

# ENTITY CHOICE AND EFFECTIVE TAX RATES

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## EXECUTIVE SUMMARY

Several years ago, under contract with the Small Business Administration, Quantria Strategies, LLC measured effective tax rates for small businesses by entity type. This effort to measure effective tax rates by business type was the first of its kind and it produced what was, for us, an unexpected finding – that S corporations had the highest effective tax rate of any entity type with gross receipts less than \$10 million.

Overall, the 2009 study found that small business sole proprietorships faced the lowest average effective tax rate at 13.3 percent. Small business partnerships faced an average effective tax rate of 23.6 percent, small business C corporations faced a 17.5 percent average effective tax rate, and small business S corporations faced an average effective tax rate of 26.9 percent.<sup>1</sup>

While many people think of the statutory tax rate when they consider the effect of federal income taxes, the reality is that the statutory tax rate does not represent the best measure of the effect of taxes on a business. Average effective tax rates are a better measure of whether a particular industry or business form faces greater or lesser federal income taxes relative to other industries or business forms.

Since release of that study, two significant tax policy changes occurred. First, adoption of the Patient Protection and Affordable Care Act imposed a new 3.8 percent tax on investment income (including some pass-through income) beginning 2013.<sup>2</sup>

Second, resolution of the fiscal cliff debate earlier this year subsequently increased the top individual marginal tax rates in two ways. The top statutory tax rate that applies to individual and pass-through business income increased from 35 percent to 39.6 percent, while the reinstatement of the Pease limitation on itemized deductions had the effect of raising top marginal tax rates by another 1.3 percent.<sup>3</sup>

Because of these changes, for the first time since 2002 the top marginal tax rate that applies to individuals and pass-through businesses is significantly higher (44.7 percent) than the top marginal tax rate that applies to C corporations (35 percent).

This study is an update to our previous work and estimates the impact of those federal income tax changes on the effective tax rates of all businesses.

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<sup>1</sup> These calculations include only those entities with positive net income for the 2004 tax year.

<sup>2</sup> Our estimates distinguish between the types of income that are subject to the tax on investment income. In general, investment income include: interest, dividends, capital gains, rental and royalty income, non-qualified annuities, income from businesses involved in trading of financial instruments or commodities, and businesses that are *passive activities to the taxpayer* (defined in section 469 of the Internal Revenue Code).

<sup>3</sup> Refer to Robert Carroll and Gerald Prante, *Long-run macroeconomic impact of increasing tax rates on high-income taxpayers in 2013*, July 2012.

As such, the study includes three key distinctions from that earlier study. First, we consider all businesses – not just those with less than \$10 million in gross receipts. Second, our effective tax rate estimates include the tax rates in effect for 2013, including the increase in the highest individual marginal tax rate from 35 to 39.6 percent, the new 3.8 percent tax on additional investment income, and the Pease phase-out of deductions for high-income taxpayers. Third, while our previous study did not include the second layer of tax paid by C corporations, this study does include the effect of corporate dividends paid on the effective tax rates of C corporations.

Considering these changes, our results remain consistent with the previous study, finding that S corporations once again face the highest effective tax rates.

<b>Effective Tax Rate Summary, by Entity Type, 2013</b> <i>(Dollars in Millions)</i>			
<b>Entity Type</b>	<b>Number of Taxpayers†</b>	<b>Net Income</b>	<b>Effective Tax Rate</b>
S Corporations	3,879,976	393,168.4	31.6%
Partnerships	2,833,699	226,427.4	29.4%
C Corporations	814,837	1,778,597.1	17.8%
Non-Farm Sole Proprietorships	21,978,470	425,399.1	15.1%
Source: Quantria Strategies, LLC Individual Income Tax Simulation Model, 2013 and IRS Corporate Source Book, 2010			
†Consistent with most studies that measure effective tax rates, these calculations include only businesses with positive net income.			

To calculate effective tax rates, the study uses tax rather than book data. For the numerator, the study uses actual taxes paid or accrued for the current period, including taxes paid to foreign jurisdictions, while the denominator is net income reported on tax returns (before statutory deductions) less state taxes paid. The calculations use worldwide income and include only those businesses reporting positive income for the period.<sup>4</sup>

<sup>4</sup> For comparison purposes, we also calculated the estimated effective tax rates for C corporations without consideration of foreign earnings and the foreign tax credit. This measure provides an alternative view of the average effective tax rates, indicating that C corporations have an average effective tax rate from domestic sources of 27.1 percent. Refer to Appendix B for a fuller explanation of the C corporation calculations.

## I. ENTITY CHOICE AND EFFECTIVE TAX RATES

While many people think of the statutory tax rate when they consider the effect of federal income taxes, the reality is that the statutory tax rate does not represent the best measure of the effect of taxes on a business. Instead, a better measure examines the effective tax rates that businesses face.

Under the federal income tax system, a progressive statutory rate structure applies to income of businesses and individuals. Pass-through businesses – sole proprietorships, partnerships, S corporations, and limited liability companies – are subject to tax at the individual owner level. C corporations face taxes once at the corporate level through the payment of the corporate income tax, and again to the individual owner through the payment of corporate dividends or capital gains.<sup>5</sup>

Measuring the effect of federal income taxes on business income presents a complex task with a variety of ways to quantify the effect, of which effective tax rates are one. There are two general measures of effective tax rates – average effective tax rates and marginal effective tax rates. Average effective tax rates provide a measure of the overall effect of taxes on business income, whereas marginal effective tax rates generally measure the effect of taxes on a specific investment.

In recent years (and weeks), studies measuring the average effective tax rate of U.S. businesses have garnered the attention of policymakers and the media alike.<sup>6</sup> These studies focus on C corporations only, omitting those businesses structured as sole proprietorships, partnerships, or S corporations. Yet the importance of pass-through businesses to the U.S. economy is uniquely large and worthy of study. Pass-through businesses constitute 95 percent of all business entities (refer to Table 1, page 8) and are a significant source of employment and investment in the United States.

This study provides a comprehensive look at the effects of the federal income tax system on all businesses in the United States. It builds on similar work we conducted in 2009 that focused on businesses with gross receipts under \$10 million.<sup>7</sup> This report replicates this analysis, but includes businesses of all sizes. The methodology undertaken in this study traces the income tax to the source of the tax for pass-through businesses (i.e., to the individual tax system). In addition, the study includes effective tax rates for C corporations for comparison purposes.

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<sup>5</sup> The C corporation effective tax rate should consider not only the federal income taxes paid directly by the corporation, but also the federal individual income taxes paid on corporate dividends distributed to shareholders. We discuss this issue more completely in Section 2.

<sup>6</sup> Refer to United States General Accountability Office, *Corporate Income Tax, Effective Tax Rates Can Differ Significantly from the Statutory Rate*, GAO-13-520, May 2013.

<sup>7</sup> Refer to *Effective Federal Income Tax Rates Faced by Small Businesses in the United States*, by Quantria Strategies, LLC for the Small Business Administration, under contract number SBAHQ-07-Q-0012, April 2009.

This study differs from our previous analysis in that it incorporates the new tax rates in effect for 2013 to measure their impact on pass-through business effective tax rates.<sup>8</sup> We rely on recently enacted tax law changes in The American Taxpayer Relief Act of 2012 that took effect on January 1<sup>st</sup> of this year. These changes include:

- (1) an increase in the top individual income tax rate to 39.6 percent for married taxpayers with incomes above \$450,000 and single taxpayers with incomes above \$400,000;
- (2) a new 20 percent tax rate on income from capital gains and qualified dividends for taxpayers whose income exceeds those same thresholds;
- (3) the phase-out of itemized deductions (the “Pease” limitation) for taxpayers with incomes above \$300,000;
- (4) an increase in the exemption amount for the Alternative Minimum Tax (AMT) to \$50,600 (\$78,750 for joint returns) in 2012 and indexed for inflation thereafter;
- (5) extension of Section 179 expensing amounts;
- (6) extension and modification of bonus depreciation; and
- (7) modifications to the tax credit for research and experimentation expenses.

In addition to these tax law changes in the American Taxpayer Relief Act of 2012, our study incorporates the effects of the additional 3.8 percent tax on certain investment income implemented as part of the Patient Protection and Affordable Care Act.

To derive our results, we combined data contained on federal income tax returns of corporations and individuals and used an integrated methodological framework that allows for a comparison of the effects of these taxes across different taxpayer groups.

In the case of pass-through businesses, we follow business income as it passes through to the individual owner to calculate the actual tax rates that apply to this business income. We examine publicly available tax return information that identifies separately income from partnerships and S corporations. The tax return data also provides information that permits the calculation of effective tax rates incurred by sole proprietorships.

For businesses organized as C corporations, the analysis uses detailed tabulations of corporate income, deductions, and taxes made available by the Internal Revenue Service (IRS). In addition to the corporate-level tax, the study includes the second layer of tax paid out as dividends.<sup>9</sup>

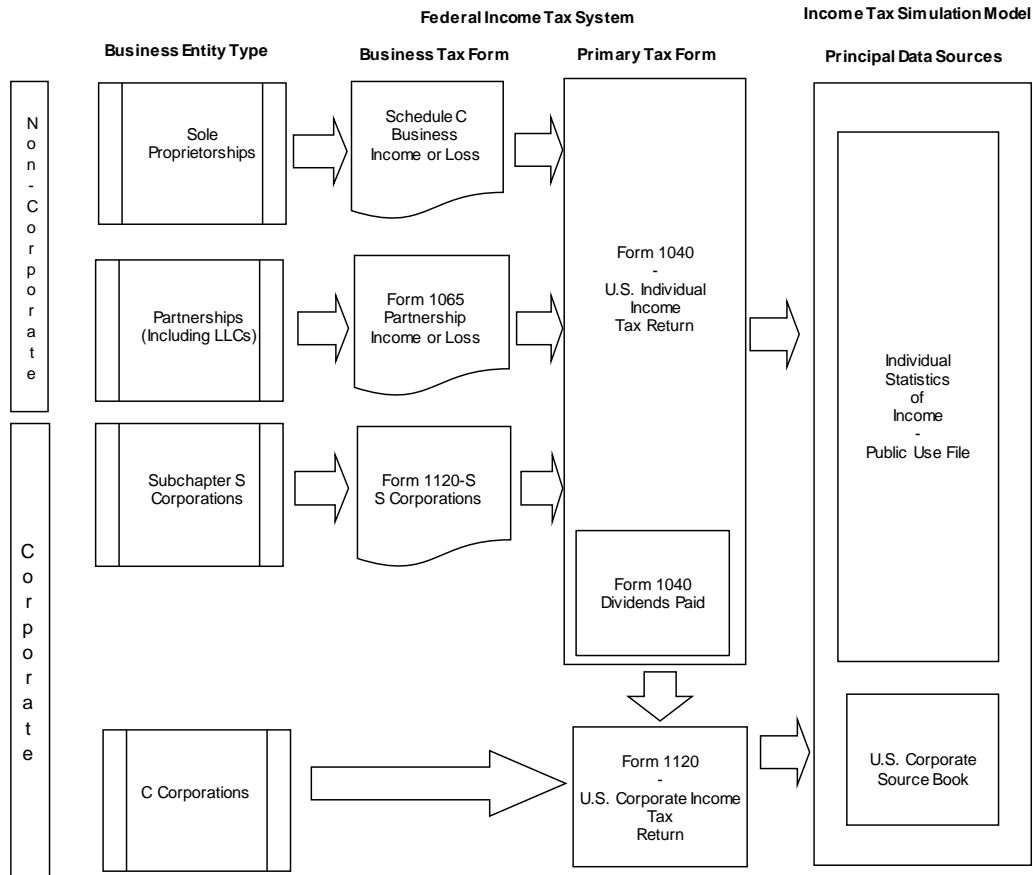
Figure 1 summarizes how businesses interact with the federal income tax system, and the forms and schedules that businesses must file, as well as the source of the data and how the simulation model uses the data to calculate effective tax rates.

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<sup>8</sup> In addition, we update our calculations to reflect the income and deductions of businesses for tax year 2013 by relying on the most recent economic forecast from the Congressional Budget Office.

<sup>9</sup> Due to the lack of available data, the analysis does not include the second layer of tax paid on capital gains.

Figure 1. Schematic of Federal Income Tax Flows and Calculation of Effective Tax Rates



### A. Federal Income Taxes by Form of Business

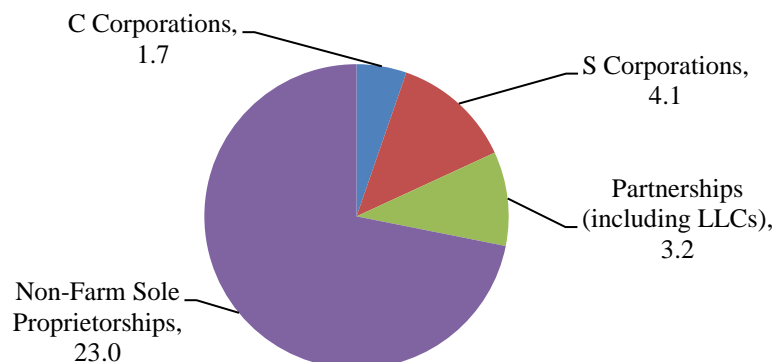
Business organization can take several forms – the choice of business form affects both the application of the federal income tax system as well as the application of state and federal laws relating to the liability, ownership, and management requirements of the business.

Overall, in 2010, there were approximately 32 million businesses in the United States, of which less than 2 million were C corporations.<sup>10</sup> The remainder organized in the various forms of pass-through business – sole proprietorships, partnerships, and S corporations.

<sup>10</sup> Refer to current statistics from the Internal Revenue Service, Statistics of Income Division, available online at [www.irs.gov](http://www.irs.gov).

**Graph 1 U.S. Business Returns Distributed by Entity Type, 2010**  
(Millions of Returns)

Source: Internal Revenue Service, Statistics of Income, 2010



Pass-through entities are not subject to the corporate federal income tax, but instead “pass” the business profits through to the owners of the business. This income is subject to tax when earned, not when distributed. In other words, the owners of the pass-through must recognize as income all business profits regardless of whether they receive a distribution of this income.

Corporations, on the other hand, are subject to federal income tax on their income. In addition, the owners of corporations may also be subject to federal income tax on business profits that they receive from the corporation, often called the second layer of tax on corporate profits.

The following summarizes the federal income tax implications of the forms of business commonly used by businesses:<sup>11</sup>

**Sole Proprietorships** – A sole proprietor is an individual who runs an unincorporated business on his or her own. Sole proprietors are the most familiar and common type of small business in the United States. Sole proprietors report income and deductions on their individual federal income tax returns (Form 1040, Schedule C (Profit or Loss from Business) or Schedule F (Profit or Loss from Farming)).

**Partnerships** – A partnership is a group of entities (e.g., individuals or businesses) that organize to do business together. Each partner contributes money, property, labor, or skill and shares in the profits of the business. Partnerships are referred to as pass-through entities because the partnership is not separately subject to federal income tax. Instead, income from the partnership is passed-through (allocated) to each partner according to agreed-upon rules and taxed at the partner’s tax rate. The partnership files an annual information return (Form 1065) to report the income, deduction, gains, and losses from the business. The individual partners report their

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<sup>11</sup> For purposes of this study, we exclude certain business entities that, while technically considered as pass-through entities, are sufficiently distinguished from the ordinary businesses that form the basis of our study. These include Regulated Investment Companies (RICs) and Real Estate Investment Trusts (REITs). Certain publicly traded partnerships, including Master Limited Partnerships (MLPs), are included in the partnership totals.

partnership income on their individual income tax returns (Form 1040, Schedule E (Supplemental Income and Loss)).

**S Corporations** – S corporations are corporations that are afforded the benefits of limited liability like C corporations (see below), but can elect to be treated as a pass-through entity for federal income tax purposes. To be eligible for S corporation status, a business must (1) be a domestic corporation; (2) have no more than 100 shareholders; (3) have shareholders that are only individuals, estates, certain tax-exempt organizations, and certain trusts; (4) have no nonresident alien shareholders; (5) have only one class of stock; (6) must not be an insurance company, a possessions corporation, or a domestic international sales corporation; and (7) meet certain other requirements. S corporations must file Form 1120S (U.S. Income Tax Return for an S Corporation).

Individual shareholders of S corporations include their share of the corporation's separately stated items of income, deduction, loss, and credit, and their share of non-separately stated income or loss on their individual income tax returns (Form 1040, Schedule E (Supplemental Income and Loss)), whether or not the income is distributed to them.

**Limited Liability Companies (LLC)** – Limited liability companies are relatively new business structures authorized under state laws. Owners of an LLC, like a corporation, have limited personal liability, but other features of an LLC function more like a partnership, such as the flow-through treatment of LLC owner income.

If an LLC has only one owner (referred to as a “member”), the fact that it is an LLC is ignored for federal tax purposes. If the single member is an individual, the LLC income and expenses are reported on Form 1040, Schedule C, E, or F. If the single member is a corporation, the LLC income and expenses are reported on the corporation's return (Form 1120 or Form 1120S). If an LLC has more than one member, most LLCs file a partnership return (Form 1065) and flow through the income and expenses of the LLC to the members. A multiple member LLC could also elect to be taxed as a corporation.

**C Corporations** – C corporations are formed when prospective shareholders exchange money, property, or both in exchange for capital stock of the C corporation. For federal income tax purposes, a C corporation is a separate taxable entity subject to the corporate income tax. The C corporation files a corporate income tax return (Form 1120 or Form 1120A) and pays federal corporate income tax on its income. The corporate income is also taxed again to the C corporation shareholders when the income is distributed to them in the form of dividends (reported on Form 1040 and Schedule B) or capital gains (from the sale of their stock or liquidation of the corporation). The C corporation generally is not entitled to deduct the dividends that it distributes to its shareholders.

***Growth of Businesses by Entity Type over Time*** – Since 1978, the number of business tax returns filed by C corporations and farms has declined. On the other hand, there has been significant growth in the number of sole proprietorships, limited liability companies, and S corporations filing business tax returns. Table 1 shows the changes in the number of businesses in the United States by entity type since 1978.



<b>Year</b>	<b>Sole Props<sup>1</sup></b>	<b>C Corps</b>	<b>S Corps</b>	<b>Partnerships and LLCs<sup>2</sup></b>	<b>Total</b>
1978	8,908	1,898	479	1,234	12,519
1979	9,344	2,042	515	1,300	13,200
1980	9,730	2,165	545	1,380	13,820
1981	9,585	2,271	541	1,461	13,858
1982	10,106	2,362	564	1,514	14,546
1983	10,704	2,351	648	1,542	15,245
1984	11,262	2,469	701	1,644	16,077
1985	11,929	2,552	725	1,714	16,919
1986	12,394	2,602	826	1,703	17,525
1987	13,091	2,484	1,128	1,648	18,351
1988	13,679	2,306	1,257	1,654	18,896
1989	14,298	2,205	1,423	1,635	19,561
1990	14,783	2,142	1,575	1,554	20,053
1991	15,181	2,105	1,697	1,515	20,498
1992	15,495	2,084	1,785	1,485	20,849
1993	15,848	2,063	1,902	1,468	21,280
1994	16,154	2,319	2,024	1,494	21,990
1995	16,424	2,321	2,153	1,581	22,479
1996	16,955	2,327	2,304	1,654	23,241
1997	17,176	2,258	2,452	1,759	23,645
1998	17,398	2,261	2,588	1,855	24,103
1999	17,576	2,210	2,726	1,937	24,448
2000	17,903	2,185	2,860	2,058	25,006
2001	18,338	2,149	2,986	2,132	25,606
2002	18,926	2,112	3,154	2,242	26,434
2003	19,710	2,060	3,342	2,375	27,487
2004	20,591	2,040	3,518	2,547	28,696
2005	21,468	1,987	3,684	2,764	29,902
2006	22,075	1,968	3,873	2,947	30,863
2007	23,123	1,879	3,990	3,096	32,088
2008	22,614	1,797	4,050	3,146	31,608
2009	22,660	1,730	4,095	3,169	31,653
2010	23,004	1,687	4,128	3,248	32,067

<sup>1</sup> Some sole proprietorship returns represent single member LLCs.  
<sup>2</sup> This figure does not include LLCs filing partnership returns.  
Source: IRS Statistics of Income

Table 1 shows that, from the period 1978 to 2010, the total number of business income tax returns increased by 156 percent from 12.5 million to 32.0 million. The majority of the increase (approximately 14 million) represents increases in the number of sole proprietorships. In addition, partnerships and S corporations showed significant increases, from 1.2 to 3.2 million in the case of partnerships (including LLCs), and from 479,000 to 4.1 million in the case of S corporations. During this period, the number of C corporations increased and then decreased below their initial level to 1.7 million.

These increases are primarily attributable to changes in law that made these forms of entities more attractive. Changes in state laws that allowed for the formation of limited liability companies and modifications to federal law to allow these entities to operate as pass-through entities for federal income tax purposes encouraged the growth in LLCs. The increase in the number of S corporation returns is attributable to a number of factors, including a reduction in the marginal tax rates, changes in the law that increased the number of permitted S corporation shareholders, and other changes that made it easier for corporations to qualify for S corporation status.

## B. Federal Income Tax Rates

The U.S. federal income tax system (individual and corporate) uses graduated tax rates that increase as taxable income increases. With the expiration of the 2001 and 2003 tax cuts at the end of last year, the maximum statutory individual tax rate exceeds the maximum statutory tax rate for corporations for the first time in a decade. Table 2 details the statutory tax rates that a C corporation faces and Table 3 details the statutory tax rates that pass-through entities face on their taxable incomes.

<b>If Taxable Income Is:</b>	<b>Then the Income Tax Rate Is:</b>
\$0 – \$50,000	15%
\$50,001 – \$75,000	25%
\$75,001 – \$10,000,000	34%
Over \$10,000,000	35%

As shown in these tables, the maximum statutory C corporation tax rate (35 percent) applies to C corporations with taxable income above \$10 million. In contrast, the maximum statutory individual tax rate applicable to pass-through businesses (39.6 percent) applies to partner, member, or shareholder incomes above \$400,000 for single taxpayers and \$450,000 for married taxpayers.<sup>12</sup>

<b>If Taxable Income Is:</b>	<b>Percent on Excess</b>	<b>If Taxable Income Is:</b>	<b>Percent on Excess</b>
<b>Single Taxpayers</b>		<b>Married Taxpayers Filing Jointly</b>	
\$0 – \$8,925	10%	\$0 – \$17,850	10%
\$8,926 – \$36,250	15%	\$17,851 – \$72,500	15%
\$36,251 – \$87,850	25%	\$72,501 – \$146,400	25%
\$87,851 – \$183,250	28%	\$146,401 – \$223,050	28%
\$183,251 – \$398,350	33%	\$223,051 – \$398,350	33%
\$398,351 – \$400,000	35%	\$398,351 – \$450,000	35%
\$400,001 or more	39.6%	\$450,001 or more	39.6%

<sup>12</sup> The fact that C corporations earning between \$75,000 and \$10,000,000 pay a marginal rate of 34 percent or nearly the maximum C corporation rate mitigates this large difference.

<b>If Taxable Income Is:</b>	<b>Percent on Excess</b>	<b>If Taxable Income Is:</b>	<b>Percent on Excess</b>
<b>Head of Household</b>		<b>Married Taxpayers Filing Separately</b>	
\$0 – \$12,750	10%	\$0 – \$8,925	10%
\$12,751 – \$48,600	15%	\$8,926 – \$36,250	15%
\$48,601 – \$125,450	25%	\$36,251 – \$73,200	25%
\$125,451 – \$203,150	28%	\$73,201 – \$111,525	28%
\$203,151 – \$398,350	33%	\$100,526 – \$199,175	33%
\$398,351 – \$425,000	35%	\$199,176 – \$225,000	35%
\$425,001 or more	39.6%	\$225,001 or more	39.6%

Other taxes apply to pass-through business income as well. The alternative minimum tax (AMT) is a means by which the tax system limits the ability to use certain tax deductions. Table 4 shows the minimum tax rates as applied to alternative minimum taxable income (AMTI).

While there is a corporate AMT, the structure differs from the individual AMT and affects less business income. A recent Ernst & Young study highlights the impact that the individual AMT has on the taxation of pass-through business income, particularly for those businesses with higher-income owners. The study found that of the 2.1 million S corporation shareholders projected to earn enough income to pay the top two individual income tax rates in 2013, 1.2 million of those shareholders are subject to the AMT.<sup>13</sup>

First \$175,000 of AMTI in excess of the applicable exemption amount	26%
Any amount of AMTI above \$175,001	28%

The net investment income tax (NIIT), created by the Congress as part of health care reform, is another tax that individual taxpayers will face for the first time in 2013. The NIIT is a new 3.8 percent tax applied on the lesser of net investment income or the excess of your modified adjusted gross income over the amount listed Table 5, based on filing status.

The NIIT is imposed on the pass-through business income of some business owners, as well as the dividends paid to and the capital gains realized by some C corporation shareholders.

<b>3.8 percent applies to amounts above the threshold</b>	<b>Threshold Amount</b>
Married filing jointly/Qualifying Widow(er) with dependent child	\$250,000
Married filing separately	\$125,000
Single/ Head of Household	\$200,000

<sup>13</sup> Refer to Carroll, Robert and Gerald Prante, *The Flow-Through Business Sector and Tax Reform*, Prepared for the S Corporation Association, Ernst & Young LLP, April 2011 and Carroll, Robert and Gerald Prante, *Long-run macroeconomic impact of increasing tax rates on high-income taxpayers in 2013*, July 2012.

Collectively, these tax changes suggest that pass-through entities will face a higher effective tax rate than in previous years.

### C. Business Deductions

Effective tax rates are the result of the interaction between the statutory tax rates measured above together with the allowable business deductions, credits, and allowances. Use of these provisions differs significantly by size of business and by entity type. The following tables provide a breakdown of the business deductions claimed by sole proprietorships, partnerships, LLCs, S corporations, and C corporations.

***Sole Proprietorships*** – Data from the IRS provides information on the sources of business expenses for sole proprietorships. In 2010, there were approximately 23 million businesses organized as sole proprietorships. These businesses claimed a total of \$929 billion of deductions on individual income tax returns.

<b>Deduction Category</b>	<b>Total Amount (millions)</b>	<b>Average Amount</b>
<b>Total Deductions</b>	\$928,963	\$40,383
Cost of Sales and Operations	366,789	15,945
Advertising expenses	13,259	576
Car and truck expenses	73,255	3,184
Commissions	12,235	532
Contract labor	34,439	1,497
Depletion	912	40
Cost Recovery (includes expensing and sec. 179)	35,124	1,527
Employee benefit programs	3,010	131
Home office business deductions	10,420	453
Insurance	16,300	709
Legal and professional services	10,160	442
Meals and entertainment deducted	7,997	348
Mortgage interest	4,929	214
Other interest paid on business indebtedness	6,210	270
Office expenses	11,678	508
Pension and profit-sharing plans	1,045	45
Rent on machinery and equipment	8,185	356
Rent on other business property	33,366	1,450
Repairs	14,898	648
Supplies	73,719	3,205
Salaries and wages	29,724	1,292
Taxes paid	17,698	769
Travel	11,795	513
Utilities	24,416	1,061
Other business deductions	103,572	4,502

**Partnerships and Limited Liability** – In 2010, there were approximately 3.2 million partnerships and limited liability corporations.<sup>14</sup> Table 7 provides an overview of the sources of partnership business deductions for 2010.

<b>Table 7 – Components of Partnership Business Deductions, 2010</b>		
<i>[Source: IRS Statistics of Income]</i>		
<b>Deduction Category</b>	<b>Total Amount (millions)</b>	<b>Average Amount</b>
<b>Total Deductions</b>	\$4,026,378	\$1,239,465
Cost of goods sold	2,335,999	719,105
Salaries and wages	405,359	124,784
Guaranteed payments to partners	50,008	15,394
Rent paid	78,353	24,120
Interest paid	85,862	26,432
Taxes and licenses	63,288	19,482
Bad debts	32,607	10,038
Repairs and maintenance	23,504	7,235
Cost Recovery (includes expensing and sec. 179)	130,061	40,037
Depletion	1,137	350
Retirement plans, etc.	10,813	3,328
Employee benefit programs	28,668	8,825
Net loss from other partnerships and fiduciaries	64,606	19,888
Farm net loss	6,350	1,955
Net loss, noncapital assets	6,805	2,095
Other deductions	702,958	216,396

Compared to sole proprietorships, with average deductions per entity of \$40,000, partnerships have average total deductions of \$1.2 million. This suggests that partnerships tend to be much larger entities than sole proprietorships. The top three business deductions for partnerships were salaries and wages, depreciation, and interest paid.

**S Corporations** –There were approximately 4.1 million S corporation tax returns filed in the U.S. during tax year 2010. Overall, S corporations reported that the cost of goods sold was the largest business deduction accounting for approximately 64 percent of total deductions. Compensation of officers and salaries and wages comprised collectively about 16 percent of total deductions. The remaining business deductions were relatively smaller. Table 8 presents the total and average business deductions claimed by S corporations.

<sup>14</sup> There are a relatively small number of foreign partnerships and entities classified as other partnerships for data purposes.

<b>Table 8 – Components of S Corporation Business Deductions, 2010</b> <i>[Source: IRS Statistics of Income]</i>		
<b>Deduction Category</b>	<b>Total Amount (millions)</b>	<b>Average Amount</b>
<b>Total deductions (all industries)</b>	\$4,211,960	\$1,719,245
Cost of goods sold	2,690,747	1,098,314
Compensation of officers	179,517	73,276
Salaries and wages	472,977	193,060
Repairs	26,670	10,886
Bad debts	9,2356	3,770
Rent paid on business property	114,546	46,756
Taxes paid	89,039	36,344
Interest paid	30,190	12,323
Amortization	6,719	2,743
Cost Recovery (includes expensing and sec. 179)	59,124	24,133
Depletion	443	181
Advertising	37,602	15,348
Pension, profit-sharing, stock, annuity	18,995	7,753
Employee benefit programs	42,830	17,482
Net loss, noncapital assets	594	243
Other deductions	432,733	176,634

**C Corporations** – There were approximately 1.7 million C corporation tax returns filed in the United States for the 2010 tax year. The business deductions reported by C corporations were similar to those reported by S corporations.

Overall, the cost of goods sold was the largest business deduction for C corporations accounting for approximately 60 percent of their total deductions. Similarly, compensation of officers and salaries and wages comprised collectively about 11 percent of total deductions as the next largest category of business deduction. However, unlike some of the other business entities, one other category of business deduction – interest paid – was prominent for C corporations comprising approximately 4 percent of the total deductions.<sup>15</sup> The business deductions claimed by C corporations were relatively smaller for the remaining categories. Table 9 presents the total and average business deductions claimed by C corporations.

<b>Table 9 – Components of C Corporation Business Deductions, 2010</b> <i>[Source: IRS Statistics of Income]</i>		
<b>Deduction Category</b>	<b>Total Amount (millions)</b>	<b>Average Amount</b>
<b>Total Deductions (all industries)</b>	\$17,410,073	\$10,556,134
Cost of goods sold	9,925,895	6,018,302
Compensation of officers	208,885	126,652
Salaries and wages	1,777,318	1,077,630
Repairs	132,934	80,601
Bad debts	279,167	169,266

<sup>15</sup> The greater proportion of interest expenses for C corporations may represent the prevalence of debt financing.

**Table 9 – Components of C Corporation  
Business Deductions, 2010**

*[Source: IRS Statistics of Income]*

<b>Deduction Category</b>	<b>Total Amount (millions)</b>	<b>Average Amount</b>
Rent paid on business property	297,473	180,365
Taxes paid	342,142	207,449
Interest paid	765,304	464,022
Charitable contributions	15,343	9,303
Amortization	165,742	100,493
Cost Recovery (includes expensing and sec. 179)	612,868	371,596
Depletion	21,521	13,048
Advertising	196,931	119,404
Pension, profit-sharing, stock, annuity	133,772	81,109
Employee benefit programs	259,160	157,134
Net loss, noncapital assets	59,322	35,968
Other deductions	2,191,929	1,329,018

## II. EFFECTIVE TAX RATE ESTIMATES

### A. Summary of Results by Entity Type

Businesses in the United States pay an estimated average effective tax rate of approximately 21.3 percent.<sup>16</sup> Non-farm sole proprietorships pay the lowest effective rate of tax (15.1 percent), while S corporations pay the highest. Table 10 summarizes the effective tax rate calculations for businesses by entity type.

<b>Table 10 – Effective Tax Rate Summary, by Entity Type, 2013</b>			
Entity Type	Number of Taxpayers†	Net Income	Effective Tax Rate
S Corporations	3,879,976	393,168.4	31.6%
Partnerships	2,833,699	226,427.4	29.4%
C Corporations	814,837	1,778,597.1	17.8%
Non-Farm Sole Proprietorships	21,978,470	425,399.1	15.1%
<small>Source: <i>Quantria Strategies, LLC Individual Income Tax Simulation Model, 2013 and IRS Corporate Source Book, 2010</i>            †Consistent with most studies that measure effective tax rates, these calculations include only businesses with positive net income.</small>			

### B. Detailed Effective Tax Rate Results by Entity

This study measures average effective tax rates by size of net income to give a better perspective on the progressivity of the federal tax system on business and provide a comparison between the relative income tax burdens by the size of the business.

Table 11 breaks down the estimated taxes paid by non-farm sole proprietorships for 2013 and shows, as you would expect, that most sole proprietorships (approximately 63 percent) have little income (less than \$10,000) and pay roughly 11.1 percent in income taxes. Tax burdens for sole proprietorships generally rise with net income and the largest sole proprietors (above \$200,000) pay the highest average effective rate of tax, 24.4 percent.<sup>17</sup>

<sup>16</sup> This figure comes from the Quantria Strategies, LLC individual income tax microsimulation model of individual taxpayers, supplemented with selected tabular, cell-based data on the net income and taxes of C corporations. The use of microsimulation permits the accurate measurement of the tax liabilities reported on individual income tax returns by sole proprietors, partners of partnerships, and shareholders of S corporations.

<sup>17</sup> This figure corresponds to other estimates of the average effective tax rate of a large U.S. corporation. Refer to the U.S. Government Accountability Office, *Corporate Income Tax, Effective Tax Rates Can Differ Significantly from the Statutory Rate*, No. GAO-13-520.



<b>Table 11 – Estimated Effective Tax Rates for Non-Farm Sole Proprietorships, by Size of Schedule C Net Income, 2013</b> <i>(Dollar Amounts in Millions)</i>			
<b>Size of Net Income</b>	<b>Number of Taxpayers†</b>	<b>Net Income</b>	<b>Effective Tax Rate</b>
Less than \$10,000	13,867,532	32,039.9	11.1%
\$10,000 to \$20,000	3,284,077	47,111.8	7.8%
\$20,000 to \$30,000	1,489,080	36,448.7	9.0%
\$30,000 to \$40,000	932,861	32,304.7	9.6%
\$40,000 to \$50,000	514,690	22,980.2	11.0%
\$50,000 to \$75,000	755,955	45,608.7	12.2%
\$75,000 to \$100,000	339,307	29,314.1	14.4%
\$100,000 to \$200,000	514,338	70,459.0	16.7%
\$200,000 or more	280,629	109,131.9	24.4%
<b>Total All Returns</b>	<b>21,978,470</b>	<b>425,399.1</b>	<b>15.1%</b>
<i>Source: Quantria Strategies, LLC Individual Income Tax Simulation Model, May 2013</i>			
<i>† These calculations include only businesses with positive net income.</i>			

Table 12 shows the same breakdown of federal income taxes for partnerships. While the tax structure is generally progressive for partnerships, there are some noticeable gaps. As with sole proprietorships, the lowest income group pays a tax rate that is higher than those immediately above it. One explanation for this result is that, for less profitable enterprises, the partnership income in question is just a fraction of the business owner's total income. Because the microsimulation model assumes a stacking order, business income effectively is subject to tax last, imposing higher marginal rates to this income.

<b>Table 12 – Estimated Effective Tax Rates for Partnerships, by Size of Schedule E, Part II Net Income, 2013</b> <i>(Dollar Amount in Millions)</i>			
<b>Size of Net Income</b>	<b>Number of Taxpayers†</b>	<b>Net Income</b>	<b>Effective Tax Rate</b>
Less than \$10,000	1,791,083	1,689.9	21.2%
\$10,000 to \$20,000	169,161	2,410.5	16.7%
\$20,000 to \$30,000	109,872	2,732.8	17.0%
\$30,000 to \$40,000	89,180	3,109.6	16.9%
\$40,000 to \$50,000	88,418	3,965.7	17.7%
\$50,000 to \$75,000	108,505	6,660.5	18.6%
\$75,000 to \$100,000	80,468	7,085.5	17.1%
\$100,000 to \$200,000	153,396	22,209.7	21.9%
\$200,000 or more	243,616	176,563.2	32.1%
<b>Total All Returns</b>	<b>2,833,699</b>	<b>226,427.4</b>	<b>29.4%</b>
<i>Source: Quantria Strategies, LLC Individual Income Tax Simulation Model, May 2013</i>			
<i>† These calculations include only taxpayers with positive net partnership income.</i>			

Table 13 examines S corporations, the entity type with the highest estimated average effective tax rate among business entity types.

<b>Table 13 – Estimated Effective Tax Rates for S Corporations, by Size of Schedule E, Part II Net Income, 2013</b> <i>(Dollar Amounts in Millions)</i>			
<b>Size of Net Income</b>	<b>Number of Taxpayers†</b>	<b>Net Income</b>	<b>Effective Tax Rate</b>
Less than \$10,000	1,882,405	2,584.7	19.2%
\$10,000 to \$20,000	312,962	4,631.3	19.0%
\$20,000 to \$30,000	215,087	5,348.1	19.4%
\$30,000 to \$40,000	184,942	6,466.6	19.4%
\$40,000 to \$50,000	139,921	6,364.9	19.3%
\$50,000 to \$75,000	298,927	18,407.4	19.0%
\$75,000 to \$100,000	170,656	14,867.0	20.9%
\$100,000 to \$200,000	306,280	43,268.4	25.1%
\$200,000 or more	368,797	291,230.0	35.0%
<b>Total All Returns</b>	<b>3,879,976</b>	<b>393,168.4</b>	<b>31.6%</b>
<i>Source: Quantria Strategies, LLC Individual Income Tax Simulation Model, May 2013</i>			
<i>† These calculations include only shareholders with positive net income.</i>			

Table 14 summarizes the results for C corporations. The figures in Table 14 rely on the published data from the 2010 Corporation Source Book. One difference in the figures concerns the size category used to classify taxpayers. Aggregate federal income tax data for C corporations is generally only available by asset size.

It is important to recognize that the C corporation data tends to include some significant characteristics that distinguish it from the other business entities. One important characteristic is the presence of large corporations in the data file. These large corporations represent a small share of the total number of C corporations, but they tend to dominate the results.<sup>18</sup>

For example, C corporations with over \$100 million in assets, which represent slightly more than one percent of all C corporations, hold more than 97 percent of all C corporation assets. Similarly, the dispersion of total receipts across the C corporation distribution concentrates among the largest firms. C corporations with over \$50 million in total receipts, which represent approximately 1 percent of all C corporations, collect 88 percent of total receipts of all C corporations.

Another important characteristic is the inclusion of C corporations with separate corporate tax forms (e.g., 1120-F, U.S. Income of a Foreign Corporation; 1120-L, U.S. Life Insurance Companies; 1120-PC, U.S. Property and Casualty Insurance). Certain corporations filing these returns tend to have the lowest C corporation average effective tax rates.

<sup>18</sup> The largest corporations report the vast majority of foreign tax credits. Applying these tax credits to current income taxes significantly reduces the corporate average effective tax rate.

<b>Table 14 – Estimated Effective Tax Rates for C Corporations (including foreign source income and foreign tax credits), by Size of Total Assets, 2013</b> <i>(assets and average net income in thousands)</i>			
<b>Size of Assets</b>	<b>Average Net Income</b>	<b>Number of Taxpayers†</b>	<b>Effective Tax Rate*</b>
Under \$500	243	490,951	14.5%
\$500 under \$1,000	393	78,962	16.7%
\$1,000 under \$5,000	848	89,685	24.5%
\$5,000 under \$10,000	2,262	16,478	32.4%
\$10,000 under \$25,000	4,133	11,659	33.0%
\$25,000 under \$50,000	6,074	5,601	27.3%
\$50,000 under \$100,000	8,221	4,386	25.3%
\$100,000 under \$250,000	12,437	4,340	24.8%
\$250,000 under \$500,000	16,412	3,751	25.1%
\$500,000 under \$2,500,000	44,952	4,909	21.1%
\$2,500,000 or more	488,551	2,171	15.5%
<b>Total All Returns</b>	<b>2,495</b>	<b>712,893</b>	<b>17.8%</b>
Source: IRS Corporate Source Book, 2010. *Includes an adjustment for taxes paid on dividends and an adjustment for Section 78, gross-up. <sup>19</sup>			
† These calculations include only companies with positive net income.			

To facilitate the comparisons between pass-through entities, Table 14 includes the average net income. There are a number of similarities between the distribution of income among all entity types, but one significant distinction. They are similar in that the bulk of net income (for all entities) accrues to the largest class of firms. However, C corporations are distinct from other entities in the magnitude of the net income, where C corporations generate hundreds of millions on average.

Another distinction between C corporation effective tax rates and the effective rates of other entities is the tax treatment of foreign income. Many policy analysts argue that the correct depiction of C corporation effective tax rates is one that focuses exclusively on U.S. federal income taxes, without consideration of the foreign tax credit. One reason for this view is the timing of the decision to repatriate foreign earnings to the U.S. parent corporation and the impact it has on current year tax calculations.<sup>20</sup> In many cases, the foreign income repatriated in a given year reflects prior-year foreign earnings. In other words, C corporations with foreign earnings must make complex business decisions regarding the timing of the repatriated earnings.

<sup>19</sup> Section 78 of the Internal Revenue Code focuses on dividends received from certain foreign corporations by domestic corporations choosing to apply the foreign tax credit. This adjustment increases the total income of the C corporation and modestly, reduces the effective tax rate. See Appendix B for a fuller discussion and analysis of the impact of foreign taxes and foreign tax credits on the C Corporation effective tax rate.

<sup>20</sup> IRS SOI Corporation Source Book data for C corporations do not provide sufficient detail to identify the prior period in which the corporation earned the foreign income repatriated in the current period.

The effective tax rates in this study attempt to capture the effects of the total federal income tax liability *for the current period*. Therefore, Table 14 includes foreign income (and associated U.S. taxes net of foreign tax credits) to the extent the corporation repatriates the earnings to the U.S. parent.<sup>21</sup>

### C. Differences in Effective Tax Rates by Business Entity, 2013

Our estimates of average effective tax rates by businesses show significant disparities across entity types. Businesses organized as sole proprietorships pay the lowest effective tax rate for 2013 (15.1 percent), while S corporations pay the highest effective tax rate (31.6 percent).

This result is reflective in part on the interaction of relative business size and the tax code's progressive marginal rate structure. For pass-through businesses, the average effective tax rate for S corporations, partnerships, and sole proprietorships corresponds to their relative size.

The low effective tax rate for sole proprietorships reflects the fact that these are primarily small businesses with modest income. Approximately 85 percent of sole proprietorships have less than \$30,000 in income. As a result, sole proprietorships benefit significantly from the graduated individual income tax rate schedule. Partnerships, on the other hand, tend to be larger than sole proprietorships and pay a relatively high effective tax rate (29.4 percent). S corporations are, on average, the largest pass-through businesses and pay the highest effective tax rates.

For all pass-through businesses, the pass through structure itself has the effect of raising the marginal tax rates that apply to their business' income. Under the pass through structure, the marginal tax rate applied to the business income is determined by the sum of all the income of the business owner, not just the income stemming from the business.<sup>22</sup> So a modestly profitable business will be subject to high marginal tax rates if its income is passed through to a high-income taxpayer.

Finally, these results also reflect the higher individual tax rates that took effect in January of this year. With the expiration of the 2001 and 2003 tax cuts, the maximum statutory individual tax rate exceeds the maximum statutory rate for corporations. As detailed in a previous section, the maximum statutory individual tax rate that applies to pass-through businesses (39.6 percent) applies to partner, member, or shareholder incomes above \$450,000. In addition, pass-through business income may be subject to the net tax on investment income, the Pease limitation on itemized deductions, and the AMT through the individual income tax system. As noted, the individual AMT has a significant impact on raising effective tax rates on pass-through businesses.

We calculate that businesses organized as C corporations pay an effective tax rate of 17.8 percent. This effective tax rate includes the entity level tax applied to C corporation income as well as taxes paid on dividends that show up on individual tax returns. Our results suggest that

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<sup>21</sup> Refer to Appendix B for an alternative measure of C corporation effective tax rates as well as comparisons to other studies.

<sup>22</sup> As explained in Appendix A, we calculated the effective tax rate for S corporation income by assuming that the income was "stacked last."

including C corporation dividends raises their average effective tax rate by only 2 percentage points. The primary reason for this result is that C corporations do not pay significant amounts of dividends. IRS SOI data indicate that approximately 4.5 percent of C corporations paid cash dividends in 2009. Further, shareholders receiving those cash dividends distributed by C corporations are not always subject to income taxes. Pension funds, individual retirement arrangements, and tax-exempt shareholders make up a high percentage of C corporation shareholders.<sup>23</sup> We did not include additional taxes paid on the capital gains realized on corporate stock sales due to data limitations.

Our results for C corporations are consistent with recent studies on effective rates. For example, the Government Accountability Office (GAO) reported earlier this year that for tax year 2010, profitable U.S. corporations paid 17 percent of their income in federal (and foreign) taxes.<sup>24</sup> Meanwhile, recent projections by the Congressional Budget Office (CBO) show they expect that corporations will pay an effective tax rate of about 12.5 percent for fiscal year 2012. Unlike our study and the GAO estimate above, the CBO estimate does not include foreign tax paid.<sup>25</sup>

Our effective tax rate for C corporations, however, is less than previous widely read studies on the subject. There are a number of reasons why this is the case. One reason is that these previous studies rely on book (financial statement) reporting rather than tax reporting. Further, many of the studies that rely on financial statement data also measure a broader scope of tax payments, including state and local taxes. Finally, there may be inherent differences in the year on which the data rely. For instance, these studies rely on business years and, in some cases, averages of multiple years that differ from the base year (2010) used in our study.<sup>26</sup>

The high effective tax rates incurred by S corporations are in striking contrast to the lower effective tax rates estimated for other businesses types. The effective tax rates for S corporation owners with incomes above \$200,000, in particular, are significantly higher compared to other entity types.<sup>27</sup>

One reason is that S corporation shareholders report business income levels that are much higher than the income reported by other pass-through entities. For example, almost 75 percent of the net income received by S corporations is by businesses with more than \$200,000 in net income. In contrast, only about 25 percent of the non-farm sole proprietorships' net income is attributable to taxpayers with incomes over \$200,000. To the extent that S corporation shareholders receive larger amounts of business income than other business entities, then this income will be taxed at

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<sup>23</sup> Refer to 2009 IRS SOI 1120 Line Count for C corporations as well as 2009 C corporation data from Schedule M-2 filings. These figures are consistent with other studies that examine dividend payments from C corporations. Refer to Joseph Rosenberg, *Corporate Dividends Paid and Received, 2003-2009*, Tax Facts, the Tax Policy Center, September 17, 2012.

<sup>24</sup> Refer to the U.S. Government Accountability Office, *Corporate Income Tax, Effective Tax Rates Can Differ Significantly from the Statutory Rate*, No. GAO-13-520.

<sup>25</sup> For estimates consistent with this analysis, refer to *The Budget and Economic Outlook: Fiscal Years 2013-2023*, Congressional Budget Office, February 2013; *U.S. Multinational Corporations: Effective Tax Rates Are Correlated with Where Income Is Reported*, GAO-08-950, Aug 12, 2008.

<sup>26</sup> We explain these differences more fully in Appendix B.

<sup>27</sup> Effective tax rates increase to 38.1 percent for S corporation shareholders with net income in excess of \$1 million.

higher (individual) marginal tax rates resulting in a higher effective tax rate for these business owners.

Another reason that S corporations may face higher effective tax rates is that S corporation shareholders have significant amounts of income from other sources (e.g., wages and salaries, interest income, partnership income). This higher non-business income pushes the S corporation income into a higher tax bracket.

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## APPENDIX A – TECHNICAL DESCRIPTION OF THE STUDY METHODOLOGY

This Appendix provides additional, technical details on the methodology used in this study to estimate effective tax rates for businesses. The Appendix (1) describes Quantria Strategies' proprietary microsimulation model; (2) explains how the model identifies and simulates the federal income tax liability for different business entity types; (3) documents the assumptions used in the effective tax rate calculations; and (4) discusses the limitations that apply to the effective tax rate analysis.

**Microsimulation** – Quantria Strategies, LLC maintains a detailed microsimulation model of the U.S. individual federal income tax system. For more than thirty years, tax policy analysis has relied on microsimulation models, providing policymakers with the necessary tools and information to make informed decisions about the costs and impacts of tax law changes. By focusing on the micro units in the economy, microsimulation calculates aggregate outcomes from the “bottom-up.” In this case, the micro units are individual taxpayers and the analysis characterizes changes in their federal income tax liability under alternative policy scenarios.

While microsimulation is the primary tool in examining the effect of alternative tax policy options, researchers frequently employ such economic models as large, multi-sector models of the macro economy and computable general equilibrium (CGE) models in conjunction with microsimulation. Each modeling approach has its own strengths and weaknesses and the choice of one over another will usually depend on the types of questions one is trying to answer. Microsimulation is usually the preferred analytical method when the tax policy options being investigated exhibit some degree of non-linearity resulting in complex interactions among the provisions, or when distribution analysis – examining taxpayer groups affected disproportionately under a proposed tax change – is important.

Central to the microsimulation model is a detailed description of the tax law in place for tax year 2013 (e.g., the tax calculator). This allows the analyst to vary certain tax law parameters and examine how tax liability varies under the new regime on a taxpayer-by-taxpayer basis. Mechanically, one generally performs two simulations: a calculation of tax liability under present law (the “baseline”) and a second simulation for some proposed policy option (the “alternative”). The difference in tax liability represents the effect of the proposal and this effect, calculated over all taxpayers, represents the aggregate effect of the law change. Microsimulation allows calculation of tax liability changes at the micro level, which facilitates comparisons of the effects on various classes of taxpayers. For example, it is customary to examine tax law changes by income classes, filing types (e.g., single taxpayers versus married couples), and whether the taxpayer itemizes his or her deductions.

**Data Sources by Entity** – The Public Use SOI is a stratified random sample of about 150,000 tax records representing the approximately 130 million federal income tax returns filed by

individuals in the U.S. for tax year 2004.<sup>28</sup> Each tax record contains detailed information of the income, deductions, exemptions, credits and tax payments of individuals and married couples. The SOI stratifies the sample with respect to the size and composition of income and they over-sample high-income taxpayers. This results in an analytical database that, despite its relatively small size, is accurate with respect to aggregate, economy-wide statistics.

The principal income items of interest are business income (and losses) received by sole proprietors (reported on Schedule C), partnership income and losses (reported on Schedule E), and income or loss from Subchapter S corporations (reported on Schedule E).<sup>29</sup> For sole proprietorships, the detailed information includes net receipts, cost of goods sold, other income (e.g., interest received), depreciation, insurance, mortgage payments, other interest, office expenses, net wages and total deductions. For partnerships and S corporations, the information is more limited, but includes both active and passive income accruing to the business entity and the amount of the Section 179 deduction.<sup>30</sup>

The Quantria model supplements the available tax information on the Public Use file in several ways. First, because administrative tax data only become available with a significant lag due to tax filing deadlines, a proprietary extrapolation, or aging, module forecasts the micro data into future years. The extrapolation module relies on annual macroeconomic forecasts constructed by the Congressional Budget Office (CBO). CBO's forecasts of the macro economy are the official forecasts relied upon by congressional budget and tax analysts. Second, not all individuals or married couples are required to file federal income tax returns (e.g., their income may be below the filing threshold). Therefore, we supplement the tax records on the Public Use File with additional information on non-filers identified from the Current Population Survey (CPS) (an annual survey of the income, employment and demographics of the non-institutional population in the U.S.).<sup>31</sup> Finally, we augment the information on the input file with numerous imputations to support specialized tax policy analysis. For example, the Quantria microsimulation model includes an estimate of employer-provided health insurance premiums for each taxpayer.<sup>32</sup>

Businesses interact with the federal income tax system in different ways. For the most common type of business in the United States, non-farm sole proprietorships, business income and deductions are reported along with other types of income on the individual income tax return (i.e., Form 1040) on Schedule C relating to business income or loss. This income is combined

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<sup>28</sup> Data items in the Public Use file are rounded and often masked, or blurred, to prevent identification and to assure confidentiality of the administrative tax returns. As such, each individual tax record is only suggestive of an actual tax return filed.

<sup>29</sup> As mentioned in the body of the report, certain types of business income received by C corporations may show up on tax returns as wage income or capital gains (or losses). The sources of these income payments are not available on the Public Use File.

<sup>30</sup> More information on the Public Use File can be found in "General Description Booklet for the 2004 Public Use Tax File," Individual Statistics Branch, Statistics of Income Division, Internal Revenue Service, September, 2007.

<sup>31</sup> The Census Bureau conducts the CPS in March of every year and asks questions relating to income and employment about the prior year. For purposes of this study, we obtain the CPS information for non-filers from the March 2012 survey to align with the tax data.

<sup>32</sup> Many individuals receive their health insurance from employer-provided group insurance plans and any contribution paid by the employer is not taxable to the employee. Most economists argue, however, that this is a form of compensation and the taxpayers' income should include this amount for purposes of classifying taxpayers.

with other types of income that the business owner might have received (e.g., interest and dividend income) that may or may not be directly related to the business operations. The total income received by the taxpayer, after appropriate adjustments, is subject to tax according to the tax laws in place for each tax year. While accurate, aggregate estimates of the amount of sole proprietor income received by individual business owners is available from published IRS sources, no estimate of the actual tax liabilities associated with this businesses income is available, without additional information on the taxpayers and their sources of income. Microsimulation permits the isolation of the amount of federal income tax attributable to the business.

For businesses organized as partnerships or S corporations, the situation is more complicated. These businesses are required to file federal income tax returns that state the nature of the business, the income and deductions claimed and the amount of net income passing to business owners according to their ownership stakes on Form 1065 (partnerships) or Form 1120-S (S corporations). These returns are not subject to federal income tax.<sup>33</sup> However, the business owners report net income on Schedule E (Supplemental Income relating to income from rental property, royalties, S corporations, partnerships and trusts) on the individual income tax return. By identifying the income from these business sources, microsimulation model isolates the federal income taxes incurred by the business on this business income.

C corporations pay federal income taxes directly and businesses that are organized this way report their tax liability separately on Form 1120, the primary tax form for U.S. corporations. While no publicly-available, micro-level, federal income tax data exist for corporations, the IRS annually compiles detailed tabulations of corporation information in the Corporate Source Book, an annual summary of the income, deductions, credits, taxes and financial data (i.e., asset size) put out by the IRS for all U.S. corporations. The analysis relies on these tabulations to estimate the federal income tax liability and effective tax rate of these entities.

***Summary of Methodology Employed to Measure Effective Tax Rates*** – Quantria Strategies’ proprietary individual income tax microsimulation model is the primary tool used to calculate effective tax rates. The model uses the 2010 PUF as its principal data source with supplemental data provided by the 2010 Corporate Source Book (CSB). For non-corporate businesses and S corporations, the model calculates total federal income tax liability for each tax return in the PUF sample based on a detailed specification of the tax law in place for 2013. The microsimulation model aggregates the results for each individual tax record to arrive at national totals.<sup>34</sup> This specification of the tax law includes all the adjustments, exemptions, exclusions, tax credits and income phase-outs that are part of calculating total federal income tax liability. After extensive testing and validation, the tax calculations in the model reproduce actual tax liabilities reported by U.S. taxpayers for tax year 2013 to within approximately 1 percent.

The model identifies businesses based upon whether or not they report income (or losses) from sole proprietorships, partnerships, or S corporations. Taxpayers who operate more than one business of a single entity type have their income aggregated over all businesses in the PUF

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<sup>33</sup> There are some situations where S corporations may incur some federal income tax liability, but they are not germane to this study.

<sup>34</sup> We use sample weights to calculate aggregate, economy-wide totals.

sample. For taxpayers who report income from more than one business entity type, the model treats each source of income as a unique business and performs separate calculations in the simulations. The analysis excludes businesses without net income to avoid distorting the calculations.

Operationally, the effective tax rate of each business in the sample relies on two simulations. In the first simulation (the “baseline”), the total tax liability of each business taxpayer is calculated under the tax laws and rules in place for 2013. It is important to note that this tax liability will usually include taxes paid on other, non-business sources of income such as interest income. In the second simulation (the “alternative policy”), net income accruing to the business is isolated for each business entity type and the federal income tax liability is recalculated after subtracting this income from the taxpayer’s total income. The resulting change in tax liability (which in this case will be negative, reflecting the income reduction) is an estimate of the taxes attributable to the business.<sup>35</sup> For taxpayers whose only source of income is business income, this calculation gives the correct result: all federal income tax liability is attributable to the business since no federal income taxes will be due on zero net income. The estimate of the effective tax rate faced by the business reflects the change in tax liability<sup>36</sup> divided by the net income (before taxes) of the business. The estimates of effective tax rates reported here are aggregate estimates, averaged across all businesses in the reporting group. For example, when reporting an effective tax rate for a particular business entity type, the numerator is the (weighted) sum of the calculated tax changes attributable to the businesses while the denominator is the (weighted) sum of the net incomes of the businesses, as reported on their respective tax forms.<sup>37</sup>

***Limitations on Data and Methodology*** – While microsimulation is the only method available that can provide an accurate picture of the tax burden facing all businesses in the United States, there are some important qualifications to this analysis.

First, the methodology imposes an implied “stacking order” in the calculation of business tax liability by taxing business income last. Because the federal income tax rate structure is progressive, stacking business income last will reflect a higher marginal tax rate than if the business income was stacked first. Thus, this stacking will tend to over-estimate slightly the tax liability of those business owners who receive large amounts of other, non-business income.

Second and closely related to the first, this methodology treats as separate entities multiple businesses owned by the same taxpayer.<sup>38</sup> This approach identifies the effective tax rate associated with each business, but not necessarily the overall effective tax rate faced by the owner of the business.

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<sup>35</sup> There is an implicit “stacking order” underlying this calculation. In effect, business income is subject to tax last after calculating tax on all other non-business sources of income. This convention will have the effect of slightly overstating the true effective tax rate in some circumstances.

<sup>36</sup> Actually, the analysis reflects the absolute value of the change in tax liability, since according to the methodology eliminating income would reduce total taxes.

<sup>37</sup> Net income of non-farm sole proprietorships is from Schedule C. Net income of partnerships and S-corporations is from Form 1040, Schedule E, Part II, relating to non-Passive Income or Loss.

<sup>38</sup> This would happen, for example, if the taxpayer operated a sole proprietorship and was a partner in a partnership.

Third, the effective tax rates include only U.S. business owners taxed as individuals. To the extent that some business owners (e.g., partners or C corporation shareholders) are non-U.S. citizens or other entity types, the analysis does not include the income accruing to these entities.<sup>39</sup>

Fourth, the income of C corporations is subject to tax twice, once at the business level and again when income passes through to owners and investors, as dividend payments or capital gain realizations. The individual income tax data contain information on the dividends and capital gains of taxpayers. We imputed the tax on dividends to C corporations (adjusting for foreign dividends, projected to 2013 using CBO baseline growth rates). However, there is no reliable method to allocate capital gains amounts attributable to businesses (from gains realized on the sale of corporate stock). Thus, the effective tax rate analysis does not capture the taxes paid by C corporation owners on capital gains. This will tend to understate modestly the total effective tax rate of businesses organized as C corporations, but this bias tends to be small, particularly because of the relatively low rates of tax currently applicable to individual dividends and capital gains.

Fifth, to the extent that C corporation owners receive a salary from the business, there is no reliable way to identify those payments and calculate the income taxes paid on them from existing data. Conceptually, it makes sense to ignore these payments because they are, in theory, equivalent to what the individual business owner would receive if he or she were an employee of another business. However, because salary and wage payments are deductible to C corporations, a C corporation owner may attempt to withdraw business profits in the form of a salary to avoid the corporate level income tax. There are existing rules to prevent this by denying deductions for unreasonable compensation.

Finally, it is important to remember that for federal income tax purposes, special tax provisions applicable to businesses are available. These provisions often provide a special tax benefit for businesses in a specific industry. For the affected taxpayers, these provisions can have a significant effect on effective tax rates. However, because the scope of these provisions is often quite narrow, their overall impact on the average effective tax rates of businesses will likely be quite small.

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<sup>39</sup> We expect this to have a negligible effect on the calculations. While partners may be corporations or other business entities, most partnerships consist of individuals. (Refer to Petska, 1997)

## APPENDIX B – C CORPORATION EFFECTIVE TAX RATES

Effective tax rates attempt to measure taxes paid as a share of net income. Statutory rates reflect tax liability relative to taxable income (tax liability before credits). In this appendix, we discuss our C corporation effective tax rates displayed in Table 14.

The various published estimates of *effective tax rates for C corporations* vary depending upon the composition of the numerator and denominator used in the calculation. The composition of the numerator and denominator vary depending upon whether the data source is a *financial statement or tax return* and this underlying data source plays a large role in the ultimate ETR results. Many studies rely on data prepared for financial reporting purposes. However, the primary purpose of financial reporting is to provide GAAP information to investors and creditors. Financial reporting relies on some degree of judgment and estimated information. Often, financial statement data will include a broader measure of taxes – federal, foreign, U.S. state and local income taxes.

The primary purpose of tax accounting is to measure income for purposes of imposing federal income taxes. Tax data are less subjective because, taxpayer interpretation of tax laws is subject to IRS scrutiny (in addition to third-party information reporting as well as audit). The decision to use book versus tax reporting of effective tax rates also can make a big difference in the results. For example, a recent memorandum from the Members of the Permanent Subcommittee on Investigations highlighted one C corporation that reported a tax rate of 24.2 percent in its annual report (comprised of 20.1 percent Federal; 2.3 percent State; and 1.8 percent foreign taxes). An evaluation of their federal income tax return indicates that they paid an amount closer to 12 percent. These differences reflect legitimate differences between the financial statements and tax returns. However, it means that depending upon the data source, effective tax rates will vary considerably.

Regardless of the data source, one major difference with ETR estimates is whether the denominator includes foreign-source income and the numerator includes any of the foreign and/or domestic taxes (and tax credits) that may apply to that income.

Including foreign income and tax can make a big difference in the results. For example, the recent GAO study on effective corporate rates reports a 13 percent ETR for corporations on their worldwide income after excluding foreign taxes, but a 17 percent effective tax rate after including foreign taxes and foreign tax credits in the numerator.<sup>40</sup> Our estimates in Table 14 include foreign income, foreign income taxes, and foreign tax credits for the current year. This ETR includes foreign income to the extent it is attributable to income repatriated to the U.S. parent.

For comparison purposes, Table 15 below presents the estimated effective tax rates for C corporations, without consideration of foreign earnings and the foreign tax credit.<sup>41</sup> This

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<sup>40</sup> United States General Accountability Office, *Corporate Income Tax, Effective Tax Rates Can Differ Significantly from the Statutory Rate*, GAO-13-520, May 2013.

<sup>41</sup> Other than the treatment of foreign source income, the methodology and data sources remain consistent for the results in Table 14 and 15.

measure provides an alternative view of the overall federal income tax rates, indicating that C corporations have an average effective tax rate from domestic sources of 27.1 percent.

<b>Table 15 – Estimated Effective Tax Rates for C Corporations, (excluding foreign source income and foreign tax credits), by Size of Total Assets, 2013</b> <i>(assets and average net income in thousands)</i>			
<b>Size of Assets</b>	<b>Average Net Income</b>	<b>Number of Taxpayers†</b>	<b>Effective Tax Rate*</b>
Under \$500	243	490,951	14.6%
\$500 under \$1,000	393	78,962	16.9%
\$1,000 under \$5,000	848	89,685	24.7%
\$5,000 under \$10,000	2,260	16,478	30.4%
\$10,000 under \$25,000	4,124	11,659	30.0%
\$25,000 under \$50,000	6,043	5,601	28.6%
\$50,000 under \$100,000	8,154	4,386	26.9%
\$100,000 under \$250,000	12,206	4,340	27.6%
\$250,000 under \$500,000	16,010	3,751	28.5%
\$500,000 under \$2,500,000	42,716	4,909	25.1%
\$2,500,000 or more	424,601	2,171	27.6%
<b>Total All Returns</b>	<b>2,113</b>	<b>712,893</b>	<b>27.1%</b>

Source: IRS Corporate Source Book, 2010. \*Includes an adjustment for taxes paid on dividends.  
† These calculations include only companies with positive net income.

C corporation estimates, unlike the estimates for pass-through entities, are quite sensitive to the definition of total taxes and total net income. The variations in estimated effective tax rates for C corporations between Table 14 and 15 reflect the sensitivity of these measures to the inclusion of foreign source income and foreign tax credits.

Another area of difference in ETR studies is the treatment of state and local taxes, in both the numerator and the denominator. Most studies add back amounts deducted for state and local taxes from the denominator in order to ensure the measured business income does not include those costs, although some do not.<sup>42</sup>

Our study uses the tax definition of net income in the denominator, which allows the deduction for state and local taxes, but as a comparative study of the *federal tax burden* on business entity types, we do not include those taxes in the numerator for any businesses. Adding state and local taxes to the numerator could increase the average ETRs by several percentage points. However, this increase would apply to pass-through businesses and C corporations alike.

<sup>42</sup> State and local taxes are an allowable deduction for federal tax purposes. Tax data reflects the deduction for these amounts to the extent that the business incurs such costs. The 2013 GAO study (cited throughout this paper) does not subtract out these taxes. However, other studies (cited below) include state and local taxes in the numerator in order to capture the total U.S. tax burden imposed on businesses.



Yet another area of difference is the tax year considered. Our base year of 2010 (the most recent year available) was a difficult year for business profits and could have the result of reducing the ETRs measured, but as a comparative study looking across business entity types, this variation is less important than if we were attempting to measure the ETR of a particular business or industry. In contrast, other studies estimated their C corporation ETRs using data averaged over a series of years. This would moderate the year-to-year fluctuations of low- and high-earnings periods.

In addition, in our study, the base year data was extrapolated to year 2013 using the CBO baseline growth rates for corporate profits and taxes. Moreover, our study uses actual taxes paid or accrued for the current period, which has the benefit of disregarding the effect of loss-carry forwards, reducing the importance of the base year selected.

Still another key question is whether to include all businesses, or only those reporting positive net income. Including businesses with losses results in a smaller measure of income for all businesses without changing significantly the measure of taxes paid. As a result, the overall ETR would increase. This study excludes companies suffering losses for C corporations and pass-through businesses alike. Even if it were not a comparative study, it is a study of *income* tax burdens and to this end includes only those businesses with positive net income.

The effective tax rates for C corporations, in this study, rely on *tax data* for both the numerator and the denominator for tax year 2010 extrapolated to tax year 2013. With respect to the specific differences outlined above, the following describe the components of our numerator and denominator.

**Numerator – Total Income Tax after Credits:** Total income tax after credits reflects the benefit of various business tax credits. Tax includes foreign taxes paid on all foreign income to the extent that the corporation repatriated this income to the U.S. and foreign tax credits. Tax does not include state and local taxes or sales taxes. The specific credits will vary with the business operations of each corporation (e.g., Foreign Tax Credit or General Business Credit).

**Denominator – Net Income (or Deficit):** Net income reflects the net profit from taxable sources of income reduced by allowable deductions. This includes foreign source income; to the extent the corporation repatriates such income to the U.S. parent. The allowable deductions include state and local taxes. In addition, the denominator includes an adjustment for Section 78, the gross-up of dividends received from certain foreign corporations by domestic corporations choosing to apply the foreign tax credit. This adjustment is necessary for ETR estimates that recognize foreign tax credits in the numerator. The C corporation ETR estimates, as well as the ETR estimates for pass-through entities, include only businesses with positive net income.

As a comparative study of ETRs by business entity, our goal is to ensure that we use a uniform methodology for each business entity type. For example, excluding state and local taxes from the numerator may lower the ETR for C corporations compared to estimates of ETRs if included.

However, doing so for all entities may lower (uniformly) the ETR for the pass-through businesses, as well.

Nonetheless, comparisons of this study to others are inevitable, so it is important to identify clearly the differences between our methodology and results compared to other studies. Direct comparisons of the results from each study are not appropriate, as in most cases, there are significant differences in the underlying data sources and the numerator and denominator definitions.

The following summarizes some recent C corporation ETR studies and the data and methodologies on which they rely.

1. GAO (2013)<sup>43</sup> – ETR 12.6 percent
  - IRS SOI Schedule M-3 filers, 2010;
  - Numerator equals actual tax paid (tax concept); Denominator equals book income;
  - Foreign source income/taxes included to the extent the corporation repatriates to the U.S. parent;
  - Does not include state and local taxes paid; allows deduction from net income; and
  - Businesses with positive net income.
  
2. GAO (2013)<sup>44</sup> – ETR 20.7 percent
  - IRS SOI Schedule M-3 filers, 2010;
  - Numerator equals actual tax paid (tax concept); Denominator equals taxable income;
  - Foreign source income/taxes included to the extent the corporation repatriates to the U.S. parent;
  - Does not include state and local taxes paid; allows deduction from net income; and
  - All businesses (positive and negative net income).
  
3. PricewaterhouseCoopers (2011)<sup>45</sup> – 27.7 percent
  - Financial Statement Data, 2006 – 2009 (created average from the data over a range of years);
  - Numerator equals total book tax (financial statement concept); Denominator equals pretax worldwide income;
  - Foreign source income/taxes included to the extent the corporation repatriates to the U.S. parent;
  - Includes ***all taxes paid***; allows deduction from net income; and
  - Businesses with positive net income.

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<sup>43</sup> United States General Accountability Office, *Corporate Income Tax, Effective Tax Rates Can Differ Significantly from the Statutory Rate*, GAO-13-520, May 2013.

<sup>44</sup> Ibid.

<sup>45</sup> PricewaterhouseCoopers LLP, *Global Effective Tax Rates*, April 14, 2011.

4. Markle and Shackelford (2009)<sup>46</sup> – 27.2 percent
  - Financial Statement Data, 2005 to 2009 (created averages from the data over a range of years);
  - Numerator equals current book tax (financial statement concept); Denominator equals pretax worldwide income;
  - Foreign source income/taxes included to the extent the corporation repatriates to the U.S. parent;
  - Does not include state and local taxes paid; allows deduction from net income; and
  - Businesses with positive net income.
  
5. Costa and Gravelle (2012)<sup>47</sup> – 30.2 percent
  - Financial Statement Data, 2010 and IRS SOI Schedule M-3 data, 2006;
  - Focus of these estimates was to address the impact of deferral on the average tax rate assessed on the total foreign income of multinational corporations; Numerator equals actual tax paid (tax concept); Denominator equals pretax worldwide income;
  - Foreign source income/taxes included;
  - Does not include state and local taxes paid; allows deduction from net income; and
  - Excluded corporations with negative book and negative tax net income.

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<sup>46</sup> Kevin S. Markle and Douglas A. Shackelford, *Cross-Country Comparisons of Corporate Income Taxes*, National Tax Journal, Volume 65, Number 3, (2012).

<sup>47</sup> Costa, Melissa, and Jennifer Gravelle, *Taxing Multinational Corporations: Average Tax Rates*, Symposium on International Taxation and Competitiveness, 65 Tax Law Review, 2012.