



Session 2. Behavioral Responses to IRS Interventions

Moderator:

Drew Johns IRS, RAAS

Using Behavioral Insights in Notice Design to Improve Taxpayer Responses and Achieve Compliance Outcomes

*Jan Millard
IRS, S&E PMO*

Strategies to Address Noncompliance in Refundable Tax Credits: Evidence on Taxpayer Responses to EITC Correspondence Audits and Experimental Outreach

*Day Manoli
University of Texas-Austin*

Federal Tax Liens and Letters: Effectiveness of the Notice of Federal Tax Liens and Alternative IRS Letters on Individual Tax Debt Resolution

*Brett Collins
IRS, RAAS*

Discussant:

*Alex Yuskavage
Treasury, Office of Tax Analysis*

Using Behavioral Insights in Notice Design to Improve Taxpayer Responses and Achieve Compliance Outcomes

Presented by: Jan Millard

*Anne Herlache, IRS (RAAS); Jan Millard, IRS (RAAS);
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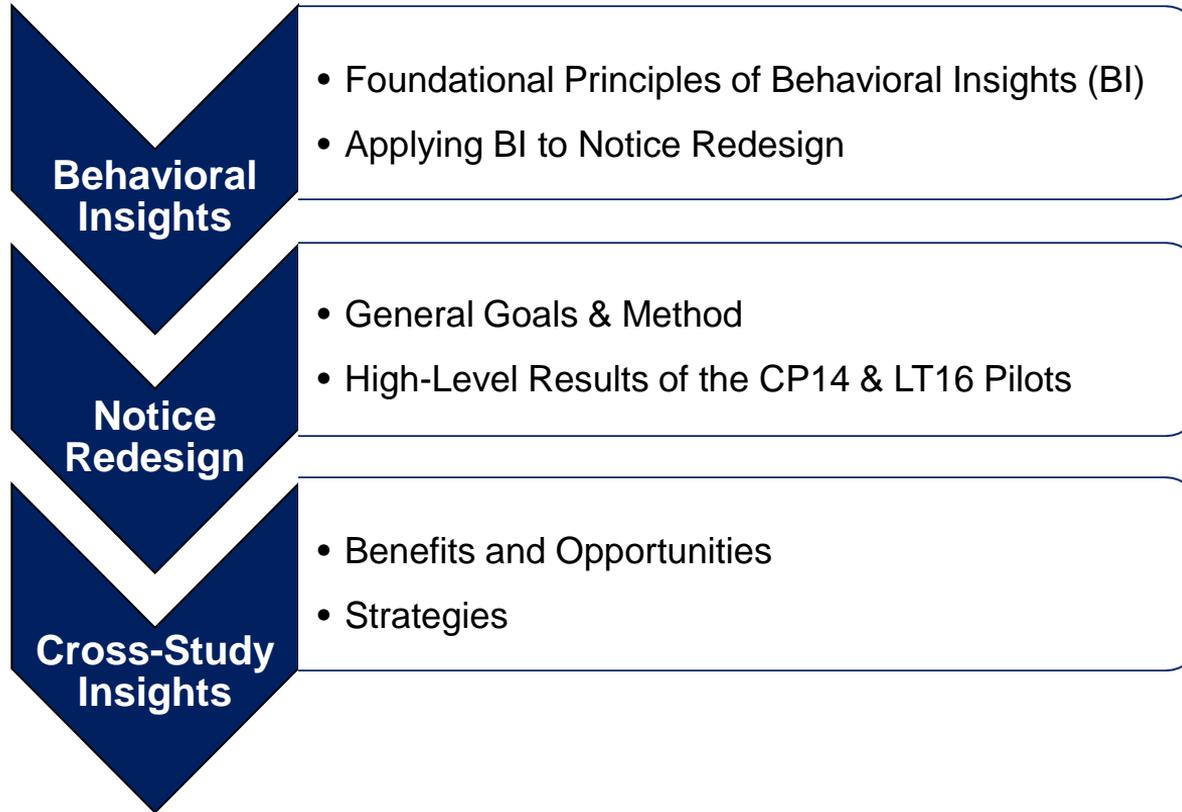
IRS TPC Joint Research Conference | June 20th, 2018



SB/SE COLLECTION

RESEARCH, APPLIED ANALYTICS AND
STATISTICS

Using Behavioral Insights in Notice Design to Improve Taxpayer Responses and Achieve Compliance Outcomes



Foundational Principles of Behavioral Insights



We are faced with more decisions and information than we can consciously process.



Our surroundings play a key role in our unconscious behavior



We are social beings who care what others think and do.



**Opportunities
to design
better
communication**

Behavioral Insights (BI) uses principles from the behavioral sciences such as psychology, neuroscience, and behavioral economics to understand **how individuals absorb, process, and react to information.**

Applying Behavioral Insights to Notice Redesign

Potential BI Elements to Test	Message Focus
 Gain framing	Benefits of tax compliance
 Loss framing	Consequences of non-compliance
 Encouragement	Ease of tax compliance
 Deadline framing	Key deadlines for the TP
 Social persuasion	Demonstrate peer TPs are in compliance
 Personalization	Cater the notice message based on TP traits
 Default option bias	List the most desired outcome first

Notice Redesign Initiative Goals

- 1) Encourage taxpayers to take **payment compliance actions** (full payments, partial payments, or installment agreements)

- 2) Encourage taxpayers to use **self-service tools** to resolve collection issues without phone calls or mail

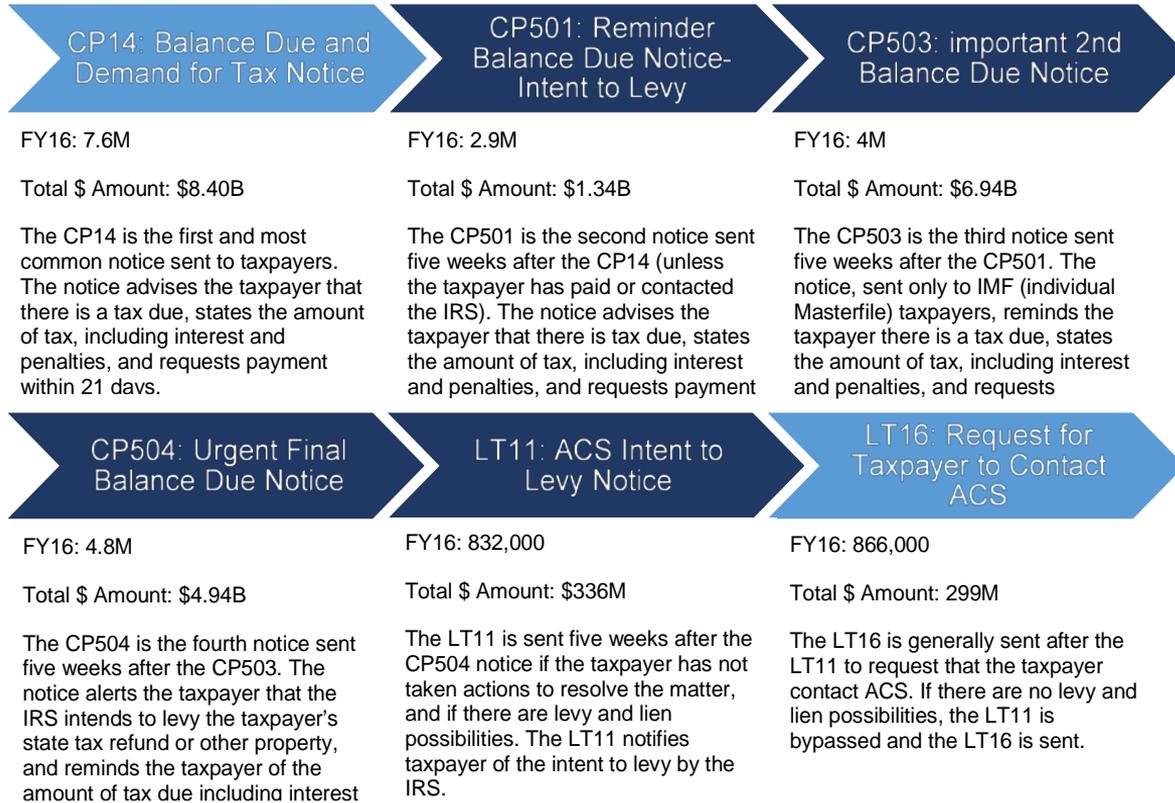


- 3) Reduce IRS cost by **decreasing the volume of phone calls** and correspondence the IRS receives

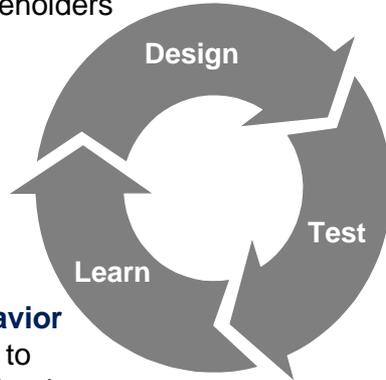
- 4) Promote behavior to reduce the burden experienced by taxpayers, **including financial and non-financial costs**

Notice redesign has proven to be a cost-effective method for the IRS to increase payment compliance while using IRS resources efficiently

SBSE Collection Notice Stream



Develop **redesigned notices** using **behavioral elements** and input from IRS stakeholders



Track **taxpayer behavior** after notice issuance to determine the behavioral elements with the **greatest impact** on the business outcomes

Conducted a **Randomized Control Trial** to test the impact of the redesigned notices against a Control

Behavioral Elements Examples



Fewer pages



Visuals



Clear Next Steps



Easy Online Payments

Notice Redesign: CP14 Method



Participants & Sampling

- 34,000 taxpayers
- Randomly assigned to 1 of 4 groups
8500 per group



Materials

- Control: Standard CP14
- Prototypes
 - Condensed Notice
 - Minimal Notice
 - Visual Notice



Procedure

- Incrementally mailed from
July 31, 2017 – Oct 30, 2017
- Tracked taxpayer behavior for
6 weeks after notice issuance

Example: First Page of Standard CP14 (Control)*

Department of the Treasury
Internal Revenue Service
IRS
P.O. Box 9019
Holtzville, NY 11742-9019

JOHN AND MARY SMITH
123 N HARRIS ST
HARVARD, TX. 12345

You have a balance due for 2017
Amount due: \$1,075.21

Our records show you have unpaid taxes and/or penalties and interest on your 2017 Form 1040.

If you already paid your balance in full within the last 21 days or made payment arrangements, please disregard this notice.

If you already have an installment or payment agreement in place for this tax year, then continue with that agreement.

Billing Summary	
Tax you owed	\$3,183.00
Payments and credits	-3,326.00
Failure-to-file penalty	318.30
Failure-to-pay penalty	633.30
Interest charges	145.00
Failure-to-pay estimated tax penalty	123.61
Amount due by February 20, 2018	\$1,075.21

If you are a debtor in a bankruptcy case, this notice is for your information only and is not intended to seek payment outside of the bankruptcy process of taxes due before you filed your petition. You will not receive another notice of the balance due while the automatic stay remains in effect.

What you need to do immediately

If you agree with the amount due and you're not working with an IRS representative

- Pay the amount due of \$1,075.21 by February 20, 2018, to avoid penalty and interest charges.
- Pay online or mail a check or money order with the attached payment stub. You can pay online now at www.irs.gov/payments.

Continued on back

John and Mary Smith
123 N Harris Street
Harvard, TX. 12345

CP14	
Notice	CP14
Notice date	January 30, 2018
Social security number	non-ss-nnon

Payment

- Make your check or money order payable to the United States Treasury.
- Write your social security number (non-ss-nnon), the tax year (2017), and the form number (1040) on your payment.

Amount due by February 20, 2018 **\$1,075.21**

INTERNAL REVENUE SERVICE

* First page examples of study materials are available in the appendix

CP14: High-Level Results



Improved Payment Compliance

Redesigned CP14 notices resulted in increases in overall compliance

- The Condensed notice improved overall compliance the most
- The Visual notice resulted in the most dollars collected overall, per notice, and through full payments

\$485M*

Projected increase in annual collections across the entire CP14 population

6%

Increase in full payment compliance for the Condensed notice¹

\$59

Additional dollars collected per notice (Visual)



Increased Self-Service

Every redesigned CP14 notice led to an increase in the use of self-service channels

21% *Increase in payments via self-service channels across all redesigned notices*



Decreased IRS Cost

With fewer pages per notice than the Control, the redesigned notices may increase cost savings if scaled

\$1.4-1.7M *Potential mail and print cost savings if scaled*

0% *No statistically significant increase in phone calls*



Decreased Taxpayer Burden

Every redesigned notice reduced taxpayer penalties

3% *Decrease in the number of taxpayers with the maximum failure-to-pay penalty*

The IRS could collect an additional \$485M annually if the best performing (Visual) notices were sent to all CP14 taxpayers

*Based on the FY16 population, if scaled

Notice Redesign: LT16 Method



- **Participants & Sampling**
 - 59,000 taxpayers
 - Randomly assigned to 1 of 7 groups
 - 8500 per group



- **Materials**
 - Control: Standard LT16
 - Prototypes
 - Minimalist
 - Color
 - Behavioral
 - Urgent
 - Visual
 - Installment Agreement (IA)



- **Procedure**
 - Incrementally mailed from January 31, 2017 – March 6, 2017
 - Tracked taxpayer behavior for 18 weeks after notice issuance

Example: First Page of Standard LT16 (Control)

The image shows the first page of a standard LT16 notice from the IRS. The notice is addressed to James & Karen Q. Hinds at 22 Boulder Street, Hanson, CT 06033. The notice date is March 2, 2018. The notice is for a tax period of 1/1/17 to 12/31/17. The amount due is \$8,498.98. The notice is for a non-nr-nm notice. The notice is for a taxpayer ID number of 12-34-56789. The notice is for a case reference number of 123456789. The notice is for a contact us phone number of 1-800-xxx-xxxx. The notice is for a page 1 of 3.

Notice	LT16
Notice date	March 2, 2018
Taxpayer ID number	Non-nr-nm
Case reference number	123456789
To contact us	Phone 1-800-xxx-xxxx
Page 1 of 3	

JAMES & KAREN Q. HINDS
22 BOULDER STREET
HANSON, CT 06033

Your account has been assigned for enforcement action
Please call us about your unpaid taxes

We're trying to collect unpaid taxes from you for the year(s) shown in the billing summary below.

We have assigned your account for review and possible enforcement action. Enforcement action may include seizing your wages or property. It's important that we hear from you within 10 days.

What you need to do

- Pay the amount you owe within 10 days. If you can't pay the amount due in full, call us at 1-800-xxx-xxxx to discuss your options. Be ready to tell us what your monthly income and expenses are so we can help you arrange a payment plan.

Continued on back ...

James & Karen Q. Hinds
22 Boulder Street
Hanson, CT 06033

Payment

- Make your check or money order payable to the United States Treasury.
- Write your Taxpayer ID number (non-nr-nm) and the tax period(s) on your payment and any correspondence.

Amount due

INTERNAL REVENUE SERVICE
AUSTIN, TX 73301-0023

* First page examples of study materials are available in the appendix

LT16: High-Level Results



Improved Payment Compliance

The Urgent & IA notices prompted the greatest increase in compliance, while the Behavioral and Visual notices underperformed.

- The Urgent notice resulted in the most dollars collected overall, per notice, and through full payments
- The IA notice unsurprisingly resulted in the highest percentage of IAs.

\$63M*

Projected increase if Urgent or IA notices were sent to all LT16 recipients

10-11%

Increase in payment compliance actions (IA & Urgent)

\$63

Additional dollars collected per notice sent (Urgent)



Increased Self-Service

Every redesigned LT16 notice led to an increase in the use of self-service channels

13-31%

Increase in payments via self-service channels across all redesigned notices



Decreased IRS Cost

With fewer pages per notice than the Control, the redesigned notices may increase cost savings if scaled

50%

Decrease paper usage

8-20%

Reduction in cost per taxpayer case (across all redesigned notices)



Decreased Taxpayer Burden

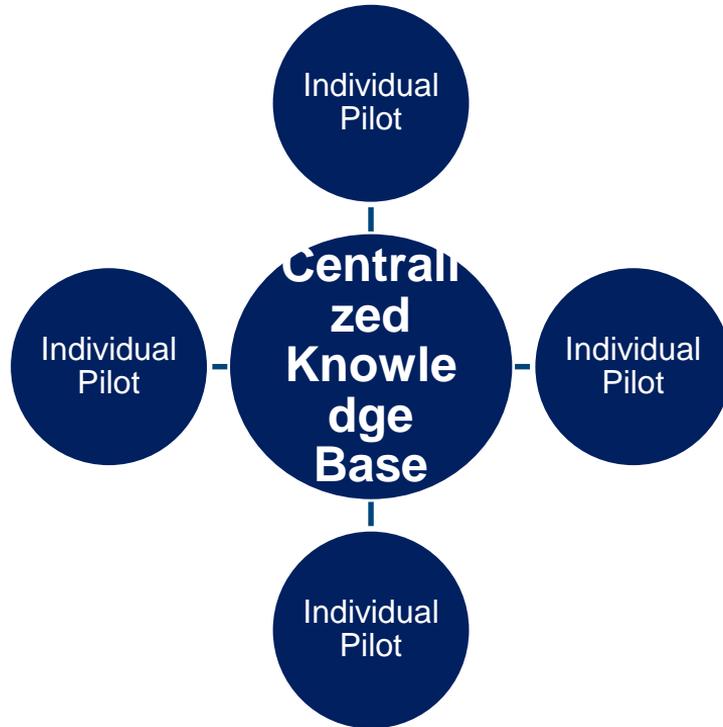
Urgent & IA notices reduced taxpayer penalties

6-8%

Decrease in the number of taxpayers with the maximum failure-to-pay penalty (Urgent & IA)

The IRS could collect an additional \$63M annually if either of the best performing (Urgent or IA) notices were sent to all LT16 taxpayers

*Based on the FY16 population, if scaled

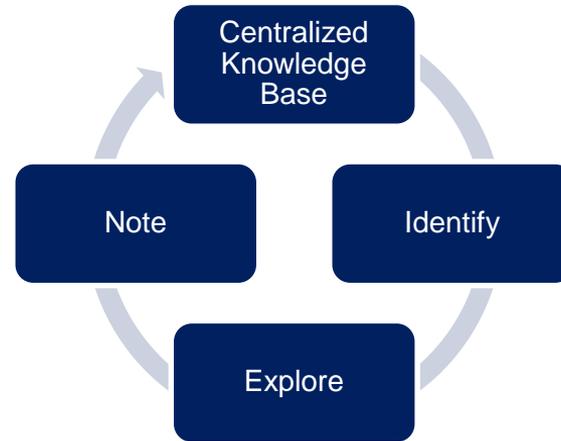


Drawing **systematic** and statistically **rigorous** insights from within and across different BI-informed pilots

- 1) Multiple Regression / Segmentation
- 2) Meta-Analysis
- 3) Predictive Modeling

Building a foundation for Behavioral Insights at the IRS

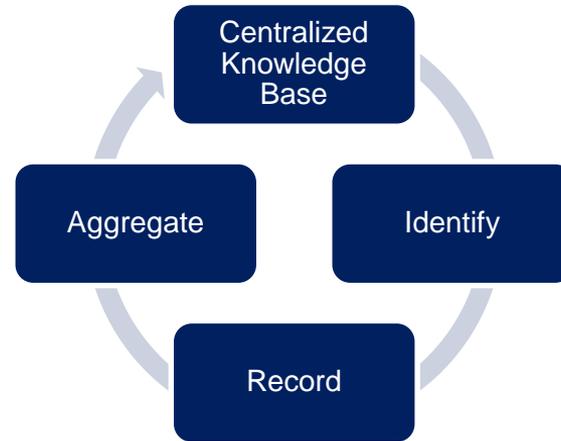
- **Identify relevant taxpayer behavioral characteristics**
 - E.g., balance due, ability to pay, filing status, income type, etc.
- **Explore how pilot treatments perform in different groups**
 - Deeper dives into the data
 - Example from the LT16 Pilot – Behavioral Notice & Balance Due
- ***This method notes patterns in importance of predictors across pilots***
 - *Do certain behavioral elements work consistently across certain subpopulations?*



Building a foundation for Behavioral Insights at the IRS

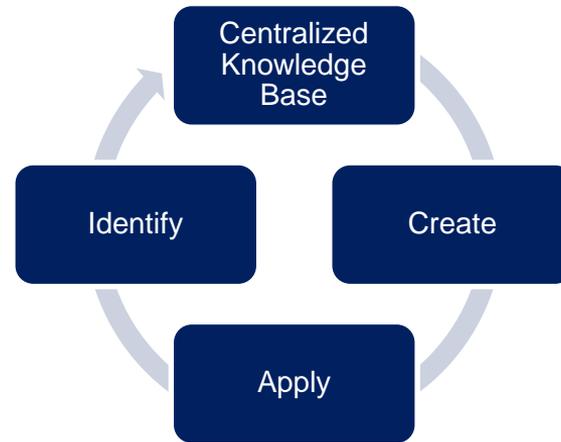
Mini Meta-Analysis

- **Identify features for on-going study**
 - E.g., behavioral elements within notices, covariates, etc.
- **Record relevant effect sizes**
- **Aggregate results to gain a deeper understanding**
 - Identify patterns among results (e.g., with specific population segments)
 - Allows for the incorporation of non-IRS studies
- ***This method validates insights and reinforces the knowledge base of “what works,” thus supporting broader application***



Building a foundation for Behavioral Insights at the IRS

- **Create a risk model**
 - Identify which CP14 recipients are likely to remain in the collection stream and receive an LT16 notice
- **Apply the model to the CP14 pilot**
- **Identify what works among those with high scores**
 - Identify which prototypes are likely to bring taxpayers at risk of remaining in the collection stream to the issuance of an LT16 into earlier compliance.
- ***This method enables the application of insights to different taxpayer points of contact, potentially upstream***



Building a foundation for Behavioral Insights at the IRS

Apply **Behavioral Insights** to **Pilot Tests** to address specific business goals

Pilot Tests

Use a variety of methods to conduct **Deeper Dives** in our pilot data and draw **Cross-Study Insights** from the BI-informed pilots

Cross-Study Insights

Add to an ever-growing **Centralized Knowledge Base** of Behavioral Insights at the IRS

Centralized Knowledge Base

Building a foundation for Behavioral Insights at the IRS

Appendix

Applying Behavioral Insights to Notice Redesign

Potential changes to be tested	Message focus	Example: TP did not file	Example: TP filed with a Bal Due
 Gain framing	Benefits of tax compliance	You can file your past tax returns and gain valuable tax benefits	If you pay your balance today, you will avoid more penalties and interest in the future
 Loss framing	Consequences of non-compliance	If you do not file, you may incur substantial penalties	If you do not pay, your balance will increase by \$X due to penalties
 Encouragement	Ease of tax compliance	If you have not already done so, it's easy to file your past tax returns	You can pay your balance online using a credit or debit card
 Deadline framing	Key deadlines for the TP	It is not too late to file your past tax returns; you can file before this date without incurring penalties	Paying before this date will minimize penalties you will have to pay
 Social persuasion	Demonstrate peer TPs are in compliance	X% of your peers are in compliance. You can file your past tax returns to be in compliance too	Even after entering A/R, X% of your peers pay off their debt
 Personalization	Cater the notice message based on TP traits	Over the past X years, you have filed timely	Based on your compliance history, you have managed to make full payments on past debts
 Default option bias	List the most desired outcome first	You can file your returns online or by mail	You can make a payment online at irs.gov/payments , by check or money order, or by phone

CP14 Notice Prototypes & Control (2017 CP14)

“Condensed”



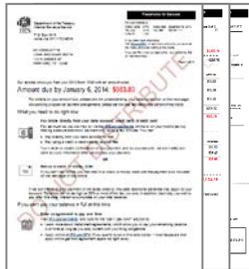
- Closest to current notice
- Includes short descriptions of interest and penalties
- References IA, OIC, and CNC as options for TPs who can't pay in full
- Maintains balance summary on the front of notice

“Minimal”



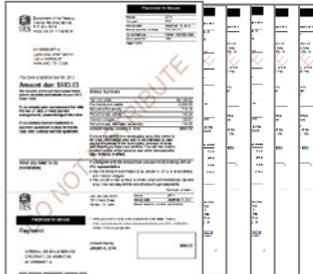
- Uses current notice template
- Additional information removed from notice (e.g., OIC/CNC options, penalty/interest descriptions); TPs are directed online instead
- 1st page focuses on payment options and IA; 2nd page focuses on balance details

“Visual”



- Deviates from current template to a more visual format
- 1st page focuses on payment options and IA; 2nd page focuses on balance details; 3rd page offers more information
- Payment stub on last page

“Control” – the current CP14 version for 2017



- Revised BAU notice for 2017
- Contains individual sections for each penalty/interest charge
- Does not mention IAs or other resolution options on first page



TAX ENFORCEMENT AND TAX POLICY: Evidence on Taxpayer Responses to EITC Correspondence Audits

June 2018

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Disclaimer: This research represents the authors' research efforts and does not represent any official views or opinions of the United States Department of Treasury, Internal Revenue Service or any other government agency.

Introduction

- Earned Income Tax Credit (EITC): largest wage subsidy, anti-poverty program in US
 - Increases in labor force participation and earnings (Eissa and Liebman 1996, Meyer and Rosenbaum 2001, Meyer 2010, Hoynes and Patel 2017)
 - Health (Strully et al 2010, Evans and Garthwaite 2014, Hoynes et al 2015)
 - Education (Dahl and Lochner 2012, 2017, Maxfield 2013, Lundstrom 2017, Bastian and Micheltmore 2018, Manoli and Turner 2018)
 - Poverty (Hoynes and Patel 2018)
- Concerns about erroneous claims of EITC benefits (Holtzblatt 1991, McCubbin 2000, Blumenthal, Erard and Ho 2005, Leibel 2014)
- Key enforcement tool to protect revenue and deter erroneous claims: EITC correspondence audits
- Little is known about short-term and long-term impacts of EITC correspondence audits and any subsequent loss of benefits on taxpayer behaviors

Introduction

- This project uses random variation inherent in audit procedures to estimate causal impacts of audits on taxpayer behavior, highlight potential areas for improvements in EITC correspondent audit communications
- Research design permits estimation of short-term and long-term impacts from EITC correspondence audits on taxpayer behaviors (claiming EITC benefits, filing tax returns, refunds)
- Research design permits estimation of impacts of losses of EITC benefits from EITC correspondence audit outcomes on labor supply

EITC Correspondence Audit Background

Correspondence audits = audits conducted via mail
verify qualifying child eligibility, self-employment income

Summary of Audit Selection Process (details not made public by the IRS)

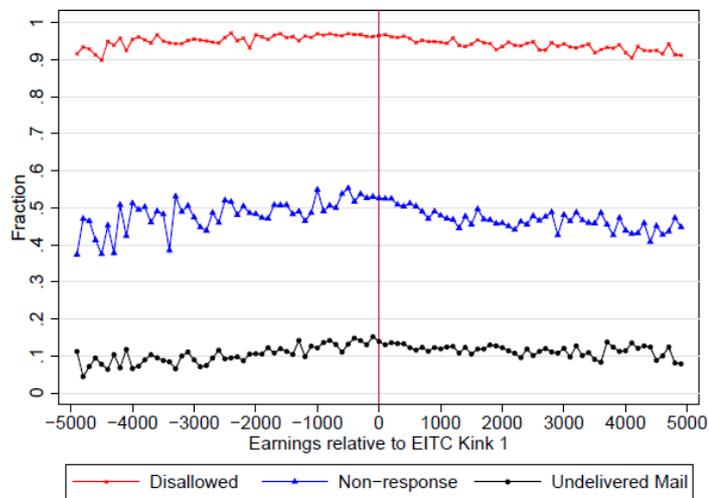
- All EITC returns checked to see if any flags are triggered
- If any flags are triggered, return is scored
- Returns with highest risk scores are always audited
- Random selection of returns with lower and intermediate risk scores

Research strategy: compare randomly selected audited returns to returns with similar risk scores that were not selected for audit

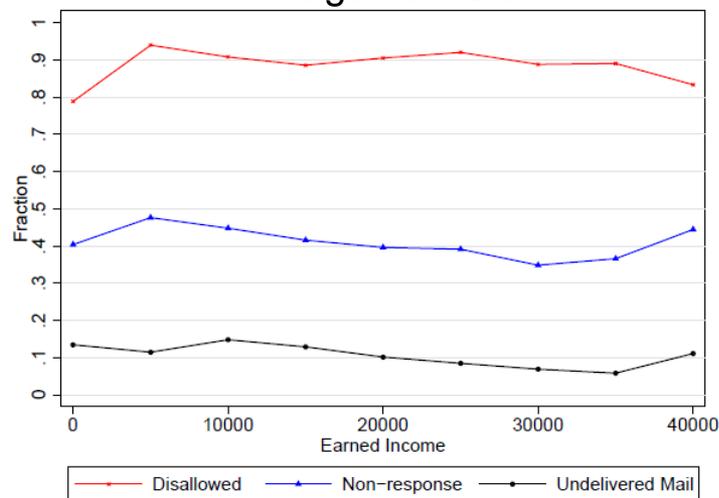
Audit Background

Disallowance, Non-Response, & Undeliverable Rates

A. Self-Employed

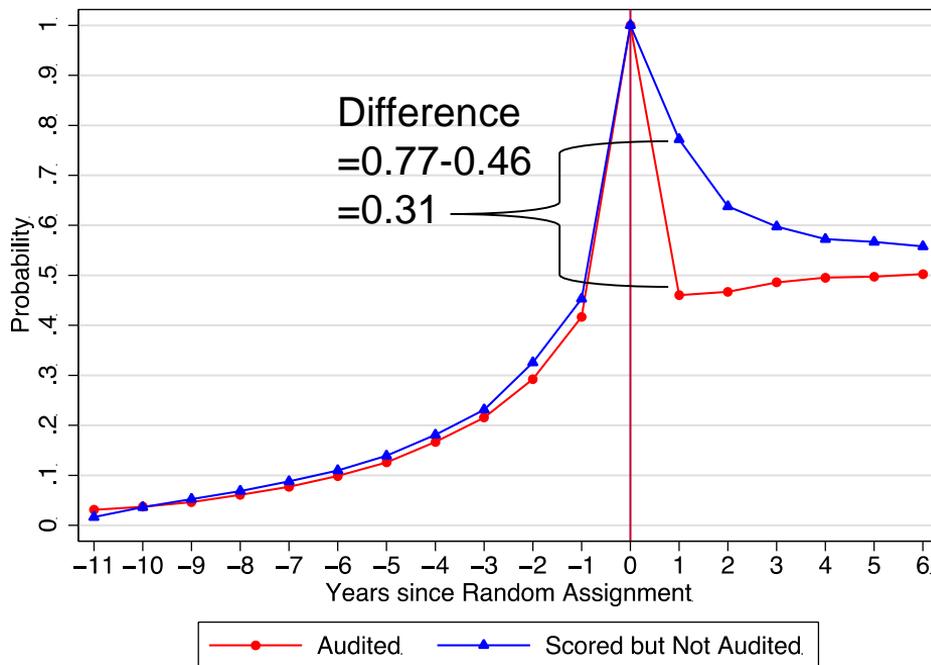


B. Wage Earners



Impacts of EITC Correspondence Audits

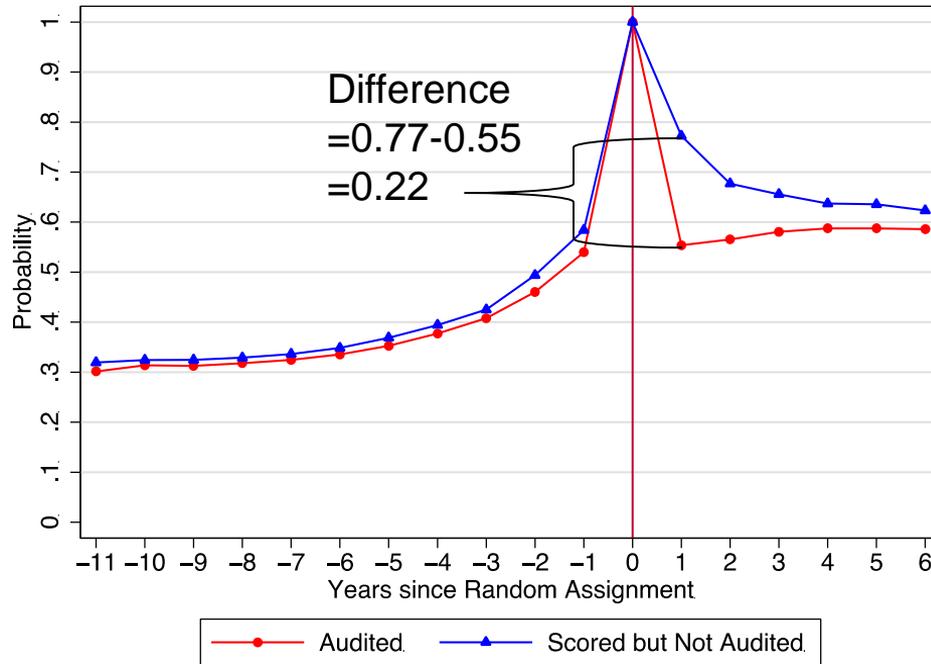
Claiming EITC, Self-Employed



→ Decrease in claiming EITC following audit. Sharpest decline immediately after audit, persists multiple years after audit

Impacts of EITC Correspondence Audits

Claiming EITC, Wage Earners

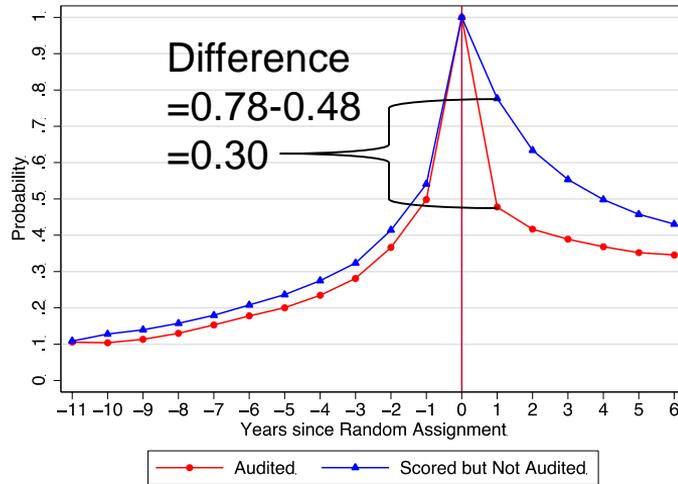


→ Decrease in claiming EITC following audit. Sharpest decline immediately after audit, persists multiple years after audit

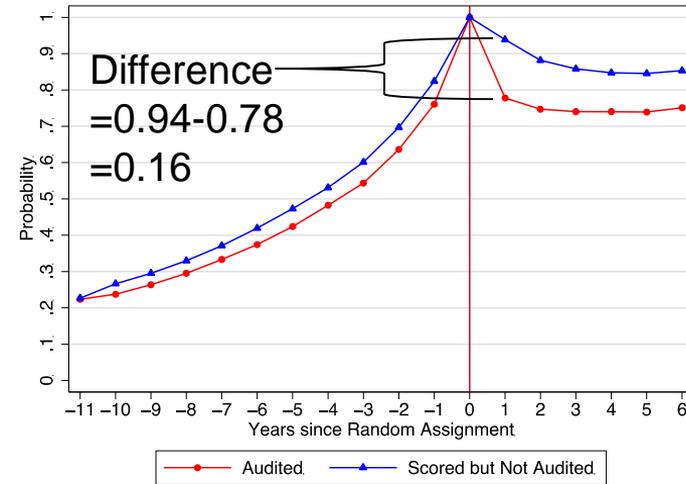
Impacts of EITC Correspondence Audits

Filing

A. Self-Employed

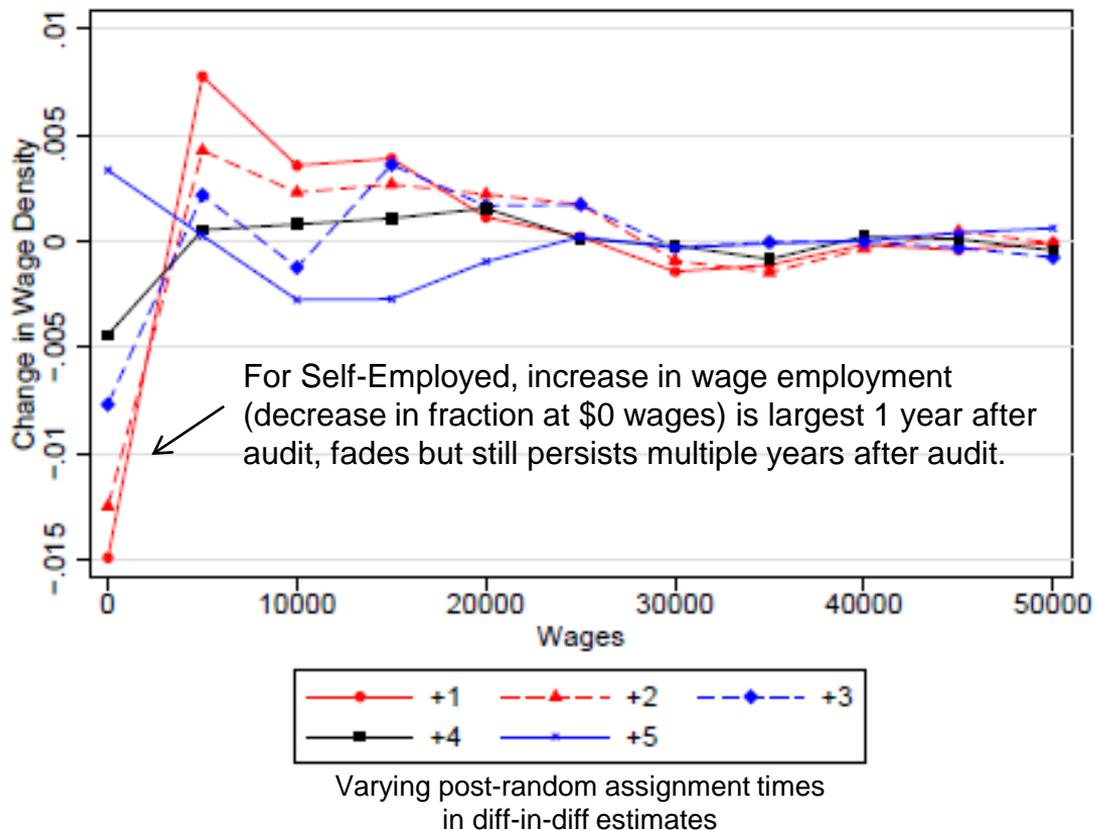


B. Wage Earners

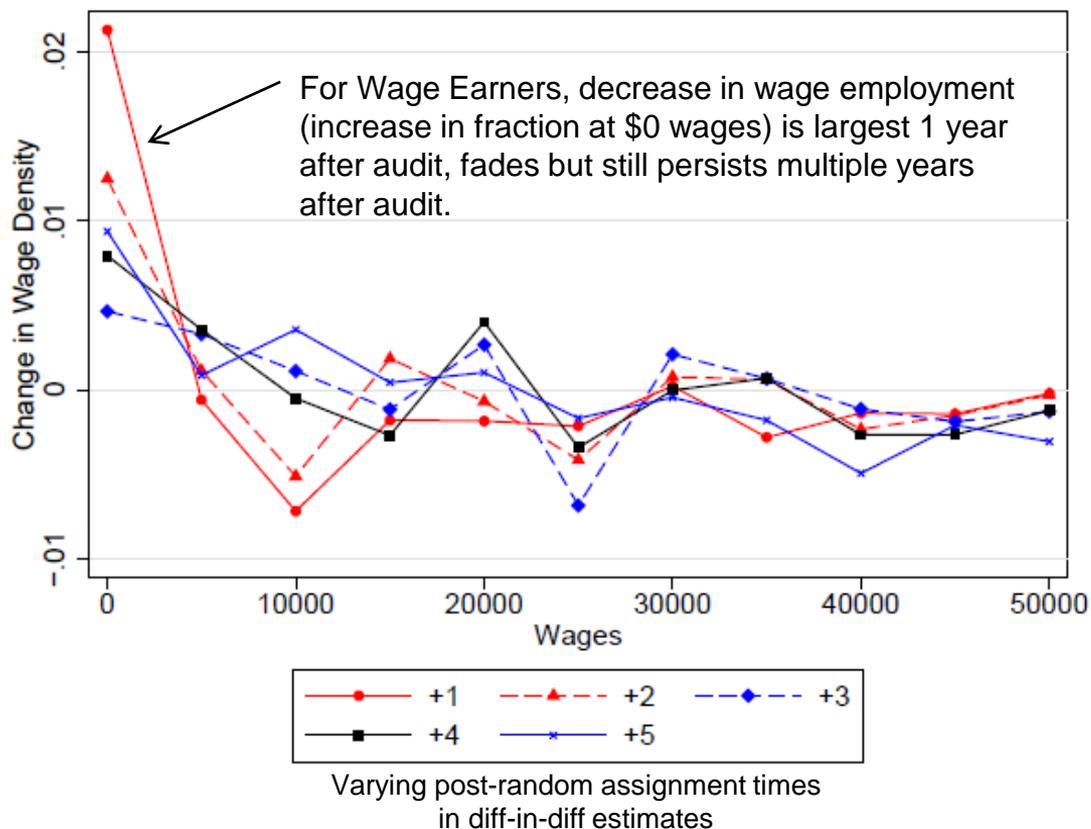


→ Decrease in filing accounts for much of decrease in claiming EITC, but also observe decrease in claiming EITC conditional on filing (increase in receipt of CP09/CP27 notices)

Earnings Responses, Dynamics for Self-Employed



Earnings Responses, Dynamics for Wage Earners



Conclusions

This project: examine how tax enforcement affects taxpayer behavior, use these results to gain insights into how tax policies affect taxpayer behavior

In years after EITC Correspondence Audits:

- Decrease in likelihood of claiming EITC
 - Decrease in likelihood of filing, persistent; accounts for much of changes in EITC receipt, but also observe decrease in likelihood of claiming EITC conditional on filing
 - EITC maximizers respond to EITC correspondence audits similar to non-maximizers
- Wage earnings responses
 - Self-employed increase likelihood of having wage employment
 - Wage earners decrease likelihood of having wage employment

Conclusions

In years after EITC Correspondence Audits:

- Decrease in likelihood of claiming EITC, filing
- Wage employment: increase for Self-Employed, decrease for Wage Earners

Further Research

- Although some of the decrease in EITC claims and reported self-employment income likely results from improved tax compliance, we seek to better understand how to mitigate any unintended negative impacts
- Possible strategies to improve audit communication to taxpayers
- Possible strategies for post-audit follow-up communications with taxpayers

Thank you!!!

Federal Tax Liens and Letters: Effectiveness of the Notice of Federal Tax Liens and Alternative IRS Letters on Individual Tax Debt Resolution

IRS

Research, Applied Analytics and Statistics
Knowledge Development and Application
06/20/2018

Ishani Roy, Brett Collins, Alex Turk, and Alan Plumley
(IRS—Research, Applied Analytics, and Statistics)
Terry Ashley and Jeff Wilson
(IRS—Taxpayer Advocate Service)

Disclaimer: The views in this paper are those of the authors only and do not necessarily reflect the positions of the IRS or the Taxpayer Advocate

Background

- A statutory lien is established when Taxpayer fails to pay a federal tax assessment
- A Notice of Federal Tax Lien (NFTL) can be filed that will
 - Make the statutory lien public information
 - Help to establish priority over other secured creditors
 - Be in force until all unpaid amounts are resolved
- NFTLs act as an incentive for taxpayers to pay down outstanding debts, but may also have negative impacts on taxpayers' credit scores, as tax liens become public information
- To help IRS decide how much it should use NFTLs and which taxpayers to send them to, it's important to assess the effectiveness of the NFTLs and whether any alternative treatments might be preferable

Research Question

- How effective are NFTL and other treatment alternatives at motivating taxpayers to resolve their outstanding debt?
 - Focus on taxpayers with \$10K to \$25K outstanding balance due
- Taxpayers were randomly assigned to one of five treatment groups, including the control group
 - File standard Notice of Federal Tax Lien
 - Issue Collection Alternative Letter 5696C
 - Issue Reminder Notice 5701C
 - Issue 5701C first, then Monthly Reminder 5702C for nine months if no response
 - Control group with no contact
- Initially tracked case outcomes after 12 months
 - Pilot ran from April 2016-April 2017

Study Design

Pilot Group	Treatment	Number of Taxpayers Selected
Pilot 1	File traditional NFTL	2,996
Pilot 2	Issue Collection Alternative Letter 5696C	2,564
Pilot 3	Issue Reminder Notice 5701C	2,571
Pilot 4	Issue 5701C first, then Monthly Reminder 5702C for up to 9 months if no response	2,583
Pilot 5	Control group, no additional action taken	2,487

- Completely randomized design, taxpayers assigned by last two digits of TIN
- Study population: 13,201 Individual Master File taxpayers with balance due between \$10K-\$25K at beginning of the study
- New letters tested in pilot groups 2, 3, and 4 remind taxpayers of their outstanding balance due, including penalties and interest, and provide instructions for making payments, arranging CNC and offers in compromise, contacting TAS, etc.

Characterizing the Sample Population

Major Source of Income	Percent of Total
Wages	28.0%
Self-Employment	36.6%
Investments	16.7%
Other	18.7%
Population Statistics	N=13,201
% With Balance Due Major SOA	49.7%
% With Prior ACS Letter Contact	57.2%
Average Number of Modules	2.6
Median Ratio of Tax Debt to Income	0.32
Mean Age of Oldest Module (days)	1,341
Mean Days in ACS Status	220

Empirical Model

- OLS model for change in balance due (Δb) over the course of the pilot

$$\Delta b_1 = b_1 - b_0 - \alpha_1$$

b_1 = Natural log of entity balance for taxpayer at end of pilot

b_0 = Natural log of entity balance for taxpayer at start of pilot

α_1 = Sum of initial module balances for previously identified delinquent returns assessed during the one-year pilot

- Model Change in Balance as

$$\Delta b_1 = X\beta + \beta_1 T_1 + \beta_2 T_2 + \beta_3 T_3 + \beta_4 T_4 + \varepsilon$$

X = Vector of controls

$T_1 - T_4$ = Dummy indicators for four treatment groups

Modeling Likelihood of Paying Down Balance

- Ordinal logistic model to assess the chances of a taxpayer belonging to one of three outcome categories:
- Model outcome R_1 as

$$R_1 = \begin{cases} 0, & \text{if } b_1 > b_0 + \alpha_1 \\ 1, & \text{if } b_1 \leq b_0 + \alpha_1 \text{ and } b_1 \neq 0 \\ 2, & \text{if } b_1 = 0 \end{cases}$$

- Assume probability of observing a value of R_1 determined as follows, where ϕ is the logistic cumulative density function

$$P(R_1 = 2) = \phi(aX + a_1T_1 + a_2T_2 + a_3T_3 + a_4T_4)$$

$$P(R_1 = 1) = \phi(aX + a_1T_1 + a_2T_2 + a_3T_3 + a_4T_4 + c) \\ - \phi(aX + a_1T_1 + a_2T_2 + a_3T_3 + a_4T_4)$$

$$P(R_1 = 0) = 1 - \phi(aX + a_1T_1 + a_2T_2 + a_3T_3 + a_4T_4)$$

Control Variables

- Prior ACS contacts
- Ability to pay: Ratio of annual income to balance due
- Major source of assessment
- Previous TDI prior to pilot
- Major source of income (wages, self-employed, etc.)
- Number of modules
- Prior NFTL
- Age of oldest module
- Added when extending analysis beyond first year:
 - Entering installment agreement after first year
 - Currently Not Collectible (CNC) status after first year

Ordinal Logistic Regression (Response: R)

Parameter	Parameter Estimate		
Model	Year One ($b_1 - b_0$)	Two Years ($b_2 - b_0$)	Year Two ($b_2 - b_1$)
N	13,201	13,201	12,352
Intercept (R=2 vs. R=0)	-2.554***	-1.954***	-2.771***
Intercept (R=1 vs. R=0)	-0.421***	-0.148	-0.377***
NFTL	0.503***	0.452***	0.040
Letter1 (5696C)	0.100	0.092	0.018
Letter2 (5701C)	0.110*	0.076	-0.052
Letter2_monthly (5702C)	0.162**	0.178***	-0.017
Ltr_LT11	-0.139**	-0.172***	-0.133*
Ltr_LT16	-0.137***	-0.142***	-0.055
Ltr_other	0.001	-0.002	-0.060

Multinomial Logistic Regression Year One (Response: R)

Year One ($b_1 - b_0$)	R_1 (vs. 0)	Parameter Estimate	R_1 (vs. 0)	Parameter Estimate
Intercept	2	-1.119***	1	-0.803***
NFTL	2	0.885***	1	0.363***
Letter1 (5696C)	2	0.238*	1	0.075
Letter2 (5701C)	2	0.215	1	0.090
Letter2_monthly (5702C)	2	0.217	1	0.170**
Ltr_LT11	2	-0.217	1	-0.138**
Ltr_LT16	2	-0.334***	1	-0.091*
Ltr_other	2	0.136	1	-0.043

Marginal Treatment Effects for Logistic Models

Treatment		Marginal Effect Ordinal Models			Marginal Effect Multinomial Models		
Model	(vs. R=0)	R=2	R=1	R=1 or R=2	R=2	R=1	R=1 or R=2
Year 1 (b ₁ - b ₀) R ₁	NFTL	0.034	0.084	0.118	0.048	0.063	0.111
	Letter 1 (5696C)	0.011	0.033	0.044	0.014	0.029	0.043
	Letter 2 (5701C)	0.010	0.032	0.043	0.012	0.030	0.042
	Letter 2 monthly (5702C)	0.014	0.040	0.054	0.011	0.045	0.056

- NFTL group roughly 11 percentage points likelier to fully or partially pay down balance after one year compared with control
- Calculations for letter treatments suggest they are about one third to one half as effective, though this may not be significant for all models

Linear Regression (Response: Δb)

Parameter	Parameter Estimate (standard error)		
Model	Year One ($b_1 - b_0$)	Two Years ($b_2 - b_0$)	Year Two ($b_2 - b_1$)
N	13,201	13,201	12,352
Intercept	-1.537***	-2.386***	-1.136***
NFTL	-0.548***	-0.672***	-0.203***
Letter1 (5696C)	-0.112	-0.084	-0.027
Letter2 (5701C)	-0.080	-0.102	-0.018
Letter2_monthly (5702C)	-0.111	-0.116	-0.013
Ltr_LT11	0.085	0.106	0.009
Ltr_LT16	0.151***	0.250***	0.077*
Ltr_other	-0.081*	-0.024	0.058

Case Status as of mid-March 2018 (% by Pilot Group)

Pilot	NFTL	5696C	5701C	5701C & 5702C	Control
Queue or Shelved*	35.9%	41.6%	42.6%	48.4%	42.8%
Installment Agreement	14.8%	12.8%	13.5%	14.9%	11.8%
Resolved	14.2%	9.7%	9.9%	9.7%	7.9%
ACS or Field	25.7%	28.2%	25.6%	19.1%	30.2%
CNC (other than shelved)	3.6%	2.3%	2.5%	2.1%	2.1%
Other	5.8%	5.4%	6.0%	5.9%	5.2%

*Many cases transferred to the Queue with more than one third of statutory period expired were shelved (starting in January 2017) to make them available for Private Debt Collection

Comparison with Prior Work

Impact of NFTL (one year)	Predicted % Change in Balance Due	Average \$ Change
Lien Pilot Study (IMF)	-55%	-\$7,701
“Fresh Start” Study—IMF	-23%	-\$3,379
“Fresh Start” Study—BMF	-40%	-\$4,103

- Prior studies of the same population using the 2011 “Fresh Start” threshold increase found about half the impact in terms of reduce unpaid balances for the IMF cases
- Different economic conditions during the 2011 “Fresh Start” study and the current 2016 pilot
 - Great Recession
 - Different levels of enforcement activity
- The pilot study does not include BMF cases
 - Larger impact for BMF in Fresh Start Study

Conclusions

- The impact of the NFTLs is roughly 3-5 times larger than any of the letter treatments
- Letter treatments appear to yield positive, though smaller effects, but are not statistically significant in many cases
- Prior ACS letters correlate with less debt reduction, likely because prior treatment encouraged compliance and remaining cases selected for pilot are more difficult to resolve
 - Supports the idea that it's important to use lower-cost treatments prior to filing NFTL
- NFTL estimates consistent with prior study of changes in NFTLs filing following the 2011 "Fresh Start"

Behavioral Responses to IRS Interventions

Alex Yuskavage
Office of Tax Analysis

Intro

- Three great example of how government research can be done
 - Benefits to the public, to agencies, and to academia
- Behavioral and experimental studies
 - Let us choose the questions
 - Observe real-world outcomes

Spectrum of Studies

- Identification typically requires randomization somewhere
- Range of sources
 - Lab Experiment
 - Field Experiment
 - Quasi-Experiment
 - Natural Experiment
 - Observational Study

Pitfalls to Experimental Studies

- Economists are used to justifying our choice of data source
 - Issues of endogeneity, saliency, etc.
- Experimental studies let us create our own data
 - Is this better? Worse? Just different?
- What are the tradeoffs?
 - There are always tradeoffs

Notice Design Setup

- Various IRS notices given several possible redesigns
 - Redesigns based on specific behavioral elements
- New designs assigned randomly to letter recipients
- Several dimensions of response measured
 - Compliance
 - Self-service
 - Burden
 - Costs

Notice Design Results

- What did we learn?
 - Which letter works best?
 - Which design principles matter?
 - Which taxpayer characteristics matter?
- Making the most of a randomized study
 - What tradeoffs are worth making?
 - Sample considerations
 - Factor considerations

Lien Letters Setup

- Notices about tax liens redesigned
- Notice recipients assigned randomly to different treatments
- Change in balances measured
 - Outcomes decomposed to generalize treatment effects

Lien Letters Results

- Why these treatments?
 - Possibility frontier of treatments
- Which decompositions are most helpful?
 - Decomposing total outcome
 - Decomposing effect of treatment

EITC Audits Setup

- Audits of medium-risk EITC recipients compared to rest of medium-risk population
- IRS internal risk scores used to construct control groups
- Several outcomes measured
 - Tax filing behavior
 - Real labor effects

EITC Audits Results

- What do we know about risk scores?
 - How are they used?
 - How much tax taxpayers guess?
 - Does it matter?

- How can we characterize exactly what we're randomizing on?

Limits of Experimentation

- Is RCT a “Gold Standard”?
 - Yes and No...
 - What is being randomized? How?
- Ethics of experimentation
 - Don't repeat past mistakes
 - Neglecting treatment?
 - Causing harm?

Conclusion about papers

- Contact with agencies matters
 - Audits, contacts have noticeable effects
- Method of contact with agencies matters
 - Along some margins, small changes can have large effects
- Lots of ground left to cover
 - All three studies are clearly opening the door to interesting work

Conclusion about experiments

- Issues to consider in experimental studies
 - Taking advantage of your randomization
 - Determining your ideal goal
 - Identifying your source of randomness
- Careful design has benefits
 - Address complicated issues
 - Use resources optimally
 - Fulfil multiple goals



Session 2. Behavioral Responses to IRS Interventions

Moderator:

Drew Johns IRS, RAAS

Using Behavioral Insights in Notice Design to Improve Taxpayer Responses and Achieve Compliance Outcomes

*Jan Millard
IRS, S&E PMO*

Strategies to Address Noncompliance in Refundable Tax Credits: Evidence on Taxpayer Responses to EITC Correspondence Audits and Experimental Outreach

*Day Manoli
University of Texas-Austin*

Federal Tax Liens and Letters: Effectiveness of the Notice of Federal Tax Liens and Alternative IRS Letters on Individual Tax Debt Resolution

*Brett Collins
IRS, RAAS*

Discussant:

*Alex Yuskavage
Treasury, Office of Tax Analysis*



Research, Applied Analytics,
and Statistics



TAX POLICY CENTER
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8th Annual IRS/TPC Joint Research Conference on Tax Administration

Keynote address begins at 1:00



Research, Applied Analytics,
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8th Annual IRS-TPC Joint Research Conference on Tax Administration

Keynote Speaker

Eric Solomon

***Codirector of National Tax Services,
Ernst & Young LLP***



Research, Applied Analytics,
and Statistics



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Session 3. Complexity and Global Tax Administration

The next session will begin immediately.