(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.

Another Look at Corporate Effective Tax Rates, 2004-2010

By Andrew B. Lyon

Andrew B. Lyon is a principal in the Washington National Tax Services office of PricewaterhouseCoopers LLP. He thanks Brian Meighan, Peter Merrill, Lindy Paull, and Steven Wilber for their assistance with this article.

The Government Accountability Office's May 2013 analysis of average corporate effective tax rates understated worldwide effective tax rates of U.S. corporations by primarily focusing on only 2010 — when rates were distorted from the impact of losses and write-downs reported on financial statements during the recession in advance of their recognition for tax purposes — and by omitting foreign taxes paid on foreign income distributed as dividends to the U.S. corporations. That omission alone understated the worldwide effective tax rate of corporations by 4 to 5 percentage points in 2010. Lyon provides a multiyear analysis as a more representative estimate of worldwide effective tax rates over the long term. Extending the GAO analysis to the 2004-2010 period (the entire period for which comparable data are available), the average current worldwide effective tax rate for all U.S. corporations exceeded 35 percent.

Copyright 2013 Andrew B. Lyon.
All rights reserved.

Introduction

A recent Government Accountability Office report[1] on corporate effective tax rates triggered news headlines that federal tax payments of profitable corporations (corporations with positive financial statement income) equaled only 12.6 percent of their financial statement income in 2010.[2]

This article examines the GAO findings and, using the same IRS data made available to the GAO, extends the analysis to other years and to all U.S. corporations. The impact of timing differences between the recognition of losses and write-downs for financial statement and tax purposes makes some effective tax rate measures susceptible to misinterpretation when those measures are calculated for only a short period (for example, a single year). Those timing differences were particularly significant during the 2007-2009 recession, the worst economic downturn in 80 years.[3]

After first replicating the GAO's results for 2010 and adjusting for an omission related to some foreign tax payments, this article extends the analysis to 2004-2010, representing the complete period for which the IRS data are available. The average effective tax rate — including actual federal taxes, state and local taxes, and foreign taxes — was calculated for (1) all U.S. corporations over this extended period; (2) U.S. corporations in years in which they had positive taxable income for the period 2008-2010; and (3) U.S. corporations in years in which they had positive financial statement income for the period 2008-2010 (IRS data separating companies with positive taxable income or positive financial statement income are available only beginning in 2008).

Those average effective tax rates are 36.2 percent of financial statement income for all U.S. corporations (2004-2010); 30.3 percent for U.S. corporations with positive taxable income (2008-2010); and 22 percent for companies with positive financial statement income (2008-2010).[4] As discussed in more detail below, the effective tax rates calculated for companies only for the years in which they had

---

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

[2]As described more fully below, the GAO defines effective tax rates based on several alternative measures of taxes relative to income. Only one of the measures used by the GAO corresponds to the effective tax rate measure commonly referenced for financial accounting purposes, namely, the total tax provision relative to pretax financial statement income.

[3]The impact of the recession and the omission relating to foreign tax payments are noted in Martin A. Sullivan, "Behind the GAO's 12.6 Percent Effective Corporate Rate," *Tax Notes*, July 15, 2013, p. 197. Sullivan concludes that "putting all this together, it seems reasonable not to revise the consensus view that average worldwide effective corporate tax rates are somewhere in the mid- or upper 20s when we are not in the throes of a recession." *Id.* at 199.

[4]The average effective tax rate based on the current tax provision for federal, state and local, and foreign taxes is 36.4 percent for all U.S. corporations (2004-2010); 31.1 percent for U.S. corporations with positive taxable income (2008-2010); and 22.9 percent for U.S. corporations with positive financial statement income (2008-2010).

positive income are understated relative to the longer-run average because of timing differences between financial statements and tax purposes. This understatement was particularly prominent after the 2007-2009 recession.

Source of Data for Analysis

The data used by the GAO and in this analysis are aggregated tax return information reported on Schedule M-3 as provided by the IRS. Since 2004, Schedule M-3 must be filed by corporations with assets exceeding $10 million. Schedule M-3 is primarily intended to assist the IRS in evaluating differences between (1) taxable income and (2) the income reported on the taxpayer's financial statements (book income) for entities included in the tax return. There are many differences between tax and accounting rules, including specific tax laws enacted by Congress to promote specific activities. These variations create both permanent and temporary differences between tax and book income that are presented on Schedule M-3.

Replication, Extension of GAO Findings for 2010

The first six rows of Table 1 replicate the findings by the GAO for 2010. Table 1 shows computations for all corporations and for corporations with positive book income. Effective tax rates always are higher for a sample that includes all corporations because total book income is lower when loss companies are included. Apart from one value in the table in which this article calculates a slightly higher effective tax rate than the GAO, the computational results exactly replicate the published GAO findings.[5]

The last three rows of Table 1 report the worldwide effective tax rate adjusting for an omission in the GAO study relating to some foreign tax payments. This adjustment is needed to appropriately reflect foreign taxes on dividend payments from a foreign subsidiary to its U.S. parent company. For U.S. tax purposes, the dividend is included in the parent company's taxable income, and foreign taxes paid on that income by the subsidiary are allowed as a foreign tax credit to the parent company. The amount included in the parent's taxable income is the dividend plus a gross-up for the related foreign taxes (the section 78 gross-up). To appropriately measure the total worldwide tax on foreign subsidiary dividend income, the section 78 gross-up should be included in total foreign taxes as well as in pretax book income.[6]

This adjustment results in effective tax rates 4 to 5 percentage points higher than calculated by the GAO without the section 78 gross-up, depending on the effective tax rate measure (see lines 7, 8, and 9 of Table 1).

Extension of GAO Results to 2004-2010

Table 2 extends the effective tax rate calculations for all corporations (including corporations with pretax book losses) for each year for which Schedule M-3 data are available (2004-2010).[7] The effective tax rates in Table 2 follow the definitions used in Table 1.[8]

Of the 31 effective tax rates calculable for 2004 through 2009 for all corporations (lines 1, 2, 5, and adjusted rates in lines 7, 8, and 9 of Table 2), 27 are higher than the corresponding rate in 2010. The disparity in rates illustrates that measuring effective tax rates only for one year can produce unrepresentative results. This is particularly true when the single year follows the severe 2007-2009 recession.

Weighted average effective tax rates over the seven-year period are also shown in Table 2.[9] The weighted average effective tax rates based on book income over the entire period are 6 to 9 percentage points higher than the corresponding measure for 2010. For example, the weighted average effective tax rate based on primarily actual worldwide tax payments (line 8 of Table 2) is 36.2 percent, compared with the 2010 rate of 28 percent.

A multiyear analysis of effective tax rates provides a more representative measure than a single-year analysis primarily because a multiyear average can reduce the effect of temporary book-tax differences that are anomalous or that reverse in part over the extended period and would otherwise distort the results for a single year.

The 2007-2009 recession exacerbated the impact of temporary differences between book and taxable income. The recession resulted in companies experiencing significant book and tax losses. In general,

[5]The replication calculates 22.4 percent rather than 22.3 percent for the current worldwide book-tax effective tax rate for all corporations. The difference is attributable to this paper measuring current federal book tax on Schedule M-3 as the sum of the temporary and permanent differences in Part III, line 1, columns (b) and (c), rather than the amount reported in column (a). Companies filing Schedule M-3 for the first time do not need to report an amount in column (a) of Part III, resulting in a slightly lower value in that column.

[6]I discussed this item with GAO staff after the GAO report was released in July 2013.

[7]As noted earlier, before 2008, the IRS Schedule M-3 dataset does not separately report tax information for corporations with positive taxable income or positive financial statement income.

[8]Effective tax rates are not computed for 2008 relative to financial statement income since aggregate financial statement income is negative in that year.

[9]This article calculates weighted average effective tax rates over 2004-2010 as the sum of taxes over the period divided by the sum of financial statement income over the same period.

(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.

Table 1. Replication and Extension of Effective Tax Rates Calculated by the GAO Using Schedule M-3 Data, 2010

	Effective Tax Rate Measure	All C Corporations		C Corporations With Positive Book Income	
		As Published	PwC Replication	As Published	PwC Replication
Replication of GAO	1. Current federal book tax	16.4%	16.4%	13.1%	13.1%
	2. Federal actual tax	16.6%	16.6%	12.6%	12.6%
	3. Current worldwide book tax	22.3%	22.4%	17.4%	17.4%
	4. Primarily actual worldwide tax	22.7%	22.7%	16.9%	16.9%
	5. Actual federal tax paid over taxable income	20.7%	20.7%	21.0%	21.0%
	6. Total worldwide book tax	26.2%	26.2%	21.5%	21.5%
Extension	7. Current worldwide book tax (including section 78 gross-up)	n.c.	27.6%	n.c.	21.5%
	8. Primarily actual worldwide tax (including section 78 gross-up)	n.c.	28.0%	n.c.	21.1%
	9. Total worldwide book tax (including section 78 gross-up)	n.c.	31.2%	n.c.	25.5%

Source: PricewaterhouseCoopers LLP calculations based on IRS Schedule M-3 data.
n.c. indicates measure not computed by the GAO.
Notes:
1. ''Current federal book tax'' effective tax rate is the current book provision for federal tax divided by pretax book income.
2. ''Federal actual tax'' effective tax rate is federal tax liability after credits divided by pretax book income.
3. ''Current worldwide book tax'' effective tax rate is the current book provision for federal, state and local, and foreign income plus foreign withholding tax, divided by pretax book income. This measure excludes the section 78 gross-up.
4. ''Primarily actual worldwide tax'' effective tax rate is federal tax liability after credits, plus the federal tax expense for state and local income tax, the current book provision for foreign income tax, and foreign withholding tax, divided by pretax book income. This measure excludes the section 78 gross-up.
5. ''Actual federal tax paid over taxable income'' effective tax rate is federal tax liability after credits divided by federal taxable income.
6. ''Total worldwide book tax'' effective tax rate is the current and deferred book provisions for federal, state and local, and foreign income tax, plus foreign withholding tax, divided by pretax book income. This measure excludes the section 78 gross-up.
7. ''Current worldwide book tax (including section 78 gross-up)'' effective tax rate adjusts line 3 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.
8. ''Primarily actual worldwide tax (including section 78 gross-up)'' effective tax rate adjusts line 4 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.
9. ''Total worldwide book tax (including section 78 gross-up)'' effective tax rate adjusts line 6 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.

financial accounting rules require losses to be reported before they can be claimed for tax purposes. For example, under fair value accounting, write-downs for losses generally are reported on financial statements before they are deductible for tax purposes.[10] As a result, in the first few years after a recession, it would be expected that taxable income would be less than reported for financial accounting as these differences reverse.[11]

A review of the data indicates that aggregate book income of corporations was less than taxable income in each of 2007, 2008, and 2009, and then exceeded taxable income in 2010.[12] As noted above, the reversal of timing differences arising from financial statement losses claimed in earlier years, temporary tax stimulus provisions, and the use of tax loss carryforwards attributable to losses in prior

[10]Tax policy changes also contributed to temporary differences between financial statement income and taxable income. During this period, to stimulate the economy, Congress adopted bonus depreciation and other temporary tax incentives that provided faster write-offs for capital investments than permitted for financial statements. Bonus depreciation was enacted at a 50 percent rate from January 1, 2008, to September 8, 2010, and increased to 100 percent for the remainder of 2010.

[11]Even when book losses corresponded to current-year tax losses during the recession, taxpayers may have been unable to fully use tax losses, causing the losses to be carried forward for use in a later year; this also would cause taxable income to be less than reported for financial accounting in the later year.

[12]To the extent that book-tax differences are viewed by some as a measure of tax preferences, in these years net tax ''preferences'' were actually negative.

(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.

Table 2. Extension of Effective Tax Rates Calculated by the GAO Using Schedule M-3 Data GAO Definitions

	Effective Tax Rate Measure	2004	2005	2006	2007	2008	2009	2010	Weighted Average
GAO Definitions	1. Current federal book tax	24.6%	21.5%	25.0%	30.6%	n.m.	22.1%	16.4%	25.7%
	2. Federal actual tax	20.8%	18.7%	22.4%	29.3%	n.m.	28.4%	16.6%	25.2%
	3. Current worldwide book tax	26.4%	25.7%	30.6%	37.9%	n.m.	32.0%	22.4%	32.4%
	4. Primarily actual worldwide tax	22.6%	23.1%	28.2%	36.9%	n.m.	39.8%	22.7%	32.2%
	5. Actual federal tax paid over taxable income	25.7%	25.5%	26.6%	26.0%	22.6%	21.7%	20.7%	24.3%
	6. Total worldwide book tax	28.6%	24.9%	31.0%	36.9%	n.m.	34.2%	26.2%	33.2%
Extension	7. Current worldwide book tax (including section 78 gross-up)	29.0%	28.4%	32.7%	41.0%	n.m.	38.8%	27.6%	36.4%
	8. Primarily actual worldwide tax (including section 78 gross-up)	25.3%	25.9%	30.3%	40.1%	n.m.	45.8%	28.0%	36.2%
	9. Total worldwide book tax (including section 78 gross-up)	31.1%	27.7%	33.0%	40.1%	n.m.	40.8%	31.2%	37.1%

Source: PwC calculations based on IRS Schedule M-3 data.
''n.m.'' indicates value not meaningful because total pretax book income was negative.
''Weighted Average'' includes 2008; computed as sum of tax measure across all years divided by sum of income measure across all years.
Notes:
1. ''Current federal book tax'' effective tax rate is the current book provision for federal tax divided by pretax book income.
2. ''Federal actual tax'' effective tax rate is federal tax liability after credits divided by pretax book income.
3. ''Current worldwide book tax'' effective tax rate is the current book provision for federal, state and local, and foreign income tax, plus foreign withholding tax, divided by pretax book income. This measure excludes the section 78 gross-up.
4. ''Primarily actual worldwide tax'' effective tax rate is federal tax liability after credits, plus the federal tax expense for state and local income tax, the current book provision for foreign income tax, and foreign withholding tax, divided by pretax book income.
5. ''Actual federal tax paid over taxable income'' effective tax rate is federal tax liability after credits divided by federal taxable income.
6. ''Total worldwide book tax'' effective tax rate is the current and deferred book provisions for federal, state and local, and foreign income tax, plus foreign withholding tax, divided by pretax book income. This measure excludes the section 78 gross-up.
7. ''Current worldwide book tax (including section 78 gross-up)'' effective tax rate adjusts line 3 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.
8. ''Primarily actual worldwide tax (including section 78 gross-up)'' effective tax rate adjusts line 4 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.
9. ''Total worldwide book tax (including section 78 gross-up)'' effective tax rate adjusts line 6 to include foreign taxes attributable to the section 78 gross-up in the numerator and adds these taxes to pretax book income in the denominator.

years all can reduce the effective tax rate reported in a single year. An effective tax rate based on a weighted multiyear average, by minimizing those distortions, provides a more representative measure of effective tax rates.

To the extent corporations receive the benefit of net operating loss carrybacks, the multiyear average of the effective tax rate based on actual tax payments on the originally filed return (including the measure shown in line 8 of Table 2) may overstate the true multiyear average effective tax rate of corporations because the loss will result in a refund of prior year taxes. In this respect, the effective tax rate based on the current book tax provision (line 7) may be a more appropriate measure of the multiyear effective tax rate because loss carrybacks will reduce the current book tax provision.

The average effective tax rate over the 2004-2010 period calculated using the comprehensive current financial statement measure of taxes (line 7 of Table 2) is more than 35 percent, which is higher than found in the three years before the recession, 2004-2006. This finding may suggest that some corporations have sizable amounts of NOL carryforwards arising from the recession or had other timing differences, such as financial statement write-downs, that will continue to reverse in future

(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.

Table 3. Extension of Effective Tax Rates Calculated Using Schedule M-3 Data, C Corporations With Positive Taxable Income, 2008-2010

	Effective Tax Rate Measure	Positive Tax Net Income 2008	2009	2010	Weighted Average
GAO Definitions	1. Current federal book tax	27.2%	19.6%	15.9%	20.0%
	2. Federal actual tax	25.6%	18.3%	15.1%	18.8%
	3. Current worldwide book tax	35.4%	25.7%	21.0%	26.2%
	4. Primarily actual worldwide tax	34.3%	24.8%	20.4%	25.4%
	5. Actual federal tax paid over taxable income	22.6%	21.7%	20.7%	21.6%
	6. Total worldwide book tax	37.4%	28.1%	23.5%	28.6%
Extension	7. Current worldwide book tax (including section 78 gross-up)	40.2%	30.6%	25.8%	31.1%
	8. Primarily actual worldwide tax (including section 78 gross-up)	39.2%	29.7%	25.2%	30.3%
	9. Total worldwide book tax (including section 78 gross-up)	42.0%	32.8%	28.2%	33.3%

Source: PwC calculations based on data from the IRS Statistics of Income Division.
Effective tax rates for the year include only companies with positive taxable income.
See footnotes to Table 2 for definitions of the effective tax rate measures.

Table 4. Extension of Effective Tax Rates Calculated Using Schedule M-3 Data, C Corporations With Positive Financial Statement Income, 2008-2010

	Effective Tax Rate Measure	Positive Book Net Income 2008	2009	2010	Weighted Average
GAO Definitions	1. Current federal book tax	17.6%	13.8%	13.1%	14.7%
	2. Federal actual tax	15.3%	13.0%	12.6%	13.5%
	3. Current worldwide book tax	22.8%	18.0%	17.4%	19.2%
	4. Primarily actual worldwide tax	20.8%	17.5%	16.9%	18.3%
	5. Actual federal tax paid over taxable income	n.a.	n.a.	21.0%	n.a.
	6. Total worldwide book tax	26.2%	22.0%	21.5%	23.1%
Extension	7. Current worldwide book tax (including section 78 gross-up)	26.0%	21.7%	21.5%	22.9%
	8. Primarily actual worldwide tax (including section 78 gross-up)	24.0%	21.2%	21.1%	22.0%
	9. Total worldwide book tax (including section 78 gross-up)	29.2%	25.5%	25.5%	26.6%

Source: PwC calculations based on data from the IRS Statistics of Income Division.
"n.a." indicates data not available.
Effective tax rates for the year include only companies with positive financial statement income.
See footnotes to Table 2 for definitions of the effective tax rate measures.

periods (post 2010). As those NOL carryforwards are used and timing differences from write-downs reverse, those factors may result in a decline in the effective tax rate relative to the 2004-2010 average.

The lowest effective tax rates in the GAO's analysis were based on calculations limited to corporations with positive book income in a given year. Calculating current or cash effective tax rates relative to book income only for corporations with positive book income in a given year understates true effective tax rates based on economic measures of income by failing to take into consideration book losses that the same corporations may have experienced in prior years but that did not produce a tax benefit until a later year in which they return to profitability. Further, the IRS Schedule M-3 data for profitable corporations are available only for 2008-2010. Because that period includes years most affected by the recession, the data are expected to produce unrepresentative results. Nevertheless, multiyear information for profitable corporations for the years available is included below in the interest of completeness of this article's analysis.

Table 3 presents effective tax rates for corporations for years in which they have positive taxable income during the 2008-2010 period. Table 4 presents effective tax rates for corporations for years in which they have positive book income during the

(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.

2008-2010 period.[13] The weighted average worldwide effective tax rate based on actual tax payments for companies with positive taxable income was 30.3 percent (line 8 of Table 3), and for companies with positive book income was 22 percent (line 8 of Table 4).

Conclusion

Effective tax rates calculated from Schedule M-3 data offer a unique ability to relate federal income tax payments to the book income of the same entities. However, timing differences between book income and taxable income can make a single year's analysis unrepresentative of the actual long-term effective tax rates of corporations. Further, the asymmetric treatment of companies with financial statement losses — omitting them in years in which they experience financial statement losses but including them in a year in which the related tax benefit from the loss is received — also can result in unrepresentative calculations of the average effective tax rate faced by U.S. corporations over the period.

The extension of the GAO analysis provided in this article shows that these distorting effects were significant in the years during and following the 2007-2009 recession. These results show that the 2010 effective tax rates presented in the GAO report are not representative of the long-term effective tax rates faced by corporations. Further, the analysis indicates that inclusion of other foreign taxes that were omitted from the GAO analysis results in higher corporate effective tax rates than reported by the GAO. Finally, much of the media coverage of the GAO report focused on the 2010 effective tax rate based only on federal taxes. In addition to being limited to a single year, this measure of the effective tax rate reflected only a partial picture of the taxes paid or incurred by U.S. companies because it omitted state and local taxes and foreign taxes. As shown in this analysis, the effective tax rate based on worldwide current tax payments for all U.S. corporations exceeded 35 percent for the 2004-2010 period.

---

[13] The GAO's analysis included companies with positive financial statement income but did not report effective tax rates for companies with positive taxable income.

(C) Tax Analysts 2013. All rights reserved. Tax Analysts does not claim copyright in any public domain or third party content.