Valuing Unpaid Tax Assessments: Estimating Long-Run Collectability Using an Econometric Approach

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Introduction

The Government Management Reform Act of 1994[2] and the Chief Financial Officers (CFO) Act of 1990[3] made the Government Accountability Office (GAO) responsible for annual audits of agency-wide financial statements and the U.S. government's consolidated financial statements. As of Fiscal Year 2016, there were 400 billion dollars in unpaid assessments (UA) the IRS has the authority to collect.

There are four financial classifications of UA inventory assets. For this paper, just like in the financial statements, the memo financial classification will be excluded, as the assessments in this inventory are not true receivables. It does not meet any of the other financial classifications as it contains fraudulent/frivolous tax returns and multi-year examinations with global netting issues. The remaining classifications are:

- **Taxes receivable**—assessments that the taxpayer has agreed to, or there has been a legal determination of liability;
- **Compliance assessments**—unagreed enforcement assessments; and
- **Write-offs**—amounts deemed to have little collection potential, but by statute must remain on the books for the length of the collection statute (usually 10 years).

The IRS reports on its financial statements an estimated dollar amount it expects to collect from the taxes receivable portion of the unpaid assessments inventory. Obtaining a clean GAO audit rests in part on the accuracy of the UA collectability estimate. In this paper, we develop an econometric approach to estimating the value of unpaid assessments inventory. This approach is data-driven and provides a more comprehensive estimate of the value of the entire inventory of unpaid assessments over the life of each asset.

Unpaid Assessments and Collectability Estimates

While a major component of the IRS's mission is assessing and collecting the proper amount of tax, the challenge for IRS financial management is to accurately account for and determine the net realizable value of an ever-increasing inventory of unpaid assessments. This can be challenging in an environment with increasingly limited resources. The IRS has long sought a more flexible decision tool that could strengthen its financial reports and reconcile reports to downstream collection activities driven by an individual debtor's characteristics.

Unpaid assessments consist of taxes, penalties, and interest that have not been collected or abated. IRS CFO staff are responsible for estimating, reconciling, analyzing trends, and preparing projections on the unpaid assessment inventory. These tasks require personnel to evaluate taxpayer account information over time to identify those characteristics that impact the probability of collections. Reconciliation of balances to unpaid assessment information reports ensures the integrity of the financial statements.

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[1] The views and opinions presented in this paper reflect those of the authors. They do not necessarily reflect the views or the official position of the Internal Revenue Service.

[2] Civic Impulse. (2017). S. 2170—103rd Congress: Government Management Reform Act of 1994. Retrieved from https://www.govtrack.us/congress/bills/103/s2170.

[3] Chief Financial Officers (CFO) Act of 1990 (1990, Nov). Public Law 101-576, 101st Congress. Retrieved from http://www.gao.gov/special.pubs/af12194.pdf.

Federal accounting standards (FASAB 7) require reporting Federal taxes receivable net of allowance for loss on taxes receivable on the balance sheet and notes to the financial statements, and the disclosure of compliance assessments and write-offs in the supplemental information to financial statements.[4] New requirements for the accounting of expected credit losses are set forth in IFRS 9 (International Financial Reporting Standard) and take effect for large banks' 2018 financial statements.[5] Accounting principles in the U.S. have evolved over the last 80 years, but they are still considered to be more rules-based in their approach to accounting standards and may not address unforeseen issues that arise in the normal course of business. Some government entities including the U.S. Postal Service, U.S. Department of Treasury entities, and smaller executive and legislative branch entities continue to apply this rules-based FASB (Financial Accounting Standards Board) approach. Principles-based standards, such as Generally Accepted Accounting Principles (GAAP) from the FASAB, provide more flexible applications to a broad range of situations.[6] More than 100 countries have adopted IFRS to some degree. FASAB now requires a loss allowance based on the expected losses over the life of the assets.

The recovery model-based approach presented in this paper supports the process of estimating recovery of taxes receivable with the corresponding allowance for loss (loss given default). Scores developed from the models provide an opportunity to automate and enhance the annual financial statement audit by reducing the inherent risk associated with small sample designs, thereby helping to ensure the IRS receives an unqualified (clean) opinion.

For most unpaid assessments, the statutory period for collection is 10 years. During the statutory period, changes in economic conditions, tax law, tax administration policy, and resources devoted to tax administration can potentially affect the actual collection from some assets. The current method for estimating the value of unpaid assessments involves conducting intensive reviews of a sample of the inventory to determine collectability. The IRS currently uses subject-matter experts to confirm that the assessments are classified properly in the sample, calculates the value of the taxes receivable portion of the sample, and then projects potential collection to the taxes receivable population of the entire UA inventory. This figure is reported in the IRS financial statements as the net realizable value of the UA inventory.

Under the current sampling method, the accuracy of the reported UA inventory amount relies heavily on the subject-matter expert's classification of the assessments in the sample. This process is very labor intensive. The fact that the process relies on the financial classification poses an inherent risk. If programming changes are made in the IRS business systems that are not reflected/recognized in the financial systems, UA assets could be misclassified. When assessments are misclassified in the audit sample, that error is projected to the population estimate. This can put the IRS at risk of not obtaining a clean audit opinion on its financial statements from GAO. In addition, the method does not value assets where the taxpayer has not agreed with the IRS's assessment or those that have been moved into a "Write-off" financial classification. Furthermore, this method does not account for policy and economic changes potentially affecting collectability over the life of the asset.

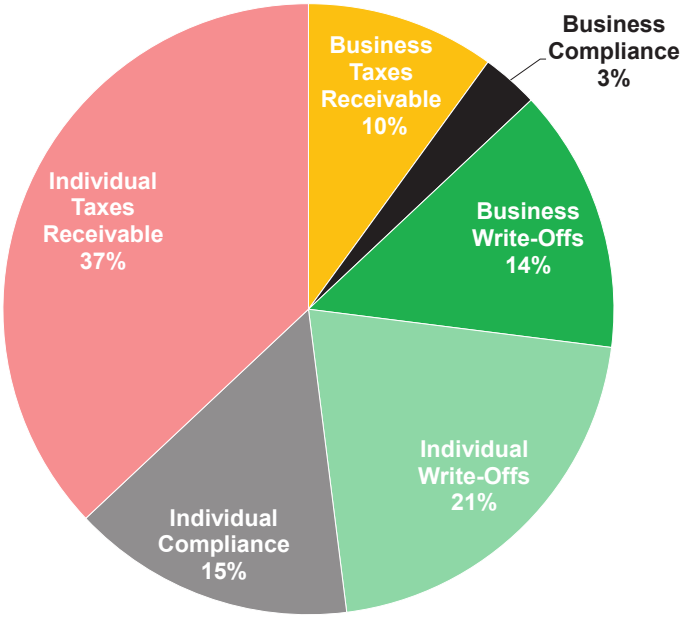
Figure 1 shows the composition of the FY 2016 unpaid assessments by financial classification. Taxes receivable assets are 47 percent of the UA inventory. The current sample method for valuing UA does not account for the potential collectability of the remaining 53 percent of unpaid assessments that are classified as either write-offs or compliance assessments.

[4] Federal Accounting Standards Advisory Board (FASAB).

[5] GPPC (2016)

[6] http://www.fasab.gov/appropriate-source-of-gaap/.

FIGURE 1. Composition of the Total $400 Billion of Gross Unpaid Assessments



SOURCE: Custodial Detail Database (CDDB) as of September 30, 2016, Individual Master File and Business Master File extract cycle 201637.

Objective

In this research, we develop a predictive model to determine the net realizable value of each unpaid assessment at any point in time. The model enables us to estimate the proportion of the current balance that will be recovered over its remaining life. We define "recovery" as the total net payments to be realized in the future as a percentage of the current module balance. The model estimates the amounts to be collected against the current balance of each UA asset based on an estimated proportion that will be recovered.

Research Design: Recovery Model

Overview

We use a logistic model to estimate the recovery rate—the proportion of the current unpaid balance that will be paid over the remaining life of the statute. The data are compiled from the IRS Compliance Data Warehouse (CDW) Unpaid Assessments data, referred to as ARDI (Accounts Receivable Dollar Inventory) in the CDW. We pool repeated January cross sections of the inventory from 2004 to 2014. We compile annual net payments from 2002 to 2016. The models provide scores or estimates of the percentage of the current balance the IRS can expect to recover on each asset in the Individual and Business Master File unpaid assessment inventory. A two-step modeling approach is used to statistically control for cases where all potential payments are not observed. These controls allow us to back out the impact of only partially observing payment streams on some assets, thus allowing a "full statute" payment/recovery estimate. Eight model specifications are created, based on the Master File Tax Class of the unpaid assessments assets.

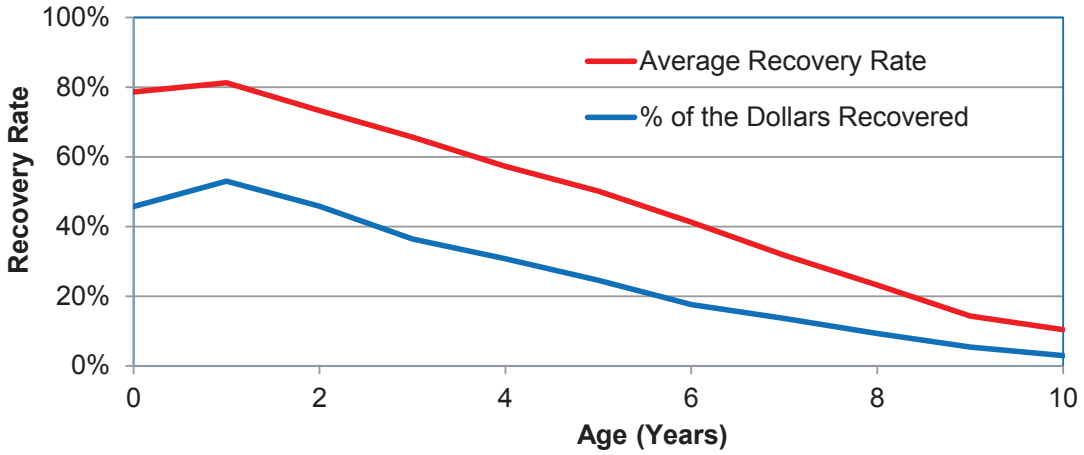
Data Dilemma: Incomplete Payments vs. Data Currency

Most UA assets have 10-year statutes, and at any point in time the UA inventory contains assessments from multiple years. Unless you go back in time more than 10 years, there will be a proportion of cases where all the potential payments are not observed. This creates a data dilemma. Typically, the most recent data are more relevant for prediction because they reflect today's economic, resource, and policy situations. However, looking at inventories further back in time allows for more cases where all the payments have been observed.

Also, having multiple years of UA inventory allows for more variation in the mix of cases and business cycle fluctuations.

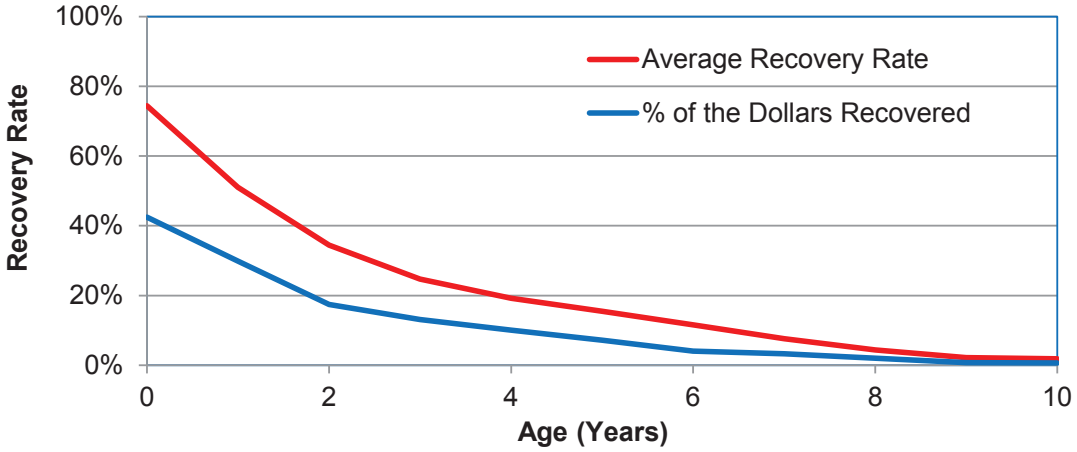
Figures 2 and 3 show recovery rates by the age of the assessment for Form 1040 and Form 941 (respectively) for the January 2015 UA inventory. In general, the recovery rates for both forms are lower for older assessments. The decay in recovery rate is much slower for individuals than for businesses. These trends reflect the fact that many assessments are resolved early in the collection process. Assessments that are 10 years old make up a smaller proportion of UA collections compared to younger cases for both individual and business tax classes. Over time, debt becomes less collectable, and less collectable debt tends to get older. Both facts contribute to the lower observed recovery for older debt.

FIGURE 2. Recovery Rate for the 2005 Inventory of Individual Master File Form 1040 Unpaid Assessments



SOURCE: Compliance Data Warehouse, Unpaid Assessment Entity and Module information, Unpaid Assessment inventory as of January 2005, net payments on the associated modules 2005–2015.

FIGURE 3. Recovery Rate for the 2005 Inventory of Business Master File Form 941 Unpaid Assessments



SOURCE: Compliance Data Warehouse, Unpaid Assessment Entity and Module Information, Unpaid Assessment inventory as of January 2005, net payments on the associated modules 2005–2015.

The recovery model needs to account for the truncated payments observed for the most recent UA assets to properly model the relationship between time and asset collectability. This truncation is more difficult to account for because the data are a repeated cross section of UA inventory. As such, separate logistic models were used to approximate the likelihood that all the potential payments are not observed by the end of the sample period. The predicted probability is included in the recovery model as a control for payment truncation on recovery estimates. In addition, we include a control for time remaining on the collection statute at the end of our sample.

Controlling for Unobserved Payments

An asset has unobserved payments when at the end of our sample period the case is still in UA and the observed recovery is less than 100 percent. Future payments can and do exceed the current balance in many cases since interest and penalties will continue to accrue. The first-stage model is designed to calculate the probability of unobserved payments on an asset.

Let T =1 if the above conditions are met and zero otherwise. Then model T as:

$$\textbf{\textit{Prob(T=1)}} = \frac{e^{Z\alpha}}{1+e^{Z\alpha}},$$

where Z contains variables in *X* (defined below) and year dummy variables. These annual dummies control for the timing of the observations and thus how long payments can be observed. This functional form provides probabilities for the payment stream being truncated. We include this probability in the recovery model as an additional explanatory variable to control for assets having unobserved payments.

Recovery Model

Consider the following basic recovery model form:

Let P_t be the net payments made during a year on an unpaid assessment module and B_n be the current total module balance, then define the variable *Y* as:

$$Y = \frac{\Sigma_{t=n}^{10} P_t}{B_n}.$$

Then let $R = \text{Max}(Y,1)$.

Then, the estimated recovery model becomes:

$X_t\beta = \beta_0 + \beta_1 ln\ (\textit{Module Balance}) + \beta_2\ ln\ (\textit{Entity Balance}) + \beta_3 Age + \beta_4 Age^2 + \beta_5(\textit{Net Payment in Prior Year/ Module Balance}) + \ldots$

$+ \beta_p\ (\textit{Probability of not observing all payments})$

$+ \beta_T\ (\textit{Time Remaining on the statute at the end of the sample}).$

We can then model recovery, *R*, as

$$\textit{Estimated Recovery} = R = F(X\beta) = \frac{e^{X\beta}}{1+e^{X\beta}},$$

where $F( )$ is a cumulative logistic distribution function. The nonlinear logistic regression model will provide the expected recovery, ranging between zero and one, on each asset given the asset's array of characteristics, X.

For a "full statute" estimate of recovery, we set:

- The probability of not observing all payments = 0 and,
- Time remaining on the statute at the end of the sample = 0.

As previously mentioned, separate models and calculations are estimated for individual and business tax classes. The dependent variable "recovery" is defined as total net payments in the future as a percentage of the current balance. Recovery is considered as 100 percent when the accumulated payments exceed the current balance. Payments are not discounted based on when they are received.[7] The model generates an estimated recovery percentage that ranges from 0 to 100 percent.

The models control for measures of the taxpayer's income, number of unpaid assessment modules the taxpayer has in UA inventory, the age of the assessments, payments in each of the prior 2 years, and current location and status in the collection process. The models also control for major source of assessments and transaction category, financial classification, previous filing compliance, and type of taxpayer.

Estimated value is then calculated as the expected percent recovered multiplied by the current balance. This estimates the dollar amount the IRS expects to collect from the balance today over the remaining life of the asset. Unlike the sample method that produces estimates for only taxes receivable assets in UA inventory, the recovery models produce estimates for all assets regardless of financial classification.

Results

The results for separate model specifications were estimated for the various Individual and Business tax classes/form types. Table 1 shows the parameter estimates for the variables used to control for truncated payments in the models: "probability of truncated payments" and "time remaining at the end of the sample." In all but one instance, the "probability of truncated payments" estimates are positive and "time remaining at the end of the sample" estimates are negative. Thus, these controls work in opposite directions when the variables are set to zero in the full statute estimate calculation. This at first would seem counter-intuitive. However, the estimates are the result of pooling multiple cross sections of data over multiple years, each with different periods of time to observe payments. The more time remaining to observe payments at the end of the sample, the larger the adjustment that occurs to the estimated recovery rate. However, that adjustment is counterbalanced by the likelihood that the payments are truncated. This probability is related to the collectability of the case. So, for a given cross section of data, observations that are less collectible get a smaller "bump" in estimated recovery. That bump will vary in the sample depending on the yearly cross section from which the case originates.

Estimates from GAO audit samples show collections have nearly doubled ($26.3 billion to $49.2 billion) from 2008 to 2016, far outpacing the rate of growth in adjusted taxes receivable ($124.3 billion to $178.4 billion).[8] Figure 4 shows the model predicted average and actual observed recovery rates and recovered dollars for the Individual Income Tax Form 1040 UA inventory in Calendar Years January 2004 through 2016. In Figure 4, actual observed dollars collected on individual income tax UA are shown at nearly 30 percent, declining for more recent years because in these years, collections on more recent assets have not yet been realized. The difference between the estimated dollar recovery rate and the observed dollar recovery rate illustrates the effect of payment truncation. The more constant rate shown in the estimated dollar recovery line is the result of estimating the yet-to-be observed collections on the newer assets. More information on the predictions is provided in the appendix. This effect is shown by the increasing percent-truncated line over time. As more cases have truncated payment streams, the actual and estimated get further apart. If we don't back out the impact of the truncation, the predicted rates tend to follow the observed.

[7] The current UA valuation process does not make any attempt to account for the timing of payments.

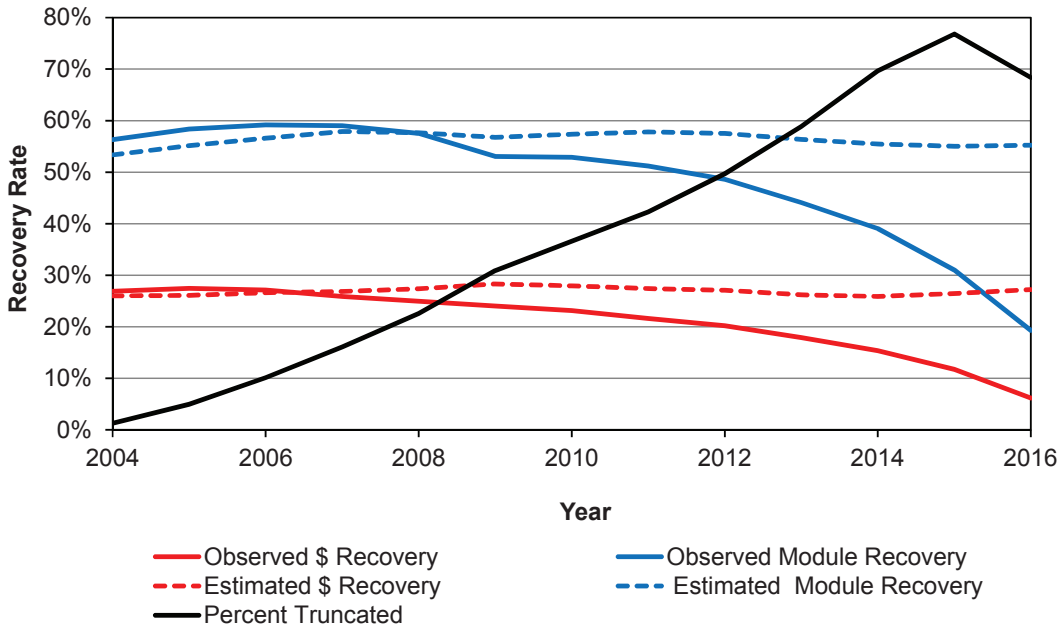
[8] U.S. Government Accountability Office (GAO) (2016, November), various years.

TABLE 1. Recovery Model Payment Truncation Control Parameter Estimates*

Form Number/Issue	Probability of Truncated Payments	Time Remaining at the End of the Sample
Form 940	2.732	-1.916
	(0.022)	(0.013)
Form 941	2.232	-1.125
	(0.011)	(0.003)
Form 1040	0.791	-0.776
	(0.009)	(0.002)
Form 1065	1.350	-1.327
	(0.025)	(0.012)
Form 1120	1.770	-0.999
	(0.035)	(0.007)
Trust Fund Recovery Penalty	-0.456	-0.601
	(0.015)	(0.003)
Business Other	1.330	-1.214
	(0.014)	(0.006)
Individual Other	0.198	-0.616
	(0.084)	(0.019)

NOTE: All estimates are significant at the 5% level. Standard errors reported in parentheses.
SOURCE: CFO Unpaid Assessments Inventory Recovery Model Output.

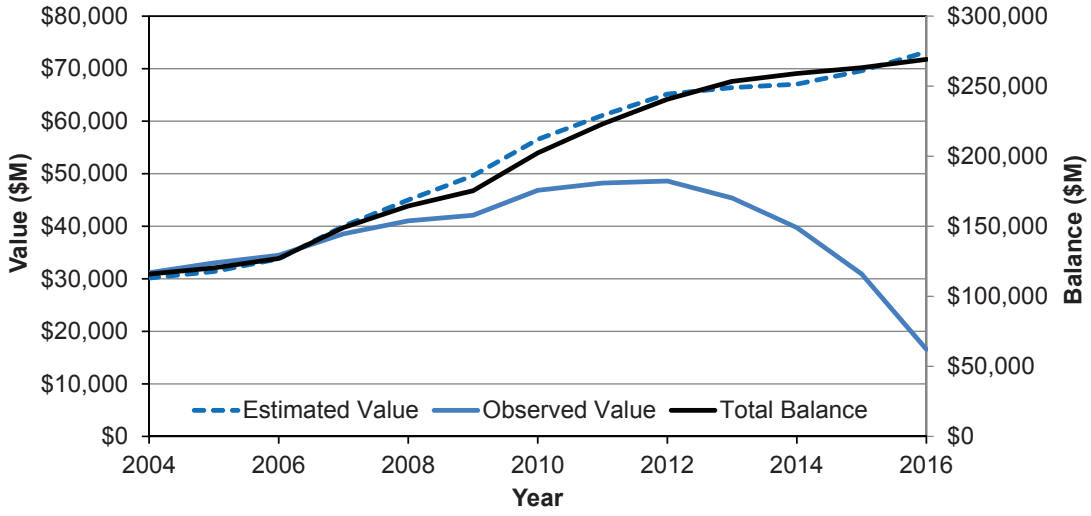
FIGURE 4. Individual Income Tax Form 1040—Average Percent of Modules and Dollars Recovered, Model Full-Statute Estimates and Actual Observed to Date



SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

GAO audit results include net realizable values in the aggregate, whereas the recovery model approach can break out subpopulations by any form type. Figure 5 shows that the estimated value for Form 1040 assets tracks very closely to the total module balance for this population. The difference between the observed and estimated value is the truncation effect as stated before; the impact of the yet-to-be-made payments on the more recent assets over time not being currently observed. This is consistent with the recovery rates observed in Figure 2.

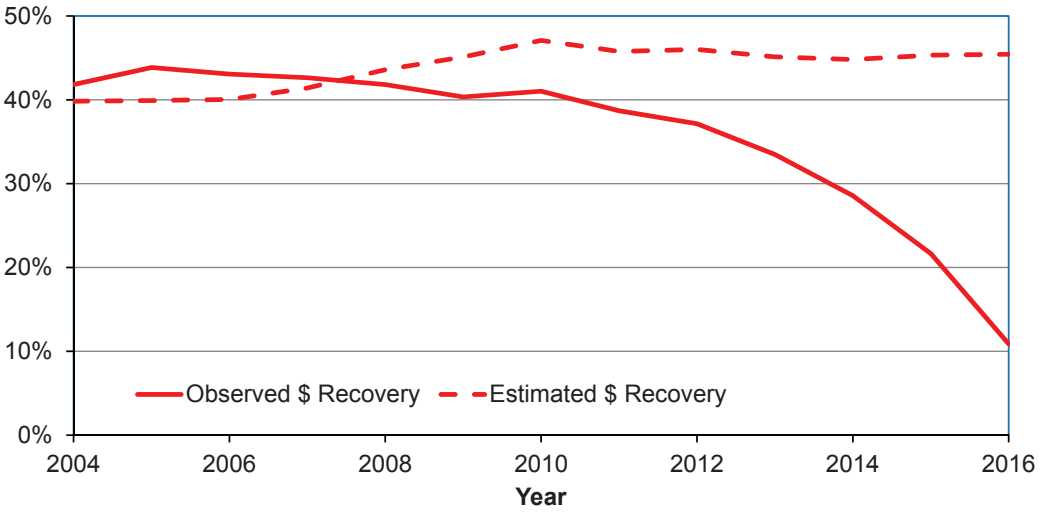
FIGURE 5. All Forms 1040—Aggregate Value and Module Balance



SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

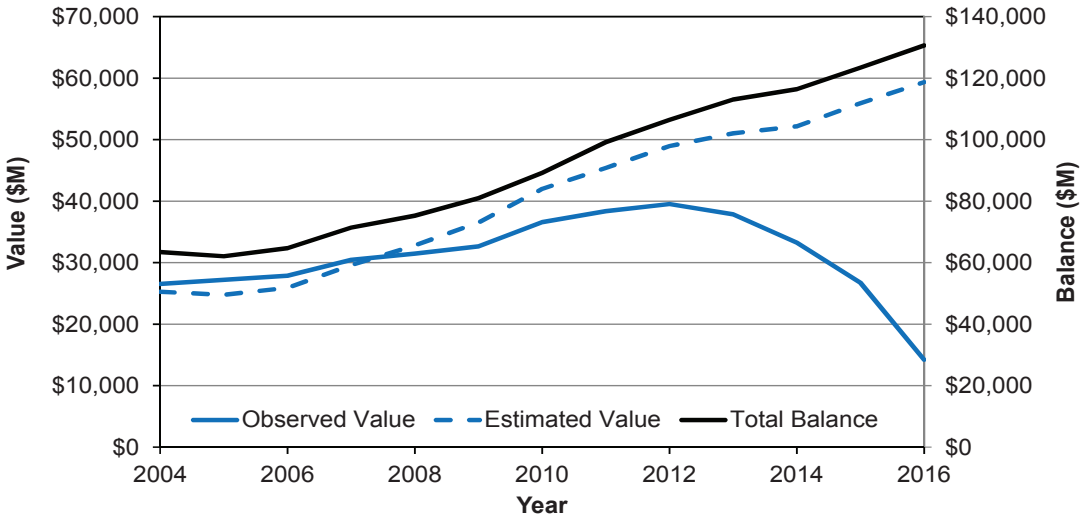
Figures 6 and 7 show the model estimates and observed actuals for the taxes receivable portion of Form 1040 UA inventory. These figures show higher average estimated recovery and actual observed rates than Form 1040 UA inventory. The taxes receivable recovery rates are higher than the total Form 1040 UA recovery rate because comparatively fewer payments are received on compliance assessments and write-offs. In Figure 7, the taxes receivable estimated value tracks the total module balance for Form 1040 taxes receivable.

FIGURE 6. Observed and Estimated Recovery Percentages of Form 1040 Modules—Taxes Receivable



SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

FIGURE 7. Form 1040 Aggregate Value and Module Balance—Taxes Receivable

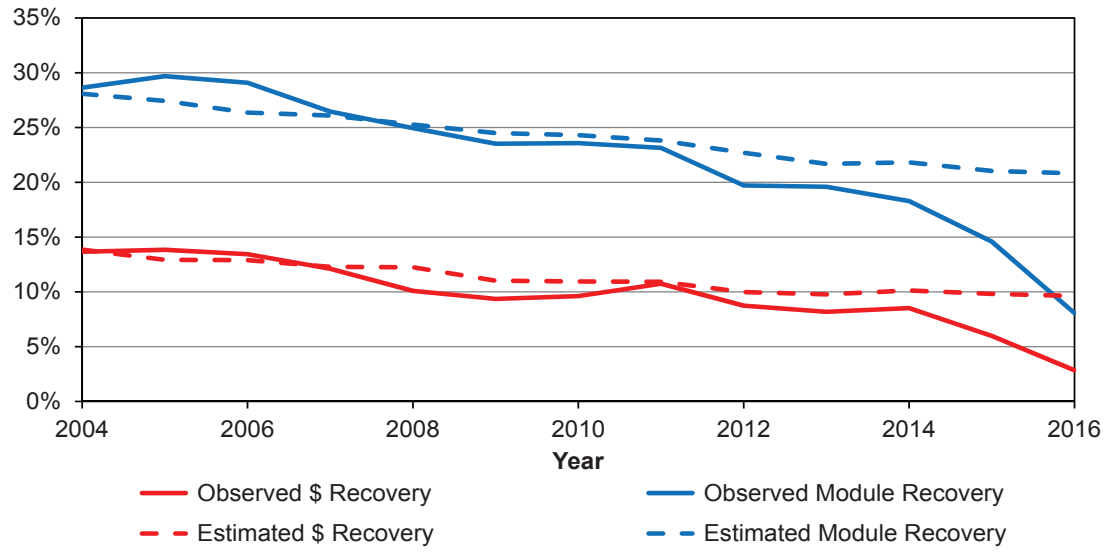


SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

Figure 8 shows the model predicted average and actual observed recovery rates and recovered dollars for the business tax Form 941, *Employer's Quarterly Federal Tax Return,* UA inventory in Calendar Years January 2004 through 2016. Employers use this form to report income taxes and Social Security or Medicare taxes withheld from employees' paychecks, and to pay the employer's portion of Social Security or Medicare tax.

The recovery rates for the Form 941 UA inventory displayed in Figure 8 are lower and decrease at a faster rate than Form 1040 UA recovery rates. Actual observed dollars collected on Form 941 business tax UA is shown at nearly 14 percent, declining for more recent years as collections on more recent assets have not yet been realized. Like with Form 1040 UA, the difference between the estimated dollar recovery rate and the observed dollar recovery rate illustrates the truncation effect. The more rapid drop in recovery rates can be explained by the fact that business entities become "defunct" more frequently than individuals. As companies go out of business the payments on unpaid assessments may stop. As such, it takes fewer years to observe most of the payments, making the impact of truncated payments less pronounced for business tax UA inventory.

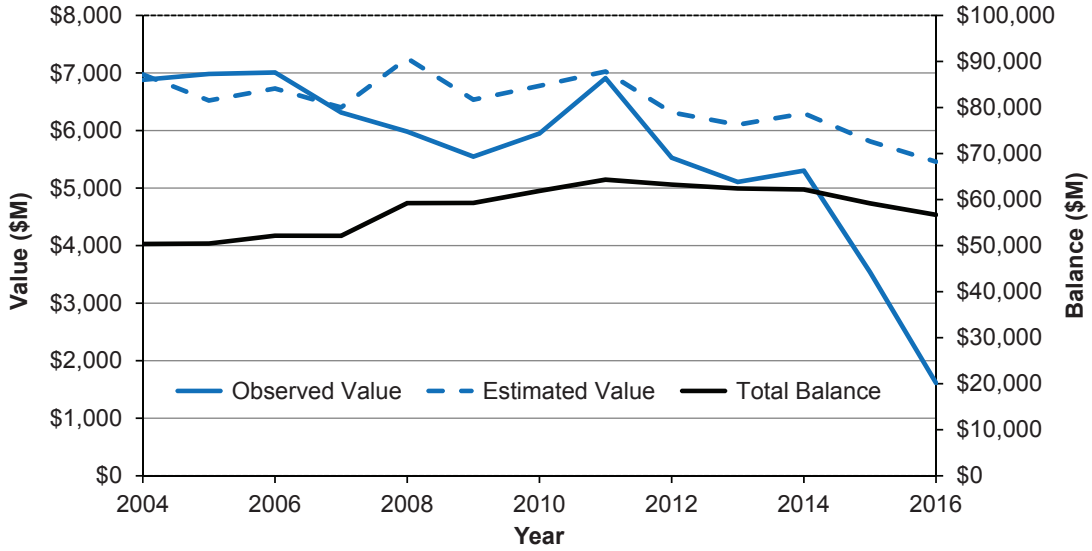
Figure 8. All Forms 941—Average Percentage of Modules and Dollars Recovered



SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

In Figure 9, there is very little growth in the balance and a general decline in the value of the assets relative to the balance for Form 941 UA. The estimated value however does move with the actual value and declines.

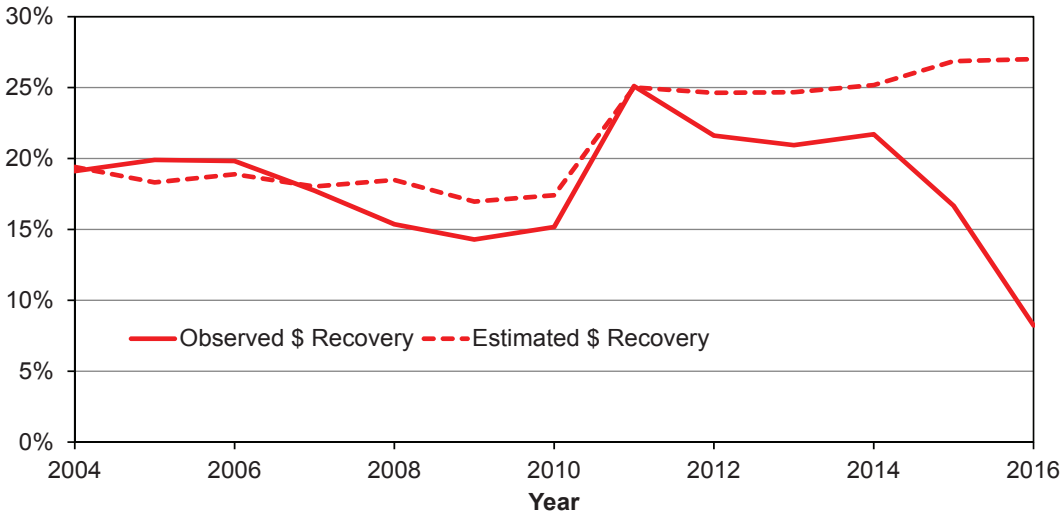
FIGURE 9. All Forms 941—Aggregate Value and Module Balance



SOURCE: Form 1040 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

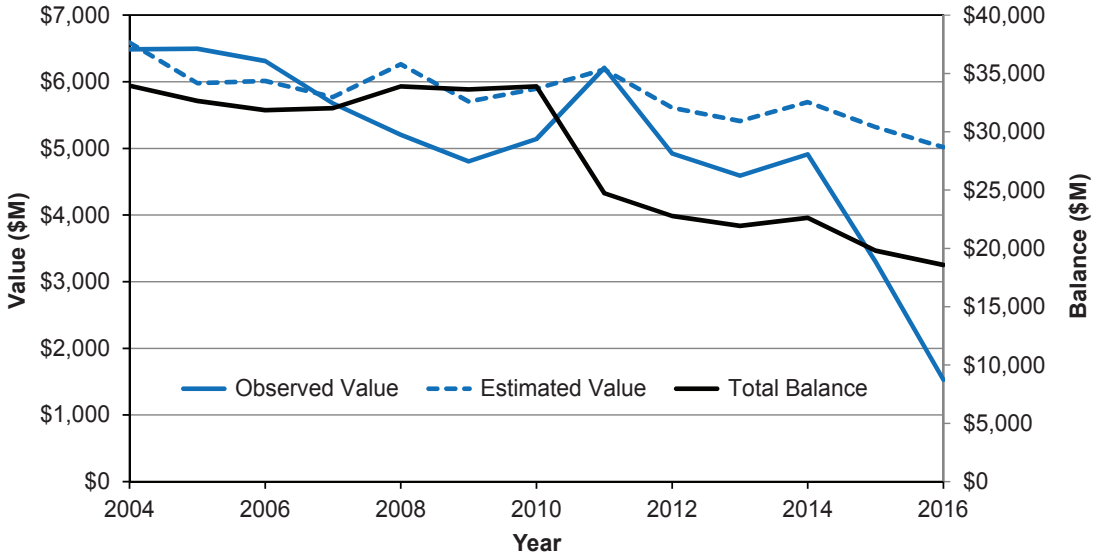
Figure 10 shows the dollar recovery rates for the taxes receivable portion of the Form 941 UA. From 2004 to 2016, the estimated recovery ranges from 19 to 26 percent. There is a noticeable jump in the rates, both estimated and observed for 2011. The value and total balance are reported in Figure 11. The estimated Form 941 UA value (black line) has fluctuated and declined from $6.5 billion to approximately $5 billion, and appears to move with the observed value. There is also a large decline in the aggregate balance (dashed line) from nearly $34 billion to $18.5 billion. This decline is proportionally larger than the decline in the value. There was a portion of the UA inventory that moved from taxes receivable to write-off. However, the model estimates were already heavily discounting these assets even before they moved to write-off. Thus, the estimated value does not decline.

FIGURE 10. Observed and Estimated Recovery Percentages of Form 941 Modules—Taxes Receivable



SOURCE: Form 941 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

FIGURE 11. Form 941 Aggregate Value and Module—Taxes Receivable



SOURCE: Form 941 Unpaid Assessments Inventory Recovery Model Results. Compliance Data Warehouse Accounts Receivable Dollar Inventory 2004–2016.

Conclusions

In this paper, we develop a predictive model of collectability for unpaid tax assessments. The primary role of this model is to provide an objective methodology for valuing UA that does not require time-intensive sampling and the inherent risks of financial misclassification. To predict the value of the inventory of unpaid assessments, we compile a repeated cross section of the UA inventory over multiple years. This allows us to capitalize on variation in the make-up of UA. However, it does introduce a unique truncation issue because of the pooling of the cross sections. We employ two statistical controls to account for this censoring.

The models will improve the objectivity of financial management reporting and eliminate sampling errors, thereby improving the precision of the IRS financial statement audit. The entire inventory of UA can be continuously rescored and valued, with little resource costs. Explanations for changes in the aggregate value of UA can easily be traced back to changes in the inventory and the associated case characteristics.

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Appendix

TABLE A1. Form 941 Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	38%	38%	38%	1%	$33,950	$6,486	$6,588
	2005	41%	39%	38%	1%	$32,640	$6,495	$5,977
	2006	44%	41%	41%	3%	$31,839	$6,311	$6,013
	2007	40%	43%	40%	9%	$32,016	$5,677	$5,771
	2008	40%	45%	42%	20%	$33,878	$5,204	$6,262
	2009	39%	43%	41%	30%	$33,633	$4,804	$5,704
	2010	40%	41%	42%	37%	$33,884	$5,140	$5,898
	2011	45%	43%	47%	43%	$24,728	$6,208	$6,184
	2012	39%	41%	46%	48%	$22,775	$4,923	$5,610
	2013	41%	38%	46%	54%	$21,924	$4,591	$5,409
	2014	39%	35%	46%	59%	$22,626	$4,911	$5,695
	2015	32%	27%	45%	68%	$19,798	$3,300	$5,318
	2016	18%	15%	45%	83%	$18,576	$1,529	$5,017
Compliance Assessments	2004	15%	11%	11%	0%	$4,084	$293	$295
	2005	17%	11%	10%	1%	$4,624	$308	$377
	2006	22%	16%	16%	3%	$4,916	$354	$462
	2007	19%	17%	15%	17%	$4,757	$391	$383
	2008	19%	19%	16%	36%	$7,661	$493	$698
	2009	16%	17%	14%	50%	$6,716	$494	$519
	2010	15%	15%	13%	55%	$7,259	$526	$568
	2011	14%	14%	12%	62%	$5,766	$421	$497
	2012	10%	12%	10%	67%	$5,258	$342	$377
	2013	10%	12%	10%	74%	$5,067	$290	$380
	2014	9%	10%	10%	79%	$4,911	$221	$319
	2015	7%	7%	9%	86%	$4,281	$119	$227
	2016	3%	3%	9%	94%	$3,883	$53	$194
Write-off	2004	2%	2%	2%	0%	$12,315	$101	$93
	2005	5%	4%	4%	0%	$13,193	$181	$167
	2006	7%	5%	5%	0%	$15,398	$344	$255
	2007	5%	5%	4%	1%	$15,352	$245	$248
	2008	5%	6%	4%	6%	$17,692	$284	$296
	2009	4%	6%	4%	13%	$18,931	$249	$312
	2010	4%	5%	4%	22%	$20,735	$282	$311
	2011	3%	4%	3%	34%	$33,831	$282	$346
	2012	3%	3%	3%	46%	$35,210	$262	$328
	2013	2%	2%	3%	57%	$35,433	$226	$312
	2014	2%	2%	2%	69%	$34,653	$170	$283
	2015	1%	1%	2%	81%	$35,107	$122	$268
	2016	0%	1%	2%	94%	$34,220	$31	$247
All	2004	29%	28%	28%	1%	$50,349	$6,880	$6,975
	2005	30%	28%	27%	1%	$50,457	$6,984	$6,521
	2006	29%	27%	26%	2%	$52,154	$7,009	$6,729
	2007	26%	28%	26%	7%	$52,125	$6,312	$6,402
	2008	25%	28%	25%	16%	$59,231	$5,980	$7,256
	2009	24%	26%	24%	25%	$59,280	$5,548	$6,535
	2010	24%	24%	24%	34%	$61,878	$5,948	$6,777
	2011	23%	23%	24%	41%	$64,326	$6,911	$7,026
	2012	20%	20%	23%	49%	$63,244	$5,527	$6,315
	2013	20%	18%	22%	57%	$62,424	$5,107	$6,101
	2014	18%	17%	22%	66%	$62,190	$5,302	$6,298
	2015	15%	13%	21%	76%	$59,185	$3,541	$5,813
	2016	8%	7%	21%	90%	$56,679	$1,613	$5,458

TABLE A2. Form 1040 Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	70%	66%	66%	2%	$63,434	$26,527	$25,267
	2005	72%	68%	68%	5%	$62,073	$27,220	$24,770
	2006	71%	70%	68%	9%	$64,730	$27,874	$25,918
	2007	71%	71%	70%	14%	$71,421	$30,446	$29,576
	2008	70%	72%	70%	18%	$75,256	$31,470	$32,800
	2009	65%	70%	69%	25%	$80,944	$32,655	$36,516
	2010	65%	68%	70%	29%	$89,183	$36,590	$41,989
	2011	63%	65%	70%	35%	$99,170	$38,376	$45,388
	2012	60%	60%	70%	41%	$106,428	$39,527	$48,964
	2013	55%	53%	69%	50%	$113,063	$37,859	$51,022
	2014	49%	46%	69%	62%	$116,404	$33,251	$52,154
	2015	39%	35%	68%	71%	$123,411	$26,737	$55,925
	2016	24%	20%	68%	62%	$130,613	$14,229	$59,345
Compliance Assessments	2004	50%	48%	48%	1%	$16,156	$2,954	$3,272
	2005	56%	55%	54%	11%	$20,139	$3,841	$4,814
	2006	55%	57%	54%	23%	$28,880	$4,710	$6,070
	2007	53%	57%	54%	32%	$41,646	$6,066	$8,438
	2008	49%	53%	51%	40%	$44,639	$7,284	$9,838
	2009	46%	50%	51%	47%	$47,950	$7,321	$10,686
	2010	46%	47%	52%	49%	$53,619	$7,119	$11,053
	2011	42%	41%	49%	56%	$77,558	$8,093	$13,594
	2012	39%	37%	49%	62%	$80,045	$7,400	$13,927
	2013	35%	33%	49%	68%	$69,407	$5,970	$12,615
	2014	34%	30%	50%	74%	$66,122	$5,307	$12,033
	2015	28%	24%	49%	78%	$56,184	$3,452	$10,868
	2016	20%	16%	50%	62%	$55,522	$2,022	$11,067
Write-off	2004	18%	16%	16%	0%	$36,299	$1,690	$1,612
	2005	19%	17%	16%	1%	$38,059	$1,959	$1,796
	2006	20%	18%	17%	4%	$33,439	$1,901	$1,805
	2007	20%	19%	17%	12%	$35,996	$2,054	$2,006
	2008	20%	19%	17%	22%	$44,584	$2,277	$2,363
	2009	16%	18%	16%	35%	$46,433	$2,121	$2,429
	2010	17%	18%	16%	51%	$59,527	$3,134	$3,489
	2011	16%	17%	17%	55%	$46,288	$1,753	$2,139
	2012	14%	15%	16%	69%	$54,205	$1,681	$2,286
	2013	11%	12%	16%	82%	$70,989	$1,547	$2,755
	2014	8%	9%	15%	94%	$76,506	$1,182	$2,853
	2015	6%	6%	15%	96%	$83,644	$712	$2,801
	2016	3%	4%	15%	98%	$82,995	$336	$2,777
All	2004	56%	53%	53%	1%	$115,888	$31,171	$30,150
	2005	58%	56%	55%	5%	$120,270	$33,020	$31,380
	2006	59%	58%	57%	10%	$127,049	$34,486	$33,793
	2007	59%	60%	58%	16%	$149,062	$38,565	$40,020
	2008	58%	59%	58%	23%	$164,478	$41,031	$45,001
	2009	53%	57%	57%	31%	$175,327	$42,097	$49,631
	2010	53%	55%	57%	37%	$202,329	$46,843	$56,531
	2011	51%	53%	58%	42%	$223,016	$48,223	$61,122
	2012	49%	48%	58%	50%	$240,678	$48,608	$65,177
	2013	44%	43%	56%	59%	$253,459	$45,376	$66,392
	2014	39%	37%	55%	70%	$259,033	$39,740	$67,040
	2015	31%	28%	55%	77%	$263,239	$30,901	$69,595
	2016	19%	16%	55%	68%	$269,129	$16,586	$73,189

TABLE A3. Form 940 Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	31%	31%	31%	1%	$609	$123	$117
	2005	34%	33%	32%	1%	$907	$125	$170
	2006	38%	35%	34%	3%	$613	$116	$118
	2007	34%	37%	34%	8%	$802	$113	$149
	2008	34%	39%	36%	21%	$755	$108	$128
	2009	32%	35%	35%	33%	$754	$85	$118
	2010	33%	33%	36%	42%	$695	$85	$105
	2011	33%	31%	36%	49%	$559	$87	$107
	2012	29%	29%	35%	57%	$581	$78	$113
	2013	29%	27%	36%	64%	$551	$78	$105
	2014	26%	24%	35%	72%	$566	$79	$111
	2015	20%	18%	35%	78%	$505	$71	$115
	2016	9%	8%	35%	91%	$507	$29	$114
Compliance Assessments	2004	17%	13%	13%	1%	$948	$80	$83
	2005	19%	14%	14%	1%	$864	$90	$77
	2006	20%	16%	15%	2%	$880	$78	$82
	2007	17%	16%	14%	11%	$973	$74	$89
	2008	18%	20%	16%	28%	$1,003	$79	$99
	2009	15%	17%	14%	45%	$1,050	$61	$106
	2010	16%	16%	13%	57%	$822	$73	$70
	2011	13%	14%	12%	65%	$817	$60	$67
	2012	10%	13%	11%	72%	$902	$44	$84
	2013	8%	9%	8%	81%	$689	$50	$44
	2014	7%	9%	8%	85%	$692	$31	$49
	2015	7%	8%	10%	88%	$628	$26	$55
	2016	3%	3%	9%	96%	$649	$8	$49
Write-off	2004	1%	1%	1%	0%	$2,151	$9	$11
	2005	3%	2%	2%	0%	$1,907	$12	$13
	2006	4%	3%	2%	0%	$1,970	$16	$15
	2007	3%	3%	2%	1%	$1,832	$19	$15
	2008	3%	3%	2%	5%	$2,101	$24	$16
	2009	2%	3%	2%	12%	$2,214	$21	$17
	2010	2%	3%	2%	20%	$2,319	$17	$17
	2011	2%	2%	2%	30%	$2,489	$12	$16
	2012	2%	2%	2%	40%	$2,454	$12	$15
	2013	2%	2%	2%	51%	$2,436	$10	$14
	2014	1%	1%	2%	62%	$2,425	$8	$12
	2015	1%	1%	2%	77%	$2,436	$4	$12
	2016	0%	0%	2%	91%	$2,379	$1	$11
All	2004	18%	17%	17%	0%	$3,708	$213	$212
	2005	19%	17%	17%	1%	$3,677	$227	$260
	2006	20%	18%	18%	2%	$3,462	$210	$216
	2007	19%	20%	18%	6%	$3,607	$206	$252
	2008	18%	20%	18%	15%	$3,859	$210	$242
	2009	16%	18%	17%	25%	$4,018	$167	$241
	2010	17%	17%	17%	35%	$3,836	$176	$191
	2011	16%	16%	17%	43%	$3,865	$159	$190
	2012	14%	14%	17%	52%	$3,937	$133	$211
	2013	14%	13%	17%	60%	$3,677	$138	$163
	2014	12%	11%	16%	69%	$3,682	$118	$171
	2015	9%	8%	16%	79%	$3,569	$101	$182
	2016	4%	3%	15%	91%	$3,535	$38	$174

TABLE A4. Form 1065 Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	18%	18%	18%	1%	$133	$14	$15
	2005	20%	18%	18%	0%	$101	$12	$11
	2006	34%	30%	30%	0%	$111	$24	$22
	2007	29%	30%	29%	11%	$138	$26	$27
	2008	29%	31%	30%	24%	$144	$29	$30
	2009	23%	27%	28%	34%	$220	$33	$43
	2010	24%	28%	27%	41%	$282	$50	$60
	2011	24%	22%	26%	49%	$321	$59	$67
	2012	18%	18%	23%	56%	$465	$90	$86
	2013	18%	15%	21%	64%	$549	$72	$95
	2014	15%	13%	20%	67%	$612	$68	$101
	2015	12%	10%	19%	73%	$680	$61	$102
	2016	6%	6%	19%	85%	$726	$33	$105
Compliance Assessments	2004	19%	19%	19%	27%	$1	$0	$0
	2005	28%	29%	29%	3%	$1	$0	$0
	2006	30%	25%	25%	4%	$105	$1	$2
	2007	36%	25%	22%	4%	$10	$1	$1
	2008	22%	28%	26%	13%	$1	$1	$1
	2009	12%	21%	19%	25%	$2	$1	$1
	2010	41%	38%	35%	32%	$27	$27	$7
	2011	16%	15%	25%	57%	$130	$0	$3
	2012	30%	42%	36%	36%	$134	$0	$2
	2013	30%	39%	29%	30%	$0	$0	$0
	2014	8%	21%	25%	54%	$12	$2	$1
	2015	23%	19%	26%	67%	$3	$3	$0
	2016	50%	37%	30%	50%	$46	$14	$6
Write-off	2004	3%	2%	2%	1%	$44	$1	$0
	2005	5%	3%	3%	1%	$61	$1	$1
	2006	5%	4%	4%	1%	$82	$2	$1
	2007	4%	5%	4%	4%	$78	$1	$1
	2008	4%	5%	4%	11%	$73	$2	$2
	2009	4%	5%	5%	24%	$69	$2	$2
	2010	4%	6%	5%	37%	$74	$2	$2
	2011	4%	4%	5%	52%	$103	$2	$3
	2012	3%	3%	4%	65%	$141	$3	$4
	2013	3%	2%	4%	73%	$197	$4	$5
	2014	2%	1%	3%	81%	$282	$3	$7
	2015	1%	1%	3%	87%	$398	$2	$9
	2016	0%	0%	2%	98%	$483	$1	$10
All	2004	15%	15%	15%	1%	$177	$15	$15
	2005	15%	13%	13%	1%	$163	$14	$12
	2006	24%	21%	21%	1%	$298	$27	$25
	2007	23%	24%	23%	9%	$225	$28	$29
	2008	22%	24%	23%	20%	$218	$32	$32
	2009	18%	21%	22%	32%	$291	$36	$46
	2010	19%	23%	22%	40%	$383	$79	$68
	2011	19%	17%	20%	50%	$554	$62	$74
	2012	13%	13%	17%	59%	$740	$93	$92
	2013	12%	10%	15%	67%	$746	$76	$101
	2014	9%	8%	13%	73%	$906	$73	$109
	2015	7%	5%	11%	80%	$1,081	$66	$111
	2016	3%	3%	11%	91%	$1,255	$48	$121

TABLE A5. Form 1120 Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	40%	40%	40%	1%	$1,232	$431	$372
	2005	43%	41%	41%	1%	$703	$190	$161
	2006	47%	44%	44%	1%	$1,474	$634	$463
	2007	46%	47%	45%	7%	$3,259	$1,694	$1,086
	2008	49%	50%	49%	16%	$986	$464	$346
	2009	46%	47%	48%	26%	$1,716	$924	$728
	2010	48%	54%	52%	31%	$1,685	$642	$616
	2011	44%	42%	49%	41%	$1,822	$403	$625
	2012	33%	36%	46%	51%	$1,807	$210	$500
	2013	32%	30%	43%	60%	$2,922	$227	$460
	2014	27%	25%	41%	66%	$1,841	$435	$484
	2015	22%	19%	39%	73%	$1,998	$512	$486
	2016	12%	11%	38%	86%	$1,520	$145	$487
Compliance Assessments	2004	12%	14%	14%	7%	$1,752	$136	$29
	2005	17%	16%	15%	7%	$1,675	$10	$9
	2006	25%	17%	16%	10%	$1,947	$2	$35
	2007	23%	20%	17%	17%	$2,323	$4	$70
	2008	20%	23%	18%	36%	$3,440	$14	$139
	2009	25%	23%	18%	39%	$2,620	$88	$47
	2010	20%	23%	19%	54%	$3,047	$13	$38
	2011	13%	14%	17%	69%	$3,891	$152	$113
	2012	11%	15%	17%	70%	$3,865	$27	$99
	2013	14%	12%	16%	76%	$3,324	$3	$52
	2014	14%	14%	17%	75%	$3,186	$9	$37
	2015	9%	11%	17%	84%	$3,193	$1	$16
	2016	4%	5%	14%	92%	$3,438	$2	$27
Write-off	2004	1%	1%	1%	1%	$13,533	$253	$15
	2005	3%	3%	3%	2%	$9,447	$259	$11
	2006	3%	3%	3%	1%	$9,552	$279	$10
	2007	3%	3%	3%	2%	$9,308	$26	$11
	2008	2%	3%	3%	5%	$9,312	$4	$14
	2009	2%	3%	3%	10%	$9,629	$5	$12
	2010	3%	5%	3%	20%	$10,128	$6	$13
	2011	3%	4%	4%	36%	$10,602	$8	$11
	2012	3%	3%	4%	56%	$11,098	$18	$13
	2013	3%	2%	4%	72%	$11,853	$3	$14
	2014	2%	1%	4%	85%	$2,987	$3	$18
	2015	1%	1%	4%	93%	$3,200	$2	$15
	2016	1%	0%	3%	98%	$3,897	$1	$23
All	2004	32%	32%	31%	1%	$16,517	$820	$415
	2005	32%	30%	30%	1%	$11,824	$460	$181
	2006	31%	29%	28%	1%	$12,974	$915	$507
	2007	32%	32%	31%	5%	$14,890	$1,724	$1,166
	2008	32%	33%	32%	12%	$13,738	$481	$499
	2009	30%	31%	32%	20%	$13,965	$1,017	$787
	2010	37%	42%	40%	29%	$14,860	$660	$667
	2011	35%	34%	39%	40%	$16,315	$563	$750
	2012	26%	28%	37%	52%	$16,770	$256	$611
	2013	24%	23%	33%	63%	$18,099	$233	$526
	2014	20%	18%	30%	71%	$8,014	$447	$538
	2015	15%	13%	27%	80%	$8,391	$515	$517
	2016	8%	7%	25%	90%	$8,856	$147	$536

TABLE A6. TFRP Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	61%	49%	49%	5%	$59	$15	$22
	2005	59%	46%	47%	10%	$54	$15	$18
	2006	56%	43%	45%	16%	$49	$14	$19
	2007	34%	42%	46%	41%	$2,806	$455	$1,185
	2008	30%	36%	42%	45%	$4,649	$636	$1,646
	2009	27%	31%	40%	52%	$6,383	$738	$2,050
	2010	26%	28%	40%	58%	$6,776	$791	$2,271
	2011	25%	25%	40%	66%	$7,799	$861	$2,644
	2012	24%	23%	41%	70%	$8,590	$927	$2,889
	2013	22%	19%	41%	77%	$9,333	$910	$3,116
	2014	18%	14%	39%	88%	$9,698	$740	$2,940
	2015	14%	10%	37%	91%	$9,692	$560	$2,850
	2016	8%	6%	36%	87%	$9,403	$287	$2,691
Compliance Assessments	2004	28%	32%	33%	9%	$12,598	$1,411	$2,729
	2005	28%	31%	33%	20%	$12,609	$1,471	$2,814
	2006	28%	30%	32%	28%	$12,617	$1,458	$2,847
	2007	23%	25%	28%	30%	$9,872	$883	$1,874
	2008	22%	24%	29%	41%	$7,592	$583	$1,477
	2009	21%	22%	31%	51%	$5,988	$504	$1,354
	2010	22%	20%	32%	56%	$5,530	$455	$1,267
	2011	21%	18%	33%	62%	$5,484	$480	$1,436
	2012	19%	16%	33%	69%	$5,906	$485	$1,570
	2013	16%	12%	32%	80%	$5,400	$380	$1,412
	2014	14%	9%	32%	91%	$4,949	$305	$1,314
	2015	10%	6%	30%	94%	$4,539	$178	$1,147
	2016	5%	3%	30%	66%	$4,321	$74	$1,131
Write-off	2004	22%	19%	19%	2%	$47	$2	$4
	2005	28%	19%	20%	5%	$39	$2	$6
	2006	24%	17%	18%	9%	$38	$2	$6
	2007	19%	18%	21%	42%	$398	$35	$88
	2008	15%	14%	17%	45%	$1,296	$58	$164
	2009	10%	11%	15%	51%	$1,858	$56	$187
	2010	9%	9%	15%	57%	$2,617	$70	$279
	2011	7%	8%	12%	53%	$3,132	$56	$260
	2012	6%	6%	11%	66%	$3,309	$55	$269
	2013	5%	5%	11%	82%	$3,797	$56	$322
	2014	4%	4%	11%	98%	$3,687	$46	$294
	2015	3%	3%	10%	98%	$3,661	$26	$299
	2016	1%	2%	10%	99%	$3,984	$12	$324
All	2004	30%	33%	34%	9%	$12,705	$1,428	$2,755
	2005	30%	32%	33%	19%	$12,702	$1,489	$2,839
	2006	29%	30%	33%	27%	$12,704	$1,474	$2,871
	2007	27%	31%	34%	35%	$13,077	$1,373	$3,147
	2008	25%	29%	34%	43%	$13,536	$1,277	$3,288
	2009	23%	26%	34%	51%	$14,230	$1,298	$3,591
	2010	22%	23%	33%	57%	$14,924	$1,317	$3,816
	2011	21%	20%	34%	63%	$16,416	$1,396	$4,340
	2012	20%	18%	34%	69%	$17,805	$1,468	$4,728
	2013	17%	15%	33%	78%	$18,530	$1,347	$4,851
	2014	14%	11%	32%	90%	$18,335	$1,091	$4,548
	2015	11%	8%	31%	93%	$17,891	$764	$4,296
	2016	6%	4%	29%	84%	$17,709	$373	$4,145

TABLE A7. Other Individual Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	31%	37%	47%	0%	$440	$39	$197
	2005	49%	49%	49%	2%	$547	$58	$322
	2006	48%	48%	47%	9%	$1,328	$288	$627
	2007	51%	51%	47%	15%	$2,455	$648	$1,046
	2008	49%	48%	47%	22%	$1,919	$365	$789
	2009	48%	48%	48%	27%	$2,125	$409	$883
	2010	47%	48%	48%	35%	$2,554	$435	$1,097
	2011	47%	48%	47%	44%	$2,683	$472	$1,250
	2012	46%	46%	46%	50%	$2,982	$544	$1,321
	2013	44%	44%	47%	59%	$3,534	$572	$1,672
	2014	40%	40%	46%	73%	$4,948	$1,005	$2,242
	2015	32%	39%	47%	80%	$5,881	$968	$2,730
	2016	23%	57%	49%	25%	$5,413	$235	$2,560
Compliance Assessments	2004	39%	32%	53%	4%	$67	$4	$44
	2005	29%	22%	49%	3%	$186	$6	$79
	2006	39%	37%	53%	12%	$406	$40	$239
	2007	39%	42%	48%	18%	$408	$41	$228
	2008	49%	45%	48%	17%	$197	$33	$123
	2009	43%	45%	45%	28%	$253	$26	$146
	2010	49%	44%	44%	39%	$246	$29	$120
	2011	44%	44%	45%	54%	$314	$31	$126
	2012	35%	41%	43%	60%	$447	$23	$220
	2013	42%	39%	44%	66%	$432	$122	$125
	2014	34%	38%	51%	75%	$214	$25	$125
	2015	27%	34%	48%	82%	$249	$24	$116
	2016	13%	35%	46%	62%	$297	$15	$110
Write-off	2004	15%	11%	49%	3%	$259	$14	$121
	2005	13%	12%	50%	3%	$443	$12	$191
	2006	16%	15%	49%	6%	$729	$18	$435
	2007	15%	15%	49%	6%	$767	$12	$455
	2008	15%	15%	48%	12%	$976	$22	$483
	2009	13%	13%	50%	18%	$754	$25	$366
	2010	12%	13%	48%	23%	$807	$21	$400
	2011	12%	12%	48%	29%	$769	$18	$384
	2012	11%	12%	46%	45%	$763	$16	$335
	2013	11%	12%	48%	72%	$1,005	$24	$470
	2014	8%	9%	46%	95%	$1,165	$20	$564
	2015	5%	10%	47%	97%	$1,249	$11	$552
	2016	3%	10%	46%	96%	$1,566	$5	$640
All	2004	25%	26%	48%	1%	$765	$57	$362
	2005	35%	34%	49%	2%	$1,176	$76	$591
	2006	40%	39%	48%	8%	$2,463	$347	$1,300
	2007	44%	44%	48%	13%	$3,631	$701	$1,730
	2008	40%	39%	48%	19%	$3,092	$420	$1,396
	2009	39%	39%	48%	25%	$3,132	$459	$1,394
	2010	40%	40%	48%	33%	$3,607	$485	$1,616
	2011	40%	40%	47%	41%	$3,766	$521	$1,759
	2012	39%	40%	46%	50%	$4,193	$582	$1,875
	2013	37%	37%	47%	62%	$4,971	$718	$2,267
	2014	34%	34%	46%	77%	$6,328	$1,050	$2,931
	2015	26%	33%	47%	83%	$7,379	$1,004	$3,398
	2016	21%	52%	49%	32%	$7,277	$254	$3,313

TABLE A8. Other Business Recovery Model Results ($ in Millions)

Financial Class	Year	Actual Recovery	Predicted Recovery with Truncation	Predicted Recovery	Percent Truncated	Total Balance	Observed Value	Estimated Value
Taxes Receivable	2004	48%	47%	47%	1%	$7,492	$4,862	$2,338
	2005	50%	47%	47%	1%	$7,037	$4,456	$2,114
	2006	44%	43%	42%	1%	$7,140	$4,612	$1,940
	2007	41%	42%	42%	5%	$8,458	$5,401	$2,353
	2008	41%	43%	43%	12%	$8,618	$5,544	$2,587
	2009	39%	42%	43%	20%	$9,488	$6,110	$2,908
	2010	38%	39%	43%	27%	$10,800	$6,942	$3,212
	2011	38%	36%	43%	35%	$9,810	$5,500	$2,780
	2012	33%	35%	43%	40%	$10,085	$5,088	$2,496
	2013	34%	32%	43%	49%	$8,754	$3,823	$2,209
	2014	31%	32%	44%	53%	$8,785	$2,908	$2,260
	2015	28%	26%	44%	61%	$8,355	$2,061	$2,079
	2016	19%	16%	45%	77%	$8,426	$1,394	$2,165
Compliance Assessments	2004	19%	19%	18%	0%	$8,690	$161	$587
	2005	20%	19%	18%	0%	$8,927	$239	$813
	2006	21%	20%	19%	1%	$4,179	$202	$568
	2007	19%	21%	19%	12%	$2,940	$191	$397
	2008	19%	21%	20%	23%	$4,107	$179	$429
	2009	19%	19%	21%	36%	$2,715	$211	$415
	2010	18%	17%	20%	45%	$2,454	$207	$380
	2011	15%	15%	20%	54%	$2,471	$219	$366
	2012	13%	13%	21%	64%	$2,372	$159	$389
	2013	12%	11%	20%	75%	$2,802	$143	$439
	2014	11%	10%	20%	78%	$2,318	$136	$346
	2015	9%	6%	19%	85%	$2,262	$132	$323
	2016	5%	3%	19%	94%	$1,938	$59	$301
Write-off	2004	3%	3%	3%	1%	$2,894	$53	$34
	2005	6%	5%	5%	1%	$3,500	$65	$52
	2006	9%	6%	6%	1%	$10,150	$79	$75
	2007	5%	6%	5%	2%	$10,647	$48	$73
	2008	5%	6%	5%	5%	$11,853	$66	$80
	2009	4%	5%	5%	10%	$12,624	$42	$83
	2010	5%	6%	6%	18%	$13,029	$49	$98
	2011	5%	5%	6%	28%	$13,634	$47	$113
	2012	4%	5%	6%	39%	$13,853	$38	$112
	2013	4%	4%	6%	50%	$5,680	$45	$115
	2014	3%	3%	6%	66%	$4,427	$36	$112
	2015	2%	2%	6%	82%	$4,304	$28	$109
	2016	1%	1%	6%	96%	$4,424	$23	$111
All	2004	33%	32%	32%	1%	$19,077	$5,075	$2,958
	2005	33%	31%	31%	1%	$19,463	$4,760	$2,979
	2006	28%	26%	26%	1%	$21,468	$4,893	$2,583
	2007	26%	28%	27%	6%	$22,045	$5,641	$2,823
	2008	25%	26%	26%	13%	$24,578	$5,790	$3,096
	2009	24%	25%	26%	21%	$24,828	$6,363	$3,406
	2010	23%	23%	26%	29%	$26,283	$7,199	$3,690
	2011	21%	21%	25%	37%	$25,915	$5,766	$3,259
	2012	18%	19%	25%	46%	$26,311	$5,286	$2,997
	2013	18%	17%	24%	56%	$17,237	$4,011	$2,763
	2014	16%	16%	25%	64%	$15,530	$3,080	$2,718
	2015	14%	13%	25%	74%	$14,922	$2,220	$2,511
	2016	9%	8%	25%	88%	$14,788	$1,476	$2,577