

Who owns the wealth in tax havens?

Method and implications for inequality

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Who owns the offshore wealth?

- A substantial share of household wealth is hidden in tax havens (Zucman, 2013)
- Very little is known about who the owners are
- This question is important for:
tax enforcement and *wealth inequality*
- We exploit population-wide micro datasets from Norway and Sweden to shed light on these issues

- Enforcement of taxes on offshore wealth and income is inherently difficult
- Reliance on amnesties / ad-hoc crackdowns / information exchange treaties
- Government agencies are collecting increasing amounts of information about economic agents
- Can Big Data be used to detect offshore tax evasion?

Wealth inequality

- Much attention given to economic inequality (e.g. Piketty, 2013)
- Existing studies typically use tax data and therefore disregard offshore accounts
- How does the wealth distribution change when offshore wealth is accounted for?

- Individual-level information about the entire population in Norway and Sweden
 - income and wealth (Norway)
 - socio-economic variables
- Information about "known offshore evaders":
 - voluntary disclosers of offshore assets under amnesty (Norway)
 - caught evaders under crackdowns (Sweden)
- Universe of cross-border bank transfers made by individuals and firms
- Shareholder register → link transfers made by corporations to their owners

Plan for the paper

- 1 Document trends in wealth inequality in Norway over the period 2001-2013
- 2 Who are the disclosers and where do they belong in the wealth distribution?
- 3 Use Big Data methods to identify Norwegian offshore evaders in the general population based on characteristics of known evaders
 - select variables (lasso-model)
 - circumvent "presence-only problem" (EM-algorithm)
- 4 Norwegian wealth distribution when accounting for offshore wealth
- 5 Cross-validation: use Norwegian algorithm to find the known offshore evaders in Sweden

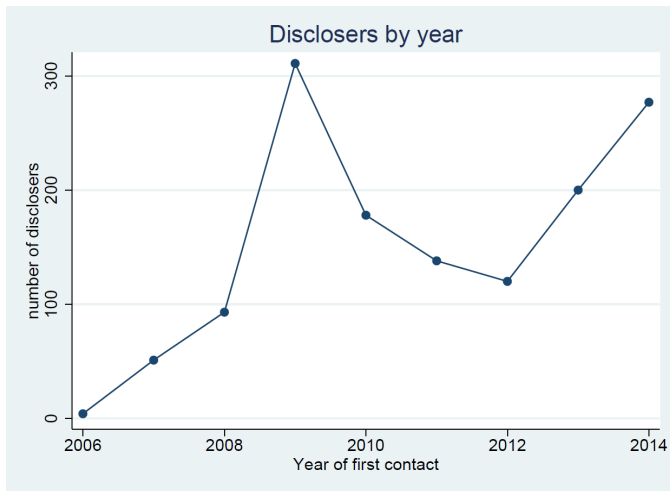
Plan for the presentation

- 1 Background about the Norwegian amnesty
- 2 Who are the disclosers and where do they belong in the wealth distribution?
- 3 Can cross-border bank transfers predict offshore evasion?

#1 The Norwegian tax amnesty

- General voluntary disclosure rules:
 - payment of back taxes
 - no penalties
 - no criminal sanctions
- Almost no offshore wealth declared before the "tax haven crackdown" in 2008-2009
- Around 1,400 cases of which around 700 have been settled with increases in taxable wealth
- Total increase in taxable wealth of around NOK 40 billion

Two waves of disclosures

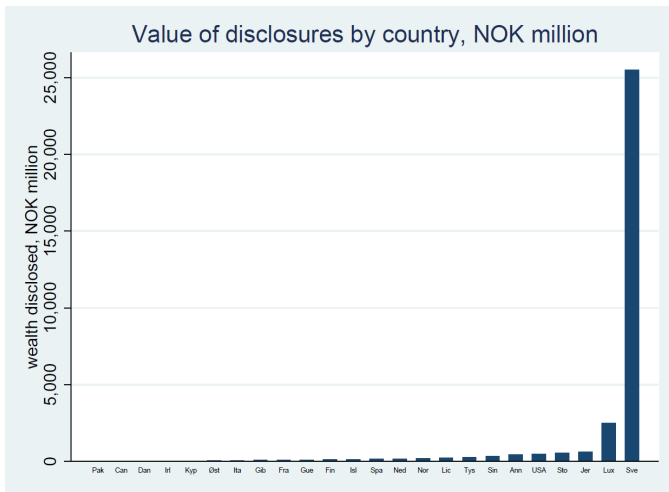


Wide distribution of disclosed amounts

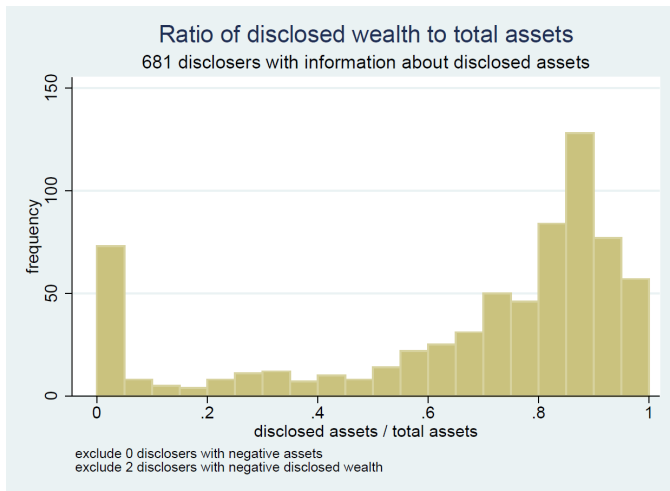
Disclosures of wealth (NOK millions)

Range	Number of disclosers	Average disclosed wealth	Total disclosed wealth
0 - 1	106	0.2	16
1 - 5	98	2.9	280
5 - 10	101	7.2	724
10 - 50	246	23.2	5,697
50 - 100	60	70.8	4,251
100 - 1,000	64	225.1	14,404
1,000 -	8	1981.2	15,850
All	683	60	41,222

Most disclosed assets were in Switzerland



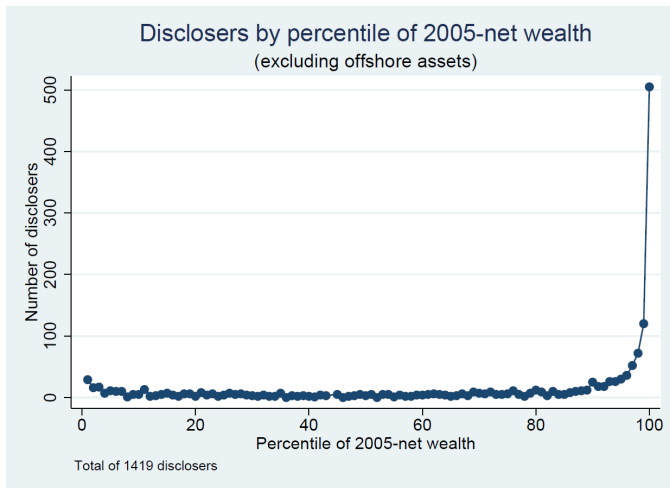
Disclosers typically hide most of their assets offshore



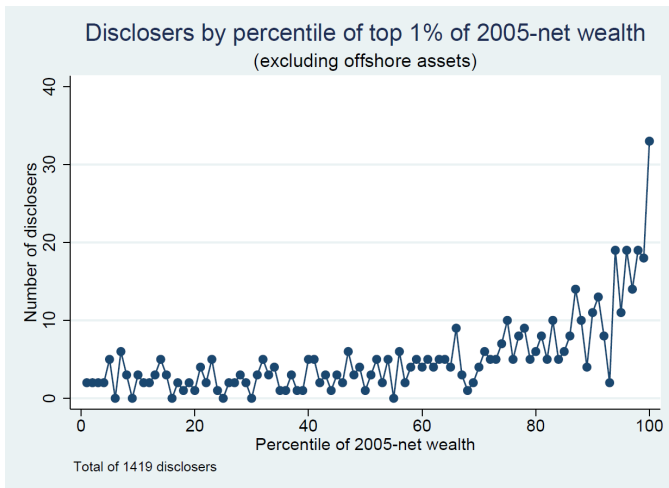
#2 Where are the disclosers in the wealth distribution?

- Research question: How does the wealth distribution change when we account for offshore wealth?
- Starting point: how wealthy are the owners of disclosed offshore wealth?

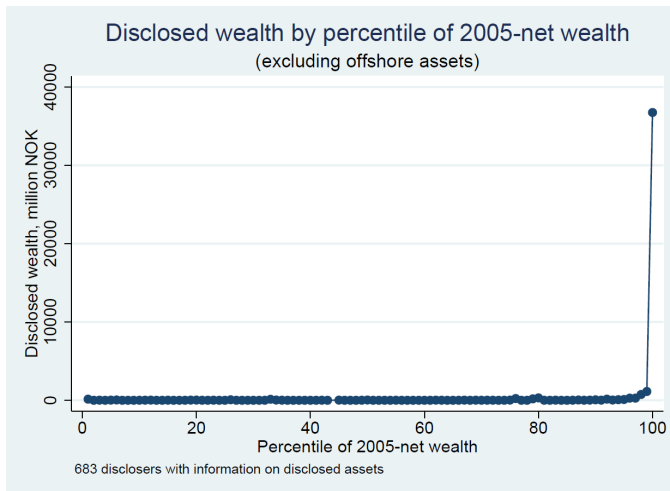
Disclosers by percentile of the wealth distribution



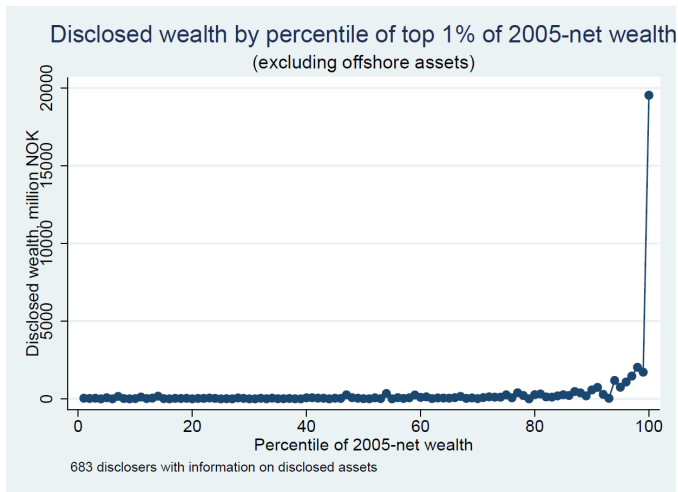
Disclosers by percentile of the top 1%



Disclosures by percentile of the wealth distribution



Disclosures within the top 1%



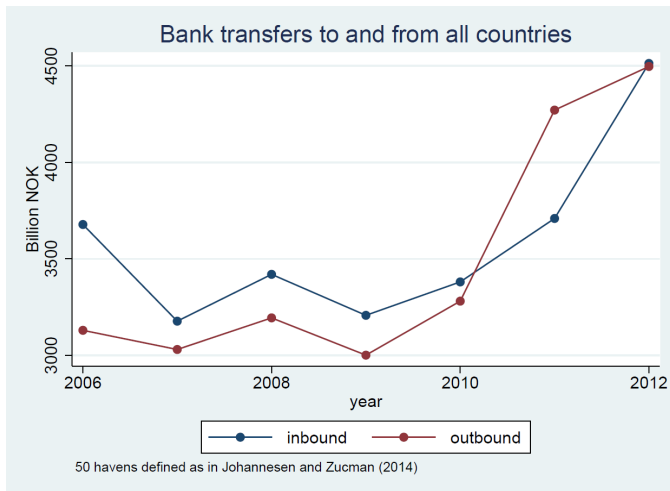
Next steps of the analysis

- Use market value of wealth rather than tax value
- Naive approach (disregard selection into disclosure)
 - compute plausible estimate of total offshore wealth owned by Norwegians
 - step-up offshore wealth in each wealth bin by constant factor
 - compute distribution of total wealth
- Sophisticated approach
 - compute offshore evasion probabilities based on behavior on which there is less likely to be selection into disclosure
 - allocate overall offshore wealth based on these probabilities
 - compute distribution of total wealth

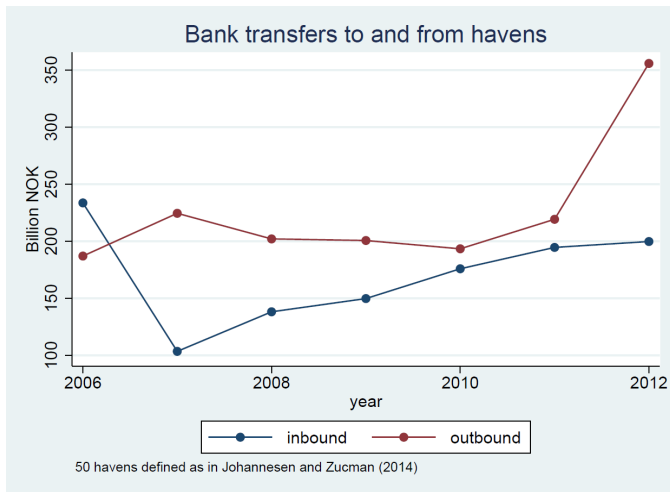
#3 Do cross-border bank transfers predict offshore evasion?

- All bank transfers between Norway and foreign countries are registered in the currency register operated by the Customs Authorities
- Collected for the purpose of capital account statistics - not to detect offshore tax evasion
- Total annual flows are roughly NOK 9,000 billion (twice the Norwegian GDP) and increasing rapidly

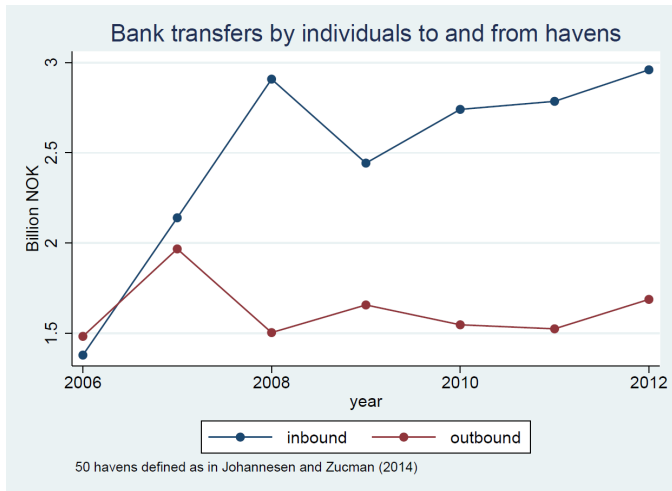
Around NOK 9,000 billion of annual transfers



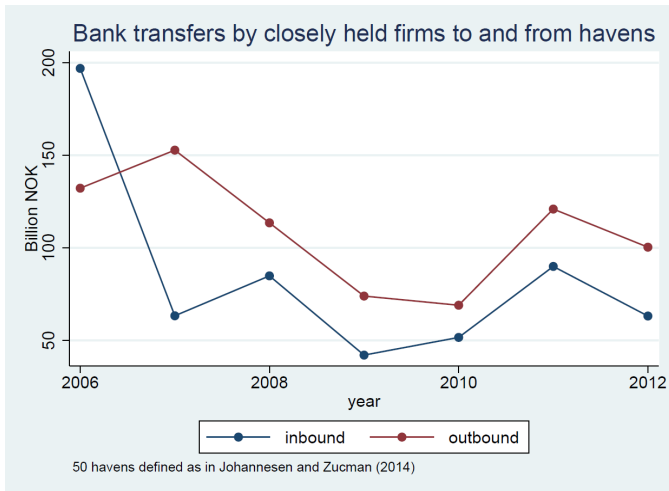
Of which around NOK 500 billion to tax havens



...Only NOK 5 billion by individuals...



...but NOK 200 billion by closely held firms



Identifying non-disclosing evaders

- Can we identify characteristics of individuals / transfers that are typical for disclosing evaders and unlikely to correlate with the decision to disclose?
- If yes, then we may be able to identify non-disclosing evaders in the wider population

Individual-level characteristics

	Full sample			Wealth - top 1%		
	non-disclosers	disclosers	ratio	non-disclosers	disclosers	ratio
Number of individuals	3,964,463	1,420		36,924	531	
<i>Individual transfers:</i>						
- All inbound	3,216	88,457	27.5	83,187	183,009	2.2
- Haven inbound	339	23,341	68.8	8,061	48,680	6.0
- All outbound	6,729	181,341	26.9	92,787	431,330	4.6
- Haven outbound	354	55,918	158.0	6,720	147,844	22.0
<i>Individual transfers:</i>						
- All inbound	573,771	3,923,082	6.8	2,409,124	10,458,854	4.3
- Haven inbound	40,403	388,351	9.6	204,072	1,023,449	5.0
- All outbound	462,389	4,236,857	9.2	2,481,232	11,275,453	4.5
- Haven outbound	29,762	680,819	22.9	376,028	1,818,837	4.8
<i>Other characteristics:</i>						
Foreign citizen	0.137	0.210	1.5	0.043	0.139	3.2
Lives in Oslo	0.114	0.427	3.8	0.193	0.490	2.5
Born in 1930s	0.122	0.195	1.6	0.176	0.277	1.6
Born in 1940s	0.100	0.251	2.5	0.209	0.316	1.5

Transfer-level characteristics (individual transfers)

	FULL SAMPLE			Wealth - Top 1%		
	non-disclosers	disclosers	ratio	non-disclosers	disclosers	ratio
Number of individuals	4,876,842	3,213		64,725	1,428	
<i>Purpose:</i>						
- services	0.123	0.334	2.7	0.249	0.477	1.9
- not stated	0.006	0.014	2.1	0.007	0.025	3.5
<i>Currency:</i>						
- Swiss francs	0.003	0.021	6.7	0.005	0.008	1.5
- Euro	0.127	0.242	1.9	0.212	0.293	1.4
- British Pound	0.022	0.047	2.1	0.043	0.055	1.3
- US Dollar	0.058	0.083	1.4	0.071	0.106	1.5
<i>Country:</i>						
- Switzerland	0.011	0.061	5.7	0.019	0.040	2.1
- UK	0.063	0.152	2.4	0.094	0.134	1.4
- US	0.056	0.083	1.5	0.068	0.095	1.4
- tax haven	0.011	0.081	7.6	0.032	0.056	1.7

Transfer-level characteristics (firm transfers)

	Closely held firms (owner >10%)		
	non-disclosers	disclosers	ratio
Number of transfers	2,226,856	42,398	
<i>Purpose:</i>			
betalingsart_29	0.21195	0.43533	2.054
<i>Currency:</i>			
currency_USD	0.13190	0.34168	2.591
<i>Country:</i>			
Kiribati	0.00001	0.00007	14.01
Santa Lucia	0.00000	0.00007	38.46
Liberia	0.00004	0.00243	65.6
Marshall Islands	0.00001	0.00007	6.398
Panama	0.00038	0.00186	4.898
Saint Vincent & Gren.	0.00001	0.00010	18.68
British Virgin Islands	0.00020	0.00171	8.495
Haven	0.06306	0.10321	1.637

Conclusion

- Disclosed offshore wealth is extremely concentrated at the top of the wealth distribution: 50% belongs to the 400 wealthiest individuals
- Promising preliminary analysis of characteristics predicting evasion:
 - value of cross-border bank transfers
 - characteristics of cross-border bank transfers (currency, purpose, country)
 - other characteristics (age, education, residence)
- Goal: simulate the likely wealth distribution taking into account offshore wealth