Report

Federal Tax Compliance Research:
Tax Gap Estimates for Tax Years 2011–2013

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Federal Tax Compliance Research:
Tax Gap Estimates for Tax Years 2011–2013

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Federal Tax Compliance Research: Tax Gap Estimates for Tax Years 2011–2013

1 Executive Summary

This report presents estimates of the tax gap for the tax year (TY) 2011–2013 timeframe. The tax gap and associated concepts are a particular way of defining and analyzing compliance and noncompliance and are based on tax year liability. The tax gap provides a rough gauge of the level of overall noncompliance and voluntary compliance given all the events that occurred during the relevant tax periods and the Internal Revenue Code (IRC) provisions in effect at the time. Tax gap estimates provide the Internal Revenue Service (IRS) with periodic appraisals about the nature and extent of noncompliance for use in formulating tax administration strategies. The word "tax" in the phrase "tax gap" is used broadly to encompass both tax and refundable and non-refundable tax credits. The IRS last issued tax gap estimates that covered the TY 2008–2010 timeframe.

Like the TY 2008–2010 tax gap estimates, these new estimates reflect an estimated average compliance rate and associated average annual tax gap covering a timeframe of three tax years. This approach is motivated primarily by the decision to pool multiple years of compliance data from the annual individual income tax reporting compliance component of the National Research Program (NRP) to provide greater reliability of individual income tax underreporting tax gap estimates by sources of noncompliance.

The estimates were prepared by the IRS and are based on original research and analysis conducted or sponsored by the IRS. Estimating the tax gap is inherently challenging and requires assessing the merits of alternative methods, assumptions, and data sources. There is no single approach that can be used for estimating all the components of the tax gap, so multiple methods are used. Each approach is subject to non-sampling error; the component estimates that are based on samples are further subject to sampling error. The uncertainty of the estimates is not readily captured by standard errors that typically accompany estimates based on sample data. For that reason, standard errors, confidence intervals, and significance tests for statistical comparisons across years are not reported. When using these estimates and making comparisons across years, the user should be mindful of these limitations. This report provides summary information about the estimation methodology used to produce these estimates of the tax gap.

The gross tax gap is the amount of true tax liability that is not paid voluntarily and timely. The estimated gross tax gap is $441 billion. The net tax gap is the gross tax gap less tax that subsequently will be paid, either paid voluntarily or collected through IRS administrative and enforcement activities; it is the portion of the gross tax gap that will not be paid. It is estimated that $60 billion of the gross tax gap eventually will be paid resulting in a net tax gap of $381 billion. The voluntary compliance rate (VCR) is a ratio measure of relative compliance and is defined as the amount of "tax paid voluntarily and timely" divided by "total true tax", expressed as a percentage. The VCR corresponds to the gross tax gap. The estimated VCR is 83.6 percent. The net compliance rate (NCR) is a ratio measure corresponding to the net tax gap. The NCR is defined as the sum of "tax paid voluntarily and timely" and "enforced and other late payments" divided by "total true tax", expressed as a percentage. The estimated NCR is 85.8 percent.

Many factors contribute to differences over time in both the gross tax gap and the VCR. These include factors such as the overall level of economic activity, changes in the composition of economic activity with shifts toward those with higher or lower compliance rates, changes in tax law and administration, updated

data and improved methodologies, and changes in underlying compliance behavior on the part of taxpayers and preparers.

The approaches used to estimate the various tax gap components for TY 2011–2013 generally follow the methods used for the previous TY 2008–2010 estimates. Newly available data, however, resulted in some modifications to the estimation approaches. The change that had the greatest impact was the way in which the analytical technique for adjusting for income undetected by audits (Detection Controlled Estimation, DCE) was applied in the development of the individual income tax underreporting tax gap estimates.

Individual income tax underreporting tax gap estimates are based primarily on results from a statistical sample of individual income tax returns which were selected for audit. While these audits make every attempt to validate the accuracy of the return, it is inevitable that some unreported income will remain undetected. To account for these undetected amounts, the IRS has used DCE. For the TY 2011–2013 estimates, the availability and timing of new data allowed contemporaneous estimation of DCE, an improvement over the method used to develop the previously published TY 2008–2010 estimates.

The TY 2011–2013 estimates are not directly comparable to the previously published TY 2008–2010 estimates because of the effect of the changes to the methodology. In order to compare the current estimates for TY 2011–2013 to the TY 2008–2010 time period, the TY 2008–2010 estimates were revised using the same methods as the current estimates. A comparison with those revised estimates shows that the TY 2011–2013 VCR estimate of 83.6 percent is virtually unchanged from the estimate for the earlier period. The TY 2011–2013 gross and net tax gap estimates are higher than their respective revised TY 2008–2010 estimates by $47 billion (gross) and by $37 billion (net) because the estimated average annual true tax for the TY 2011–2013 timeframe is higher than the estimate for the TY 2008–2010 timeframe.

Comparisons of the TY 2011–2013 estimates to the earlier TY 2001 and the TY 2006 tax gap estimates must be done with care because of differences in the estimation methods. Despite those limitations and recognizing the challenges in estimating the tax gap and the many factors that contribute to differences in the estimates over time, the TY 2011–2013 estimates in conjunction with the tax gap estimates for TY 2001 and later years suggest that compliance is holding steady in the 82 percent to 84 percent range.

Since the tax gap typically moves with the economy, some of the change in the gross tax gap estimates not attributable to the change of methods is due to the expansion of the economy coming out of the Great Recession. Gross collections as reported in the IRS Data Book increased throughout the fiscal year 2011–2013 timeframe. Gross collections were $2.4 trillion in FY 2011, $2.5 trillion in FY 2012, and $2.9 trillion in FY 2013. Net collections increased from $1.9 trillion in FY 2010 to $2.0 trillion, $2.2 trillion, and $2.5 trillion in FYs 2011, 2012, and 2013 respectively. Average net collections for the FY 2011–2013 timeframe were $2.2 trillion or $0.2 trillion higher than average net collections of $2.0 trillion for the FY 2008–2010 timeframe.

The gross tax gap is composed of three components: nonfiling, underreporting, and underpayment. The estimated gross tax gaps for these components are $39 billion, $352 billion, and $50 billion respectively.

The tax gap estimates are also segmented by type of tax. The estimated gross tax gap for individual income tax is $314 billion; for corporation income tax it is $42 billion; for employment tax it is $81 billion; and for

estate and excise tax combined it is $3 billion[1]. The estimated net tax gap for individual income tax is $271 billion; for corporation income tax it is $32 billion; for employment tax it is $76 billion; and for estate and excise tax combined it is $1 billion.

Findings from earlier tax gap analyses that compliance is higher when amounts are subject to information reporting and even higher when also subject to withholding continue to hold. The extent of coverage by information reporting and/or withholding is called "visibility" because incomes that are reported to the IRS are more "visible" to both the IRS and taxpayers. Based on the TY 2011–2013 estimates, misreporting of income amounts subject to substantial information reporting and withholding is 1 percent; of income amounts subject to substantial information reporting but not withholding, it is 5 percent; and of income amounts subject to little or no information reporting, such as nonfarm proprietor income, it is 55 percent.

[1] "Employment taxes" for tax gap include social security and Medicare taxes under the Federal Insurance Contributions Act (FICA) and the Self-Employment Contributions Act (SECA), payments for federal unemployment insurance under the Federal Unemployment Tax Act (FUTA), and railroad retirement and railroad unemployment repayment taxes under the Railroad Retirement Tax Act (RRTA) and the Railroad Unemployment Repayment Tax (RURT).

2 Introduction

This report presents estimates of the tax gap for the tax year 2011–2013 timeframe. The tax gap and associated concepts are a particular way of defining and analyzing compliance and noncompliance and are based on tax year liability. The tax gap provides a rough gauge of the level of overall noncompliance and voluntary compliance given all the events that occurred during the relevant tax periods and the Internal Revenue Code (IRC) provisions in effect at the time. Tax gap estimates provide the Internal Revenue Service (IRS) with periodic appraisals about the nature and extent of noncompliance for use in formulating tax administration strategies. The IRS last issued tax gap estimates that covered the TY 2008–2010 timeframe.

The gross tax gap is the amount of true tax that is not paid voluntarily and timely. The net tax gap is the gross tax gap less tax that subsequently will be paid, either paid voluntarily or collected through IRS administrative and enforcement activities; it is the portion of the gross tax gap that will not be paid. The word "tax" in the phrase "tax gap" is used broadly to encompass both tax and refundable and non-refundable tax credits. The IRC allows for various refundable and non-refundable tax credits, and the tax gap estimates account for noncompliance with these credits as well as the tax that these credits offset. Thus, for some taxpayers, their "tax" for purposes of tax gap estimation is zero or negative.

The tax gap paradigm separates noncompliance into components by type of tax and source of noncompliance. The three primary sources of noncompliance that result in payment of less than the true tax are: (1) the nonfiling tax gap (the tax not paid on time by those who do not file required returns on time); (2) the underreporting tax gap (the net understatement of tax on timely filed returns); and (3) the underpayment tax gap (the amount of tax reported on timely filed returns that is not paid on time).

The unobservable nature of the tax gap makes its estimation difficult and the estimates subject to uncertainty. While the amount of tax paid by taxpayers can be observed, the counterfactual amount needed to estimate the tax gap–the amount of tax that should have been paid by taxpayers–is not. The asymmetry of information between taxpayers and the IRS, even with third-party information reporting and the authority to examine books and records to ascertain that the correct tax has been paid, leaves the IRS at a disadvantage in evaluating whether a taxpayer in fact has paid the correct tax.

The estimates in this report were prepared by the IRS and are based on original research and analysis conducted or sponsored by the IRS. Estimating the tax gap is inherently challenging and requires assessing the merits of alternative methodologies, assumptions, and data sources. This report provides summary information about the estimation methodology used to produce these estimates of the tax gap. More detailed information about the underlying approaches and assumptions can be found in other documents.[2]

Like the TY 2008–2010 tax gap estimates, the estimates presented in this report reflect an estimated average compliance rate and associated average annual tax gap covering a timeframe of three tax years. This approach is motivated primarily by the decision to pool multiple years of compliance data from the annual samples of the individual income tax reporting compliance component of the National Research Program (NRP) to provide greater reliability of individual income tax underreporting gap estimates by sources of noncompliance. Although each annual NRP sample is representative of that tax year's filing population, the design for the NRP sample divides equally across three tax years the actual number of sample returns needed

[2] See https://www.irs.gov/statistics for additional tax gap reports and documents.

to achieve a certain precision in the resulting estimates. Since NRP data contain compliance information for many tax return line items, NRP is the richest source of data for understanding the major sources of reporting noncompliance and it was decided to pool three years of annual NRP data to improve the precision of those estimates. Similar averaging over three tax years was done for the other tax gap components. Thus, the tax gap estimates for all taxes and components reflect an estimated average compliance rate and associated average annual tax gap for the TY 2011-2013 timeframe.

There is no single approach that can be used for estimating all the components of the tax gap, so multiple methods are used. Each approach is subject to non-sampling error; the component estimates that are based on samples are further subject to sampling error. The uncertainty of the estimates is therefore not readily captured by standard errors that typically accompany population estimates based on sample data. For that reason, standard errors, confidence intervals, and significance tests for statistical comparisons across years are not reported. When using these estimates and making comparisons across years, the user should be mindful of these limitations.

The next section of the report presents an overview of the tax gap concepts and estimates. It contains an updated schematic representation of the estimates, known as the tax gap "map" and an updated "visibility" figure displaying the relationship between individual income tax reporting compliance and third-party information reporting and withholding. It also includes a summary of significant tax law and other changes that apply to the TY 2011–2013 timeframe. The final section of the report includes a general summary of the estimation methods and greater detail on the estimates for each of the three primary sources of noncompliance–nonfiling, underreporting, and underpayment.

3 Tax Gap Estimates for Tax Years 2011–2013

As stated in the Introduction section, tax gap analysis defines and estimates noncompliance in a particular way. Specifically, the primary focus of tax gap estimation is to translate noncompliant behavior into measures reflecting tax not paid voluntarily and/or timely as a result of the noncompliant behavior. The concepts and measures are defined on a tax year basis.

3.1 Tax Gap Concepts: Dollar Measures

Tax gap dollar concepts are measures of the extent of noncompliance. The gross tax gap is defined as the dollar amount of true tax that is not paid on time. The gross tax gap measure is defined and estimated at an aggregate level that incorporates all types of tax and all sources of noncompliance. Gross tax gap measures are also defined and estimated by type of tax, the three primary sources of noncompliance, and other subcomponents.

Enforced and other late payments are defined as the amount of the gross tax gap that eventually will be paid. This report presents estimates of the payments at an aggregate level and by type of tax.

The net tax gap is defined as the gross tax gap less enforced and other late payments. It is the amount of the gross tax gap that will not be paid. After subtracting estimates of enforced and other late payments for each type of tax, this report presents net tax gap estimates by type of tax. The use of the word "net" in this context reflects the subtraction of enforced and other late payments from the gross tax gap.

The net misreported amount, or NMA, is a concept associated with the underreporting tax gap. The NMA is the dollar amount of misreporting associated with a particular tax return or schedule line item. Although most often a NMA reflects an amount of income, expense, or similar line item that has been misreported,

the NMA is also defined for the total amount of tax misreported. Since amounts reported on tax return and schedule lines can be either positive or negative and can be overstated or understated, the actual computation depends on whether the line item is an income item or an offset item (such as a deduction, expense, or credit). For an income item, the NMA is calculated as the sum of all amounts understated minus the sum of all amounts overstated. In general, income items are underreported in the aggregate, so the NMA for income items generally is positive. For an offset item, the NMA is calculated as the sum of all amounts overstated minus the sum of all amounts understated. In general, offset items are overstated in the aggregate, so the NMA for offsets typically is positive. For this concept, the word "net" refers to the offsetting of overstated and understated amounts and not the subtraction of enforced and other late payments.

3.2 Tax Gap Concepts: Ratio Measures

Tax gap concepts include several ratio measures expressed as rates or percentages. The purpose of these measures is to provide a relative measure of compliance or noncompliance. These measures are ratios of dollar amounts for the entire population.[3]

The voluntary compliance rate (VCR) is defined as the amount of tax paid voluntarily and timely divided by total true tax, expressed as a percentage. The VCR is a complement to the gross tax gap.

The net compliance rate (NCR) is defined as the sum of all timely and enforced and late payments divided by total true tax, expressed as a percentage. The NCR is a complement to the net tax gap. It is also equal to 1 minus the ratio of the net tax gap to total true tax.

Two other measures are used only for the underreporting tax gap. The net misreporting percentage (NMP) for a given line item is the NMA divided by the sum of the absolute values of the amounts that should have been reported. For most return or schedule line items, amounts that should have been reported can be positive only. However, amounts can be either positive or negative for business-related net income and certain other lines. So, for those line items where amounts can be negative, the denominator of the NMP is not the net of positive and negative amounts, but instead it is the total of all the amounts disregarding the sign in the calculation—that is, it is the sum of the absolute values. The NMP is a complement to the NMA.

The voluntary reporting rate, or VRR, is another underreporting tax gap measure. It is a measure of the overall extent of reporting compliance for a particular type of tax. It is defined as the amount of reported tax divided by the amount of tax that should have been reported. It reflects reporting compliance on timely filed returns and is a complement to the underreporting tax gap for a particular type of tax.

3.3 Significant Tax Law and Other Changes Since Tax Year 2008–2010

Tax law and the level of economic activity can affect the tax gap. The timeframe covered by the TY 2011–2013 estimates began 18 months after the official end of the Great Recession. Tax legislation enacted for the TY 2011–2013 period generally made permanent or extended prior law. By TY 2011, however, some major stimulus provisions that applied to earlier tax years had expired including the Recovery Rebate Credit, the Making Work Pay and Government Retiree Credits, and the First Time Homebuyers Credit.

[3]At a tax return level, these ratios may be undefined or have limited meaning because the numerator, denominator, or both may be zero.

Although it is a small share of the tax gap, there have been significant changes in the estate tax, and the law applicable to the TY 2011–2013 timeframe is different from that for the TY 2008–2010 period. The Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) began a phase-out of the estate tax through increases to the effective exemption amount and reductions in the maximum marginal tax rate until the estate tax was eliminated for one year in TY 2010. The estate tax exclusion increased from $1.5 million for TY 2004 estates to $3.5 million for TY 2009. The maximum marginal estate tax rate gradually decreased one percentage point per year from 48 percent in TY 2004 to 45 percent in TY 2007, and then remained flat through TY 2009. One of the provisions in the estate tax law had been an unlimited step-up in basis for income tax purposes for inherited assets from the decedent's basis to the fair market value of the asset at the time of death. Along with the elimination of the estate tax for TY 2010, EGTRRA limited the step-up in basis to $1.3 million in TY 2010. The Tax Relief, Unemployment Insurance Reauthorization, and Job Creation Act of 2010 (TRA 2010) reinstated the estate tax for TY 2010 with a $5 million effective exclusion and 35 percent maximum marginal tax rate, along with an unlimited step-up in basis. TRA 2010, however, gave estates the option of choosing the prior law under EGTRRA for TY 2010.

For the TY 2011–2013 timeframe, the exclusion amount remained around $5 million, increasing to $5.25 million in TY 2013. The maximum tax rate remained 35 percent for TY 2011 and TY 2012 before increasing to 40 percent in TY 2013.

The number of corporation income tax returns filed continued to decline over the TY 2011–2013 timeframe. Reported income tax after credits for active corporations (excluding Real Estate Investment Trusts (REITs), Regulated Investment Companies (RICs), and Form 1120-S corporations) increased each year with the average for the TY 2011–2013 timeframe about $40 billion higher than the TY 2008–2010 average. However, the TY 2011-2013 average is nearly $92 billion below the TY 2006 amount.

3.4 Estimates for Tax Years 2011–2013

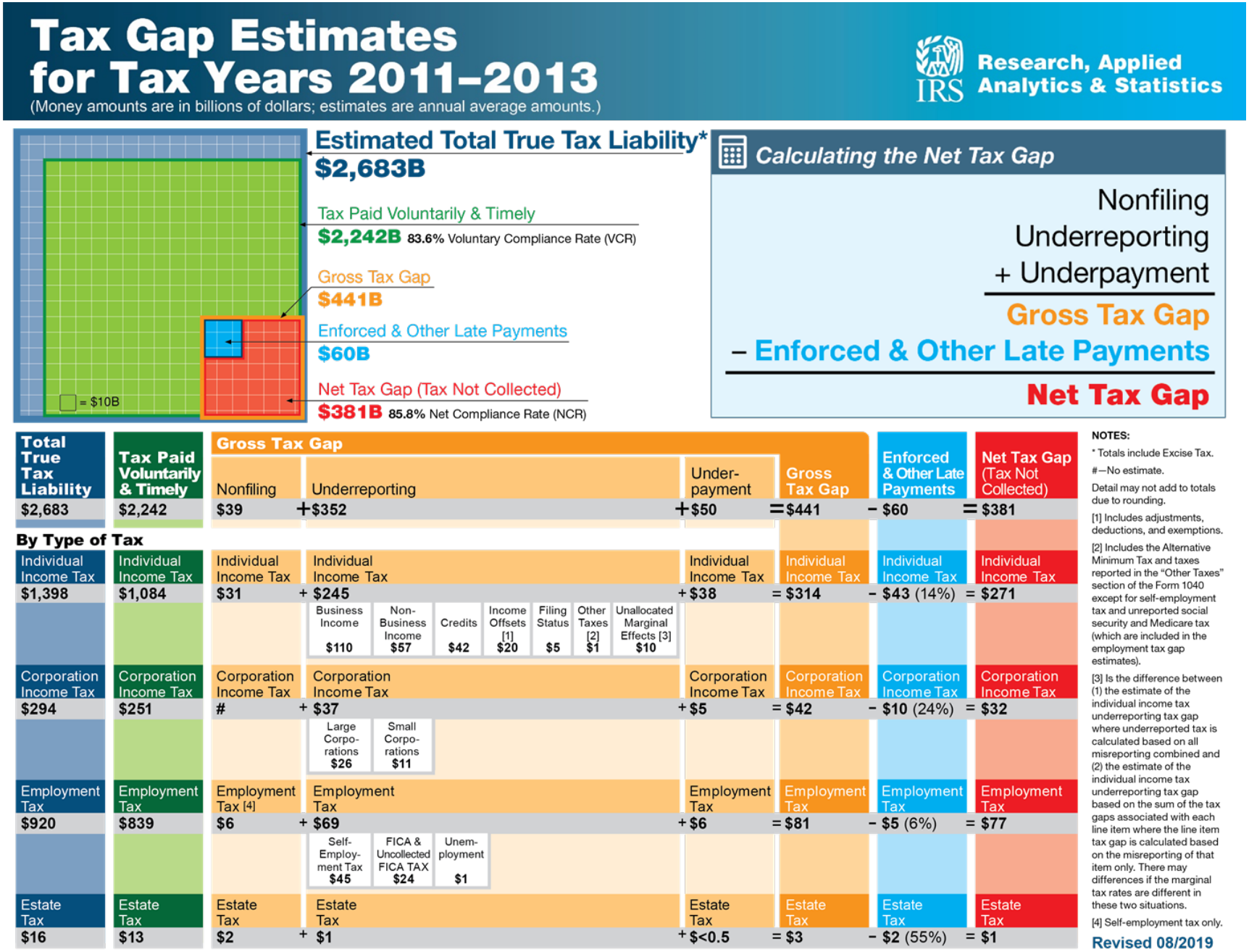
Like the TY 2008–2010 estimates, the estimates presented in this report reflect an estimated average compliance rate and associated average annual tax gap covering a timeframe of three tax years. The methodology for the individual income tax underreporting tax gap is the primary driver behind this choice of timeframe. The motivation was to combine multiple years of annual NRP data on individual income tax reporting compliance to increase the reliability of the estimates based on the NRP data. Starting with TY 2006, the NRP individual income tax reporting compliance sample design moved from larger periodic samples to smaller annual samples. Accompanying this change was an expectation that data for multiple years will be combined when analyzing the data for certain purposes. The sample design allocated evenly over three tax years the total number of returns that previously would have formed a single larger periodic sample.

3.4.1 Overall Gross and Net Tax Gap

The tax gap map schematic on the following page shows the gross tax gap, enforced and other late payments, and net tax gap for all types of taxes and components combined and also by type of tax and component separately. The estimated average annual gross tax gap for the TY 2011-2013 timeframe is $441 billion. An estimated $60 billion of the gross tax gap eventually will be paid resulting in a net tax gap of $381 billion. The voluntary compliance rate (VCR) is 83.6 percent. The estimated net compliance rate (NCR) is 85.8 percent.

Table 1 on page 9 reports the TY 2011-2013 tax gap estimates for the major components, along with the previously published and revised TY 2008-2010 estimates and a decomposition of the changes between the estimates. Many factors contribute to differences over time in both the gross tax gap and the VCR. These

Figure 1. TY 2011–2013 Tax Gap Map



include factors such the overall level of economic activity, changes in the composition of economic activity with shifts toward those with higher or lower compliance rates, changes in tax law and administration, updated data and improved methodologies, and changes in underlying compliance behavior on the part of taxpayers and preparers.

Table 1. Decomposition of Differences in TY 2008–2010 and TY 2011–2013 Tax Gap Estimates

[Money amounts are in billions of dollars]

Tax Gap Component	TY 2008-2010 Prior Published [1]	TY 2008-2010 Revised [1]	TY 2011-2013 [1]	Decomposition of Difference Between TY 2011-2013 Estimates and Prior Published TY 2008-2010 Estimates		
				Total	Due to Updated Methods [2]	Due to Other Factors [3]
Estimated Total True Tax	**$2,496**	**$2,431**	**$2,683**	**$187**	**-$65**	**$252**
Gross Tax Gap	**$458**	**$394**	**$441**	**-$17**	**-$64**	**$47**
Nonfiling Gap	$32	$31	$39	$7	-$1	$8
Underreporting Gap	$387	$325	$352	-$35	-$62	$27
Underpayment Gap	$39	$39	$50	$11	$0	$11
Voluntary Compliance Rate	**81.7%**	**83.8%**	**83.6%**	**1.9%**	**2.1%**	**-0.2%**
Enforced and Other Late Payments	**$52**	**$50**	**$60**	**$8**	**-$2**	**$10**
Net Tax Gap [4]	**$406**	**$344**	**$381**	**-$25**	**-$62**	**$37**
Net Compliance Rate	**83.7%**	**85.8%**	**85.8%**	**2.1%**	**2.1%**	[5]

[1] The estimates are the annual averages for the covered timeframe.

[2] Difference between the prior published TY 2008–2010 and TY 2011–2013 tax gap estimates accounted for by updated methods (includes updated data).

[3] Difference between the prior published TY 2008–2010 and TY 2011–2013 tax gap estimates accounted for by changes in economic activity, changes in compliance behavior and statistical variability.

[4] The net tax gap is the gross tax gap reduced by the amount of enforced and other late payments that will eventually be paid.

[5] Greater than 0.05 percent but less than 0.1 percent.

Detail may not add to total due to rounding.

The approaches used to estimate the various tax gap components for TY 2011–2013 generally follow the methods used for the previous TY 2008–2010 estimates. Newly available data, however, resulted in some modifications to the estimation approaches. The change that had the greatest impact was the way in which the analytical technique for adjusting for income undetected by audits (Detection Controlled Estimation, DCE) was applied in the development of the individual income tax underreporting tax gap estimates. The availability and timing of the new data allowed contemporaneous DCE which eliminated the need for the imputation component that was used in the application of DCE for the TY 2008–2010 estimates.[4]

Even though the methodology used to develop the TY 2011–2013 estimates is not that different from that used for the TY 2008–2010 estimates, some of the changes had a noticeable effect. Thus, the two sets of estimates are not directly comparable even though the general approaches are similar. To facilitate comparing the current estimates for TY 2011–2013 to those for the TY 2008–2010 time period, the TY 2008–2010 tax gap was re-estimated using the same methods as are used for the current estimates. A comparison with the revised estimates shows that the TY 2011–2013 VCR estimate of 83.6 percent is virtually unchanged from the revised estimate of 83.8 percent for the earlier period. The TY 2011–2013 gross and net tax gap estimates are higher than their respective revised TY 2008–2010 estimates by $47 billion (gross) and by $37 billion (net) because the estimated average annual true tax liability for the TY 2011–2013 timeframe is higher than the estimate for the TY 2008–2010 timeframe.

[4] Additionally, because of the availability of new NRP employment tax compliance data, the Federal Insurance Contribution Act (FICA) and Federal Unemployment Tax Act (FUTA) components of the employment tax gap estimates no longer are projections based on compliance rates estimates from 1984 data. Similarly, compliance data from a representative sample of a segment of small corporations contributed to the estimate of the corporation income tax gap for small corporations. These are discussed in more detail later in the report.

The three right-most columns in Table 1 show the results of a decomposition of the differences in the previously published TY 2008–2010 estimates and the TY 2011–2013 estimates into the portion attributable to methodological updates and the portion attributable to other factors. This was determined by applying the current methodology to TY 2008–2010 and attributing the difference between those estimates and the published estimates to updates in methodology. The remainder is attributable to other factors.

Despite limitations due to differences in estimation methods and recognizing the challenges in estimating the tax gap and the many factors that contribute to differences in the estimates over time, the TY 2011–2013 estimates in conjunction with the tax gap estimates for TY 2001 and later years suggest that compliance is holding steady in the 82 percent to 84 percent range. Figure 2 shows this graphically and reports the VCR and gross tax gap estimates for TY 2001, TY 2006, TY 2008–2010, and TY 2011–2013.[5]

Figure 2. Tax Gap and Voluntary Compliance Rate Estimates: TY 2001, TY 2006, TY 2008-2010 (Annual Average), and TY 2011-2013 (Annual Average)

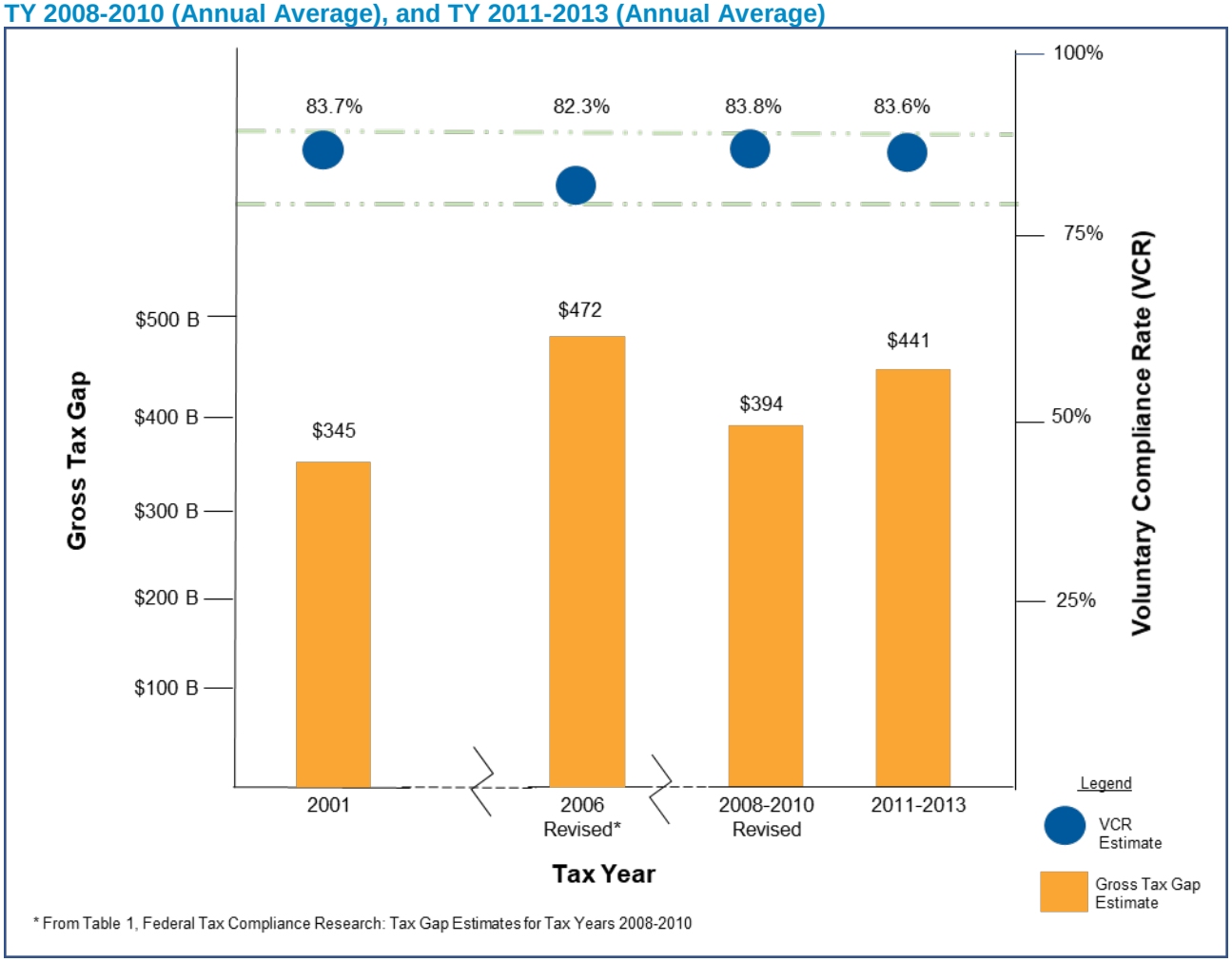


Table 2 on the next page provides a breakout of the nonfiling, underreporting, and underpayment tax gaps into major subcomponents and reports their shares of the gross tax gap.

[5] Figure 1 shows revised estimates for TYs 2006 and 2008-2010. For TY 2006, the originally reported VCR was 83.1 percent and the gross tax gap was $450 billion. The revised TY 2006 estimates use the methodology for the originally published TY 2008-2010 estimates. For TY 2008-2010, the originally reported VCR was 81.6% and the gross tax gap was $458 billion.

Table 2. Tax Gap Estimates for Tax Years 2011–2013[1]

[Money amounts are in billions of dollars]

Tax Gap Component	TY 2011-2013[1]	Share of Gross Tax Gap
Estimated Total True Tax	**$2,683**	
Gross Tax Gap	**$441**	**100%**
Voluntary Compliance Rate	***83.6%***	
Enforced and Other Late Payments	**$60**	
Net Tax Gap	**$381**	
Net Compliance Rate	***85.8%***	
Nonfiling Gap	**$39**	**9%**
Individual Income Tax	$31	7%
Self-Employment Tax	$6	1%
Estate Tax	$2	[2]
Underreporting Gap	**$352**	**80%**
Individual Income Tax	**$245**	**56%**
Non-Business Income	$57	13%
Business Income	$110	25%
Adjustments, Deductions, Exemptions	$20	4%
Filing Status	$5	1%
Other Taxes [4]	$1	[2]
Unallocated Marginal Effects [5]	$10	2%
Credits	$42	10%
Corporation Income Tax	**$37**	**8%**
Small Corporations (assets under $10M)	$11	2%
Large Corporations (assets of $10M or more)	$26	6%
Employment Tax	**$69**	**16%**
Self-Employment Tax	$45	10%
Uncollected Social Security and Medicare Tax	$1	[2]
FICA and Unemployment Tax	$24	5%
Estate Tax	**$1**	**[2]**
Underpayment Gap	**$50**	**11%**
Individual Income Tax	$38	9%
Corporation Income Tax	$5	1%
Employment Tax	$6	1%
Estate Tax	[3]	[2]
Excise Tax	[3]	[2]

[1] The estimates are the annual averages for the Tax Year 2011-2013 timeframe.

[2] Less than 0.5 percent.

[3] Less than $0.5 billion.

[4] Other taxes include the Alternative Minimum Tax and taxes reported in the "Other Taxes" section of the Form 1040 except for self-employment tax and unreported social security and Medicare tax (which are included in the employment tax gap estimates).

[5] Unallocated marginal effects is the difference between (1) the estimate of the individual income tax underreporting tax gap where underreported tax is calculated based on all misreporting combined and (2) the estimate of the individual income tax underreporting tax gap based on the sum of the tax gaps associated with each line item where the line item tax gap is calculated based on the misreporting of that item only. There may be a difference whenever more than one line item has been misreported on the same return and the combined misreporting results in a higher marginal tax rate than when the tax on the misreported amounts is calculated separately.

Detail may not add to total due to rounding.

3.4.2 Nonfiling Tax Gap

Sufficiently reliable information exists for developing estimates of the nonfiling tax gap for three types of tax: individual income tax, self-employment tax, and estate tax. The nonfiling tax gap is the tax gap associated with required tax returns that were filed after the filing deadline or valid extension date–or were not filed at all.

As shown in Table 2 on the previous page, the nonfiling tax gap accounts for about 9 percent of the gross tax gap. The individual income tax nonfiling tax gap is estimated to be $31 billion, which is about 7 percent of the gross tax gap. The self-employment tax nonfiling tax gap is estimated to be $6 billion, which is about 1 percent of the gross tax gap. The estate tax nonfiling tax gap is estimated to be $2 billion which is less than one half of one percent of the gross tax gap.

As a share of the total nonfiling tax gap, the individual income tax nonfiling tax gap is about 80 percent. The self-employment tax nonfiling tax gap is about 15 percent of the estimated nonfiling tax gap and the estate tax nonfiling tax gap is about 5 percent.

3.4.3 Underreporting Tax Gap

As shown in Table 2, of the $441 billion gross tax gap, $352 billion (approximately 80 percent) is estimated to result from the underreporting of true tax on timely filed returns. The individual income tax underreporting tax gap is $245 billion or 56 percent of the gross tax gap. The corporation income tax underreporting tax gap, the employment tax underreporting tax gap, and the estate tax underreporting tax gap are 8 percent, 16 percent, and less than one half of one percent of the gross tax gap, respectively.

As a share of the underreporting tax gap, the individual income tax underreporting tax gap estimate is about 70 percent of the underreporting tax gap. The corporation income tax underreporting tax gap estimate is about 11 percent, the employment tax underreporting tax gap estimate is about 20 percent and the estate tax is less than one half of one percent of the underreporting tax gap.

3.4.4 Underpayment Tax Gap

About 11 percent of the gross tax gap results from taxpayers not timely paying in full the tax they report on timely filed returns. The estimated underpayment tax gap is $50 billion. About 9 percent of the gross tax gap, about $38 billion, is from underpayment of individual income tax. Underpayment of corporation income taxes accounts for 1 percent of the gross tax gap. Underpayment of employment taxes (Federal Insurance Contributions Act, FICA, Federal Unemployment Tax Act, FUTA, Self-Employment Contributions Act, SECA and the railroad retirement tax) accounts for 1 percent of the gross tax gap. These shares correspond to $5 billion (corporation income taxes) and $6 billion (employment taxes) respectively. Excise tax and estate tax account for less than $0.5 billion.

As shares of the underpayment tax gap, about 76 percent is from underpayment of individual income tax. Underpayment of corporation income taxes accounts for 11 percent of the underpayment tax gap. Underpayment of employment taxes accounts for 13 percent of the underpayment tax gap. Excise tax and estate tax account for less than 1 percent each.

3.4.5 Enforced and Other Late Payments

Some of the gross tax gap is collected through IRS enforcement and administrative efforts and some is paid late without any IRS action taken. The total amount of enforced and other late payments is $60 billion. About 72 percent of the total, or $43 billion, is associated with individual income tax. About 17 percent of

the total is the $10 billion in corporation income tax enforced and other late payments. Employment tax enforced and other late payments are 8 percent of the total or $5 billion. Estate tax enforced and other late payments are $2 billion or about 3 percent of the total. Excise taxes enforced and other late payments account for less than one half of one percent of all enforced and late payments.

3.4.6 Net Tax Gap by Type of Tax

Estimates of enforced and other late payments by type of tax are subtracted from the respective gross tax gap estimates to obtain the net tax gap estimates by type of tax. As shown on the Tax Gap Map, the net tax gap for individual income tax is $271 billion and for corporation income tax is $32 billion. The net tax gap for employment taxes is $77 billion. The estate tax net tax gap is $1 billion. The excise tax net tax gap is less than $0.5 billion.

3.4.7 Voluntary Compliance Rates by Type of Tax

Table 3 shows the VCRs by type of tax along with their distributions of tax liability. The VCR estimates remained largely unchanged when compared with the revised TY 2008–2010 estimates. A comparison of the prior published TY 2008–2010 estimates and the revised TY 2008–2010 estimates show the effect of the change in methodology on the VCR estimates and highlights that nearly all of the differences between the prior published TY 2008–2010 and TY 2011–2013 VCR estimates are attributable to updated methods.

Table 3. Voluntary Compliance Rates by Type of Tax, Tax Years 2008–2010, and 2011–2013[1]

Tax Gap Component	Voluntary Compliance Rate			Distribution of Liability		
	TY2008–TY2010 Prior Published	TY2008–TY2010 Revised	TY2011–TY2013	TY2008–TY2010 Prior Published	TY2008–TY2010 Revised	TY2011–TY2013
Overall (all taxes combined)	82%	84%	84%	100%	100%	100%
Individual Income Tax	74%	77%	78%	50%	49%	52%
Corporation Income Tax	83%	85%	86%	10%	10%	11%
Employment Tax	90%	91%	91%	37%	38%	34%
Estate Tax	74%	80%	81%	1%	1%	1%
Excise Tax	N/A	N/A	N/A	2%	2%	2%

[1] The Voluntary Compliance Rates reflect all three types of noncompliance: Nonfiling, underreporting, and underpayment.

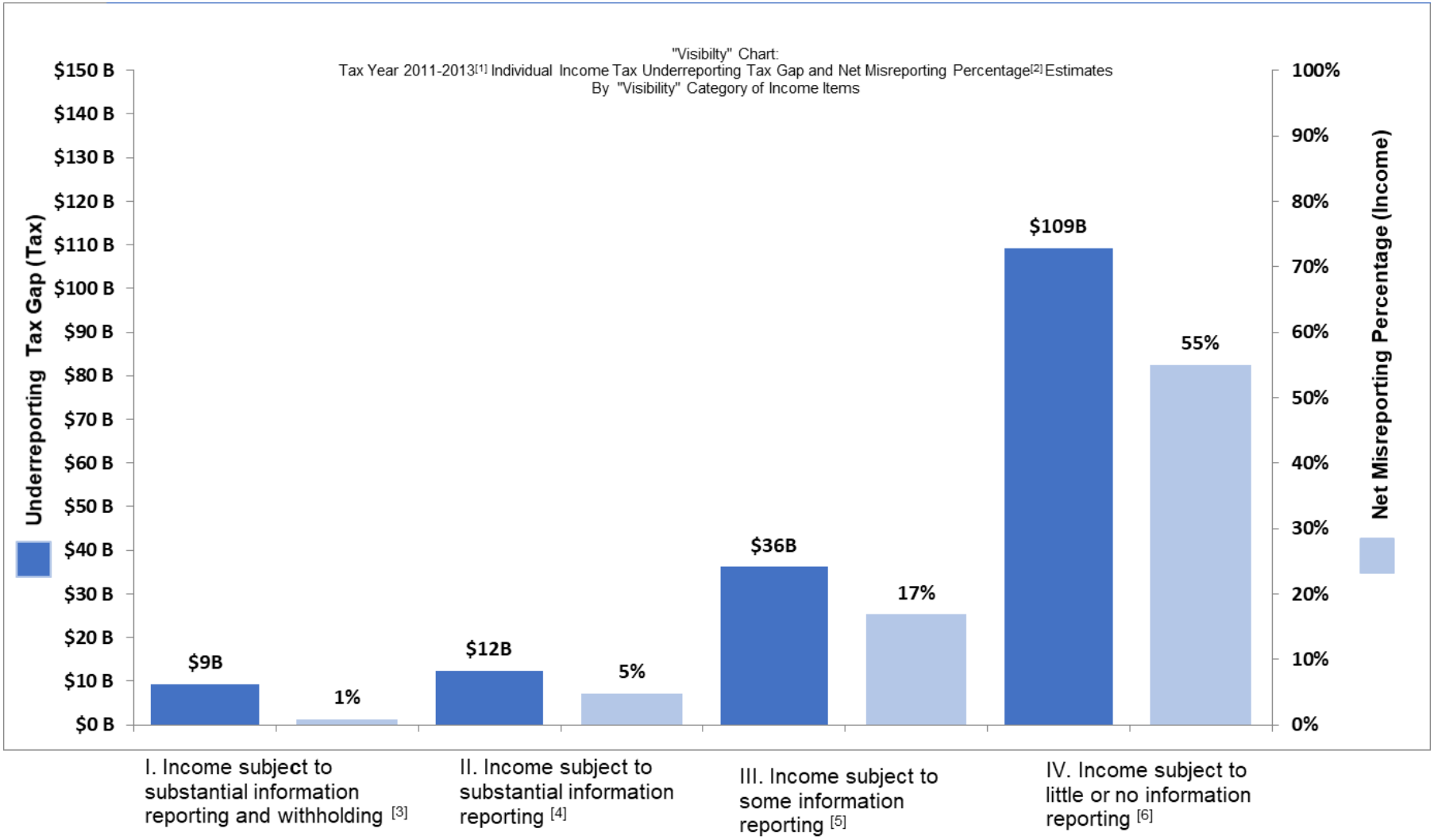
3.4.8 Visibility: A Link Between Reporting Compliance and Third-Party Information Reporting

These most recent estimates continue to confirm the relationship between reporting compliance and third-party information reporting that was demonstrated by prior tax gap estimates. For the individual income tax, reporting compliance is far higher when income items are subject to information reporting and even higher when also subject to withholding. As shown in Figure 3 on page 14, from the individual income tax underreporting tax gap estimates, the net misreporting percentage (NMP) for income amounts subject to substantial information reporting and withholding is 1 percent; for income amounts subject to substantial information reporting but not withholding, the NMP is 5 percent; and for income amounts subject to little or no information reporting, such as nonfarm proprietor income, the NMP is 55 percent. The grouping of items into categories is the same as for the TY 2008–2010 estimates.

4 Data and Methodology

There is no single method for estimating all the components of the tax gap. Rather, the approach for each component varies according to the type of information available. New and updated compliance data were available for most of the components. The general methodological approaches taken for the TY 2011–2013 estimates follow prior estimation practices. However, there have been some changes and enhancements facilitated in part by the new data and these are noted in the following methodological overviews for each tax gap component.

Figure 3. Effect of Information Reporting on Individual Income Tax Reporting Compliance, Tax Years 2011–2013



[1] The TY 2011--2013 estimate is the annual average for the TY 2011, 2012, and 2013 timeframe. This chart displays the tax gap attributable to the underreported income category and the rate at which that income is misreported as measured by the Net Misreporting Percentage.
[2] The Net Misreporting Percentage is the net misreported amount as a ratio of the sum of the absolute values of the amounts that should have been reported expressed as a percentage. For categories I - IV, the net misreported amount is understatements of income less overstatements of income. On net, income is understated for these categories.
[3] Includes wages & salaries.
[4] Includes pensions & annuities, unemployment compensation, dividend income, interest income, taxable Social Security benefits.
[5] Includes partnership/S corp. income, capital gains, alimony income.
[6] Includes nonfarm proprietor income, other income, rents and royalties, farm income, Form 4797 income.

4.1 Nonfiling Tax Gap

Estimates of nonfiling tax gaps were developed for individual income tax, self-employment tax, and estate tax. The methods used for each are described next. The IRS has been conducting research into estimating a corporation nonfiling tax gap but has not yet found a sufficiently reliable method and data upon which to base an estimate.

4.1.1 Individual Income Tax Nonfiling Tax Gap

Taxpayers who expect to have a tax liability are required to prepay a significant share of their estimated tax liability for a given year through withholding or estimated tax payments. Some taxpayers do not timely file required returns to self-assess their tax liability and to reconcile that with prepayments and credits. These prepayments and credits may exceed their true tax liability or cover it in full or in part. Only true tax in excess of timely payments and any credits for which they are estimated to be eligible is included in the nonfiling tax gap. Although nonfilers whose prepayments and credits fully satisfied their true tax liability are not in compliance with the filing requirements of the IRC, this noncompliance does not increase the tax gap since their tax was paid on time.

The individual income tax nonfiling tax gap was estimated using the Administrative Data Method described below, yielding the estimate of $31 billion.[6] The estimation methodology for individual income tax nonfilers separates nonfiling and nonfilers into two groups. These are (1) "late filers" (those who did not file a timely return but did file a return within four years of the tax year of interest) and (2) "not-filers" (those who did not file a return within four years of the tax year of interest).[7] The approach used for the TY 2011–2013 estimates incorporates some improvements to the Administrative Data Method used in the estimation of the TY 2008–2010 individual income tax nonfiling tax gap.

4.1.1.1 Administrative Data Methodology

The estimation methodology for late filers uses the filing status, dependents, deductions, and credits reported on their late filed returns. The estimation methodology, however, incorporates third-party information returns (such as Form W-2 for wages and Forms 1099 for other types of income) to adjust reported income in arriving at estimates of true tax liability and the amount of true tax not paid timely.

To estimate the nonfiling gap attributable to not-filers, the Administrative Data Method identifies all individuals who did not appear as a primary or secondary taxpayer on a timely or late filed return, then assembles for these individuals comprehensive data from third-party information returns. These not-filers are assigned to hypothetical tax units in such a way that the overall distribution of filing statuses and dependents among filers, late filers, and not-filers combined matches the corresponding aggregate distributions observed in Census Bureau data. In addition to the income reported on the information returns, self-employment income is imputed to some of these nonfilers based on the reporting of self-employment income among filers. The gross tax gap is calculated by estimating the tax liability (after tax credits) of those who seem to have a filing requirement and then subtracting from that amount an estimate of the amount of tax that they had paid on time (e.g., through withholding).

[6] In a methodological departure from the TY 2008-2010 estimates which were the average of the Administrative Data Method estimates and the Census Method estimates, the Census Method was not employed for TY 2011-2013 due to increasing challenges associated with implementing that methodology. Since publishing the TY 2008-2010 estimates, it became clear that—even after imputing income to the Census survey data based on what is observed in IRS administrative data—the Census data significantly understate income, leading to inaccurate estimates of tax liabilities and the tax gap.

[7] The "not-filer" terminology is specific to the individual income tax nonfiling tax gap estimates.

The estimation incorporated two main improvements compared with the TY 2008-2010 methodology: (1) for the imputations of self-employment income, the formulas were estimated based only on the population of individuals on filed individual tax returns rather than on the full population[8]; and (2) rather than using all available filing data for each tax year to categorize taxpayers as late filers or not-filers, taxpayers were considered to be late filers only if their return is processed within four years of the end of the tax year in question (this provides consistent treatment for each tax year, regardless of how recent it is).

4.1.2 Self-Employment Tax Nonfiling Tax Gap

The nonfiling tax gap associated with self-employment tax is a byproduct of estimating the nonfiling tax gap associated with individual income tax. The self-employment tax due for each required return was straightforward to compute, given the self-employment income associated with the not-filers and late filers. Timely payments were allocated to income tax and self-employment tax in proportion to the two tax liabilities. The resulting estimate of the self-employment tax nonfiling tax gap is $6 billion.

4.1.3 Estate Tax Nonfiling Tax Gap

The estate tax nonfiling tax gap accounts for both late filers and those who never file a required return. The nonfiling tax gap associated with late filed returns (late-filer tax gap) is estimated from the tax reported on actual late filed returns and is $0.5 billion.

The estimate of the nonfiling tax gap for estate tax returns that will never be filed is a projection that follows the methodology used to estimate the TY 2006 estate tax nonfiling tax gap. The first step in that methodology was to estimate the number of returns with an estate tax filing obligation for Calendar Year (CY) 2001, based on wealth-adjusted mortality curves developed using data from the 2000 University of Michigan Health and Retirement Study and pre-2000 data from the National Center for Health Statistics and projected calendar year 2001 deaths. The difference between that estimate and the estimated number of estate tax returns filed (based on IRS Statistics of Income data) yielded the estimated number of estate tax nonfilers. Their tax liability was estimated by assuming that their noncompliance was the average tax liability reported on timely filed estate tax returns having similar characteristics. The *Calendar* Year 2001 estimate was then converted to a *Tax* Year 2001 estimate. The TY 2011-2013 estimate for returns that will never be filed was developed by assuming a constant filing noncompliance rate based on TY 2001. The resulting estimate is $1 billion.

The $2 billion total estate tax nonfiling tax gap estimate is the sum of the two subcomponent estimates.

4.2 Underreporting Tax Gap

4.2.1 Individual Income Tax and Self-Employment Tax Underreporting Tax Gaps

4.2.1.1 Overview

The basic approach for estimating the individual income tax and self-employment tax underreporting tax gaps is the same as that used for the TY 2008-2010 estimate. Examiner recommended adjustments from the statistically representative NRP samples of individual income tax filers are the foundation of the estimates.[9] The methodology uses an econometric technique to account for income that is not detected during the audits, an inherent limitation in situations where taxpayers are intentionally noncompliant or conduct business in

[8] This was done because analysis found that only the filed returns provide useful information about self-employment income for use in developing models for imputing self-employment income.
[9] The NRP samples for TYs 2008-2010 included "international" taxpayers but did not include them for tax years after TY 2010.

cash with poor or non-existent record keeping. This methodological step is unique to estimating these components of the tax gap and sets these estimates apart from other analyses and estimates developed from NRP data that do not make such an adjustment. The adjustment results in estimates of noncompliance that are higher than those based on unadjusted NRP data.

4.2.1.2 Methodology for Tax Years 2011–2013

The IRS National Research Program designs and administers individual income tax reporting compliance studies. Beginning with TY 2006, the program moved from a larger periodic sample to smaller annual samples. The annual samples consist of approximately 14,000 returns—roughly one-third the size of prior periodic studies. The annual samples can be combined over several years to provide compliance estimates at a level of reliability similar to a much larger single-year sample. The NRP uses a process called classification to determine the type of audit for each return selected and the mandatory issues to be examined.[10] In the case of simple returns where information can be easily reconciled with the information returns filed by third parties and there are no other indications of significant compliance issues, taxpayers are not audited and not contacted. Returns that have only a small number of simple issues identified in classification are routed to correspondence exams. More complicated returns are assigned to one of two types of audits that generally involve face-to-face interaction with the taxpayer: either an office audit handled by a Tax Compliance Officer at an IRS office or a field audit handled by a Revenue Agent, who may visit the taxpayer's place of business.

Not all underreported income is detected by every audit, even audits of the scope and quality of audits conducted under the NRP. For tax gap estimates prior to TY 2001, a multiplier approach was used to adjust the audit data for undetected income. Beginning with the TY 2001 estimate, an econometric technique termed Detection Controlled Estimation (DCE) has been used. The current adaptation of the DCE methodology allows for greater variability in the average detection rates across line items.[11] The modeling approach for the detection component generally requires data that include 15 or more returns audited by the same examiner. To meet this requirement, it was necessary to pool multiple tax years of NRP data. In general, TY 2008–2013 data were pooled in order to have sufficient observations and to improve the reliability of the estimates of undetected income. Since NRP data from TY 2011–2013 were used in the DCE estimation, the actual results of the DCE estimation for the TY 2011–2013 sample were available to estimate the individual income tax underreporting tax gap.[12] This contemporaneous DCE estimation used for the current estimates is an improvement over the method used for the TY 2008–2010 estimates.

Since some income items with significant information reporting were not routinely classified, the estimation also included an additional modeling step conditional on whether or not the line item was classified and whether there were mismatches with information documents for these items. The data requirements for DCE meant that some income items still needed to be grouped together for purposes of estimating the detection equation, even when using NRP data pooled across multiple years. [13] Table 4 on the following page shows the specific groupings of income items used for estimation.

[10] Examples of issues include line items on the return, filing status, number of dependents, whether an activity is engaged in for profit or as a hobby.
[11] Detection rate here is defined as the amount of unreported income detected as a percentage of the total unreported income. The smaller the detection rate, the larger the amount of total underreporting is relative to detected underreporting.
[12] An imputation methodology was previously developed to allocate the DCE estimates derived from the pooled TY 2006–2008 NRP data to the TY 2008–2010 NRP data for the TY 2008–2010 tax gap estimates. That imputation methodology was not necessary for estimating the TY 2011–2013 individual income tax underreporting tax gap.
[13] An example of such a DCE requirement is the need for at least 15 audits by the same auditor in which a given line item (or grouping of line items) was audited.

Table 4: Grouping of Income Items for Joint DCE Estimation of Undetected Income

Items Subject to Significant Information Reporting	Items Routinely Classified	
Estimated Jointly	***Estimated Jointly***	***Estimated Separately***
Wages and Salaries	Short-term Capital Gains	Schedule C
Interest	Long-term Capital Gains	Schedule F
Dividends	Rents and Royalties	
State and Local Tax Refunds	Partnership, S corp., Estate, Other	
Pension and IRA income	Form 4797 Net Gains	
Gross Social Security income	Other Income	
Unemployment compensation		

4.2.1.2.1 Additional Tip Income Adjustments

For some line items, DCE is unlikely to account fully for all undetected income. Since tip income is relatively concentrated in a few industries and occupations, tip income represents a relatively small amount of overall wages, salaries, and tips. However, since a significant portion of tip income is paid in cash by customers, tip income is subject to less information reporting than most wages and salaries. The lack of complete information reporting and the cash nature of many tips suggest that tip income has a lower compliance rate than other wages and salaries and is harder to detect during an audit. Given the concentration of tip income and the nature of the NRP samples, the NRP data could not support the use of DCE estimation for estimating undetected unreported tip income. Therefore, unreported tip income was assumed to have the same noncompliance rate as the detected noncompliance rate for sole proprietor net income or loss. Reported tip income was multiplied by an adjustment factor to estimate unreported tip income.

4.2.1.2.2 Tax Calculator

For each income item and return, the DCE estimation provides return-level predictions of the probability of undetected income and the amount of undetected income conditional on the presence of undetected income. The DCE estimation predicts a positive probability of undetected income for most line items on most returns, although this is typically very small for returns where no unreported income was detected. In order to simulate a realistic distribution of undetected income consistent with the predicted incidence of undetected income, a simulation process randomly allocates undetected income for each income item based on the probability of undetected income for that item on each return. This was done by assigning a random number to each return and then assigning undetected income to that return if the random number was less than the probability of undetected income for that return. This entire process is repeated ten times to create ten simulated TY 2011 – 2013 data sets.

For the next step, which is to estimate underreported taxes resulting from total underreported income (both examiner detected and DCE undetected), a tax calculator is applied to individual observations (i.e. tax returns) from the ten simulated TY 2011–2013 data sets. This process yields ten underreporting tax gap estimates for each line item, which are then averaged to produce the final underreporting tax gap estimate. The final line-item underreporting tax gap estimates are summed to estimate the overall individual income tax underreporting tax gap.

Estimating the tax gap associated with particular return line items in this second step required additional analysis. Estimating the underreporting tax gap for each income item involves a process in which the additional income for each income item is added to the reported amount of income and then the additional

tentative tax based on that additional income calculated. [14] Then that additional income is dropped, and the process repeated for the next income item.

For filing status, the individual income tax underreporting tax gap is the difference in tentative tax based on reported income, deductions, and filing status and tentative tax based on income and deductions that should have been reported calculated using the filing status that should have been reported. For credits, the individual income tax underreporting tax gap is the difference between credits based on reported income, deductions, and filing status and credits based on income, deductions, and filing status that should have been reported. Although there are no specific DCE adjustments for credits, the DCE adjustment to income items flows through to the calculation of the tax gap associated with credits.

4.2.1.2.3 Filing Status

The net misreported amount of tax associated with misreporting of filing status is explicitly calculated. The tax gap associated with filing status does not include the effect of filing status on credits. Those effects are included in the tax gap associated with credits. For the TY 2011–2013 timeframe, the average annual tax gap associated with misreported filing status is $5 billion.

4.2.1.2.4 Unallocated Marginal Effects

The marginal tax rate used to estimate the tax gap associated with a given income line item is calculated holding all other line items at their reported amounts. This calculation understates the true marginal tax rate whenever more than one line item has been underreported on the same return and the combined underreporting results in a higher marginal tax rate than when the tax on the underreported amounts is calculated separately. For TY 2001 and TY 2006, the total individual income tax underreporting tax gap estimates were the sum of the tax gap amounts associated with each line item. Therefore, the TY 2001 and TY 2006 estimates understated the total individual income tax underreporting tax gap. For TY 2008–2010 and TY 2011–2013, the total individual income tax underreporting tax gap is calculated based on the marginal tax rates associated with all misreporting for a given return. The difference between the total individual income tax underreporting tax gap and the sum of the individual line item tax gaps is characterized in this report as "unallocated marginal effects." For the TY 2011–2013 timeframe, the average annual tax gap associated with unallocated marginal effects is $10 billion.

4.2.1.3 Self-Employment Tax Underreporting Tax Gap

Self-employment taxes are required to be reported by individuals with self-employment income on individual income tax returns. The underreporting of self-employment income, primarily income reported on Schedules C and F, results in underreported self-employment taxes. Each spouse on a joint return has a separate earned income threshold above which the combined wages and self-employment income are subject to Medicare taxes, but not social security taxes. Undetected self-employment income (Schedules C and F) is allocated to the primary taxpayer and secondary taxpayer according to each taxpayer's respective share of self-employment income as determined by the NRP examiner. Undetected wages, salaries, and tips were allocated similarly. The tax calculator then calculated the amount of self-employment taxes that should have been reported.

4.2.1.4 Uncollected Social Security and Medicare tax

This is a new tax gap component for TY 2011-2013. Employees who did not report tips to their employers or whose employer did not withhold social security and Medicare taxes from their pay are required to report and pay the employee share of employment taxes on their individual income tax return. The tax calculator

[14] Tentative tax is the amount reported on TY 2013 Form 1040 line 44.

was used to calculate the employee's share of employment taxes that should have been reported for tips not reported to their employer and for wages where employment taxes were not withheld. As with the self-employment tax underreporting tax gap, underreported employment taxes for this component are included in the employment tax underreporting gap and not the individual income tax underreporting gap.

Table 5. Individual Income Tax Underreporting Tax Gap by Source: Tax Years 2011–2013[1]

[Money amounts are in billions of dollars]

Tax Return Line Items	Tax			Line Item Amount
	Tax Gap	Share of Gross Tax Gap	Share of Individual Income Tax Underreporting Tax Gap	Net Misreporting Percentage[2]
Gross Tax Gap	**$441**	**100%**	**n.a.**	**n.a.**
Individual Income Tax Underreporting Tax Gap	**$245**	**56%**	**100%**	**18%**
Items Subject to Substantial Information Reporting and Withholding	**$9**	**2%**	**4%**	**1%**
Wages, salaries, tips	$9	2%	4%	1%
Items Subject to Substantial Information Reporting	**$12**	**3%**	**5%**	**5%**
Interest income	[3]	[3]	[3]	1%
Dividend income	$1	[3]	1%	5%
State income tax refunds	$1	[3]	[3]	12%
Pensions & annuities	$5	1%	2%	3%
Unemployment Compensation	[3]	[3]	[3]	7%
Taxable Social Security benefits	$4	1%	2%	11%
Items Subject to Some Information Reporting	**$36**	**8%**	**15%**	**17%**
Partnership, S-Corp, Estate & Trust, etc.	$19	4%	8%	11%
Alimony income	[4]	[4]	[4]	[4]
Capital gains[5]	$17	4%	7%	23%
Short-term Capital Gains	*$7*	*2%*	*3%*	*24%*
Long-term Capital Gains	*$10*	*2%*	*4%*	*15%*
Items Subject to Little or No Information Reporting	**$109**	**25%**	**45%**	**55%**
Form 4797 income	$2	1%	1%	36%
Other income	$16	4%	6%	42%
Nonfarm proprietor income	$68	15%	28%	56%
Farm income	$6	1%	2%	62%
Rents & royalties	$17	4%	7%	51%
Other Taxes	**$1**	**[3]**	**1%**	**3%**
Unallocated Marginal Effects	**$10**	**2%**	**4%**	**n.a.**
Income Offsets (Adjustments, Deductions, Exemptions)	**$20**	**4%**	**8%**	**5%**
Total Credits	**$42**	**10%**	**17%**	**38%**
Filing Status	**$5**	**1%**	**2%**	**n.a.**

[1] The estimates are the annual averages for the Tax Year 2011-2013 timeframe.

[2] The net misreporting percentage is the net misreported amount divided by the sum of the absolute values of the amounts that should have been reported, expressed as a percentage.

[3] Less than 0.5 percent or $0.5 billion.

[4] Estimate is based on very small sample size. Estimated tax gap is less than $ 0.5 billion and NMP is less than 0.5%.

[5] The TY 2008–2010 NMP for capital gains was incorrectly reported as 27%. The correct NMP for TY 2008–2010 was 21%.

n.a : not applicable.

Detail may not add to total due to rounding.

4.2.1.5 Estimates for Tax Years 2011–2013

The estimates in Table 5 on the previous page and Table 6 below, provide a breakout of the components of the individual income tax underreporting tax gap. The income components in Table 5 are grouped by the "visibility" categories shown earlier in Figure 2. For each component, the table shows the component's share of the individual income tax underreporting tax gap. The table also shows each component's share of the gross tax gap. Business income reported on Schedules C, E, and F accounts for 45 percent of the total individual income tax underreporting tax gap for TY 2011–2013. This consists of nonfarm proprietor income which accounts for 28 percent, flow-through income (partnerships, S corporations, and estates and trusts) which accounts for 8 percent, rent and royalty income which accounts for 7 percent, and farm income which accounts for 2 percent. Credits in the aggregate account for the 17 percent of the individual income tax underreporting tax gap. The EITC accounts for 11 percent of the individual income tax underreporting tax gap, followed by the refundable and nonrefundable child tax credit (3 percent), the refundable and nonrefundable education credits (2 percent) and all other credits (1 percent).

Table 6. Individual Income Tax Underreporting Tax Gap by Type of Credit: Tax Years 2011–2013[1]

[Money amounts are in billions of dollars]

Tax Return Line Items	Tax Gap	Share of Gross Tax Gap	Share of Individual Income Tax Underreporting Tax Gap
Gross Tax Gap	**$441**	**100%**	**N/A**
Individual Underreporting Gap	**$245**	**56%**	**100%**
Total Credits	**$42**	**10%**	**17%**
Child Tax Credit and Additional Child Tax Credit	$9	2%	3%
EITC	$27	6%	11%
Education Credits	$5	1%	2%
All Other Credits	$1	[2]	1%

[1] The estimates are the annual averages for the Tax Year 2011-2013 timeframe.

[2] Less than 0.5 percent.

Detail may not add to total due to rounding.

4.2.2 Corporation Income Tax Underreporting Tax Gap

The corporation income tax underreporting tax gap estimates are developed separately for small corporations (those without a balance sheet or with assets less than $10 million) and all other corporations. The estimates are based on data from operational audits instead of a statistically representative sample of NRP selected audits. The limited scope and selection criteria for non-NRP audits introduce statistical bias, meaning that the corporation audit issues and results are not necessarily representative of the overall corporation population. Proposed adjustments on these examined returns are used as the basis for estimating the noncompliance for the entire population of corporation income tax filers. The IRS has developed methods to project the results of these audits to the population. However, there is considerable uncertainty surrounding the estimates of this component of the tax gap because of data limitations, lack of information from which to develop a reasonable method to adjust for undetected noncompliance, and other issues. Because of this uncertainty, unlike the individual income tax underreporting tax gap component, the corporation income tax underreporting tax gap component estimate does not include any adjustments for income undetected by the examinations upon which the estimates are based. Using non-NRP data potentially biases the estimates upwards (if the analytical techniques described below do not fully adjust for the selection bias) while not adjusting for undetected income biases the estimates downwards. Despite these limitations, the corporate estimates provide a rough gauge of corporation income tax noncompliance.

4.2.2.1 Small Corporation Income Tax Underreporting Tax Gap[15]

Since operational audits are selected for examination based on their expected compliance risk, the examination results are not broadly applicable to the general population without additional assumptions and modeling. The estimates included here were based on an econometric approach that controls for the bias from using non-representative operational audit data. The econometric model is estimated using the operational audit data and tax return data for TY 2006–2013 to develop underreporting tax gap estimates. The basic approach is to jointly estimate an econometric model consisting of five equations:

(1) the probability of a return being audited;
(2) the probability of detecting underreported tax conditional on an audit;
(3) the amount of underreported tax conditional on detected underreporting;
(4) the probability of detecting overreported tax conditional on an audit and no detected underreporting; and
(5) the amount of overreported tax conditional on an audit and no detected underreporting.

Given that less than one percent of small corporations are audited for any given year and the variation in examination results from year to year, a period estimate is expected to provide more consistent and accurate results than estimating each year separately. Data from TYs 2006–2013 are used to jointly estimate the model for the final estimates. Examinations included in the final modeling were those selected based upon their discriminant function (DIF) score, through regular classification, or through statistical sampling.[16] The estimated small corporation income tax underreporting tax gap is $11 billion.

4.2.2.2 Large Corporation Income Tax Underreporting Tax Gap[17]

Similar to the small corporation income tax underreporting tax gap, the large corporation income tax underreporting tax gap estimates rely on operational audit data. The final estimate is based on the same pareto/extreme value method that was used for the TY 2008–2010 large corporation income tax underreporting gap estimate.

4.2.2.2.1 Pareto/Extreme Value Methodology

The methodology adopted for the large corporation income tax underreporting tax gap used the general observation from operational audit results that the majority of audit adjustments are concentrated in a relatively small number of audits (Bloomquist 2008). Axtell (2001) found that the distribution of U.S. firm sizes follows a Pareto distribution. Both Krishnaji (1970) and Revankar (1974) show that underreported income also follows a Pareto distribution if: (a) income follows a Pareto distribution and (b) underreporting is a constant fraction of true income. A study by Axtell (2001) provides support for the two conditions.

Through the use of the Pareto distribution applied to audit adjustment data, extreme values of noncompliance among the largest corporations (corporations with assets over $250 million) can be used to

[15] Small corporations are defined as corporations reporting less than $10 million in assets, including those with no balance sheet.
[16] Examinations used in the modeling included some returns audited through the NRP TY 2010 small corporation reporting compliance study of corporations with a balance sheet and with assets less than $250,000. Estimates from the model for this subset of returns are consistent with the results of the NRP study.
[17] The large corporation income tax underreporting tax gap estimate consists of the income tax underreporting tax gaps of two subgroups of corporations with $10 million or more in assets. Mid-size corporations are defined as corporations reporting at least $10 million in assets, but less than $250 million. Large corporations are defined as corporations reporting at least $250 million in assets.

estimate the noncompliance of the rest of the population. Operational audit data for the large corporations for TYs 2002–2008 were used to identify the audits with extreme values in terms of the proposed audit adjustments to tax. The first step was to rank the audit results in descending order and identify the operational audits for corporations with assets over $250 million that account for all the net proposed audit adjustments. The proposed audit adjustments for all the other examined returns, which include both positive and negative amounts, offset each other. The parameters of a linear relationship between the log (base 10) of the audit recommendation and the log of the rank of the return (in descending order so that the largest recommendation received a rank of one) were then estimated. This linear relationship was then used to estimate the total tax gap and voluntary reporting rate (VRR)[18] for the large corporations for TYs 2002-2008. The average VRR was then applied to the reported TY 2011–2013 tax liability of both the mid-size and large corporations arriving at a corporation income tax underreporting tax gap estimate of $26 billion.

4.2.3 Employment Tax Underreporting Tax Gap

The tax gap employment tax component includes social security and Medicare taxes under the Federal Insurance Contributions Act (FICA) and the Self-Employment Contributions Act (SECA), payments for federal unemployment insurance under the Federal Unemployment Tax Act (FUTA), and railroad retirement and railroad unemployment repayment taxes under the Railroad Retirement Tax Act (RRTA) and the Railroad Unemployment Repayment Tax (RURT). The estimate of the employment tax underreporting tax gap presented in this report covers taxes associated with FICA, FUTA, and SECA. Taxes associated with RRTA and RURT are excluded due to lack of available compliance data for these relatively small components. The FICA and FUTA taxes associated with employers of agricultural and household workers are also excluded from the estimates due to lack of compliance data. Therefore, the estimate of the employment tax underreporting gap presented in this report should be considered an underestimate of the "true" tax gap because estimates for some components are not available.

The components of the employment tax underreporting tax gap estimate that are associated with FICA and FUTA are estimated using information newly available from the National Research Program (NRP) Employment Tax Study for TYs 2008–2010. The NRP data are used to estimate compliance rates for FICA and FUTA taxes for TY 2008–2010, and these rates are then applied to the reported TY 2011–2013 population data to generate estimates of underreported FICA and FUTA taxes for TY 2011–2013. It is estimated that the FICA and FUTA employment tax underreporting tax gap for TY 2011–2013 is a combined $24 billion, with $23 billion from underreported FICA taxes and $1 billion from underreported FUTA taxes.

The NRP Employment Tax Study covered tax years 2008 through 2010 and used the population of Form 941 filers as its sample frame. However, since FICA taxes may be reported on other forms besides the Form 941 the study did not include all filers and reporters of FICA tax. In addition, certain other Form 941 filers were excluded from the NRP sample: federal and state governments, large corporations identified as Coordinated Industry Cases (CIC) (generally those corporations with assets of at least $250 million), foreign subsidiaries, Indian Tribal Governments, and employers covered by the Maritime Industry Credit Freeze.[19] Together these exclusions account for less than 0.1 percent of employers filing

[18] The VRR is defined as the aggregate amount of tax reported on the returns, expressed as a percentage of the estimated total amount of tax that should have been reported (in this case, as determined by the auditors and projected to the rest of the population). The VRR differs from the VCR in that the VRR is an estimate of only the underreporting tax gap component. The VCR includes the nonfiling and underpayment tax gaps in the calculation.

[19] Returns filed by churches were sampled in all three years but were excluded from the 2008 sample and not audited for that tax year; their audit results are included in the 2009 and 2010 samples. Sample weights are adjusted so that any analysis that combines the three years into annual averages are roughly equivalent to having churches in the sample for all three years.

Form 941 in a typical quarter in 2008-2010. However, the excluded employers account for a larger share of reported FICA taxes: roughly 15 percent of FICA taxes reported on Forms 941 in a typical quarter are not covered by the NRP sample, with roughly 9 percent attributed to CIC entities, 4 percent attributed to Federal government employers, 2 percent attributed to state government employers, and just 0.2 percent attributed to foreign subsidiaries, Indian Tribal Governments and employers covered by the Maritime Industry Credit Freeze.

Because the NRP sample was selected from Form 941 filers, it is not necessarily a representative sample of Form 940 filers, which raises the concern that it might not accurately reflect overall FUTA tax compliance. However, for the sample period TY 2008–2010, 97 percent of FUTA taxes reported on the Form 940 were reported by employers who also filed Form 941, indicating that the Form 941 sample yields a high degree of coverage of the Form 940 filing population. The exclusions from the Form 941 sample will reduce the extent of the coverage of the Form 940 population somewhat but, nonetheless, the high degree of overlap suggests that the NRP sample of Form 941 filers should be sufficient for producing reliable estimates of FUTA tax compliance.

For purposes of developing the FICA and FUTA employment tax underreporting tax gap estimates, the VRR estimates are derived from the NRP sample data and are applied to the comparable populations of Form 941 filers and Form 940 filers for TYs 2011–2013 to estimate the amount of unreported FICA and FUTA taxes by employers for those years. This process is conducted separately for three different types of employers that correspond to three IRS business operating divisions: small businesses (generally those with fewer than $10 million in assets) and self-employed, large businesses (generally those with $10 million or more in assets), and tax-exempt or government entities. Implicit in this methodology is the assumption that the employers excluded from the NRP sample have the same compliance rate as other employers of the same type. The VRR estimates for FICA taxes are also applied to Form 944 filers.

The self-employment tax component of the employment tax underreporting tax gap estimate is based on underreported income data from the TY 2011–2013 NRP individual income tax reporting compliance studies, adjusted for undetected noncompliance. The tax effect was estimated by the tax calculator as described earlier in the report in the Tax Calculator section. The self-employment tax underreporting tax gap estimates is $45 billion.

4.2.4 Estate Tax Underreporting Tax Gap

The estate tax underreporting tax gap estimate is a projection that follows the methodology used to estimate the TY 2006 estate tax underreporting tax gap. The TY 2006 estimate reflected the application of a prior methodology to new data adjusted for changes to the estate tax law.[20] Operational audit data were combined with a random sample of tax returns filed timely in CY 2004 in order to predict underreported tax on unaudited returns using an econometric model. The processing year (PY) 2004 estimate was converted to a TY 2004 estimate, based on a 2004 death year, by applying two adjustment factors: one for estates with a reported total gross estate valued less than $5 million, and one for estates with a reported total gross estate valued greater than $5 million. The estate tax underreporting tax gap estimate for TY 2011–2013 is estimated to be $1.0 billion and is a projection to the TY 2011–2013 timeframe that makes an assumption of a constant compliance rate and uses the rate developed from the earlier estimates.

[20] Erard, Brian. 1999. "Estate Tax Underreporting Gap Study: A Report Prepared for the Internal Revenue Service Economic Analysis and Modeling Group." Order number TIRNO-98-P-00406. Internal Revenue Service.

4.3 Underpayment Tax Gap

The gross underpayment tax gap is the amount of tax liability that is reported on timely filed returns but is not paid on time. Underpayment tax gap estimates by type of tax and tax year are developed through a tabulation of IRS administrative data that sums the amount of liability timely reported but not timely paid. These tabulations are developed for individual income tax returns, corporation income tax returns, employment tax returns, excise tax returns, and estate and gift tax returns.

Employers withhold and deposit individual income tax from the pay of employees. The tax withheld and deposited is reported and reconciled on the employer's employment tax returns. For purposes of tax gap estimation, an employer's failure to deposit or otherwise make timely payments of withheld income tax is included in the individual income tax gap and not the employment tax gap since the ultimate liability in this case is the employees' individual income tax liability.

The estimation methodology therefore includes two adjustments to the tabulations of administrative data. The first estimates through an allocation, amounts of underpayment of withheld income tax from timely filed employment tax returns. These amounts are then included with the individual income tax underpayment tax gap rather than the employment tax underpayment tax gap.

The second accounts for situations in which an employer withholds income tax from employees but does not report it on time (or pay it on time); that amount will not be included in the tabulations mentioned above since those tabulations are based solely on timely filed employment tax returns. The reason why these amounts are included in the underpayment tax gap is that they are ultimately payments of individual income tax and that the individual employee is assumed to report the tax liability and withholding on time, even though the employer did not report and did not pay it on time on the taxpayer's behalf.

This second adjustment is estimated as the amount associated with late employment tax returns filed by the date of the tabulation. If the amount associated with late returns filed after the tabulations were small, then these special tabulations presumably capture almost all the amount that could eventually be observed in tax records. Nonetheless, an unknown amount is presumably withheld from employees and never paid to the government by their employers; that is not estimated, even though it is by definition part of the individual income tax underpayment tax gap.

Finally, the self-employment tax underpayment tax gap is separated from the individual income tax underpayment gap tabulations even though they are both reported on Form 1040. The self-employment tax portion was estimated from the total by assuming that the income and self-employment underpayment tax gaps are proportional to the corresponding total individual income tax and self-employment tax liabilities.

4.4 Enforced and Other Late Payments

Some of the gross tax gap is collected through IRS enforcement efforts and some is paid late, i.e., after the payment due date, without IRS intervention. For example, a payment may be remitted when filing a return just before an extended filing deadline[21] or when filing an amended return. The general approach to estimating enforced and other late payments for a particular tax year is to track actual payments over time

[21] The payment due date is generally the original due date of the return; extending the filing deadline does not extend the payment deadline.

and then project these so that they include future payments that will eventually be made for that tax year. The details of the projection methods are described in detail in a technical report.[22]

All late payments are tabulated from IRS administrative data. These tabulations distinguish payments made after the due date from those paid on time. These tabulations are used for all except the corporation income tax.

The corporation income tax estimates of enforced and other late payments are taken entirely from the tabulations of Total Enforcement Revenue Collected (TERC) from the Enforcement Revenue Information System. This is primarily because corporations often make timely estimated tax payments or realize other credits that are eventually applied to enforcement assessments related to a tax year that begins after the payment was made or the credit was realized. These payments cannot be identified in the standard tabulations of late payments used for the other types of tax because the payments are actually made before the original due date; so they are enforced payments paid "on time." Using TERC assumes that corporations do not make any non-enforced late payments, which would not be captured by TERC.

[22] Alan Plumley, *The Net Tax Gap for Tax Years 2008-2010,* Research, Applied Analytics & Statistics Technical Paper, Internal Revenue Service. (2-2016)

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