

# Globalization, Taxes & Inequality

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# Introduction

## **Globalization has created new ways to avoid taxes:**

- ▷ Multinational firms shift profits to low-tax places
- ▷ Countries compete by cutting their tax rates
- ▷ Wealthy households can move assets to tax havens

How does this tax avoidance redistribute income between nations and between social groups?

→ Key question to think about about the **economic and political sustainability of globalization**

# This talk is based on 4 papers

- ▷ “The Missing Profits of Nations” (w. Tørsløv, Wier)
- ▷ “The Exorbitant Tax Privilege” (w. Wright)
- ▷ “Tax Evasion & Inequality” (w. Alstadsæter, Johannesen)
- ▷ “Global Wealth Inequality”

Two goals of this research agenda:

- ▷ Positive **macro-distributional analysis of globalization** (data: <http://gabriel-zucman.eu>)
- ▷ Design policies to make globalization more sustainable

# The Missing Profits of Nations

**How much profits move across countries because of differences in corporate tax rates?**

- ▷ Firms move capital to low-tax countries
- ▷ Firms shift paper profits to tax havens

If there was a **perfect international tax coordination**:

- ▷ Which countries would gain/lose profits?
- ▷ How? Relocation of capital, or reduced profit shifting?

# How we estimate the amount of profits shifted to tax havens

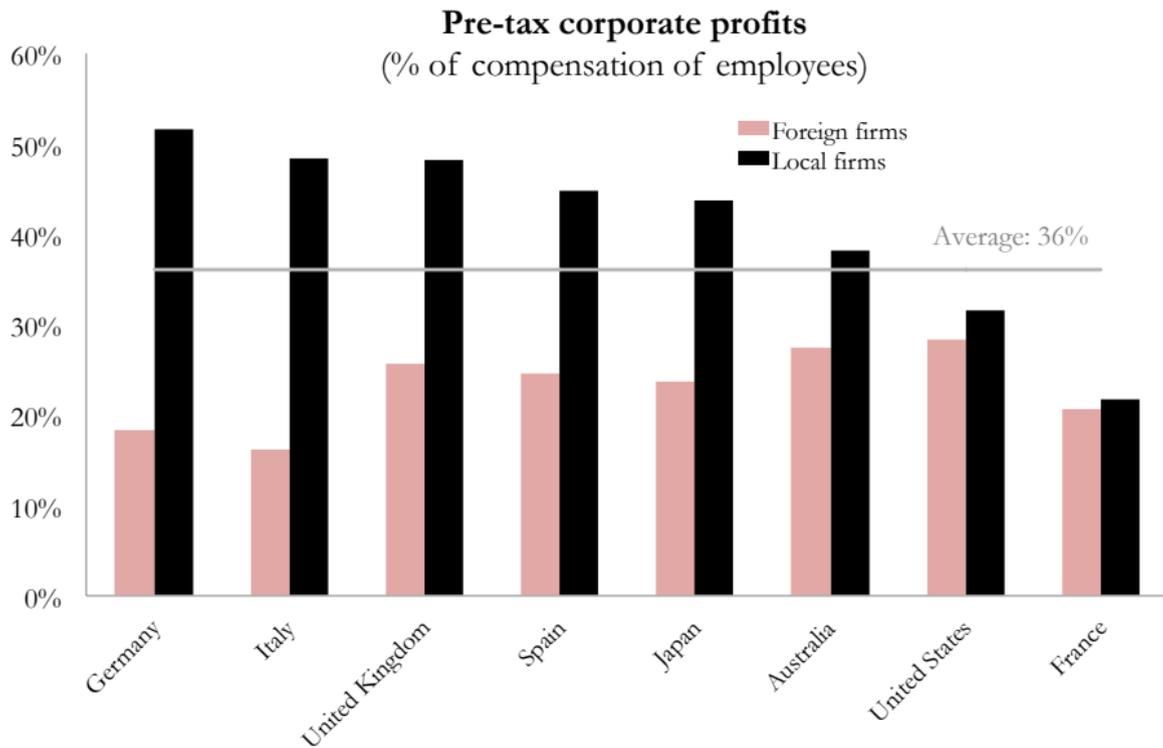
We compute **capital shares  $\alpha$  in foreign vs. local firms** across the world. Striking global pattern:

- ▷ Foreign firms have lower  $\alpha$  than local firms...
- ▷ ... Except in tax havens: hugely higher  $\alpha$

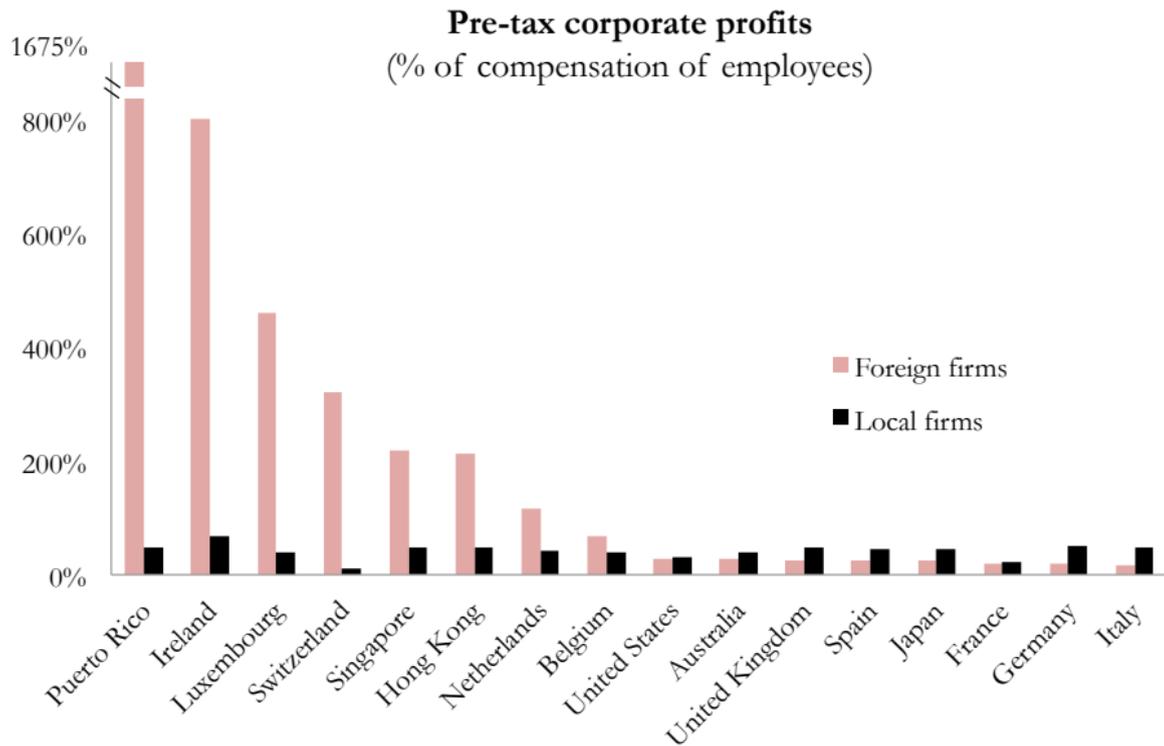
**Benchmark estimate:** set profitability of foreign firms in havens equal to profitability of local firms in havens

- ▷ Transparent
- ▷ Robust

# In non-havens, foreign firms are less profitable than local firms



# In tax havens, foreign firms are much more profitable than local firms



# Main results

**40% of multinat'l profits** ( $\approx$  \$600bn) shifted to havens

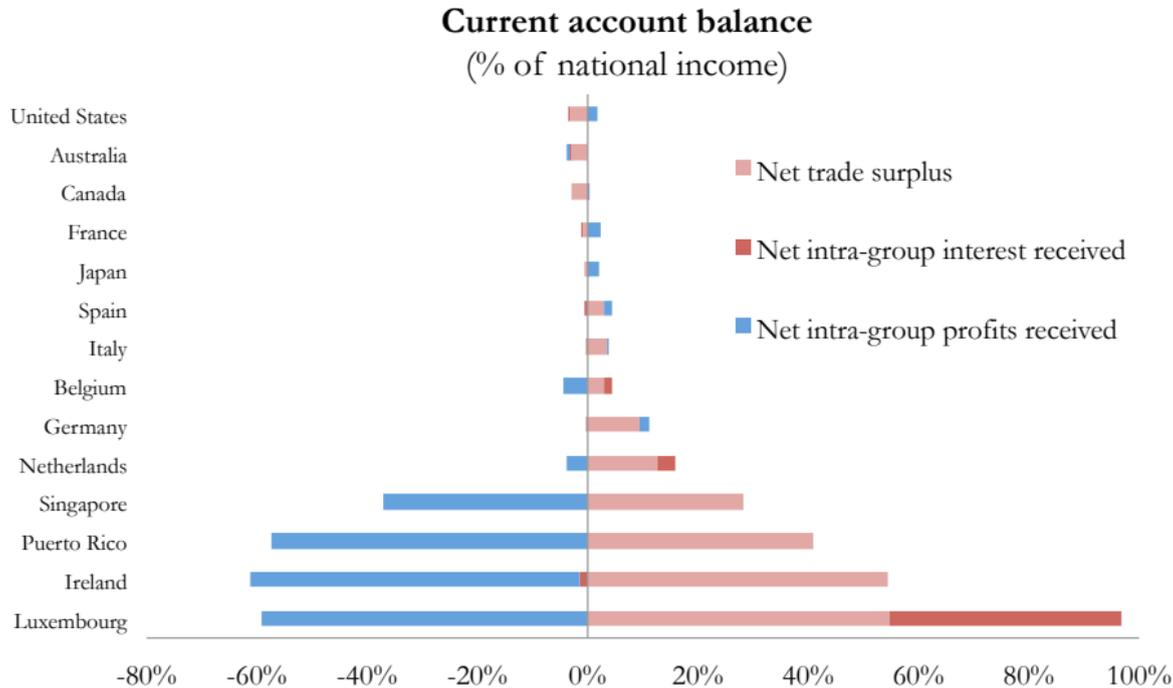
- ▷ Main winners: Ireland, Luxembourg, Singapore, etc.  
(impose low rates but on big \$600bn base)
- ▷ Main losers: non-haven EU countries
- ▷ Profit shifting swamps tax-driven tangible capital mobility (different welfare implications)
- ▷ Rise of capital share is higher than in official data → provide corrected estimates of  $\alpha$ , GDP, trade

# Why should we care?

Whatever one's view about efficiency costs of capital taxation, global profit shifting raises policy issues:

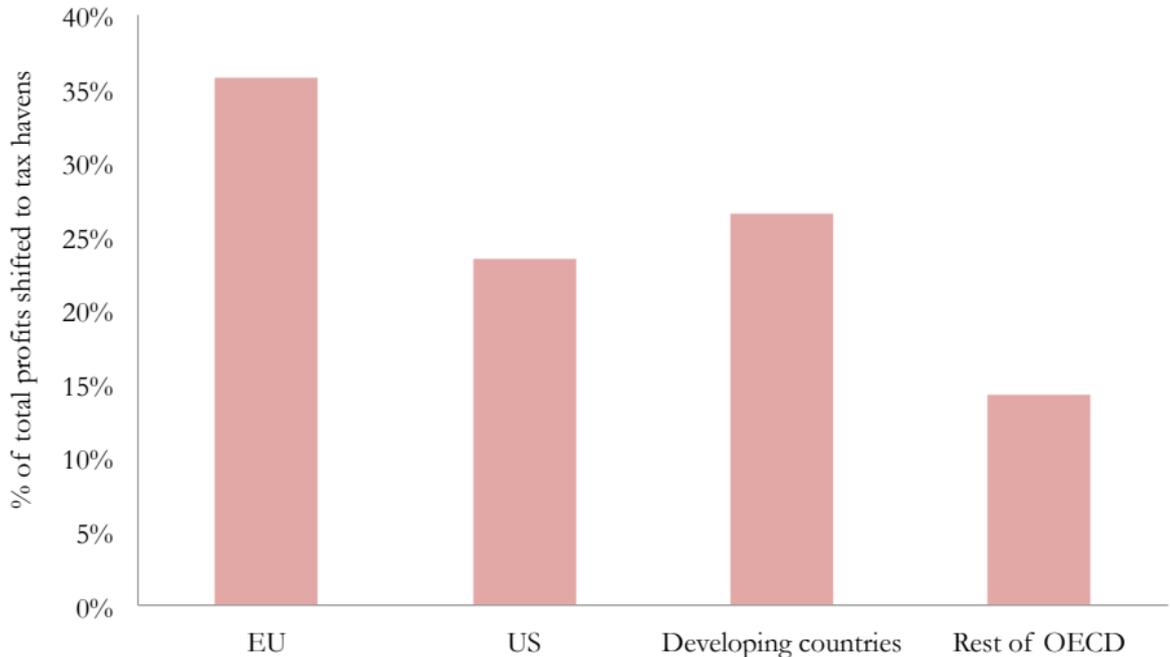
- ▷ Distorted competition
- ▷ Inequality
- ▷ Loss of tax revenue

# To study who loses profits, follow the money in balances of payments of havens



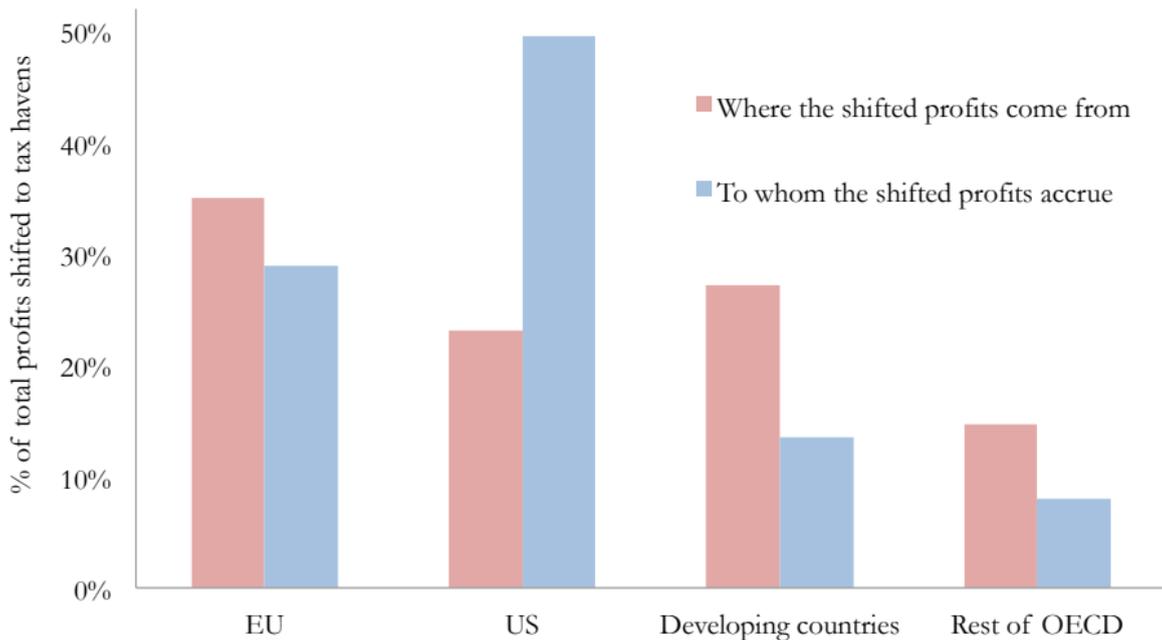
# Who loses most? The EU.

Where do the shifted profits come from?



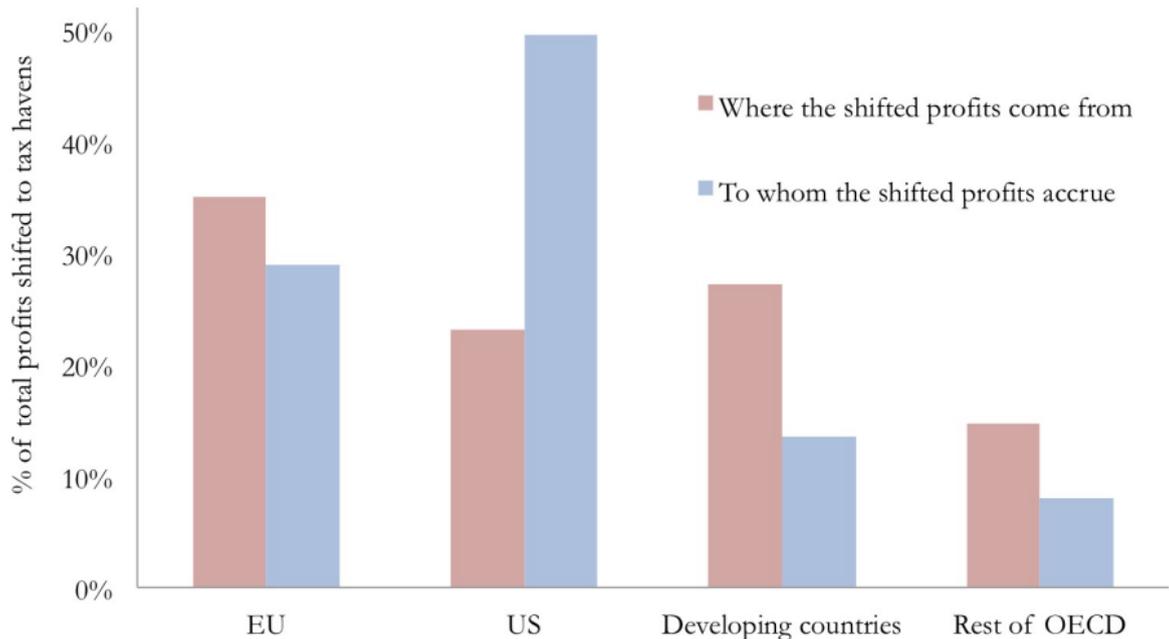
# Who loses most? The EU. Who shifts most? The US.

Allocating the profits shifted to tax havens



# Who loses most? The EU. Who shifts most? The US.

Allocating the profits shifted to tax havens



**Why do US multinationals shift more profits? Implications?**

# Profit Shifting by U.S. Multinationals

# The Exorbitant Tax Privilege

Study profits, wage, capital, rates of returns, and taxes of US multinationals back to 1966

Key source: BEA survey of activities of US multinat'l

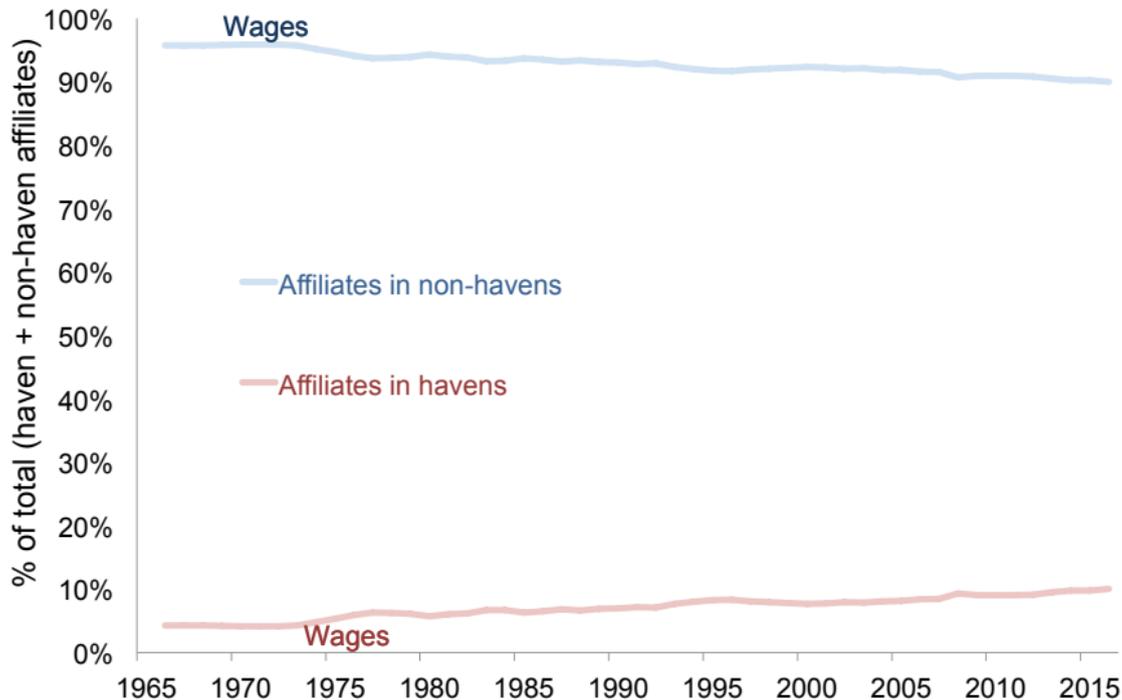
- ▷ Annual since 1982, every 5 years back to 1966

Supplement with IRS tabulations (form 5471)

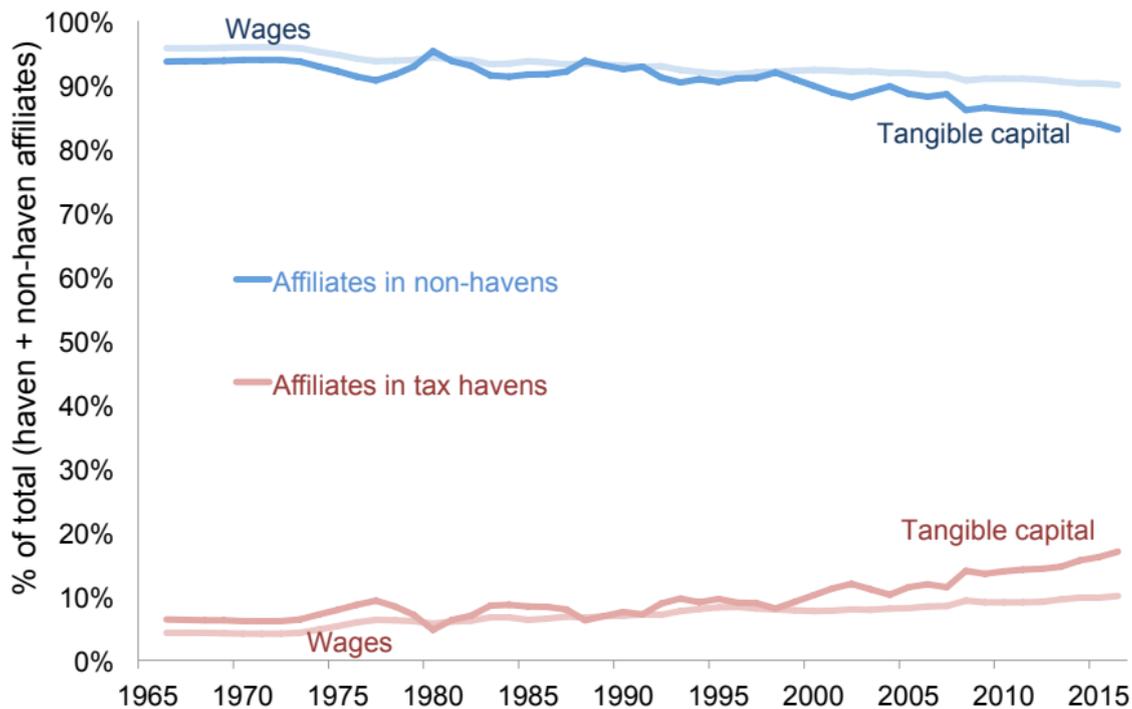
- ▷ Main advantage: annual back to early 1960s

→ **First long-run series on effective tax rate paid by US firms on their foreign operations**

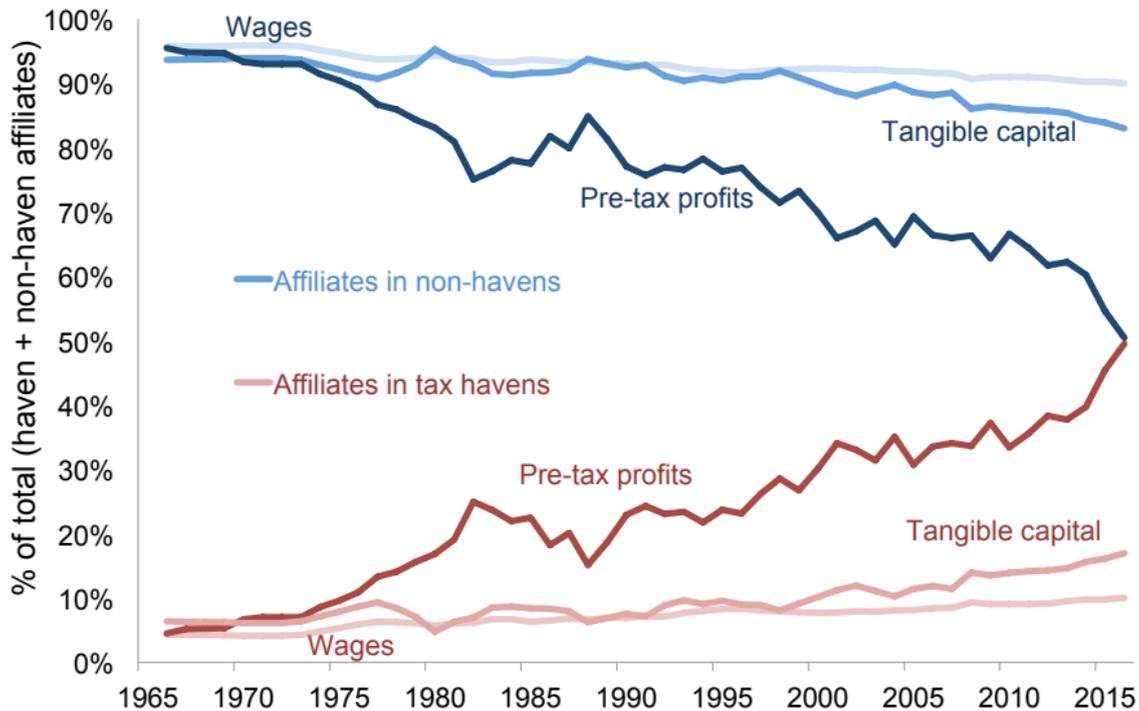
# Where do US multinationals operate?



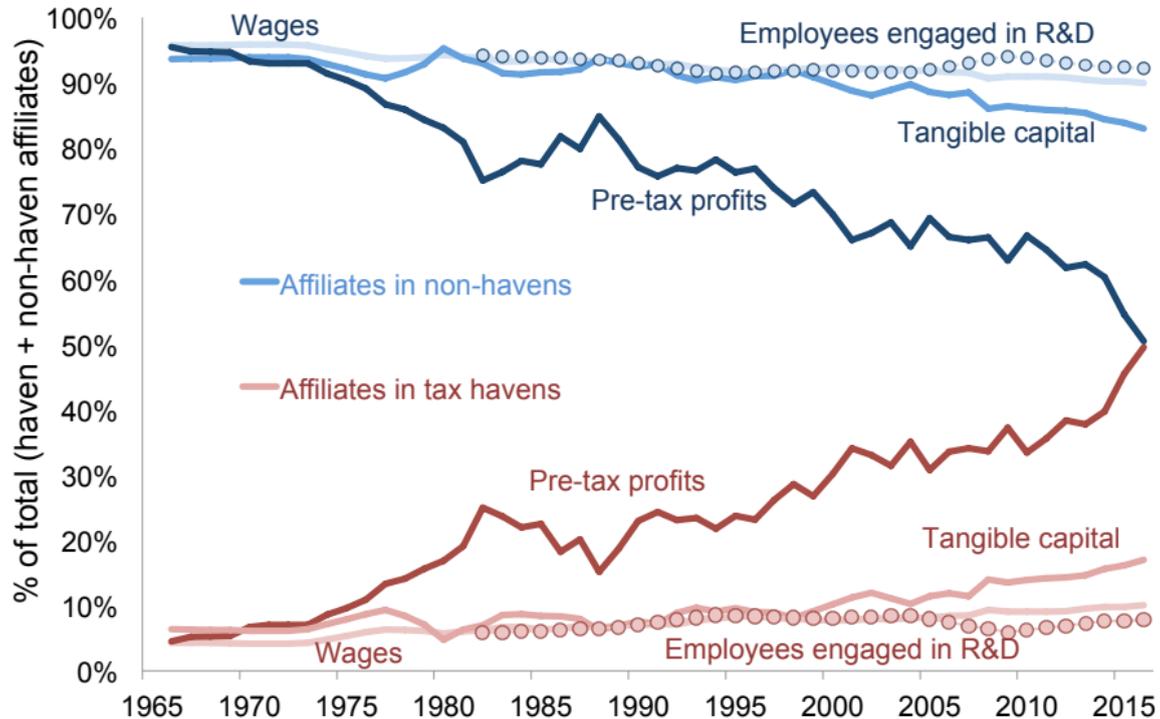
# Where do US multinationals operate?



# Where do US multinationals book their profits?

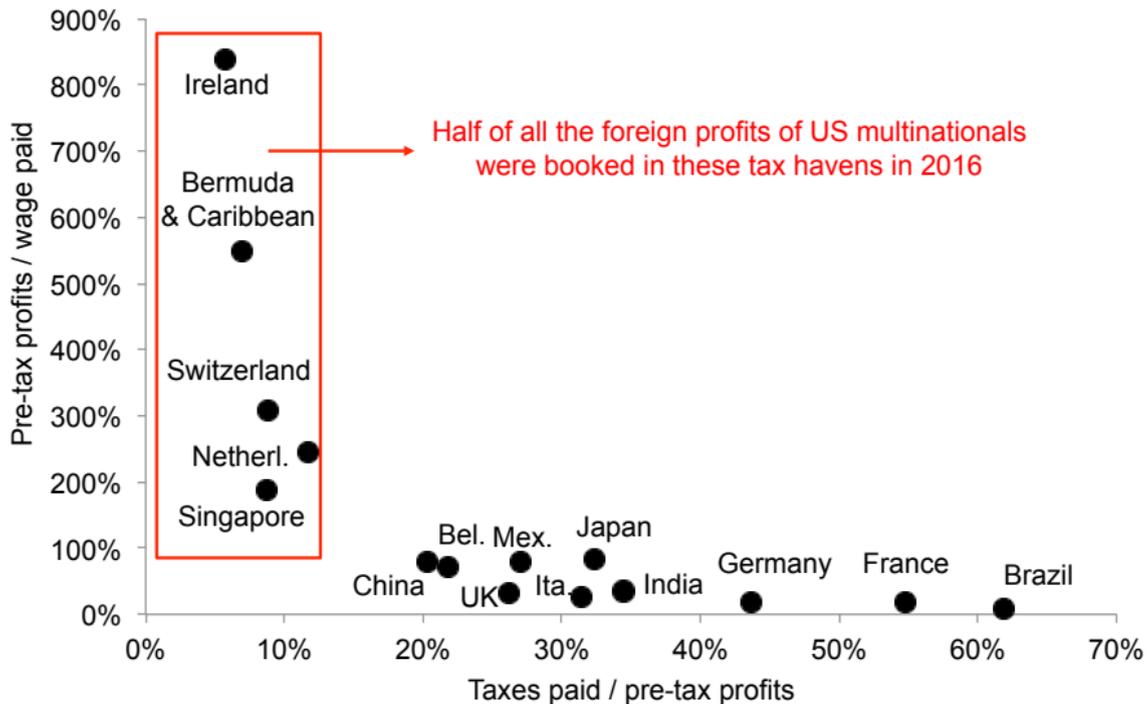


# Where do US multinationals produce intangibles?



# In 2016: 50% of profits in havens (taxed at 7%), 50% elsewhere (taxed at 27%)

## Where do US multinationals book their profits? (majority-owned affiliates of US multinationals, 2016)



# Why do US multinationals shift so much profits to tax havens?

**Perceived national interest of the US:** good to let US multinationals shift out of foreign high-tax countries

- ▷ Until 2017, US taxed worldwide profits, with credits given for foreign taxes paid
- ▷ If foreign profits booked in 0 tax places: no credits given → more tax revenue in US upon repatriation
- ▷ 1996: US Treasury facilitates shifting to tax havens (check-the-box regulations)  $\neq$  other countries

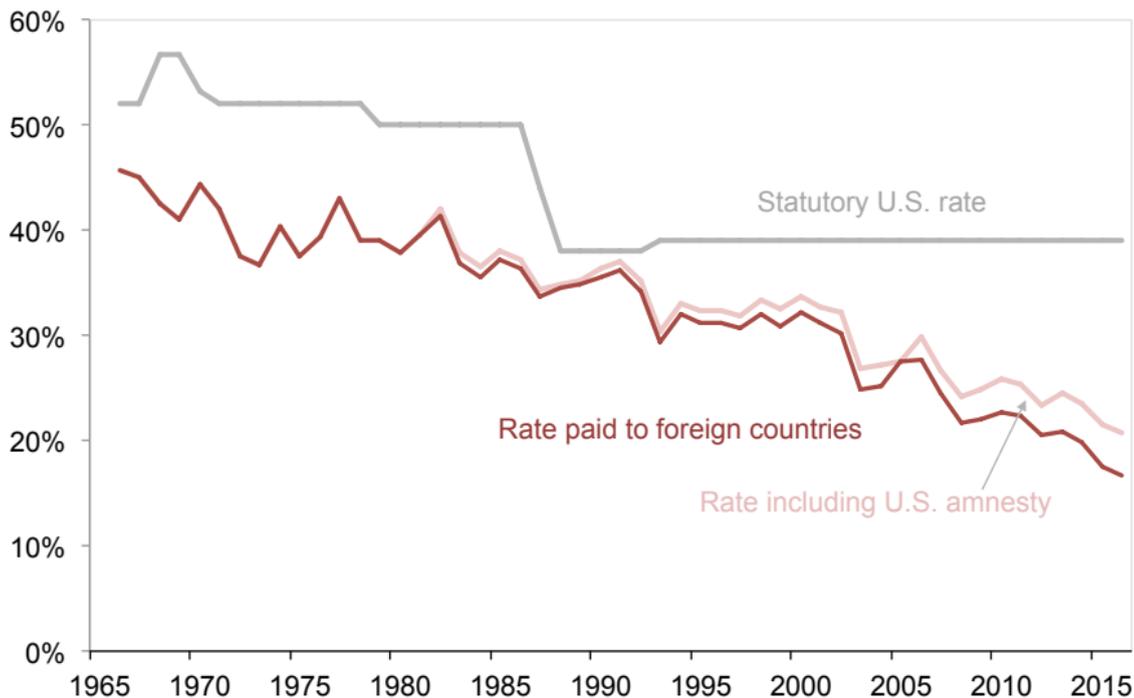
# Did profit shifting enhance US tax collection?

## **It did not:**

- ▷ Haven profits perpetually retained → avoided U.S. tax
  - ▷ Rising untaxed profits → rising lobbying for amnesty
  - ▷ 2017 law: mandatory one-time tax at low rate (<8%) of past untaxed profits
- **Very low effective tax rate on foreign operations of US multinationals**

# Total tax rate on foreign profits, including effect of 2017 mandatory repatriation

**Tax rate paid by U.S. multinationals on foreign profits**  
(All sectors excluding oil)



# The redistributive effects of profit shifting

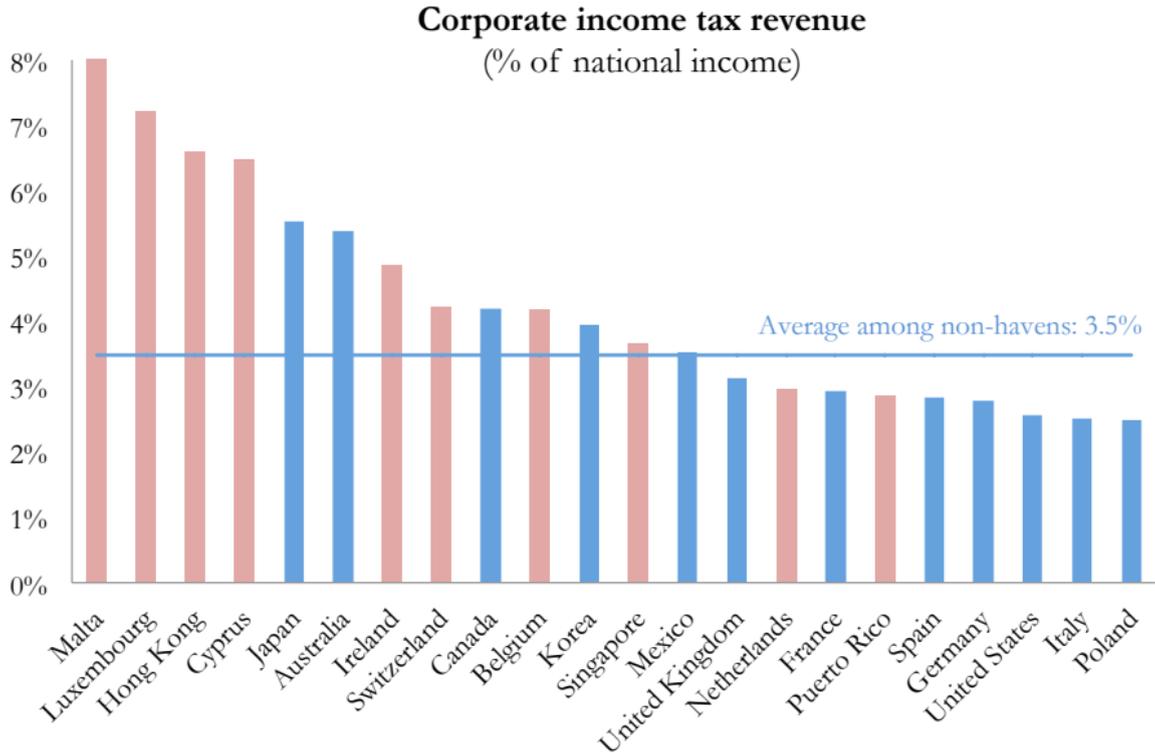
## 1) Redistribution across income groups:

- ▷ Rise of global after-tax profits ↗ income for shareholders
- ▷ Ongoing work (with C. Gaubert & W. Sandholtz) to estimate how much various income/wealth groups gain/lose in each country

## 2) International redistribution of tax revenues:

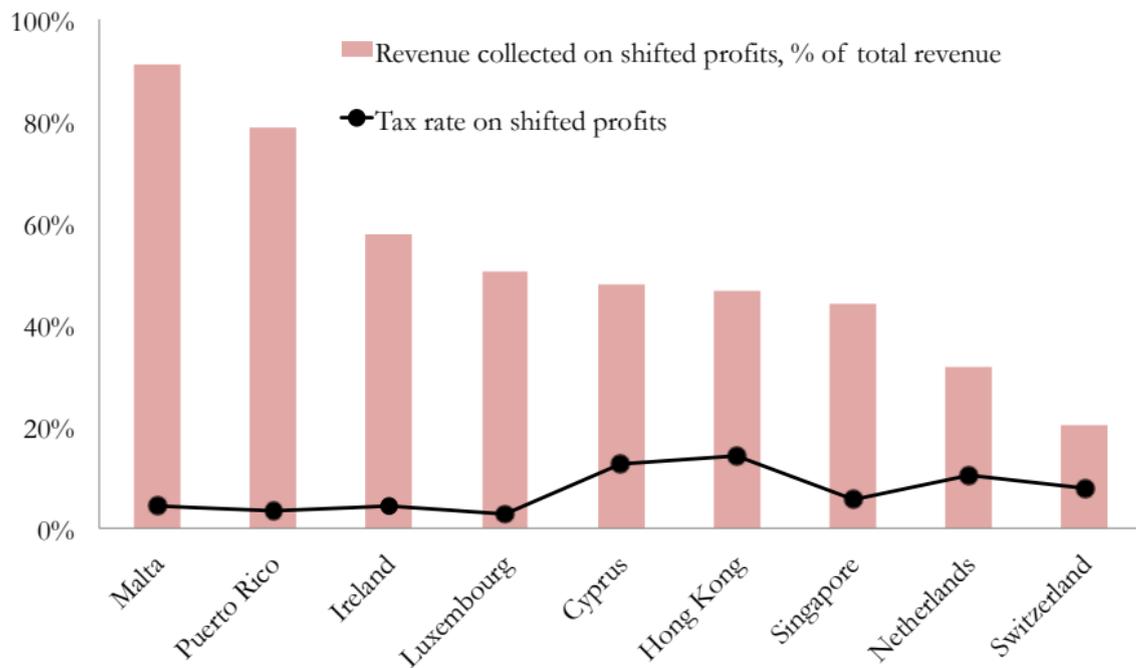
- ▷ For small countries, revenue-max. rate  $0 < \tau^* < 5\%$ : havens with  $\tau \approx \tau^*$  generate very large tax revenue
- ▷ Can explain the rise of the supply of tax avoidance schemes (e.g., tax rulings: Apple – Ireland)

# Many havens collect a lot of tax revenue...



# ... By applying low rates to the huge tax base they attract

Corporate tax revenue collected & tax rate on shifted profits



# As profit shifting rose...

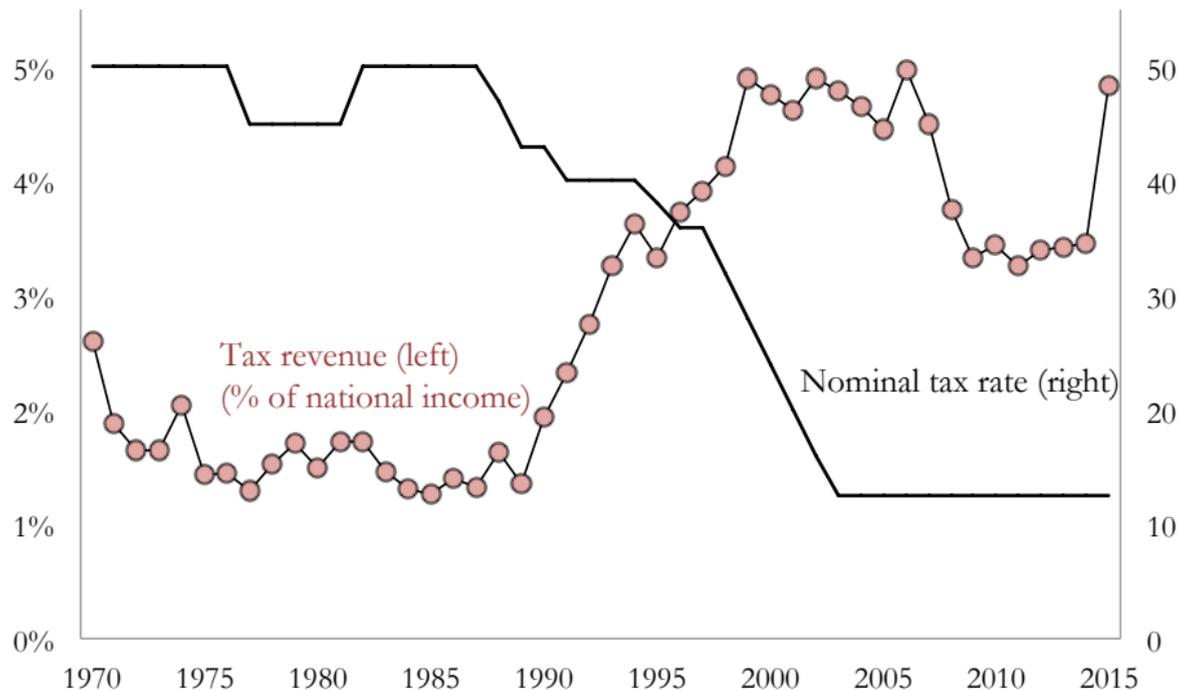


... Tax revenue rose in many havens, while they ↓ or stagnated in high-tax countries



# The lower the rate, the higher the revenue

## Corporate income tax revenue vs. tax rate in Ireland



# Tax Evasion in a Globalized World: Evidence from Leaks

# Tax Evasion and Inequality

Anecdotal evidence that wealthy conceal assets abroad  
(UBS, Credit Suisse, Panama Papers, ...)

- ▷ How important is this form of tax evasion?
- ▷ How concentrated is it?
- ▷ How does it change what we know about inequality?

# We analyze new data capturing evasion by the wealthy

## **Massive leaks from HSBC Switzerland and Mossack Fonseca (“Panama Papers”)**

- ▷ Leaks random & from big offshore wealth managers
- ▷ Match to tax records in Norway, Sweden, Denmark (ongoing work in US with D. Reck et al.)
- ▷ Combine with macro stats on wealth hidden in havens

## **Two key findings:**

- ▷ Offshore evasion very concentrated
- ▷ At the top, way larger than evasion detected in random audits

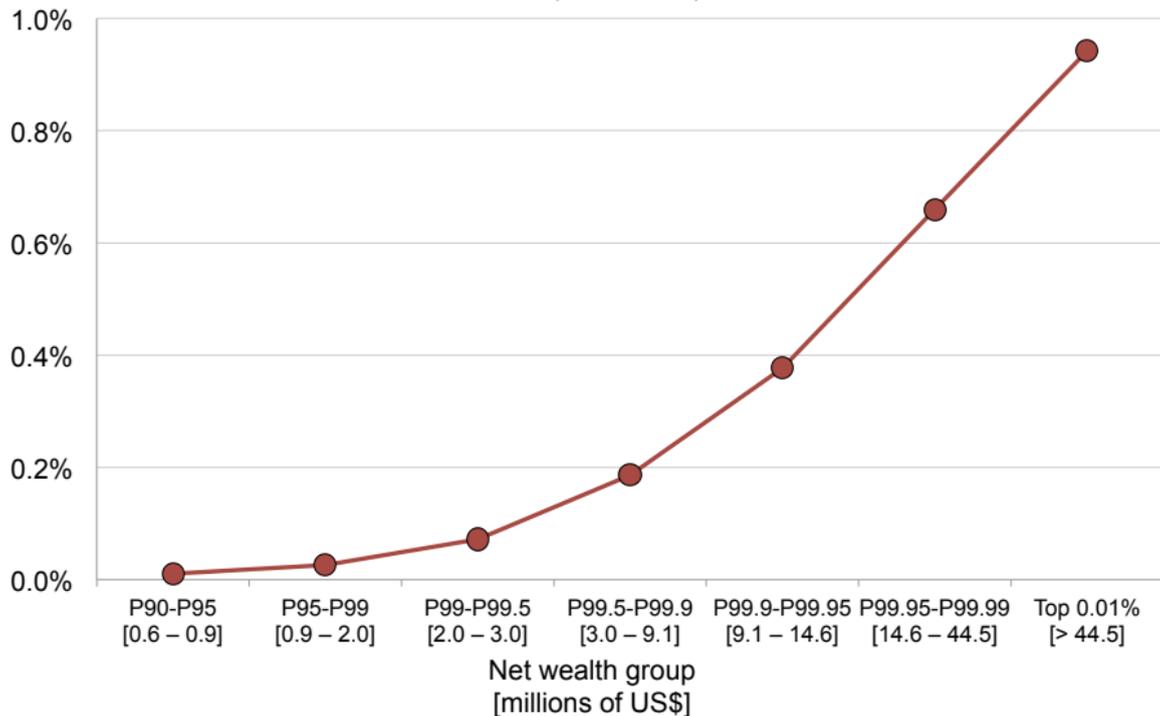
# The HSBC leak

## **Key strengths:**

- ▷ Large bank (among top 10 Swiss banks)
- ▷ Representative
- ▷ Recorded identity of beneficial owners
- ▷ Clear-cut way to identify evasion

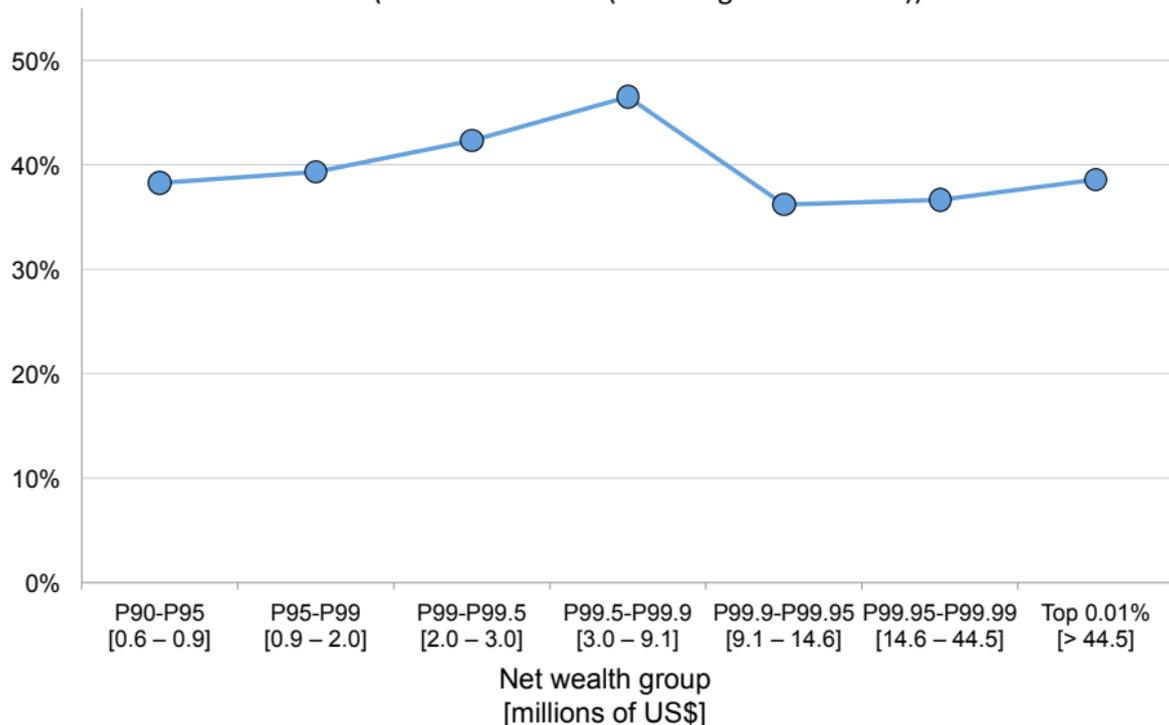
# The proba to have an unreported HSBC account rises sharply within the top 1%

Probability to own an unreported HSBC account, by wealth group  
(HSBC leak)



# HSBC evaders hide close to half of their wealth at HSBC

**Average wealth hidden at HSBC, by wealth group**  
(% of total wealth (including held at HSBC))



# Other samples

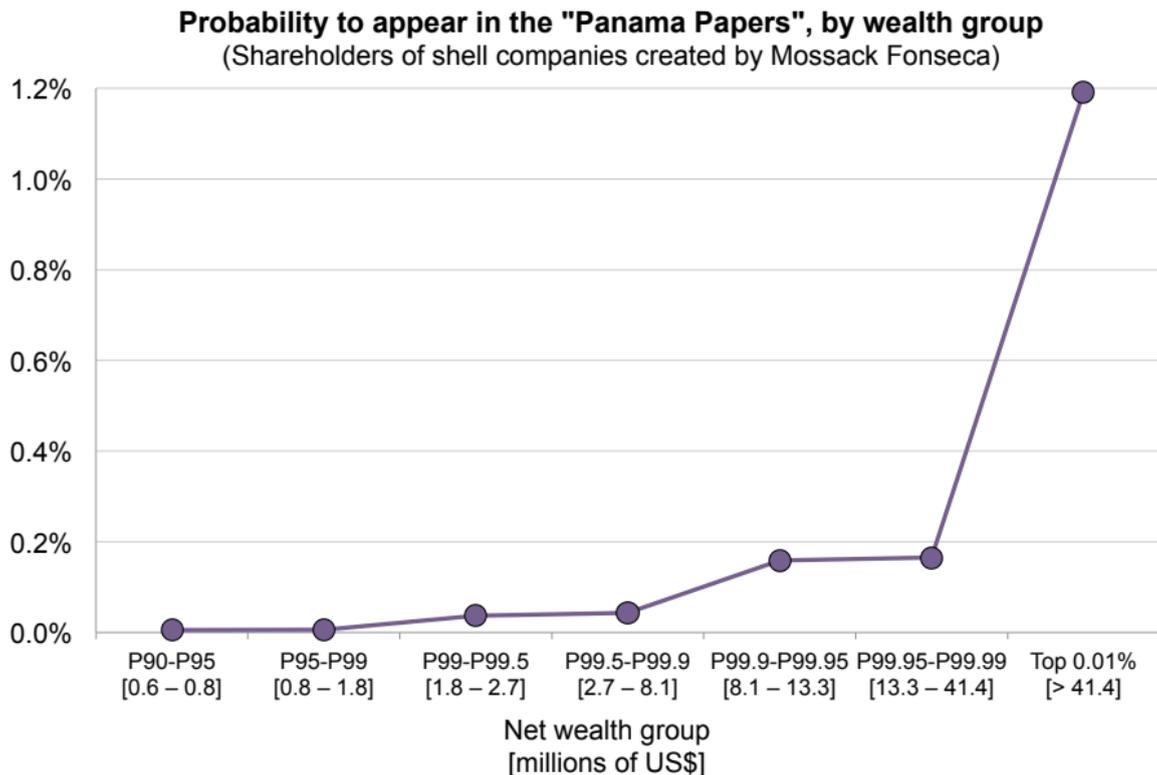
## **Panama Papers:**

- ▷ Another large intermediary
- ▷ But not possible (yet) to identify evasion v avoidance

## **Amnesty participants:**

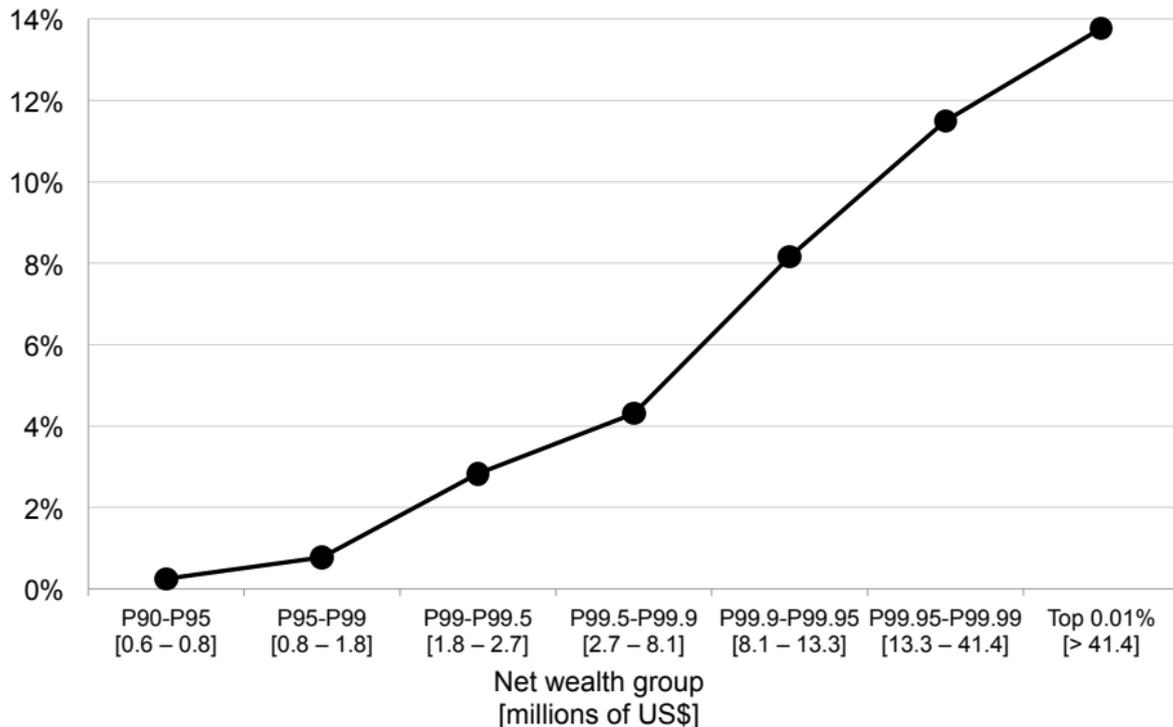
- ▷ Big samples (1,422 hholds Norway; 6,811 Sweden)
- ▷ Tax evasion by definition involved
- ▷ But self-selection

# The Panama Papers confirm that the use of tax havens rises sharply with wealth

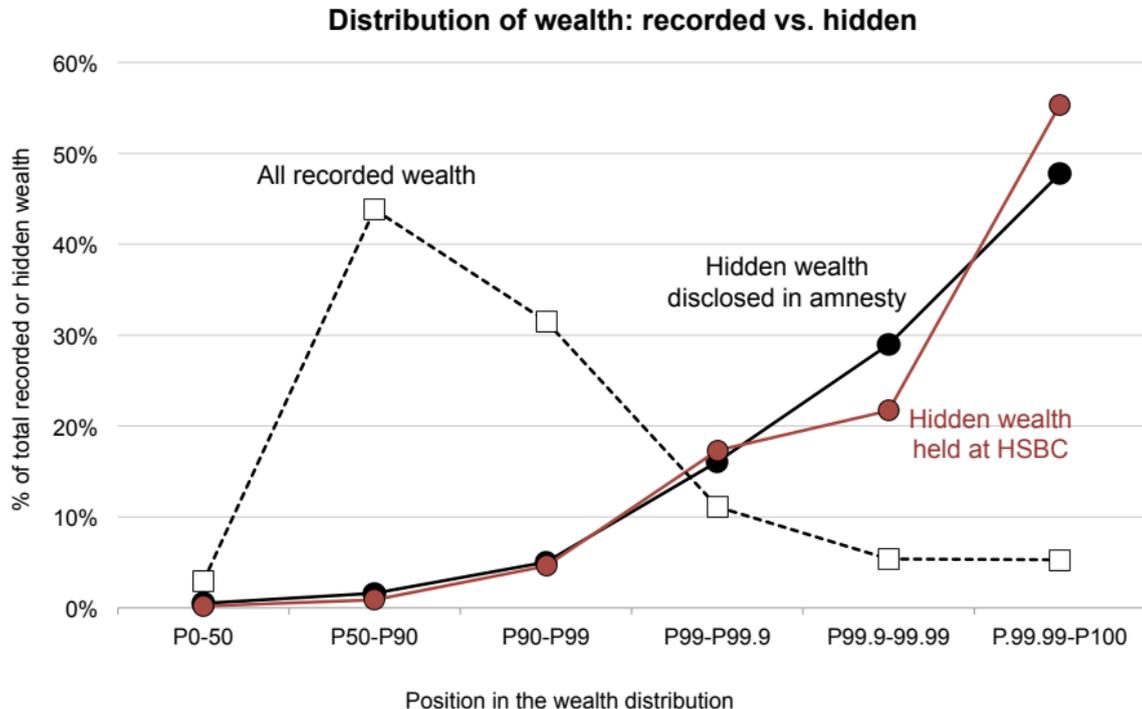


# Amnesty data show widespread evasion at the top

**Probability to voluntarily disclose hidden wealth, by wealth group**  
(Swedish and Norwegian tax amnesties)



# Hidden wealth is extremely concentrated

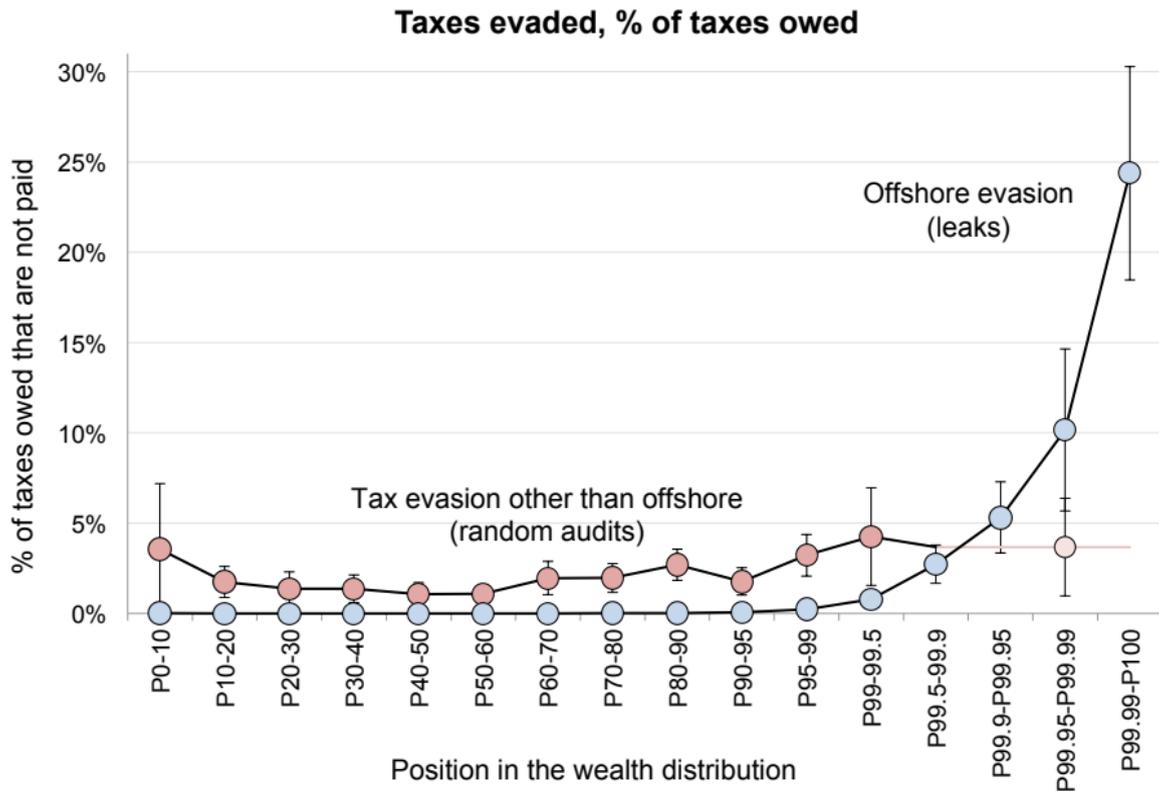


# Estimating tax evasion through offshore intermediaries

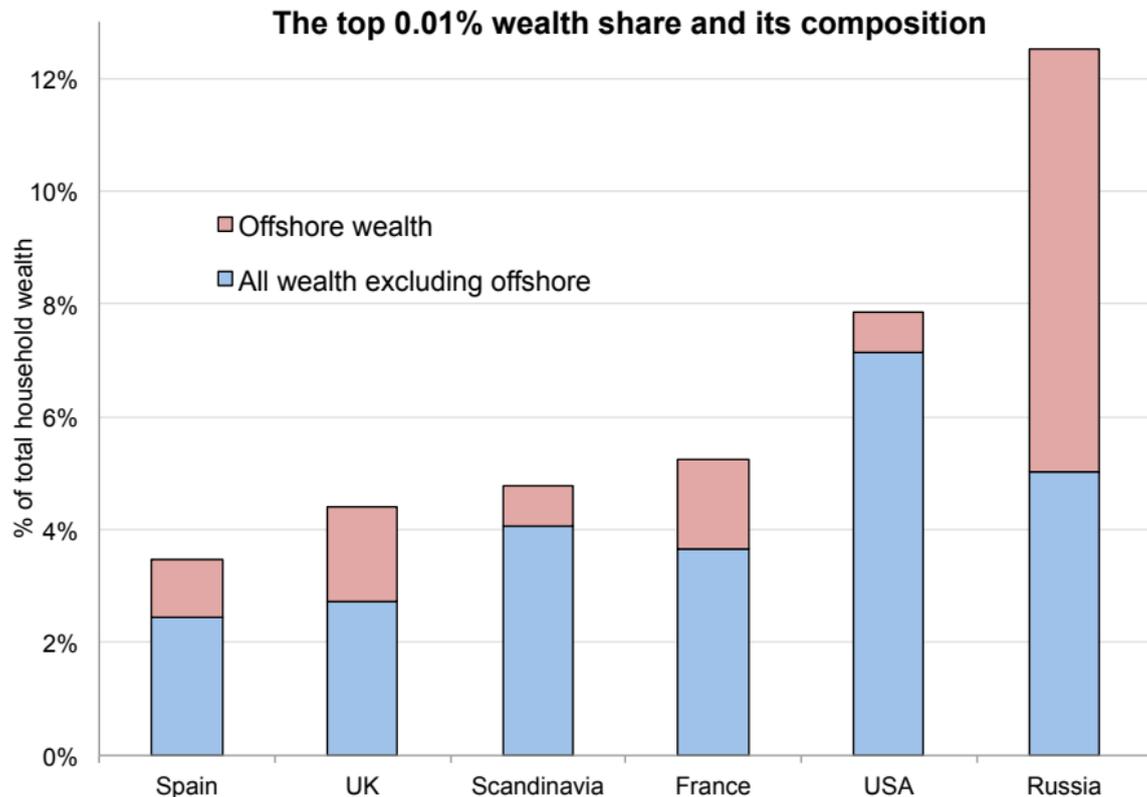
## Five steps:

- ▷ Macro stock of offshore wealth
- ▷ What fraction hidden v declared
- ▷ Distribute like in HSBC and amnesties
- ▷ Apply rate of return
- ▷ Use tax simulator to estimate evaded tax

# Offshore tax evasion vs. tax evasion detected in random audits



# Factoring in offshore wealth is important to measure inequality at the top



# Conclusion

# The redistributive effects of globalization

Much attention has been paid to redistributive effects of international trade:

- ▷ Large academic literature
- ▷ Major effort to coordinate trade policies post-WW2

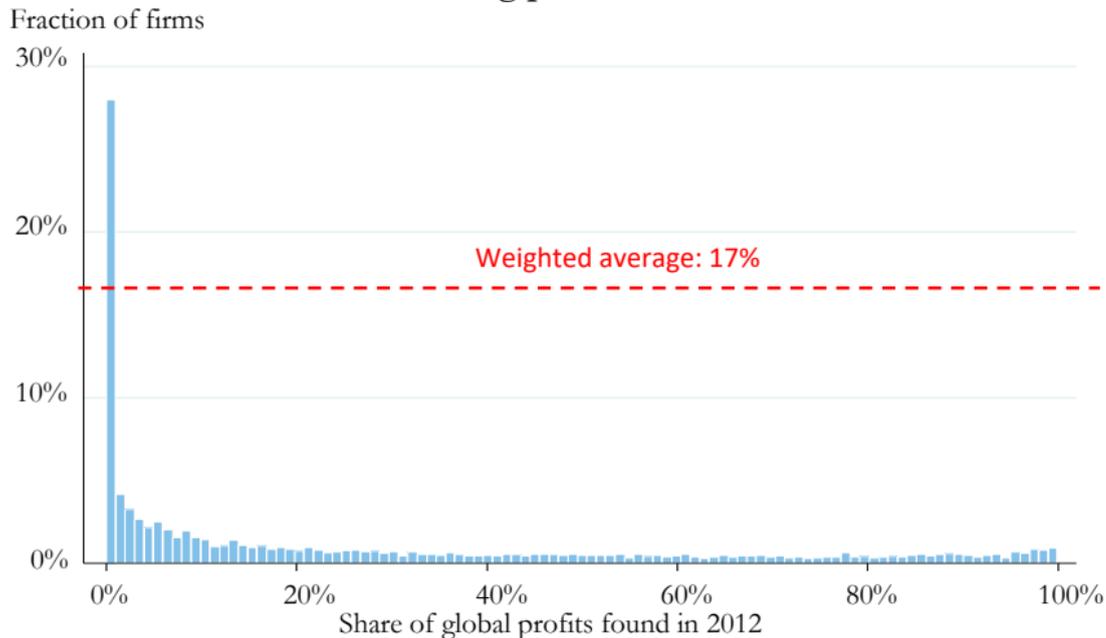
**Less attention has been paid to challenges raised by tax competition, profit shifting, financial opacity:**

- ▷ Major redistribution of revenue both across countries and social groups
- ▷ Need to design policies to address these challenges

Supplementary slides

# Only 17% of multinationals' profits are visible in financial accounts micro-data

## The missing profits in Orbis



# A new global database on profits (2015)

	Billions of current US\$	% of net corporate profits
Global gross output (GDP)	75,038	
Depreciation	11,940	
Net output	63,098	
Net corporate output	34,083	296%
Net corporate profits	11,515	100%
Net profits of foreign-controlled corp.	1,703	15%
Of which: shifted to tax havens	616	5%
Net profits of local corporations	9,812	85%
Corporate income taxes paid	2,154	19%

# Imputation of profits in foreign firms when no FATS exist

Compute profits in foreign firms using direct investment income flows

- ▷ 10% vs. 50% ownership threshold; pre-tax vs. post-tax → impute taxes
- ▷ Assume profits / wage same as for US affiliates

Imputation when no direct investment income data exist:

- ▷ Estimate direct investment income paid such that world DI income balances to 0
- ▷ Two reasons why global DI income  $> 0$ : missing US profits in Ireland etc.; missing BoP → we impute both

# Shifted profits: robustness

$\pi_I$  in havens inflated by inward shifting?

- ▷ Robustness test: vary  $\pi_I \rightarrow$  little difference

Foreign firms different than local firms?

- ▷ Sectoral composition  $\rightarrow$  find  $\pi_f \gg \pi_I$  within sector
- ▷ Capital intensity  $\rightarrow$  decompose  $\pi_f$  into shifting effects vs. movements of capital

# Estimated profits shifted in each haven

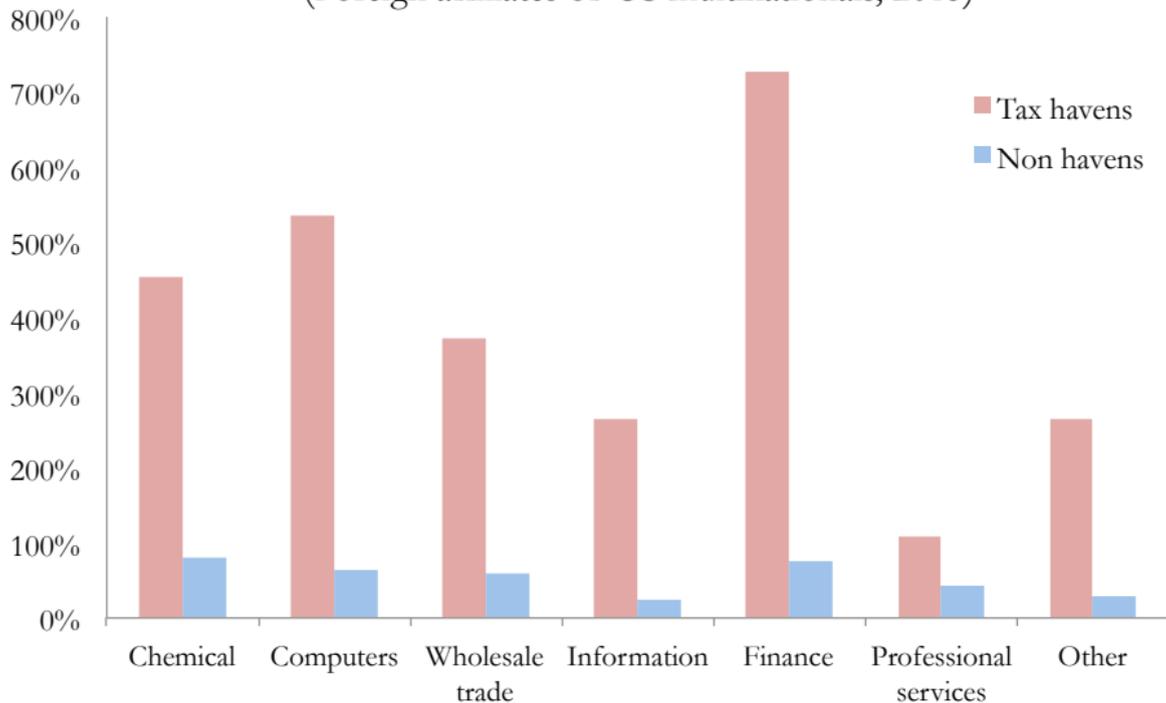
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	<b>Reported pre-tax profits</b>	<i>Of which: Local firms</i>	<i>Of which: Foreign firms</i>	<b>Shifted profits</b>
Belgium	<b>80</b>	48	32	<b>-13</b>
Ireland	<b>174</b>	58	116	<b>-106</b>
Luxembourg	<b>91</b>	40	51	<b>-47</b>
Malta	<b>14</b>	1	13	<b>-12</b>
Netherlands	<b>195</b>	106	89	<b>-57</b>
Caribbean	<b>102</b>	4	98	<b>-97</b>
Bermuda	<b>25</b>	1	25	<b>-24</b>
Singapore	<b>120</b>	30	90	<b>-70</b>
Puerto Rico	<b>53</b>	10	43	<b>-42</b>
Hong Kong	<b>95</b>	45	50	<b>-39</b>
Switzerland	<b>95</b>	35	60	<b>-58</b>
Other				<b>-51</b>

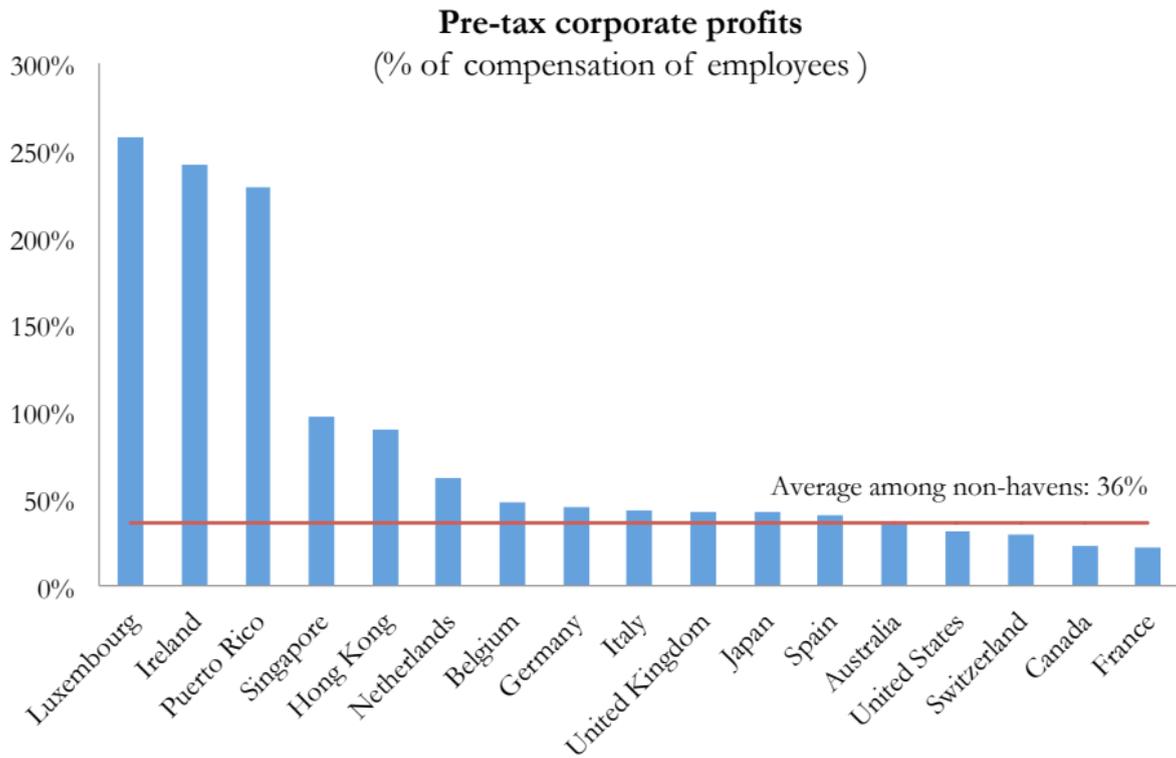
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# Tax haven firms are abnormally profitable within each sector

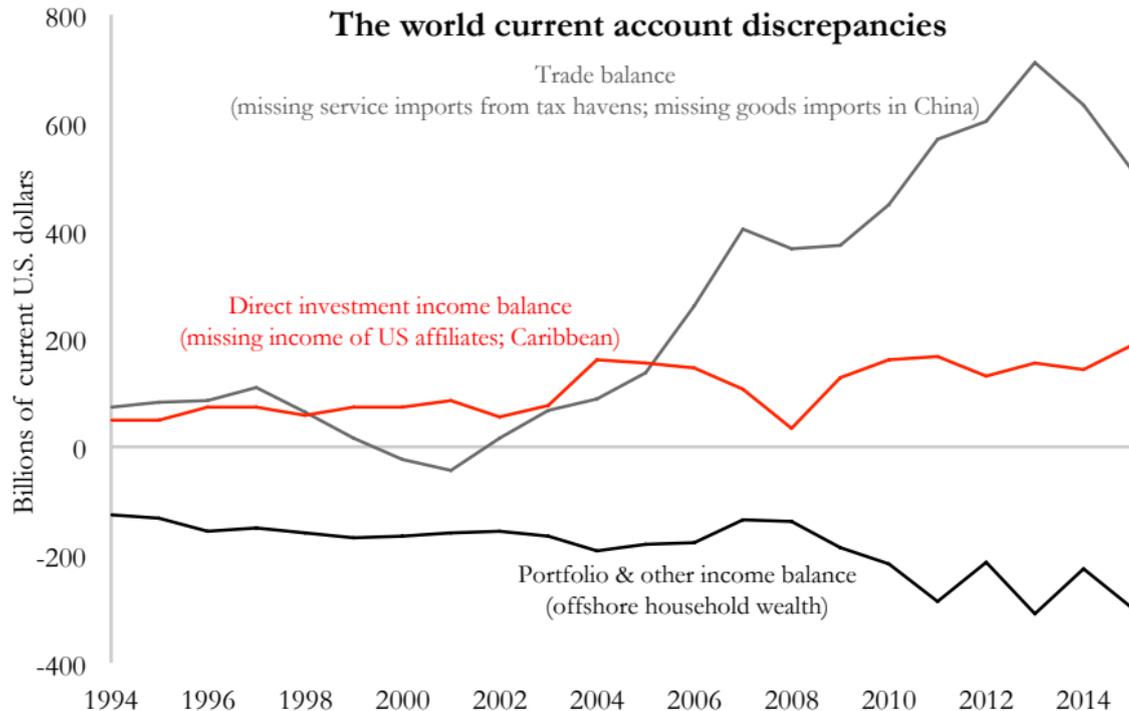
**Pre-tax corporate profits** (% of compensation of employees)  
(Foreign affiliates of US multinationals, 2015)



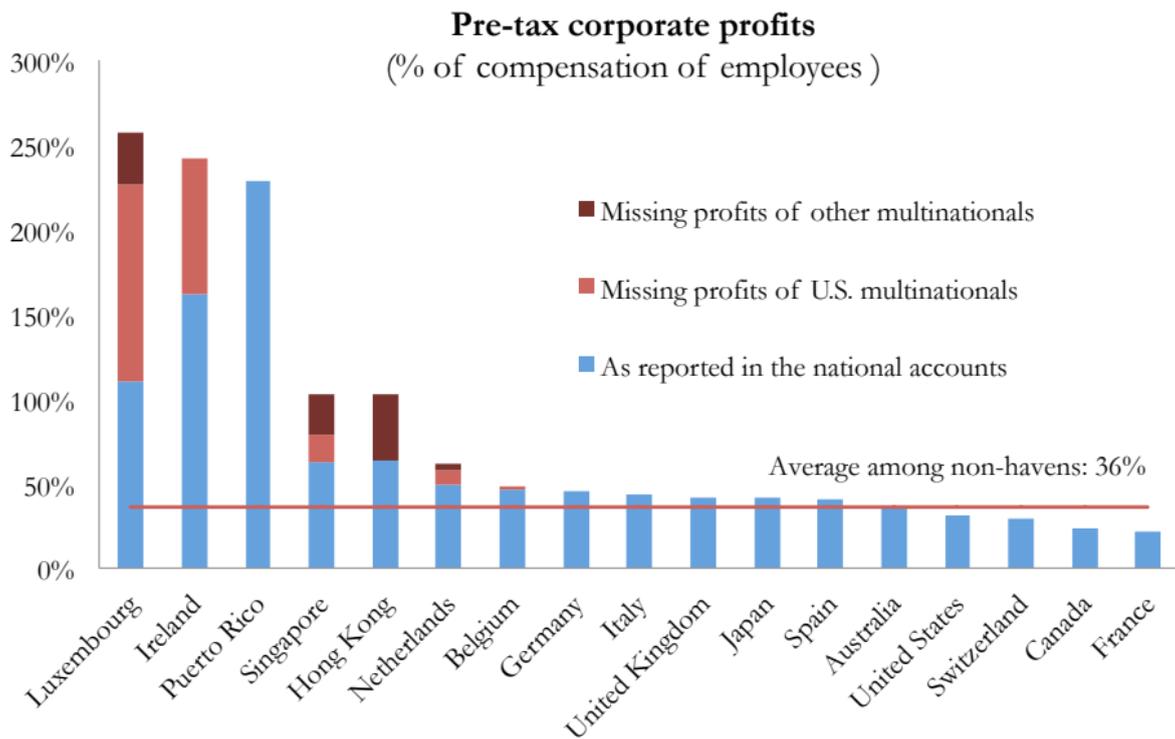
# The huge profits of foreign firms make tax havens abnormally profitable overall



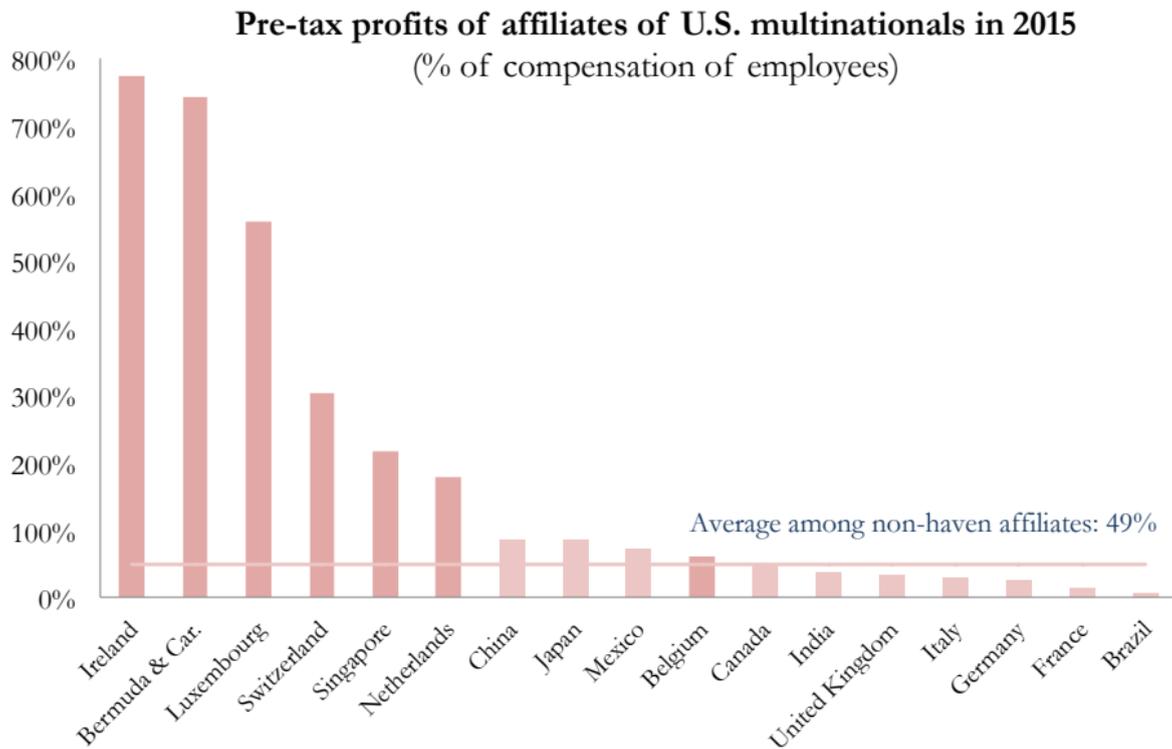
# Anomalies in the world balance of payments



# The unrecorded profits of U.S. affiliates in tax havens

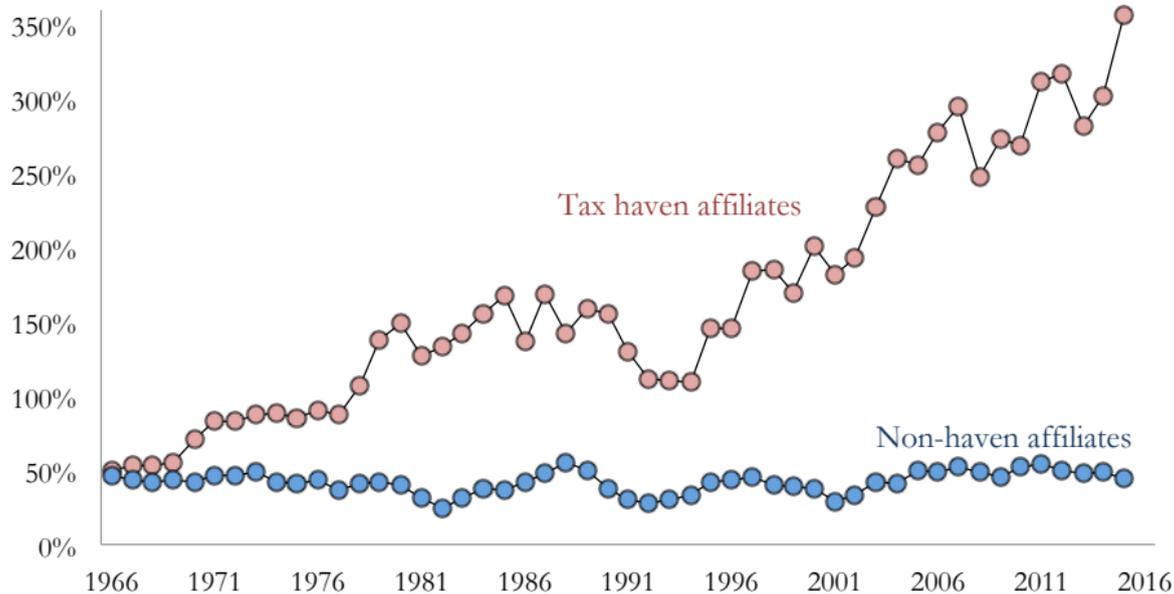


# Tax haven affiliates of U.S. multinationals are abnormally profitable

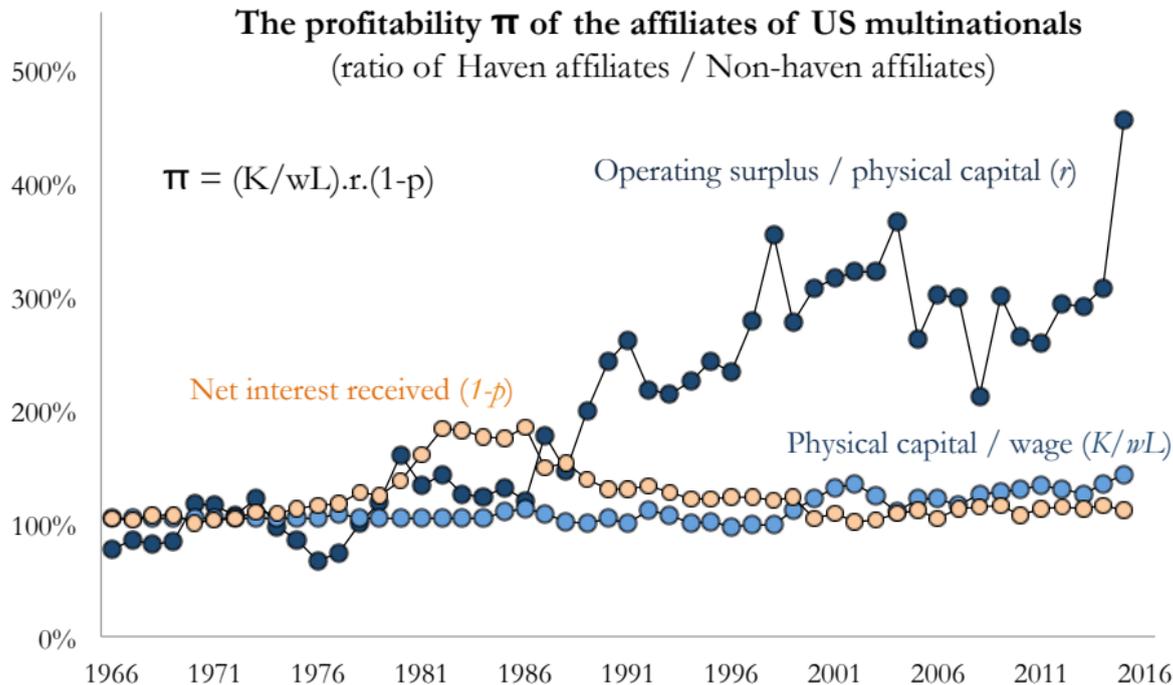


# Tax haven affiliates of US multinationals are abnormally profitable

**Pre-tax profits of affiliates of U.S. multinationals**  
(% of compensation of employees)



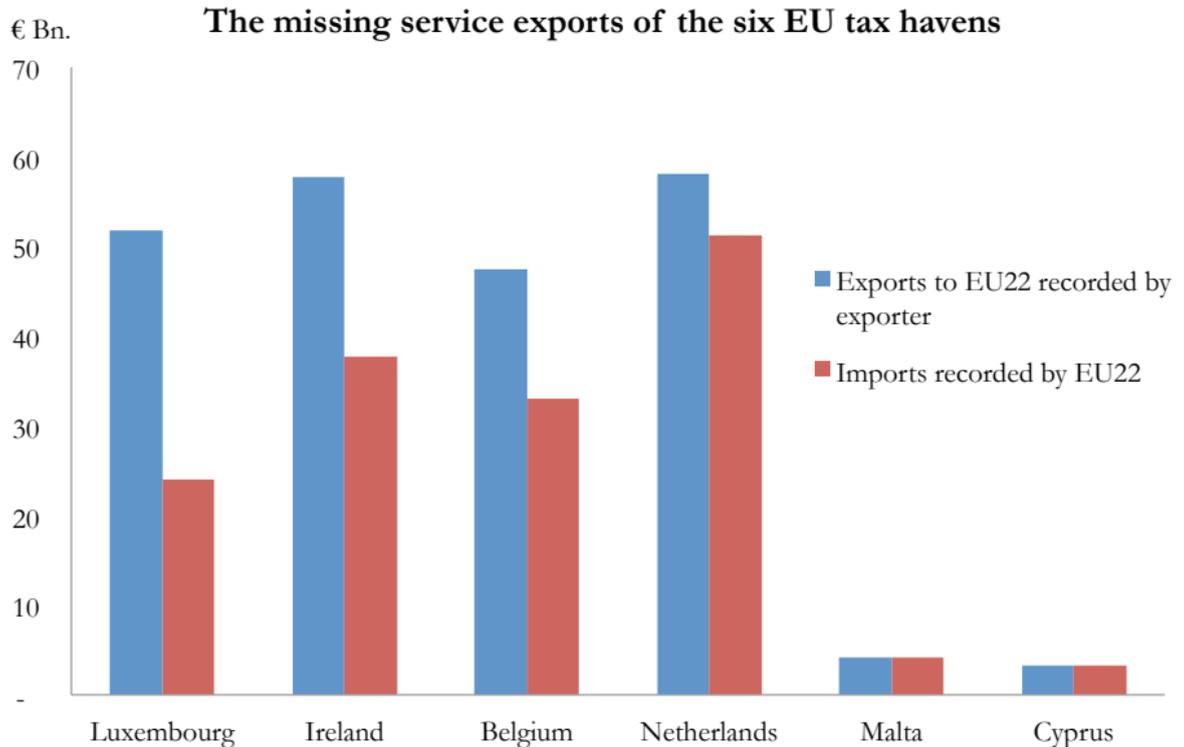
# Decomposing the abnormally high profitability of U.S. affiliates



# Corporate tax revenue losses

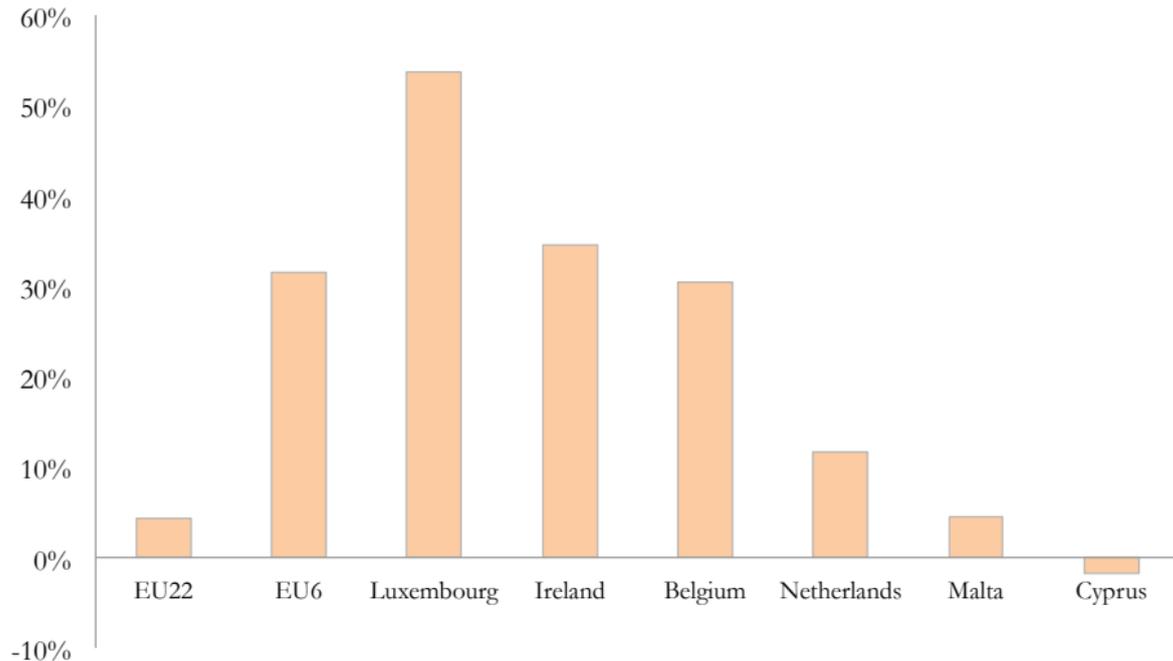


# Service imports from tax havens are under-estimated by importers (B2C sales)



# At least 30% of the services exported by EU havens go unreported by the importer

Missing service exports, % of total service exports



Note: Service exports include exports to all EU22 countries (EU26 minus Luxembourg, Ireland, Belgium, Netherlands, Malta, Cyprus).

# Explaining the rise of profit shifting

# Beggar-thy-neighbor pays off

## **Incentives of havens can explain the rise of shifting:**

- ▷ With source taxation & no coordinat<sup>o</sup> or sanction, havens can earn revenue by attracting paper profits
- ▷ For small countries, revenue-max. rate  $0 < \tau^* < 5\%$ : havens with  $\tau \approx \tau^*$  generate very large tax revenue
- ▷ Can explain the rise of the supply of tax avoidance schemes (e.g., tax rulings: Apple – Ireland)

# Explaining the persistence of profit shifting

# The policy failure of high-tax countries

Why haven't high-tax countries protected their base?

Our explanation: **failure of tax enforcement**

- ▷ In current international tax system, tax authorities have **perverse incentives**
- ▷ Higher expected gain of relocating base booked in other high-tax countries than base shifted to havens
- ▷ Rational outcome: chase profits booked in other high-tax countries, not those shifted to havens

# The incentive problem of tax authorities

€1 re-located to Denmark is worth the same to Denmark whether it comes from Germany or Bermuda

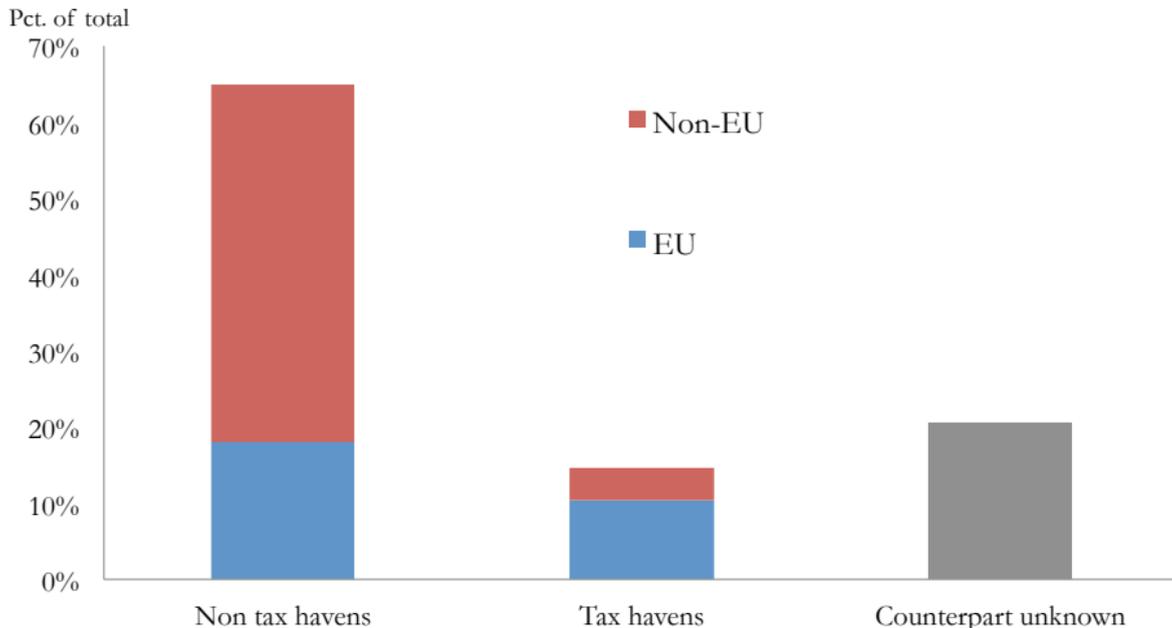
But much easier to relocate €1 booked in Germany:

- ▷ Feasible: information exists (Orbis)
- ▷ More likely to succeed: no push-back from firms
- ▷ Quick: cooperation via dispute settlement agreements

Crowds out enforcement on havens: hard (no data), costly (legal defense by firms), lengthy (lack of cooperation)

# Most transfer price enforcement is against other high-tax countries

Distribution of Danish transfer price corrections (value)

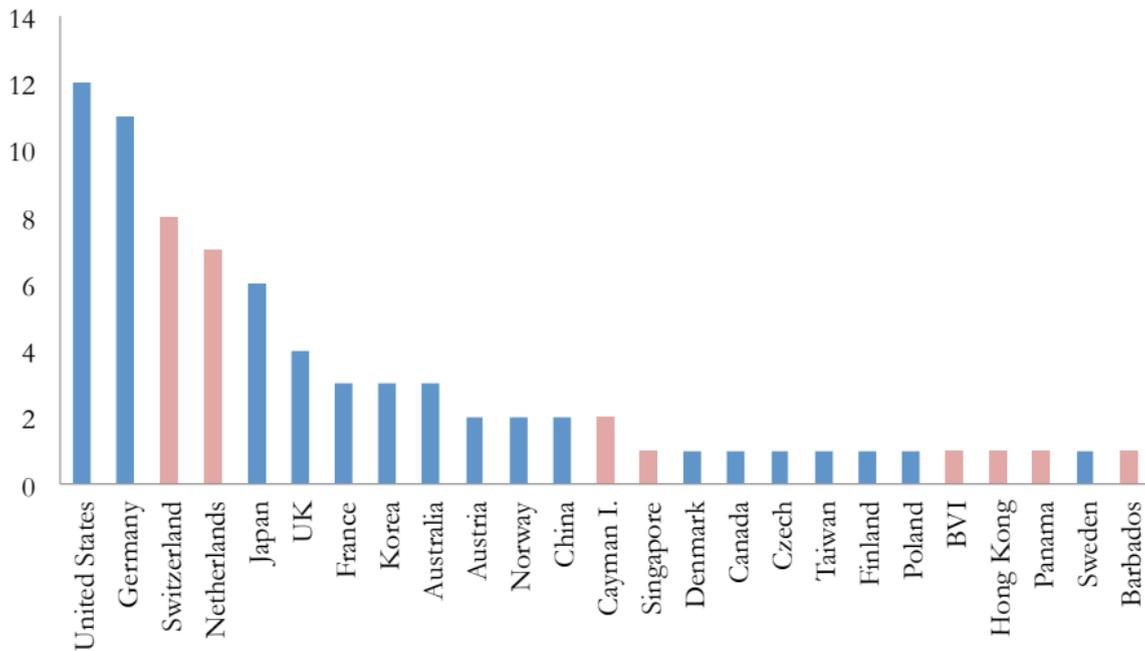


Note: The graph plots the distribution of the value of transfer price corrections by counterpart. Transfer price corrections are cases in which the Danish tax authority have corrected an intra-group cross-border transfer price and as a result raised the taxable profits of firms operating in Denmark. The counterpart is the country that the Danish tax authority argue have received excessive taxable profits. The graph shows that 65% of the value of transfer pricing corrections concerns a high tax country (Non tax haven).

# Most transfer price enforcement is against other high-tax countries

## Countries most often targeted in transfer price disputes

# of times country is among top 3 targets



# Can more cooperation and better information solve the problem?

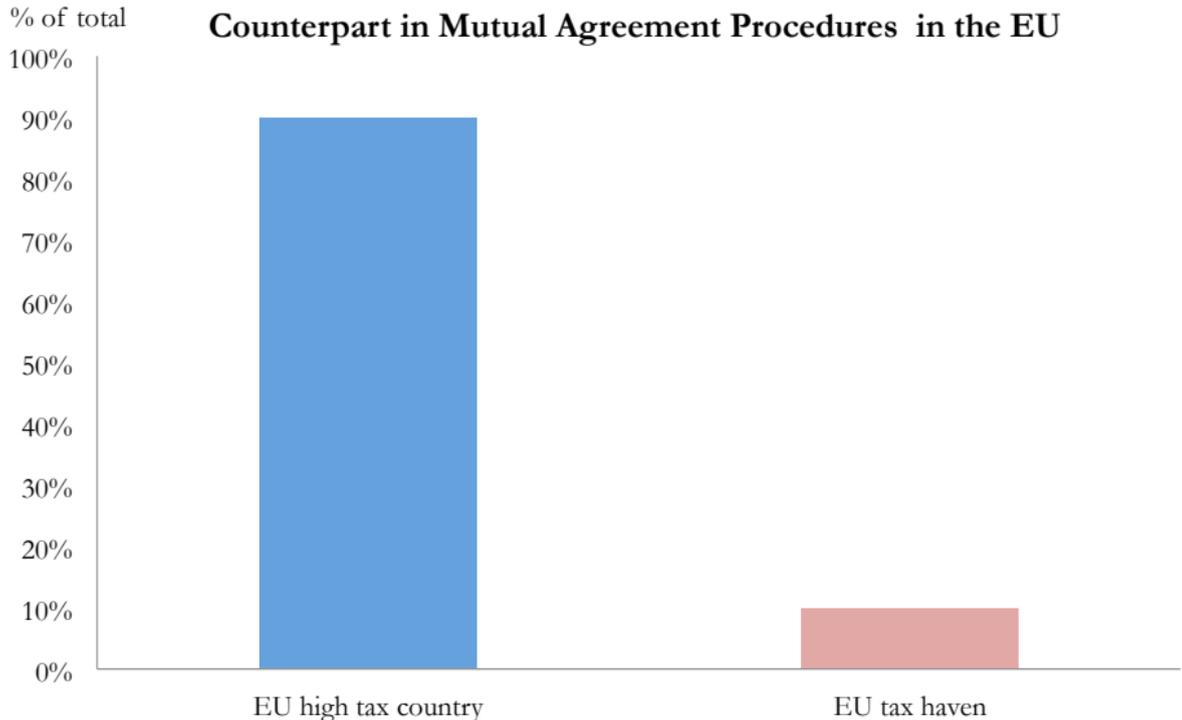
## **Facilitating dispute settlement can backfire:**

- ▷ Ongoing initiative to ↑ cooperation within OECD
- ▷ Problem: crowds out enforcement on non-OECD havens, where bulk of shifting takes place

## **Better information can help, but not enough:**

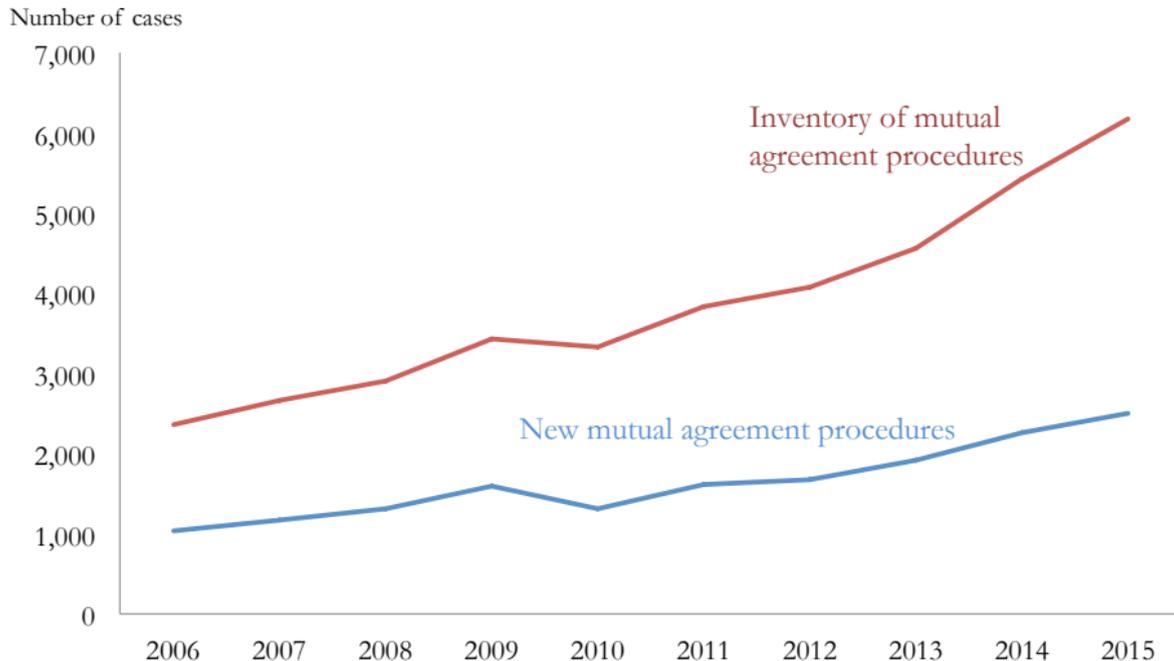
- ▷ Even with perfect info, firms will always fight more to protect profits they book in low-tax places
- ▷ Internalizing this, tax authorities will keep going after high-tax places

# Even when tax havens cooperate, tax authorities do not target them

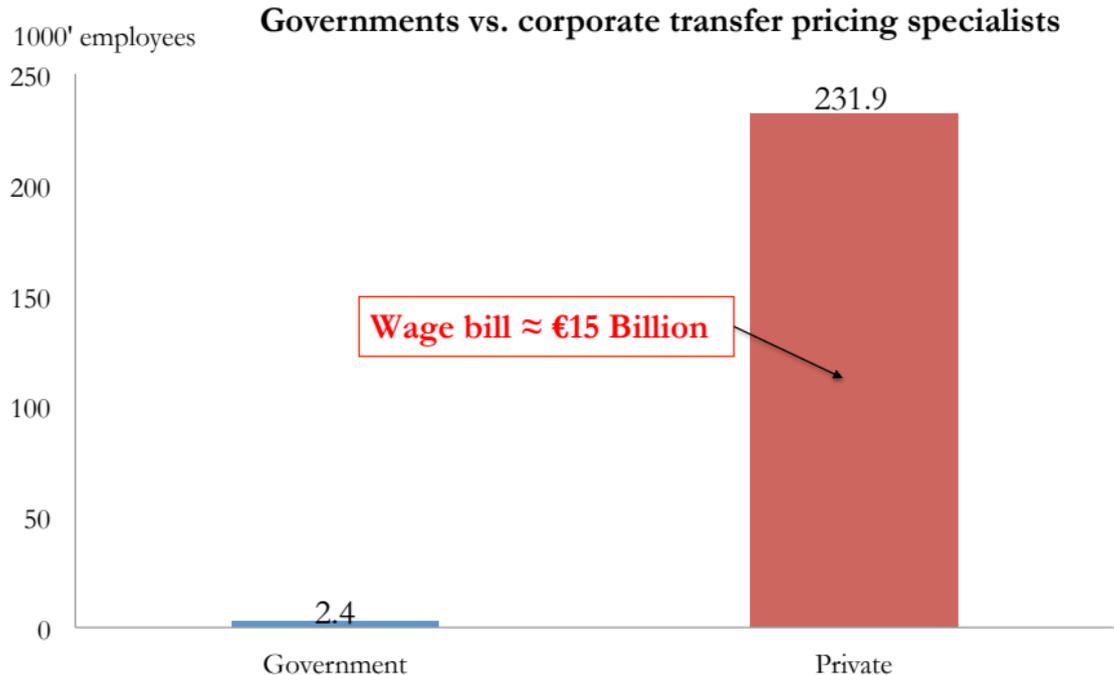


# As settlement is facilitated, high-tax to high-tax disputes are growing

## Number of mutual agreement procedures in the OECD



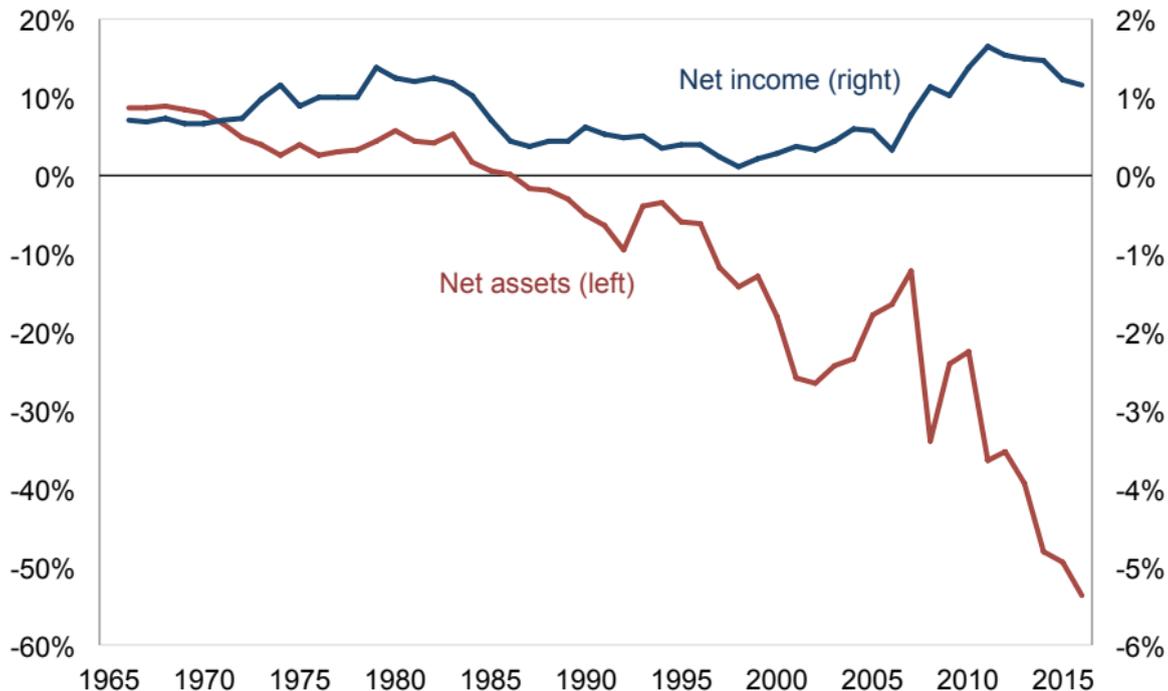
# Multinationals outspend tax authorities



Source is LinkedIn, but the government count is corroborated by the EY Transfer Pricing Tax Authority Survey (2014). The wage bill is estimated by applying the average salary of an EY Transfer Pricing Specialist (Source: Glassdoor).

# Implications of profit shifting for the US “exorbitant privilege”

**The net foreign assets and income of the United States**  
(% of U.S. national income)



# Explaining the income puzzle

Striking direct investment yield differential:

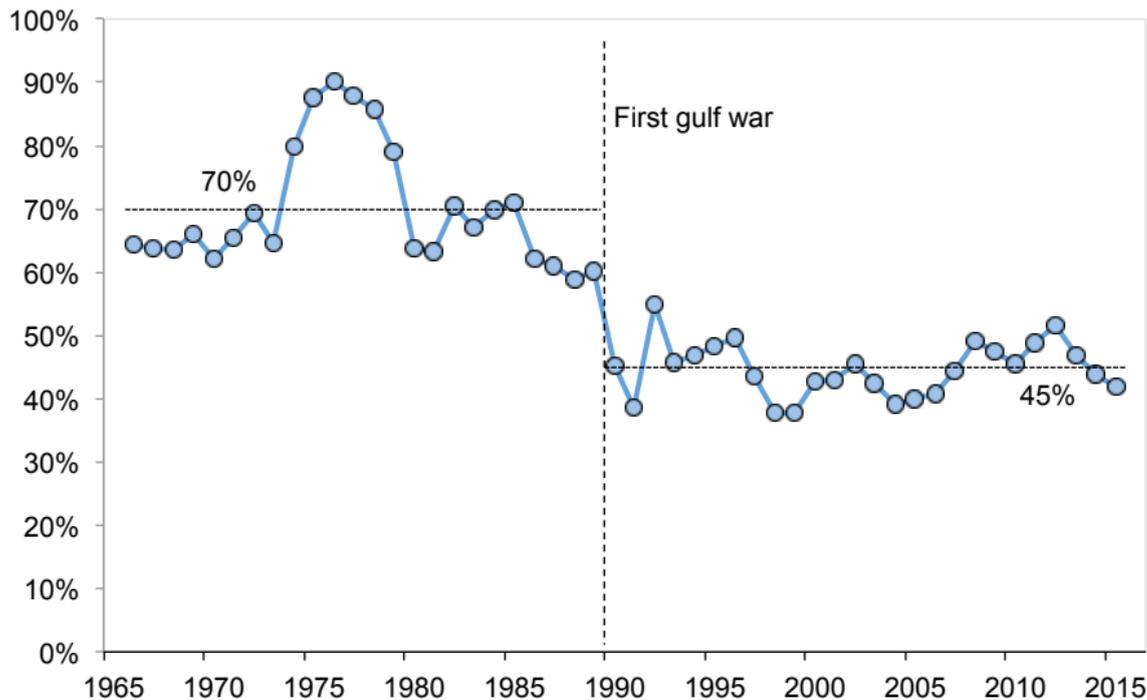
- ▷ 1966–2016 after-tax yield on US direct equity investment abroad: 9.1%
- ▷ Foreign direct equity investment in US: 4.6%

## **Why are U.S. multinationals so profitable?**

- ▷ Standard explanat<sup>o</sup>: bc they are older, take more risks
- ▷ Our explanation: because **pay little foreign taxes**
- ▷ Can explain about half of the U.S. yield differential

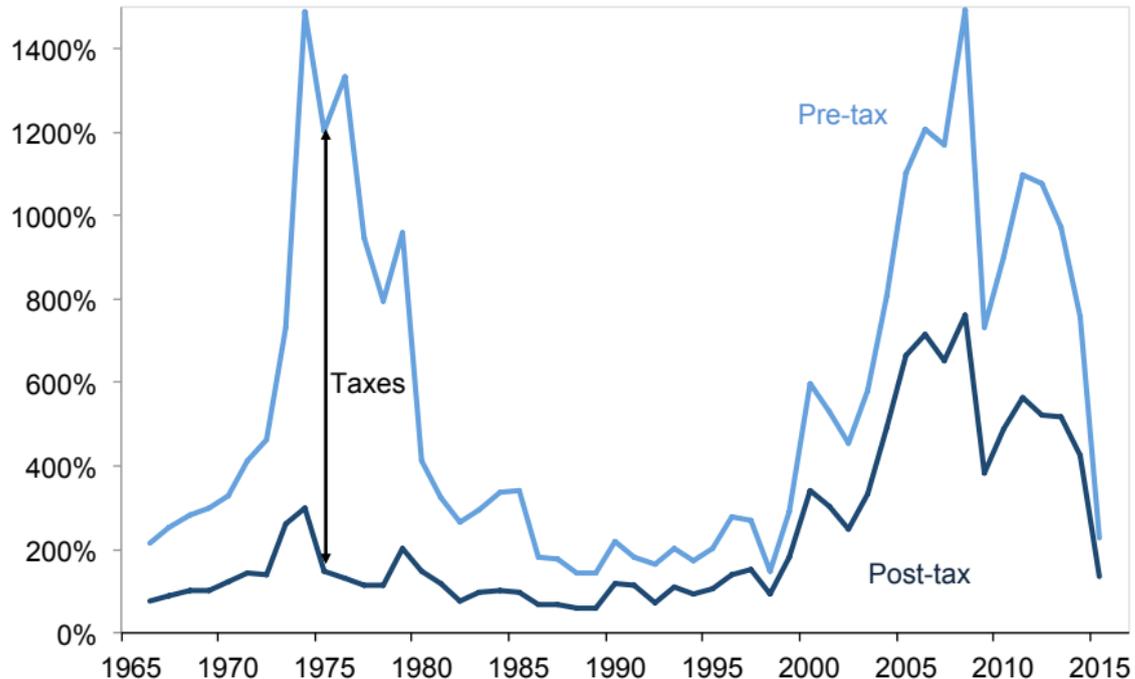
# Taxes levied by oil producers vary a lot over time and fell after the first Gulf War

**Foreign tax rate of US multinationals on foreign profits  
(Oil sector)**



# As foreign tax rates fell, after-tax profitability in the oil sector surged

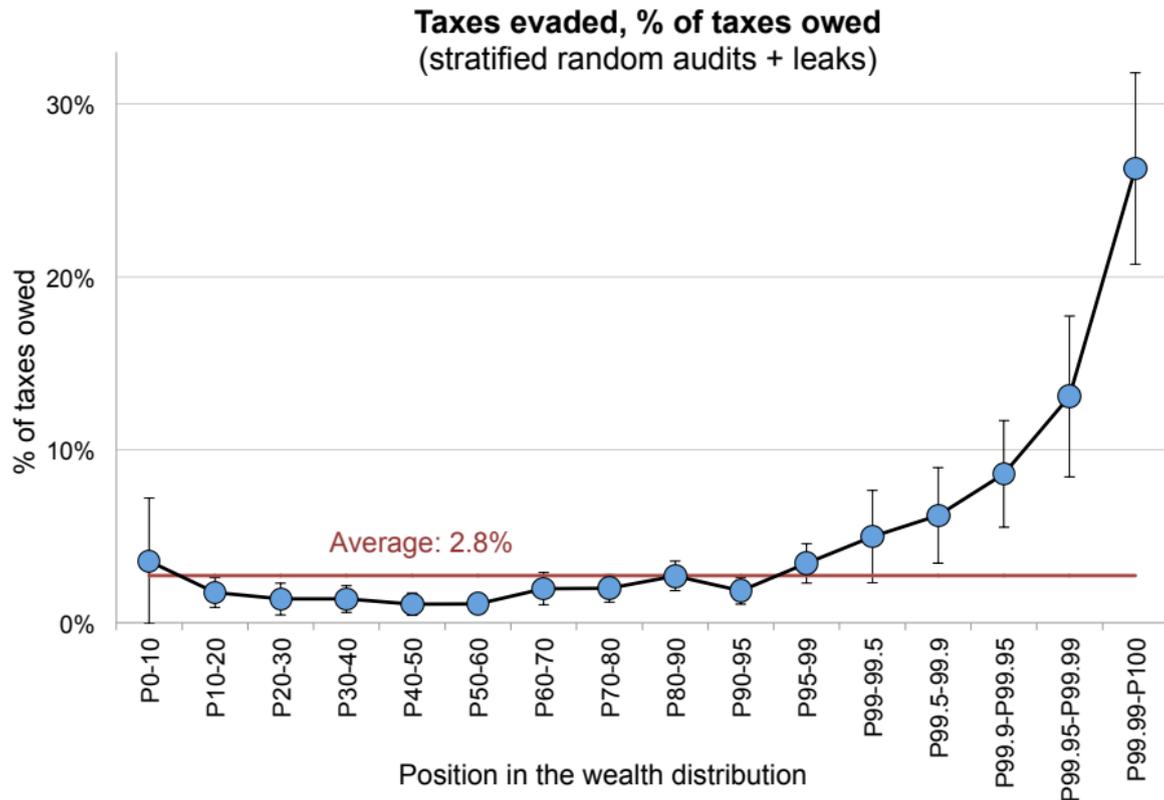
**Profits of foreign affiliates of US oil multinationals**  
(% of compensation of employees paid)



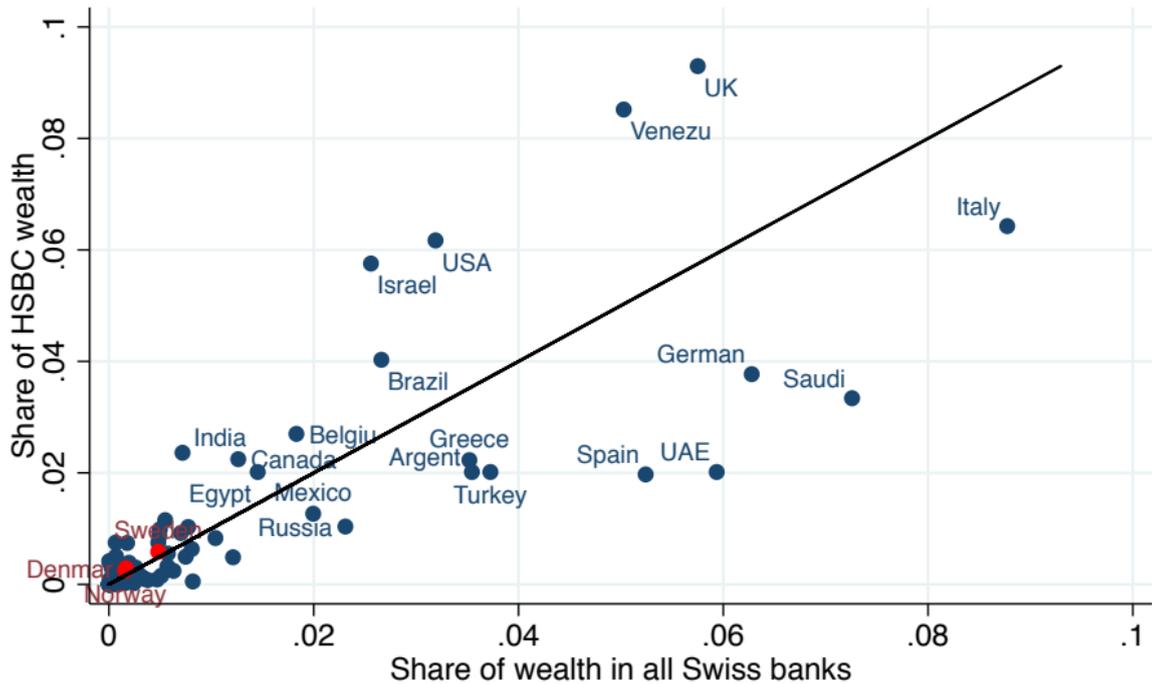
# Explaining the yield differential on US direct investment

- ▷ Tax avoidance by US multinationals: 30%
    - ▷ Key role of 1996 check-the-box regulations
  - ▷ Low taxes levied by oil-producing states: 20%
    - ▷ Return on military protection granted by US to oil-producing states?
    - ▷ Tax competition among oil producing countries?
- **Key role of policies and geopolitics** in explaining “exorbitant privilege” of the US

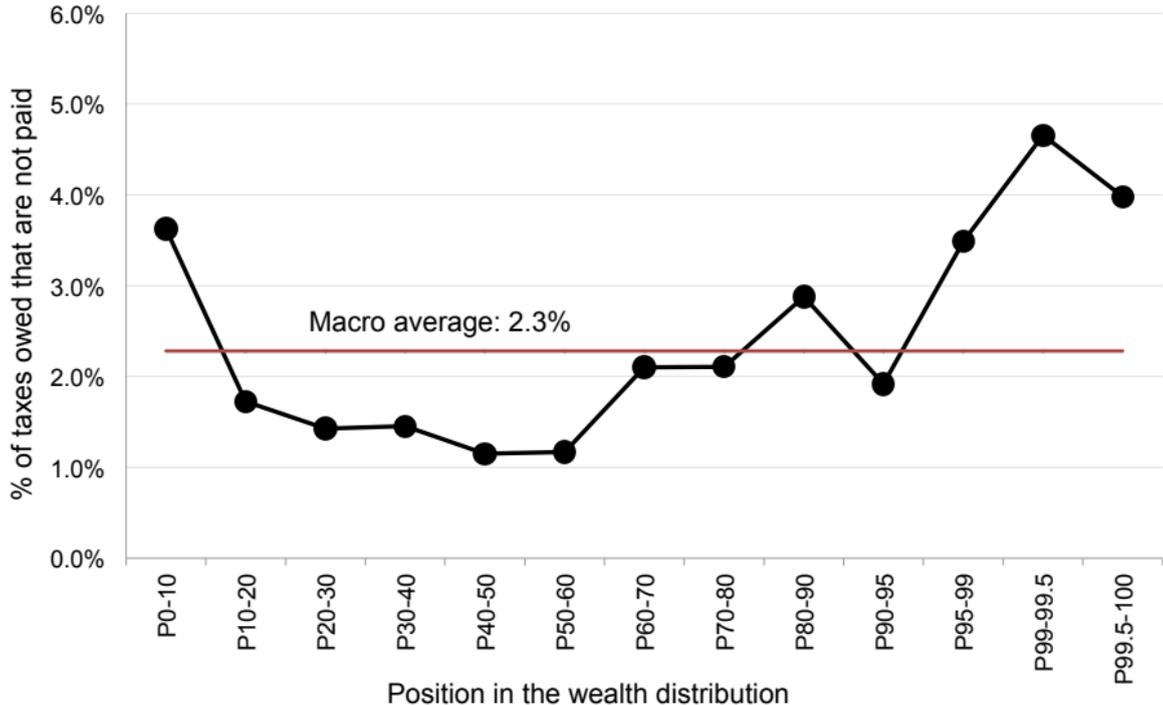
# Main result: tax evasion is small overall but high at the top



# HSBC vs. other Swiss banks

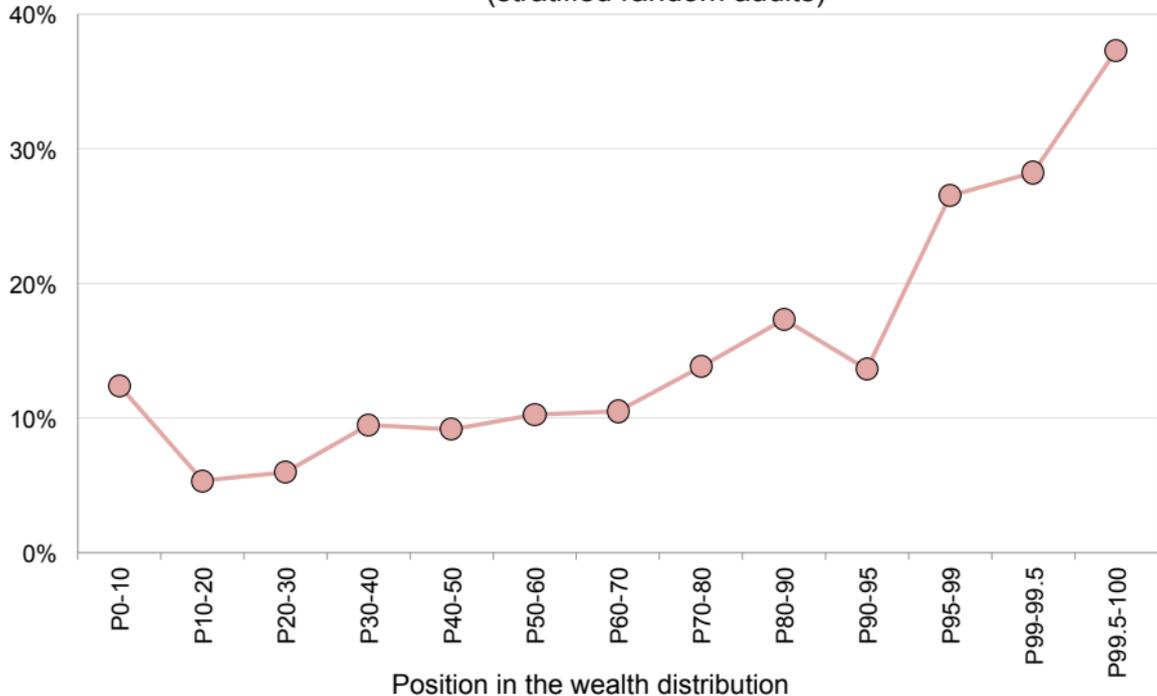


# Tax evasion detected in random audits

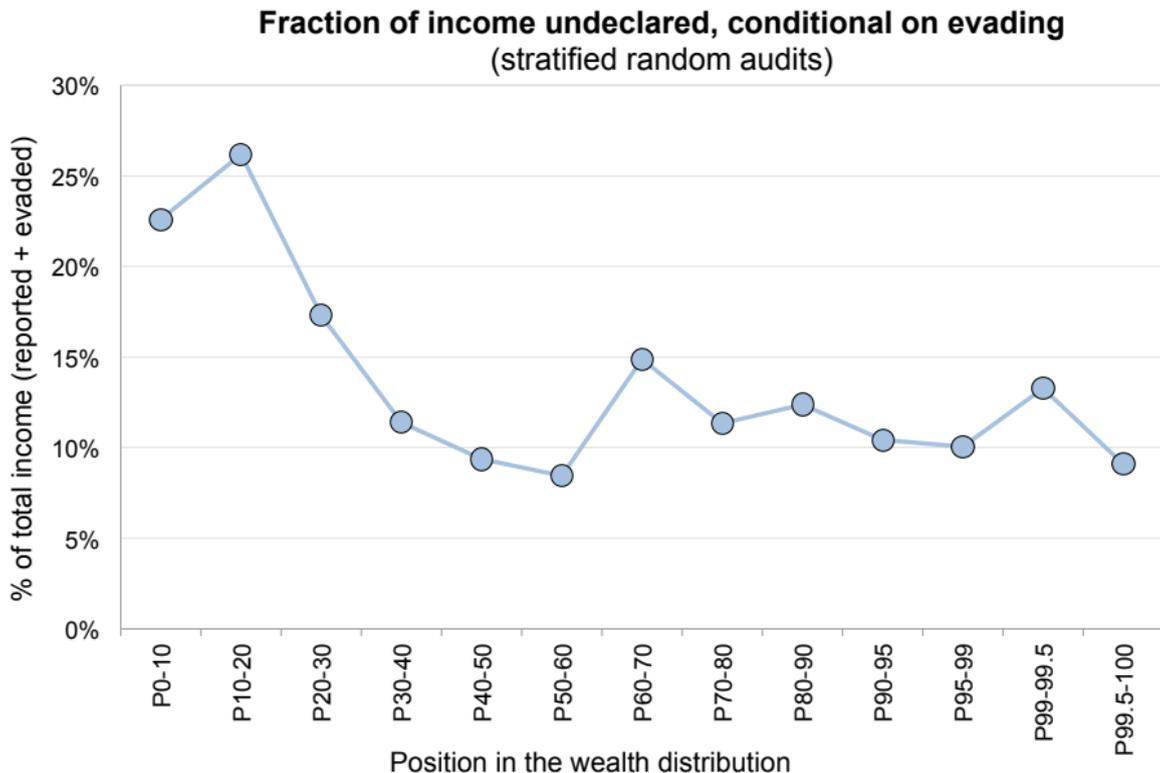


# Random audits detect a lot of errors on tax returns

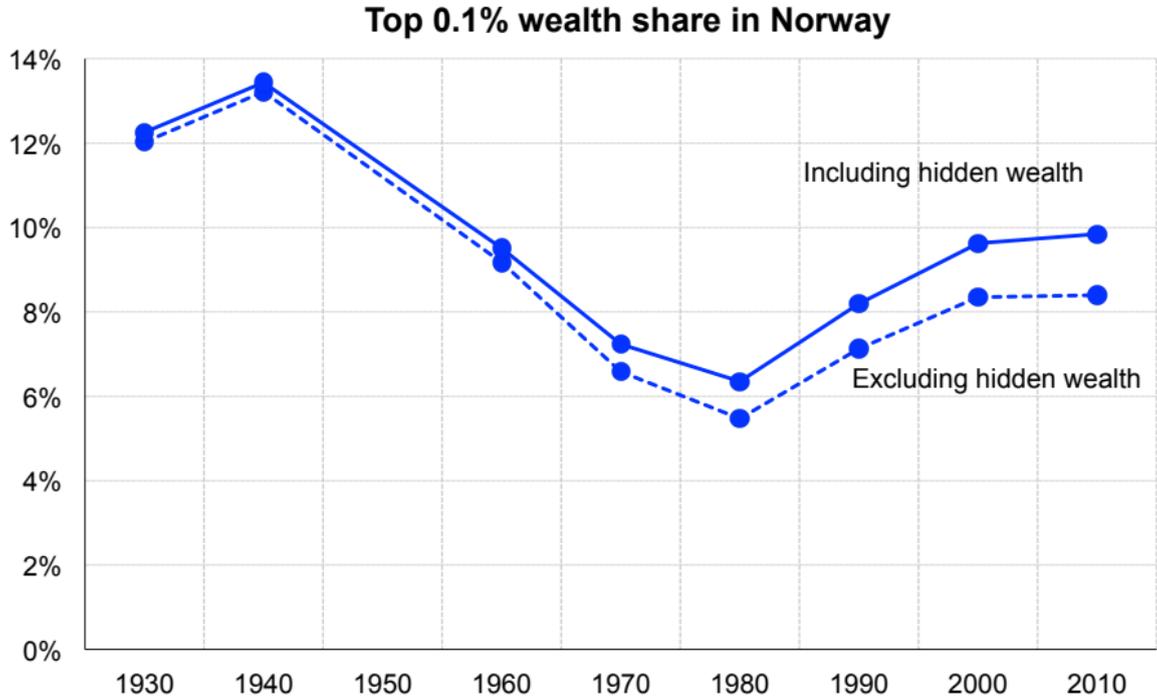
**Fraction of households evading taxes, by wealth group**  
(stratified random audits)



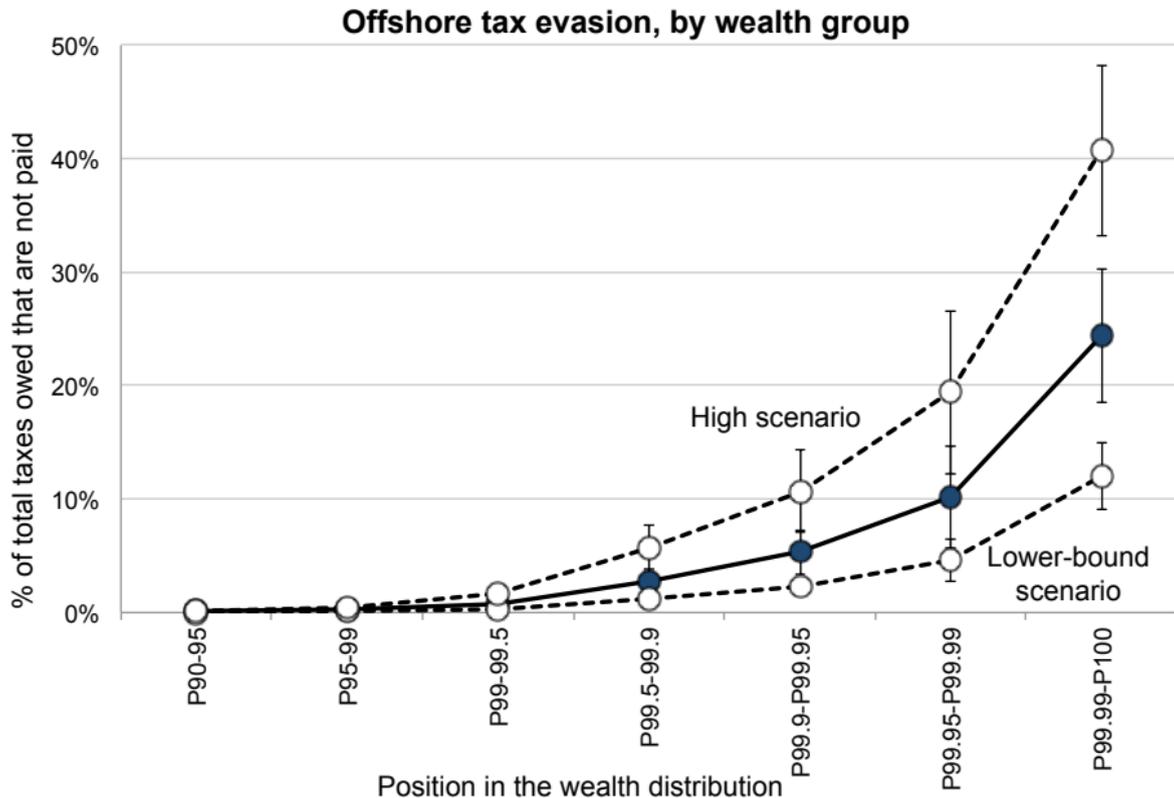
# But random audits fail to capture sophisticated evasion at the top



# Accounting for hidden wealth increases top wealth shares substantially



# Tax evasion on hidden wealth: bounds



# On aggregate, Scandinavian countries own relatively little offshore wealth

**Offshore wealth / GDP**  
(All countries with GDP > \$200 billion in 2007)

