



## 7<sup>th</sup> Annual IRS-TPC Joint Research Conference on Tax Administration

### Abstracts of Papers

#### Session 1: Identifying Corporation Tax Avoidance

##### Using IRS Data to Identify Income Shifting Firms

*Lisa De Simone* (Stanford University), *Lillian F. Mills* (The University of Texas-Austin), and *Bridget Stomberg* (The University of Georgia)

We use confidential IRS data on the reported magnitude of U.S.-foreign intercompany transactions to develop a measure of the likelihood that U.S. multinational entities (MNEs) shift income out of the U.S. Results show that the likelihood of net outbound income shifting is positively related to tax haven subsidiaries, high tech operations, income tax incentives, R&D, and foreign profitability, and negatively related to foreign sales, gross profits, size, and capital expenditures. Supplemental analyses explore cross-sectional differences in IRS audit scrutiny of outbound income shifters and aggressive income shifters. Results suggest outbound and aggressive income shifters are no more likely to be audited than other MNEs and that the rate of audit of both outbound shifters and aggressive shifters has decreased since the financial crisis. Our study provides researchers, investors and tax authorities with a measure of the likelihood that a firm engages in net outbound or potentially aggressive income shifting.

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##### Income Shifting by U.S. Multinational Corporations

*Ted Black* (IRS, RAAS), *Amy Dunbar* (University of Connecticut), *Andrew Duxbury* (James Madison University), and *Thomas Schultz* (Western Michigan University)

The Christian and Schultz (C&S) income shifting framework uses a profit optimization model that assumes firms account for the benefits of income shifting when making investment decisions and, consistent with economic theory, allocate capital so that marginal after-tax rates of return on assets are the same across all members of an affiliated group. Specifically, the original C&S two-state solution yields an annual estimate of the direction and magnitude of income shifted between a firm's domestic and foreign operations as a function of the pretax income, tax, and long-term asset values reported in tax records. The Office of Research extended the C&S income shifting framework to reflect a three-state solution (domestic, tax treaty country, non-tax treaty country) to estimate the amounts of income shifted between a firm's domestic operations and each of two foreign super-jurisdictions. We estimate income shifting using the three jurisdictions for 2007-2012. We also identify the CAP status of such firms to determine if CAP firms are less likely to shift income.

We further this analysis by examining the Form 5471s of CFCs that own DEs (consolidated CFCs) to determine how these entity structures engage in additional income shifting. When the sum of the DEs total income or total expense exceeds that of the consolidated CFC, the consolidated CFC has incurred intracompany transactions that are likely the result of income shifting, suggesting the firm has a higher level compliance risk.

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##### The Economic Effects of Special Purpose Entities on Corporate Tax Avoidance

*Paul Demeré*, *Michael P. Donohoe*, and *Petro Lisowsky* (University of Illinois at Urbana-Champaign)

This study provides the first large-sample evidence on the economic tax effects of special purpose entities (SPEs). Unlike transactions that directly generate tax savings, these increasingly common components of corporate organizational structures facilitate tax savings by enabling sponsor-firms to conduct a greater level of tax-advantaged transactions and/or enhance the tax efficiency (i.e., relative tax savings) of such transactions. Using path analysis, we find that SPEs facilitate a greater level of specific transactions such that 1.8% of the cash tax savings from leverage, 3.3% from net operating loss carryforwards, 8.7% from research and development (R&D), 6.1% from intangibles, and all cash tax savings from tax havens occur within SPEs. We estimate that SPEs facilitate incremental cash tax savings of about \$82.4 billion for our sample of 10,284 SPE users, or roughly 1.9% of total U.S. federal corporate tax collections during 1997-2011. Finally, moderation analysis reveals that SPEs enhance the total tax efficiency of transactions involving R&D and intangibles by 92.6% and 72.5%, respectively. Overall, these findings provide economic insight into complex organizational structures facilitating corporate tax avoidance.

## Session 2: Realizing the Potential of Tax Enforcement

### How Do IRS Resources Affect the Tax Enforcement Process?

*Michelle Nessa (Michigan State University), Casey Schwab (Indiana University), and Bridget Stomberg and Erin Towery (University of Georgia)*

This study investigates how Internal Revenue Service (IRS) resources affect the IRS enforcement process for publicly traded corporations. Using confidential IRS audit data, we examine the effect of IRS resources on audit rates, the incidence and magnitude of proposed deficiencies, and settlement outcomes. We find that IRS resources are positively associated with audit rates and both the likelihood and magnitude of proposed deficiencies but negatively associated with the portion of proposed deficiencies collected. These findings suggest that the IRS targets fewer positions when resources are more limited but that the targeted positions are those supported by weaker taxpayer facts. These results further our understanding of the strategic game between tax authorities and corporate taxpayers and have important implications for policy makers and shareholders, particularly in light of recent IRS budget cuts.

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### Tax Audits and Tax Compliance – Evidence from Italy

*Elena D'Agosto, Marco Manzo, Alessandro Modica and Stefano Pisani (Ministero dell'Economia e delle Finanze, Government of Italy)*

This paper investigates the effect of tax audits on both direct and indirect compliance on a large confidential dataset produced by the Italian Revenue Agency (IRA). The dataset contains detailed tax-return and audit information on a sample of small firms and self-employed over the period 2006-2011. Using a fixed effect estimator on this large balanced panel (with more than 130 000 observations over 6 years), we control for individual time-invariant heterogeneity and we obtain thereby a consistent estimator of the effect of tax audits on tax declared. In particular, we find evidence that tax audits have a positive impact on compliance; in the years following the audit, audited taxpayers increase the declared amount of IRAP, VAT and PIT (IRAP is the Italian regional tax on productive activities which is levied on the net value of production). These results are robust to a number of different specifications of the model. Moreover, grouping different types of tax audits by category, we are able to isolate the effect of each type of audit on taxpayer behavior. As expected, we find evidence that more in-depth tax audits have a larger impact on taxpayers' compliance. These results have important implications for tax authorities as they could focus their activity on the most effective audit programs. The last part of the paper is devoted to the analysis of the general deterrence effect of tax audits on tax compliance (i.e. the analysis of the effect of tax audits on non-audited taxpayers). Preliminary results suggest that audit rates have a significant effect on tax compliance.

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

*Dan Howar and Maryamm Muzikir (IRS, SB/SE), Alex Turk (IRS, RAAS), and Eric Henry (IRS, CFO)*

In this paper, we develop an econometric approach to estimating the value of unpaid assessments inventory. We use a logistic model to estimate the proportion of the current unpaid balance that will be paid over the remaining life of the statute period. We pool repeated cross sections of the IRS unpaid assessments inventory from 2004 to 2014 and observe payments on that inventory into 2016. The models produce scores or estimates of the percentage of the current balance the IRS can expect to recover on each asset in the Individual Master File and Business Master File unpaid assessment inventory. A two-step modeling approach was used in order 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 specifications were created based on the Masterfile Tax Class of the unpaid assessments assets.

This model-based approach provides more objective measures of collection potential over the life of the statute and allows for continuous or “real time” scoring of the entire inventory of unpaid assessments. This includes unagreed compliance assessment and those that are in a “Write-off” status. The model provides a transparent, data-driven estimate that is consistent with the approach used in the financial industry to estimate recovery or “loss given default” of a receivable asset. The model provides an opportunity to automate and enhance the annual Government Accounting Office audit of the IRS Financial Statement and reduce the risks associated with projecting unpaid assessment value based on a sample of cases.

## Session 3: The Role of Incentives in Individual Compliance

### Impact of Filing Reminder Outreach on Filing Compliance for Taxpayers with a Prior Filing Delinquency

*Stacy Orlett, Maryamm Muzikir, and Vicki Koranda (IRS, SB/SE), and Rizwan Javaid and Alex Turk (RAAS)*

Alternative outreach methods can improve the efficiency of tax administration if the outreach can promote voluntary compliance at a lower cost. Outreach to taxpayers at risk of further noncompliance may be able to improve compliance and help the taxpayer avoid unnecessary noncompliance costs. This is particularly important when the IRS does not have the resources to intervene with enforcement treatments. The IRS is exploring alternative approaches to promote voluntary filing, reporting and paying of tax liabilities. Encouraging taxpayers to meet their tax responsibilities voluntarily reduces

burden on support and enforcement resources. In this paper, we report results from outreach reminding individual taxpayers of their filing obligation. Two separate field tests were conducted exploring alternative methods of promoting voluntary filing compliance of taxpayers with prior filing delinquencies. The alternative treatment included various filing reminder correspondence. Taxpayers treated in the test were sent at least one reminder letter or postcard during the filing season encouraging them to file their return. The first pilot addresses taxpayers where the Automated Substitute for Return process recently brought the taxpayer back into filing by securing a delinquent return. The second pilot addresses taxpayers who have recently not filed a return, and the IRS did not have the resources to take enforcement actions. We find positive effects of both the reminder letters and postcards.

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## Charitable Contributions of Conservation Easements

**Adam Looney** (*The Brookings Institution*)

A tax deduction intended to encourage conservation of environmentally important land and historic buildings has become a lucrative way for real estate developers to finance development projects—cheating the government out of billions of dollars of revenue and in some cases doing little to advance environmental protection. The provision allows property owners to take a charitable deduction for donating qualified conservation easements—legal agreements that permanently limit the development or use of a property—to a charitable organization. The deduction has proved to be a popular and successful tool for encouraging conservation of environmentally important land and historic buildings, and the tax benefit to donors is often seen as a key component in making a conservation deal come together. However, this obscure tax provision has proved difficult to administer and enforce, and ranks among the top ten most litigated issues between the IRS and taxpayers. Some donors abuse the provision by applying grossly inflated appraisals to the value of the easement to increase their charitable deduction or by taking donations for easements that do not fulfill bona fide conservation purposes. This paper draws on administrative data sources to provide new evidence about how the provision is used by taxpayers and donee organizations.

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## Tax Preparers, Refund Anticipation Products, and EITC Compliance

**Maggie R. Jones** (*U.S. Census Bureau*)

This paper examines whether the availability of tax refund anticipation products (either in the form of a loan or a temporary bank account) is associated with higher noncompliance rates for the Earned Income Tax Credit (EITC). Refund anticipation products are offered by tax preparers as a way for taxpayers to receive a refund faster or to have the tax preparation fee paid from the refund (or both). These products are, on average, costly for taxpayers compared with the average value of a refund, and they are often marketed to low-income taxpayers who may be liquidity constrained or unbanked. Both tax preparers and taxpayers have perverse incentives to use these products, and the temptation of a large refund (for the taxpayer) and added fees and interest (for the tax preparer) may induce incorrect claims for the credits. I examine the association between refund anticipation product use and EITC compliance using tax records and survey data linked at the individual level. For taxpayers in the Current Population Survey Annual and Social Economic Supplement, I estimate EITC eligibility based on household characteristics and combined survey and administrative income information; I can observe EITC credit receipt, the use of paid tax preparation or online filing, and the receipt of a refund anticipation product. I find that EITC errors are associated with preparer use, and to a lesser extent with the use of online filing, when compared with paper filing. Noncompliance is exacerbated for preparer and online filing when a refund anticipation product is purchased. I also exploit an exogenous price shock to the tax preparation industry that occurred in 2010. This allows me to separately identify a “preparer effect” on the noncompliance rate. I find that the noncompliance rate increased in the year after the shock for those using a preparer and buying a product.

## Session 4: Creative Use of Non-Tax Data Sources

### Supplementing IRS Data with External Credit Report Data in Employment Tax Predictive Models

**Curt Hopkins** and **Ken Su** (*IRS, SB/SE*)

This paper assesses the value of adding credit risk data from a major credit bureau in forecasting unpaid employment taxes. We used both data analysis and model development techniques to gain a thorough understanding of the relationship between external business data and credit scores with our internal IRS data. We found no evidence that this external data would add value during predictive model building in the employment tax arena. In the first analysis, we show that there is no univariate relationship between external credit information and employment tax compliance. In the second, we show that this data source does not improve our ability to predict future payment compliance. In the third, we show that these two time series have no relationship to each other except at a level of random chance. Our conclusion is that existing IRS data is a rich data source, and while external credit bureau data is also rich in content, its inclusion does not increase our ability to predict employment tax behavior.

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## Better Identification of Potential Employment Tax Noncompliance Using Credit Bureau Data

*Saurabh Datta, Patrick Langetieg, and Brenda Schafer (IRS, RAAS)*

The U.S. income tax system requires employers to deposit payroll taxes using either a monthly or semi-weekly schedule, which is generally based on the total tax liability the employer reported on Form 941 during a look back period. A failure to make timely deposits results in a failure-to-deposit penalty up to 15 percent and may be subject to subsequent enforcement actions. If the IRS can more quickly identify employers that have missed – or may miss – one or more scheduled payroll deposits before these employers encounter further financial difficulties, file for bankruptcy, or close down the business, there is a higher likelihood of collecting the unpaid taxes. This early intervention may even provide useful guidance to the employer regarding the importance of payroll tax compliance and the availability of payment plans that can help the employer meet their payroll deposit responsibilities. This paper discusses preliminary findings that show that matching a homogenous sample of employers with third-party short- and long-term credit bureau credit scores may be useful to proactively identify potential noncompliant employers.

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## Estimating the Effects of Tax Reform on Compliance Burdens

*Daniel Berger and Eric Toder (Tax Policy Center), and Victoria Bryant, John Guyton, and Patrick Langetieg (IRS, RAAS)*

The Tax Policy Center (TPC) has recently added compliance burden estimates to the TPC Individual Income Tax Microsimulation Model. With assistance from IRS analysts, these estimates were adapted from the Individual Taxpayer Burden Model (ITBM). The ITBM is based on tax return and survey data to estimate the cost of time and out-of-pocket expenses associated with individuals' preparing and filing tax returns and equations that relate these costs to characteristics of the tax filers and tax returns. IRS analysts reconfigured the analysis to base the estimates and equations only on variables reported on the IRS Statistics of Income Public Use File (PUF). This allowed TPC to build a version of the original model that uses entirely public data. This paper describes the process used to adapt the ITBM to work with the PUF and how TPC implemented this onto its individual income tax microsimulation model. The paper then demonstrates the capability by presenting distributional estimates of the compliance burden of current law and selected reform proposals.

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## Counting Elusive Nonfilers Using IRS Rather Than Census Data

*Patrick Langetieg, Mark Payne, and Alan Plumley (IRS, RAAS)*

Although not all individuals have a federal income tax filing requirement, every year millions of required returns are not filed on time or at all. The Internal Revenue Service (IRS) would like to help taxpayers meet their filing obligations, so estimates of the extent of nonfiling provide helpful insights. For many years, the IRS has used Census Bureau survey data when estimating the extent of individual income tax filing compliance. This paper describes an updated methodology for estimating the number of nonfilers and the corresponding Voluntary Filing Rate using IRS data alone—without relying on Census data. The reasons for this new approach are also explained.