



Report to the Ranking Member,
Committee on the Budget,
U.S. Senate

March 2016

CORPORATE INCOME TAX

Most Large Profitable
U.S. Corporations
Paid Tax but Effective
Tax Rates Differed
Significantly from the
Statutory Rate

Accessible Version

GAO Highlights

Highlights of [GAO-16-363](#), a report to the Ranking Member, Committee on the Budget, U.S. Senate

Why GAO Did This Study

Congress and the administration continue to express interest in reforming the U.S. corporate income tax and the rate at which U.S. corporations' income is taxed. Currently, the top statutory corporate income tax rate is 35 percent. GAO's 2013 report on corporate ETRs found that in tax year 2010, whether for all large corporate filers or only profitable ones, the average ETRs were significantly below the statutory rate.

To provide an update, GAO was asked to assess the extent to which U.S. corporations pay federal income tax and the percentage that had no federal income tax liability. In this report, GAO estimates (1) the percentage of all and large corporations that had no federal income tax liability and (2) average ETRs based on financial statement reporting and tax reporting. To conduct this work, GAO reviewed economic literature, analyzed IRS data for tax years 2006 to 2012 (the most recent data available), including the financial and tax information that large corporations report on Schedule M-3, and interviewed Internal Revenue Service (IRS) officials and subject matter experts.

What GAO Recommends

GAO does not make recommendations in this report. GAO provided a draft of this report to IRS for review and comment. IRS provided technical comments, which were incorporated, as appropriate.

View [GAO-16-363](#). For more information, contact Jessica Lucas-Judy at (202) 512-9110 or LucasJudyJ@gao.gov.

March 2016

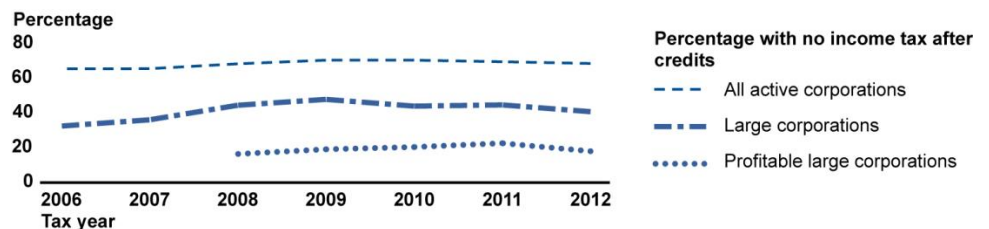
CORPORATE INCOME TAX

Most Large Profitable U.S. Corporations Paid Tax but Effective Tax Rates Differed Significantly from the Statutory Rate

What GAO Found

In each year from 2006 to 2012, at least two-thirds of all active corporations had no federal income tax liability. Larger corporations were more likely to owe tax. Among large corporations (generally those with at least \$10 million in assets) less than half—42.3 percent—paid no federal income tax in 2012. Of those large corporations whose financial statements reported a profit, 19.5 percent paid no federal income tax that year. Reasons why even profitable corporations may have paid no federal tax in a given year include the use of tax deductions for losses carried forward from prior years and tax incentives, such as depreciation allowances that are more generous in the federal tax code than those allowed for financial accounting purposes. Corporations that did have a federal corporate income tax liability for tax year 2012 owed \$267.5 billion.

Percentage of Corporations That Reported No Tax Liability after Tax Credits, Tax Years 2006 to 2012



Source: GAO analysis of Internal Revenue Service data. | GAO-16-363

These reasons also explain why corporate effective tax rates (ETR) can differ substantially from statutory tax rates. ETRs attempt to measure taxes paid as a proportion of economic income, while statutory rates indicate the amount of tax liability (before any credits) relative to taxable income, which is defined by tax law and reflects tax benefits built into the law. The statutory tax rate on net corporate income ranges from 15 to 35 percent, depending on the amount of income earned. For tax years 2008 to 2012, profitable large U.S. corporations paid, on average, U.S. federal income taxes amounting to about 14 percent of the pretax net income that they reported in their financial statements (for those entities included in their tax returns).

When foreign and state and local income taxes are included, the average ETR across all of those years increases to just over 22 percent. GAO also computed ETRs that combine large profitable corporations and those large corporations with current year losses, which pay little if any actual tax. Over tax years 2008 to 2012, all large corporations—profitable and those that reported current year losses—paid 25.9 percent of their pretax net income in U.S. federal income taxes, and 40.1 percent when foreign and state and local taxes are included. Including corporations with losses results in a more comprehensive estimate, but makes the results difficult to interpret because ETR is not meaningful for a corporation in a year in which it has a net loss. GAO could not examine the variation in ETRs across corporations with the aggregated data available, although GAO's prior work suggests that ETRs are likely to vary considerably.

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Abbreviations

ETR Effective Tax Rate
IRC Internal Revenue Code
IRS Internal Revenue Service
NOLD Net Operating Loss Deduction

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March 17, 2016

The Honorable Bernard Sanders
Ranking Member
Committee on the Budget
United States Senate

Dear Senator Sanders:

Congress and the administration continue to debate how to reform the U.S. corporate income tax. One focus of this discussion is the rate at which U.S. corporations' income should be taxed—currently, the top federal statutory corporate income tax rate is 35 percent. As policymakers debate this issue, it will be helpful to also have an understanding of the average effective tax rate (ETR) for corporations, which equals the amount of income tax corporations pay divided by their pretax income. ETRs are more appropriate measures of corporate tax burdens than statutory rates because ETRs reflect the combined effects of exemptions, deferrals, tax credits, and other tax benefits. Our previous report on corporate ETRs found that in 2010, whether for all large corporations or only profitable ones, the average ETRs were significantly below the statutory rate.¹

As Congress continues discussions on corporate tax reform and what burden corporations should bear, you asked us to assess the extent to which U.S. corporations pay federal income tax and the percentage that had no federal income tax liability. In this report, we estimate (1) the percent of all corporations and large corporations that had no federal income tax liability in each year for tax years 2006 to 2012, and (2) the average corporate effective tax rates for large corporations based on financial statement reporting and tax reporting for tax years 2006 to 2012.²

¹GAO, *Corporate Income Tax: Effective Tax Rates Can Differ Significantly from the Statutory Rate*, [GAO-13-520](#) (Washington, D.C.: May 30, 2013).

²For the purposes of this report, we refer to corporations that filed a Schedule M-3 as large corporations. In general, corporations with \$10 million or more in assets are required to file a Schedule M-3.

To estimate the number and percentage of corporations that had no federal income tax liability, we analyzed data on the number of corporations with and without total income tax after credits for all corporations from the Internal Revenue Service's (IRS) *Corporation Income Tax Returns Complete Report*, as well as for the population of large corporations that filed Schedules M-3.³ The Schedule M-3 reconciles income and expense amounts that corporations report for financial statement purposes with amounts they report for tax purposes, and is the data source we used for analyzing ETRs, as described below. We report data for all corporations for tax years 2006 to 2012, for all Schedule M-3 filers for tax years 2006 to 2012, and for profitable Schedule M-3 filers for tax years 2008 to 2012. These were the most recent estimates available at the time of our work and are subject to sampling errors.⁴

To report what available data indicate about the difference between average effective tax rates based on financial statement reporting versus those based on tax reporting, we computed a variety of such rates using income and expense data that large corporations report on the Schedules M-3 that they file with IRS. These data, which the joint Department of the Treasury-IRS M-3 First Look Team compiles for a large sample of taxpayers, allowed us to compare and estimate U.S. and worldwide effective tax rates on worldwide income of entities included in the federal income tax return, first using only financial statement data, then using only data reported for tax purposes, and finally using income data from financial statements and tax return data for the amount of taxes paid.

³See IRS Statistics of Income, *Corporation Income Tax Returns Complete Report*. Data on all corporations include active corporations filing tax forms 1120 (U.S. Corporation Income Tax Return), 1120-L (U.S. Life Insurance Company Income Tax Return), 1120-PC (U.S. Property and Casualty Insurance Company Income Tax Return), and 1120-F (U.S. Income Tax Return of a Foreign Corporation). Data are not included for certain "pass-through" entities, which file on forms 1120-REIT (U.S. Income Tax Return for Real Estate Investment Trusts), 1120-RIC (U.S. Income Tax Return for Regulated Investment Companies), and 1120S (U.S. Income Tax Return for an S Corporation). The amount for total income tax after credits includes the following: income tax, personal holding company tax, recapture and other taxes, alternative minimum tax, branch tax (Form 1120-F), tax from page 1, line 5 (Form 1120-PC), and adjustments to income tax, and to total tax.

⁴Data compiled by IRS Statistics of Income are based on a stratified random sample of corporate income tax returns. See <https://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Complete-Report>. The number of noncertainty corporations in the Schedule M-3 sample is over 10,000 for each year after 2004.

The financial statement data we used from the Schedules M-3 for worldwide income and tax expenses—including federal, foreign, and U.S. state and local income taxes—are limited to the entities that are included in the U.S. taxpayer’s federal tax return. Consequently, the scope of the corporate entities included in our analysis can differ from the scope of the entities included in publicly filed financial statements because not all foreign entities represented in those statements are included in a federal tax return.⁵ In addition, our estimates of effective tax rates remain limited to corporations with assets of \$10 million or more because those are the ones that filed a Schedule M-3. Our analysis covers all large corporations for tax years 2006 to 2012 and profitable large corporations (i.e., those that did not report net losses in their financial statements) for tax years 2008 to 2012.⁶ The Schedule M-3 data were available to us in aggregated form and therefore we were not able to provide any information on the distribution of ETRs across individual corporations; instead, we estimated ETRs averaged over the populations of all corporations and profitable corporations (see appendix I for a detailed discussion of several limitations of the data for purposes of estimating ETRs).

We also reviewed and summarized the relevant economic and accounting literature on ETRs since March 2013 (the end date of the literature review in our previous report).⁷ We also discussed our methodology with subject matter experts from the Congressional Research Service and from the Department of the Treasury, each of whom has written on effective tax rates. Based on these discussions, we supplemented our analysis where we deemed appropriate and possible based on available data.

⁵As we discuss in appendix I, this scope limitation, combined with the complexity of U.S. tax rules pertaining to foreign income, complicates the computation of worldwide ETRs.

⁶IRS has compiled data separately for corporations that had nonnegative values for net income on their financial statements for only tax years 2008 to 2012. The Schedule M-3 data are drawn from IRS’s Statistics of Income division’s annual stratified random samples of corporate tax returns. The results we present based on these samples are subject to sampling error. We do not have the detailed information needed to estimate the size of the sampling error; however, we believe these errors are negligible because a significant proportion of the returns with Schedules M-3 attached, which are a part of the Schedule M-3 dataset are sampled at a 100 percent rate and the remaining M-3 filers are sampled at rates of 27 percent or more. Those returns that were sampled at the 100 percent rate accounted for 99 percent of the total assets of all returns filed with a Schedule M-3 for tax year 2012.

⁷See appendix II for a summary of past studies that used financial statement data to estimate average effective tax rates.

To assess the reliability of the data and estimates, we reviewed agency documentation, interviewed agency officials, and reviewed our prior reports that have used the data and estimates. While there are limitations to the data provided on the Schedules M-3 and general reporting problems with tax return data, we determined that the data were sufficiently reliable to meet our reporting objectives.

We conducted our work from August 2015 to March 2016 in accordance with all sections of GAO's Quality Assurance Framework that are relevant to our objectives. The framework requires that we plan and perform the engagement to obtain sufficient and appropriate evidence to meet our stated objectives and to discuss any limitations in our work. We believe that the information and data obtained, and the analysis conducted, provide a reasonable basis for any findings and conclusions in this product.

Background

Corporate Income Tax System

The base of the federal corporate income tax includes net income from business operations (receipts, minus the costs of purchased goods, labor, interest, and other expenses). It also includes net income that corporations earn in the form of interest, dividends, rent, royalties, and realized capital gains. The statutory rate of tax on net corporate income ranges from 15 to 35 percent, depending on the amount of income earned.⁸ The United States taxes the worldwide income of domestic corporations, regardless of where the income is earned, but allows a

⁸26 U.S.C. § 11. In addition, present law imposes an alternative minimum tax on certain corporations to the extent that their minimum tax liability exceeds their regular tax liability. 26 U.S.C. § 56. In general, the alternative minimum tax applies a lower tax rate to a broader tax base. Specifically, the regular tax base is increased for alternative minimum tax purposes by adding back certain items treated as tax preferences and disallowing certain deductions and credits. Also, marginal rates are higher over limited income ranges to recapture the benefits of the rates below 35 percent.

foreign tax credit for certain taxes paid to other countries.⁹ The timing of the tax liability depends on several factors. For example, income earned by foreign subsidiaries is generally not taxed until it is distributed—such as in the form of a dividend—to the U.S. parent corporation. Another important element of the U.S. corporate income tax system is the treatment of losses incurred in a given tax year. If a corporation has a net operating loss in a particular year, the corporation may carry those losses forward into future tax years or backward into prior tax years.¹⁰ When carried back, corporations can deduct those losses from taxable income and are eligible for a refund equal to the difference between previously paid taxes and taxes owed after deducting the current year's loss. Losses carried forward may be used to reduce future taxable income and tax liabilities, but cannot be used to reduce taxable income below zero. As a result, a corporation with a substantial loss in a particular year may claim deductions stemming from that loss over a number of years in the future.

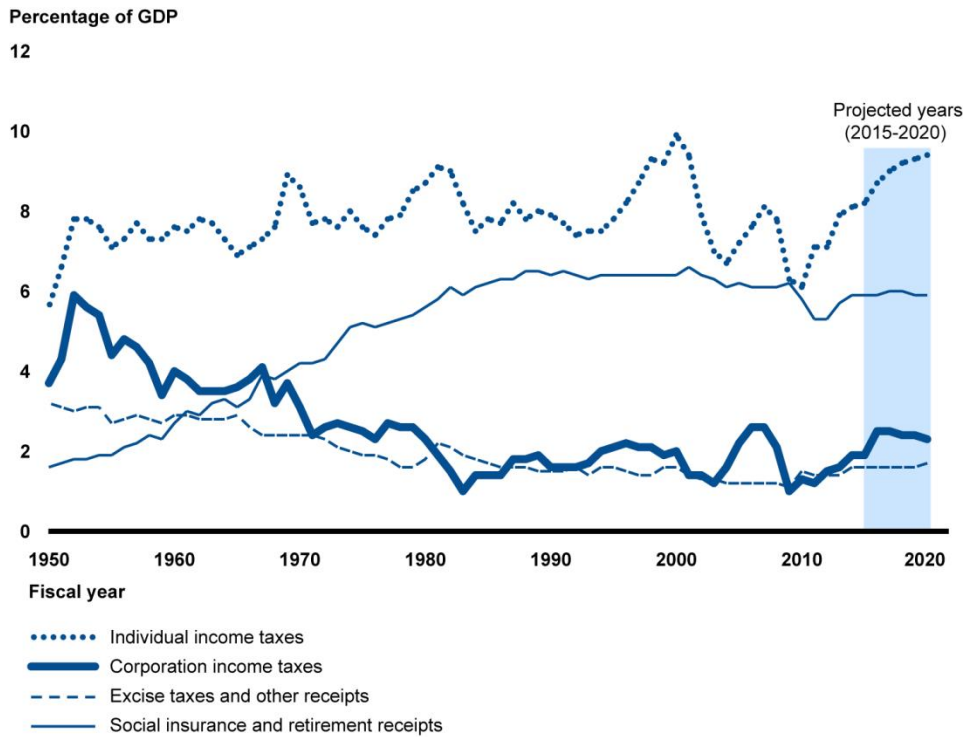
While corporate income taxes have declined markedly as a share of gross domestic product since the 1950s, they remain an important source of federal revenue. In fiscal year 2014, corporate income tax revenue as a share of gross domestic product was 1.9 percent and totaled \$321 billion. By comparison, revenues from individual income taxes and from social insurance and retirement receipts (e.g., Medicare) were \$1.4 trillion and \$1.02 trillion, respectively, in that year. Corporate income taxes accounted for 10.6 percent of all federal revenues in 2014, up from 6.6 percent in 2009, but still below their recent high of 14.7 percent in 2006 (see figure 1).¹¹

⁹Taxable income is, in general, total income, including taxable income from foreign sources, minus deductions such as for salaries and wages, depreciation, and net operating loss carryovers. The federal income tax owed is determined by multiplying this income by the applicable tax rate and then subtracting any tax credits, including the foreign tax credit, for which the taxpayer may be eligible.

¹⁰26 U.S.C. §172. Corporations may carry losses back to two prior years' taxable income or forward for up to 20 years.

¹¹Office of Management and Budget, Historical Tables, *Budget of the United States Government*, Fiscal Year 2016 (Washington, D.C.: February 2015).

Figure 1: Federal Tax Revenues as a Percentage of Gross Domestic Product, 1950 to 2014 (2015 to 2020 Projected)



Source: GAO representation of Office of Management and Budget data. | GAO-16-363

Financial and Tax Reporting Requirements for Corporations

Businesses operating as publicly traded corporations in the United States are required to report the income they earn and the expenses (including taxes) they incur each year according to two separate standards. First, corporations must produce financial statements in accordance with generally accepted accounting principles in order to provide certain information to investors and creditors. The income and expense items reported in these statements are commonly known as book items. Second, U.S. corporations must file corporate income tax returns on which they report income, expenses, and tax liabilities, according to rules set out in the Internal Revenue Code (IRC) and associated Department of the Treasury regulations. While the IRC generally requires that a corporation's taxable year and overall method of accounting conform to those standards used for financial reporting purposes, specific differences are permitted (and, in some cases, required). These are known as book-tax differences. One important source of book-tax differences is incentives for investment and other specific activities that Congress has chosen to incorporate into the tax code. For example, the bonus

depreciation allowance permits businesses to depreciate qualified capital assets much more rapidly than they are permitted to do under financial accounting. As a result, taxable income will be reduced by a greater amount than will book income for the year in which the qualified investment is made. However, in later years (until the asset is completely depreciated), book income will be reduced by greater amounts than will taxable income.

Corporations with assets that equal or exceed \$10 million are required to report these book-tax differences to IRS on the Schedule M-3 of their income tax returns.¹² In tax year 2012, 42,301 corporations filed a Schedule M-3 return. Of these, 27,546 were profitable according to their financial statements. By comparison, in that same year, there were almost 1.62 million active corporations, which include Schedule M-3 filers.¹³ A Schedule M-3 filer is required to report the worldwide income of the entity represented in its financial statements and then follow a well-defined series of steps—subtracting out income and losses of foreign and U.S. entities that are included in the financial statements but not in consolidated tax returns; adding in the income and losses of entities that are included in consolidated tax returns but not in financial statements; and making other adjustments to arrive at the book income of entities included in the federal tax return.

Effective Tax Rates

Effective tax rates on corporate income can be defined in several ways, each of which provides insights into a different issue. This report focuses on average corporate effective tax rates, which are generally computed as the ratio of taxes paid or tax liabilities accrued in a given year over the

¹²This requirement became effective in December 2004. Prior to 2004, corporations were required to reconcile their book net income with tax net income reporting on Schedule M-1. However, concern over the growing difference observed between pretax book net income and tax net income, as well as the lack of detail available from the Schedule M-1 on the sources of these differences, led to the development of the more extensive reporting now required on Schedule M-3.

¹³IRS Statistics of Income, *Corporation Income Tax Returns Complete Report*, data on all active corporations include corporations filing tax forms 1120 (U.S. Corporation Income Tax Return), 1120-L (U.S. Life Insurance Company Income Tax Return), 1120-PC (U.S. Property and Casualty Insurance Company Income Tax Return), and 1120-F (U.S. Income Tax Return of a Foreign Corporation). Schedule M-3 data include only noninsurance corporations filing tax Form 1120. The Schedule M-3 data are a subset of the data from the *Corporation Income Tax Returns Complete Report*.

net income the corporation earned that year.¹⁴ Average effective tax rates attempt to measure taxes paid as a proportion of economic income. By contrast, the marginal effective tax rate focuses on the tax burden associated with a specific investment (usually over the full life of that investment), and thus is a better measure of the effects that taxes have on incentives to invest. Meanwhile, statutory rates determine the amount of tax liability (before any credits) relative to taxable income, which is defined by tax law and reflects tax benefits and subsidies built into the law. The highest corporate statutory tax rate of 35 percent applies to most large U.S. corporations in years that they report positive amounts of taxable income.

To estimate average effective tax rates, analysts need two components:

1. The measure of tax liabilities to be used as the numerator. Common measures include
 - **current book tax expense**, including either only federal taxes or worldwide taxes—federal, foreign, and U.S. state and local income taxes paid by entities included in the federal tax return,
 - **total book tax expense**, which includes the sum of current and deferred taxes (again, either federal only or worldwide), and
 - **actual tax paid**, which is what corporations report as their income tax liability after credits.¹⁵

¹⁴Our average effective tax rates (ETRs) are averages in multiple senses. First, the rate reflects the average tax paid on every dollar of a corporation's net income (as opposed to the tax on the marginal dollar of income earned). Second, given that we had access to only aggregated IRS data, our ETR estimates represent averages across all of the corporations in our different populations of analysis (either all Schedule M-3 filers or the subpopulation of profitable Schedule M-3 filers). Finally, we also compute averages of these ETRs over a number of years. To do so, we sum the aggregate tax expense and pretax income amounts over the years reported. For all Schedule M-3 filers, we do so for tax years 2006 to 2012. For profitable Schedule M-3 filers, we do so for tax years 2008 to 2012. The multiyear averages for profitable large corporations include a population of corporations for each year for only those which were profitable in that year; they are not averages for corporations that were profitable in every year.

¹⁵Deferred taxes represent estimated taxes that will be paid (or refunded) in a future year as timing differences between book and tax reporting reverse themselves and unused losses and credits that have been carried forward are recognized. Taxes that are reported as deferred in one tax year are included in current tax expenses in future years (which is why some studies choose to exclude deferred taxes from their ETR measures). Our measure of actual worldwide taxes paid by entities included in the federal tax return equals the sum of total federal income tax after credits, the amount of state and local income tax deduction claimed on the return, and the foreign tax credit. As explained in appendix I, we had to estimate the foreign tax credit for certain years.

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2. The measure of income to be used as the denominator. The typical measure of income for effective tax rate estimates based on financial statements has been some variant of pretax net book income, which we use for all of our ETR estimates.

In Each Year from 2006 to 2012, Most Corporations Had No Federal Income Tax Liability, but a Majority of Large Corporations Did

In each tax year from 2006 to 2012 at least two-thirds of active U.S. corporations had no federal income tax liability after credits (see figure 2). The percentage of such corporations with no tax liability remained relatively stable, ranging between 67 and 72 percent during that timeframe. In tax year 2012, 70.1 percent of the 1.62 million active corporations had no federal income tax liability with the peak coming in 2009 near the end of the recession.¹⁶ Among large corporations for 2012, less than half—42.3 percent, or 17,882 returns—had no federal income tax after accounting for tax credits.¹⁷ Among profitable large corporations, 19.5 percent, or 5,359 returns, had no federal income tax liability in tax year 2012. Corporations that did have a federal corporate income tax liability for tax year 2012 owed \$267.5 billion.

Corporations may pay no federal income tax for a number of reasons. One important reason is that in each of the years from 2008 to 2012, between approximately 49 to 54 percent of all active corporations had negative net tax income based on federal tax accounting rules. Large corporations were less likely to have incurred losses. In each year during

¹⁶Schedule M-3 filers generally have assets of \$10 million or more. These filers are also included in the top line of figure 2, showing all active corporations. When we subtracted this subpopulation of Schedule M-3 filers out of that overall population, we found that the remaining corporations (essentially those with assets of less than \$10 million) had almost the same likelihood of paying tax as the overall population. For example, in tax year 2012, 70.9 percent of corporations excluding Schedule M-3 filers had no federal tax liability after credits compared to 70.1 percent for all corporations. See appendix III. We also divided the subpopulation of Schedule M-3 filers into those with assets of less than \$50 million and those with assets of \$50 million or more. We found that the group with lower assets was slightly more likely to have paid no tax than the group with larger assets. For example, in tax year 2012, 44.9 percent of corporations with total assets between \$10 million and \$50 million had no federal income tax liability, while 38.7 percent of corporations with \$50 million or more in total assets had no tax liability.

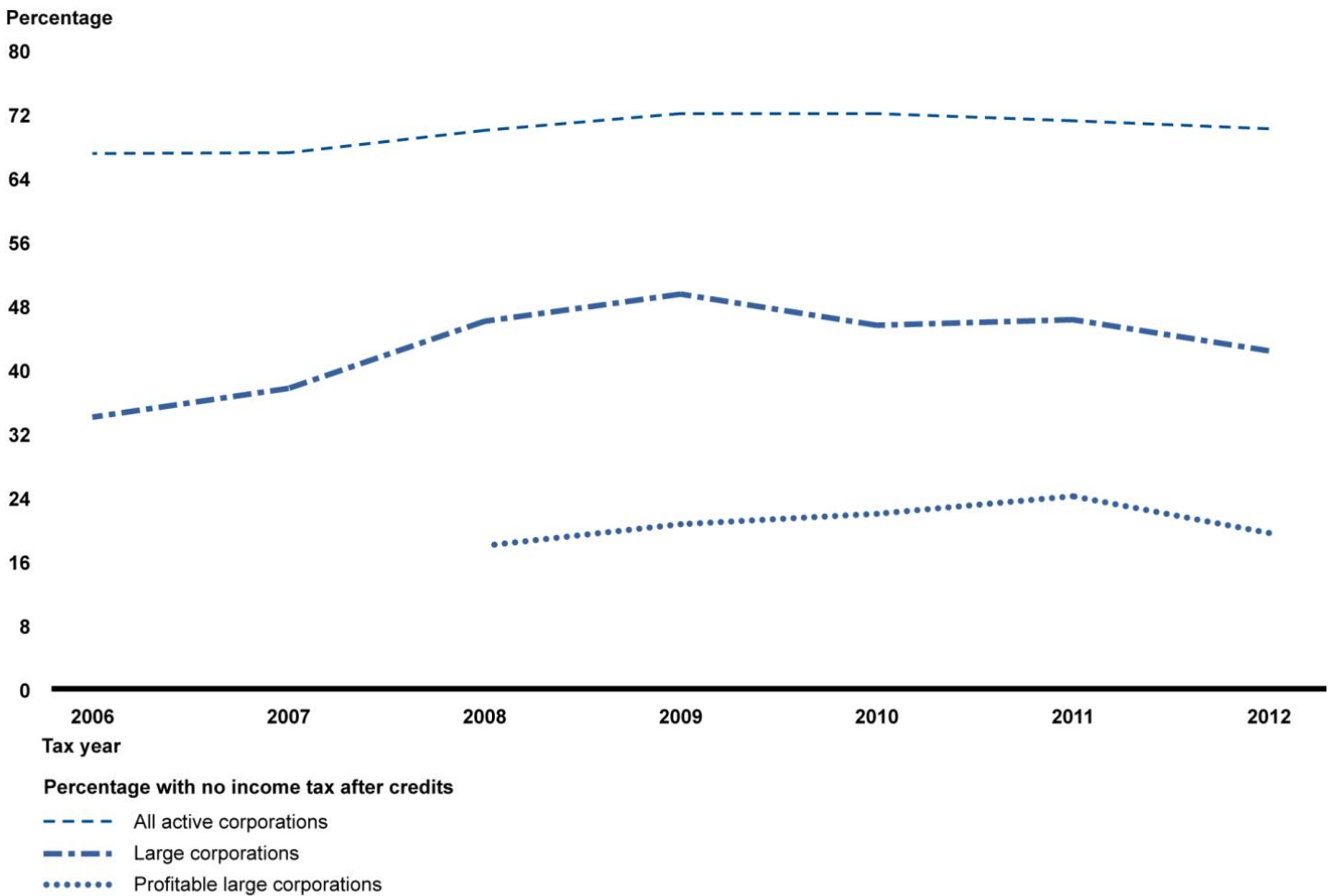
¹⁷For purposes of this report, we refer to corporations which filed a Schedule M-3 as large corporations. In general, corporations with \$10 million or more in assets are required to file a Schedule M-3. The percent of these corporations that had no federal income tax liability was similar for all active corporations with at least \$10 million in assets.

that period, between 34.9 percent and 44.2 percent of Schedule M-3 filers had negative net tax income.¹⁸ A second reason is that other corporations had positive net tax income that was completely offset by net operating loss deductions (NOLD) carried forward from prior tax years. In each year from 2008 to 2012, approximately 15 to 19 percent of all active corporations had their income completely offset in this manner.¹⁹ Similar percentages of all and profitable large corporations had their income completely offset by NOLDs from 2008 to 2012. The use of federal tax credits appears to have had little effect on the number of corporations that paid no tax in each year (this does not imply that these credits did not significantly reduce the amount of tax that some corporations paid). For all active corporations, federal tax credits increased the percentage of corporations not paying tax by less than one percentage point each year. Much the same was true for all and profitable large corporations (see appendix III).

¹⁸Many of these corporations may have had losses under both book and tax accounting rules. In other cases, corporations may have been profitable under book accounting rules, but had no net tax income because tax incentives, such as the bonus depreciation allowance mentioned earlier, which could eliminate any positive net tax income without affecting net book income. We are not able to quantify the effect that these incentives had on the absence of tax liabilities.

¹⁹Any income remaining after the use of net operating loss deductions is known as taxable income. Some corporations with no taxable income for regular income tax purposes may, nevertheless, pay income tax in the form of the alternative minimum tax or one of the other less common taxes included as part of total federal income tax.

Figure 2: Percentage of Corporations That Reported No Tax Liability after Credits, Tax Years 2006 to 2012



Source: GAO analysis of Internal Revenue Service data. | GAO-16-363

Note: IRS Statistics of Income *Corporation Income Tax Returns Complete Report* data on all active corporations include corporations filing tax forms 1120 (U.S. Corporation Income Tax Return), 1120-L (U.S. Life Insurance Company Income Tax Return), 1120-PC (U.S. Property and Casualty Insurance Company Income Tax Return), and 1120-F (U.S. Income Tax Return of a Foreign Corporation) while Schedule M-3 data include only noninsurance corporations filing tax Form 1120. The Schedule M-3 data are a subset of the data from the Corporate Complete Report. In general, corporations with \$10 million or more in assets are required to file a Schedule M-3.

Average ETRs for Large Corporations, Which Differed Significantly from Their Statutory Rates, Increased Slightly from 2010 to 2012

Average ETRs for Large Profitable Corporations Were Well Below Statutory Rates, Even When Deductions for Prior-Year Losses Were Excluded

For tax year 2012, the actual U.S. federal income taxes paid by profitable large corporations amounted to 16.1 percent of the income that those corporations reported in their financial statements (for those entities included in their tax returns); this federal effective tax rate averaged 14 percent from tax years 2008 to 2012 (see the first panel of figure 3).²⁰ This tax rate is slightly lower than the 17.3 percent rate based on the current federal book tax expense, and the 18.5 percent rate based on total federal book tax expenses for tax year 2012, which includes current and deferred federal book tax expenses. Each averaged 15.3 percent and 18.6 percent, respectively, from tax years 2008 to 2012.²¹

The subject matter experts with whom we spoke suggested it would be of interest to estimate what profitable large corporations would have paid in the current year if one did not take into account the deductions that corporations are allowed to take for losses carried forward from prior years. Adjusting for these net operating loss deductions (NOLD) raises the effective rate of actual U.S. federal taxes paid to 19.5 percent in tax

²⁰For purposes of this report, we refer to corporations which filed a Schedule M-3 as large corporations. In general, corporations with \$10 million or more in assets are required to file a Schedule M-3. See appendix IV for all effective tax rates we calculated.

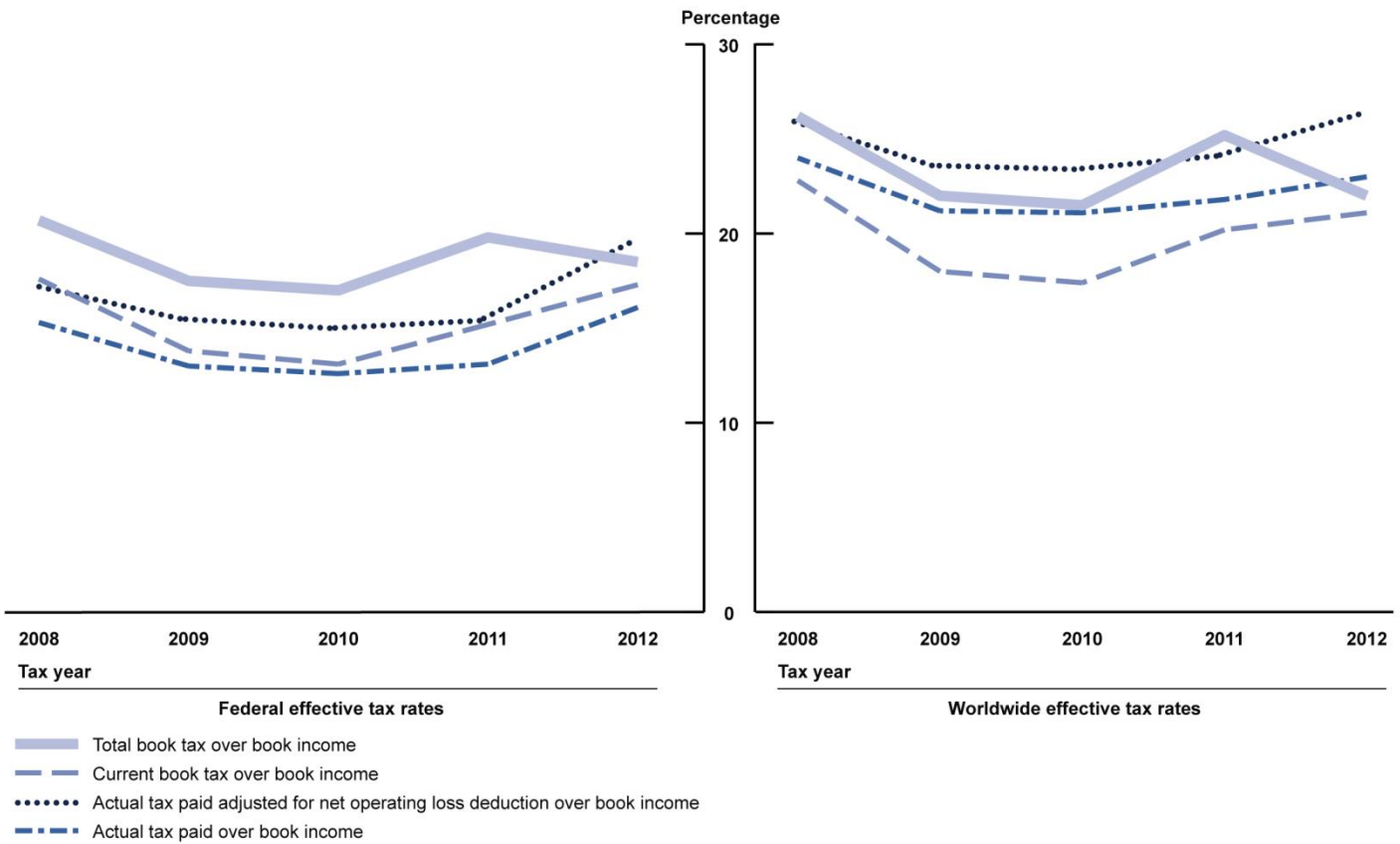
²¹For the sake of comparison with our May 2013 report, we also presented actual taxes paid over taxable income; however, that measure is not a typical effective tax rate because the income measure is reduced by various tax preferences. See [GAO-13-520](#). All of the rates we discuss above are significantly lower than the 24.6 percent rate of actual taxes paid as a percentage of taxable income instead of pretax net book income.

year 2012 and averaged 16.5 percent from tax years 2008 to 2012.²² These rates were 2.6 percentage points higher than the unadjusted rates (see figure 3).

Even with the adjustment for NOLDs, these ETRs remain well below the top statutory federal income tax rate of 35 percent for a number of reasons. First, to the extent that corporations have foreign-source income on which they have paid tax to foreign governments, their U.S. federal income tax will be reduced by the foreign tax credit. Also, as noted earlier, tax incentives, such as the bonus depreciation allowance, will cause taxable income (on which the actual federal tax is based) to be less than book income (which is the denominator of the ETR). Other types of differences between financial statement and tax accounting can have the same effect.

²²To make this adjustment, we multiplied the highest corporate statutory rate of 35 percent by the NOLD amount claimed by profitable large corporations (Schedule M-3 filers) and added that amount to the numerator of our measure. The result shows what the ETR on current-year income would be if no NOLD had been available to offset any of that income. Another approach would be to subtract the NOLD from the denominator, which would show the ETR on the portion of current-year income that was not offset by prior-year losses. Using this alternative approach, the federal "Actual taxes paid" ETR is 17.8 percent for tax year 2012 and averaged 15.1 percent from tax years 2008 to 2012. No adjustment is required for losses that are carried backward because the tax return data that we use do not include deductions for those losses.

Figure 3: Average Effective Tax Rates for Profitable Large Corporations (Schedule M-3 Filers), Tax Years 2008 through 2012



Source: GAO analysis of Internal Revenue Service data for Schedule M-3 filers. | GAO-16-363

Notes: The worldwide effective tax rates are based on the worldwide income and taxes—including federal, foreign, and U.S. state and local income taxes—of entities included in the federal tax return.

The second panel of figure 3 presents ETRs that incorporate the worldwide taxes of entities included in the federal tax returns of Schedule M-3 filers. These worldwide ETRs for profitable large corporations ranged between 3.5 and 8.7 percentage points higher than comparable federal ETRs. For example, from tax years 2008 to 2012, the actual worldwide taxes paid by profitable large corporations averaged 22.2 percent of the income that those corporations reported in their financial statements (for those entities included in their tax returns). As was the case with the federal ETRs for profitable large corporations, the worldwide ETRs have

increased somewhat since tax year 2010.²³ These measures do not include income earned by foreign subsidiaries or the taxes that those foreign subsidiaries pay, except in the cases where that income is repatriated to U.S. corporations in the form of dividends or falls into certain categories of income that are taxed immediately under federal tax rules.²⁴

In our May 2013 report and in this report, we present ETR estimates for all large corporations as well as for the population of profitable Schedule M-3 filers.²⁵ Our estimates for profitable large corporations are not intended to represent the tax burdens of all large corporations; their purpose is to provide a more accurate picture of the tax burden for the significant subpopulation of corporations that are profitable in a particular year without the distortion caused by the losses of other corporations.²⁶ Profitable large corporations represented between 56 percent and 57 percent of all large corporations from 2008 through 2009; from 2010 through 2012, they represented between 64 percent and 65 percent of all filers. Some of the past studies we identified in our May 2013 report and during the course of this report have excluded unprofitable corporations; others have not (see appendix II).

²³The peak in the effective tax rates based on total book tax in tax year 2011 in both figure 3 and figure 4 is due to a peak in the deferred federal tax expense in that year, which in turn was likely due to the fact that the benefit of the bonus depreciation allowance peaked in that year. Corporations had an added incentive to make a qualified investment in 2011, increasing their deferred federal tax expenses in that year. In addition, investments in 2010 and 2012 were potentially artificially low because investments that might otherwise have been made in those years would have been shifted into 2011.

²⁴Appendix I includes a discussion of how the complexity of U.S. tax rules pertaining to foreign income and the limitations of the data available from Schedules M-3 complicate the computation of worldwide ETRs.

²⁵[GAO-13-520](#).

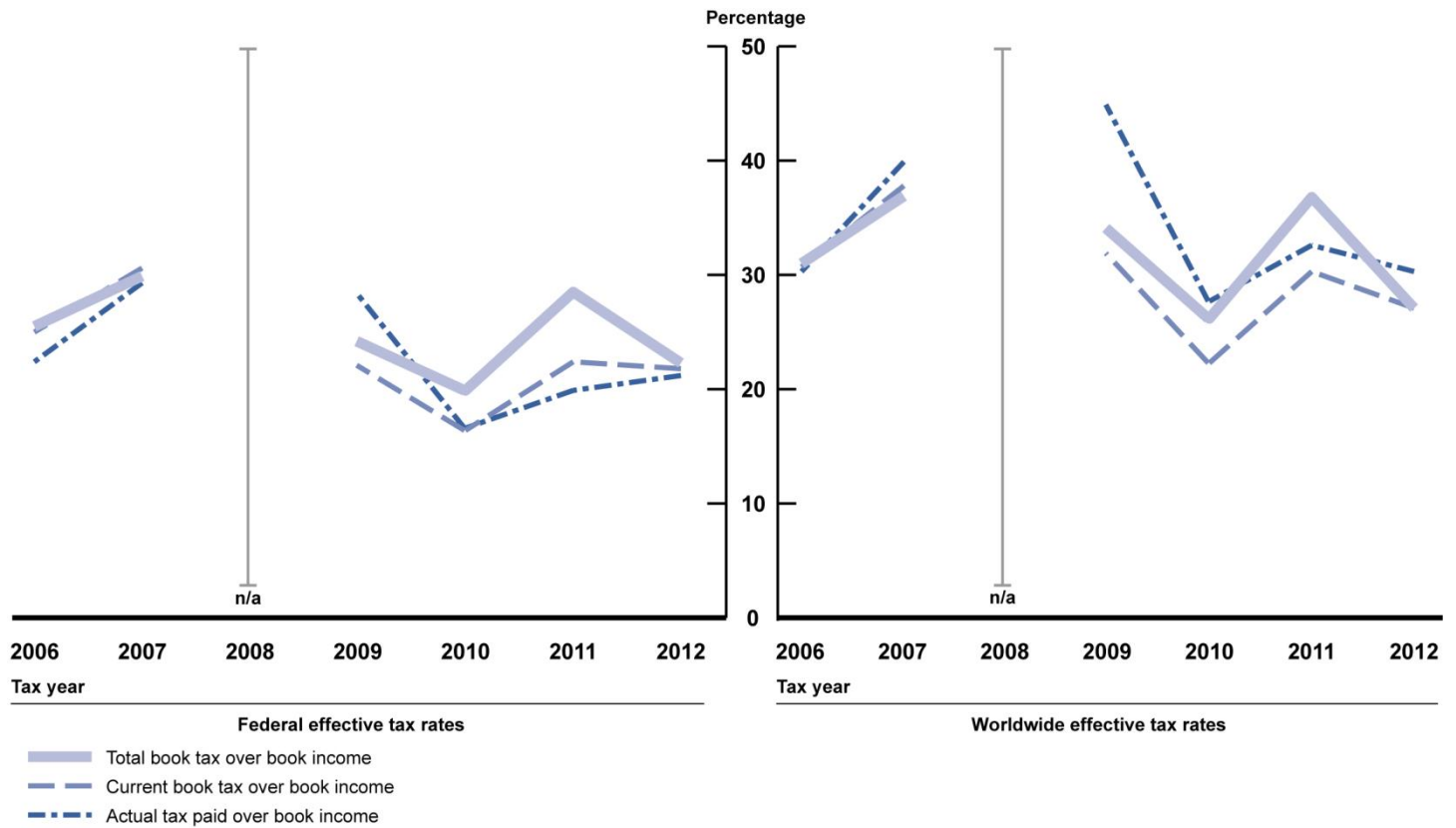
²⁶Appendix I includes a more detailed discussion of how losses complicate the computation and interpretation of ETRs.

The Inclusion of Large Corporations with Current-Year Losses Raises the Average Effective Tax Rates but Makes Those Rates Difficult to Interpret

In tax year 2012, all corporate returns with a Schedule M-3, including those with current-year losses, paid actual U.S. federal income taxes amounting to 21.2 percent of the income that they reported. Based on current and total book tax expenses, these corporations had ETRs of 21.8 percent and 22.3 percent, respectively (see the first panel of figure 4). On average, over tax years 2008 to 2012, all large corporations actually paid 25.9 percent of their pretax net income in U.S. federal income taxes. The inclusion of large corporations with losses raises federal ETRs between 3 and 15 percentage points higher than those of large profitable corporations for years in which ETRs are calculated for both, including tax years 2009 to 2012. This increase occurs because firms with current year losses, which pay little if any actual tax, have a negligible effect on the numerator of the ETR, but their losses can significantly reduce the pretax net book income in the denominator. For example, in tax year 2009, profitable large corporations had pretax net book income of \$1.187 trillion, while unprofitable large corporations had net current year losses of \$619 billion, netting to a pretax book income of \$568 billion. The inclusion of large corporations with current year losses in that year more than doubles the ETR based on actual federal taxes paid in comparison to the rate for only profitable large corporations. In tax year 2008, the losses of unprofitable large corporations more than completely offset the income of profitable large corporations, resulting in negative pretax net book income. Consequently, we were not able to compute ETRs for all large corporations in that year.

From tax years 2008 to 2012, worldwide ETRs for all large corporations, which includes federal, foreign, and state and local taxes paid by entities included in federal tax returns, ranged between almost 5 to more than 16 percentage points greater than comparable federal ETRs for all large corporations (see figure 4). Over those tax years, ETRs averaged 40 percent when foreign and state and local taxes are included.

Figure 4: Average Effective Tax Rates for All Large Corporations (Schedule M-3 Filers), Tax Years 2006 through 2012



Source: GAO analysis of Internal Revenue Service data for Schedule M-3 filers. | GAO-16-363

Notes: The worldwide effective tax rates are based on the worldwide income and taxes—including federal, foreign, and U.S. state and local income taxes—of entities included in the federal tax return. We did not compute effective tax rates for all corporations for tax year 2008 because aggregate pretax net book income was negative that year.

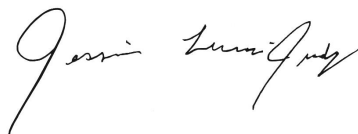
Agency Comments and Our Evaluation

We provided a draft of this report to the Commissioner of Internal Revenue for review and comment. IRS provided technical comments, which were incorporated, as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the Chairmen and Ranking Members of other Senate and House committees and subcommittees that have appropriation, authorization, and oversight responsibilities for IRS. We will also send copies of the report to the Commissioner of Internal Revenue and other interested parties. In addition, this report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions or wish to discuss the material in this report further, please contact me at (202) 512-9110 or LucasJudyJ@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix V.

Sincerely Yours



Jessica Lucas-Judy
Acting Director, Tax Issues
Strategic Issues

Appendix I: Selected Issues Relating to the Calculation of Effective Corporate Income Tax Rates

The Inclusion of Corporations with Losses in Effective Tax Rate Estimates

In this report, we present effective tax rate (ETR) estimates for both profitable and all corporations. As we noted, the first set of estimates provides meaningful information for an important population of firms without the distortion caused by the losses of other corporations. The second set of estimates covers a more comprehensive population of firms; however, an ETR is not meaningful for a corporation in a year in which it has a net loss. Consequently, it is not clear how to interpret average ETRs for populations that include some corporations with net income and others with net losses for a given year. The simplified example in table 1 demonstrates the nature of this problem. In this example, Corporation A is profitable in all years, while Corporation B incurs losses in the first 2 years, which it then offsets against its income in the third year.¹ A weighted average ETR based on the combined data for the two corporations for all 3 years provides an accurate representation at the aggregate level of the tax burden on income earned in those 3 years (35 percent). However, when the time period is limited so that not all losses can be used during the period, the estimates do not give an accurate representation of the longer term rates. The average for the first 2 years (70 percent) overstates the burden because it does not include the income against which Corporation B's losses during these 2 years is actually offset. Instead, those losses offset a completely different corporation's income. Conversely, the average for the last 2 years (26.3 percent) understates the burden over the 3-year period because losses incurred outside of the 2-year period are used to reduce tax payments during the period. The types of distortions shown in this example arise at the beginning and end of any finite period of analysis.

¹In order to focus on the effects of loss carryforwards, we assume that there are no differences between book and taxable income other than these carryforwards, and we apply a statutory tax rate of 35 percent, ignoring any tax credits. Also in this example, all losses incurred during this period are used during the period and no losses are carried into the period from other years.

**Appendix I: Selected Issues Relating to the
Calculation of Effective Corporate Income Tax
Rates**

Table 1: Example of How Losses Can Distort Effective Tax Rate Estimates

Computation of weighted average effective tax rates							
	Category	Year 1	Year 2	Year 3	All years	First 2 years	Last 2 years
Corporation A	Current-year net income/loss	\$200	200	100	500	400	300
	Loss used as a carryforward	-	-	-	-	-	-
	Taxable income	200	200	100	500	400	300
	Tax at 35 percent rate	70	70	35	175	140	105
	A's ETR (tax/ current-year net income)	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %	35.0 %
Corporation B	Current-year net income/loss	\$(100)	(100)	400	200	(200)	300
	Loss used as a carryforward	-	-	(200)	-	-	-
	Taxable income	-	-	200	200	-	300
	Tax at 35 percent rate	-	-	70	70	-	70
	B's ETR (tax/ current-year net income)	not meaningful	not meaningful	17.5 %	35%	not meaningful	23.3 %
Corporation A and B Aggregate	Current-year net income/loss	\$100	100	500	700	200	600
	Tax paid	70	70	105	245	140	175
	ETR (tax/ current-year net income)	70.0 %	70.0	21.0	35.0	70.0	29.2

Source: Hypothetical example developed by GAO. | GAO-16-363

Notes: This example and the related discussion originally appeared in an article in Tax Notes. See James A. Wozny, "GAO Official Defends Agency Report Numbers," Tax Notes, Nov. 25, 2013. In the columns where the averages are computed, the losses are counted only once (either as a reduction in the current-year income/loss line or as a carryforward, not both). For example, Corporation B's loss carryforward in year 3 is not included in the last column because only \$100 of the losses were incurred in the last 2 years and that portion has already reduced the current-year net income amount in that last column.

In this report, the ETRs that we label "actual taxes paid" for profitable corporations reflect the taxes that those corporations actually reported on their tax returns in a particular year as a percentage of their net book income for that year. Alternatively, there are two ways to estimate ETRs that exclude the effect that prior-year losses have on tax payments. One approach would be to multiply the amount of prior-year losses that corporations deducted on their tax returns by the statutory tax rate and then add that tax amount to the numerator of the ETR. The resulting estimate would show what the ETR on current-year income would be if no net operating loss deductions (NOLD) had been available to offset any of that income. A second alternative for removing the effect of prior-year losses would be to reduce pretax net book income in the denominator by

Appendix I: Selected Issues Relating to the Calculation of Effective Corporate Income Tax Rates

the amount of NOLDs used in that year.² The estimate that results from this approach shows the ETRs on the portion of current-year income that was not offset by prior-year losses. As seen in table 2, compared with our original actual taxes paid ETRs for profitable corporations, the estimates that are adjusted for NOLDs are slightly higher. None of these ETRs for corporations that are profitable in a given year is meant to represent the tax burden averaged across all corporations (both profitable and unprofitable ones).

Table 2: Alternative Calculations of Corporate Effective Tax Rates for Profitable Large Corporations (Schedule M-3 Filers), Incorporating Net Operating Loss Deductions (NOLD), Tax Years 2008 to 2012

	Original GAO Estimate of Effective Tax Rates	Alternative 1: NOLD multiplied by 35 percent added to numerator	Alternative 2: NOLD subtracted from denominator
Actual U.S. federal tax paid over book income	14%	16.5	15.1
Actual worldwide tax paid over book income	22.2	24.6	23.8

Source: GAO analysis of IRS data for Schedule M-3 filers. | GAO-16-363

Note: The worldwide actual tax paid ETRs for profitable corporations are averages of tax-year 2010 to 2012 values because the foreign tax credit value is not available for tax years 2008 and 2009. The worldwide effective tax rates are based on the worldwide income and taxes—including federal, foreign, and U.S. state and local income taxes—of entities included in the federal tax return.

In commenting on our May 2013 report on ETRs, at least one person stated that ETRs for the full population of corporations are more appropriate for policymakers.³ In our view, the choice of which ETR measure to examine depends on the specific question being considered. In many cases it is more instructive to examine the distribution of ETRs across

²The Schedule M-3 data that we had only separate out the NOLD amount between profitable and loss corporations for tax years 2010 through 2012. For tax years 2008 and 2009, we took the average percentage that profitable NOLD amounts made up of the total amount reported for all corporations from tax years 2010 to 2012, and multiplied that average percentage by the total NOLD amount for tax years 2008 and 2009, which we then used to adjust either the numerator or denominator of our ETR estimates above. The profitable NOLD amount accounted for 88, 78, and 83 percent of the total NOLD amount from tax years 2010 to 2012, respectively, and averaged 83 percent over those 3 years.

³GAO, *Corporate Income Tax: Effective Tax Rates Can Differ Significantly from the Statutory Rate*, [GAO-13-520](#) (Washington, D.C.: May 30, 2013); and Andrew B. Lyon, “Another Look at Corporate Effective Tax Rates, 2004-2010,” *Tax Notes* (Oct. 21, 2013).

different subpopulations of corporations.⁴ With detailed taxpayer-level data one might track individual corporations from year to year to address timing issues relating to losses. We did not have access under the law to such data for this report.

Calculating Worldwide Effective Tax Rates

The scope of the data available to us from Schedule M-3 and Form 1120 limited our ability to estimate worldwide ETRs for the large corporations (Schedule M-3 filers). As noted above, our estimated worldwide ETRs represent the burden of taxes paid and income received by entities that are included in federal tax returns. These measures do not include income earned by foreign subsidiaries or the taxes that those foreign subsidiaries pay, except in the cases where that income is repatriated to U.S. corporations in the form of dividends or falls into certain categories of income that are taxed immediately under federal tax rules. In the remainder of this section, we compare the data on worldwide taxes available to us for this report with the data we used for our previous report.

First, we need to describe some of the relevant U.S. tax rules applying to foreign-source income. The United States taxes domestic corporations on their worldwide income, regardless of where it is earned. A U.S. corporation may directly or indirectly own shares of stock of other corporations both foreign and domestic; if the U.S. corporation owns all or a significant number of shares of stock, it may be considered a parent and the other corporation a subsidiary. In general, a U.S. taxpayer who owns stock in a corporation is not taxed on income earned by the corporation when it is earned, but taxed when it is distributed to the taxpayer, such as in the form of dividends. When the taxpayer is a U.S. corporation and it owns shares of a foreign corporation in a jurisdiction with a lower corporate tax rate than that of the United States, this can result in what is known as deferral.⁵ However, the Internal Revenue Code

⁴In an earlier study, we found considerable variation in the U.S. ETR on the domestic income of large corporations for tax year 2004. At one extreme 32.9 percent of the taxpayers had ETRs of 10 percent or less, and at the other extreme, 25.6 percent of taxpayers had ETRs higher than 50 percent. See GAO, *U.S. Multinational Corporations: Effective Tax Rates Are Correlated With Where Income Is Reported*, [GAO-08-950](#) (Washington, D.C.: Aug. 12, 2008).

⁵In general, individuals as shareholders get the benefits of deferral when owning shares of both domestic and foreign corporations. U.S. corporations as shareholders can deduct the full amount of qualified dividends received from domestic shareholders. So while deferral exists, it provides limited to no tax benefit in that circumstance.

(IRC) has antideferral provisions which limit deferral in certain circumstances. For example, if a foreign entity is a Controlled Foreign Corporation, as defined in statute, then certain U.S. shareholders, such as parent corporations, are taxed on their share of certain income earned by the Controlled Foreign Corporation when it is earned.⁶ The income of a Controlled Foreign Corporation to be included in U.S. shareholders' income includes the income defined in subpart F (often called Subpart F income) and earnings of the Controlled Foreign Corporation invested in U.S. property. Major types of Subpart F income include income from passive investments, income from transactions with entities related to the Controlled Foreign Corporation, and insurance income as well as certain other easily manipulated income, which are ineligible for deferral. When income is deemed to be received by the U.S. corporation in this way, it may have already been taxed in the foreign country where it was earned.

The IRC allows U.S. parent corporations to claim a foreign tax credit for taxes paid to other countries so that foreign source income, such as repatriated dividends and Subpart F income, is not taxed twice. This results in U.S. corporations paying federal income tax on foreign-source income only to the extent that the federal income tax on that income exceeds the foreign tax credit. Section 78 of the IRC requires U.S. corporations electing to claim the foreign tax credit to "gross-up" (i.e., increase) their dividend income by the amount of creditable foreign income taxes associated with the dividends they received. Similar requirements apply to Subpart F income.⁷

For our prior report we did not have data relating to the amount of foreign tax credits claimed by our population of profitable large corporations.⁸ As a substitute for the amount of foreign taxes paid, we used the current foreign

⁶An entity is a Controlled Foreign Corporation if "U.S. shareholders" own more than 50 percent of the total combined voting power of its stock, or more than 50 percent of the stock's total value. To be considered a "U.S. shareholder" for the purposes of this definition, a U.S. person must own at least 10 percent of the total combined voting power of the corporation's stock. In calculating ownership, direct, indirect, and constructive ownership are considered. U.S. persons are deemed to own stock held by their wholly owned subsidiaries or by certain other related persons. 26 U.S.C. §§ 951, 957.

⁷26 U.S.C. § 78. A U.S. corporation that owns at least 10 percent of the voting stock of a foreign corporation is allowed to take an indirect credit for foreign income taxes associated with certain dividends it receives from that foreign corporation or is deemed to have received under Subpart F. 26 U.S.C. §§ 902, 960.

⁸[GAO-13-520](#).

tax expenses and foreign withholding tax expenses that the taxpayers reported in their financial statements. In the case of repatriated dividends, our measure included foreign taxes paid on the dividends themselves, but not any foreign tax paid on the subsidiaries' income out of which the dividends were paid. In the latest data we obtained from the Internal Revenue Service (IRS), we do have amounts for the foreign tax credits claimed in 2012 by the profitable corporations. The new data also enabled us to make reliable estimates of the foreign tax credits claimed in 2010 and 2011; however, we could not make similar estimates for earlier years.⁹

Although this new measure includes the most comprehensive measure of foreign taxes available in our database, it does not achieve a perfect alignment between the taxes included in the numerator and the income included in the denominator.¹⁰ Nevertheless, after discussions with analysts from IRS and Department of the Treasury, we concluded that this new measure represents the closest alignment between income and the taxes paid thereon that is possible with the aggregated Schedule M-3 data

⁹We estimated the foreign tax credit amount for tax years 2010 and 2011 for profitable corporations by using IRS data on Tax Before Credits, General Business Credit, and Tax Less Credits. We know that Tax Less Credits equals Tax Before Credits minus General Business Credit, Foreign Tax Credit, and Other Tax Credits. In addition, we know the amount of Other Tax Credits for the full population of Schedule M-3 filers. This amount is relatively small each year and it represents the maximum potential value of Other Tax Credits for our population of profitable filers. The minimum potential value is zero. We used all of this information to determine the upper- and lower-bound potential values of the amount of Foreign Tax Credit claimed by profitable filers. The gap between these two bounds is very small and we used the midpoint between the bounds for our estimate. We could not make similar estimates for tax years 2008 and 2009 because the General Business Credit data were not available. As a substitute for the Foreign Tax Credit for those 2 years, we used the sum of the current foreign tax expenses and foreign withholding tax expenses from financial statements and the section 78 gross-up. For the 3 years for which we had the foreign tax credit data, these two alternative measures had relatively similar values. The worldwide ETRs based on foreign tax credit data were 21.1 percent, 21.8 percent, and 23 percent in 2010 through 2012 for profitable corporations, respectively. The comparable ETRs based on the alternative measure of foreign taxes were 21.1 percent, 21.6 percent, and 23.6 percent, respectively. The foreign tax credit amount for all corporations included in the Schedule M-3 data was available for tax years 2006 to 2012 and we used these data for this population (in our May 2013 report, for the sake of consistency, we used only data that were available for both of our populations).

¹⁰The misalignment arises because (1) subpart F income is not included in the net book income of these Schedule M-3 filers, but some residual federal tax paid on that income is included in our numerator; and (2) net book income includes some foreign-source dividends that were subject to federal tax in a previous year, and that tax is not included in our numerator. These two discrepancies work in opposite directions.

available to us. More importantly, as we mentioned in the body of our report, regardless of the adjustments we make above, our worldwide ETR estimates do not represent a comprehensive worldwide ETR. They do not account for income not repatriated by Controlled Foreign Corporations and the foreign taxes paid on that income. Data do not exist to measure both the complete worldwide income of U.S. corporate groups and the actual taxes that they pay. A truly comprehensive rate could be either higher or lower than the ones we report. The rate of foreign tax paid on income that Controlled Foreign Corporations choose to repatriate may be higher than the rate paid on foreign income that is not repatriated. Since the U.S. tax system provides a foreign tax credit to U.S. corporations on foreign taxes paid when income is repatriated, it may create an incentive for Controlled Foreign Corporations to repatriate income earned in high tax countries, so that U.S. parent corporations can claim the full foreign tax credit amount. In contrast, as the foreign tax rate decreases, the U.S. tax due when the income is repatriated increases, creating a disincentive to repatriate income earned in low tax countries.

Appendix II: Summary of Selected Past Estimates of Average Effective Tax Rates Based on Financial Statement Data

We used the criteria in our May 2013 report for selecting studies that included estimates of corporate effective tax rates (ETR).¹ Specifically, a study had to have (1) used financial statement data to estimate average ETRs for U.S. corporations, (2) employed pretax worldwide book income as the denominator of its ETR calculations, and (3) covered at least one tax year since 2001. In the previous report, these criteria identified eight studies.

- PricewaterhouseCoopers LLP, *Global Effective Tax Rates*. April 14, 2011.
- Markle, Kevin S. and Douglas A. Shackelford (1). "Cross-Country Comparisons of Corporate Income Taxes." *National Tax Journal*, vol. 65, no. 3. 2012: 493-528.
- Costa, Melissa and Jennifer Gravelle, "Taxing Multinational Corporations: Average Tax Rates." *Symposium on International Taxation and Competitiveness*, 65 Tax L. Rev. 391. 2012.
- Lee, Namyoung and Charles Swenson. "Is It a Level Playing Field? An Analysis of Effective Tax Rates." *Tax Notes International*. May 25, 2009: 685-693.
- Markle, Kevin S. and Douglas Shackelford (2). *Do Multinationals or Domestic Firms Face Higher Effective Tax Rates?* National Bureau of Economic Research, Working Paper 15091. June 2009. <http://www.nber.org/papers/w15091>.
- Blouin, Jennifer L. and Irem Tuna. *Tax Contingencies: Cushioning the Blow to Earnings?* Working Paper. April 2007.
- Hanlon, Michelle and Edward L. Maydew. "Book-Tax Conformity: Implications for Multinational Firms." *National Tax Journal*, vol. 62, no. 1. March 2009: 127-153.
- Dyreng, Scott D., Michelle Hanlon, and Edward L. Maydew. "Long-Run Corporate Tax Avoidance," *The Accounting Review*, vol. 83, no. 1. 2008: 61-82.

For our report, we searched for studies released after March 2013. Our search yielded the following seven:

- Dyreng, Scott D., Michelle Hanlon, Edward L. Maydew, and Jacob R. Thornock. *Changes in Corporate Effective Tax Rates Over the Past Twenty-Five Years*. Social Science Research Network. October 2014: 1-58. Accessed October 8, 2015. <http://ssrn.com/abstract=2521497>.

¹GAO, *Corporate Income Tax: Effective Tax Rates Can Differ Significantly from the Statutory Rate*, GAO-13-520 (Washington, D.C.: May 30, 2013).

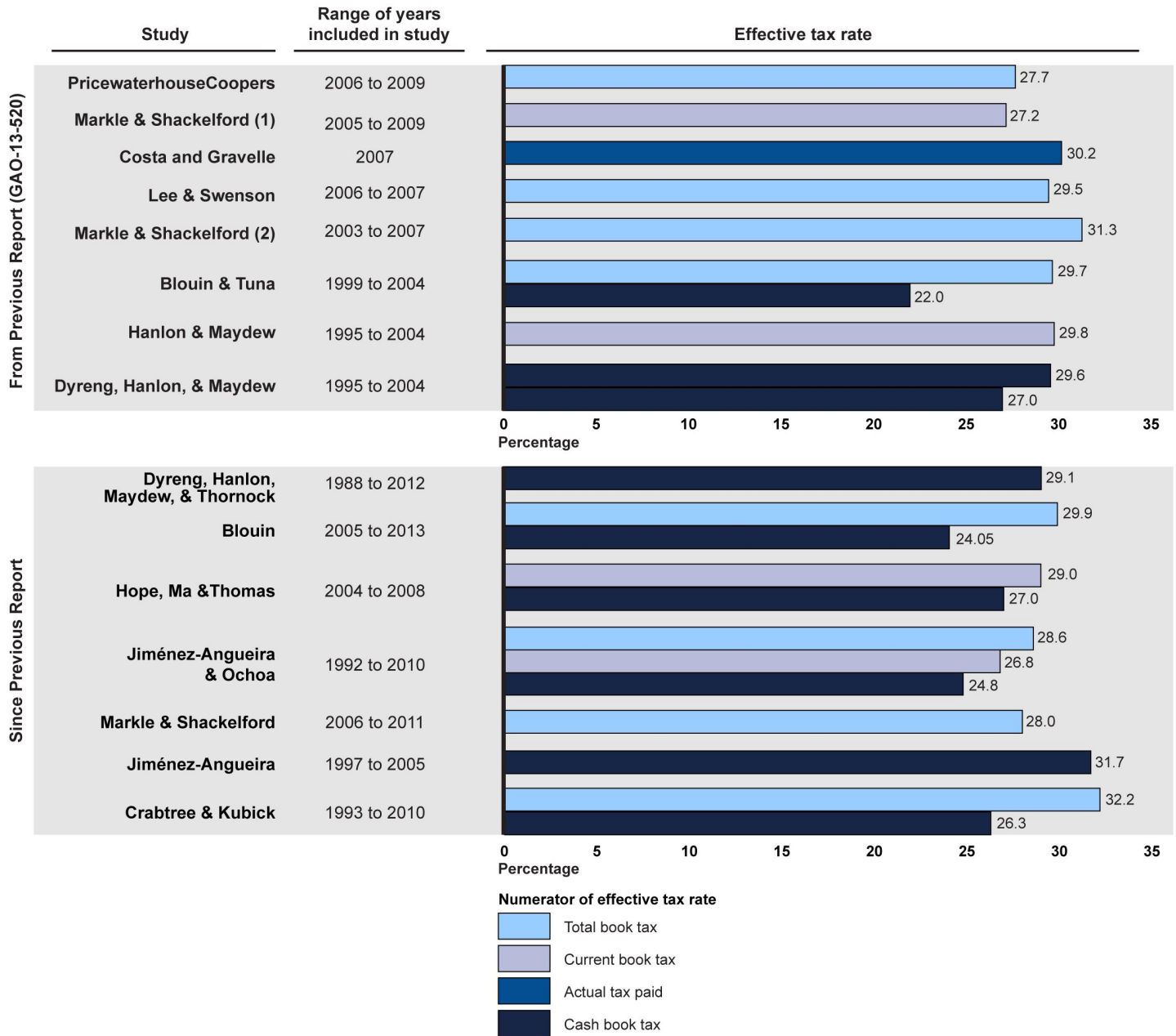
- Blouin, Jennifer. "Defining and Measuring Tax Planning Aggressiveness." *National Tax Journal*, vol. 67, no. 4. 2014:875-900.
- Hope, Ole-Kristan, Mark (Shuai) Ma, and Wayne B. Thomas. "Tax Avoidance and Geographic Earnings Disclosure." *Journal of Accounting and Economics*, vol. 56. 2013:170-189.
- Jiménez-Angueira, Carlos and Larry Ochoa, "The Determinants and Market Implications of Long-run Effective Tax Rates." *The Journal of Theoretical Accounting Research*, vol. 9.2. Spring 2014: 58-106.
- Markle, Kevin S. and Douglas A. Shackelford. *The Impact of Headquarter and Subsidiary Locations on Multinationals' Effective Tax Rates*. National Bureau of Economic Research Working Paper 19621. November 2013. Accessed October 1, 2015. <http://www.nber.org/papers/w19621>.
- Carlos Jiménez-Angueira. "The Effect of Tax Regime Changes on the Market Valuation of Tax Avoidance?" *Journal of Finance and Accountancy*, vol. 15. April 2014: 1-20.
- Crabtree, Aaron D. and Thomas R. Kubick, "Corporate Tax Avoidance and the Timeliness of Annual Earnings Announcements," *Review of Quantitative Finance and Accounting*, vol. 42. January 2014: 51-67.

As indicated in figure 5, these studies used a variety of measures of worldwide taxes for their numerator in order to calculate their respective corporate effective tax rates. Four of the seven studies we identified excluded corporations with negative book income from their ETR calculations.² It is difficult to make close comparisons between our results and estimates from those of prior studies based on financial statement data below because most of the latter estimates are averaged over multiple years for which we have no data.

²The four articles are those from Hope, Ma, and Thomas, Crabtree and Kubick, Blouin, and Dyreng, Hanlon, Maydew, and Thornock. The Blouin article removes firms with cumulative losses for the period in which effective tax rates are calculated. The Dyreng, Hanlon, Maydew, and Thornock article removes firms with negative pretax income.

**Appendix II: Summary of Selected Past
Estimates of Average Effective Tax Rates
Based on Financial Statement Data**

Figure 5: Average Effective Tax Rates for Selected Studies on U.S. Companies, Using Worldwide Pretax Net Book Income



Source: GAO analysis of selected studies. | GAO-16-363

Note: The Jiménez-Angueira study excludes 2001 to 2002 from its effective tax rate computations. The Hope, Ma & Thomas study reports effective tax rates for pre- and post-issuance of Statement of Financial Accounting Standards No.131. It also breaks out effective tax rates for firms that disclose their geographic earnings and those that do not. We report the effective tax rate from this study for

**Appendix II: Summary of Selected Past
Estimates of Average Effective Tax Rates
Based on Financial Statement Data**

firms that no longer disclose geographic earnings in the post-period because the sample of these firms is larger and the effective tax rate calculations are more recent.

Appendix III: Number and Percentage of U.S. Corporations with No Federal Income Tax Liability from Tax Years 2006 to 2012

The following two tables present data on the number of corporations with and without federal income tax liability for tax years 2006 to 2012. Data are presented for all active corporations as well as all and profitable large corporations that filed a Schedule M-3.

Table 3: Number and Percentage of All Corporations With No Tax Liability After Credits, Tax Years 2006 through 2012

	Category	Tax year						
		2006	2007	2008	2009	2010	2011	2012
All active corporations (in millions)	Number of Corporations	1.96	1.87	1.78	1.72	1.67	1.65	1.62
	Number of Corporations with No Total Income Tax After Credits	1.31	1.25	1.25	1.24	1.20	1.17	1.13
	Percentage of Corporations with No Total Income Tax After Credits	67.0%	67.1	69.9	72.0	72.0	71.1	70.1
All active corporations excluding Schedule M-3 filers (in millions)	Number of Corporations	1.91	1.82	1.74	1.68	1.63	1.61	1.58
	Number of Corporations with No Total Income Tax After Credits	1.30	1.23	1.23	1.22	1.18	1.15	1.12
	Percentage of Corporations with No Total Income Tax After Credits	67.7%	67.7	70.4	72.6	72.7	71.8	70.9

Source: GAO analysis of IRS data. | GAO-16-363

Notes: These data include forms 1120 (U.S. Corporation Income Tax Return), 1120-L (U.S. Life Insurance Company Income Tax Return), 1120-PC (U.S. Property and Casualty Insurance Company Income Tax Return), and 1120-F (U.S. Income Tax Return of a Foreign Corporation). They do not include certain "pass-through" entities, which file on forms 1120-REIT (U.S. Income Tax Return for Real Estate Investment Trusts), 1120-RIC (U.S. Income Tax Return for Regulated Investment Companies), and 1120S (U.S. Income Tax Return for an S Corporation). See <https://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Complete-Report>.

**Appendix III: Number and Percentage of U.S.
Corporations with No Federal Income Tax
Liability from Tax Years 2006 to 2012**

Table 4: Number and Percentage of All and Profitable Large Corporations (Schedule M-3 filers) with No Federal Tax Liability After Credits, Tax Years 2006 through 2012

	Category	2006	2007	2008	2009	2010	2011	2012
All large corporations	Number of Corporations	40,713	42,395	41,537	39,846	40,740	41,636	42,301
	Number of Corporations with No Total Income Tax After Credits	13,836	15,945	19,123	19,687	18,537	19,237	17,882
	Percentage of Corporations with No Total Income Tax After Credits	34.0%	37.6	46.0	49.4	45.5	46.2	42.3
Profitable large corporations	Number of Corporations	n/a	n/a	23,756	22,504	25,896	26,876	27,546
	Number of Corporations with No Total Income Tax After Credits	n/a	n/a	4,260	4,639	5,674	6,479	5,359
	Percentage of Corporations with No Total Income Tax After Credits	n/a	n/a	17.9%	20.6	21.9	24.1	19.5

Source: GAO analysis of IRS data for Schedule M-3 filers. | GAO-16-363

Notes: The Schedule M-3 data consists of Form 1120 (U.S. Corporation Income Tax Return) non-insurance returns with assets of \$10 million or more. Schedule M-3 data do not break out profitable Schedule M-3 filers before tax year 2008.

Appendix IV: Average Federal and Worldwide Effective Tax Rates for Varying Populations of Large Corporations (Schedule M-3 Filers)

The following two tables present effective tax rate estimates for all and profitable large corporations that filed a Schedule M-3. We present effective tax rates for all large corporations for tax years 2006 through 2012 and for profitable large corporations for tax years 2008 to 2012.

Table 5: Average Effective Tax Rates for Profitable Large Corporations (Schedule M-3 Filers), Tax Years 2008 through 2012

	Component	2008	2009	2010	2011	2012	2008 to 2012 (Average)
Federal Effective Tax Rates	Total book tax	20.7%	17.5	17.0	19.8	18.5	18.6
	Current book tax	17.6	13.8	13.1	15.2	17.3	15.3
	Actual tax paid	15.3	13.0	12.6	13.1	16.1	14.0
	Actual tax paid adjusted for net operating loss deduction	17.3	15.5	15.0	15.4	19.5	16.5
Worldwide Effective Tax Rates of Entities Included in the Federal Income Tax Return	Total book tax	26.2%	22.0	21.5	25.2	22.0	23.3
	Current book tax	22.8	18.0	17.4	20.2	21.1	19.8
	Actual tax paid	24.0	21.2	21.1	21.8	23.0	22.2
	Actual tax paid adjusted for net operating loss deduction	26.0	23.6	23.4	24.1	26.3	24.6

Source: GAO analysis of IRS data for Schedule M-3 filers. | GAO-16-363

Notes: The worldwide effective tax rates are based on the worldwide income and taxes—including federal, foreign, and U.S. state and local income taxes—of entities included in the federal tax return. The measure of pretax net book income used in computing these rates is equal to worldwide net book income plus the total tax expense. The foreign tax credit value is not available for that subpopulation of profitable corporations in tax year 2008 and 2009 and instead we use the sum of the current foreign tax expense and foreign withholding tax expense plus the section 78 gross-up.

**Appendix IV: Average Federal and Worldwide
Effective Tax Rates for Varying Populations of
Large Corporations (Schedule M-3 Filers)**

Table 6: Average Effective Tax Rates for All Large Corporations (Schedule M-3 Filers), Tax Years 2006 through 2012

	Component	2006	2007	2008	2009	2010	2011	2012	2006 to 2012 (Average)	2008 to 2012 (Average)
Federal Effective Tax Rates	Total book tax	25.5%	29.9	n/a	24.2	19.9	28.5	22.3	27.5	27.6
	Current book tax	25.0	30.6	n/a	22.1	16.4	22.4	21.8	25.7	24.7
	Actual tax paid	22.4	29.3	n/a	28.4	16.6	19.9	21.2	25.7	25.9
Worldwide Effective Tax Rates of Entities Included in the Federal Income Tax Return	Total book tax	31.0%	36.9	n/a	34.1	26.2	36.8	27.1	35.2	36.2
	Current book tax	30.7	37.8	n/a	31.9	22.3	30.3	27.1	33.5	33.4
	Actual tax paid	30.3	39.9	n/a	44.9	27.7	32.6	30.3	38.1	40.1

Source: GAO analysis of IRS data for Schedule M-3 filers. | GAO-16-363

Notes: The worldwide effective tax rates are based on the worldwide income and taxes—including federal, foreign, and U.S. state and local income taxes—of entities included in the federal tax return. The measure of pretax net book income used in computing these rates is equal to worldwide net book income plus the total tax expense. Effective tax rates for all corporations were not computed for tax year 2008 because pretax net book income is negative.

Appendix V: GAO Contact and Staff Acknowledgments

Contact

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Staff Acknowledgments

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Appendix VI: Accessible Data

Data Tables

Data Table for Figure 1: Federal Tax Revenues as a Percentage of Gross Domestic Product, 1950 to 2014 (2015 to 2020 Projected)

	Individual Income Taxes	Corporation Income Taxes	Social Insurance and Retirement Receipts	Excises taxes and others receipts
1950	5.6	3.7	1.6	3.2
	6.6	4.3	1.7	3.1
	7.8	5.9	1.8	3
	7.8	5.6	1.8	3.1
	7.6	5.4	1.9	3.1
	7.1	4.4	1.9	2.7
	7.3	4.8	2.1	2.8
	7.7	4.6	2.2	2.9
	7.3	4.2	2.4	2.8
	7.3	3.4	2.3	2.7
1960	7.6	4	2.7	2.9
	7.5	3.8	3	2.9
	7.8	3.5	2.9	2.8
	7.7	3.5	3.2	2.8
	7.3	3.5	3.3	2.8
	6.9	3.6	3.1	2.9
	7.1	3.8	3.3	2.6
	7.3	4.1	3.9	2.4
	7.6	3.2	3.8	2.4
	8.9	3.7	4	2.4
1970	8.6	3.1	4.2	2.4
	7.7	2.4	4.2	2.4
	7.8	2.6	4.3	2.3
	7.6	2.7	4.7	2.1
	8	2.6	5.1	2
	7.6	2.5	5.2	1.9
	7.4	2.3	5.1	1.9
	7.8	2.7	5.2	1.8
	7.9	2.6	5.3	1.6
	8.5	2.6	5.4	1.6
1980	8.7	2.3	5.6	1.8
	9.1	1.9	5.8	2.2
	9	1.5	6.1	2.1

	Individual Income Taxes	Corporation Income Taxes	Social Insurance and Retirement Receipts	Excises taxes and others receipts
	8.2	1	5.9	1.9
	7.5	1.4	6.1	1.8
	7.8	1.4	6.2	1.7
	7.7	1.4	6.3	1.6
	8.2	1.8	6.3	1.6
	7.8	1.8	6.5	1.6
	8	1.9	6.5	1.5
1990	7.9	1.6	6.4	1.5
	7.7	1.6	6.5	1.5
	7.4	1.6	6.4	1.6
	7.5	1.7	6.3	1.4
	7.5	2	6.4	1.6
	7.8	2.1	6.4	1.6
	8.2	2.2	6.4	1.5
	8.7	2.1	6.4	1.4
	9.3	2.1	6.4	1.4
	9.2	1.9	6.4	1.6
2000	9.9	2	6.4	1.6
	9.4	1.4	6.6	1.4
	7.9	1.4	6.4	1.3
	7	1.2	6.3	1.3
	6.7	1.6	6.1	1.2
	7.2	2.2	6.2	1.2
	7.6	2.6	6.1	1.2
	8.1	2.6	6.1	1.2
	7.8	2.1	6.1	1.2
	6.3	1	6.2	1.1
2010	6.1	1.3	5.8	1.5
	7.1	1.2	5.3	1.4
	7.1	1.5	5.3	1.4
	7.9	1.6	5.7	1.4
	8.1	1.9	5.9	1.6
	8.2	1.9	5.9	1.6
	8.7	2.5	5.9	1.6
	9	2.5	6	1.6

	Individual Income Taxes	Corporation Income Taxes	Social Insurance and Retirement Receipts	Excises taxes and others receipts
	9.2	2.4	6	1.6
	9.3	2.4	5.9	1.6
2020	9.4	2.3	5.9	1.7

Data Table for Highlights Figure and Figure 2: Percentage of Corporations That Reported No Tax Liability after Credits, Tax Years 2006 to 2012

	Profitable large corporations	Large corporations	All active corporations"
"2006"	No data	34	67
"2007"	No data	37.6	67.1
"2008"	17.9	46	69.9
"2009"	20.6	49.4	72
"2010"	21.9	45.5	72
"2011"	24.1	46.2	71.1
"2012"	19.5	42.3	70.1

Data Table for Figure 3: Average Federal and Worldwide Effective Tax Rates for Profitable Large Corporations (Schedule M-3 Filers), Tax Years 2008 through 2012

	Total U.S. federal book tax / pretax net book income	Book current U.S. federal tax expense / pretax net book income	Actual U.S. federal income tax paid / pretax net book income	Actual U.S. federal income tax paid / pretax net book income
"2008"	20.7	17.6	15.3	17.3
"2009"	17.5	13.8	13	15.5
"2010"	17	13.1	12.6	15
"2011"	19.8	15.2	13.1	15.4
"2012"	18.5	17.3	16.1	19.5

	Total worldwide book tax expense / pretax net book income	Book current worldwide tax expenses / pretax net book income	Actual U.S. federal and state & local income tax paid plus foreign tax credit amount / pretax net book income	Actual U.S. federal and state & local income tax paid plus foreign tax credit amount / pretax net book income
"2008"	26.2	22.8	24	26
"2009"	22	18	21.2	23.6
"2010"	21.5	17.4	21.1	23.4

	Total worldwide book tax expense / pretax net book income	Book current worldwide tax expenses / pretax net book income	Actual U.S. federal and state & local income tax paid plus foreign tax credit amount / pretax net book income	Actual U.S. federal and state & local income tax paid plus foreign tax credit amount / pretax net book income
"2011"	25.2	20.2	21.8	24.1
"2012"	22	21.1	23	26.3

Data Table for Figure 4: Average Federal and Worldwide Effective Tax Rates for All Large Corporations (Schedule M-3 Filers), Tax Years 2006 through 2012

	Total U.S. federal book tax / pretax net book income	Book current U.S. federal tax expense / pretax net book income	Actual U.S. federal income tax paid / pretax net book income
"2006"	25.5	25	22.4
"2007"	29.9	30.6	29.3
"2008"	No data	No data	No data
"2009"	24.2	22.1	28.4
"2010"	19.9	16.4	16.6
"2011"	28.5	22.4	19.9
"2012"	22.3	21.8	21.2

	Total worldwide book tax expense / pretax net book income	Book current worldwide tax expenses / pretax net book income	Actual U.S. federal and state & local income tax paid plus foreign tax credit amount / pretax net book income
"2006"	31	30.7	30.3
"2007"	36.9	37.8	39.9
"2008"	No data	No data	No data
"2009"	34.1	31.9	44.9
"2010"	26.2	22.3	27.7
"2011"	36.8	30.3	32.6
"2012"	27.1	27.1	30.3

Data Table for Figure 5: Average Effective Tax Rates for Selected Studies on U.S. Companies, Using Worldwide Pretax Net Book Income

	Total Book Tax	Current Book Tax	Actual Tax Paid	Cash Book tax
PricewaterhouseCoopers	27.7	No data	No data	No data
Markle & Shackelford (1)	No data	27.2	No data	No data
Costa and Gravelle	No data	No data	30.2	No data

Appendix VI: Accessible Data

	Total Book Tax	Current Book Tax	Actual Tax Paid	Cash Book tax
Lee & Swenson	29.5	No data	No data	No data
Markle & Shackelford (2)	31.3	No data	No data	No data
Blouin & Tuna	29.7	No data	No data	22
Hanlon & Maydew	No data	29.8	No data	No data
Dyrenge, Hanlon, & Maydew	No data	No data	No data	29.6
Dyrenge, Hanlon, & Maydew	No data	No data	No data	27
Dyrenge, Hanlon, Maydew, & Thornock	No data	No data	No data	29.1
Blouin	29.9	No data	No data	24.05
Hope, Ma & Thomas	No data	29	No data	27
Jimenez & Ochoa	28.6	26.8	No data	24.8
Markle & Shackelford	28	No data	No data	No data
Jiménez-Angueira	No data	No data	No data	31.7
Crabtree & Kubick	32.2	No data	No data	26.3

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