Research, Analysis & Statistics

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Session 2: Innovative Enforcement Strategies

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Incentivized Offshore Voluntary Disclosure Schemes: An Analysis	***Matthew D. Rablen*** *Brunel University, UK*
Uncollectible versus Unproductive: Compliance Impact of Working Collection Cases that are Ultimately Not Fully Collectible	***Stacy Orlett*** *IRS, SB/SE*
A Plan for Turning "Worst-First" into "Best-Case" Tax Enforcement	***Leigh Osofsky*** *University of Miami School of Law*
Discussant:	***Mark Phillips*** *University of Southern California*

Incentivized Offshore Voluntary Disclosure Schemes: An Analysis

Matthew Gould Matthew D. Rablen

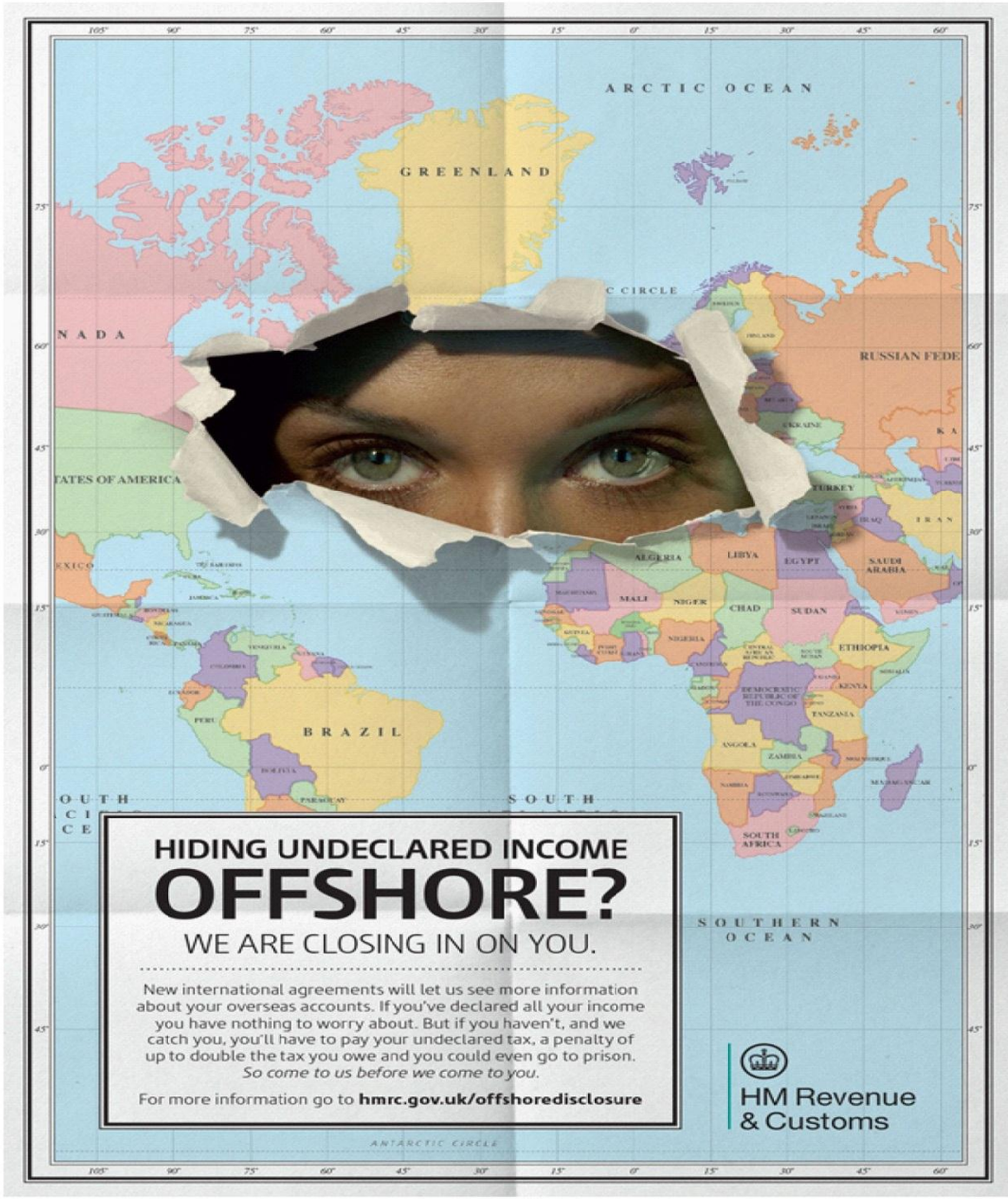
June 2014

Introduction

- Recent years have seen tax authorities worldwide implement bespoke disclosure facilities to recover tax on offshore funds
  - Neither traditional audit programs nor a tax amnesty
  - Combine aggressive information acquisition with incentives for voluntary disclosure
- These are termed Incentivized Offshore Voluntary Disclosure Schemes (IOVDS)
- IOVDS
  - Initial acquisition of third party information
  - Communication with affected taxpayers
    - Taxpayers offered the opportunity to make a voluntary disclosure
    - Accepted disclosures granted reduced punishments
    - Higher penalties for unaccepted disclosures or non-disclosure

Recent IOVDS

- US
  - Offshore Voluntary Disclosure Program (2009)
  - Offshore Voluntary Disclosure Initiative (2011)
- UK
  - Offshore Disclosure Facility (2007)
  - New Disclosure Opportunity (2009)
  - Liechtenstein Disclosure Facility (2009)
  - Crown Dependencies Disclosure Facility (2013)
- Ireland (2004), Australia (2009), as well as Italy, France, Canada and Hungary have also implemented IOVDS


HIDING UNDECLARED INCOME
OFFSHORE?
WE ARE CLOSING IN ON YOU.
New international agreements will let us see more information about your overseas accounts. If you've declared all your income you have nothing to worry about. But if you haven't, and we catch you, you'll have to pay your undeclared tax, a penalty of up to double the tax you owe and you could even go to prison.
So come to us before we come to you.
For more information go to hmrc.gov.uk/offshoredisclosure
HM Revenue & Customs
ARCTIC OCEAN
GREENLAND
BRAZIL
SOUTHERN OCEAN
ANTARCTIC CIRCLE

Information Sources

- New legislation
- Bilateral agreements
- New legal powers
- Whistle-blowers

Design Questions

- No systematic analysis of the optimal design of IOVDS
- Can IOVDS Pareto dominate standard enforcment procedures? If so, when?
- Who should the tax authority communicate with?
  - Write only to affected taxpayers – as in UK
  - Write to a wider group of potentially affected taxpayers – as in US
- Should honest disclosure be incentivized?, and how heavily?
- Should the tax authority promote uncertainty over how it will treat disclosures?

Modelling IOVDS

- Assume that tax authority can pre-commit, after observing third-party information, to a response rule for handling disclosures
- The tax authority must also choose whom it will send a letter
- Tax authority seeks to maximize (expected) revenue less administration costs

The Model

- There is a set of taxpayers T of mass 1
- Taxpayers are heterogeneous in initial wealth: w-taxpayers
- Continuum of taxpayers at each wealth
- Distribution of taxpayers by wealth given by $G_T(w)$

Timing

- Period 0:
  - Taxpayers choose an amount E of funds to place offshore
- Period 1:
  - Tax authority observes noisy signal of offshore tax liability $s = \widetilde{q}\theta E$ for a subset I of taxpayers $I \subseteq T$
  - $\widetilde{q}$ distributed according to G_q with $\mu_q = 1$
  - Tax authority chooses the letter set L
  - Letters are sent to members of L inviting a voluntary disclosure x
  - Tax authority commits to a response rule
- Period 2:
  - Taxpayers make a disclosure and tax authority implements response rule

Period 0

- Taxpayers have access to offshore fund at a cost
- Offshore funds immune to detection by regular audit methods
- A w-taxpayer chooses an amount of income E_w to hide by solving

$$\max_{E_w \in [0,w]} U\left(w\left[1-\theta\right]+\theta E_w;\gamma\right)-\rho\left(E_w,w\right)$$

where

- w is initial income
- θ is the marginal tax rate
- γ measures elasticity of marginal utility
- $\rho\left(\cdot\right)$ is the cost of evasion

Period 1

- Tax authority observes an information set with density $g_I(w)$
- Tax authority chooses a letter set L
- The letter set is distributed as

$$g_L(w) = g_I(w) + \kappa\left[g_T(w) - g_I(w)\right]$$

- Tax authority's choice of L is modeled as the choice of $\kappa \in [0, 1]$
- Tax authority chooses a response rule $\{a, f_A\}$
- Taxpayers in L now choose a declaration x

Tax Authority Response Rule

- If taxpayer belongs to I
  - State A
    - Accept the disclosure x if $s - \theta x \leq a$ and levy 'incentivized' fine f_A
  - State H
    - Perform an audit, which yields true liability θE
    - Levy 'regular' penalty $f_H > f_A$
- If taxpayer does not belong to I
  - Accept the disclosure
- Taxpayer payoffs in each state are therefore

$$W_A = W - \theta \left[1 + f_A\right] x_w$$
$$W_H = W_A - \theta \left[1 + f_H\right] \left[E_w - x_w\right]$$

Asymmetric Information

- The tax authority has pre-committed to a choice of a
- But taxpayers do not know the tax authority's choice
- Taxpayers' beliefs over a summarized by the cdf G_a, with mean belief μ_a
- A disclosure x_w accepted if

$$q_i \leq \frac{a + \theta x_w}{\theta E_w}$$

- Hence (subjective) beliefs over the probability of states A,H are

$$B(A) = G_q\left(\frac{a + \theta x_w}{\theta E_w}\right)$$
$$B(H) = 1 - B(A)$$

Optimal Disclosure

- Taxpayer's expected utility given by

$$\mathcal{E}(U) = [1 - p_{I|L}]\, U(W_A) + p_{I|L} \int G_q\left(\frac{\varphi + \theta x_w}{\theta E_w}\right) U(W_A)\ \mathrm{d}G_a(\varphi)$$
$$+ p_{I|L} \int \left[1 - G_q\left(\frac{\varphi + \theta x_w}{\theta E_w}\right)\right] U(W_H)\ \mathrm{d}G_a(\varphi)$$

where

$$p_{I|L} = \Pr(i \in I | i \in L) = \frac{|I|}{|L|}$$

- Taxpayer's solve $\max_{x_w} \mathcal{E}(U)$ subject to equilibrium consistency condition $\mu_a = a$
- Optimal disclosure given by $x_w = d(E_w)$

Optimal Enforcement

- Tax authority takes as given that taxpayers will choose x_w optimally
- Although every w-taxpayer will make the same equilibrium disclosure, they will experience different response states owing to individual variation in the q_i
- The probability that a w-taxpayer, when belonging to I, will experience response state j is given by

$$p_{wA}(E_w) = G_q\left(\frac{a + \theta d(E_w)}{\theta E_w}\right)$$
$$p_{wH}(E_w) = 1 - p_{wA}(E_w)$$

- Receipts R_{wj} from a w-taxpayer in state j are given by

$$R_{wj}(E_w) = \begin{cases} \theta[1 + f_A]\, d(E_w) & \text{if } j = A \\ R_{wA}(E_w) + \theta[1 + f_H][E_w - d(E_w)] & \text{if } j = H \end{cases}$$

- Total receipts are written as

$$R = \int \left(\left[1 - p_{I|L}\right] R_{wA}\left(E_w\right) + p_{I|L} \sum_{j=A,H} p_{wj}\left(E_w\right) R_{wj}\left(E_w\right) \right) \, \mathrm{d}G_L\left(E_w\right)$$

- If a disclosure is not accepted, tax authority incurs a cost of audit c_H. Hence, total expected administration costs are

$$C = c_H p_{I|L} \int p_{wH}\left(E_w\right) \, \mathrm{d}G_L\left(E_w\right)$$

- Tax authority chooses (κ, a, f_A) to maximize net revenue: $R - C$

Pareto Optimality

- By its voluntary nature, an IOVDS can never make taxpayer's worse off
- Conventionally, what is good for taxpayers is bad for the tax authority
- But under IOVDS, the tax authority can reduce its audit costs: win, win.

Simulation

- We simulate the model in a baseline setting with
  - Pareto distribution of initial wealth
  - $|I| = 1$
  - $\theta = 0.3$
  - $f_H = 0.75$
  - Beliefs over a are normally distributed

Functional forms

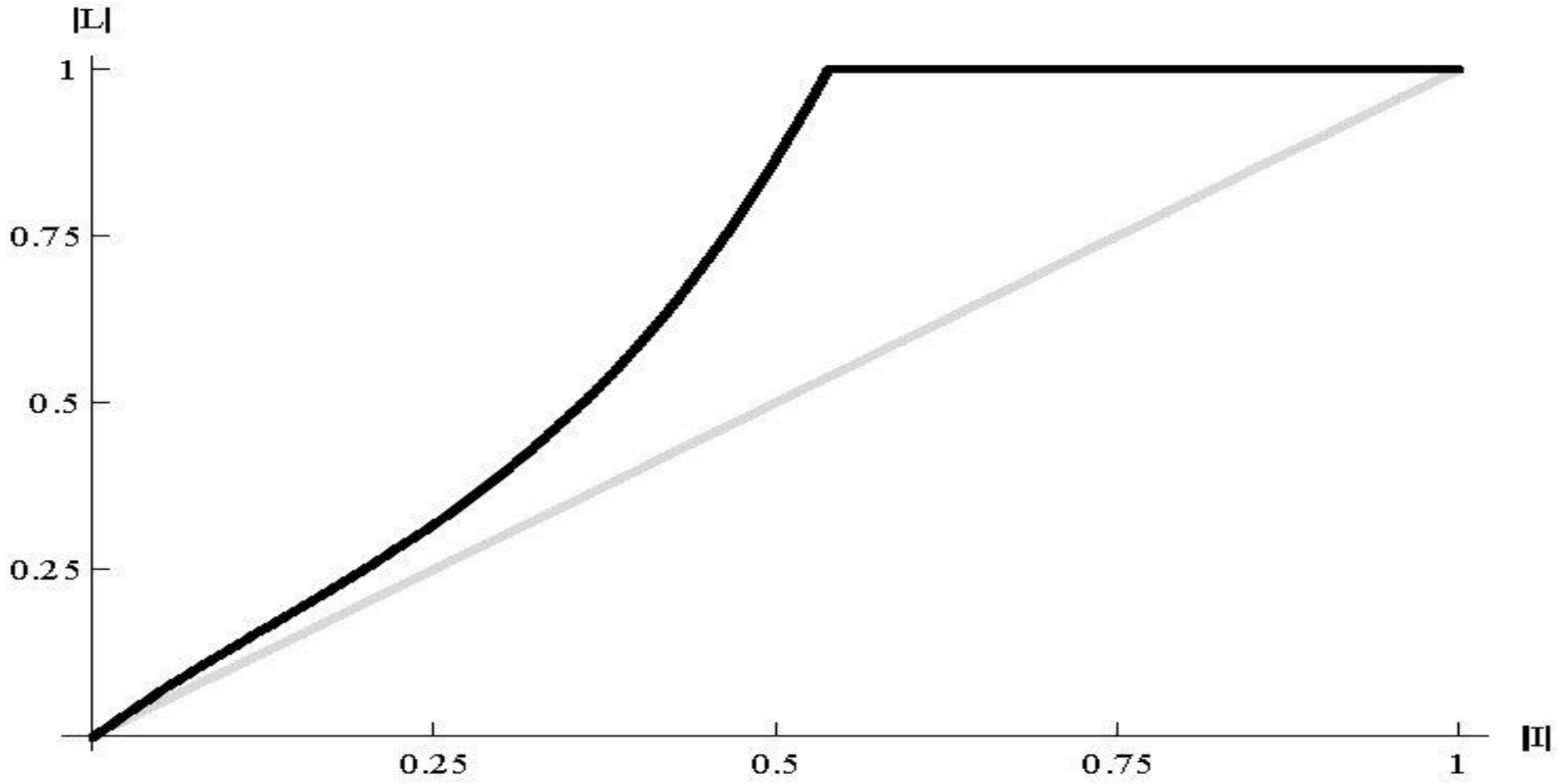
$$
\begin{aligned}
U(c;\gamma) &= \frac{c^{1-\gamma}-1}{1-\gamma}; \\
c_0(E,w) &= \beta\left[\frac{E}{w-E}\right]^2;
\end{aligned}
$$

And we define:

$$
\begin{aligned}
\mu_E &= \frac{\int E_w \, \mathrm{d}G_L(E_w)}{\int \mathrm{d}G_w(w)}, \\
\mu_x &= \frac{\int d(E_w) \, \mathrm{d}G_L(E_w)}{\int E_w \, \mathrm{d}G_w(w)}.
\end{aligned}
$$

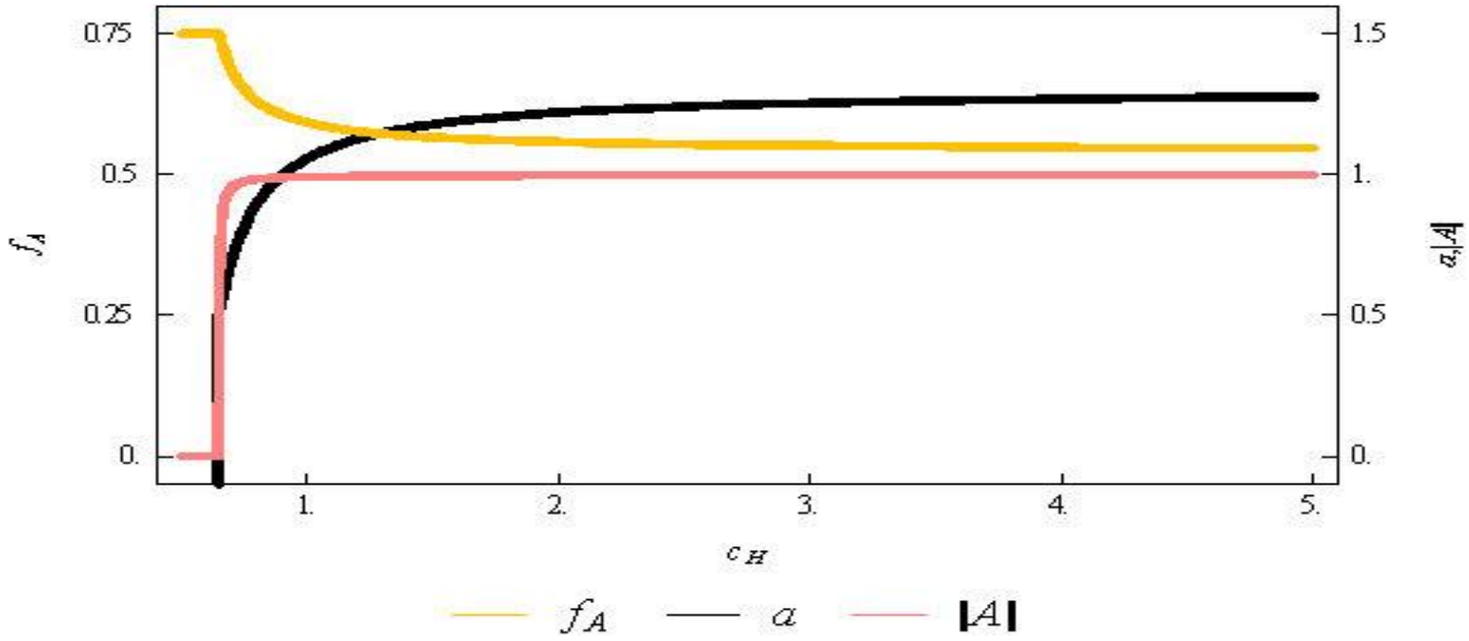
Choice of Letter Set

- Examine the optimal $|L|$ as a function of $|I|$



Should Honest Disclosure Always be Incentivized?

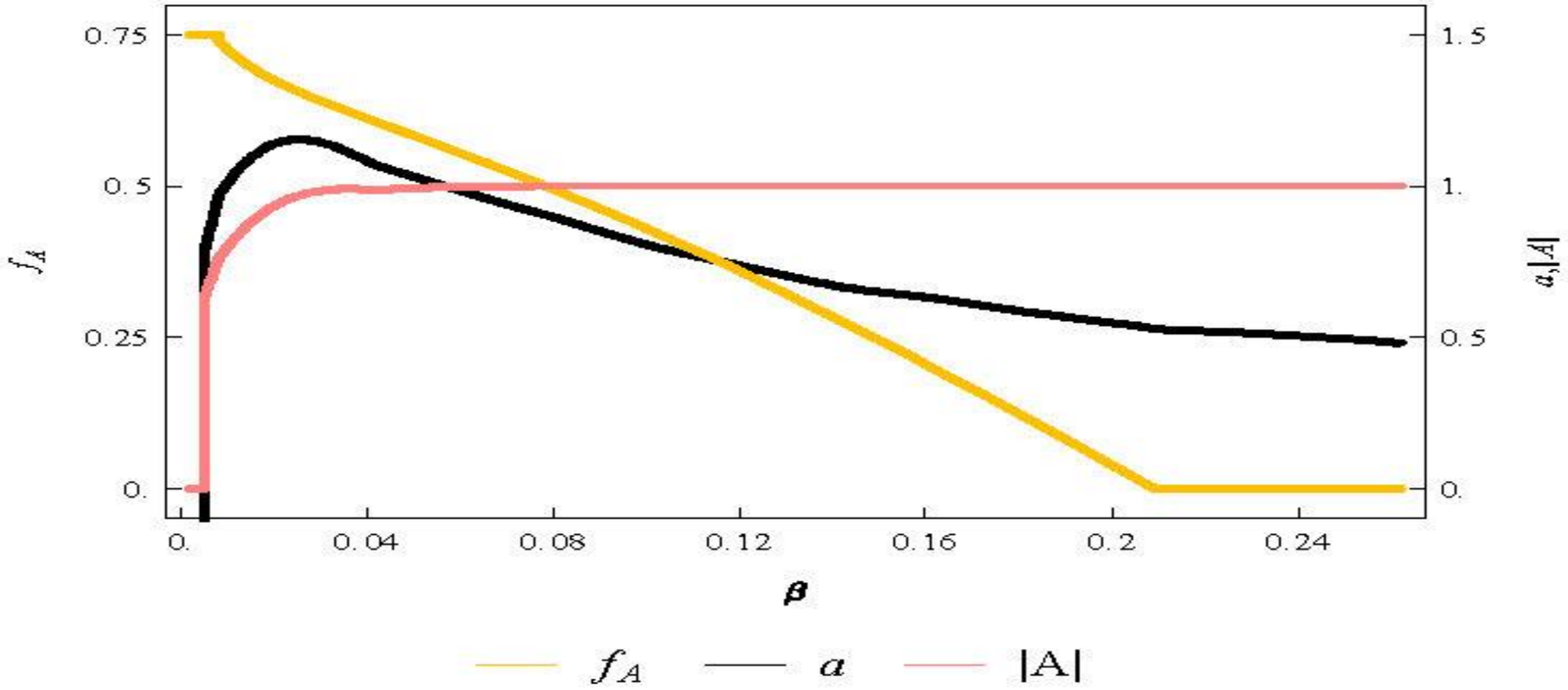
- No: in some cases the tax authority would optimally choose $f_A > f_H$



- Arises from
  - fine paid on the disclosed amount rather than the true tax liability if disclosure accepted

Should Amnesty Incentives be Offered?

- Amnesty if $f_A < 0$
- Can be optimal if incentives to audit are weak enough

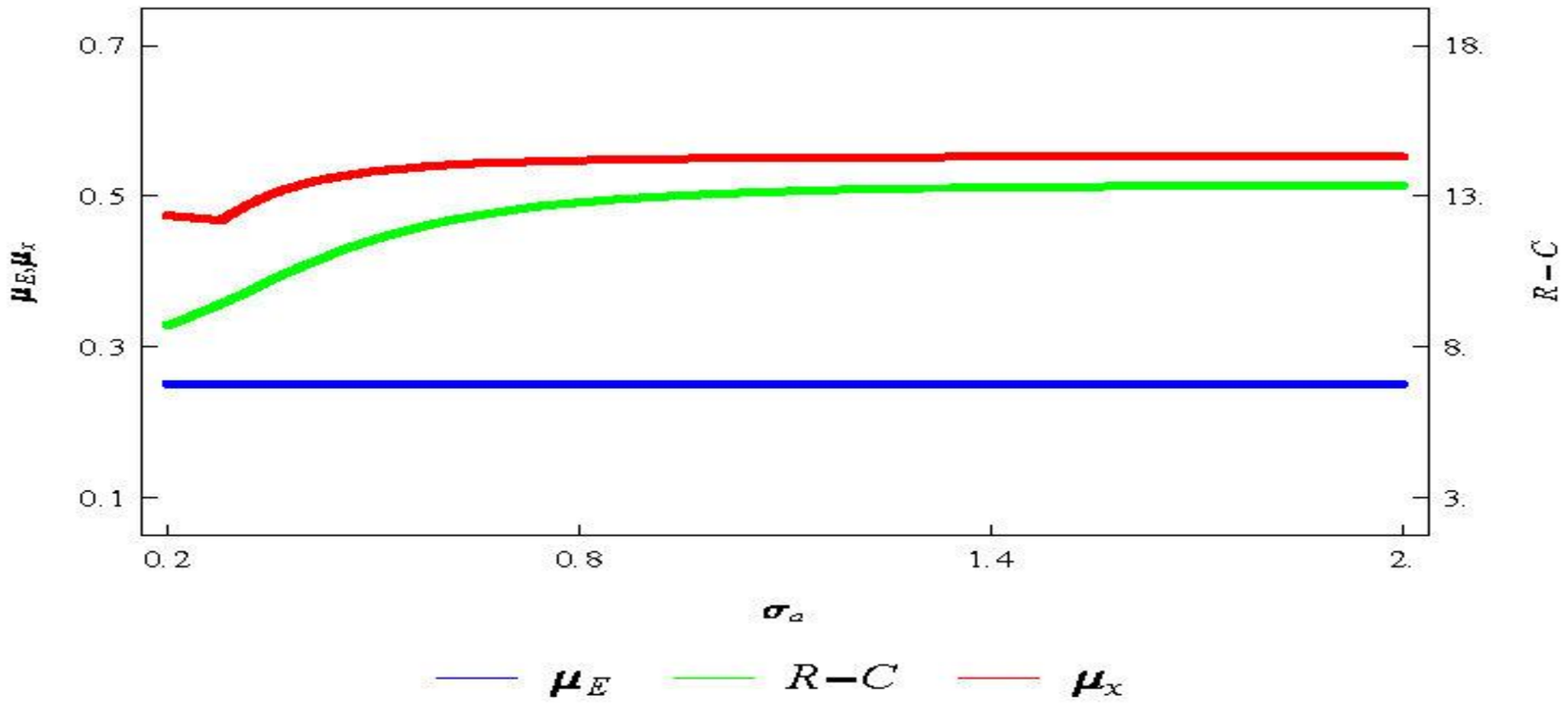


Degree of Incentives

- Degree of incentivization is increasing in
  - size of L
  - cost of evasion
  - audit costs
  - taxpayer uncertainty over a
  - noisiness of the tax authority's signal
- Degree of incentivization is decreasing in
  - tax rate
  - regular fine rate (f_H)

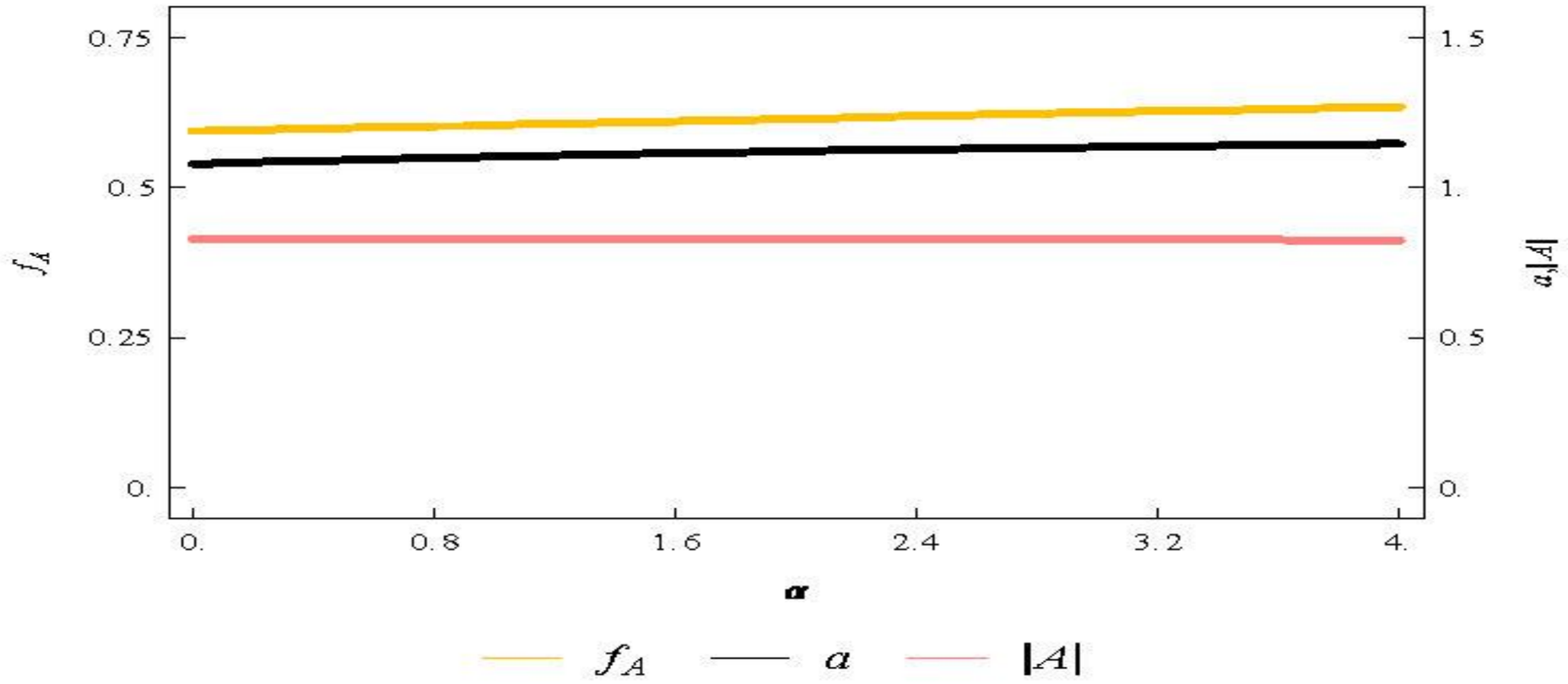
Should the Tax Authority Promote Uncertainty?

- Should the tax authority inform taxpayers of the value of a, or allow uncertainty?



Wealth Positively Skewed

- In reality, wealth of affected taxpayers is highly skewed



Conclusions

- We examine the design of IOVDS
- Optimal to set $|L| > |I|$ for $|I| < 1$, but $|L| \gg |I|$ is not optimal for low $|I|$
- Usually optimal to incentivize honest disclosure, but not necessarily
- Promoting ambiguity over response to disclosures increases revenue

Future directions

- Relaxing pre-commitment: tax authority chooses audit rule *after* disclosures are made
- Introduce three taxpayer types
  - Honest: offshore assets fully disclosed before Scheme
  - Constrained: accrued interest on offshore assets not disclosed
  - Evader: principal sum and interest not declared
- Taxpayers choose whether to enter the IOVDS and, if so, what disclosure to make

Uncollectible versus Unproductive:

Compliance Impact of Working Collection Cases that are Ultimately Not Fully Collectible

June 19, 2014

IRS Research Conference

Internal Revenue Service
Small Business / Self Employed, Enterprise Collection Strategy, Strategic Analysis and Modeling

Stacy Orlett, Operations Research Analyst
Erik Miller, Operations Research Analyst
Alex Turk, Supervisory Economist

DISCLAIMER: 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

Uncollectible = Unproductive

Not Necessarily…

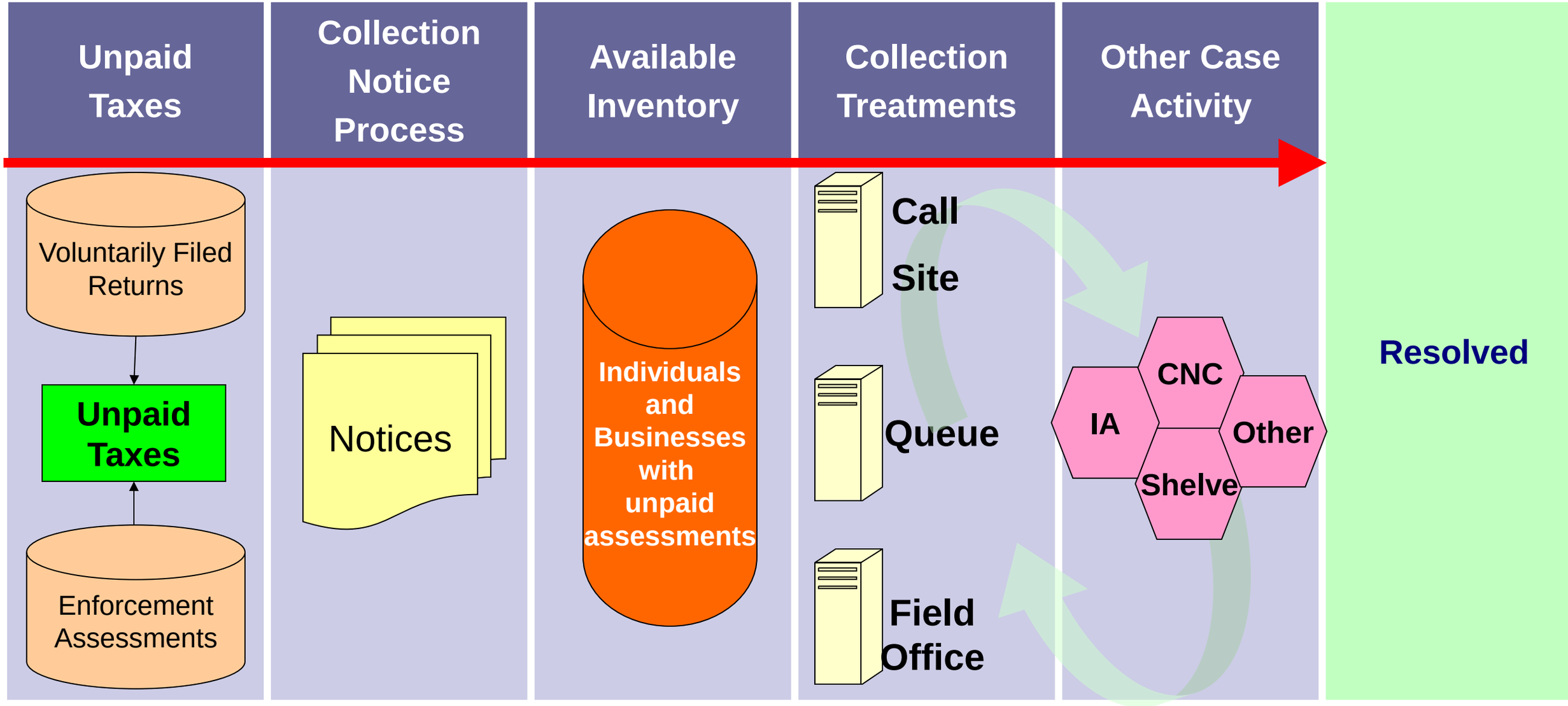
Results from our study show working a collection case, even cases designated as uncollectible:

- Increases payments
- Decreases future noncompliance

Overview

- Collection Process and Background
- Research Design
- Overview of Collection Inventory
- Modeling Approaches
- Modeling Results
- Conclusion

Collection Process



How does the IRS determine a taxpayer is uncollectible?

- **Currently Not Collectible (CNC)**: taxpayers unable to pay anything further due to significant hardship or the IRS is unable to locate the taxpayers.
- Tax Administration Policy Guidelines
- Case Characteristics
- It is not possible to determine if a case will be CNC with certainty until the case is worked.

Target Population

- Individual and Business taxpayers having unpaid tax assessments receiving one or more Final Notices received during Calendar Years 2008-2010
  - 6.8 million individuals
  - 1.4 million businesses (sole proprietorships and corporations)
- Compliance behavior over **3-year period** after final balance due notice
  - First two years: Identified Collection Treatments and Revenue
  - 3rd year: Identified non-compliance as new unpaid assessments
- Collection Treatment Definitions for this Study **(5 Categories)**
  1. Routed to call site (and then possibly then to field collection) with CNC Determination
  2. Routed to call site (and then possibly then to field collection) no CNC Determination
  3. Routed to field collection (no call site) with CNC Determination
  4. Routed to field collection (no call site) no CNC Determination
  5. No Treatment (assigned to Queue or Shelved)

Design

Start:

Final Notice

Productivity:

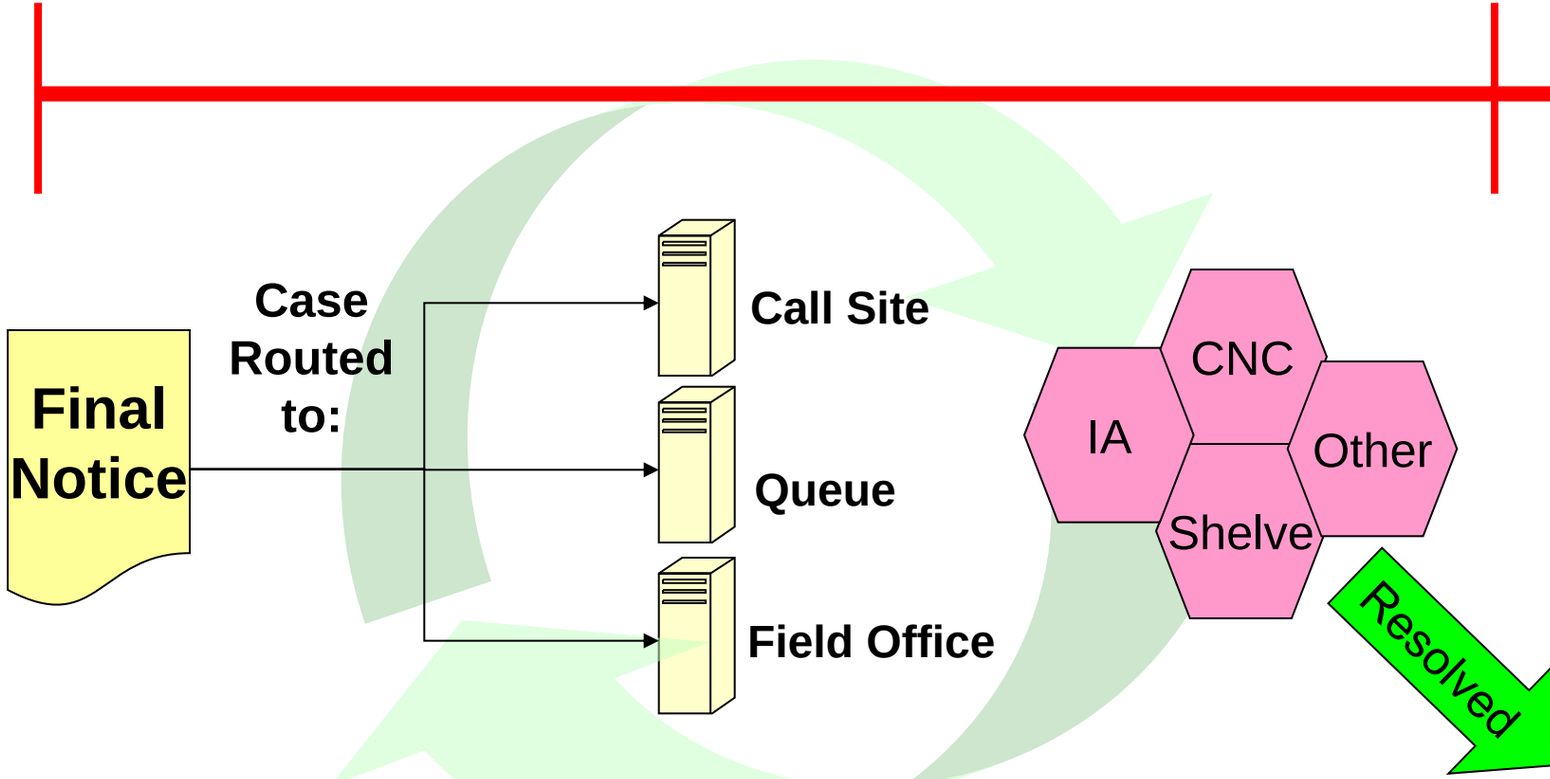
Payments made within 2 years

2 Years After Final Notice

Subsequent Compliance:

New Balance

3 Years After Final Notice



New Returns with unpaid taxes

Overview of Collection Inventory

Table 1. Payment and Subsequent Compliance for Individuals with Unpaid Assessments, Calendar Years 2008-2010

Cases Routed to	CNC ?	% of Inventory	Payments			Subsequent Compliance	
			% with Payment in 2 years	Median Payments	Average Payments	% with new assessment in third year	Average New Balance
ACS	Yes	8%	56%	$ 243	$ 1,671	8%	$ 226
ACS	No	80%	72%	$ 1,223	$ 4,504	13%	$ 814
FC, but no ACS	Yes	1%	67%	$ 805	$ 5,696	11%	$ 873
FC, but no ACS	No	1%	79%	$ 3,706	$ 39,123	21%	$ 7,342
No Treatment	No	10%	52%	$ 155	$ 3,427	10%	$ 572
Available Individual Inventory		**100%**	**69%**	**$ 1,028**	**$ 4,499**	**12%**	**$ 804**

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Individuals. Data extracted March 2014.

88% of Individuals

Higher % of taxpayers treated **and** CNC made payments compared to taxpayers not treated

12% of Individuals had a new assessment in the third year

Overview of Collection Inventory

Table 2. Payment and Subsequent Compliance for Businesses* with Unpaid Assessments, Calendar Years 2008-2010

Cases Routed to	CNC?	% of Inventory	Payments			Subsequent Compliance	
			% with Payment in 2 years	Median Payments	Average Payments	% with new assessment in third year	Average New Balance
ACS	Yes	4%	55%	$ 97	$ 4,987	5%	$ 266
ACS	No	61%	55%	$ 2,252	$ 14,376	27%	$ 2,378
FC, but no ACS	Yes	5%	78%	$ 105	$ 7,186	5%	$ 318
FC, but no ACS	No	16%	85%	$ 7,388	$ 39,219	32%	$ 3,852
No Treatment	No	14%	44%	$ -	$ 7,360	14%	$ 1,517
Available Business Inventory		**100%**	**72%**	**$ 1,835**	**$ 16,458**	**24%**	**$ 2,286**

65% of Businesses

Higher % of taxpayers treated **and** CNC made payments compared to taxpayers not treated

24% of Businesses had a new assessment in the third year

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Businesses. Data extracted March 2014.

** Limited to Sole Proprietorships and Corporations*

Theoretical Model

- **Utility Maximization**

$$\text{Max } U = U(C, (A_p - P_p), (A_f - P_f), T, i, r)$$
$$\text{Subject to: } I \geq C + P_p + P_f$$

Taxpayers choose
  - consumption of a composite good, C,
  - payments toward unpaid tax liabilities, P_p, and
  - payments toward the next tax liability, P_f, that is due in the future.

- **Assumption**:
  - Price of the composite good has been normalized to one
  - Static Model
  - Taxpayers know A_p, A_f and T when consumption and payment choices are made

Solving the optimization yields the optimal payment functions

$$P_p^* = V_p(I, A_p, A_f, T, i, r)$$

$$P_f^* = V_f(I, A_p, A_f, T, i, r)$$

- **Define**
  - **I** as taxpayer income,
  - **A_p** be the amount of unpaid past tax liability, and
  - **A_f** be the taxpayer's future tax liability.
  - **T** be a vector of treatments applied by the taxing authority,
  - **i** be the interest rate on unpaid taxes, and
  - **r** be the penalty rate on unpaid taxes.

Modeling

- Payments (within 2 years after final notice)
- Subsequent Compliance (new unpaid taxes in third year after final notice)
- **Tobit Models**. *Payments and Subsequent Unpaid Taxes Censored at Zero*
- **X**: vector of observable case characteristics
- **T**: vector of dummy variables for IRS Collection Treatments (call site, field collection, and designation of CNC)
  - Routing and treatments vary over time based on available resources, tax administration priorities, etc.
- **Assumptions**:
  - CNC guidelines are applied uniformly and don't vary over time.
  - The fact that a case meets the CNC guidelines is an unobservable case characteristic when the case is sent to call site or field collection

Empirical Model

β_T and α_T provide estimates of marginal impact from treating the case that will be identified as uncollectible.

- **Model: Payment on current unpaid tax liabilities,** P_p

  $ln(P_p) = X_t\beta + T\beta_T + \varepsilon_p$ *If* $P_p^* > 0$ *and*
  $ln(P_p) = 0$ *otherwise.*

- The marginal impact on log of observed payments is given by

$$\frac{\partial Ln(P_p)}{\partial x_i} = \beta_i \Phi\left(\frac{(X_t\beta + T\beta_T)}{\sigma_P}\right)$$

- where $\Phi()$ is the Normal distribution function and σ_p is the scale parameter.

- **Model: Additional unpaid tax liabilities**, U

  $ln(U) = X_{t+2}\alpha + T\,\alpha_T + \varepsilon_u$ *if* $A_f - P_f^* > 0$ *and*
  $ln(U) = 0$ *otherwise*

- The marginal impact on log of observed additional unpaid tax liabilities is given by

$$\frac{\partial Ln(U_p)}{\partial x_i} = \alpha_i \Phi\left(\frac{(X_{t+2}\alpha + T\alpha)}{\sigma_U}\right)$$

- where $\Phi()$ is the Normal distribution function and σ_U is the scale parameter.

Examples of Explanatory Variables

- Dummy variables for each collection treatment (“no treatment” excluded),
- Source of assessment (voluntarily reported balance due, examination assessment, non-filer assessments, etc.),
- Taxpayer type (corporation, sole proprietor, etc.),
- Payments prior to notice process,
- Previous treatments,
- Age in accounts receivable
- Expected Payments (Subsequent Compliance Model)

Payment Model Results

Table 3. ACS and FC Consolidated Treatment Effects on Payments of Past Assessments

Dependent variable: *Log of Payments made within two years after Final Notice*

Explanatory Variables [a]	Businesses[b]		Individuals	
	Model Coefficients	Marginal Effects[c]	Model Coefficients	Marginal Effects[c]
Cases Routed to ACS	2.770 (0.069)***	2.45	2.107 (0.043)***	1.72
Cases Routed to FC, no ACS	3.018 (0.075)***	2.67	2.921 (0.092)***	2.39
Constant	-3.463 (0.144)***			1.777 (0.083)***
Sigma	4.281 (0.017)***			4.759 (0.009)***
Log-likelihood value	*-114,469*			*-556,429*

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Individuals and Businesses. Data extracted March 2014.

[a] Not all explanatory variables provided.

[b] *Limited to Sole Proprietorships and Corporations*

[c] Marginal Effects are calculated at the sample means.

*Notes: *p<0.1; **p<0.05; ***p<0.01*

Increase in Payments by Treating:

Significant *and* ***Positive*** *Marginal Effects on log of payments made within two years of Final Notice for all treatment groups compared to "No Treatment"*

Payment Model Results

Table 4. ACS and FC CNC/Non-CNC Treatment Effects on Payments of Past Assessments

Dependent variable: *Log of Payments made within two years after Final Notice*

Explanatory Variables [a]	Businesses[b]		Individuals	
	Model Coefficients	Marginal Effects[c]	Model Coefficients	Marginal Effects[c]
Group 1: ACS and CNC	0.452	0.40	1.535	1.26
	(0.120)***		(0.062)***	
Group 2: ACS and no CNC	2.978	2.65	2.146	1.76
	(0.068)***		(0.043)***	
Group 3: FC, no ACS, and CNC	0.440	0.39	1.943	1.59
	(0.107)***		(0.144)***	
Group 4: FC, no ACS, and no CNC	3.792	3.37	3.427	2.80
	(0.078)***		(0.111)***	
Constant	-3.690		1.763	
	(0.142)***		(0.083)***	
Sigma	4.195		4.755	
	(0.017)***		(0.009)***	
Log-likelihood value	*-113,648*		*-556,281*	

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Individuals and Businesses. Data extracted March 2014.

[a] Not all explanatory variables provided.

[b] *Limited to Sole Proprietorships and Corporations*

[c] Marginal Effects are calculated at the sample means.

*Notes: *p<0.1; **p<0.05; ***p<0.01*

Increase in Payments by Treating:

Significant *and* ***Positive*** *Marginal Effects on log of payments made within two years of Final Notice for all treatment groups compared to "No Treatment"*

Subsequent Compliance Model Results

Table 5. ACS and FC Consolidated Treatment Effects on Subsequent Compliance

Dependent variable: *Log of New Unpaid Assessments during third year after Final Notice*

Explanatory Variables [a]	Businesses[b]		Individuals	
	Model Coefficients	Marginal Effects[c]	Model Coefficients	Marginal Effects[c]
Cases Routed to ACS	-1.132 (0.152)***	-0.20	-0.887 (0.159)***	-0.09
Cases Routed to FC, no ACS	-2.3 (0.172)***	-0.40	-2.636 (0.327)***	-0.27
Constant	-6.055 (0.296)***		-26.961 (0.332)***	
Sigma	7.534 (0.048)***		10.918 (0.056)***	
Log-likelihood value	*-75,465*		-161	

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Individuals and Businesses. Data extracted March 2014.

[a] Not all explanatory variables provided.

[b] *Limited to Sole Proprietorships and Corporations*

[c] Marginal Effects are calculated at the sample means.

*Notes: *p<0.1; **p<0.05; ***p<0.01*

Decrease in Subsequent Noncompliance by Treating:

Significant *and* ***Negative*** *Marginal Effects on log of new accrued unpaid assessments during the third year after Final Notice for all treatment groups compared to "No Treatment"*

Subsequent Compliance Model Results

Table 6.ACS and FC CNC/Non-CNC Treatment Effects on Subsequent Compliance

Dependent variable: *Log of New Unpaid Assessments during third year after Final Notice*

Explanatory Variables [a]	Businesses[b]		Individuals	
	Model Coefficients	Marginal Effects[c]	Model Coefficients	Marginal Effects[c]
Group 1: ACS and CNC	-6.446	-1.10	-3.191	-0.33
	(0.338)***		(0.237)***	
Group 2: ACS and no CNC	-0.326	-0.06	-0.685	-0.07
	(0.152)**		(0.237)***	
Group 3: FC, no ACS, and CNC	-6.848	-1.17	-4.291	-0.44
	(0.315)***		(0.546)***	
Group 4: FC, no ACS, and no CNC	-0.947	-0.16	-2.042	-0.21
	(0.179)***		(0.375)***	
Constant	-6.347		-27.107	
	(0.295)***		(0.332)***	
Sigma	7.458		10.902	
	(0.047)***		(0.056)***	
Log-likelihood value	*-75,052*		*-161,172*	

Source: Internal Revenue Service Accounts Receivable Dollar Inventory for Individuals and Businesses. Data extracted March 2014.

[a] Not all explanatory variables provided.

[b] *Limited to Sole Proprietorships and Corporations*

[c] Marginal Effects are calculated at the sample means.

*Notes: *p<0.1; **p<0.05; ***p<0.01*

Decrease in Subsequent Noncompliance by Treating:

Significant *and* ***Negative*** *Marginal Effects on log of new accrued unpaid assessments during the third year after Final Notice for all treatment groups compared to "No Treatment"*

Conclusions

- We find positive impacts both in terms of revenue and subsequent compliance from call site and field collection treatments:
  - smaller impact on payments for a CNC case versus other cases, and
  - relatively large impact on subsequent compliance for CNC.
- A CNC determination is not a good proxy for identifying an unproductive case
  - Instead, focus on the treatment impact on payments and subsequent compliance.
  - Optimal strategies for ensuring payment compliance may include working cases that meet CNC criteria.
- Direction for further research:
  - Explore the assumption a CNC condition is exogenous to the taxpayer's response to the treatment.
  - Consider instrumental variable or other approaches to control for potential endogeneity of treatments.
  - Expand the time period for studying subsequent payment compliance.

Thank You!

Uncollectible versus Unproductive:

Compliance Impact of Working Collection Cases that are Ultimately Not Fully Collectible

Internal Revenue Service
Small Business / Self Employed,
Enterprise Collection Strategy, Strategic Analysis and Modeling

Stacy Orlett, Operations Research Analyst
Erik Miller, Operations Research Analyst
Alex Turk, Supervisory Economist

A Plan for Turning Worst-First Into Best-Case Tax Enforcement

Leigh Osofsky
University of Miami School of Law

Goal

- Best Case Enforcement Regime:
- Maximize Direct Revenue + Voluntary Compliance (Note DIF Score)
- Help Explain and Improve Existing Enforcement Methods

Microdeterrence

- Break Low Compliance Sector into Subsectors
- Concentrated Enforcement: “Enforcement Projects”
- Offset in Other Subsectors
- DIF scoring to select subsectors, taxpayers
- Announcement (IRS website, directly, etc.)

Details

- How Concentrated?
- Optimal Level of Enforcement . . .
- What does this mean? (Costs / Benefits / What would do without enforcement constraints?)

Theoretical Case for Microdeterrence

1) Economic Base Case:

Concentration Necessary:

Ie:

100,000 cash business TPs

Tax liability 2,000

3% chance of getting caught, fine 1,500

Expected Benefit: 1,940 Expected Cost: 45

Audit Rate to Comply: 58%

Economic Case Cont’d

- More general models (ie: Lando + Shavell 2004)
- Compliance Continuum, Low Existing Compliance, Multiple Equilibria
- Probability Neglect

Dependent Monetary Costs of Noncompliance

- Expected monetary costs of noncompliance depend on rates of compliance (Kleinman, Schrag and Scotchmer 1997, Graetz et al. 1986)
- Resetting Rates of Compliance, Help Sustain Compliance

Norms

- Affect Compliance, Depend on Rates (Cooter 1996, Lederman 2003)
- Local Norms Matter (Schelling 1978, Gladwell 2000, Goette et al. 2006, Revesz 1997)
- Reset Compliance, Help Sustain

Psychological Factors

- Uncertainty Aversion (Ellsberg 1961), Compliance Gamble More Uncertain
- Availability Bias (Taylor 1982, Tversky and Kahneman 1974)

Nodes of Noncompliance

- Focus in Particular (Hot Spots Policing)
- Why? Maximize Direct Revenue, Plus Voluntary Compliance Benefits of Microdeterrence (in Most Needed Areas)

Application to Cash Business Tax Sector

- Usefulness: (currently: coordinated noncompliance, hard to spot “worst”)
- Economic Case: Widespread Noncompliance, Very Limited Resources – (56% noncompliance, 44% compliance, role of credit card receipts)
- Dependent Costs of Noncompliance (Role of DIF Score)

Cash Business Tax Sector Continued

- Norms Matter (Morse et al. 2009, Kagan 1989), hard to influence (Blumenthal et al. 2001, Torgler 2004), local norms matter (TAS 2012)
- Uncertainty Aversion (Casey and Scholz 1991), (Friedland 1982)
- Media Attention to Tax Enforcement Projects
- Nodes of Noncompliance TAS 2012

Conclusion

- Theory for Microdeterrence
- Reasons May Apply in Cash Business Tax Sector
- Worst-First Into Best-Case Enforcement
- Apply Theory in Practice

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"Innovative Enforcement Strategies" Discussion

2014 IRS-TPC Research Conference

Mark D. Phillips

Three Papers

- Different policies/strategies
- Different methodological approaches
- Common theme on the importance of indirect effects (i.e. voluntary compliance)

“Offshore Voluntary Disclosure Schemes: A Preliminary Analysis”

- Normative analysis of optimal OVDS design
- Three interesting policy parameters to consider
  1. Whom to notify of offshore data acquisition?
     - Not just those with acquired information
  2. Which admissions to accept as-is?
     - Most simulations around 50%
  3. How much to penalize accepted admissions?
     - Most simulations range between 50% and 75%

Questions/Comments/Suggestions

- Sophisticated model with lots of detail & moving parts
  - Pro: More realistic, shows sensitivity (or lack thereof) to different assumptions
  - Con: Difficult to understand benefits/costs and intuition around comparative statics
    - Stripped “toy” model (e.g. risk-neutrality, perfect signals)
    - Even with current model, FOCs with explicit MB and MC expressions would be useful for framing the discussion

Questions/Comments/Suggestions

- What can/does the tax agency commit to?
  - Analysis currently assumes commitment
  - Commitment requires announcement & credibility/verification (Andreoni, Erard, Feinstein 1998)
  - Interesting difference between notification and penalty rates vs. acceptance strategy.

Questions/Comments/Suggestions

- Taxpayers' offshore decision made prior to revelation of information acquisition.
  - Might have been true for first round of OVDS.
  - Forward-looking tax agency needs to account for how its current strategies impact future offshore decisions (or the new version of offshore).
  - More akin to amnesty literature.

“Uncollectible vs. Unproductive: Compliance Impact of Working Collection Cases that are Ultimately Not Fully Collectible”

- Do Currently Not Collectible (CNC) cases represent a misallocation of resources?
  - Two treatments: Automated Call Site contact (ACS); Field Revenue Office contact (FC)
  - Two samples: Individuals and businesses
  - Two outcomes: Payments and Subsequent Compliance

“Uncollectible vs. Unproductive” cont.

- Extra collection from treatments, even when conditioned on (endogenous) CNC outcome
- Effects on future compliance, even when conditioned on (endogenous) CNC outcome
  - Interesting, but more interpretation helpful
  - Would a zero or even negative result have been bad?

Questions/Comments/Suggestions

- Would be helpful to know more about the process by which cases are assigned to
  - ACS vs. FC vs. neither
  - CNC vs. not CNC
- Authors suggest IV for dealing with endogeneity of CNC
  - What about endogeneity of ACS vs. FC vs. neither?
  - Are we picking up treatment effects or something about the IRS administrative/selection process?
  - Randomized experiment

Questions/Comments/Suggestions

- Currently use Tobit to deal with censoring at 0
  - What about censoring from above?
    - Related question: how frequent is full repayment?
  - Any reason to expect the binary repayment-at-all decision is different from the repayment amount decision?
- If we really want to say something about misallocation, need to know something about costs

“A Plan for Turning Worst-First into Best-Case Tax Enforcement”

- Proposes “microdeterrence” model for maximizing voluntary compliance
- Main idea: concentrating enforcement resources within certain subsectors may raise voluntary compliance
  - Based on “hot spot policing” from criminology

An Alternative Interpretation

- When is it a good idea to concentrate limited resources in a particular activity?
  - Increasing marginal returns to the resource
  - Concentrating resources takes advantage of increasing returns (and furthermore small opportunity cost)
  - The “second derivative” paper

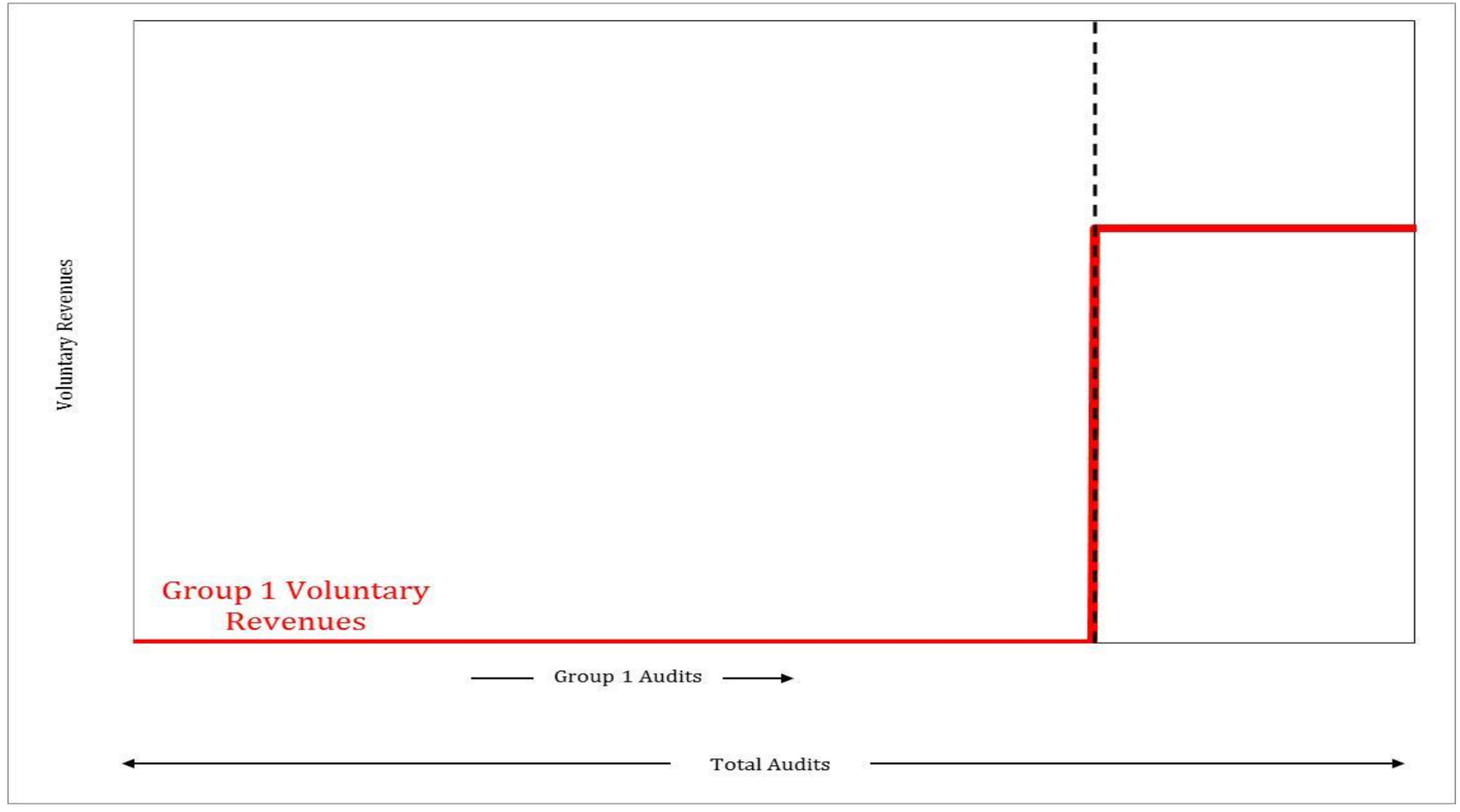
An Alternative Interpretation

- Compelling discussion of increasing returns in tax enforcement
  - In low compliance sector, “nowhere to go but up”
  - Behavioral insights about low probabilities
  - Localized network/feedback effects

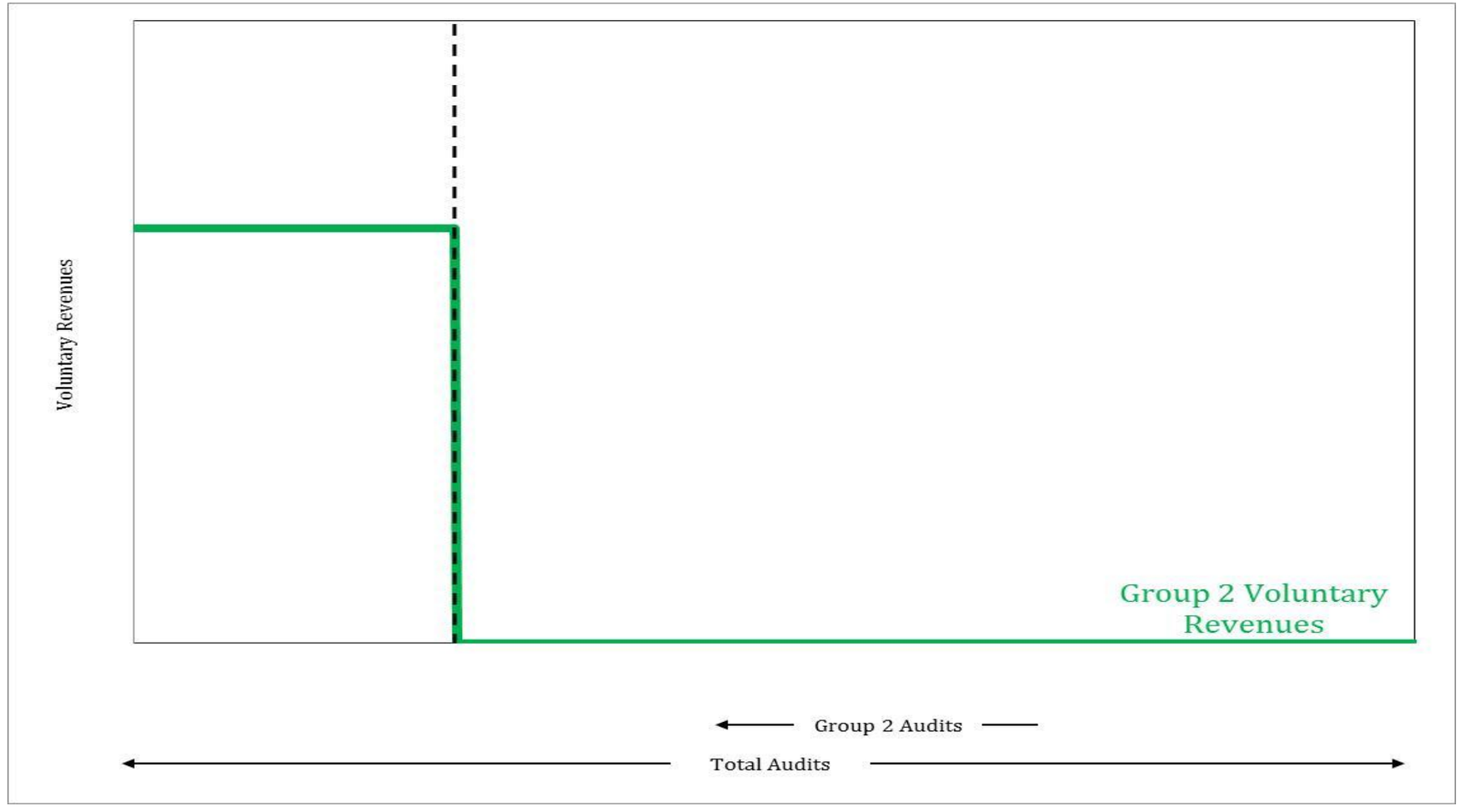
A Simple Example

- Fixed number of audits to be allocated between two equally sized groups of taxpayers
- Taxpayers are identical and risk-neutral
  - Risk-neutral an extreme example of increasing returns

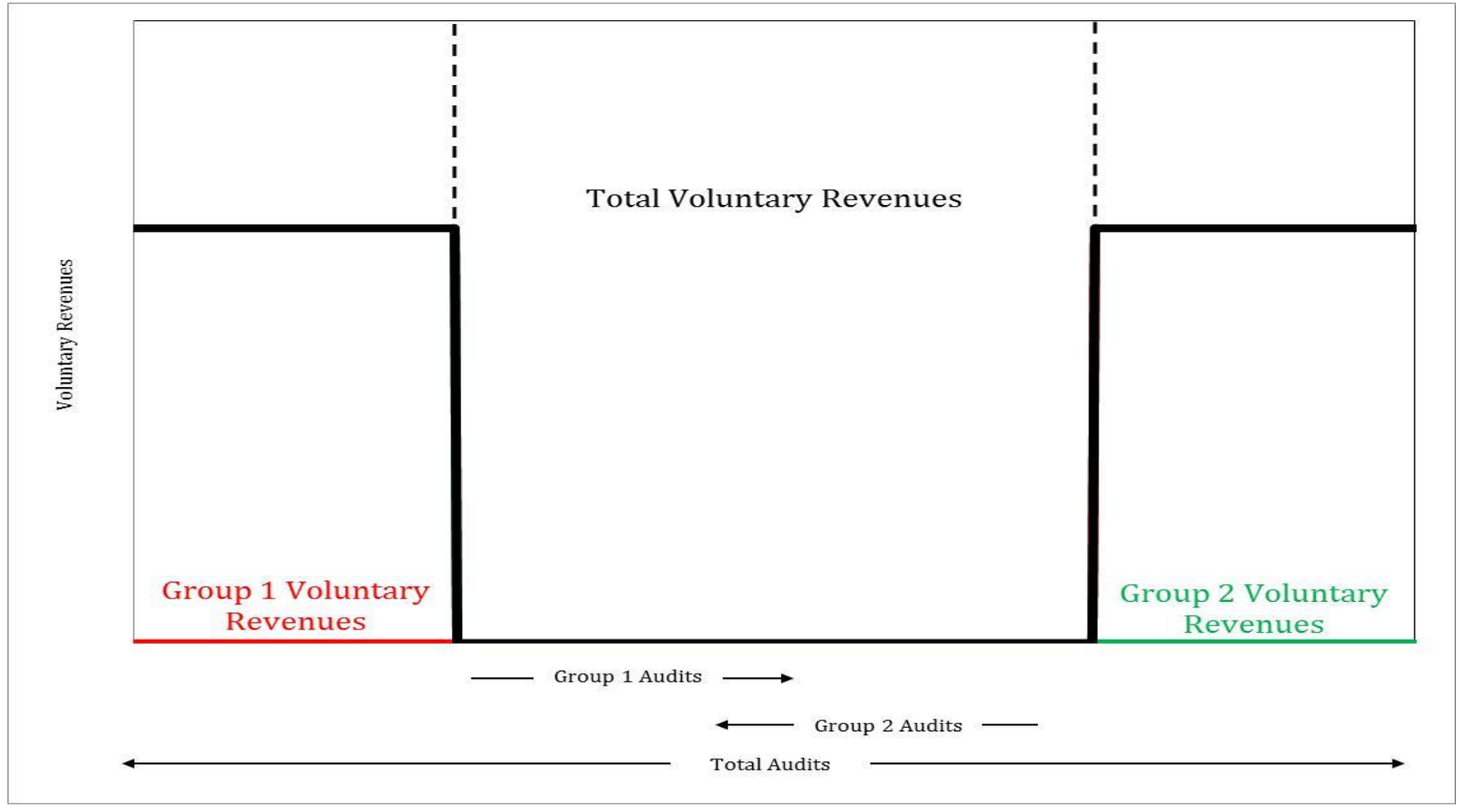
A Simple Example



A Simple Example



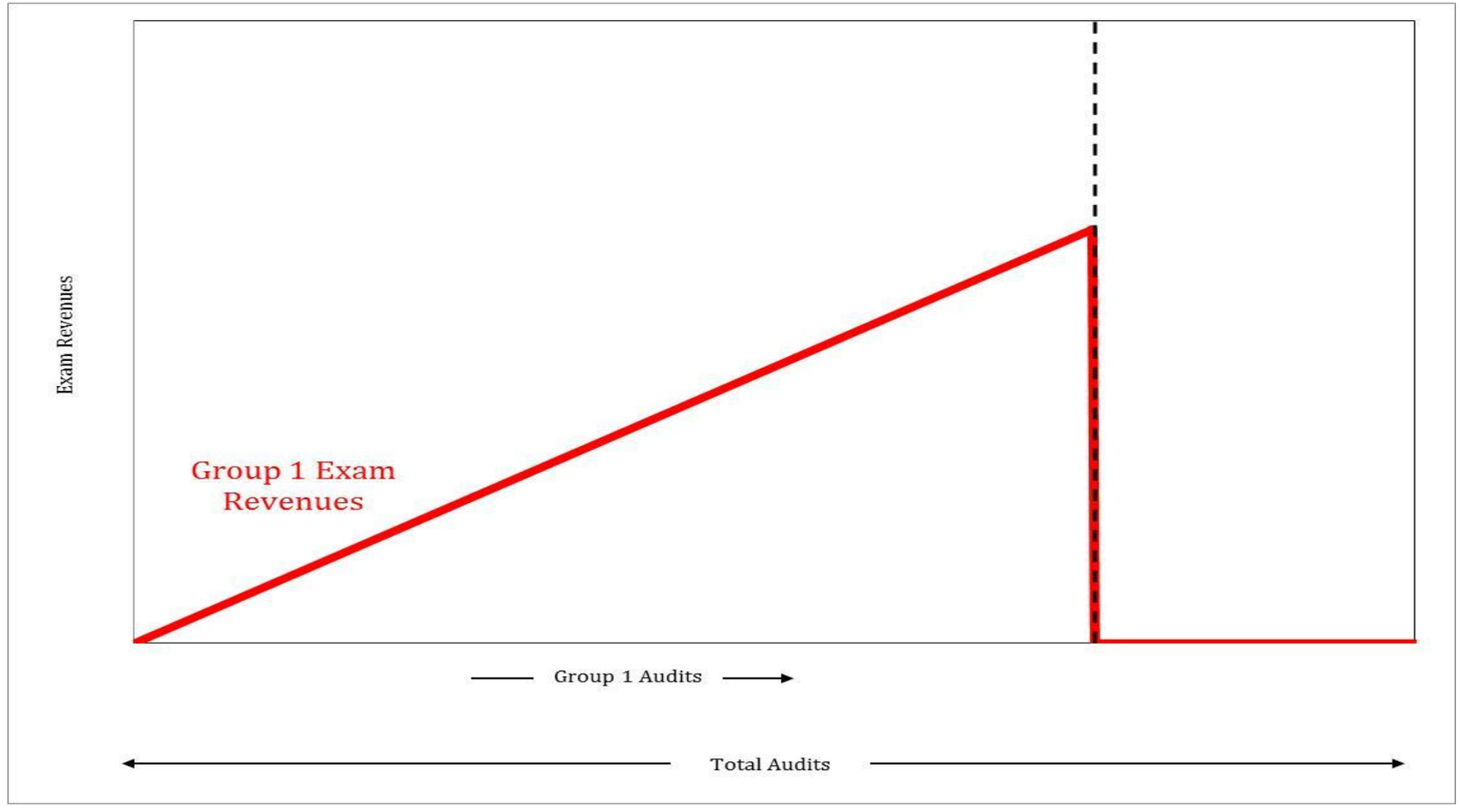
A Simple Example



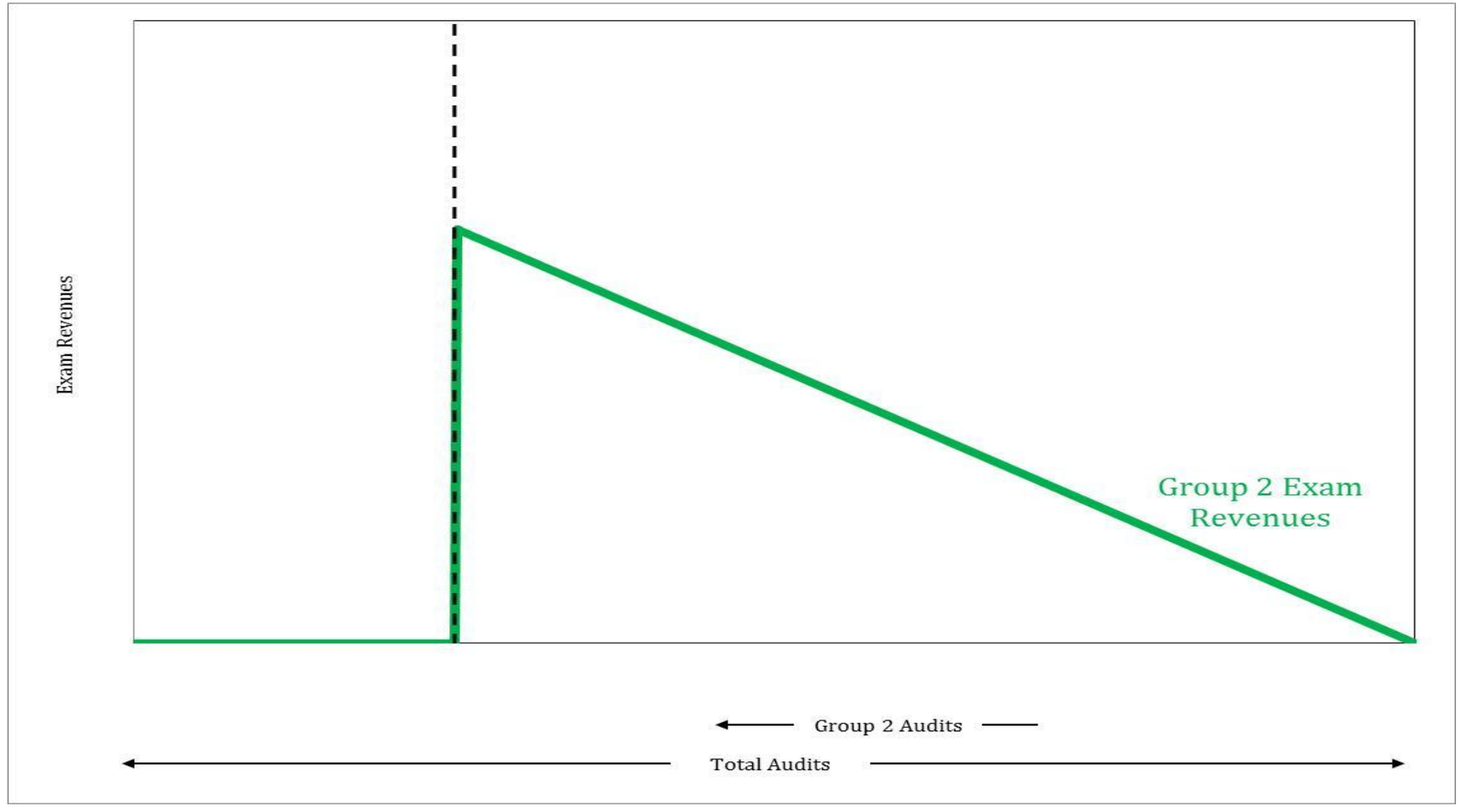
Indirect vs. Direct Revenues

- Indirect (i.e. voluntary) revenues are indeed very important
- But in a low compliance sector, so are direct (i.e. enforcement) revenues

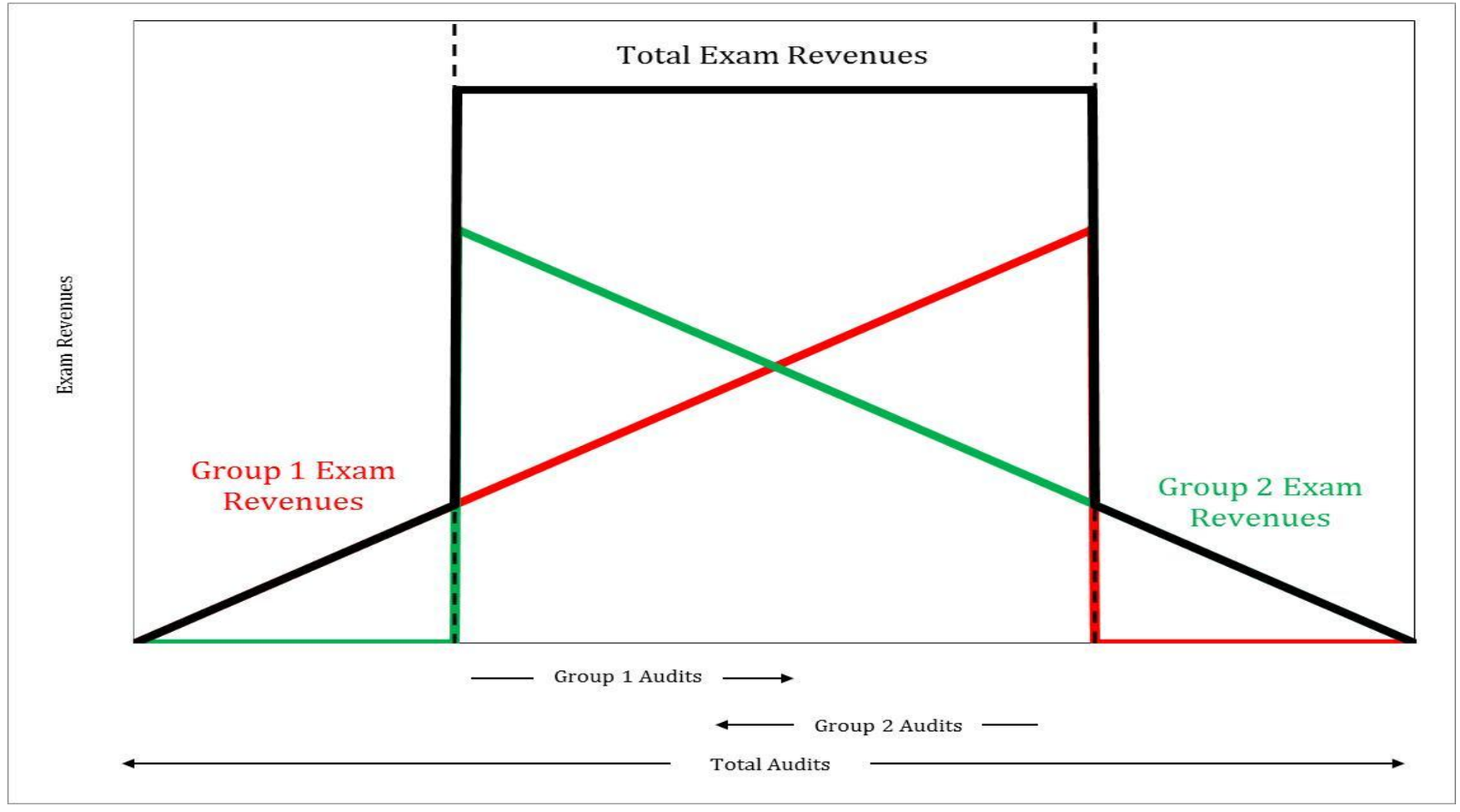
Direct Revenues



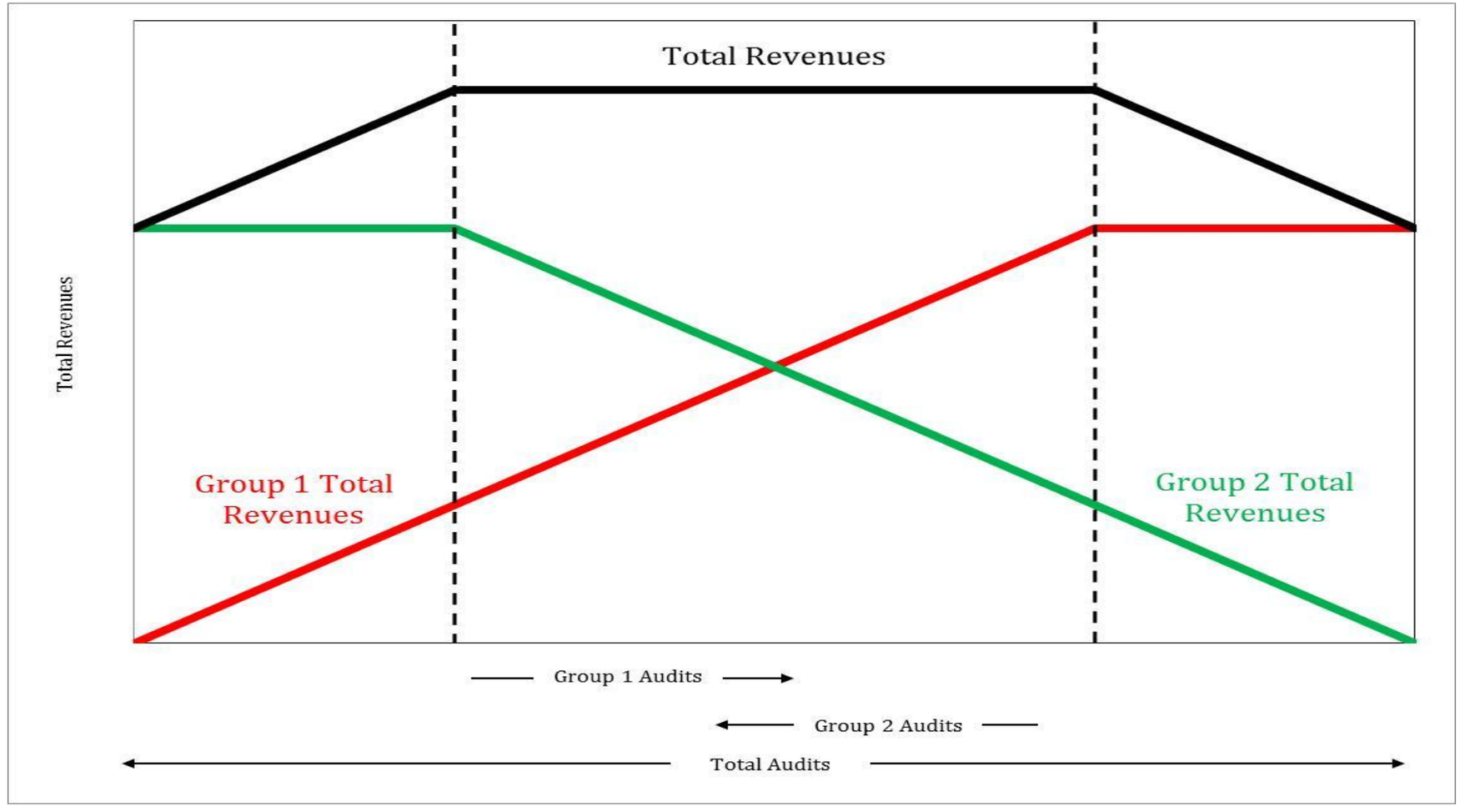
Direct Revenues



Direct Revenues



Total (Direct & Indirect) Revenues



Questions/Comments/Suggestions

- More generally, increasing returns to indirect revenues imply decreasing returns to direct revenues
  - Increasing returns to voluntary compliance are not sufficient for concentration of resources.
- Provokes interesting questions about the IRS objective
  - How to weigh voluntary compliance vs. direct enforcement revenues?
  - Probably a different weighting than other enforcement settings

Questions/Comments/Suggestions

- Comparing/contrasting with DIF seems off
  - DIF isn’t exclusive IRS strategy
  - Other strategies focused on indirect effects
  - Across vs. within subsector allocations

Questions/Comments/Suggestions

- What’s that darn second derivative?
  - Lots of evidence on the first derivative.
  - But this doesn’t tell us anything about increasing vs. decreasing returns.

Research, Analysis & Statistics

Tax Policy Center
Urban Institute and Brookings Institution

Advancing Tax Administration ■ June 19, 2014

Session 2: Innovative Enforcement Strategies

Moderator:	***Drew Johns*** *IRS, RAS, Office of Research*
Incentivized Offshore Voluntary Disclosure Schemes: An Analysis	***Matthew D. Rablen*** *Brunel University, UK*
Uncollectible versus Unproductive: Compliance Impact of Working Collection Cases that are Ultimately Not Fully Collectible	***Stacy Orlett*** *IRS, SB/SE*
A Plan for Turning "Worst-First" into "Best-Case" Tax Enforcement	***Leigh Osofsky*** *University of Miami School of Law*
Discussant:	***Mark Phillips*** *University of Southern California*