Following K-1s: Considering Foreign Accounts in Context

Tomas Wind (IRS, RAAS::P&I)
David Bratt (IRS, RAAS::P&I)
Alissa Graff (IRS, RAAS::P&I)
Anne Herlache (IRS, RAAS::P&I)

Motivation

- US taxpayers have been estimated to hold accounts with roughly $4 trillion in assets overseas, the majority of which is held by the top 1% of the income distribution (Johannesen et al., 2023)
- The presence of pass-through entities in corporate structures has been linked to tax avoidance and uncertainty (Agarwal et al., 2020)
- Between 2011 and 2019, over $1 trillion of income reported by partnerships flowed to owners in tax havens (Love, 2021)
- Want to understand the indirect effects of IRS initiatives aimed at promoting compliance among taxpayers who have overseas assets
- Build on recent research that uses K-1 networks rather than individual returns to better understand non-compliance

Research Question

To what extent are a taxpayer's K-1 network characteristics predictive of their disclosing a foreign account?

Overview of Methodology

- Identify taxpayers that reported holding a foreign account
- Identify sample of taxpayers with a foreign account that received a K-1 (RFA taxpayers) and a sample of K-1 recipients that never reported a foreign account (nRFA taxpayers)
- Create a graph database depicting the K-1 networks and spouses of RFA and nRFA taxpayers
- Model whether a taxpayer reported a foreign account in a specific year

Identifying Taxpayers who Have Reported Foreign Accounts

- **Report of Foreign Bank and Financial Accounts (FBAR)**
- **Foreign Account Tax Compliance Act (FATCA)**
  - Form 8938
- **Offshore Voluntary Disclosure (OVD) programs**
- **Streamlined Filing Compliance Procedures**

RFAs with K1s

- Individuals that received at least one K-1 between 2006 and 2017
- Held a "significant stake" in at least one K-1 issuing entity
- Reported holding a foreign account
- Ten percent sample of all RFAs that received at least one K-1

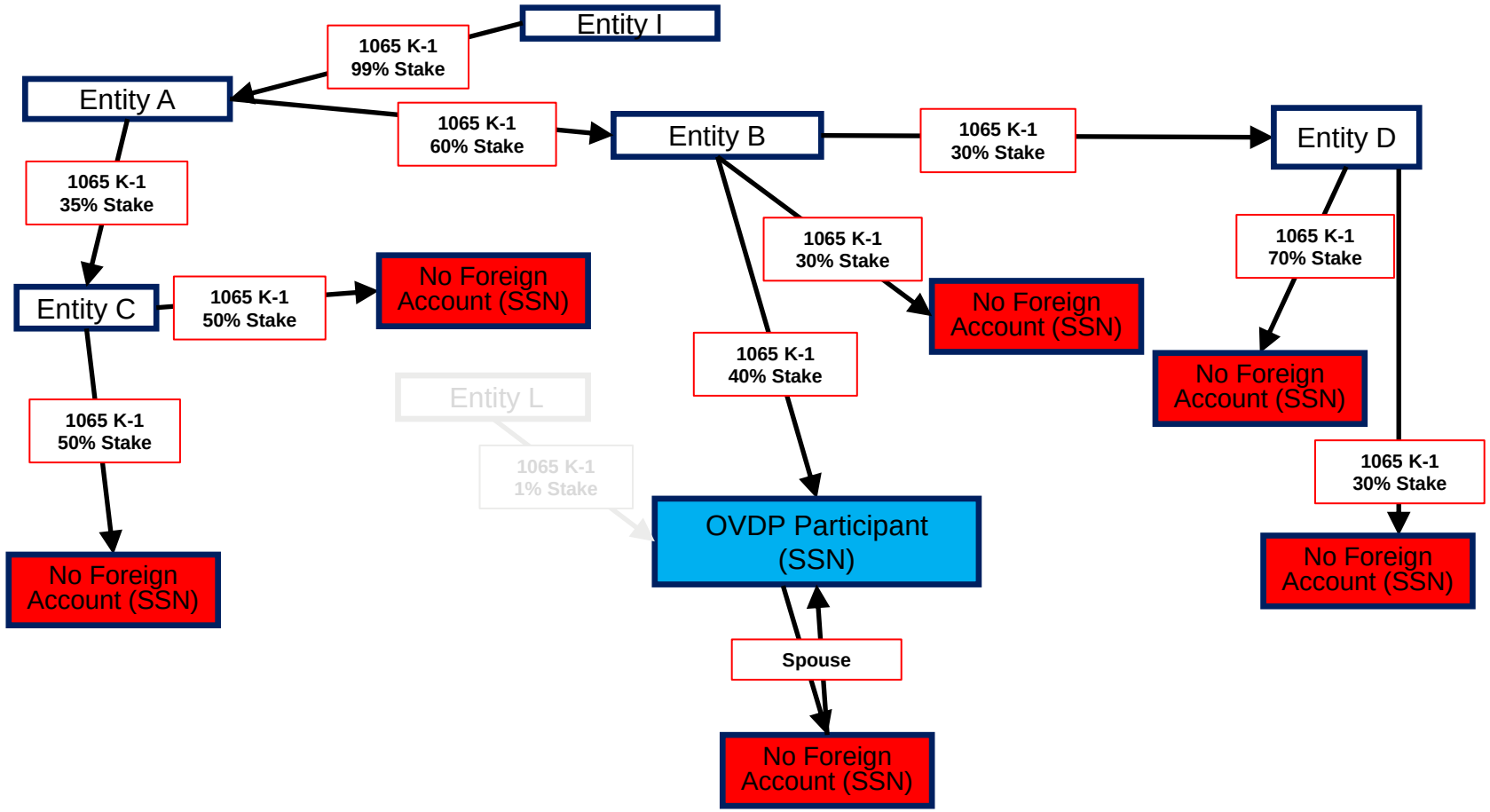
nRFAs with K1s

- Individuals that received at least one K-1 between 2006 and 2017
- Held a "significant stake" in at least one K-1 issuing entity
- Never reported holding a foreign account
- Has never been reported to hold a foreign account on Form 8966
- Selected a sample containing roughly the same number of taxpayers as RFA sample

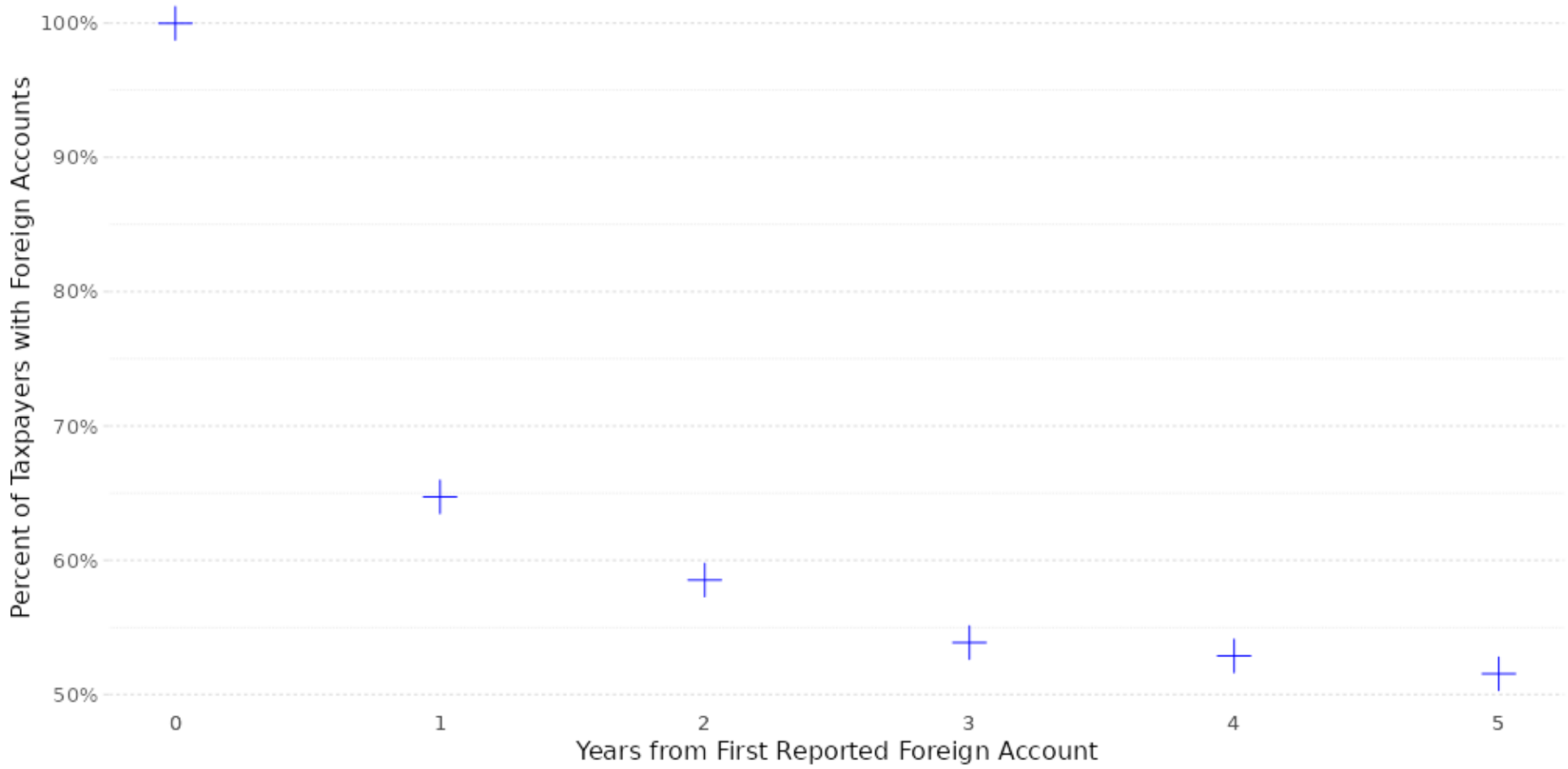
Construction of Graph Database

- **Get K-1 network for each RFA and nRFA taxpayer**
  - Payees must hold at least a one percent share in payer (e.g., taxpayer who owns one-percent share in a partnership) to be included in network
  - Expand each network up to five levels from initial taxpayer
- **Add spouses of RFA and nRFA taxpayers to graph**
- **Add F1040 and other data to each node and edge**

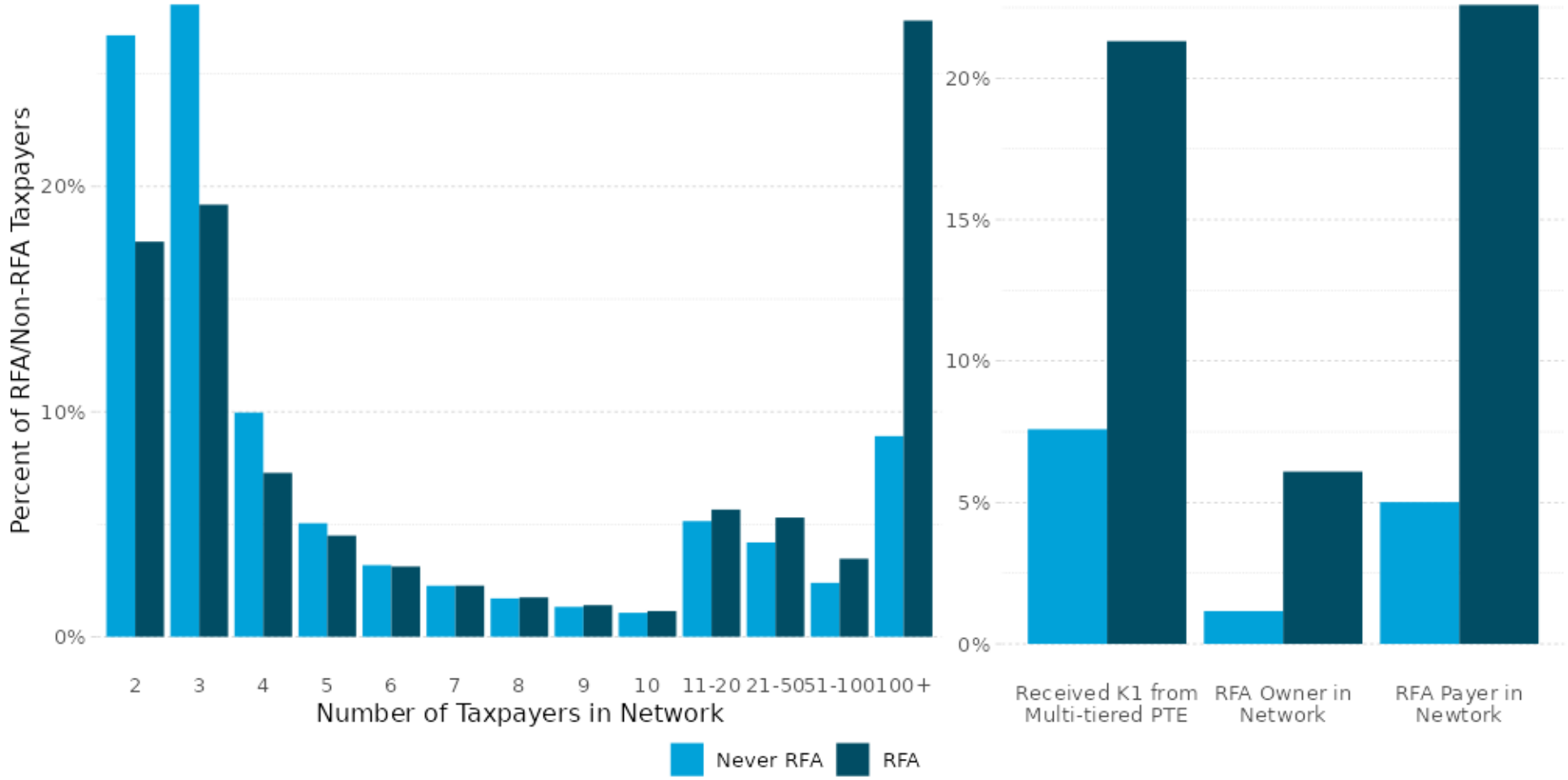
Graph Layout



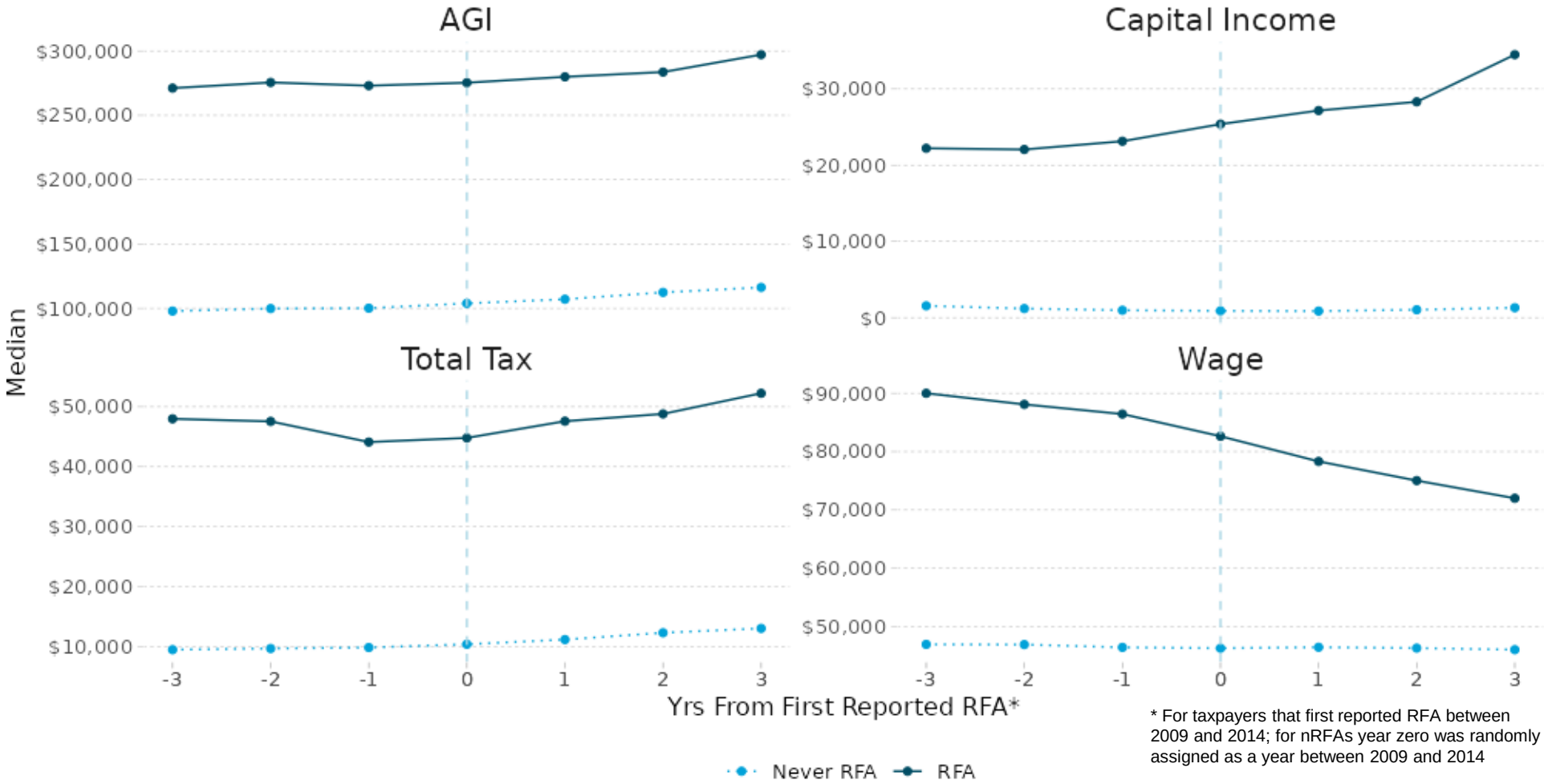
Among RFA Taxpayers with First Foreign Account Between 2006-2012: Percent who RFA-ed in Years Following First RFA



RFA and nRFA Networks

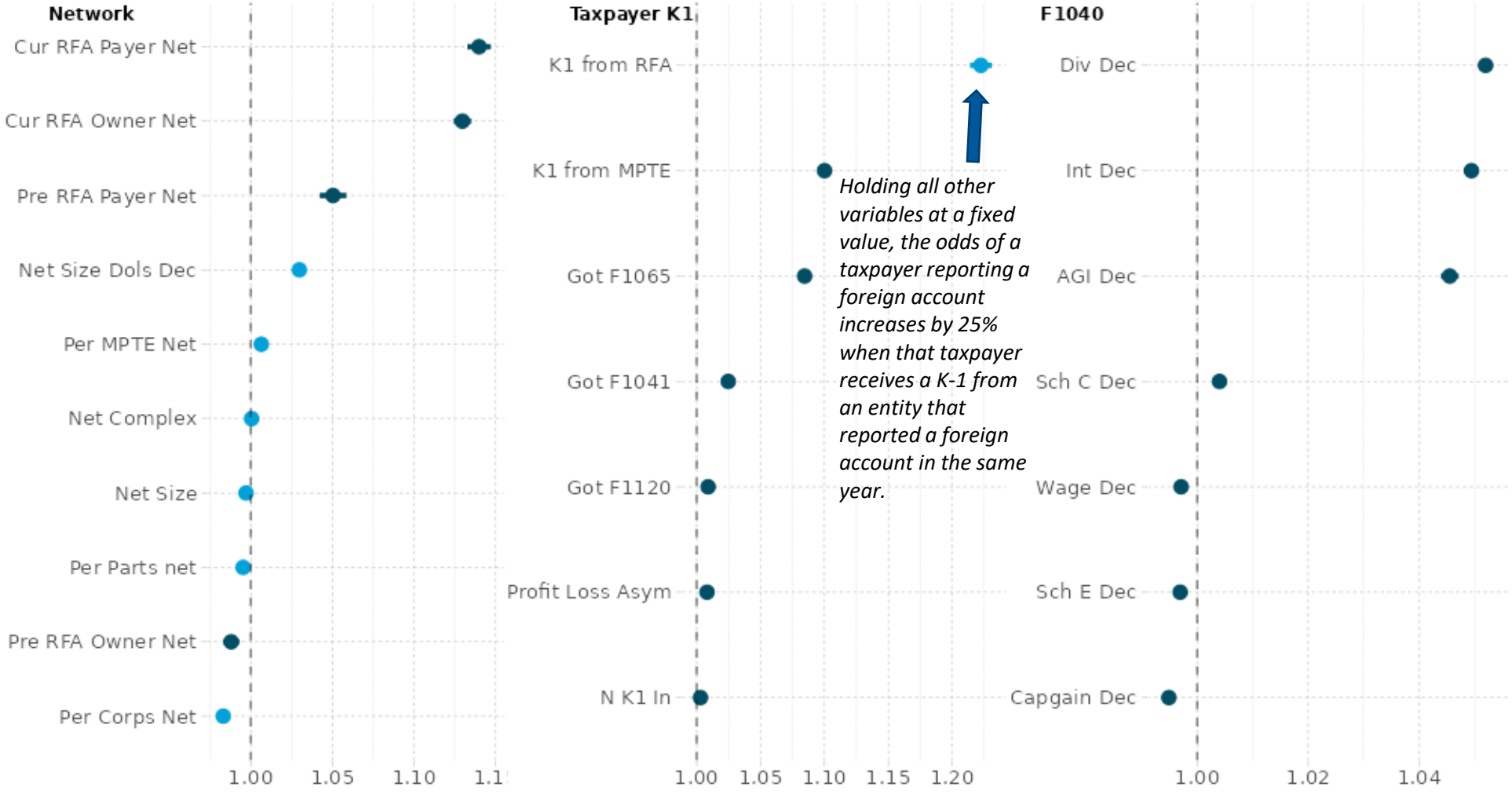


RFA and nRFA Income

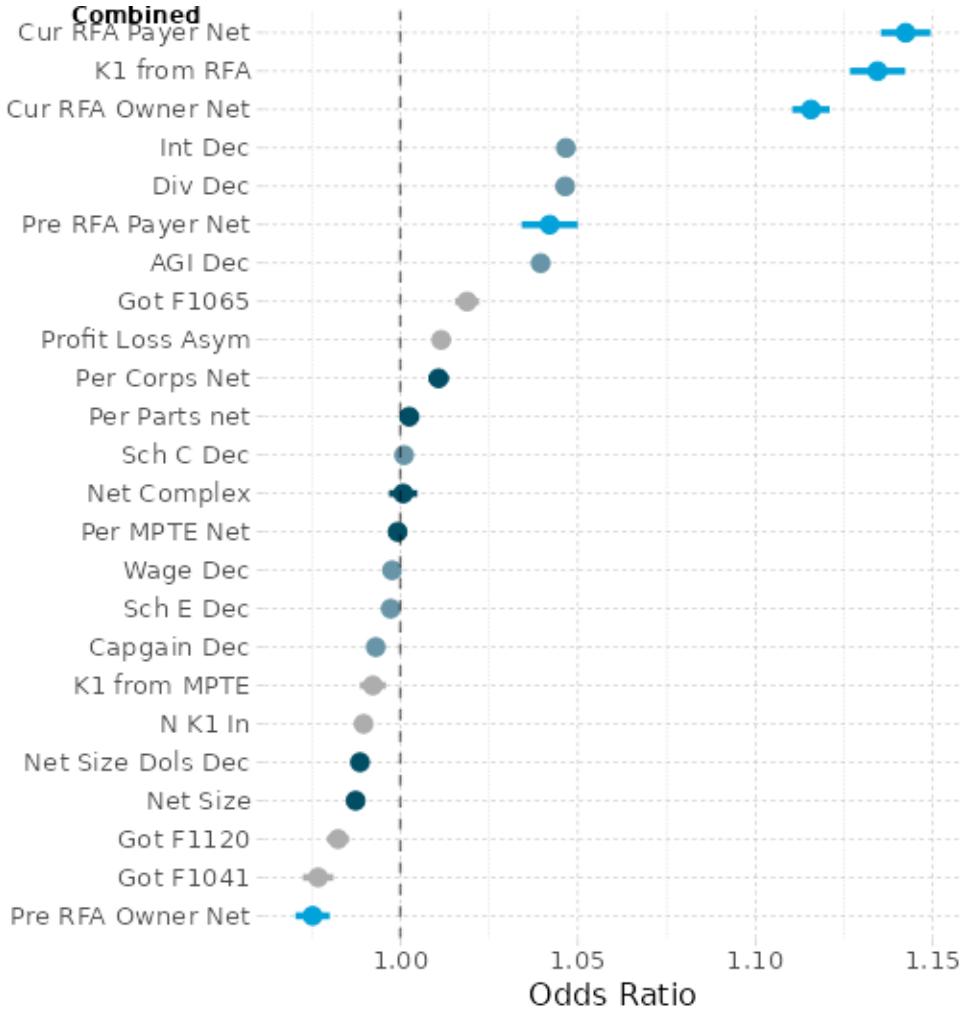


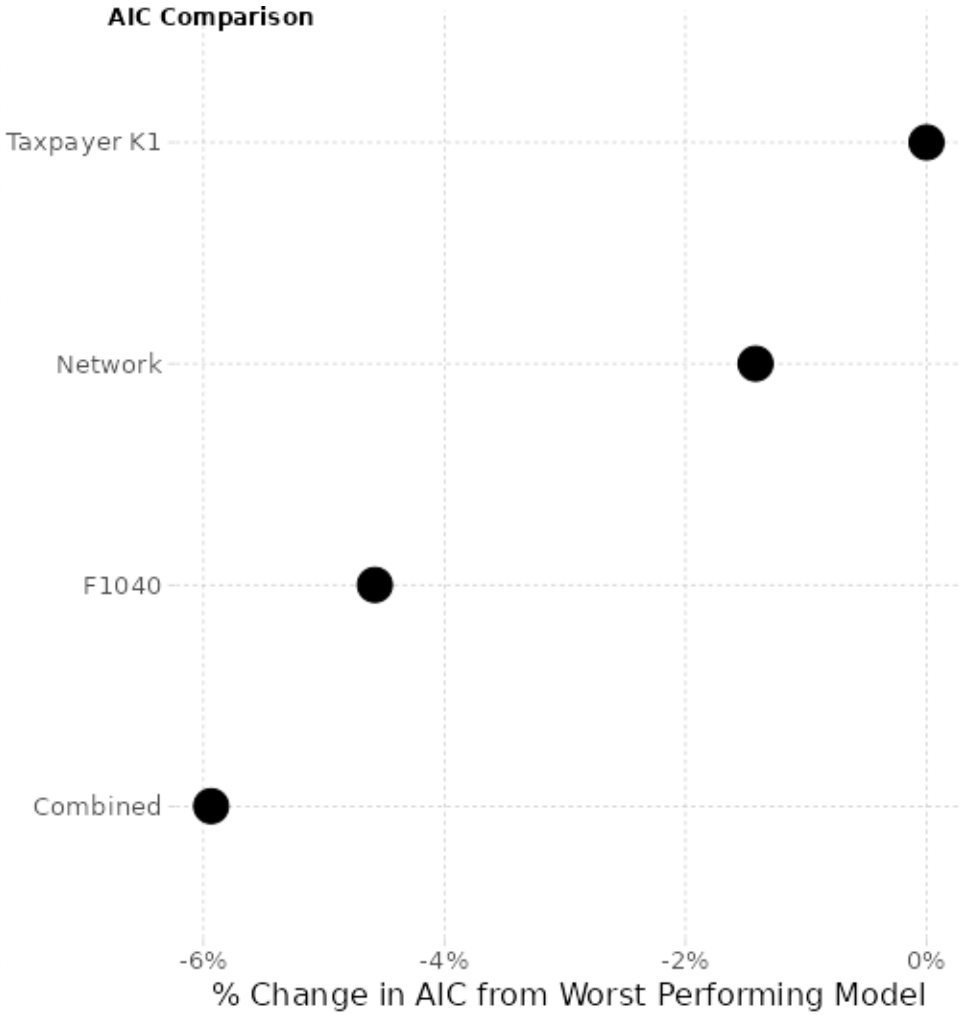
* For taxpayers that first reported RFA between 2009 and 2014; for nRFAs year zero was randomly assigned as a year between 2009 and 2014

Results


Network
Cur RFA Payer Net
Cur RFA Owner Net
Pre RFA Payer Net
Net Size Dols Dec
Per MPTE Net
Net Complex
Net Size
Per Parts net
Pre RFA Owner Net
Per Corps Net
1.00
1.05
1.10
1.1
Taxpayer K1
K1 from RFA
K1 from MPTE
Got F1065
Got F1041
Got F1120
Profit Loss Asym
N K1 In
1.00
1.05
1.10
1.15
1.20
F1040
Div Dec
Int Dec
AGI Dec
Sch C Dec
Wage Dec
Sch E Dec
Capgain Dec
1.00
1.02
1.04
Holding all other variables at a fixed value, the odds of a taxpayer reporting a foreign account increases by 25% when that taxpayer receives a K-1 from an entity that reported a foreign account in the same year.

Results


Combined
Cur RFA Payer Net
K1 from RFA
Cur RFA Owner Net
Int Dec
Div Dec
Pre RFA Payer Net
AGI Dec
Got F1065
Profit Loss Asym
Per Corps Net
Per Parts net
Sch C Dec
Net Complex
Per MPTE Net
Wage Dec
Sch E Dec
Capgain Dec
K1 from MPTE
N K1 In
Net Size Dols Dec
Net Size
Got F1120
Got F1041
Pre RFA Owner Net
1.00
1.05
1.10
1.15
Odds Ratio


AIC Comparison
Taxpayer K1
Network
F1040
Combined
-6%
-4%
-2%
0%
% Change in AIC from Worst Performing Model

Future and Ongoing Work

- Update data
- Add more variables
- Try different models
- Explore how RFA taxpayer behavior changes after first reporting a foreign account

Thank you

Application of Network Analytics to Identify Likely Ghost Preparer Networks

Presenter: Joshua King (IRS:RAAS)

June 22nd, 2023

Ghost Preparers Undermine Tax Administration

Paid preparers are an important IRS partner.

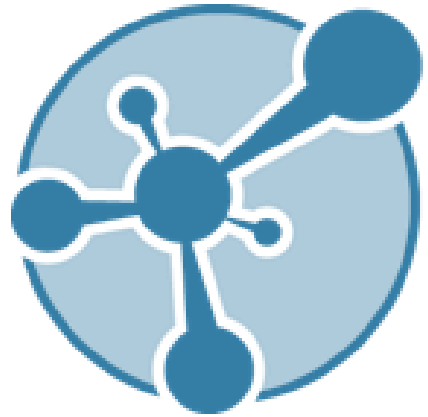
- More than half of taxpayers depend on the paid tax preparation community to assist in meeting their federal tax filing obligations.
- The IRS depends on paid preparers to help taxpayers comply with tax laws.

Ghost preparers are compensated tax return preparers who do not identify themselves on the returns they prepare.

- Ghost preparers avoid **IRS oversight.**
- Ghost preparers are in **violation of Treasury rules and regulations**.
- Ghost prepares may engage in unscrupulous behavior which **victimizes taxpayers** and **undermines the integrity of tax administration.**
- See **2/5/21 News Release** **“Beware of “ghost” preparers who don’t sign tax returns”**

Ghost Preparer Identification Project

- **RAAS collaborated with Criminal Investigations and Return Preparer Office to prepare a research proposal to identify Ghost Preparers using network analysis**
- **In 2021 the Innovation Lab 2.0 endorsed and funded the project**
- **Analysis Delivered at the conclusion of the Innovation Lab:**
  - A networked dataset of Form 1040 returns across 3 filing years
  - 2 clustering approaches of 1040 returns
  - A Ghost Preparer tool which:
    - Delivers suspicious cluster to users
    - Facilitates investigation of ghost preparers



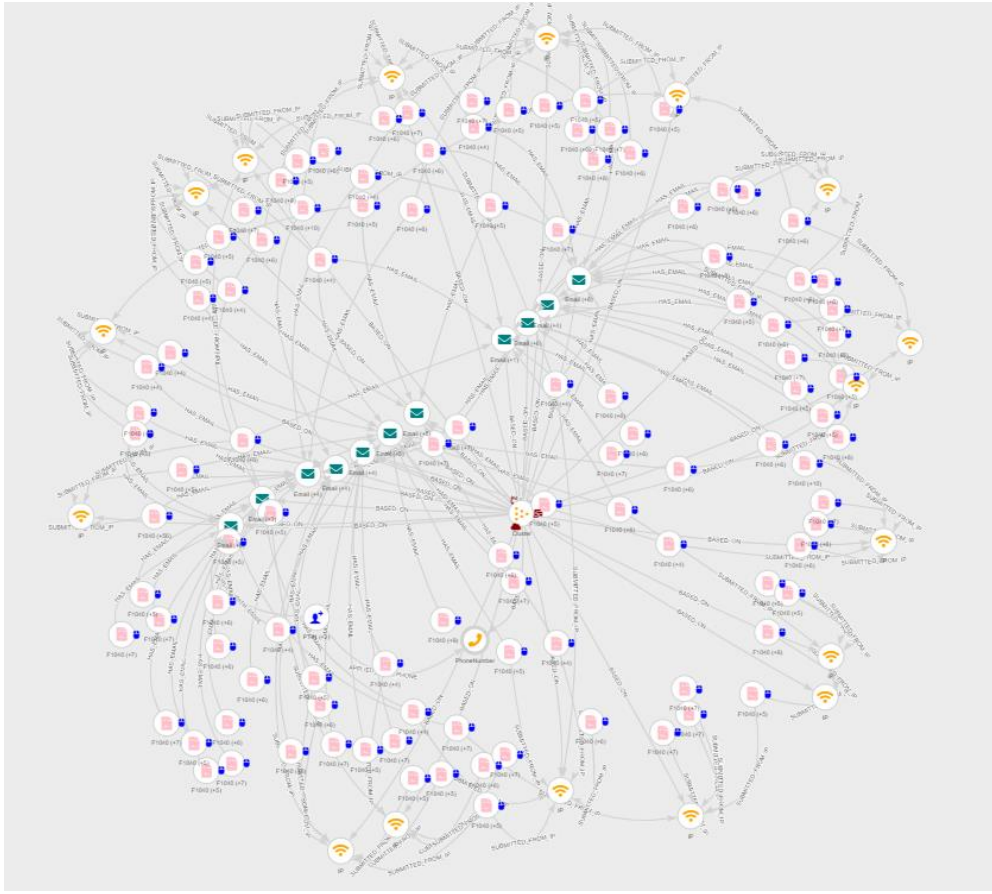
Value of Network Analysis

Behind a ghost preparer is a complex web of relationships, we can capture a piece of those connections in a network model.

Network Analysis Supports:

1. Identifying clusters of interconnected self prepared returns

2. Generating leads for a potential ghost preparer investigation



Data and Limitations

All analysis relied on Risk Based Clustering

Risk Based Clustering:

- Calculates **risk scores** for individual returns and linking factors
- Uses scoring to **limit data included in the initial network analysis**

Limitations:

- **One clustering approach**
- **Lack of labeled data**
  - No verification clusters are ghost preparers.
  - No measure of the extent to which we misidentify ghost prepared returns.
- Analysis spans the **Covid Pandemic**.

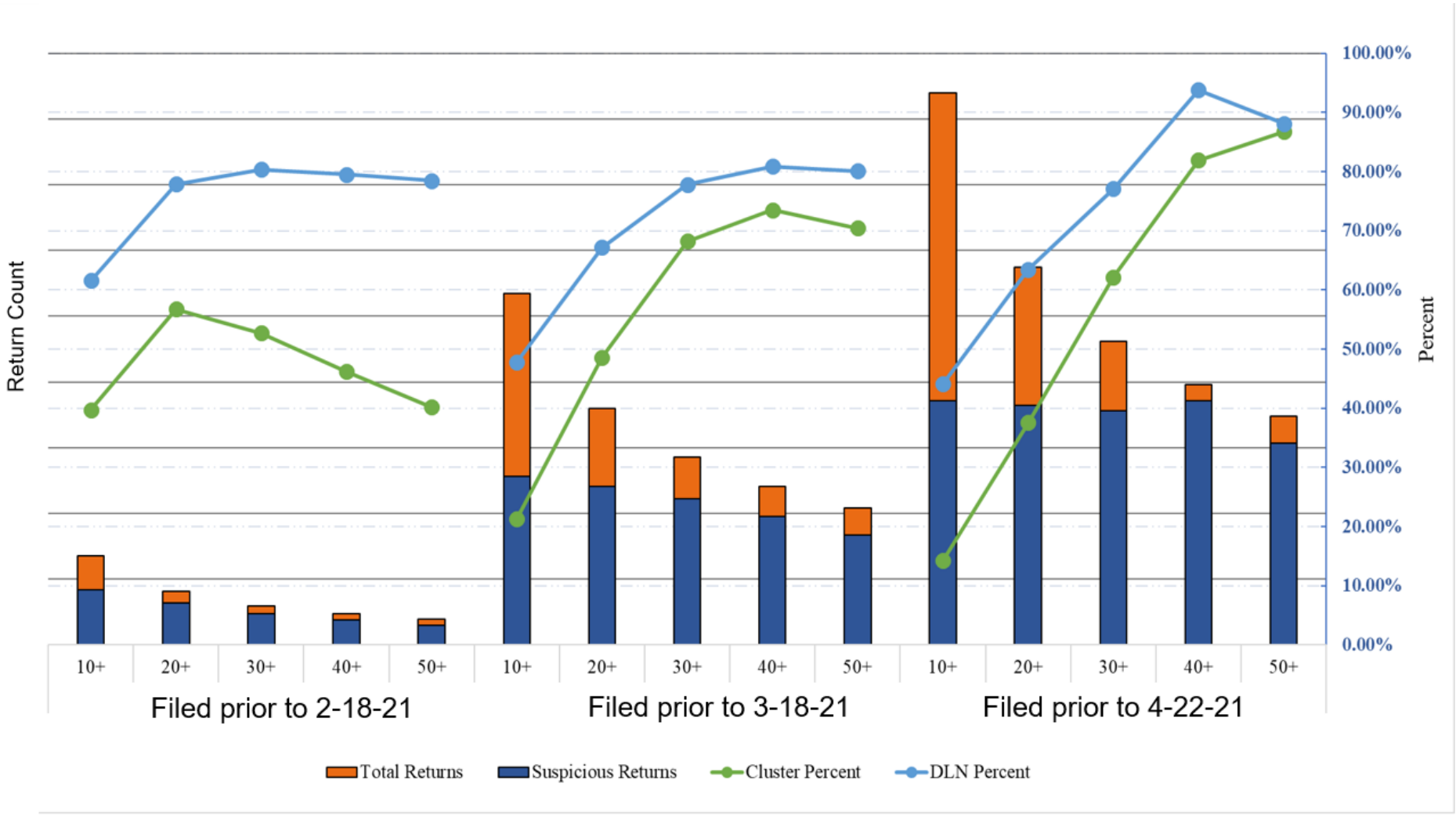
Cluster Evolution Over the Filing Season

How to interpret this graph:

Horizontal Axis shows suspected ghost cluster sizes and total returns at 3 time points during the filing season.

The green lines show the % of total clusters where 100% of the cluster shows up in the final suspect population.

The blue lines show the percent of returns that showed up in the final suspect ghost population; i.e. not all returns end up in the final suspect population.



Take Away:

Early in the filing season, 80% of returns in cluster group of size 20 or more, appear in the final suspect ghost population.

Impact Analysis

Sample of primary filers who appeared in a cluster across 3 years to find returns where that taxpayer

- appeared in a cluster for consecutive years (Stayed GPC)
- appeared in a cluster after not appear being identified in a cluster (Joined GPC)

Compared the annual changes of returns for these two groups

Return Values

	Average Value on F1040		Annual Change		Annual % Change	
	Joined GPC	Stayed GPC	Joined GPC	Stayed GPC	Joined GPC	Stayed GPC
Total Income	$40,937	$41,337	$4,538	$1,005	11%	2%
Adjusted Gross Income	$40,320	$40,774	$4,442	$1,040	11%	3%
Withholding Amount	$3,902	$4,138	$367	$198	9%	5%
Refund Amount	$4,291	$4,294	$797	$64	19%	1%
Earned Income Credit	$2,712	$2,884	$78	-$79	3%	-3%

Established IRS Risk Measure

	Joined GPC	Stayed GPC
Total Returns	1933	1956
Returns in 95% of DIF Distribution	16%	17%
No Change	1651	1681
Joined 95%	172	147
Net Change	61	19

Concluding Remarks

- **Ghost Preparers are a significant challenge.**
- **We have demonstrated network analytics can identify suspected ghost prepared returns.**
- **Results are promising, however, as we receive feedback and refine these approaches the results will improve.**

The Offshore World According to FATCA:

New Evidence on the Foreign Wealth of U.S. Households

Niels Johannesen (University of Copenhagen)
Daniel Reck (University of Maryland)
Max Risch (Carnegie Mellon University)
Joel Slemrod (University of Michigan)
John Guyton (Internal Revenue Service)
Patrick Langetieg (Internal Revenue Service)

IRS/TPC Conference, June 2023

Introduction

- Globally, households hold an estimated $7 trillion in offshore accounts (Zucman, 2013):
    - **Loss of tax revenue**: offshore assets are largely untaxed
    - **Regressivity**: offshore assets are highly concentrated among the very wealthiest (e.g. Alstadsæter et al, 2019, Guyton et al 2021)

- Policy innovation: FATCA requires all foreign banks to report U.S.-owned accounts to the IRS
    - Extends third-party information reporting to foreign financial income and assets

This Project

- U.S. administrative data: **FATCA forms**, income tax returns, business-owner links (K-1 information reports)

- **Questions:**
  1) What do FATCA reports reveal about offshore holdings?
  2) Does automatic third-party reporting on foreign accounts induce tax compliance?

- Today, descriptive analyses from the micro data (linked **F8966**)
  - Aggregate asset reporting: amount, where and how they are held (households or entities)
  - Who holds the assets: where in the income distribution

- Causal analysis of the effect of FATCA on tax compliance is in progress.

FATCA Reporting Regime

- Foreign financial institutions (FFIs) are required to:
  - **Identify accounts** ”"beneficially owned” by U.S. taxpayers (thorough background check searching for U.S. indicia)
  - **Convey information** about assets and income to the IRS
  - Some exceptions (ex. reporting threshold of $50K in assets)

- Key differences to previous enforcement initiatives:
  - Beneficial (rather than immediate) ownership
  - Automatic (rather than on-request) information exchange

- Non-cooperating foreign banks are subject to 30% witholding on U.S. source income

Reporting of Offshore Wealth

Overview: Totals from FATCA Reports

	TY 2016	TY 2017	TY 2018
Assets (billion USD)	3,648	3,233	3,981
No. reporting FFIs	36,056	41,829	45,308
No. of accounts	3,703,159	4,225,689	4,566,774
No. of identified U.S. owners	1,223,115	1,296,462	1,477,183
No. accounts w/out identified owners[1]	1,318,291	1,594,459	1,664,587

[1] See TIGTA (2018)

FATCA Reports by Owner Type (2018)

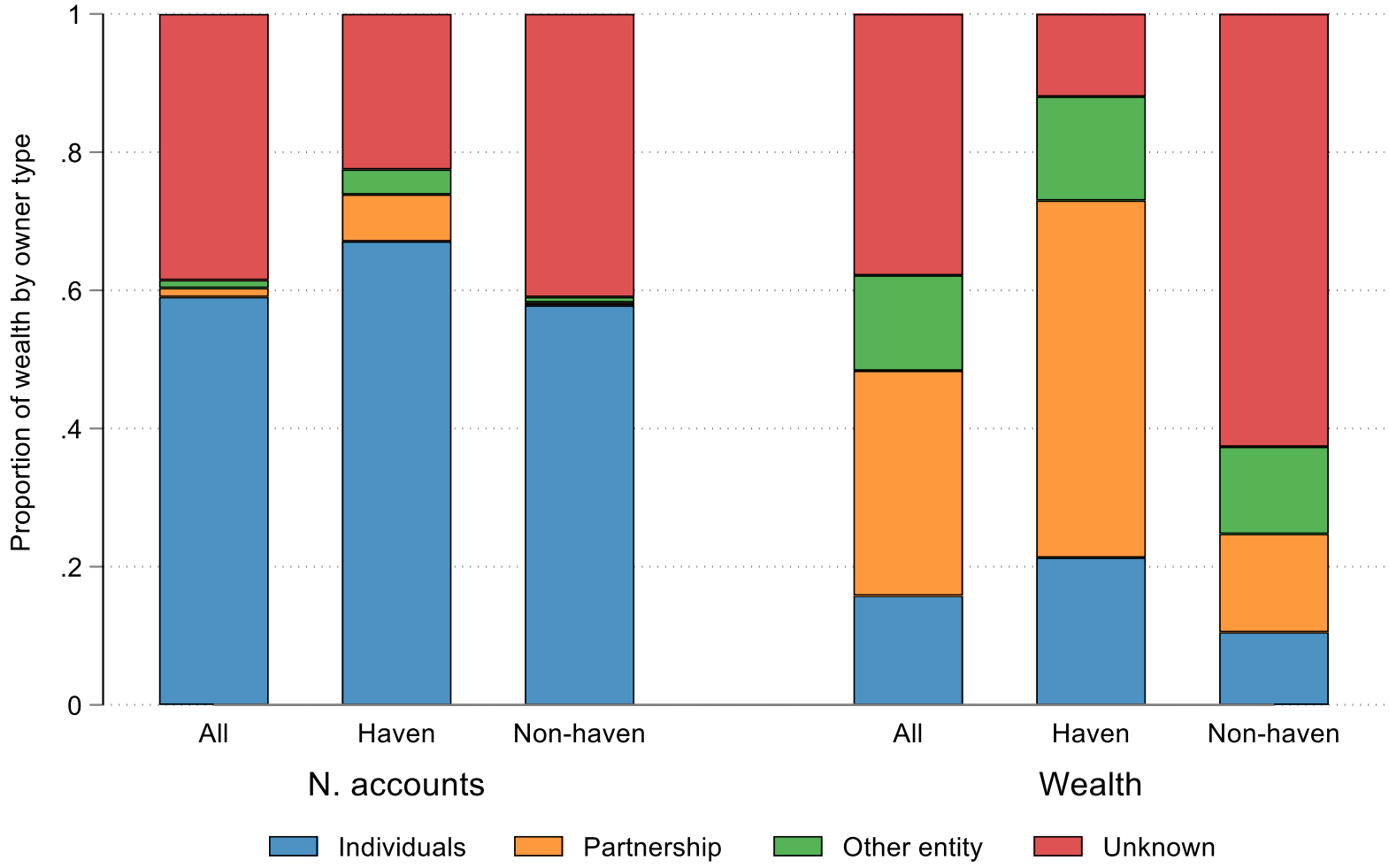
	Account Balance		No. of accounts	
	Total (Billions USD)	Share	Total	Share
Partnership	1,291.64	32.4 %	55,548	1.2 %
Individual	618.49	15.5 %	2,401,217	55.7 %
C Corp	400.64	10.0 %	18,206	.4 %
Tax exempt entity	48.59	1.2 %	8,777	.2 %
Trust	47.27	1.1 %	9,198	.2 %
Foreign corporation	20.64	.5 %	6,304	.1 %
S corporation	37.18	.9 %	8,041	.1 %
Missing TIN	1,017.58	25.5 %	1,578,472	36.6 %
Unmatched entity	278.78	7.0 %	12,306	.2 %
Ambiguous match	153.74	3.8 %	6,663	.1 %
Unmatched TIN	60.01	1.5 %	62,376	1.4 %
Unmatched individual	7.21	.1 %	143,141	3.3 %

FATCA Reports by Location of Accounts (2018)

	Havens*	Non-havens	Share in Havens
Wealth (billion USD)	1,940	2,041	49%
Accounts	612,406	3,954,216	13%

- * "Havens" is used as a shorthand descriptor of a set of countries that are low tax jurisdictions and serve as financial centers, as is commonly used in the literature
- The **IRS does not have any official designation of haven v. non-haven countries** and there is no such definition in FATCA law or administration. In line with previous literature, we use the list from Johannesen et al. (2020), which is the OECD (2000) list plus, Switzerland, Singapore, Hong Kong, and Luxembourg.
- Future work should refine the countries and institutions that potentially facilitate offshore tax evasion post-FATCA

Reported accounts and wealth by owner type and location (2018)



Comparisons to Previous Literature

- Larger wealth in tax havens than suggested by prior US estimates
  - Our data: **$1.94 trillion/10% of GDP in tax havens in 2018**
  - Alstadsæter et al. (2018): $1.1 trillion in havens/7% of GDP in havens in 2007.

- Comparable rates of ownership of offshore wealth at the top to Scandinavian data
  - Our data: 62% of those in top 0.01% own foriegn assets, 57% own haven assets
  - c.f. 60% of 0.01% of wealth distribution in Scandanavia (Alstadsæter et al. 2019))
  - Other data from leaks/amnesties: dispropotionately number of top-income recipients, but smaller shares of top-income/wealth individuals appearing in data

- Ownership of offshore wealth via partnerships modestly more concentrated than all partnership income
  - 46% of reported offshore partnership assets held by top 0.01%, 80% by the top 1%
  - c.f. 69% of total partnership income received by top 1% (Cooper et al 2016))

What Can We Learn About Rates of Return? (2018)

- Challenges in estimating (nominal taxable) rates of return in offshore accounts:
  - Missing income information for 45% of accounts/41% of wealth
  - Some items are not net taxable income amounts (e.g. "gross proceeds")

- We estimate "quasi-" rates of return, e.g. $\frac{\text{Total Int+Div}}{\text{Total Acct Bal }|\text{Non}-\text{Missing Int or Div}}$

Sub-population	Total reported wealth (billions USD)	Share of wealth with reported interest or dividends	Quasi-rate of return: interest + dividends only
All accounts	3,982	37.7%	2.8%
Non-haven country	2,042	51.3%	1.8%
Haven country	1,940	23.4%	5.0%
Individual owners	626	33.6%	4.6%
Partnership owners	1,292	19.8%	6.4%
Other entity owners	279	37.7%	1.1%
Unmatched owners	1,510	49.9%	1.6%

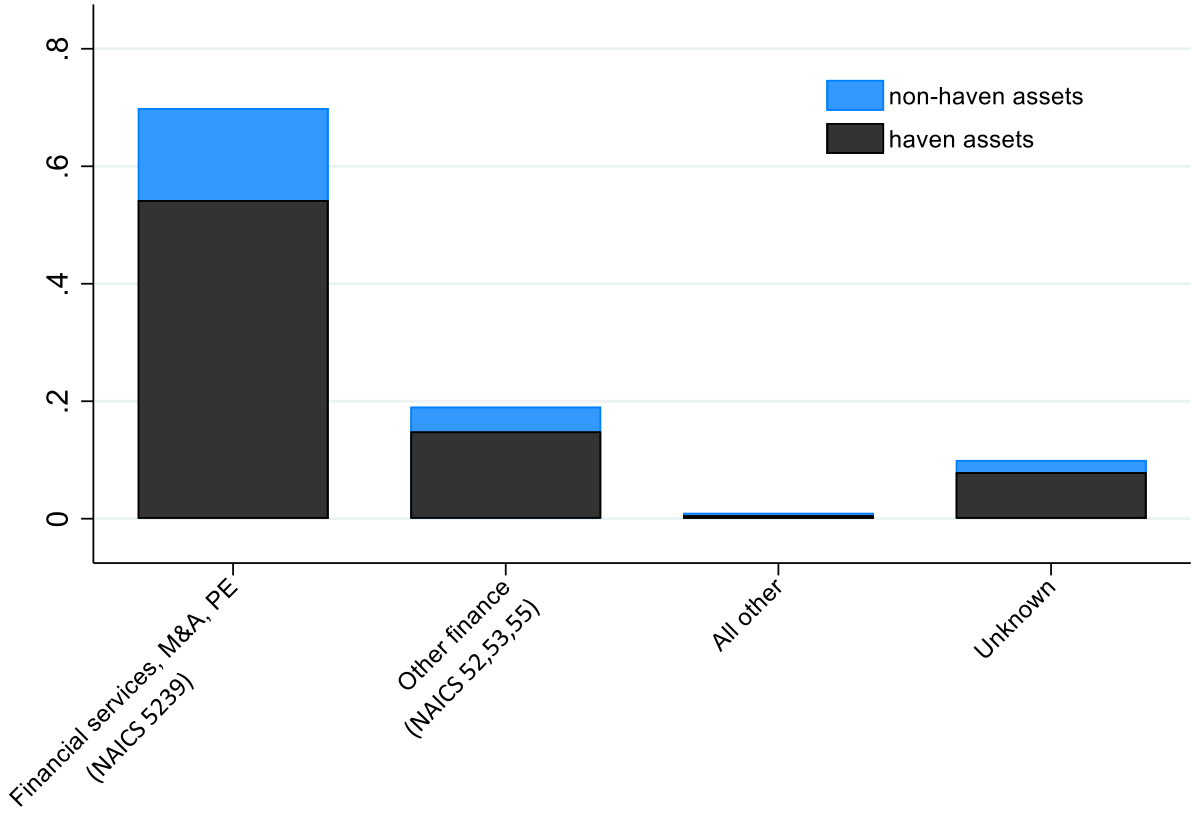
Partnership account owners and their shareholders

Partnerships hold the plurality of offshore assets, 78% of which are in havens. Using the micro data, we can learn about taxable owners

1. Link partnership account owners to the entity income tax return (Form 1065) for partnership information

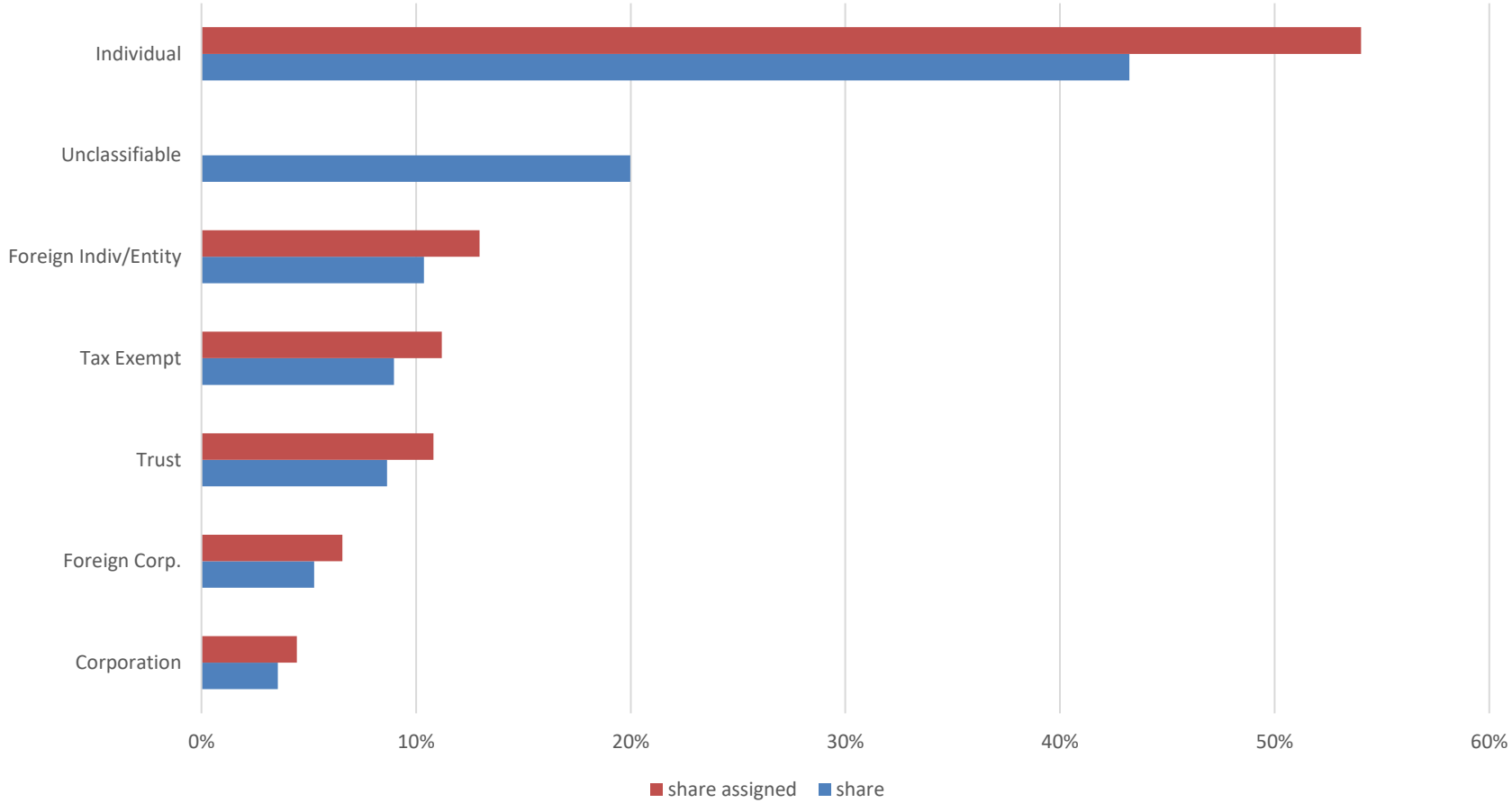
2. Link shareholders to the partnership
   - Distribute foreign assets and income to the shareholders (based on their share of total income distributed on K-1s)
   - Look through levels of pass-through ownership to ultimate taxpayer (Cooper et al. 2016)

Shares of partnership assets by industry and location (2018)



Compare to partnership income from all partnerships in 2011 (Cooper et al 2016): 70% Finance, 11% professional services

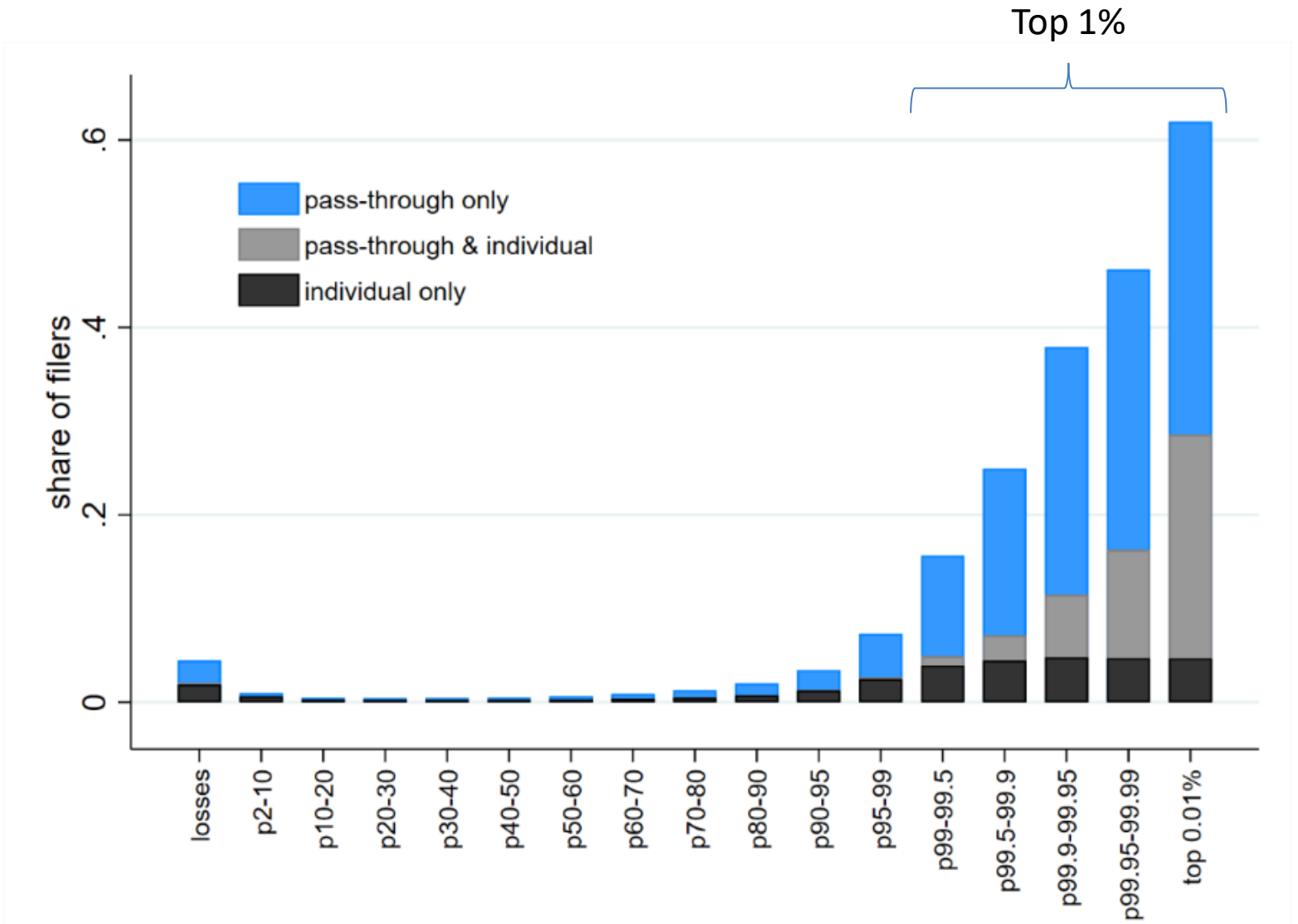
Shares of Partnership foreign assets by beneficial taxable owner type (2018)



Compare assigned share of partnership foreign assets (red bars) to shares of all partnership income from in 2011 (blue bars, Cooper et al 2016): 20% unclassifiable, 43% individual, 5% tax exempt, 9% foreign, 7% trust, 10% corp

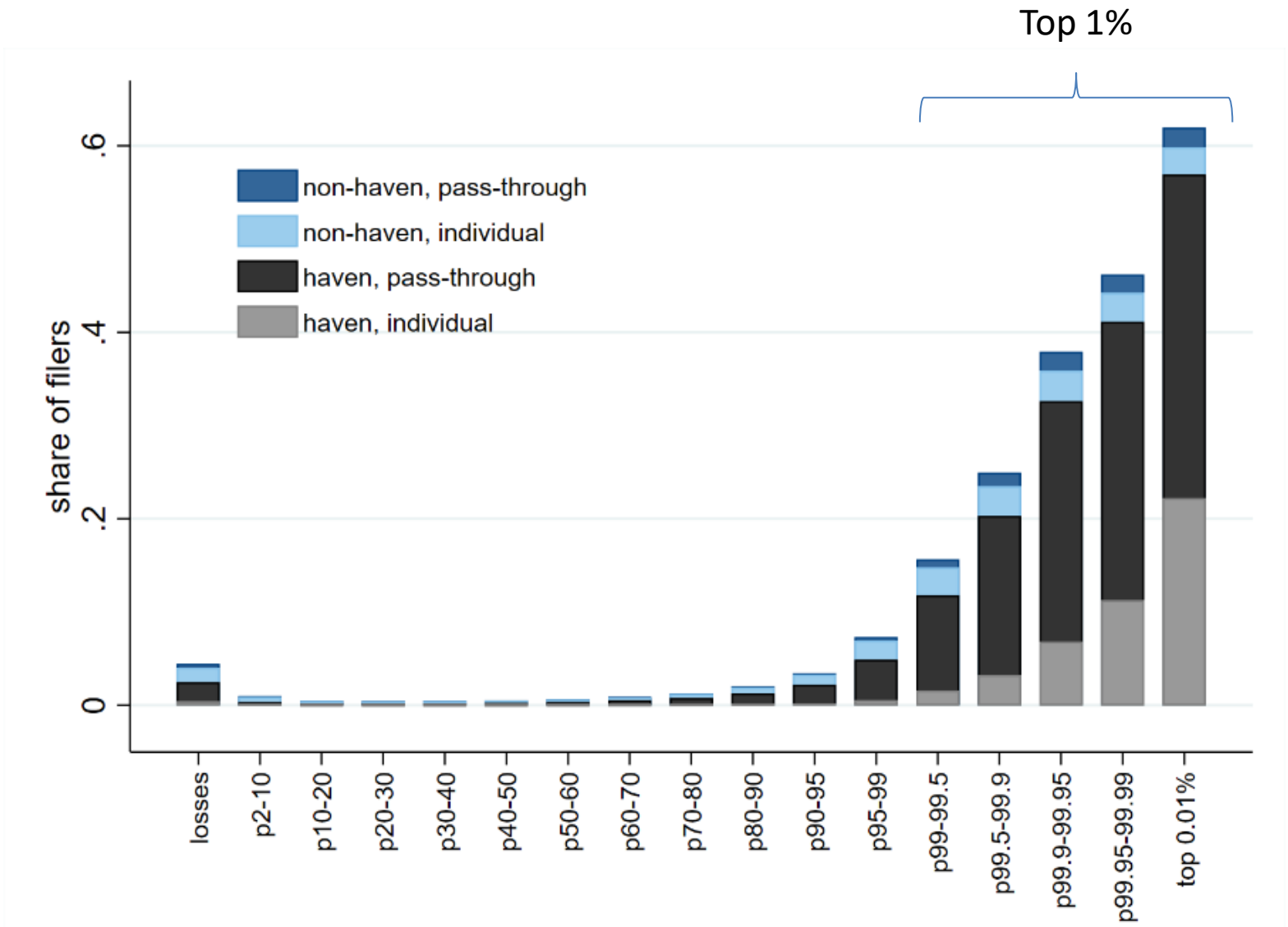
Beneficial individual owners of foreign assets across the income distribution

Share of taxpayers with a foreign account by position in the income (AGI) distribution (2018)



The Offshore Wor

Share of taxpayers with a foreign account by position in the income, haven v non (2018)



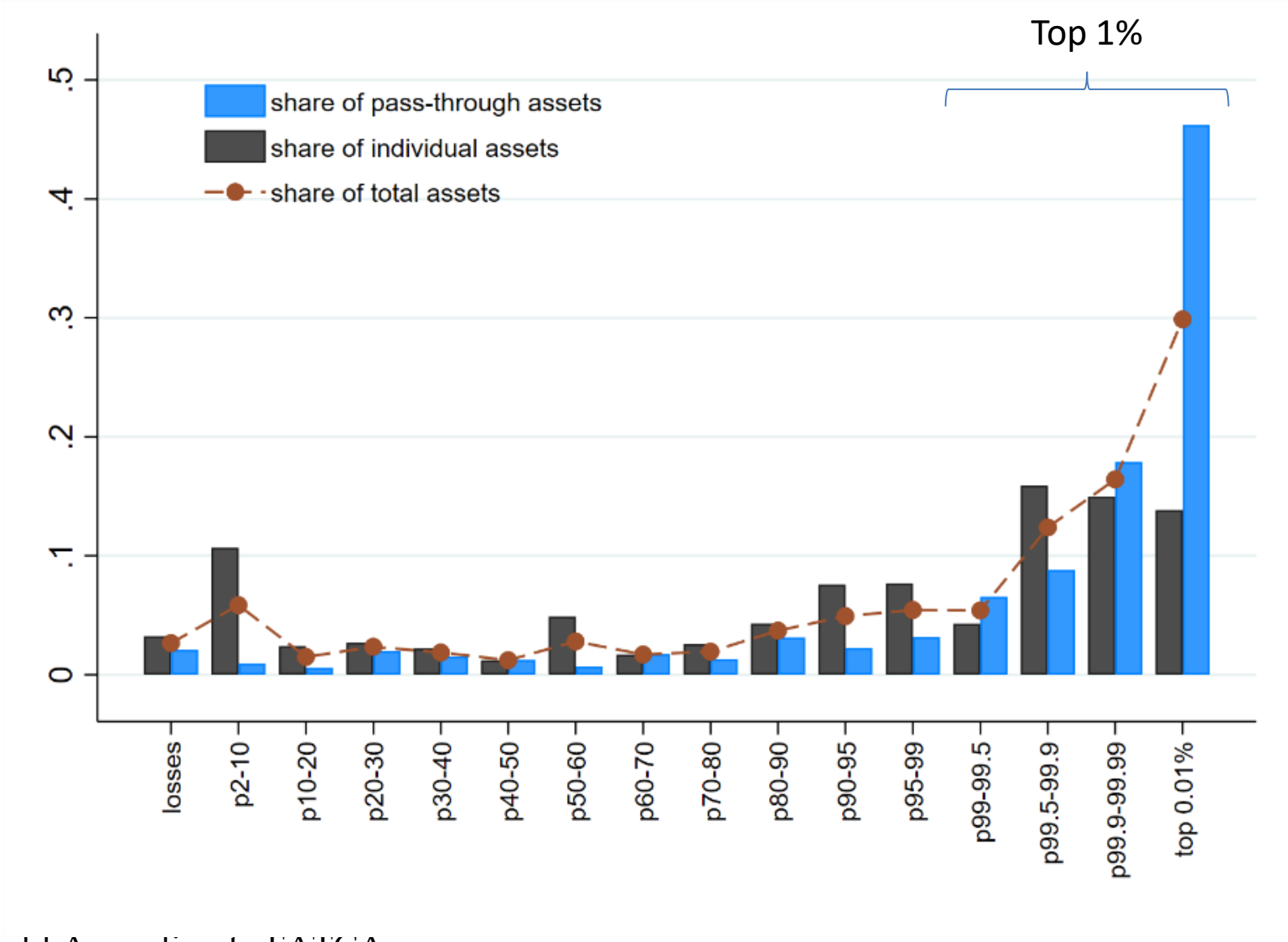
Comparisons to Previous Literature

- Larger wealth in tax havens than suggested by prior US estimates
  - Our data: **$1.94 trillion/10% of GDP in tax havens in 2018**
  - Alstadsæter et al. (2018): $1.1 trillion in havens/7% of GDP in havens in 2007.

- Comparable rates of ownership of offshore wealth at the top to Scandinavian data
  - Our data: 62% of those in top 0.01% own foriegn assets, 57% own haven assets
  - c.f. 60% of 0.01% of wealth distribution in Scandanavia (Alstadsæter et al. 2019))
  - Other data from leaks/amnesties: dispropotionately number of top-income recipients, but smaller shares of top-income/wealth individuals appearing in data

- Ownership of offshore wealth via partnerships modestly more concentrated than all partnership income
  - 46% of reported offshore partnership assets held by top 0.01%, 80% by the top 1%
  - c.f. 69% of total partnership income received by top 1% (Cooper et al 2016))

Distribution of assets held directly and held through pass-throughs (2018)



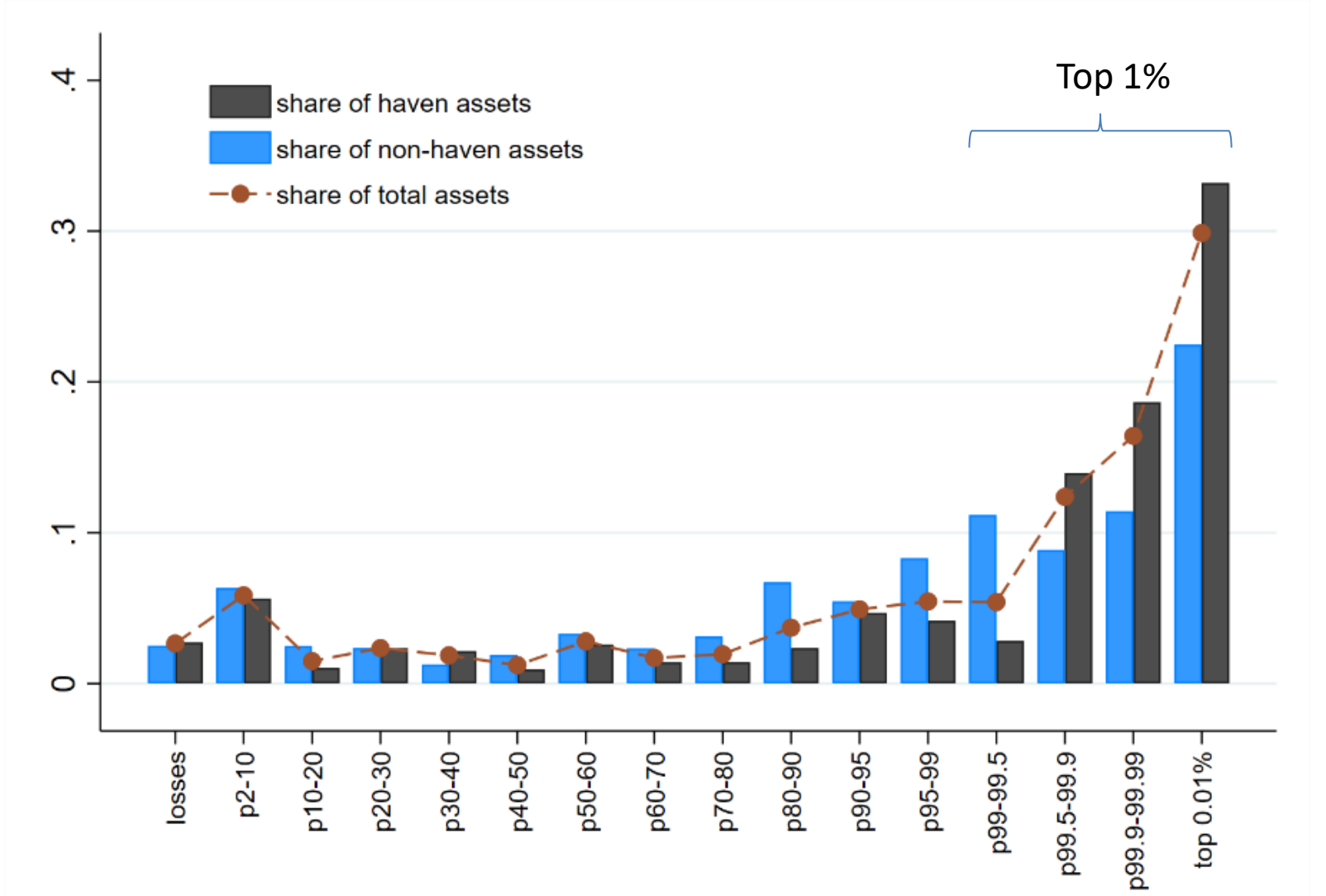
Comparisons to Previous Literature

- Larger wealth in tax havens than suggested by prior US estimates
  - Our data: **$1.94 trillion/10% of GDP in tax havens in 2018**
  - Alstadsæter et al. (2018): $1.1 trillion in havens/7% of GDP in havens in 2007.

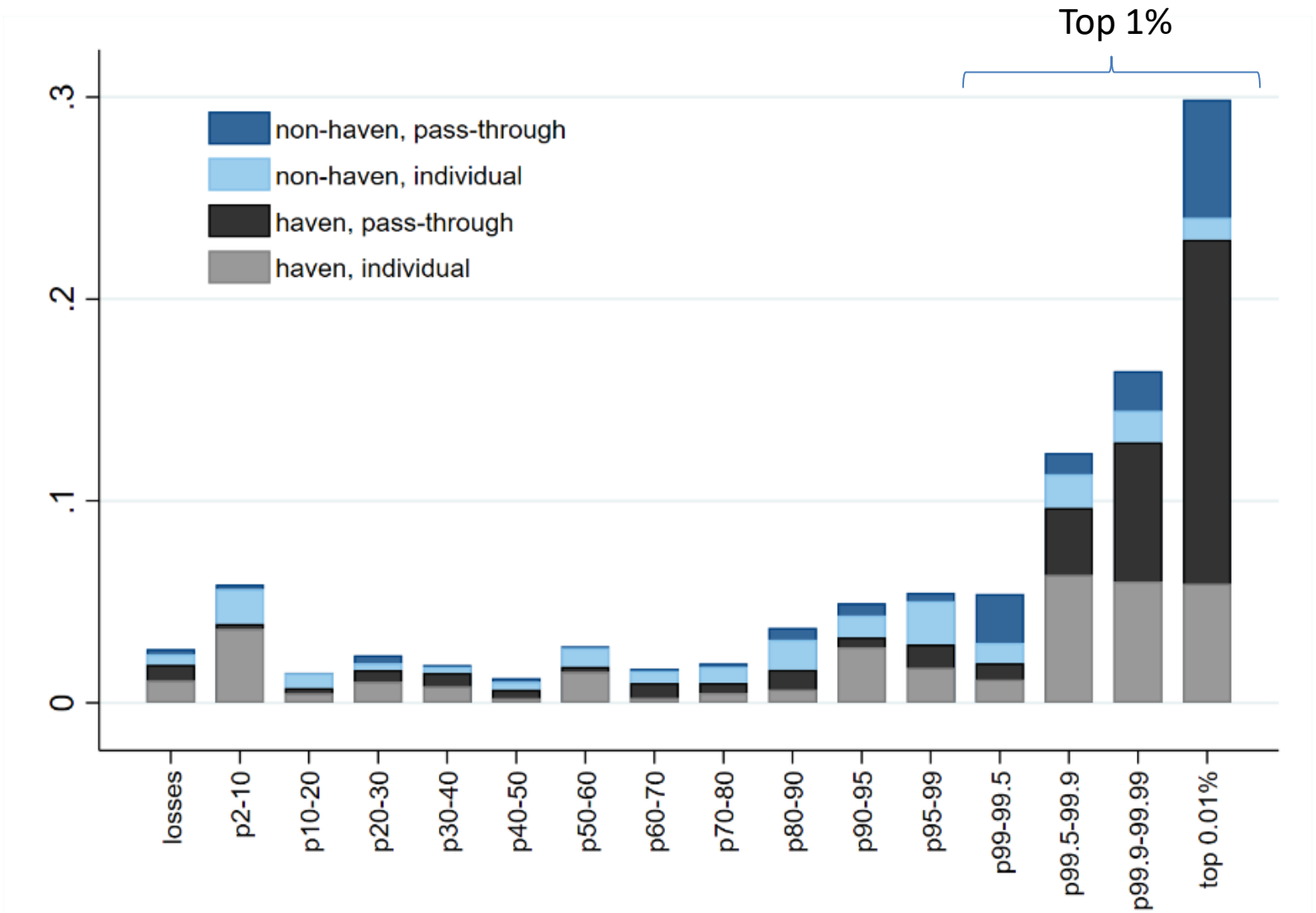
- Comparable rates of ownership of offshore wealth at the top to Scandinavian data
  - Our data: 62% of those in top 0.01% own foriegn assets, 57% own haven assets
  - c.f. 60% of 0.01% of wealth distribution in Scandanavia (Alstadsæter et al. 2019))
  - Other data from leaks/amnesties: dispropotionately number of top-income recipients, but smaller shares of top-income/wealth individuals appearing in data

- Ownership of offshore wealth via partnerships modestly more concentrated than all partnership income
  - 46% of reported offshore partnership assets held by top 0.01%, 80% by the top 1%
  - c.f. 69% of total partnership income received by top 1% (Cooper et al 2016))

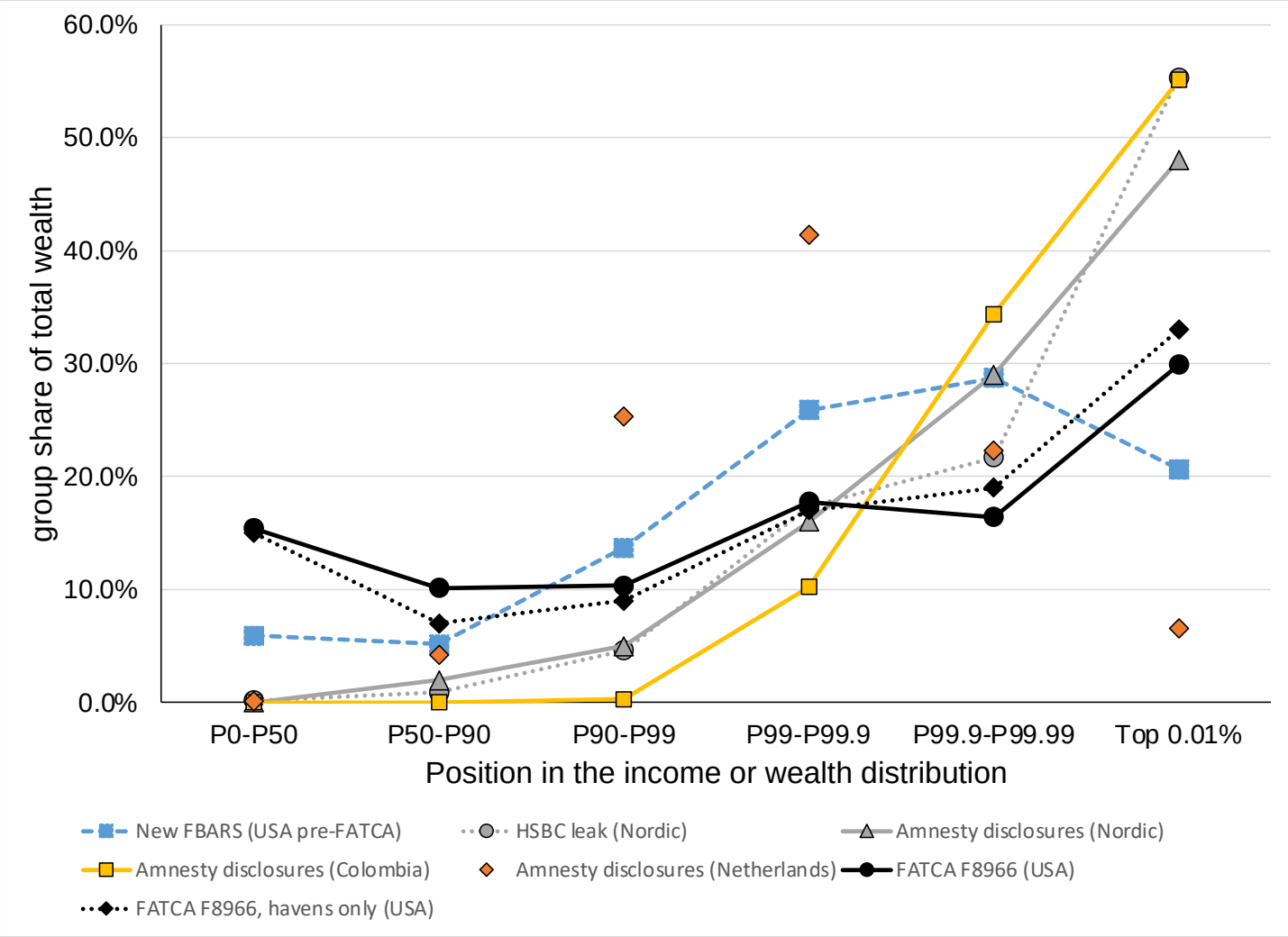
Distribution of assets held in havens and held in non-havens (2018)



Distribution of total assets (2018)



Comparisons: Concentration of Offshore Wealth



- All non-US data rank by wealth; US data rank by income (AGI)
- Sources: Johannesen et al 2020 (USA pre-FATCA), Alstadsæter et al 2019 (Nordic), Londoño-Velez & Ávila-Mahecha 2020 (Colombia), Leenders et al 2020 (Netherlands)

Takeaways + Next Steps

Takeaways

- FATCA reports provide new micro evidence on offshore holdings
  - $3.98 trillion of financial wealth.
  - $1.94 trillion in tax havens (49%), larger than previous estimates

- A large share of offshore wealth is held **indirectly through entities** (at least 46%), particularly partnerships (at least $1.3 trillion, 32%))
  - Implication: Effects of tax or enforcement policy depend largely on how they affect these entities and how they respond

- FATCA accounts, and especially offshore wealth, are **highly concentrated**
  - 62% of households in the top 0.01% of the income distribution have an account identified by FATCA reports
  - 64% of foreign assets are owned by the top 1% and 30% by the top 0.01%
  - 77% of top 0.01% for. assets held through pass-throughs (61% of top 1%)
  - 77% of top 0.01% foreign assets held in havens (74% of top 1%)
  - Implication: Tax or enforcement policy disproportionately affect assets held by extremely high-income taxpayers

Further Research/Work In Progress

- Find scope for a substantial compliance response ($4 trillion held at top of the distribution, mostly in havens and through partnerships)

- **Open question**: To what extent do the income and assets reported through FATCA yield new tax compliance?
    i) Are they tax compliant post-FATCA?
    ii) Were they tax compliant pre-FATCA?
    iii) Was there an additional compliance effect from those who chose to repatriate?

- Challenges: (i) Long lead-up b/w announcemet (2010) and full FFI reporting (2016). (ii) Control group

- Cost-Benefit Debate: FATCA has received public criticism for additional compliance costs on foreign banks and Americans abroad (e.g. Taxpayer Advocate, 2016, Oei, 2018).

Appendix

Insights from the literature

- **Pre-FATCA enforcement caused modest increase in compliance**

  Increase in reported foreign accounts around U.S. enforcement efforts in 2008-2009 (Johannesen, Langetieg, Reck, Risch and Slemrod, 2020)

  Decrease in offshore deposits and the value of offshore banks around leaks of customer data (Johannesen and Stolper, 2017)

- **…as well as actions by evaders to circumvent enforcement**:

  More indirect ownership through offshore corporations (Johannesen, 2014; Omartian, 2016)

  Relocation of assets to non-cooperating havens (Johannesen and Zucman, 2014)

- **Indirect evidence that FATCA / CRS boosted tax compliance**

  Decrease in the use of offshore holding companies around implementation of FATCA (Omartian, 2016)

  Drop in foreign-owned assets at activation of automatic information exchange (Menkhoff and Miethe, 2017; Casi et al., 2018; De Simone et al., 2018)

Pre-FATCA enforcement initiatives

Global battle against offshore tax evasion in the past decade:

- Legal action against offshore banks
  (U.S.: case against UBS starts in July 2008)

- Treaties with tax havens: case-by-case information exchange on request
  (U.S.: treaties with Switzerland, Luxembourg, Panama in 2008-2010)

- Automatic Exchange of Information (AEOI) agreements with specific set of countries

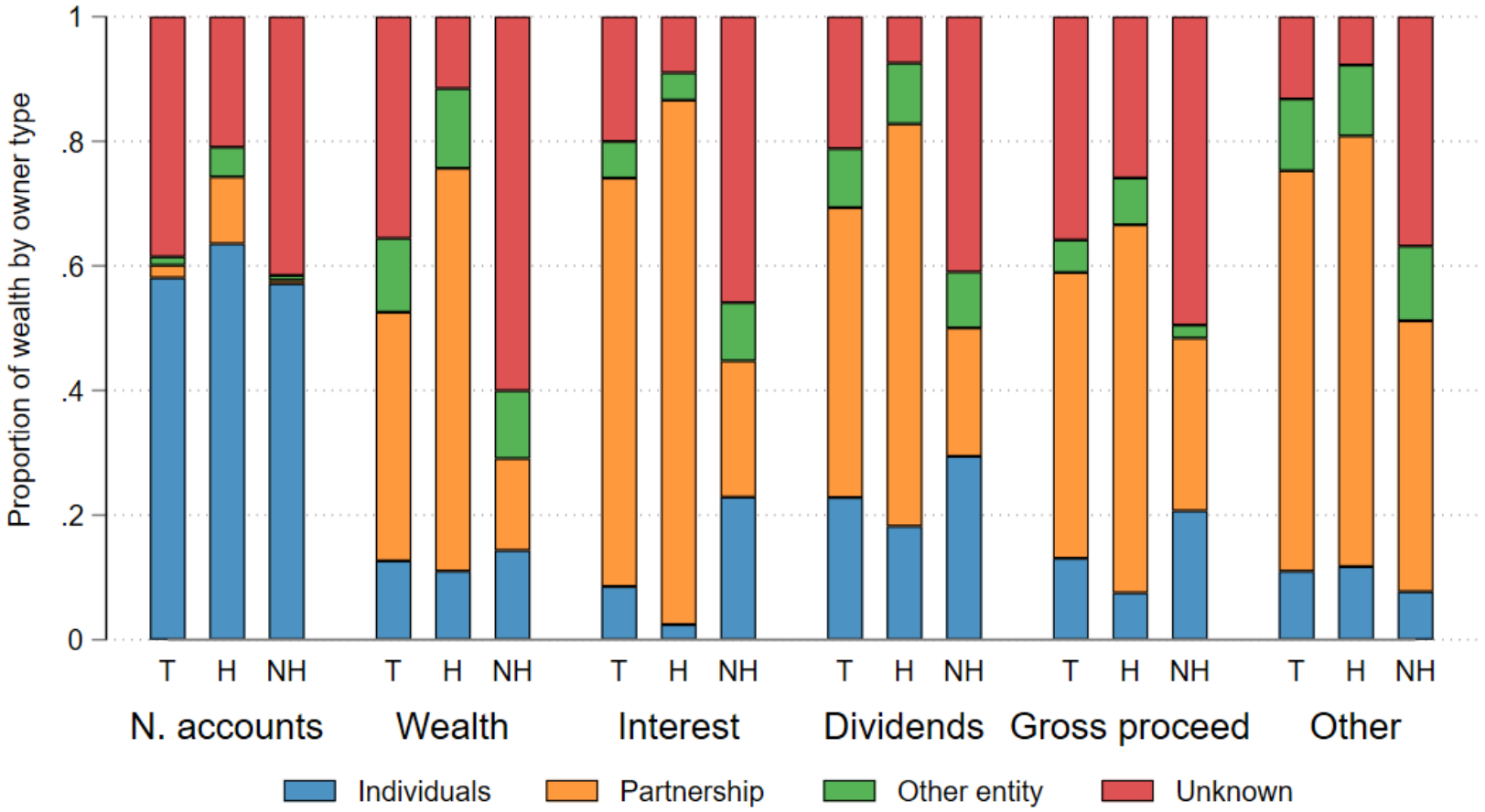
- Temporarily reduced penalties for voluntary disclosers of offshore assets
  (U.S.: OVDP starts in March 2009)

- Whistleblowers in offshore banks and tax haven law firms
  (U.S.: Brad Birkenfeld's whistleblowing triggers the case against UBS)

Matched and unmatched owner types (2018)

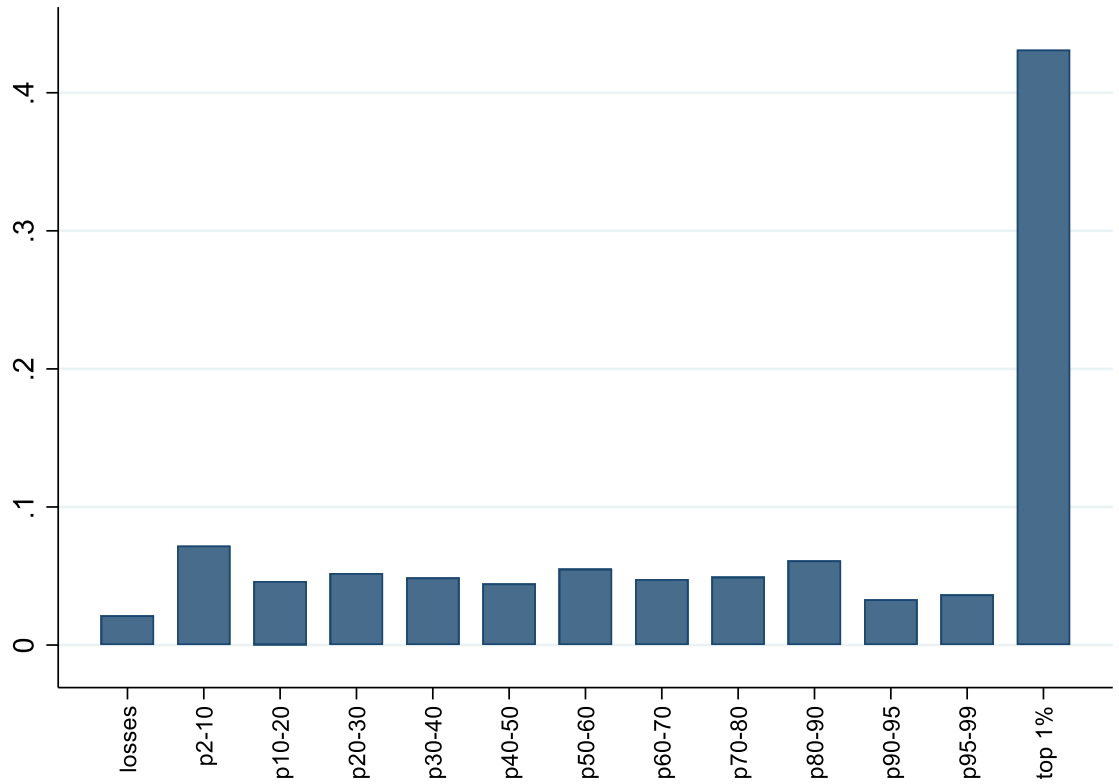
	Account Balance		No. of accounts	
	Total (Billions USD)	Share	Total	Share
Matched Entity	1,291.64	46.1 %	55,548	2.2 %
Matched Individual	618.49	15.5 %	2,401,217	55.7 %
Missing TIN	1,017.58	25.5 %	1,578,472	36.6 %
Missing, US Entity	886.31	22.2 %	1,215,727	28.2 %
Missing, US Individual	116.00	2.9 %	350,131	8.1 %
Unmatched entity	278.78	7.0 %	12,306	.2 %
Ambiguous match	153.74	3.8 %	6,663	.1 %
Unmatched TIN	60.01	1.5 %	62,376	1.4 %
Unmatched individual	7.21	.1 %	143,141	3.3 %

Reported accounts and wealth by owner type and location (2018)



T = total, H= haven, NH = non-haven

(Ad hoc) Robustness to $50K reporting threshold



Hypothetical distribution of foreign assets assuming 10% of households below 90th percentile have $40,000 in foreign assets (i.e. just below the FATCA reporting threshold)

- 42% of assets held by top 1%, relative to observed 64% on FATCA reports (21% by top 0.01% relative to 30%)

Session 4: Hidden Assets, Hidden Networks

IRS-TPC Research Conference

June 22, 2023

Discussant: Paul Organ

Disclaimer

The comments expressed in this discussion are entirely those of the discussant and do not necessarily reflect the views or the official positions of the U.S. Department of the Treasury.

Agenda

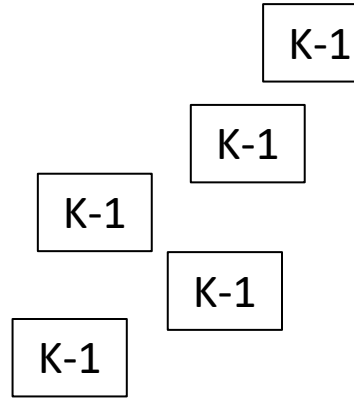
1. Following K-1s: Considering Foreign Accounts in Context
   Wind, Bratt, Graff, and Herlache

2. Application of Network Analysis to Identify Likely Ghost Preparer Networks
   King et al.

3. The Offshore World According to FATCA: New Evidence on the Foreign Wealth of U.S. Households
   Guyton et al.

Three papers that…

- Apply *new methods* to existing data, or existing methods to *new data*
- Are highly operationally relevant *and* of academic interest



Following K-1s: Considering Foreign Accounts in Context

Wind, Bratt, Graff, and Herlache

Things to like about this paper

- Clever idea to look beyond individual taxpayers to their network of connected taxpayers/partnerships
  - Adds to evidence that network information can indicate something about taxpayer behavior (e.g., Agarwal et al. (2021))
  - Also some evidence on networks *influencing* behavior (Boning et al. (2020) in the US; Lediga, Riedel, and Strohmaier (2020) in South Africa)
- Shows how observing one population of taxpayers (here: foreign account reporters) can inform predictions about another population (here: non-reporters that may have foreign accounts)
- Careful consideration of modeling approach/goodness-of-fit

Comments and suggestions

- Take advantage of richness of information about taxpayer networks
- Back-testing prediction quality
- Timing and mechanisms

Richness of network information

- Current model relies on binary: *presence of an RFA payer in the network*
- When collapsing from network to flat file, could capture features of the network more richly:
  - # of RFA payers
  - RFA payers share of total network payers (by count, by $)
- Could lead to tighter predictions and ability to focus on highest likelihoods
- Side note – can you observe tax preparer/accountant of K-1?
  - Perhaps could incorporate this into the networks
  - One potential mechanism for information to propagate/lead to disclosed accounts

Back-testing prediction quality

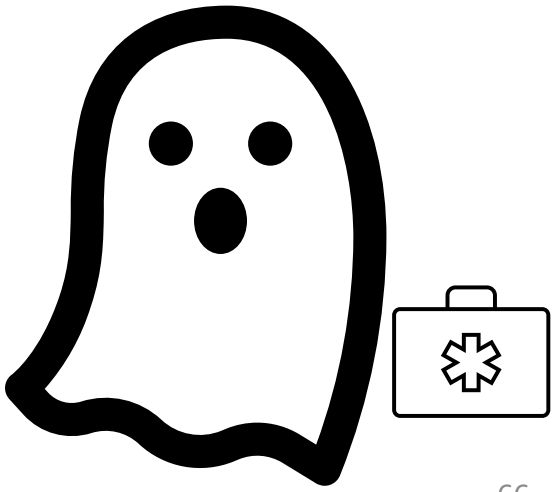
- One goal of the paper is to develop a tool that can help uncover *potentially* undisclosed accounts
- Is there a way to test effectiveness of approach on prior data?
- Observe many new disclosures throughout 2010s; in earlier years would this approach have predicted those disclosers as likely to have undisclosed accounts?
- Of course: not random who discloses, or when. Perhaps NRP can help?
- Side note: what does this say about potential size of undisclosed accounts?
  - How does it compare with Guyton et al. numbers from disclosed accounts?

Timing and mechanisms

- How does *new/first* RFA in network **affect** focal taxpayer reporting?
  - Could be that a partnership decides to report and we all report
  - Could be learning from network associates
  - Other mechanisms (accountants, tax preparers)
- Studying time dimension would help understand mechanisms
- Consider event study framework, where event = first network associate with foreign account reported
  - Understanding that reporting is not random, but can still learn from time patterns
- Some evidence on this already (Figure 6)
  - Effect of current year in-network RFA payer/owner ~ 2.5x prior-year in-network RFA payer/owner

Application of Network Analysis to Identify Likely Ghost Preparer Networks

King et al.



Things to like about this paper

- Exciting new methods
- Great example of taking complex methods and making them accessible to a wide range of technical abilities
- Developing a method that is adaptable to new data and approaches

Comments and suggestions

- How effective are the algorithms?
- Diagram of clustering approaches
  - Information/patterns included

Testing the algorithms

- Use prior identification of ghost preparers to back-test the algorithm
- Fn 3 notes current ghost preparer cases are identified by ad-hoc referrals or in related compliance efforts
  - So, not random
  - BUT – give you a set of identified ghost preparers to test against
- Apply algorithm to earlier filings of identified ghost preparers – does it flag those ghost preparer clusters?

Diagram of cluster approaches

- Summary diagram or table about clustering approaches
  - Would help to see visually how approaches are applied
  - What are the trade-offs in using risk-based vs. top-down vs. label propagation?
- Could also show information/patterns are included in each
  - Which are fixed and which could preparers adapt to?

The Offshore World According to FATCA: New Evidence on the Foreign Wealth of U.S. Households

Guyton et al.

Things to like about this paper

- First look at exciting new data
- Careful, detailed linking of accounts to individuals (including through partnerships)
- Will likely spark some follow-on research in coming years

Comments and suggestions

- Can we learn more from the unmatched 40%?
- U.S. citizens abroad
- Excited about causal analysis

Learning about the unmatched 40%

- (38% of wealth and 42% of accounts)
- What can you say about the similarity of unmatched and matched?
- Form 8966 provides some information that might help:
  - FFI that reported the accounts – are whole FFIs unmatched or is it within FFIs?
  - Balances, income, income types
  - Currency codes – foreign accounts held in USD vs. local currencies
- Ideas from other papers in this session…take characteristics of matched accounts, and use that to predict some high-level characteristics of unmatched accounts?

Other comments

- Some of this is U.S. citizens living abroad – how much?
  - Already linked to individual tax filings
  - Infer at least a lower bound from reported addresses
- Natural next question is causal – effect of FATCA
  - Know authors working on this now, excited to see it

Thanks!

Paul.Organ2@treasury.gov