Automatic for the (tax) people: information sharing and households' cross-border deposits in tax havens

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Introduction

- Financial globalisation helps international transfer of capital to jurisdictions where taxes are low and secrecy is high
- While it is not illegal to have capital in tax havens, not reporting it or not reporting associated profits *it is*
- Potential tax evasion is concerning for policy makers
  1. Reduces tax revenue
  2. Limits the effective taxation of the rich
  3. Negatively impacts trust in tax systems
- **KEY question**: are policies working?

Context

- Increased financial globalisation has been associated with very large volumes of financial assets booked in offshore financial centres
- Increase in complexity of financial instruments (which accelerated after GFC) makes working out ultimate ownership very hard: shell corporations, SPVs
- Most cross-border financial statistics at aggregate country level are recorded on immediate counterparty basis (in line statistical manuals)
  - Literature working on the consolidation of foreign asset positions is still in its infancy
- Information sharing agreements are imperfect, but progress is being made

Key Papers

Focusing on Cross-border Deposits

1. Johannesen and Zucman (2014)
   - Upon request information (IoR) exhibited limited success
   - Deposit shifting
2. Menkoff and Miethe (2019)
   - Confirm vanishing effect of IoR with more recent data
3. O'Reilly et al (2019)
   - AEOI associated with 22% decrease in deposits in financial centres from non-financial centre
4. Casi et al (2020)
   - Non-bank XB deposits on tax havens fell after AEOI

Key Papers

Focusing on Portfolio Investment

1. Hanlon et al. (2015)
   - IoR treaties between US and tax havens negatively affected portfolio investment from these tax havens

2. Heckemeyer and Hemmerich (2020)
   - Outbound portfolio investment from tax havens to non-havens more responsive than from non-havens
   - Tax havens that enter an information exchange with other tax havens (instead of a non-haven) are a more attractive pass-through destination

Our Contribution

We study the impact of AEOI agreements on cross-border positions and differentiate from previous studies by:

1. Using better data for cross-border banking
   - Restricted BIS Banking Statistics
   - Longer time period than Menkoff and Miethe (2019)
   - Sectoral breakdown
     - Banks
     - Non-banks: HH, NFCs, NBFIs, Gov
2. Focusing on how HH's cross-border deposits responded to AEOI
3. Taking a comprehensive perspective: bank-related as well as portfolio and direct investment

Reporting-country Classification

Non-haven

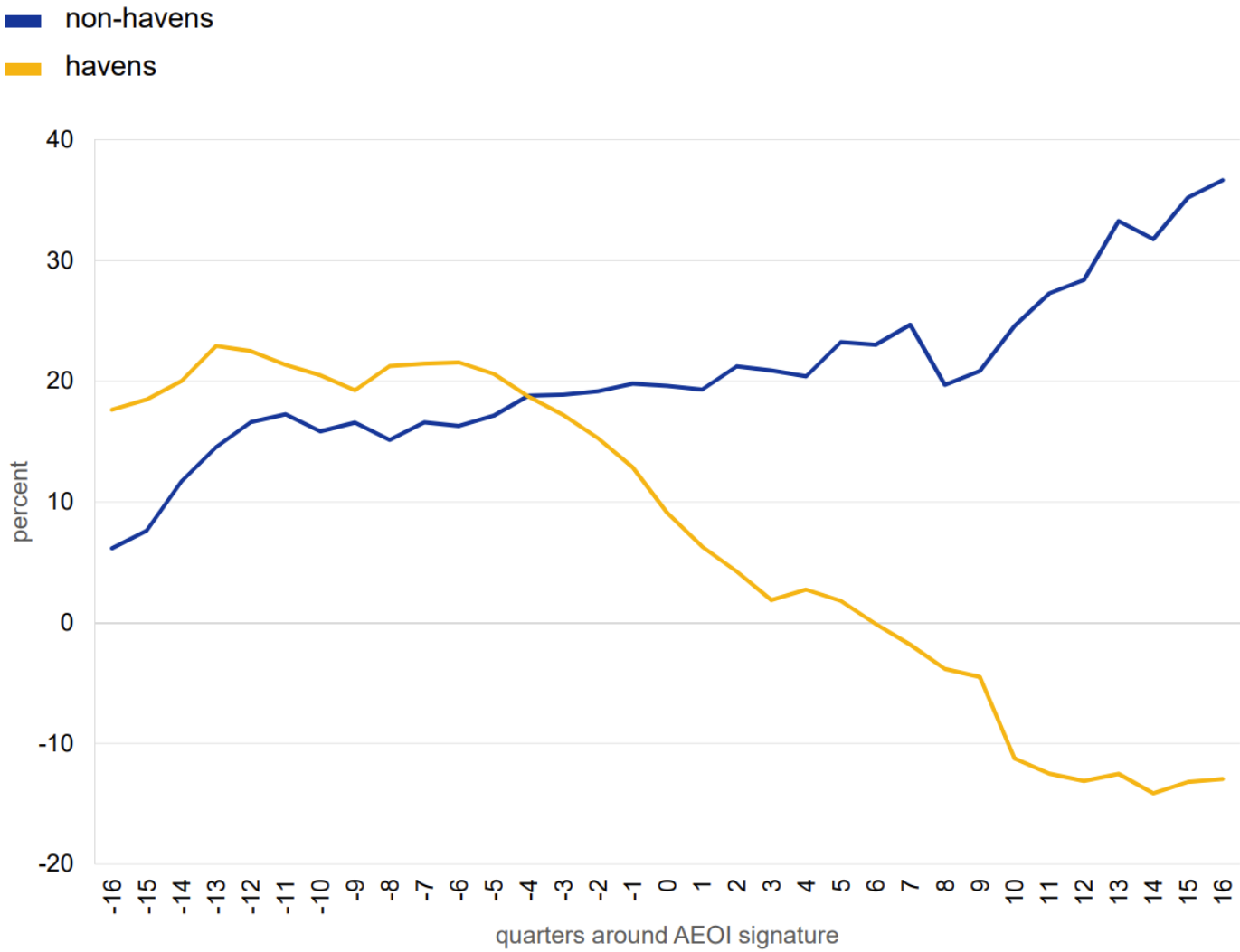
Australia
Brazil
Canada*
China
Chinese Taipei*
Denmark*
Finland
France*
Greece
India
Indonesia
Ireland*
Italy*
Japan
Korea*
Mexico
Netherlands*
Norway
Philippines
Portugal*
Russia
Saudi Arabia
South Africa*
Spain
Sweden*
United Kingdom*
United States

Haven

Austria
Bahamas*
Bahrain
Belgium*
Bermuda*
Cayman Islands
Chile
Curacao
Cyprus*
Guernsey*
Hong Kong SAR
Isle of Man*
Jersey
Luxembourg*
Macao SAR
Malaysia
Netherlands Antilles
Panama
Singapore
Switzerland*

* include HH breakdown

Non-haven deposits in haven and non-haven



Note: Deviation from country pair long term mean (since 2000) in bilateral non-bank deposits. t=0 signature of AEOI.

Empirical Strategy

Goal: test whether joining AEOI had a statistically significant impact on cross-border deposits.

$$ln(Dep_{ijt}) = \alpha + \beta * Sig_{ijt} + \gamma_{ij} + \theta_{jt} + \epsilon_{ijt} \quad (1)$$

- Dep_{ijt}: log of deposits
- Sig_{ijt}: dummy variable equal to one for the period a given country pair entered a bilateral exchange relationship and zero otherwise
- γ_{ij}: country-pair fixed effect
- θ_{jt}: saver country-time fixed effects: to account for amnesties and voluntary disclosure programs, etc

Non-bank Deposits

	(1)	(2)	(3)	(4)	(5)
Signed	-0.098**	-0.134***	0.060	-0.012	
	(0.044)	(0.046)	(0.119)	(0.105)	
Signed (contemp.)					-0.162***
					(0.046)
Signed (+1 quarter)					-0.140***
					(0.048)
Signed (+2 quarters)					-0.123**
					(0.052)
Signed (+3 quarters)					-0.121**
					(0.053)
Signed (>3 quarters)					-0.115*
					(0.065)
Obs.	57,782	50,810	6,972	8,354	50,810
R^2	0.94	0.94	0.93	0.94	0.94
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Non-haven	Haven
Saver	All	Non-haven	Haven	Haven	Non-haven

Non-bank Deposits and Household Deposits

	(1) Non-banks	(2)	(3)	(4) Households	(5)	(6)
Signed	-0.186*	-0.299***	-0.336***	-0.145	-0.375**	
	(0.101)	(0.081)	(0.091)	(0.181)	(0.180)	
Signed (contemp.)						-0.204**
						(0.082)
Signed (+1 quarter)						-0.240***
						(0.080)
Signed (+2 quarters)						-0.438***
						(0.106)
Signed (+3 quarters)						-0.463***
						(0.108)
Signed (>3 quarters)						-0.555***
						(0.135)
Obs.	26,489	29,557	26,489	3,068	4,485	26,489
R^2	0.96	0.96	0.95	0.95	0.95	0.95
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Haven	Non-haven	Haven
Saver	Non-haven	All	Non-haven	Haven	Haven	Non-haven

Non-bank Deposits and Household Deposits

New contribution to the literature. HHs breakdown not possible before. JZ assume $\simeq$ 50% but this is $\simeq$ 19% of all instruments in havens and $\simeq$ 35% of all non-bank instruments in havens

- Bulk of previous effect seems driven the household sector: -0.186 for total non-bank vs. -0.336 for household deposits
- Effect becomes greater over time
- Falsification sample OK: no impact for deposits between havens
- Deposits from HH in havens to non-havens fall as well (when using Non-haven reported data)

Banks

- No evidence for impact on deposits by banks, in line with Menkhoff and Miethe (2019)

Non-bank Financial Corporations

- No evidence for impact on deposits by non-haven no-bank financial corporation
  - But increasing deposits between havens that signed. Shell companies not perfectly covered by AEOI?

Non-financial Corporations

- No evidence for impact on deposits by NFCs

Deposit Shifting

We also study potential deposit shifting behavior in non-haven countries

- We add a treaty coverage variable that counts the number of treaties signed by saver country j with all havens other than reporting haven country i
  - It measures how big the web of AEOI treaties is

- We focus on interaction term $Treatycoverage * (1 - Signed_{ijt})$
  - $Treatycoverage * (1 - Signed_{ijt}) > 0 \Rightarrow$ Deposit shifting. Additional AEOI treaty signed between a saver country and a haven $\rightarrow$ increase in deposits vis-à-vis havens without treaty

Deposit Shifting

	(1)	(2)	(3)	(4)
	Treaty coverage: Share			
	Non-bank		Household	
Signed	-0.228***	-0.114	-0.248***	-0.102***
	(0.052)	(0.070)	(0.028)	(0.030)
Treaty coverage	-0.009		-0.014	
	(0.059)		(0.027)	
Treaty coverage * Signed		-0.114		-0.135***
		(0.082)		(0.029)
Treaty coverage * (1-Signed)		0.074		0.263***
		(0.072)		(0.057)
Observations	44,140	44,140	22,204	22,204
R-squared	0.94	0.94	0.95	0.95
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Haven
Saver	Non-haven	Non-haven	Non-haven	Non-haven

Deposit Shifting

- No evidence of deposit shifting at aggregate non-bank level
- For households we find that
  - Additional treaty signed by country A is associated with an increase in deposits from its households residents vis-à-vis haven countries that did not sign up to AEOI (Deposit shifting)
  - Havens for which an AEOI with country A is in place see deposits further reduced (the wider the web is the more effective the measure becomes)

Outbound Portfolio Investment and FDI

Our more comprehensive approach is motivated by the fact that tax havens are also pass-through destinations

↓

If AEOI has an impact on inward flows to haven countries it should also indirectly affect (at least partially) outward investment from havens

Why?

- Source of funds from inward deposits reduced after AEOI
- Signaling effects

Portfolio Equity Assets

	(1)	(2)	(3)	(4)
Signed	-0.163***	-0.138**	-0.218	0.046
	(0.062)	(0.065)	(0.139)	(0.091)
Observations	13,140	9,602	3,538	9,002
R-squared	0.94	0.94	0.93	0.95
Time period	2014h1-2019h2	2014h1-2019h2	2014h1-2019h2	2014h1-2019h2
Reporting	Haven	Haven	Haven	Non-haven
Host	All	Non-haven	Haven	Haven
Pair FE	yes	yes	yes	yes
Reporting FE	yes	yes	yes	yes
Host time FE	yes	yes	yes	yes

FDI Liabilities

	(1)	(2)	(3)	(4)	(5)
Signed	0.033	0.008	0.118	-0.142**	-0.148**
	(0.071)	(0.088)	(0.096)	(0.064)	(0.066)
Observations	4,156	3,106	1,050	8,505	8,333
R-squared	0.97	0.97	0.95	0.96	0.95
Time period	2013-2019	2013-2019	2013-2019	2013-2019	2013-2019
Reporting	Haven	Haven	Haven	Non-haven	Non-haven (excl. US)
Saver	All	Non-haven	Haven	Haven	Haven
Pair FE	yes	yes	yes	yes	yes
Reporting FE	yes	yes	yes	yes	yes
Saver time FE	yes	yes	yes	yes	yes

Conclusions

- AEOI seems to have been effective in deterring deposits, which is not the case for IoR
- Household deposits at the centre, an area not studied due to lack of data (our key contribution)
- Outward investment from havens to non-havens also reduced

Policy question: are these reductions in XB flows associated with repatriation/more tax revenue?

Challenges: data; instruments change, shell corporations, etc

Additional Slides

Information Exchange Initiatives

Key Dates

- **2000**: OECD's report "**Improving access to bank information for tax purposes**" provided the minimum standard for exchange of information upon request
- **2002**: OECD's model of tax information exchange agreement (TIEA) provided exchange of information upon request without the possibility for the requested state to decline to provide the requested information motivated by "bank secrecy rules"
- **2005**: EU's Saving Directive
  - Also related agreements with Switzerland and other countries
  - Automatic but limited in terms of country coverage and type of investment income (interest)
- **2008**: GFC and various banking scandals accelerated the movement leading to the negotiation of hundreds of full double taxation conventions based on the OECD model of TIEAs with offshore banking jurisdictions

Information Exchange Initiatives

Key Dates

- **2009**: "**The era of bank secrecy is over**" Leaders' statement at the London G20 meeting
  - OECD Information Exchange on Request (EOIR): 150 jurisdictions by now
- **2010**: US Foreign Account Tax Compliance Act (FATCA) $\rightarrow$ bilateral agreements between US and others
  - Bilateral Intergovernmental Agreements (IGAs): exchange of financial income earnings by residents
- **2014**: Common Reporting Standard (CRS) or Automatic Exchange of Information (AEOI). Based on IGAs. Approved at OECD level.
  - By December 2022: 119 jurisdictions (including many offshore centres) joined the initiative
- **2016**: EU savings Directive replaced by Council Directive which implemented automatic exchange of information within the EU (interest + dividends and other types of capital income)

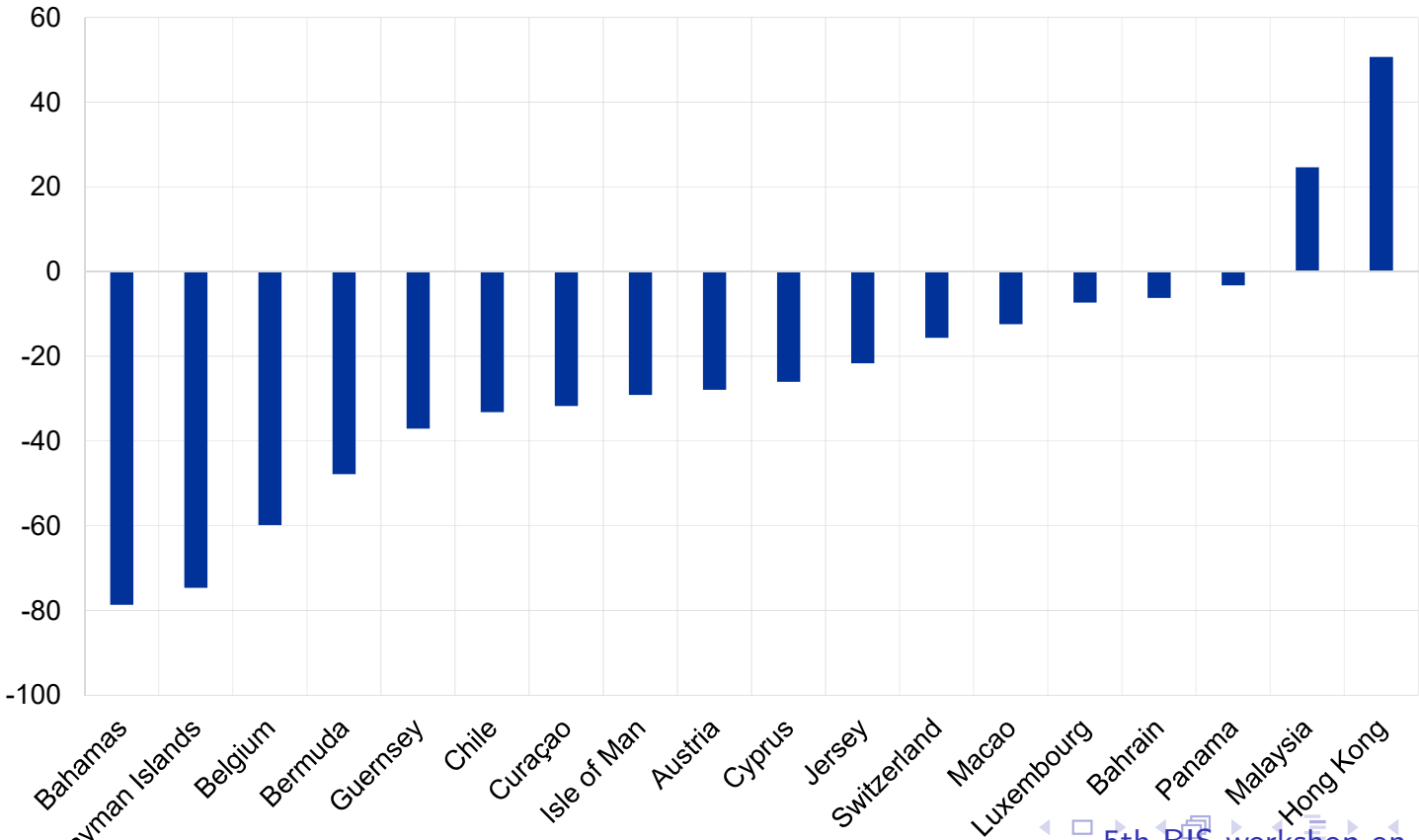
Automatic Exchange of Information (AEOI)

Requires the annual exchange of information on financial accounts held by banks, insurers and investment entities (such as funds and certain trusts) from non-residents including:

1. **Identity of the account holder**: name, address, jurisdiction(s) of residence, taxpayer identification number(s), date of birth, place of birth
2. **Details of the account and financial institution**: account number, name and identifying number of financial institution
3. **Information about the financial activity**: account balance or value, information on interests, dividends, other income and gross proceeds paid and other gross amounts paid

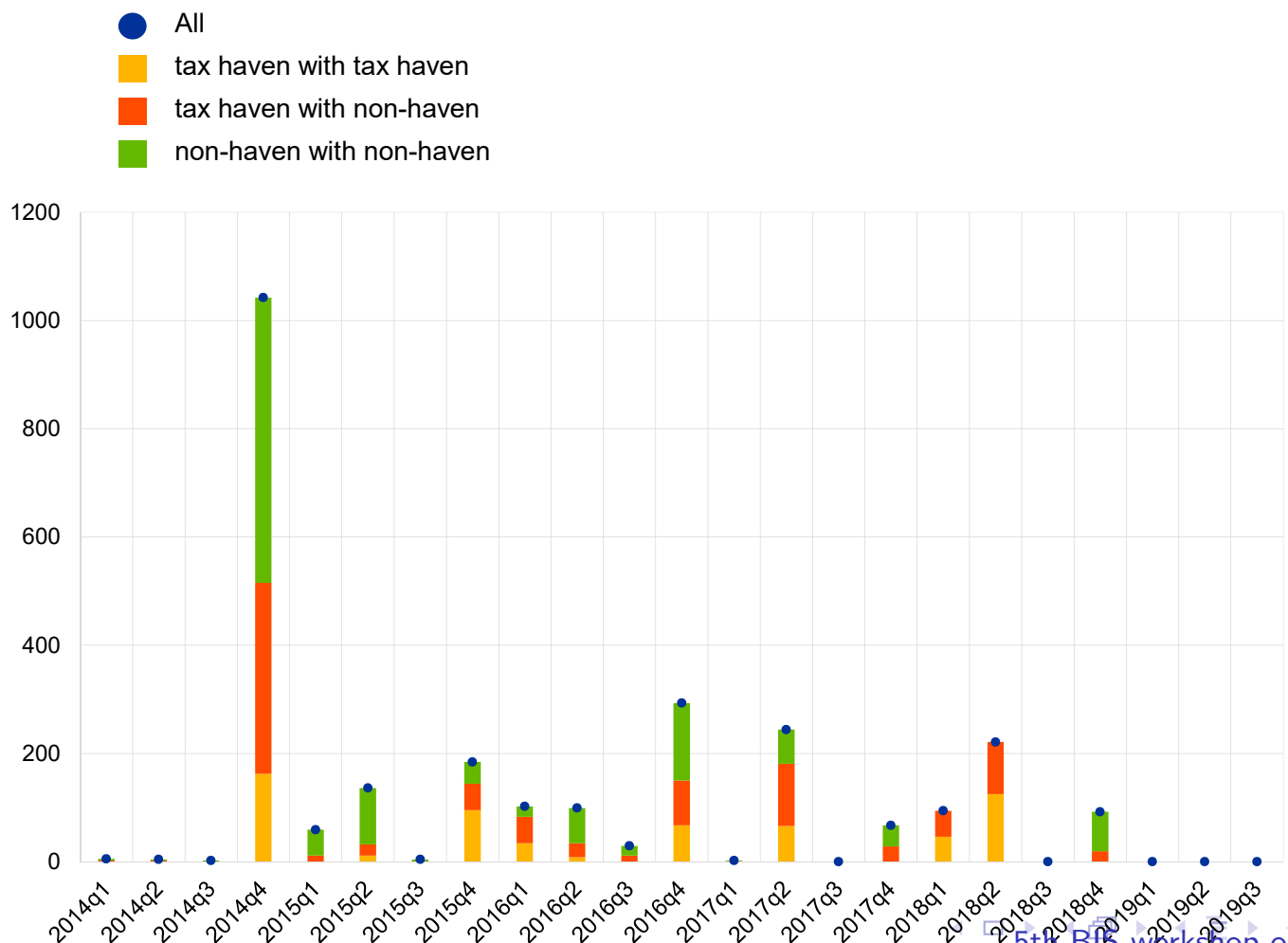
Non-bank deposit growth

2014Q1 -2018Q4 (percent)

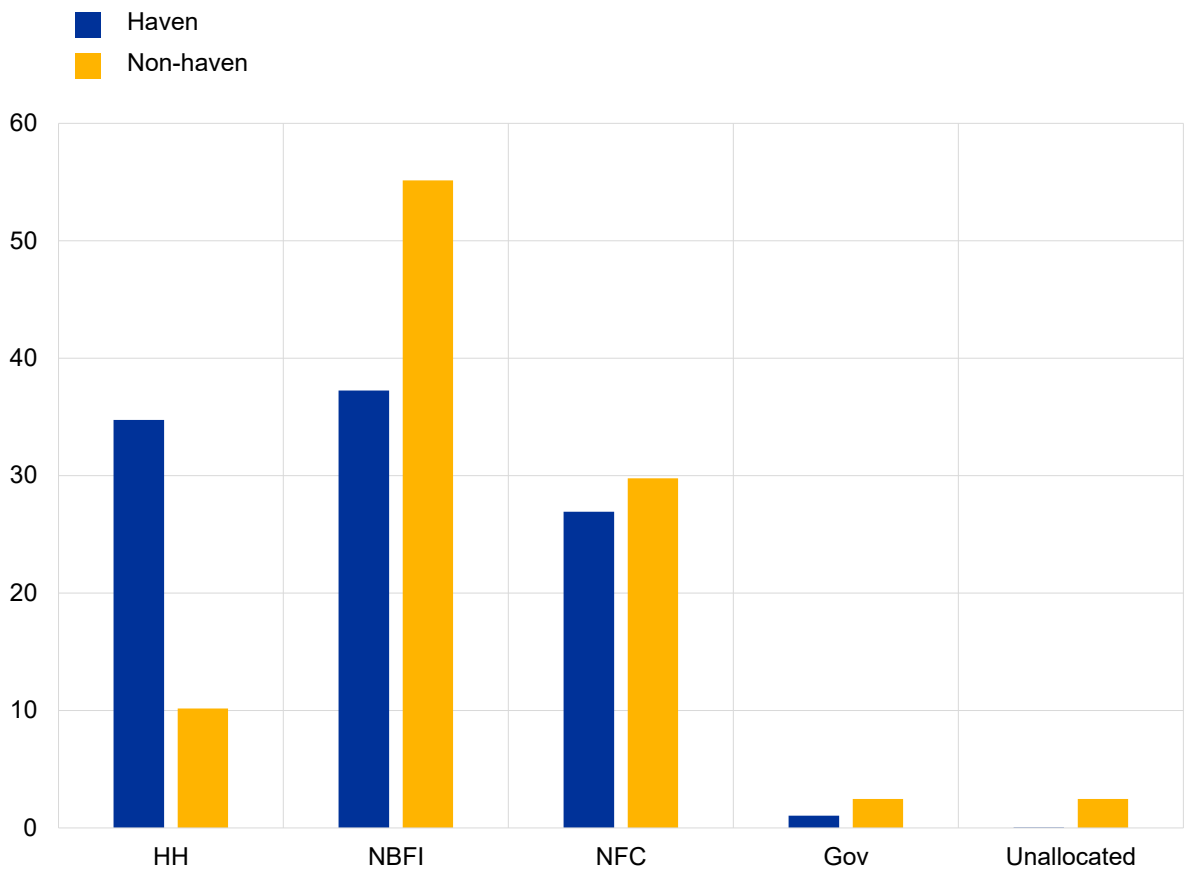


AEOI Introduction Over Time

Tax haven/non-tax haven breakdown



Share of liabilities vis-à-vis non-bank sectors



Banks

	(1)	(2)	(3)	(4)	(5)
Signed	0.086	0.117	0.002	-0.046	
	(0.081)	(0.082)	(0.214)	(0.167)	
Signed (contemp.)					0.127
					(0.085)
Signed (+1 quarter)					0.131
					(0.092)
Signed (+2 quarters)					0.101
					(0.094)
Signed (+3 quarters)					0.162
					(0.103)
Signed (>3 quarters)					0.025
					(0.110)
Obs.	25,255	21,088	4,167	6,326	21,088
R^2	0.90	0.91	0.87	0.90	0.91
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Non-haven	Haven
Saver	All	Non-haven	Haven	Haven	Non-haven

Non-bank Financial Corporations

	(1)	(2)	(3)	(4)	(5)
Signed	0.038	-0.086	0.401*	-0.107	
	(0.117)	(0.133)	(0.231)	(0.160)	
Signed (contemp.)					-0.065
					(0.114)
Signed (+1 quarter)					-0.006
					(0.132)
Signed (+2 quarters)					-0.133
					(0.152)
Signed (+3 quarters)					-0.128
					(0.162)
Signed (>3 quarters)					-0.152
					(0.186)
Obs.	15,139	12,036	3,103	4,707	12,036
R^2	0.90	0.90	0.91	0.93	0.90
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Non-haven	Haven
Saver	All	Non-haven	Haven	Haven	Non-haven

Non-financial Corporations

	(1)	(2)	(3)	(4)	(5)
Signed	0.132	0.132	0.136	0.239	
	(0.125)	(0.139)	(0.283)	(0.206)	
Signed (contemp.)					0.014
					(0.136)
Signed (+1 quarter)					0.085
					(0.132)
Signed (+2 quarters)					0.191
					(0.163)
Signed (+3 quarters)					0.228
					(0.160)
Signed (>3 quarters)					-0.050
					(0.220)
Obs.	19,763	16,850	2,912	4,316	16,850
R^2	0.91	0.90	0.91	0.92	0.90
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Non-haven	Haven
Saver	All	Non-haven	Haven	Haven	Non-haven

Robustness

1. Financial linkages
2. Leaks of information
3. US - Cayman Island pair
4. Alternative heaven classification
5. Alternative empirical methodoligy (Casi et. al 2020)

Extra exercise

- Check for anticipation effects

Robustness

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Non-bank deposits					Household deposits				
	MM weights	Leaks	No KY-US	Casi haven	Anticipation	MM weights	Leaks Leaks	No KY-US	Casi haven	Anticipation
Signed	-0.172***	-0.180***	-0.146***	-0.101*	-0.199***	-0.281***	-0.297***	-0.365***	-0.364***	-0.322***
	(0.050)	(0.053)	(0.054)	(0.054)	(0.060)	(0.092)	(0.095)	(0.110)	(0.110)	(0.103)
MM weight	0.037**					0.014***				
	(0.015)					(0.005)				
Signed (-2 quarters)					-0.069					-0.118*
					(0.056)					(0.062)
Observations	34,203	46,203	33,481	35,518	46,203	20,054	25,306	20,760	21,260	25,306
R-squared	0.95	0.94	0.95	0.94	0.95	0.97	0.96	0.96	0.96	0.96
Time period	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4	2014q1-2019q4
Reporting	Haven	Haven	Haven	Haven	Haven	Haven	Haven	Haven	Haven	Haven
Saver	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven	Non-haven

FDI assets

	(1)	(2)	(3)	(4)
Signed	0.116 (0.106)	-0.050 (0.098)	**0.646**** **(0.309)**	-0.155** (0.073)
Observations	4,043	3,233	810	5,929
R-squared	0.97	0.97	0.96	0.95
Time period	2013-2019	2013-2019	2013-2019	2013-2019
Reporting	Haven	Haven	Haven	Non-haven
Host	All	Non-haven	Haven	Haven
Pair FE	yes	yes	yes	yes
Reporting FE	yes	yes	yes	yes
Host time FE	yes	yes	yes	yes