

The Return of Inheritance

D. Guzzardi ¹ S. Morelli²

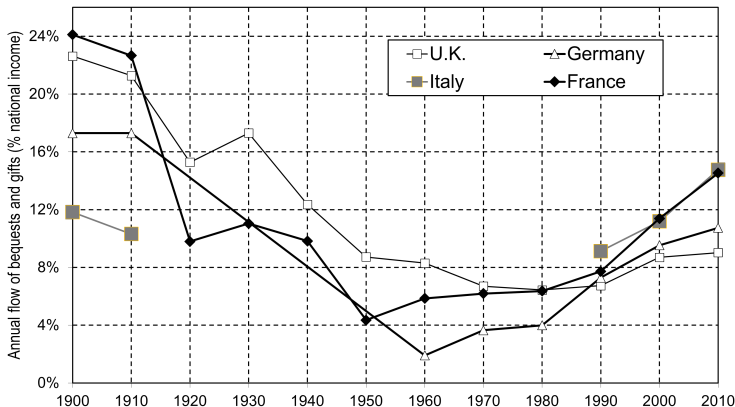
February 26, 2025 - Luxembourg - 2025-2nd III/LIS Comparative Economic Inequality
Conference

¹University of Calabria & Scuola Superiore Sant'Anna Pisa

²University of Roma Tre

The growing relevance of inheritance & gift flows

The inheritance flow in Europe 1900-2010



Long-standing interest (e.g., Kotlikoff and Summers, 1981, Kotlikoff, 1988, Modigliani, 1988, Davies and Shorrocks, 2000; Piketty (2011); Alvaredo, Garbinti, and Piketty, 2017; Atkinson, 2013; Acciari, Alvaredo, and Morelli, 2024; Gabbuti and Morelli, 2024).

- Wealth transfers crucial economic resources for households.
- Increasing role of bequests may restrict the space of opportunities and reduce economic dynamism
- Changing role of wealth accumulation
- “If inheritance is returning, then we need to look again at its role as a basis for taxation” (Atkinson, 2018)

Substantial data gap persists...

“There exists substantial uncertainty regarding the relative magnitude of inherited wealth and self-made wealth in aggregate wealth accumulation, and how this changes over time and across countries

F. Alvaredo, B. Garbinti, and T. Piketty, 2017, Economica)”

Our main research questions

Our research questions

1. What are the global and regional levels and trends in bequests flows?
2. What is the contribution of wealth transfers to the overall accumulation of wealth around the world? (*preliminary estimates*)
3. What is the trend in the average inheritance and estate tax rate across different countries?

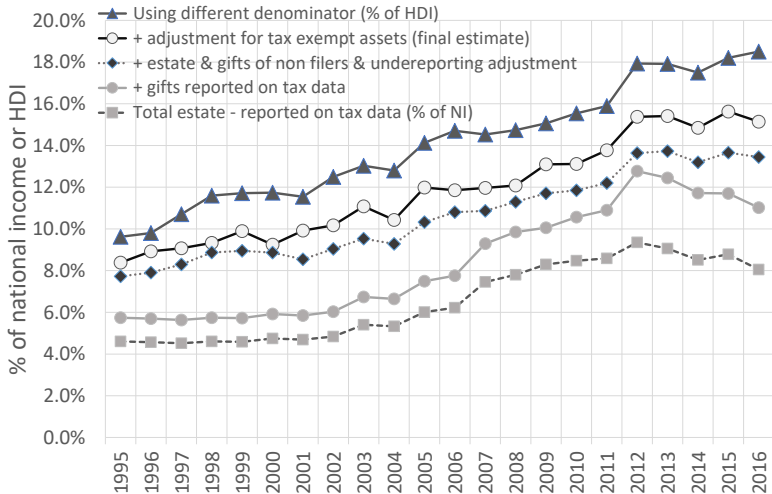
Our research questions

1. What are the global and regional levels and trends in bequests flows?
2. What is the contribution of wealth transfers to the overall accumulation of wealth around the world? (*preliminary estimates*)
3. What is the trend in the average inheritance and estate tax rate across different countries?
4. What can we say about the elasticity of bequests to tax rates and what is the optimal inheritance tax rate? (*work in progress*)

How do we estimate the total bequest flows?

- **Fiscal flow approach:** using bequest and gift tax data making allowances for tax-exempt assets and non-filers (Piketty 2011; Shinke 2012; Atkinson, 2013; Ohlsson et al. 2016; Brülhart et al. 2017; Acciari and Morelli, 2021; Gabbuti and Morelli, 2024)

Fiscal flow estimates of total bequests in Italy



How do we estimate the total bequest flows?

- **Economic flow:** combines estimates of Personal Net Wealth, mortality tables, and observed age-wealth profiles as proposed by Piketty (2011) and Alvaredo, Garbinti, and Piketty (2017)

$$B_t^* = (1 + v_t) \cdot \mu_t^{20+} \cdot cf \cdot m_t^{20+} \cdot W_t$$

How do we estimate the total bequest flows?

- **Economic flow:** combines estimates of Personal Net Wealth, mortality tables, and observed age-wealth profiles as proposed by Piketty (2011) and Alvaredo, Garbinti, and Piketty (2017)

$$B_t^* = (1 + v_t) \cdot \mu_t^{20+} \cdot cf \cdot m_t^{20+} \cdot W_t$$

- We can derive the following items:

$$\frac{B_t^*}{Y_t} \text{ or } \frac{B_t^*}{W_t}; \text{ and } \int_{t-30 \leq s \leq t} (1 + v_s) \cdot B_s \cdot d_s$$

Average Tax rate:

$$\tau_B = \frac{TaxRev_t}{B_t^*}$$

Data & Method

Estimation approach and data

1. **Mortality rate m_t^{20+}** : We use data from mortality.org as our preferred source and integrate with data from World Bank for countries that are missing in the mortality.org

Estimation approach and data

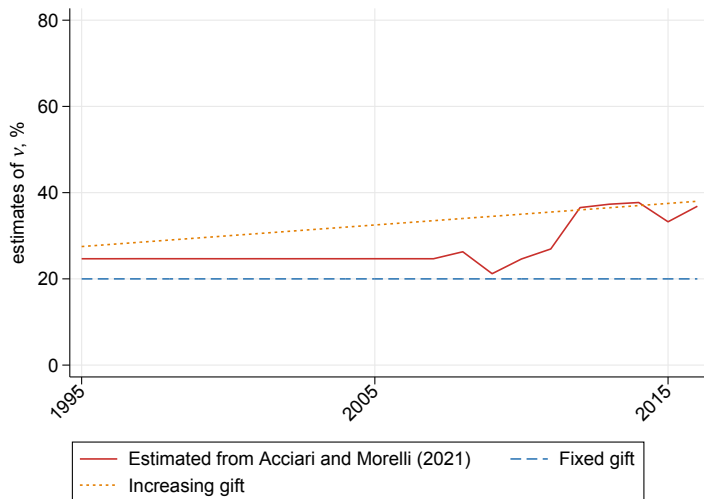
1. **Mortality rate m_t^{20+}** : We use data from mortality.org as our preferred source and integrate with data from World Bank for countries that are missing in the mortality.org
2. **Aggregate Private Wealth W_t and its composition**: mainly from WID.world and Eurostat.

Estimation approach and data

1. **Mortality rate m_t^{20+}** : We use data from mortality.org as our preferred source and integrate with data from World Bank for countries that are missing in the mortality.org
2. **Aggregate Private Wealth W_t and its composition**: mainly from WID.world and Eurostat.
3. **Gifts-bequest ratio v_t** : challenging. Administrative data would be ideal (i.e. Acciari and Morelli, 2021). We can assume a fixed ratio at 20% following Alvaredo et al. (2017), or a gradual rise from 20% in 1980 to 40% in 2020, similar to what observed in IT and the UK.

Gifts-bequests ratio: ν in Italy

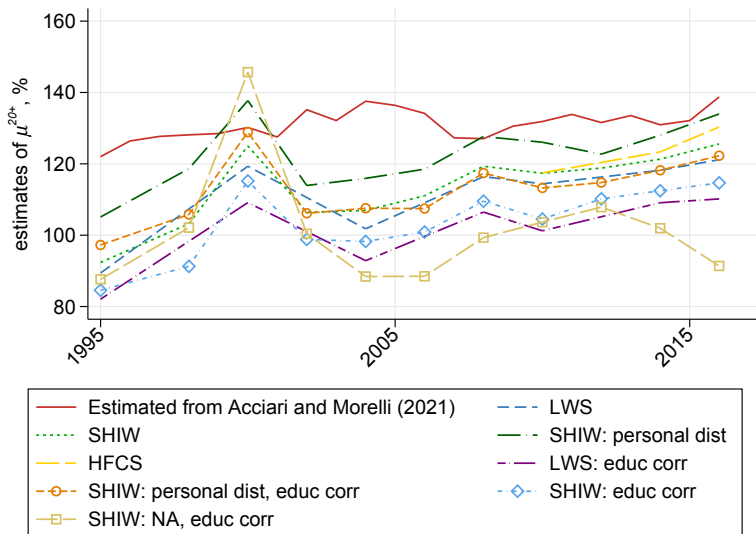
Figure:



Estimation approach and data

1. **Estimating μ^{20+} :** two main ways i) via administrative data ii) via surveys using mortality tables and age-wealth profiles. We use national surveys, LWS (and HFCS as complement): we derive estimates of μ^{20+} and cf for 25 countries).
2. However, unadjusted μ^{20+} may be biased:
 - 2.1 mortality is associated with socio-economic status.
 - 2.2 Wealth is recorded at the household rather than the personal level.

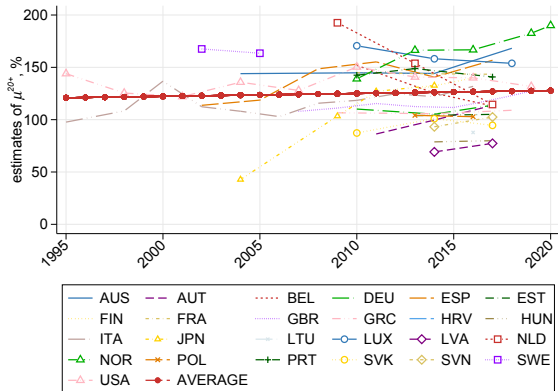
All estimates of μ^{20+} for Italy



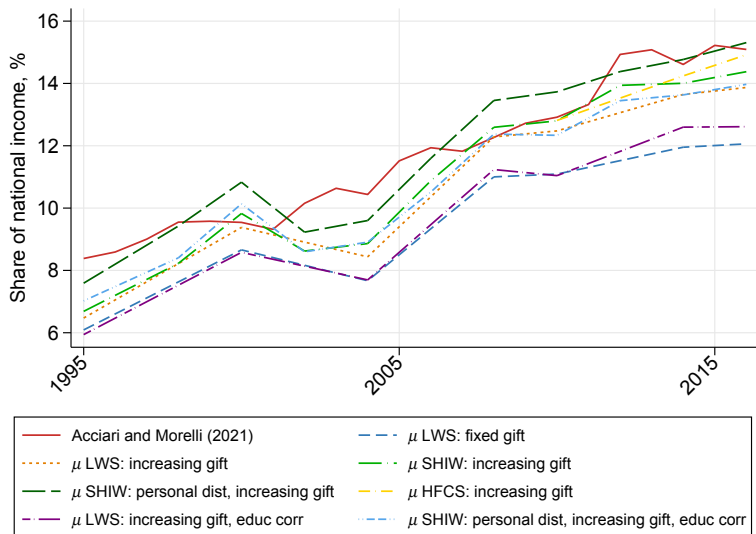
Estimation approach and data

Countries with no micro data: we use the average time series of (corrected) μ^{20+} observed for the 25 countries with data.

Figure: All countries μ_t^{20+} and World Average - corrected

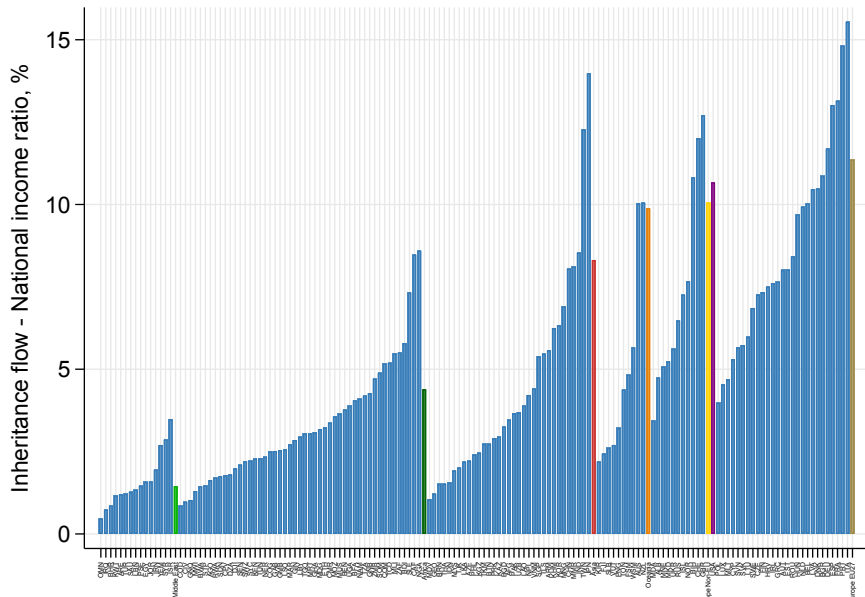


All estimates of bequest flows in Italy: Fiscal vs economic flows

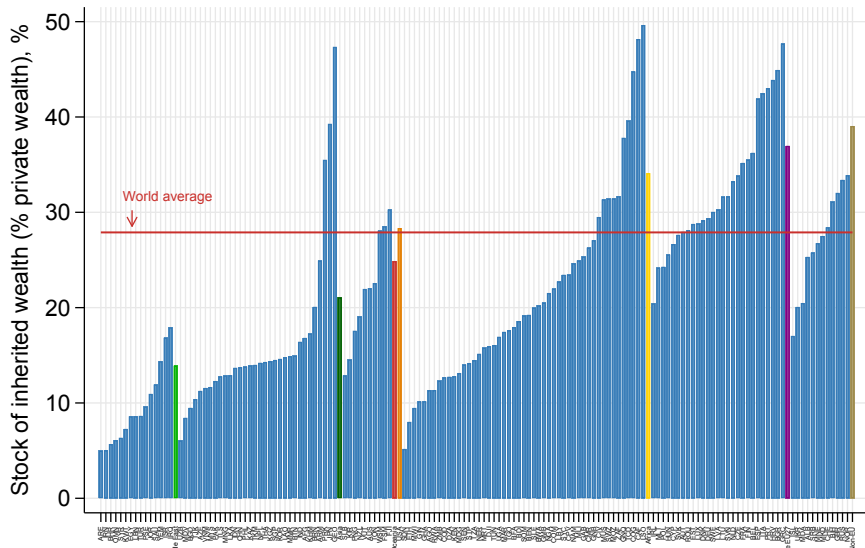


Main (preliminary) findings

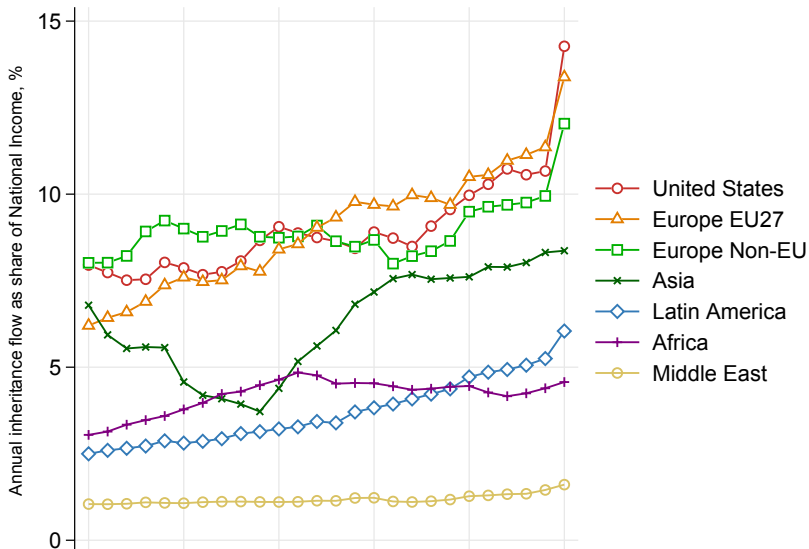
Inheritance flows (% of NI) around the world - 2019



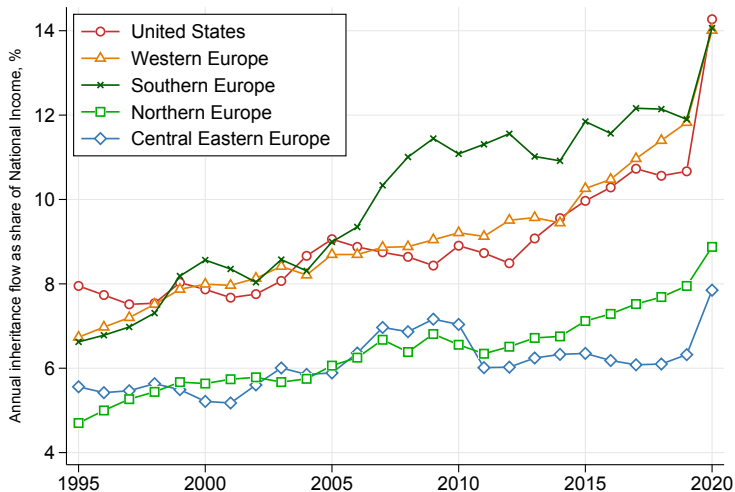
Share of inherited wealth over total wealth around the world - 2019 (Modigliani's approach)



The importance of inheritance is growing around the world (with exceptions)

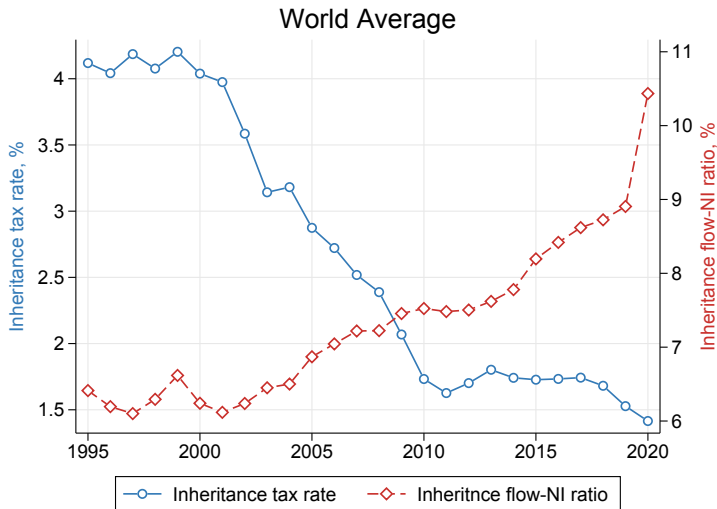


EU-US dynamics of inheritance flows

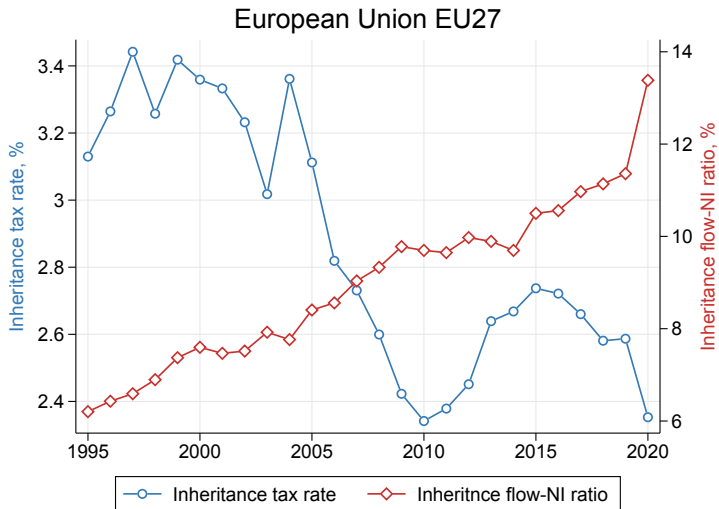


Note: Europe is considered as Continental Europe

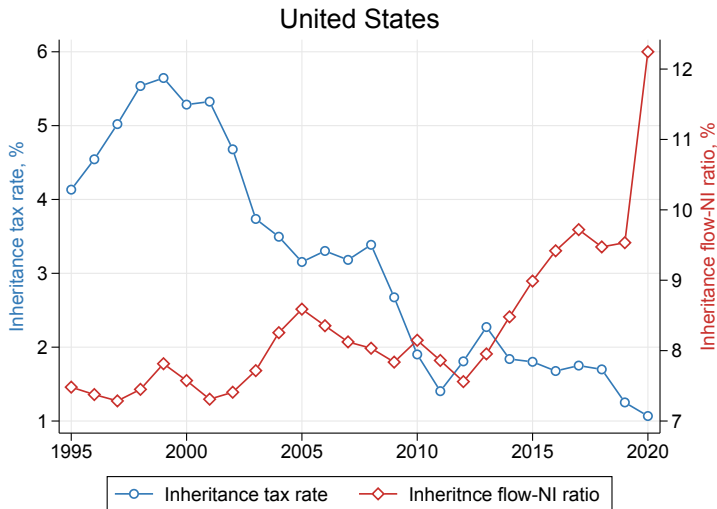
Average tax rate is not keeping up with the rise of inheritance: world evidence



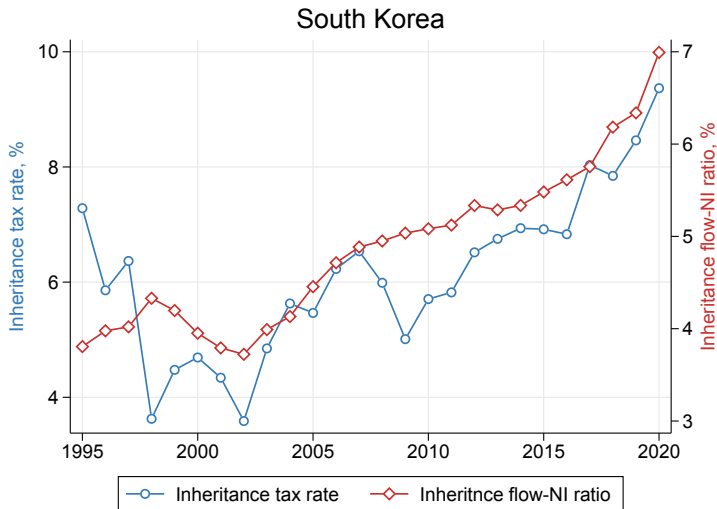
Average tax rate is not keeping up with the rise of inheritance: EU evidence



Average tax rate is not keeping up with the rise of inheritance: US evidence

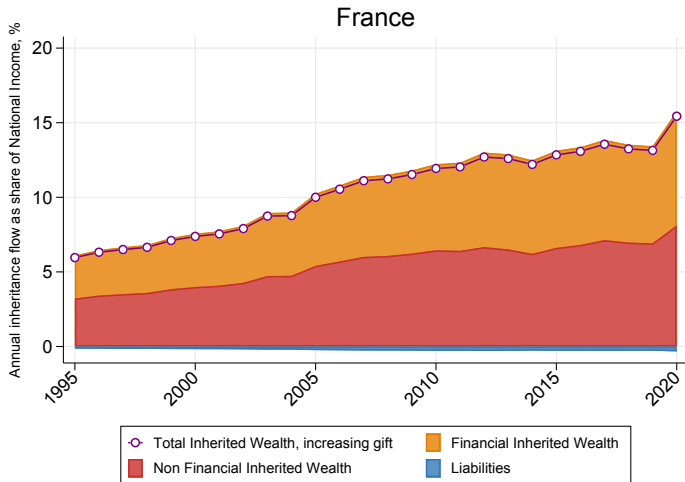


Average tax rate IS keeping up with the rise of inheritance in some countries

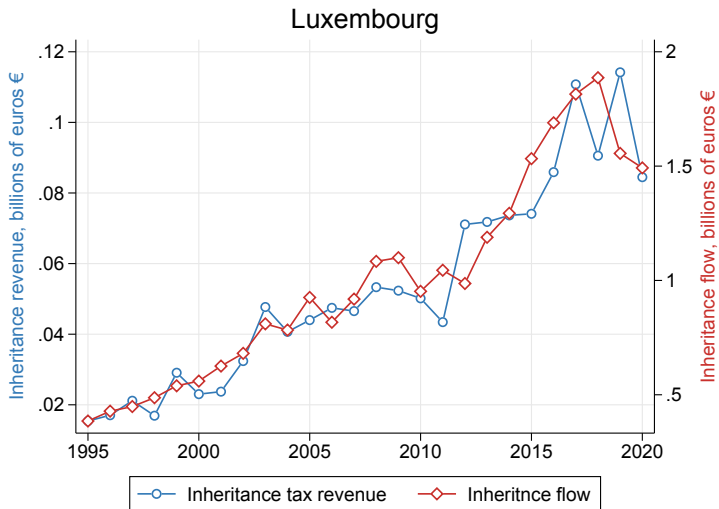


The composition of inheritance flows - France

Using heterogenous μ by demographic and asset classes we can derive composition of bequest flows.

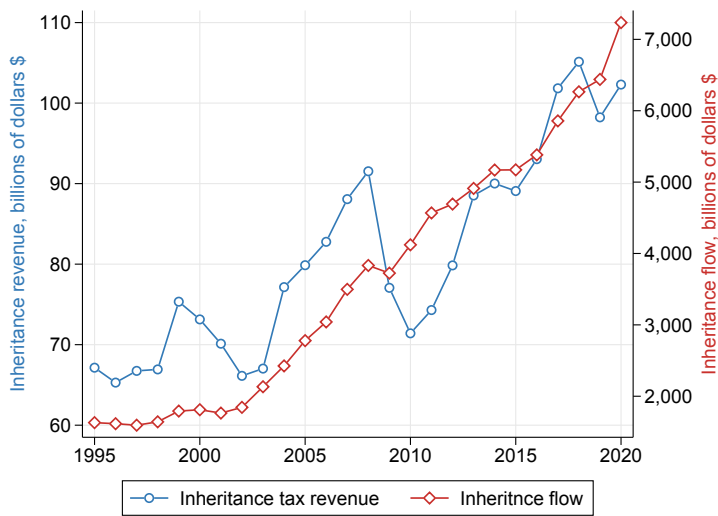


The monetary value (USD PPP) of total bequests and total tax revenue in LUX

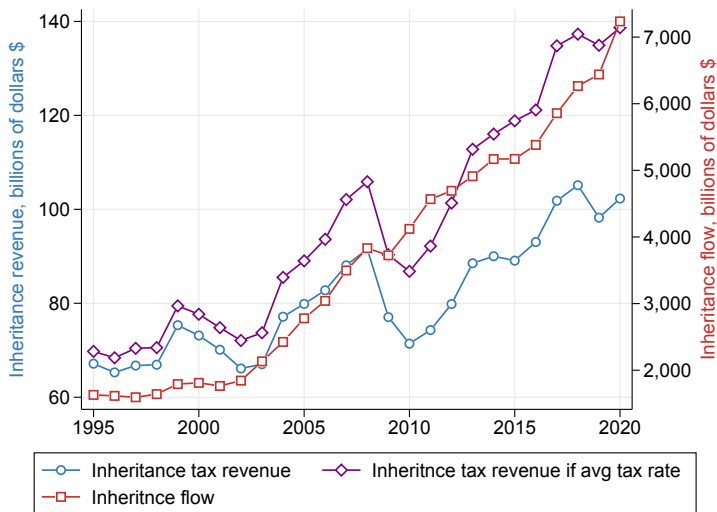


Total bequests value and total tax revenue (USD PPP) in the world

We can estimate the “Great Wealth Transfer”: More than 70 trillions USD worth of transfers in the next 10 years.



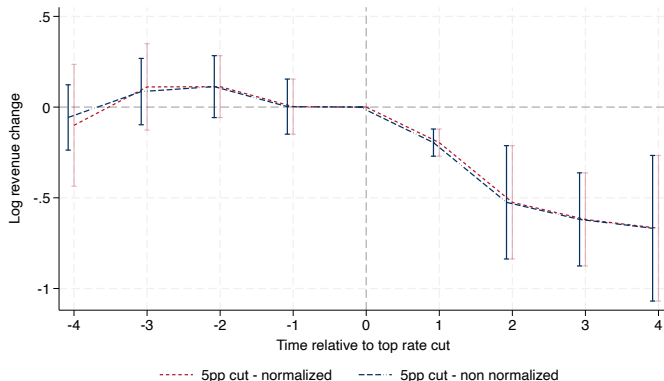
Thought experiment: the effect of global tax revenue if we apply the average global tax rate to countries with zero revenue



Event Study: effect of a tax cuts ($>5pp$) on Tax Revenues

Evidence from Asher, Giangregorio, Morelli, Schechtel, and Subioli (2025)

$$\epsilon_{Rev} = \frac{dTaxRev}{d(1 - \tau_B)} \frac{(1 - \tau_B)}{TaxRev}$$



Work in progress: effect of a tax cuts on Tax Base

We can now estimate the elasticity of the tax base to the changes in tax rates:

$$\epsilon_B = \frac{db}{d(1 - \tau_B)} \frac{(1 - \tau_B)}{b}$$

and derive optimal tax rates following Piketty and Saez (2013, Econometrica)

$$\tau_B^* = \frac{1}{1 - \tau_B}$$

Concluding remarks

Concluding Remarks

- **First set of global estimates** of bequests flows, average tax rates, and the share of inherited wealth over the total stock of wealth.
- **Caveat: Empirical evidence remains uncertain and more investments are needed.**

Concluding Remarks

- **Our main findings:**
 1. Overall rise in the relevance of inheritances and gifts (with the exception of Africa and the Middle East)
 2. Overall decline in the average tax rate.
 3. US begins to stand out
 4. substantial heterogeneity among European countries.
 5. *Almost a third of the global total stock of wealth is due to inheritance (lower-bound estimate).*
 6. composition of bequests: financial assets are playing a growing role.
- **Relevance for policy:** The inheritance tax base has been expanding.

THANKS

The use of heterogeneous μ helps deriving bequest flows by different asset classes

$$\mu^{20+} = \frac{WD^{20+}}{D^{20+}} / \frac{W^{20+}}{N^{20+}} = \mu_{FIN}^{20+} \cdot \alpha_{FIN}^{20+} + \mu_{NF}^{20+} \cdot \alpha_{NF}^{20+} - \mu_L^{20+} \cdot \alpha_L^{20+}$$

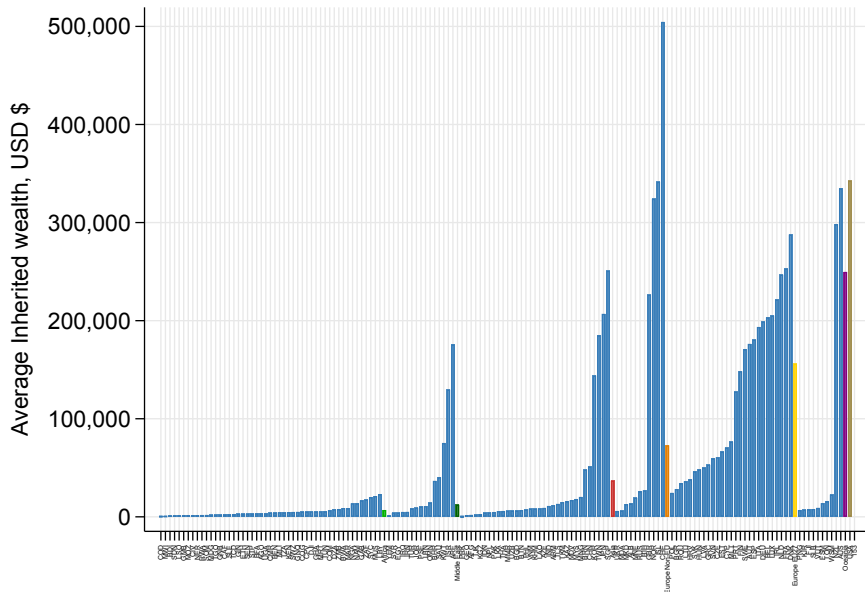
$$\mu^{20+} = \mu_{FIN}^{20+} \cdot NA_{cf}_{FIN} \cdot \alpha_{FIN} + \mu_{NF}^{20+} \cdot NA_{cf}_{NF} \cdot \alpha_{NF} - \mu_L^{20+} \cdot NA_{cf}_L \cdot \alpha_L$$

$$B_{t,FIN}^* = (1 - v_t) \cdot cf \cdot m_t^{20+} \cdot (\mu_{t,FIN}^{20+} \cdot NA_{cf}_{t,FIN} \cdot W_{t,FIN})$$

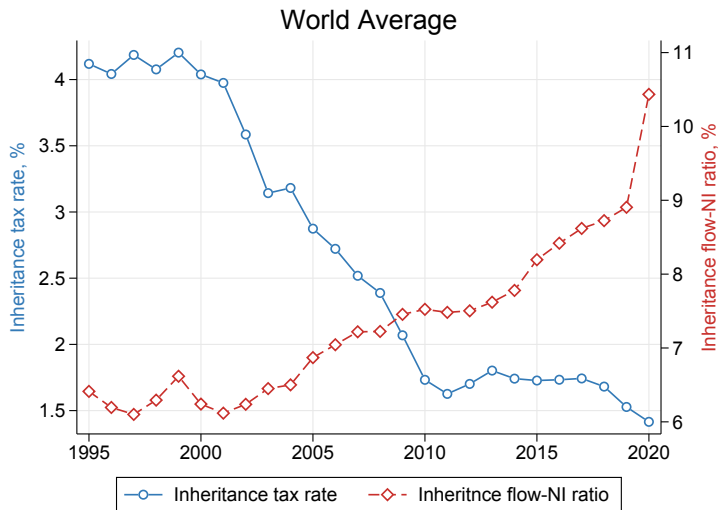
$$B_{t,NF}^* = (1 - v_t) \cdot cf \cdot m_t^{20+} \cdot (\mu_{t,NF}^{20+} \cdot NA_{cf}_{NF} \cdot W_{t,NF})$$

$$B_{t,L}^* = (1 - v_t) \cdot cf \cdot m_t^{20+} \cdot (\mu_{t,L}^{20+} \cdot NA_{cf}_L \cdot W_{t,L})$$

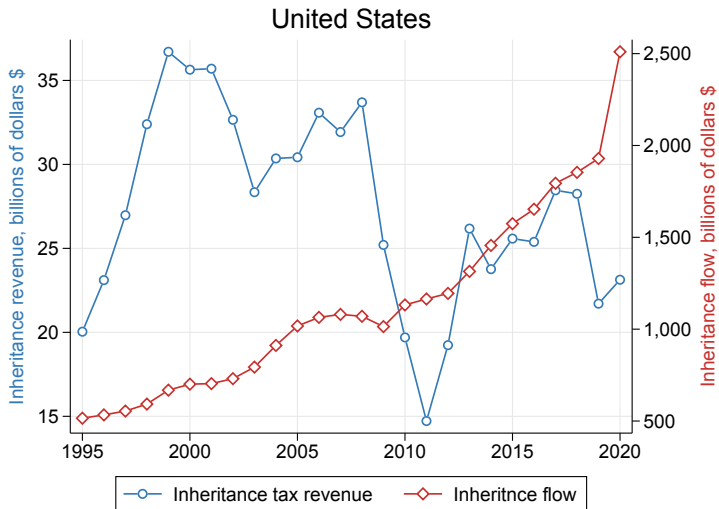
Average inheritance (USD ppp) around the world - 2019



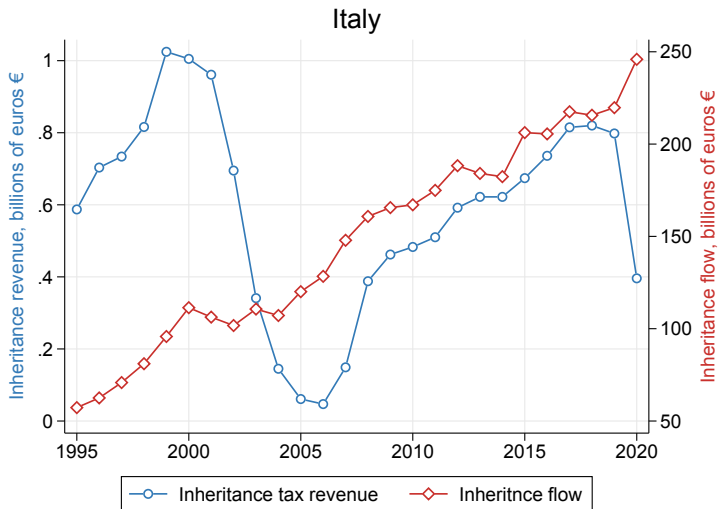
A preview of the Global dynamics of inheritance and average tax rate



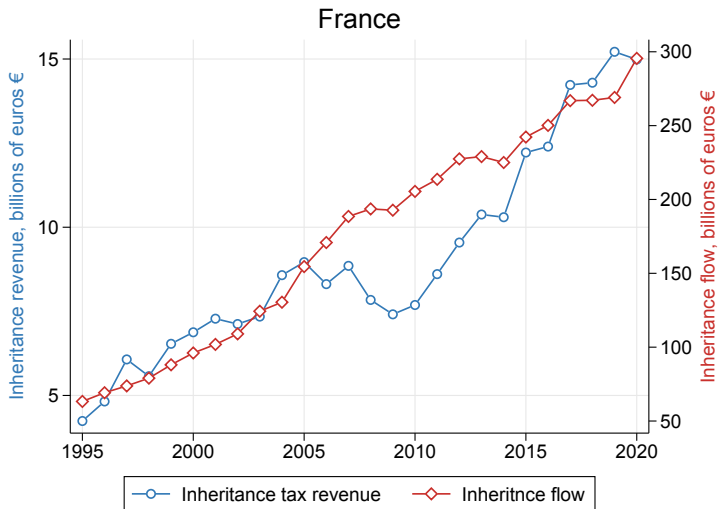
The monetary value (USD PPP) of total bequests and total tax revenue in the US



The monetary value (USD PPP) of total bequests and total tax revenue in Italy



The monetary value (USD PPP) of total bequests and total tax revenue in France



The composition of inheritance flows - USA

Using heterogenous μ by demographic and asset classes we can derive composition of bequest flows.

