent (27.4 percent in New York City and 29.3 percent in Los Angeles). The US corporate ETR is 16th highest among these 189 countries, and 3rd highest among the 35 OECD member countries (see **Figure 4**). Excluding the United States, the average ETR is 16.2 percent for the World and 15.5 percent for the OECD member countries. The only developed countries with a higher corporate ETR than the United States are New Zealand (30 percent) and Japan (28.9 percent).

¹⁹ World Bank Group and PwC, *Paying Taxes 2016*, 10th Edition, available at <https://www.pwc.com/gx/en/paying-taxes-2016/paying-taxes-2016.pdf>.

Figure 4: World Bank’s Comparison of Effective Tax Rates for OECD Countries, 2014



Source: World Bank.

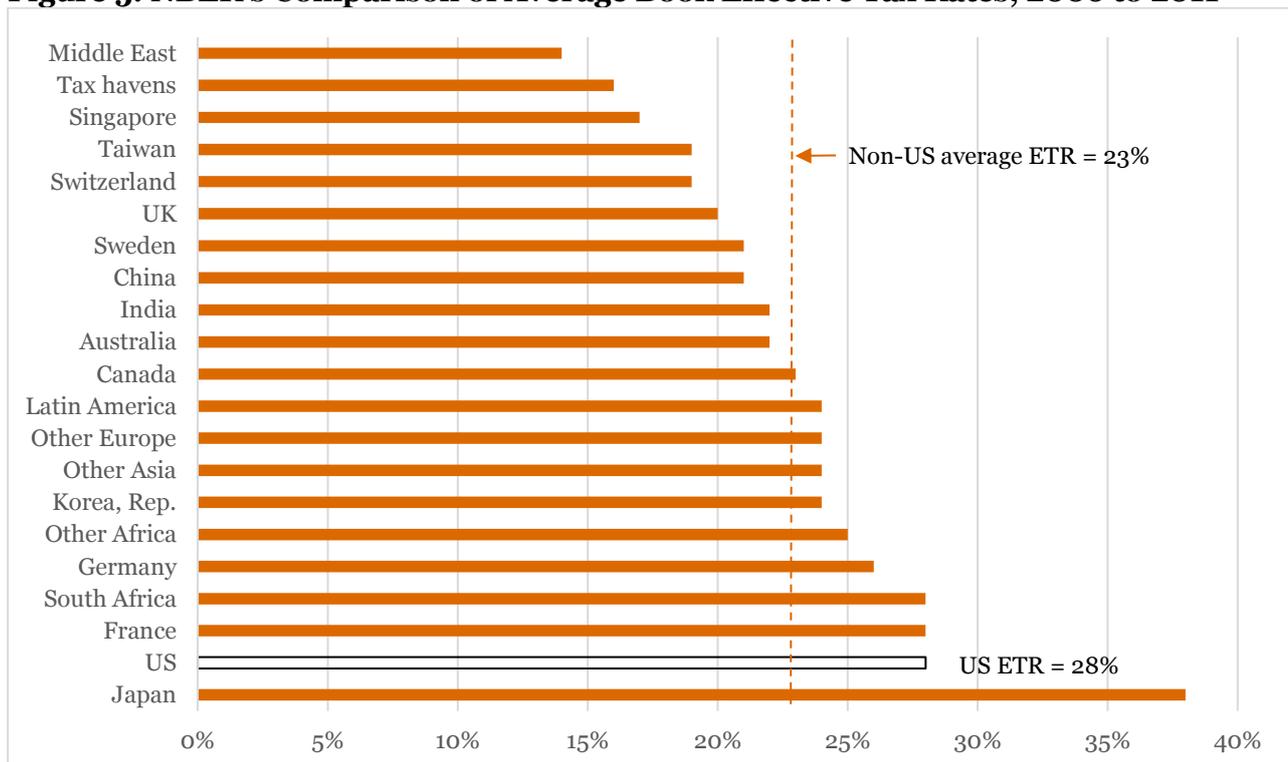
D. National Bureau of Economic Research Study

In a study published by the NBER, Kevin Markle of the University of Iowa and Doug Shackelford of the University of North Carolina estimated book ETRs for 15 countries and six other country groups based on financial statement information for the years 2006 to 2011.²⁰ The study is limited to profitable multinational corporations, and it controls for industry, year, and size of firms. The ETR estimates utilize all six years of data, although average ETRs do not vary considerably over these years. Each of the 15 countries has more than 400 observations (multinational-years). Countries with fewer than 400 observations are put into one of six groups: Africa, Asia, Europe, Latin America, Middle East, and Tax Havens.

The study finds the average US multinational corporation has a book ETR of 28 percent, which is second highest (along with France and South Africa) of the 15 countries and higher than all other country groups (see **Figure 5**). Japan has the highest average book ETR, at 38 percent. The US average book ETR is 5 percentage points higher than the average among the 14 countries and 6 country groups outside the US (23 percent).

After controlling for industry, year, and size of firms, the US ETR is 21.9 percent, which is second highest of the 15 countries and higher than all other country groups (see **Figure 6**). Japan has the highest ETR, at 30.4 percent, France has the third highest (21.7 percent), and Germany and South Africa are tied with the fourth highest (20.6 percent). The US ETR is 4.6 percentage points higher than the average among the 14 countries and 6 country groups outside the US (17.4 percent).

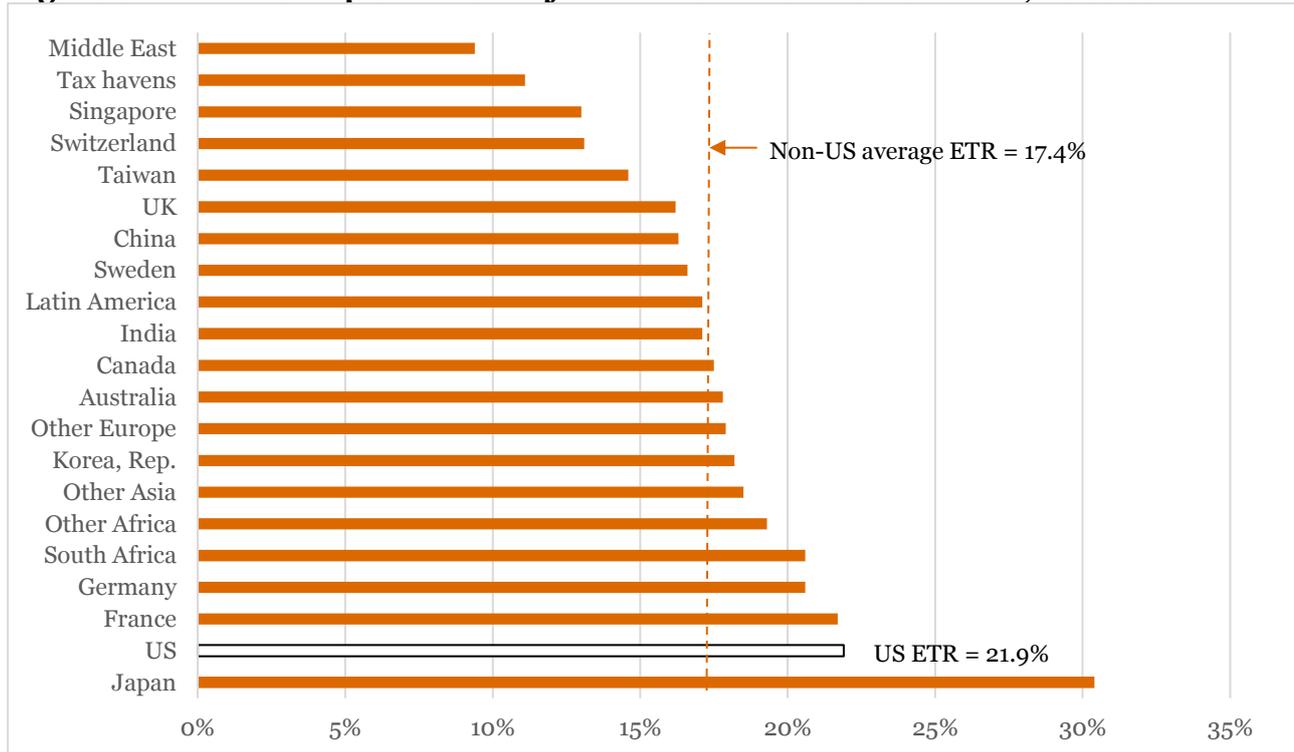
Figure 5: NBER's Comparison of Average Book Effective Tax Rates, 2006 to 2011



Source: Kevin Markle and Doug Shackelford, research published by the National Bureau of Economic Research.

²⁰ Kevin Markle and Douglas Shackelford, "The Impact of Headquarter and Subsidiary Locations on Multinationals' Effective Tax Rates," National Bureau of Economic Research, *Tax Policy and the Economy*, vol. 28, 2014, available at <http://www.nber.org/papers/w19621>.

Figure 6: NBER's Comparison of Adjusted Book Effective Tax Rates, 2006 to 2011



Source: Kevin Markle and Doug Shackelford, research published by the National Bureau of Economic Research
 Note: ETRs are conditional on industry, year, and size of firms. Without these adjustments, the average US multinational corporation has a book ETR of 28 percent.