Belgian wealth inequality, 1935-2022

Evidence from inheritance and gift tax data

Arthur Apostel

Ghent University



Motivation

In contrast to other European countries, **little is known about Belgian wealth inequality**. In the absence of a wealth register, wealth inequality needs to be estimated. There are **three main estimation approaches**:

- Capitalising capital income tax data For recent years, no individual-level data due to at-source taxation.
- Wealth surveys Issues of differential unit non-response and underreporting of wealth. Only available from 2010 onwards.
- Inheritance tax data

Why is the inheritance tax approach interesting?

- Long-run analysis Inheritance tax data are available from 1935 onwards.
- **Triangulation** Inheritance tax data can be compared with estimates based on completely different assumptions and sources, thus heightening or lowering confidence in what we know.
- Exceptional coverage Belgium has an exceptionally large coverage rate of its inheritance tax data, as in principle all inheritances should be declared since before 1935.

Data

The analysis relies on the following main data sources:

- Yearly inheritance tax tabulations Available for 1935-1994.
- **Gift and inheritance tax microdata** Reliable registered gift data is available from 1990 onwards for movable assets and from 2013 for immovable assets. Inheritance tax microdata are available

Differential mortality multiplier method

The differential mortality multiplier method can only be applied to **2009-2002**, based on the following steps:

- 1. Determine weights by age, gender, and socioeconomic background I use three different weighting schemes:
 - naive weighting: only by age, gender, and region;
 - theory-driven weighting (baseline): naive + socio-economic status score;
 - data-driven weighting: naive + machine learning prediction of inheritance rank

The results are robust to the weighting scheme.

2. Aggregate gifts close to death and add to net inheritance total To correct for pre-death tax avoidance I add registered gifts up to 3 years before death to the net inheritance total. The results are robust to the gift inclusion period.

There are a number of important **limitations**. My corrections for these are discussed in the paper.

Results

The mean multiplier approach indicates that wealth inequality has declined considerably in the **20th century** and **roughly stable in the 21st century**. Due to sampling variability, one should look at trends and levels across multiple years.



- starting in 2009.
- Census and national registry data Sociodemographic microdata for the entire population linked to the inheritance tax microdata.
- Mortality statistics Available from before 1935.

There is a **data gap between 1994-2009**. There seems to be no distributional inheritance tax data for this period.

Methods

The inheritance tax approach can be subdivided into two main methods.

The differential mortality multiplier method aims to create a representative dataset from the inheritance tax data. Decedents are a non-random sample of the living population, due to differences in the probability to die. One can correct for this by assigning weights to each decedent proportional to the mortality risk of individuals belonging to the same group as that decedent. Such groups are generally defined based on age, gender, and socio-economic background. As long as within-group mortality is sufficiently random, the weights then render the decedent sample representative for the living.



The differential multiplier method weights decedents by the inverse of their group-specific mortality rate.

Data on socio-demographic characteristics of decedents are only available for microdata years. Hence, **the differential approach cannot be applied to 1935-1994**.

The mean mortality multiplier method assigns the same weight to each decedent. As an empirical regularity, top shares of the unweighted (or mean-weighted) inheritance distribution are roughly similar to those calculated using the more precise differential approach (Alvaredo et al., 2024).

Mean mortality multiplier top 1% and 10% wealth share estimates for Belgium, 1935-2022.

The **differential multiplier approach** likewise points to a stable trend in 21st century wealth concentration. The top 1% holds around 22% of net wealth in 2022, as as the bottom 75% combined. The bottom 50% consistently holds less than 5% of net wealth.



Baseline differential mortality multiplier top 1% and top 10% wealth share (panel a), and bottom 50% and 75% wealth share (panel b) estimates for Belgium, inheritance only and including gifts up to 3 years before death, 2009-2022.

In the paper, a number of additional results are presented: (i) the **Gini coefficient is on average 0.70 (0.73)** for the inheritance-only (gift-corrected) series, (ii) correcting for **off-shore wealth** leads to **somewhat higher top wealth shares but does not impact the stable trend**, (iii) wealth inequality may be **higher in Brussels and somewhat lower in Wallonia**, (iv) **movable assets are concentrated at the top**, (v) **men hold more net wealth than women across all age categories**, (vi) **women are overrepresented at the middle** of the wealth distribution.

In addition, some results go beyond wealth inequality. For example, **gross taxable wealth in private foundations appears to be negligible in the aggregate**.

The mean mortality multiplier method can be applied to both the 1935-1994 tabulations and the 2009-2022 microdata.

For **1935-1994**, the following steps are taken:

- 1. Solving the mismatch between inheritance declarations and deaths In all years, the number of recorded deaths is higher than the number of inheritance declarations. As non-declarations relate to poor individuals, I impose a baseline non-declared to declared wealth ratio of 0.1. The results are robust to a range of alternative assumptions.
- 2. Moving from inheritance brackets to an estimated distribution I do so using Generalized Pareto Interpolation, which seems very precise based on a validation exercise using the recent microdata.

For **2009-2022**, the following steps are taken:

1. Aggregate gifts close to death and add to net inheritance total Since 2004, registered gift flows have become substantial. Hence, to correct for pre-death tax avoidance I add registered gifts up to 3 years before death to the net inheritance total. The results are robust to the gift inclusion period.

I correct for a number of important **limitations**. These corrections are detailed in the paper.

I triangulate the results in the following ways:

- **Comparison with national accounts aggregates** The aggregated differentially-weighted inheritance tax data are smaller. However, proportional rescaling of asset categories does not impact the results.
- Comparison with previous research in 20th century Results are remarkably consistent with previous work. Somewhat lower top shares than in Alvaredo et al. (2024).
- Comparison with previous research in 21st century Roughly similar levels, but different trend than ECB DWA (2024) since no evidence of decreasing wealth inequality.

Link to paper

