

# A European Wealth Tax for a Fair and Green Recovery

FMM Conference 2021

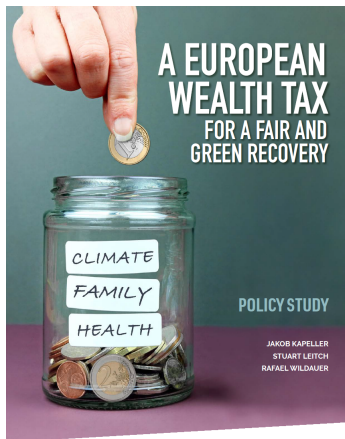
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# Motivation

# Distribution of Wealth in the EU



- We know a lot about US, UK, France ...
- much less about EU as a whole.
- Our [paper](#) makes two contributions:
  - 1 Estimate wealth distribution for the EU22<sup>a</sup> (90.7% of EU27 GDP)
  - 2 Based on that calculate revenues for four wealth tax designs
- Joint work with Jakob Kapeller and Stuart Leitch

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<sup>a</sup>EU27 minus Bulgaria, Czechia, Denmark, Romania and Sweden.

## What do we find?

- ① Wealth in the EU is heavily concentrated at the top
- ② Extreme inequality means high revenue potential for wealth taxes

# Methodology

# Estimating Europe's Wealth Distribution

- wealth = household net wealth (i.e. assets minus liabilities)
- data from ECB's Household Finance and Consumption Survey (HFCS)
- surveys: poor tail coverage (HFCS, WAS) because
  - ▶ **nonobservation bias** (Eckerstorfer et al. 2016)
  - ▶ **differential nonresponse bias** (Bricker et al. 2016, D'Alessio & Faiella 2002, Osier 2016)

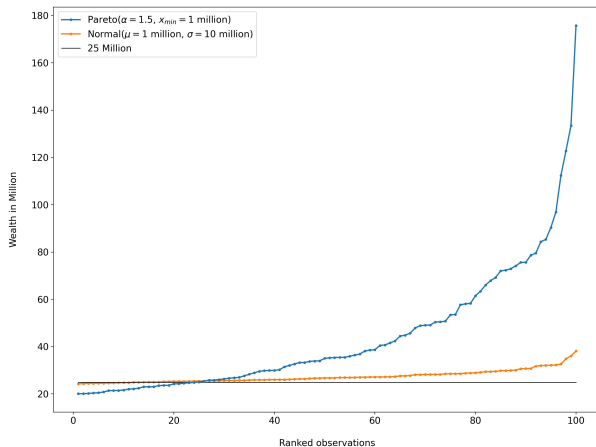
# Fitting Pareto tails to wealth survey data I

household wealth survey data comes with challenges

- 1) tail coverage varies considerably across countries
  - a) Netherlands: richest observation net wealth of €8 million
  - b) Germany: €31 million
  - c) France: €181 million
- 2) the very richest households are missing
  - a) no billionaire observations
  - b) in many countries only single or low double digit millionaires

# Fitting Pareto tails to wealth survey data II

- We deal with these problems by fitting a Pareto tail
- Key feature: Pareto distribution is heavy tailed
- compare richest 100 observations from a sample of 10000



Plotted after discarding richest 6 observations from Pareto draw



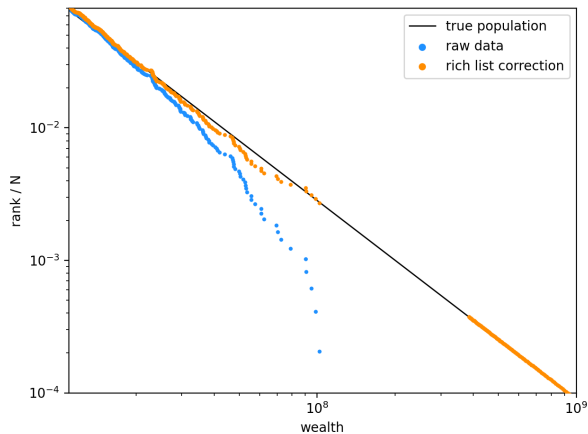
## Fitting Pareto tails to wealth survey data III

We proceed in four steps:

- ➊ Add observations from Forbes world's billionaire list and fit Pareto distribution (Vermeulen 2018)
- ➋ Step 1 is repeated for top 10 percentiles as cut-off and best fit based on Cramver-von-Mises goodness of fit test selected (Eckerstorfer et al. 2016, Clauset et al. 2009)
- ➌ Combine survey data with households generated from estimated distribution
- ➍ Correct those countries with no Forbes entries based on the following regression:

$$Top1_{Pareto} / Top1_{HFCS} = \beta_0 + \beta_1 oversamp + \beta_2 response + \epsilon$$

## A Pareto tail in income or wealth



- two random samples (raw and rich list) of 4880 households
- from  $\text{Pareto}(\alpha = 1.5; x_{\min} = 2 \cdot 10^6)$
- raw data suffers from differential nonresponse: richest 1000 households missing
- rich list data includes richest 150 households

## Europe's Wealth Distribution

# Who is who?

- Detailed distribution tabulations for all 22 countries in [▶ Online Appendix](#)
- For now let's focus on the EU22 distribution:
  - ▶ The poorest 20% of the population:  $\leq \text{€}7,000$
  - ▶ The poorest 50% (median):  $\leq \text{€}90,000$
  - ▶ The richest 10%:  $\geq \text{€}490,000$
  - ▶ The richest 3%:  $\geq \text{€}1,039,000$
  - ▶ The richest 1%:  $\geq \text{€}2,153,000$
- Keep in mind net wealth: house worth  $\text{€}700,000$  with mortgage of  $\text{€}500,000$  means net wealth of  $\text{€}200,000$

## Who owns how much?

- the richest 1% of households hold 32% of total wealth in the EU22
- some individual countries:
  - ▶ Italy: 27%
  - ▶ Poland: 33%
  - ▶ Germany: 38%
- how does that compare?
  - ▶ South Korea: 25% (2015)
  - ▶ China: 30% (2015)
  - ▶ USA: 35% (2017)
  - ▶ Russia: 43% (2015)
- Europe is much more unequal than we like to think

## Comparing our results to other data sources

Table 3: Assessing the model fit

<b>German top wealth shares</b>	<b>Raw survey*</b>	<b>Survey + Pareto*</b>	<b>Schröder et al 2020*</b>
Top 1%	18.6%	37.7%	35.3%
Top 5%	40.8%	55.2%	54.9%
Top 10%	55.4%	66.3%	67.3%
<b>French top wealth shares</b>	<b>Raw survey*</b>	<b>Survey + Pareto*</b>	<b>Garbinti et al 2020*</b>
Top 1%	17.1%	27.5%	23.4%
Top 5%	35.5%	43.9%	43.1%
Top 10%	49.2%	55.9%	55.3%
<b>Total wealth EU22</b>	<b>Raw survey**</b>	<b>Survey + Pareto**</b>	<b>Krenek and Schratzenstaller 2018**</b>
	35,713	43,629	49,599
<b>Billionaires in the EU22</b>	<b>Raw survey</b>	<b>Survey + Pareto</b>	<b>National rich lists</b>
	0	461	431

\*% of total wealth holdings, \*\*€bn. Source: raw survey estimates are from the HFCS's third wave and the survey + pareto results are based on the authors' calculations (eg. Table 2).

## A European Wealth Tax

# Wealth Tax Models

	<b>model I</b>
<b>approach</b>	flat tax
<b>threshold</b>	€1 million
<b>tax brackets</b>	
€1 million	2%
€2 million	2%
€5 million	2%
€10 million	2%
€50 million	2%
€100 million	2%
€500 million	2%



# Wealth Tax Models

	<b>model I</b>	<b>model II</b>
<b>approach</b>	flat tax	mildly progressive
<b>threshold</b>	€1 million	€1 million
<b>tax brackets</b>		
€1 million	2%	1%
€2 million	2%	2%
€5 million	2%	3%
€10 million	2%	3%
€50 million	2%	3%
€100 million	2%	3%
€500 million	2%	3%

## Wealth Tax Models

	<b>model I</b>	<b>model II</b>	<b>model III</b>
<b>approach</b>	flat tax	mildly progressive	strongly progressive
<b>threshold</b>	€1 million	€1 million	€2 million
<b>tax brackets</b>			
€1 million	2%	1%	
€2 million	2%	2%	2%
€5 million	2%	3%	3%
€10 million	2%	3%	5%
€50 million	2%	3%	7%
€100 million	2%	3%	8%
€500 million	2%	3%	10%

## Wealth Tax Models

	model I	model II	model III	model IV	
<b>approach</b>	flat tax	mildly progressive	strongly progressive	wealth cap	
<b>threshold</b>	€1 million	€1 million	€2 million	0.5 times av wealth (€130,000)	
<b>tax brackets</b>				<b>tax brackets</b>	
€1 million	2%	1%		$\emptyset \times 0.5$	0.1%
€2 million	2%	2%	2%	$\emptyset \times 2$	1%
€5 million	2%	3%	3%	$\emptyset \times 5$	2%
€10 million	2%	3%	5%	$\emptyset \times 10$	5%
€50 million	2%	3%	7%	$\emptyset \times 10^2$	10%
€100 million	2%	3%	8%	$\emptyset \times 10^3$	60%
€500 million	2%	3%	10%	$\emptyset \times 10^4$	90%

## Revenue estimation

		<b>Survey data + Pareto tail</b>	<b>Survey data + Pareto tail + evasion effects</b>
model I: flat tax	€ bn.	271	192
	% GDP	2.3%	1.6%
model II: mildly progressive	€ bn.	316	224
	% GDP	2.7%	1.9%
model III: strongly progressive	€ bn.	505	357
	% GDP	4.3%	3.0%
model IV: wealth cap	€ bn.	1,837	1,281
	% GDP	15.5%	10.8%

## Funding a Green Deal

## Green Investment Requirements

- European Commission estimates additional investment of 350 billion Euro annually necessary to tackle climate change (EC 2021)
- Commission's assessment most likely a grave underestimation
- Making Europe's buildings energy efficient requires threefold increase of current renovation efforts, additional 490 billion Euro (EC 2019)
- Wildauer et al. (2020): across all sectors excluding transport 850 billion Euro needed annually (7.2% of GDP)
- wealth tax revenue model III (strongly progressive): 357 - 505 billion Euro (3% - 4.3% of GDP)

## Conclusion

# Conclusion

- ① Wealth in Europe is highly concentrated at the top (top 1% share of 32%)
- ② Flip side of unequal distribution is high revenue potential of a wealth tax
- ③ 1.9% to 3% of GDP in annual revenues with mildly or strongly progressive designs
- ④ 10.8% with Piketty wealth cap design
- ⑤ Could be key to close green funding gap of 7.2% of GDP
- ⑥ It is also feasible given tax authorities are given the required tools



Thank you!

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## Appendix

## Accounting for tax evasion

- Based on the literature we assume the following proportion of the tax base is lost due to evasion:
- real estate 20%, financial wealth 24%, directly held companies 13% and other assets 100%
- in addition we model strong evasion as: real estate 20%, financial wealth 48%, directly held companies 26% and other assets 100%

## A well-designed European Wealth Tax ...

should be introduced along the following lines:

- ① Levied at European level or coordinated European approach
- ② Based on current prices
- ③ Well-equipped tax authorities
- ④ Information exchange and pre-filled tax files
- ⑤ Pressure on tax haven on information exchange