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Wealth inequality dynamics in europe and the united states: Understanding the determinants☆

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ABSTRACT

This paper studies the interaction between the long-term dynamics of aggregate household wealth and the wealth distribution in Europe and the United States. We do so by building the first Distributional Wealth Accounts for Europe, including households' assets, liabilities, investment flows, and the wealth distribution for most European countries from 1970–2020. We find that although aggregate household wealth to income ratios have followed a similar increasing pattern in both Europe and the United States since 1970, wealth concentration has increased much faster in the United States. Using wealth accumulation decompositions and counterfactual simulations, we show that the weaker rise in labor income inequality and the stronger rise in house prices relative to financial assets in Europe versus the United States appear to explain why Europe has experienced a more moderate rise in wealth concentration since the mid-1980s.

1. Introduction

Household wealth has grown faster than national income since the 1980s, with similar levels and trends across advanced economies (Piketty and Zucman (2014)). However, wealth concentration trends have diverged over the same period of time, rising, for instance, much faster in the United States than in continental Europe (Alvaredo et al. (2018); Chancel et al. (2022)). Despite the recent progress made in documenting these trends for a few countries, the complex interactions between the long-run evolution of aggregate household wealth and its distribution remain poorly understood. This is partly due to the absence of homogeneous and consistent long-run estimates of aggregate household investment flows, assets, liabilities, and the wealth distribution, with which to analyze cross-country differences in wealth inequality dynamics.

We break new ground on these issues by building the first Distributional Wealth Accounts (DWAs) for Europe, including households' assets, liabilities, investment flows, and the wealth distribution for most European countries from 1970–2020.[1] We do so by extending the pioneering work of Saez and Zucman (b) using personal income tax records and that of Batty et al. (2020) using the Survey of Consumer Finances (SCF) to build Distributional Financial Accounts (DFAs) in the United

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[1] The time frame covered varies across countries depending on data availability (see Table 1).

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Table 1
Detailed Sources for our Database *Notes*: This table summarizes the sources and time coverage for each country of the new database we have built to construct the Distributional Wealth Accounts (DWAs) for Europe.

	Aggregate wealth		Investment flows		Wealth distribution	
	Time coverage	Source	Time coverage	Source	Time coverage	Source
Austria	1981–2019	Financial assets and liabilities: Eurostat/Oesterreichische Nationalbank (OeNB). Non-financial assets: Eurostat (dwellings since 1996) and HFCS (business assets since 2010)	1976–2020	Financial assets and liabilities: Oesterreichische Nationalbank (OeNB) since 1981. Non-financial assets: Statistics Austria	2010–2017	HFCS
Belgium	1981–2020	Financial assets and liabilities, and non-financial assets (since 1996): National Bank of Belgium	1970–2020	Financial assets and liabilities (since 1980), and non-financial assets: National Bank of Belgium	2010–2017	HFCS
Bulgaria	1996–2019	Financial assets and liabilities: Republic of Bulgaria National Statistical Institute. Non-financial assets: Eurostat (only dwellings (since 1999) and produced business assets (since 2001)) and authors'own estimations of agricultural land using data on land prices and hectares provided by the National Statistical Institute (since 2004)	1995–2020	Financial assets and liabilities (since 1996), and non-financial assets: Eurostat		
Croatia	1996–2019	Financial assets and liabilities: Croatian National Bank. Non-financial assets: Eurostat (only dwellings). Business assets: HFCS (2017)	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat	2017	HFCS
Cyprus	1996–2019	Financial assets and liabilities: Eurostat. Non-financial assets: Eurostat (dwellings) and HFCS (business assets since 2010)	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat	2010–2017	HFCS
Czech Republic	1993–2020	Financial assets, liabilities, and non-financial assets: Czech Statistical Office	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat		
Denmark	1973–2020	Financial assets and liabilities: Jakobsen et al (2020) for the period 1973–1994, Statistics Denmark since 1995. Non-financial assets: dwellings (1973–1994 Jakibsen et al. (2020), 1995-onwards Statistics Denmark); all the rest (Jakobsen et al. (2020) for the period 1973–2014 and extended using growth rates in Eurostat series)	1981–2020	Financial assets and liabilities (since 1995), and non-financial assets: Statistics Denmark	1980–2017	Jakobsen et al. (2018)
Estonia	1996–2019	Financial assets and liabilities: Statistics Estonia. Non-financial assets: Statistics Estonia (dwellings since 1996) and authors' own estimations of agricultural land using data on land prices and hectares provided by Statistics Estonia and Eurostat (since 2004)	1995–2020	Financial assets and liabilities: Eurostat. Non-financial assets: Statistics Estonia	2013–2017	HFCS
Finland	1975–2020	Financial assets, non-financial assets and liabilities: Statistics Finland.	1970–2020	Financial assets and liabilities, and non-financial assets (since 1975): Statistics Finland	1980–2017	Statistics Finland (survey)
France	1970–2020	Financial assets, non-financial assets and liabilities: Garbinti et al. (2018) for the period 1970–1977, National Institute of Statistics and Economics Studies (INSEE) for the period 1978–2020	1970–2020	Financial assets, liabilities, and non-financial assets: INSEE since 1978, Garbinti et al. (2018) prior to 1978.	1970–2017	Garbinti et al. (2020)
Germany	1970–2020	Financial assets and liabilities: Bundesbank for the period 1999–2020. Non-financial assets: Destatis for 1999–2020. Financial assets, non-financial assets and liabilities before 1999 from Piketty and Zucman (2014)	1991–2020	Financial assets and liabilities: Bundesbank. Non-financial assets: Destatis.	1970–2017	Albers et al. (2022)
Greece	1996–2020	Financial assets and liabilities: Bank of Greece. Non-financial assets: Eurostat (dwellings) and HFCS (business assets since 2009)	1995–2020	Financial assets and liabilities (since 1998): Bank of Greece. Non-financial assets: Hellenic Statistical Authority.	2009–2017	HFCS
Hungary	1970–2020	Financial assets and liabilities: Central Bank of Hungary. Non-financial assets: Hungarian Central Statistical Office (dwellings and produced business assets since 1996) and authors' own estimation of agricultural land using data on land prices and hectares provided by the Hungarian Central Statistical Office and Eurostat (since 2001)	1970–2020	Financial assets and liabilities: Central Bank of Hungary. Non-financial assets (since 1995): Hungarian Central Statistical Office.	2014–2017	HFCS

(*continued on next page*)

Table 1 (*continued*)

	Aggregate wealth		Investment flows		Wealth distribution	
	Time coverage	Source	Time coverage	Source	Time coverage	Source
Iceland	1997–2019	Financial assets, liabilities, and non-financial assets (only housing): Statistics Iceland	2000–2020	Financial assets and liabilities (since 2004), and non-financial assets: Statistics Iceland.	2010–2017	Statistics Iceland
Ireland	1996–2019	Daly and Morgan (2021)	1995–2020	Financial assets and liabilities (since 1999): Eurostat. Non-financial assets: Central Statistical Office.	2013–2018	HFCS
Italy	1970–2020	Financial assets and liabilities: Bank of Italy. Non-financial assets: Italian National Institute of Statistics (ISTAT) since 2001 and Brandolini et al. (2004) prior to 2001	1995–2020	Financial assets and liabilities: Bank of Italy. Non-financial assets: ISTAT.	1995–2017	Acciari et al. (2021)
Latvia	1996–2019	Financial assets and liabilities: Bank of Latvia. Non-financial assets: Eurostat (dwellings and produced business assets) and authors'own estimations of agricultural land using data on land prices and hectares provided by the Statistical Bureau of Latvia (since 2004).	1995–2020	Financial assets and liabilities: Eurostat. Non-financial assets (since 2000): Statistics Latvia.	2014–2017	HFCS
Lithuania	1996–2019	Financial assets and liabilities: Statistics Lithuania. Non-financial assets: Statistics Lithuania (only dwellings and produced business assets) and authors'own estimations of agricultural land using data on land prices and hectares provided by Statistics Lithuania and Eurostat (since 2004) and HFCS (2018)	1995–2020	Financial assets and liabilities: Bank of Lithuania. Non-financial assets: Eurostat.	2016	HFCS
Luxembourg	1996–2020	Financial assets and liabilities: Central Bank of Luxembourg. Non-financial assets: Eurostat (only dwellings and produced business assets) and authors'own estimations of agricultural land using data on land prices and hectares provided by STATEC and Eurostat.	1995–2020	Financial assets, liabilities, and non-financial assets: STATEC.	2010–2018	HFCS
Malta	1996–2020	Financial assets and liabilities: Central Bank of Malta. Non-financial assets: Eurostat (only dwellings and produced business assets) and authors'own estimations of agricultural land using data on land prices and hectares provided by Eurostat (since 2004)	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat.	2010–2016	HFCS
Netherlands	1993–2020	Financial assets, non-financial assets and liabilities : Statistics Netherlands.	1995–2020	Financial assets and liabilities: Dutch National Bank. Non-financial assets: Eurostat.	1993–2017	Statistics Netherlands
Norway	1979–2020	Financial assets (private sector) and liabilities: Statistics Norway (since 1980). Non-financial assets: Eurostat	1976–2020	Financial assets and liabilities, and non-financial assets (since 1978): Statistics Norway.	2010–2017	Statistics Norway
Poland	1996–2020	Financial assets and liabilities: Eurostat (1996–2002), National Bank of Poland (2003–2020). Non-financial assets: Eurostat (dwellings (since 1996) and produced business assets (since 2013)) and authors'own estimations of agricultural land using data on land prices and hectares provided by Eurostat (since 2004).	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat.	2013–2016	HFCS
Portugal	1970–2020	Financial assets and liabilities (since 1981): Bank of Portugal. Non-financial assets: housing from Menghini (2019) and business assets from HFCS (since 2010)	1995–2020	Financial assets and liabilities: Bank of Portugal. Non-financial assets: National Statistics Institute	2010–2017	HFCS

(*continued on next page*)

Table 1 (*continued*)

	Aggregate wealth		Investment flows		Wealth distribution	
	Time coverage	Source	Time coverage	Source	Time coverage	Source
Romania	1996–2020	Financial assets and liabilities: National Bank of Romania. Non-financial assets: Eurostat (only dwellings (since 1996) and produced business assets (since 2001)) and authors' own estimations of agricultural land using data on land prices and hectares provided by Eurostat (since 2004)	1995–2020	Financial assets, liabilities, and non-financial assets: Eurostat.		
Slovakia	1996–2020	Financial assets and liabilities: National Bank of Slovakia. Non-financial assets: Eurostat (only dwellings (since 1996) and produced business assets (since 2001)) and authors' own estimations of agricultural land using data on land prices and hectares provided by Eurostat (since 2001).	1995–2020	Financial assets, liabilities, and non-financial assets: Statistical Office of the Slovak Republic.	2010–2017	HFCS
Slovenia	1996–2020	Financial assets and liabilities: Eurostat (1995–2005), Bank of Slovenia (since 2006). Non-financial assets: Republic of Slovenia Statistical Office (SiStat) (only housing) and HCFCS (business assets since 2010).	1995–2020	Financial assets and liabilities: Eurostat. Non-financial assets: SI-STAT	2010–2017	HFCS
Spain	1970–2020	Artola et al. (2021)	1970–2020	Financial assets and liabilities: Bank of Spain. Non-financial assets: National Statistics Institute.	1984–2017	Martínez-Toledano (2022)
Sweden	1970–2020	Waldenstrm (2017)	1970–2020	Financial assets, liabilities, and non-financial assets: Statistics Sweden.	2000–2017	
Switzerland	2000–2020	Financial assets and liabilities: Swiss National Bank. Non-financial assets: Swiss National Bank (only housing assets for the household sector).	1995–2020	Financial assets and liabilities (since 2000): Swiss National Bank. Non-financial assets: Federal Statistical Office.	1980–2017	Swiss wealth tax data + Swiss Household Panel (SHP)
United Kingdom	1970–2020	Financial assets and liabilities: Office for National Statistics (ONS) since 1988 and Piketty and Zucman (2014) prior to 1988 Non-financial assets: Office for National Statistics (ONS) since 1995 and Piketty and Zucman (2014) prior to 1995 (only agricultural land is taken from ONS since 1988)	1987–2020	Financial assets, liabilities, and non-financial assets: Office for National Statistics.	1995–2017	Alvaredo et al. (2018)

States. Our new database provides homogeneous and consistent long-run estimates of the European balance sheet and of the European wealth distribution. We use these new estimates to decompose the accumulation of wealth, so as to better understand the long-run determinants of wealth inequality, in particular, the disparities between Europe and the United States.

We use different data sources to build our historical database. First, to construct the European balance sheets, we rely on estimates from a wide range of macro-historical works, which use official and unofficial data sources to reconstruct the balance sheets of countries. We prioritize official balance sheets, which are generally published by central banks or national statistical offices, whenever these are available. Second, we obtain investment flows by asset class from official financial and non-financial accounts, which are also generally published by central banks or national statistical offices. Finally, to build wealth distributions, we rely on estimates from a large collection of academic works that use tax records to estimate the distribution of wealth. However, because they often use idiosyncratic concepts, which are typically tied to each country's specific tax laws, these estimates are rarely comparable. Hence, we engage in a widespread harmonization effort, using other available data sources (notably surveys), to account for missing assets and adjust the units of analysis. In line with the Distributional National Accounts (DINA) guidelines, we always ensure that our distributional estimates are fully consistent with macroeconomic totals (Blanchet et al. (a)).

The Distributional Wealth Accounts for Europe allow us to uncover two important facts. First, the evolution of aggregate wealth relative to national income has been quite similar in Europe and the United States, steadily increasing from 3 times national income in 1970 to nearly 5 and 6 times national income in the US and Europe in 2018, respectively. The wealth to income ratio has been slightly higher in Europe than in the United States in recent years, as the reduction in wealth after the global financial crisis—mainly due to the decline in house prices—was higher in the United States. Second, although aggregate household wealth has evolved similarly in Europe and the United States, the dynamics of wealth inequality have been strikingly different in both regions. After an equalizing period during the 1970s, we find that top 1% wealth concentration has risen in both regions since 1980, but much more moderately in Europe than in the United States. We perform several robustness checks using household surveys to make sure that our estimates based on the Distributional Wealth Accounts (DWAs) are credible in terms of levels and trends.

To study the determinants behind these novel facts, we rely on the asset-specific decomposition of wealth accumulation developed by Artola et al. (2021). This is an extension of the standard wealth accumulation decomposition used by Piketty and Zucman (2014) in which the two forces driving wealth accumulation are changes in asset prices (i.e., capital gains) or changes in savings (i.e., volumes). The asset-specific decomposition makes it possible to break down the composition of capital gains and volume effects by asset class (i.e., housing, financial assets, etc.), and thus better understand the drivers behind the dynamics of the wealth distribution. We find that volume effects have been larger in the United States, while price effects have been slightly more important in Europe. Prices have grown more in Europe than in the United States since the 2000s, due mainly to the lower decline in house prices in Europe during the global financial crisis. On the contrary, financial assets have gained slightly more in value in the United States than in Europe. Volume effects have been larger in the United States that in Europe, mainly due to the stronger increase in business investment in the United States relative to Europe.

To assess the relative importance of volume versus price effects in explaining the different wealth inequality trajectories across the two regions, we use the wealth distribution series and the asset-specific decomposition developed by Martínez-Toledano (2022) to run several counterfactual simulations for different wealth groups. The three forces shaping the wealth distribution are capital gain inequality, saving rate inequality and labor income inequality. Our simulations shut down one channel at a time, that is, we fix each force (i.e., capital gains, saving rates, or labor income shares) for every wealth group at its average of the pre-simulation period (1970–1985). For the benchmark simulations, we rely on France and not on the entirety of Europe, since France is the only country for which we have the joint income and wealth distribution since 1970. Nonetheless, we make sure our results can be extrapolated to the rest of Europe by running the same set of simulations for a large set of European countries since 1995.

We find that saving rate inequality appears to be the main driver of the moderate rise in the top 1% wealth share in France since the mid-1980s. Instead, labor income inequality seems to have pushed wealth concentration down in France. Finally, asset price dynamics have only played a major role since the 2000s, pushing also wealth concentration down. This is largely explained by the out-performance of house prices relative to financial assets and the stronger importance of housing in the portfolios of middle and bottom wealth groups (Kuhn et al. (2020); Martínez-Toledano (2022)). In the United States, instead, all channels seem to have somehow contributed to rising top wealth concentration since the mid-1980s. Contrary to France, we find that asset prices and labor income inequality—and not only saving rate inequality—have contributed to the rise in the top 1% wealth share.

To better understand the different wealth inequality trajectories between Europe and the United States, we also assign the dynamics of asset prices and labor income shares of the top 1% wealth group in France to the top 1% wealth share in the United States. Labor income inequality has grown faster in the United States than in France over the period, thus explaining why the level of wealth concentration in the United States would have been lower with the labor income inequality trajectory of France. Wealth concentration in the United States would have also been lower with the asset price dynamics of France. This is largely due to the stronger rise in house prices relative to financial assets in Europe than in the United States, and the larger importance of housing in the portfolios of middle and bottom wealth groups. Our results can be extrapolated to the rest of Europe, as we find the exact same results when analyzing instead of France a large set of European countries

since 1995. Taken together, both the different trajectories in asset prices and labor income inequality appear to explain why wealth concentration has risen much less in Europe than in the United States.

This paper contributes to two main strands of the literature. First, there is an empirical literature measuring the long-run evolution of aggregate wealth and its distribution across advanced countries (e.g., Acciari et al. (2020); Albers et al. (2022); Alvaredo and Saez (2009); Anghel et al. (2018); Artola et al. (2021); Baselgia and Martnez (2022); Davies et al. (2011); Garbinti et al. (2020); Iacono and Palagi (2021); Kopczuk and Saez (2020); Lundberg and Waldenström (2017); Martínez-Toledano (2022); Piketty and Zucman (2014); Saez and Zucman (b); Smith et al. (2020); de Vicq et al. (2022)). Our work complements other international projects assembling individual household wealth series based on surveys, such as the Luxembourg Wealth Study (Sierminska et al. (2006)) or the Global Wealth Report (Credit Suisse (2020)). We contribute to this literature by providing the first long-run comprehensive estimate of European aggregate wealth and the wealth distribution decomposed into its various components and consistent with national accounts.

Second, there is a nascent empirical household finance and theoretical macrofinance literature analyzing the determinants of wealth inequality dynamics (e.g., Bach et al. (2020); Benhabib and Bisin (2018); Fagereng et al. (2019); Fagereng et al. (2020); Gomez (2019); Hubmer et al. (2019); Kuhn et al. (2020); Martínez-Toledano (2022); Nekoei and Seim (2018); Palomino et al. (2021); Xavier (2021)). These studies focus their analysis on specific countries and—in most cases—on some specific channels. We build upon the tools developed by this literature—in particular, the wealth accumulation decompositions—to better understand the different wealth inequality trajectories between Europe and the United States in recent decades. Our analyses reveal that saving rate, rate of return and labor income inequality are all important channels behind wealth inequality dynamics and that there is a lot to be learned by carrying cross-regional analyses of wealth inequality dynamics.

The layout of the paper is as follows. Section 2 discusses the concepts, data and methodology used to construct the European balance sheet and the European wealth distribution. In Section 3, we first present the main stylized facts on the evolution of aggregate wealth and the wealth distribution in both Europe and the United States and we then rely on wealth accumulation decompositions and simulation exercises to understand the different wealth inequality trajectories between the two regions. Finally, Section 4 concludes. All aggregate wealth and distributional series for Europe have been made available on the World Inequality Database (WID.world) website: http://wid.world/.

2. Concepts, data and methodology

This section describes the concepts, data and methodology used to construct the Distributional Wealth Accounts for Europe over the period 1970–2020, which we will then use to compare the dynamics of aggregate wealth and wealth inequality between Europe and the United States. The concepts are similar to the ones ones used to build the Distributional Wealth Accounts for the United States (see Saez and Zucman (b) and Batty et al. (2020)), and follow the guidelines for the compilation of distributional national accounts established by Blanchet et al. (a).

2.1. Aggregate wealth: Concepts and data sources

The wealth concept we use follows the standards of the international System of National Accounts (SNA). We restrict ourselves to net household wealth, that is, the current market value of all financial and non-financial assets owned by the household sector (sector S14, in the SNA), net of all debts. In particular, we exclude non-profit institutions serving households (NPISH, sector S15) whenever this decomposition is available.[2]

For net financial wealth, that is, for financial assets net of liabilities, we rely when available on the official country-specific financial accounts built under the guidelines of the SNA. Households' financial assets include equities (stocks, investment funds and financial derivatives), debt assets, cash, deposits, life insurance and pensions. Households' financial liabilities are composed of loans and other debts.[3]

For non-financial wealth, we also rely when available on the official country-specific non-financial accounts built under the guidelines of the European System of Accounts. Our definition of household non-financial wealth consists of housing and unincorporated business assets. We exclude consumer durables and collectibles, which amount to approximately 5% of total household wealth according to the HFCS, because they are not included in the definition of wealth by the SNA.[4]

[2] NPISH represent a negligible fraction of household wealth. Some countries do not provide the decomposition between households (S14) and NPISH (S15), in which case we consider the combined sector S14+S15.

[3] Note that pension wealth excludes unfunded pensions (i.e., Social Security), since they are promises of future government transfers that are not back by any asset, and as such are not considered wealth by the System of National Accounts. According to the OECD (2021), the unfunded pension wealth to earnings ratio for the average earner is 46% higher in the European Union than in the United States. Unfunded pension is also distributed fairly equally (similarly to labor income). Therefore, differences in pension systems cannot explain the wealth inequality differences between Europe and the United States: including it would actually further widen the gap between the two regions.

[4] The household sector definition from the System of National Accounts (SNA) comprises all households and household firms, such as sole proprietorships and most partnerships that do not have an independent legal status. Hence, unincorporated business assets should only include the value of the businesses of sole proprietorships and partnerships. The US national accounts do not include sole proprietorships and partnerships as part of the household sector. We use the household wealth series of Piketty (2014) that do account for sole propietorships and partnerships to make sure that all countries use the same concept of household wealth.

Financial and non-financial accounts are usually made publicly available by National Central Banks or National Statistical Offices. There are some countries for which full households' financial and particularly non-financial information is lacking. In these cases, we rely on authors' country estimates using alternative official sources. Table 1 (column 1) lists the European countries and time frame for which we have been able to collect aggregate household wealth.[5] Note that the time frame covered varies across countries depending on data availability. Further methodological details about the specific data sources and computations regarding aggregate wealth can be found in Bauluz et al. (2021).

2.2. Distribution of wealth: Methodology and data sources

Our database on the distribution of wealth combines estimates from various sources, which we harmonize to obtain consistent concepts, measurements, and units of analysis. In this section, we review the critical methodological issues. We provide additional details, country-by-country, in the online appendix.

Overall Methodology

To the extent that it is possible, we start from estimates based on administrative and tax records: depending on the situation in each country, these can be wealth registers, wealth tax data, inheritance tax data, or capital income tax data. These estimates usually come from separate studies made by several authors who worked directly with these sources, although we collect the data ourselves in some cases (e.g., Switzerland, Iceland). Compared to surveys, tax-based estimates are better at capturing the wealthiest people and are generally consistently available over more extended periods. However, they have several shortcomings. The unit of analysis (individuals or households) depends on the local legislation, leading to values that are not directly comparable across countries. They may exclude some (non-taxable) assets. Or they may focus on the top of the distribution and ignore the rest. Therefore, we rely on surveys to make adjustments and obtain consistent measurements. Finally, we anchor all of our estimates to macroeconomic balance sheet totals to improve the representativeness of the different asset classes and get evolutions that are consistent at the micro and the macro level. In countries with no tax data but survey data available, we use the surveys directly and rescale the different components to match the macroeconomic totals. While this approach is more limited in terms of time coverage and data quality, we find that it does reduce the gap between pure survey estimates and complete estimates in countries where both data sources are available.[6]

Estimates based on Tax and Register Data

Estimates based on tax and register data come in three different categories. The most straightforward cases correspond to countries that directly record the distribution of wealth (e.g., Denmark, Netherlands, Switzerland) either because they tax wealth or because they record wealth administratively. However, in most countries, there is no direct administrative record of wealth. In such cases, it remains possible to infer the distribution of wealth from auxiliary information. The first approach is called the estate multiplier method (e.g., Kopczuk and Saez (2020)). It uses the distribution of wealth at death from inheritance tax data and reweights it using individual mortality rates to infer the distribution of wealth among the living. The second approach is called the capitalization method (e.g., Saez and Zucman (b)). It estimates wealth from the capital income flows that wealth generates, using asset-specific capitalization factors (the inverse of rates of returns) obtained from national accounts. The most appropriate method is a context-dependent question that depends on the salience and comprehensiveness of inheritance or capital income taxation (Zucman, 2020). We refer in the online appendix to the country-specific papers for discussion, comparisons, and robustness checks. Tax-based estimates are also available in tabulated form (rather than as microdata), and the brackets are different in each study. For those countries for which we rely on tabulations, we reconstruct complete estimates of the distribution using generalized Pareto interpolation (Blanchet et al., c).

Survey Sources

Surveys on household wealth used to be relatively rare in Europe, a situation that has improved in recent years under the impetus of the European Central Bank (ECB), which created the Household Finance and Consumption Survey (HFCS). This survey, which started around 2010, collects wealth data at the household level under a common framework. In countries with a preexisting wealth survey (e.g., France, Italy, Spain), the HFCS is a recoding of the existing survey. The HFCS constitutes our primary survey source. We complete it with other surveys for countries that are not part of the HFCS (e.g. the United Kingdom, which has its own wealth survey called the Wealth and Assets Survey, or WAS) or for countries with wealth surveys that predate the HFCS and thus provide more historical coverage (e.g., the Survey of Household Income and Wealth, or SHIW, in Italy).

These different surveys present significant differences, especially in their oversampling of the wealthiest households, which affect their comparability (Vermeulen, 2016). For this reason, we prefer to rely on tax-based estimates as our primary

[5] For the United States, we rely on the aggregate wealth series from Saez and Zucman (a), which updated and improved the original data from Saez and Zucman (b) to account for heterogeneous returns and the more prominent role of private business at the top.

[6] See Figure A.15 in appendix. In practice, we find that rescaling surveys to national accounts reduces the gap compared to full series (i.e., rescaled series based on both taxes and surveys), but that the correction slightly overshoots and leads to higher inequality than full series. The differences we find, however, remain small compared to the gap between Europe and the United States, and if anything their direction imply that we would still underestimate the gap.

source. Wealth surveys are known to capture some types of assets better than others, so to improve the representativeness of each asset, we rescale them to macroeconomic totals.[7]

Adjustments for Missing Components

Tax-based estimates typically exclude some tax-exempt assets (e.g., pensions, as in Switzerland or the United Kingdom). In such cases, we estimate the average amount of the asset by wealth percentile in the survey, rescale it to the macroeconomic total from national accounts, and distribute the resulting value to the percentiles of the tax-based estimate.

Adjustments for the Statistical Unit

Tax-based estimates report their measurement using either the household or the individual as its statistical unit. Our database uses equal-split adults as its benchmark (i.e., the statistical unit is the individual, with wealth split equally within couples), in line with the international distributional national accounts guidelines (Blanchet et al., a).

Therefore, we must consider two types of correction: one to move from couples to equal-split adults, and the other to move from individuals to equal-split adults. To move from households to equal-split adults, we estimate a share of married and single people by percentile in the survey. Using this, we can divide the tax-based distribution into two tabulations of wealth by bracket: one for single individuals and the other for couples. We interpolate these tabulations separately using generalized Pareto interpolation (Blanchet et al., c), divide wealth levels for couples by two, and combine them back into a single distribution. To move from individuals to equal-split, we estimate the ratio between the value of equal-split to individual wealth by percentile in the survey, and use these ratios to correct the tax-based distribution directly.

Inclusion of Missing Parts of the Distribution

Some estimates based on inheritance taxes are limited to the top of the distribution due to exemption thresholds (e.g. the United Kingdom). In that case, we rely on the tax-based estimate for the top of the distribution and on the survey for the bottom. We do so by constraining the survey Lorenz curve at the bottom to match the tax-based estimates, using the procedure described by Blanchet et al. (a, section 7.2.3.2).

Estimation of the Wealth Composition and Its Calibration to Macroeconomic Totals

We systematically calibrate our distributions of wealth and their composition to match macroeconomic totals. However, two different cases may arise when doing so, and each requires a different type of adjustment.

In the first case, the information on the overall distribution of wealth and its composition comes from the same source, so the discrepancies between the micro and macro totals reflect deficiencies both in the overall distribution of wealth and its composition. This case arises in particular in countries with only survey data. In that situation, we rescale each asset in the survey to match macroeconomic totals, changing the marginal distribution of wealth in the process. This adjustment is desirable, as it helps to fix the survey's well-documented tendencies to underrepresent certain types of assets (European Central Bank, 2020). That approach corresponds to an *unconstrained* calibration.

In the second case, the information on the wealth distribution and on its composition come from different sources. This case arises in countries where tax-based estimates (potentially augmented with survey data) provide a reliable measurement of the marginal distribution of wealth, but where information on its composition is based on relatively lower-quality survey data. Hence, it would be undesirable to alter the marginal distribution of wealth based on the data on its composition. We thus proceed with a *constrained* calibration procedure. We do so by considering a matrix whose rows are brackets of the wealth distribution, whose columns are components of wealth, and whose cells constitute the total value of the component for the bracket. The goal is then to adjust the cells to match row totals (i.e., the marginal distribution of wealth) and columns totals (i.e., macroeconomic aggregate). We do so using a matrix scaling algorithm described in online appendix.

2.3. Joint distribution of income and wealth: Methodology and data sources

For all the countries in our wealth database, we also estimate the income distribution by wealth bracket, allowing us to analyze the role of income inequality dynamics in shaping wealth inequality, and to calculate saving rates out of income for each wealth group. For a few countries (e.g., France, the United States), that information is already available from the studies we rely on. In these cases, we directly use that information.

For the other countries, we produce our own estimates. First, we use data on income distribution from the World Inequality Database, which for European countries primarily comes from Blanchet et al. (b). We then rely on the survey data (e.g., HFCS) to perform a statistical match between the wealth and the income distribution. The purpose of this procedure is to keep the marginal distributions of income and wealth from distributional national accounts estimates, while using the information from the survey for the dependency between income and wealth.

Assume that the survey has n distinct observations. Let w_i be the weight of observation i. We can sort observations in increasing order of wealth, and let (i) denote the i-th order statistic, i.e., the observation with the i-th largest wealth. We can similarly sort observations by income, and let $[i]$ denote the i-th order statistic in terms of income. From this, we can

[7] Wealth surveys (e.g., HFCS) use by default a categorization of business wealth that is different from the UN SNA (which depends on whether the household works for the business, rather than on its legal form). Nonetheless, this is not a non-solvable problem since wealth surveys also generally include information on the legal form of the business, that we use to recategorize business wealth in accordance to the UN SNA.

define the wealth rank $r_{(i)} \in [0, 1)$ and the income rank $s_{[i]} \in [0, 1)$ for each observation as:

$$r_{(i)} \equiv \frac{1}{N} \sum_{j=1}^{i-1} w_{(j)} \qquad s_{[i]} \equiv \frac{1}{N} \sum_{j=1}^{i-1} w_{[j]}$$

where N is the total sum of weights. Each observation (i) represents a range of wealth fractiles $[r_{(i)}, r_{(i+1)}]$, and similarly each observation $[i]$ represents a range of income fractiles $[s_{[i]}, s_{[i+1]}]$. Using generalized Pareto interpolation methods (Blanchet et al., c), we attribute to each survey observation i the average wealth and income that matches the range of fractiles it represents. This procedure leaves us with a set of n weighted observations that represent the joint distribution of income and wealth. By construction, the marginal income and wealth distributions match our estimates, while the copula (i.e., the joint distribution of the ranks) between income and wealth matches the survey data.

Then we group these observations by wealth percentile, and take the average income and wealth within each of these percentiles. This leads to our estimate of income by wealth percentile. Finally, we split our estimate between labor and capital income components. To that end, we use asset-specific rates of return using national accounts, and apply these rates of return to the average wealth by bracket. This gives us an estimate of capital income, and we obtain labor income as a residual.

2.4. Wealth accumulation decompositions

To better understand the determinants behind the dynamics of aggregate wealth and the wealth distribution in both Europe and the United States, we decompose the aggregate wealth series using the following transition equation:

$$W^r_{t+1} = (1 + q^r_t) \cdot [W^r_t + s^r_t \cdot I^r_t], \tag{1}$$

where W^r_t stands for the total real wealth of region r at time t, I^r_t is the total real income of region r at time t, q^r_t is the total rate of real capital gains of region r at time t and s^r_t the total saving rate of region r at time t.[8] By convention, savings are assumed to be made before the asset price effect q^g_t is realized. Hence, the three forces that can affect the dynamics of aggregate wealth are changes in income, savings and/or asset prices.

We follow the same approach as Garbinti et al. (2020) and Saez and Zucman (a) and calculate the rate of capital gain that can account for the evolution of total wealth in each region r as a residual from the previous transition equation. This is a straightforward calculation since we observe variables W^r_t, W^r_{t+1}, I^r_t and s^r_t over time. We proxy saving for investment and calculate the saving rate out of income by collecting net investment flows for each country, year and asset class from national accounts. Table 1 (column 2) lists the European countries and time frame for which we have been able to collect aggregate investment flows.[9]

If we divide both sides of Eq. (1) by W^r_t, we can express the full equation into growth rates, as follows:

$$(1 + g^r_{w,t}) = (1 + g^r_{q,t}) \cdot (1 + g^r_{s,t}), \tag{2}$$

where $g^r_{w,t} = \frac{W^r_{t+1}}{W^r_t} - 1$ is the wealth growth rate of region r between t+1 and t, $g^r_{q,t} = q^r_t$ is the capital gain growth rate of region r between t+1 and t, and $g^r_{s,t} = \frac{s^r_t \cdot I^r_t}{W^r_t}$ is the savings-induced wealth growth rate of region r between t+1 and t.

We also rely on the asset-specific wealth accumulation decomposition used by Artola et al. (2021) to break down the previous transition equation by asset class: net housing, business assets and financial assets. The transition equation is as follows:

$$W^r_{t+1} = W^r_{H,t+1} + W^r_{B,t+1} + W^r_{F,t+1}, \tag{3}$$

where

$$W^r_{H,t+1} = (1 + q^r_{H,t}) \cdot [W^r_{H,t} + s^r_{H,t} \cdot I^r_t] \tag{4}$$

$$W^r_{B,t+1} = (1 + q^r_{Bt}) \cdot [W^r_{B,t} + s^r_{B,t} \cdot I^r_t] \tag{5}$$

$$W^r_{F,t+1} = (1 + q^r_{F,t}) \cdot [W^r_{F,t} + s^r_{F,t} \cdot I^r_t] \tag{6}$$

[8] Real capital gains are defined as the excess of average asset price inflation, given average portfolio composition of region r, over consumer price inflation.

[9] For the United States, we rely on the investment flows from the Bureau of Economic Analysis for non-financial assets and from the Flow of Funds for financial assets. Contrary to the System of National Accounts and the European System of Accounts, the national accounts of the United States do not consider sole proprietorships and partnerships as part of the household sector, but as part of the non-financial corporate sector. We account for the investment in non-financial assets by sole proprietorships and partnerships by applying to the total investment flow of the non-financial corporate sector the share of fixed assets held by sole proprietorships and partnerships from Saez and Zucman (b).

This asset-specific wealth decomposition makes it possible to quantify not only the relative importance of each channel (i.e., income, savings and asset prices), but also the role played by each asset in explaining the aggregate saving dynamics in each region. This decomposition can also be expressed in growth rates, following the same procedure as for Eq. (2).

To better understand how we practically implement the wealth accumulation decompositions, let us focus on the following numerical example. Real net household wealth in the US amounts to 78.8 and 74.5 trillion USD in 2015 and 2014, respectively. Hence, the wealth growth rate between 2015 and 2014 is $g^{US}_{w,2014} = 78.8/74.5 - 1 = 0.058$. Real household net investment amounts to 1.6 trillion USD in 2014. Thus, the savings-induced wealth growth rate is $g^{US}_{s,2014} = 1.6/74.5 = 0.022$. We can then obtain the capital gain growth rate as a residual by rearranging Eq. (2) as follows: $g^{US}_{q,2014} = \frac{(1+g^{US}_{w,2014})}{(1+g^{US}_{s,2014})} = \frac{(1+0.058)}{(1+0.022)} - 1 = 0.036$. The exact same procedure is followed with the asset-specific wealth accumulation decompositions.

We also carry the same asset-specific wealth accumulation decompositions for each wealth group g using the following transition equations developed by Martínez-Toledano (2022):

$$W^{g,r}_{t+1} = (1 + q^{g,r}_t) \cdot [W^{g,r}_t + s^{g,r}_t \cdot (Y^{g,r}_{L_t} + r^{g,r}_t \cdot W^{g,r}_t)], \textit{ and} \tag{7}$$

$$W^{g,r}_{t+1} = W^{g,r}_{H,t+1} + W^{g,r}_{B,t+1} + W^{g,r}_{F,t+1}, \tag{8}$$

where

$$W^{g,r}_{H,t+1} = (1 + q^{g,r}_t) \cdot [W^{g,r}_{H,t} + s^{g,r}_{H,t} \cdot (Y^{g,r}_{L_t} + r^{g,r}_t \cdot W^{g,r}_t)] \tag{9}$$

$$W^{g,r}_{B,t+1} = (1 + q^{g,r}_t) \cdot [W^{g,r}_{B,t} + s^{g,r}_{B,t} \cdot (Y^{g,r}_{L_t} + r^{g,r}_t \cdot W^{g}_t)] \tag{10}$$

$$W^{g,r}_{F,t+1} = (1 + q^{g,r}_t) \cdot [W^{g,r}_{F,t} + s^{g,r}_{F,t} \cdot (Y^{g,r}_{L_t} + r^{g,r}_t \cdot W^{g,r}_t)] \tag{11}$$

In this case, we further decompose total income by wealth group g into labor income $Y^{g,r}_{L_t}$ plus capital income $r^{g,r}_t \cdot W^{g,r}_t$, where $r^{g,r}_t$ is the flow rate of return by wealth group g in each region r. We do so, as this allows us to also analyze another potential force behind wealth inequality: labor income inequality.

This decomposition relies on two important assumptions. First, the saving rate is *synthetic*, that is, it captures the saving flow that reconciles the change in the wealth of wealth group g between t and $t+1$ given the change in the price of assets held by this wealth group in t. This definition of saving is *synthetic* because the identity of individuals within wealth group g changes from year to year due to wealth mobility. If the identity of all individuals remained the same over time, *synthetic* saving would equal actual saving. Kuhn et al. (2020) and Martínez-Toledano (2022) also rely on *synthetic* saving rates to analyze the determinants of wealth inequality. They show high persistence of households/individuals within wealth groups. Hence, *synthetic* saving rates appear to be a good proxy of actual saving rates.

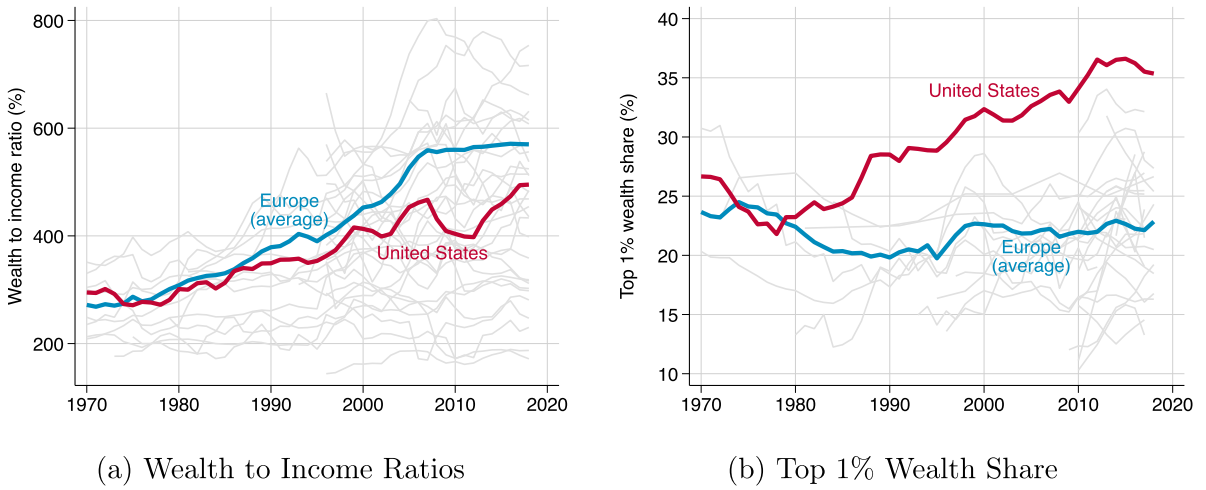
Second, the asset-specific decomposition we use is additive, that is, the sum of the saving rates in Eqs. 3-5 adds up to the total saving rate for region r. To reach additivity, we need to rely on wealth group-specific rates of capital gain (i.e., q^g_t). This could bias the fluctuations in the composition of saving rates, if group-specific rates of capital gain were different by asset class. Martínez-Toledano (2022) compares the results based on asset-specific wealth accumulation decompositions using wealth group-specific rates of capital gain (i.e., q^g_t) to the same decompositions using group-and-asset specific rates of capital gain (i.e., $q^g_{i,t}$, where i is the asset type) using Spanish wealth series. Results are very similar under the two specifications, suggesting there is no substantial difference between using one specification or the other.

3. Dynamics of wealth in europe and the united states

This section presents the main results of the paper. We start by describing the main stylized facts on the evolution of aggregate wealth and its distribution in Europe and the United States. We then use the wealth accumulation decompositions and counterfactual simulations to study the drivers of wealth accumulation and wealth inequality dynamics across the two regions.

3.1. Stylized facts

Fig. 3.2 a compares the average household wealth to income ratios in Europe and the United States since 1970. The evolution has been quite similar, steadily increasing from 3 times national income in 1970 to nearly 5 and 6 times in 2018 in both the US and Europe, respectively. The wealth to income ratio is slightly higher in recent years in Europe than in the United States, as the latter experienced a large reduction in wealth after the global financial crisis—mainly due to the decline in house prices—which only happened across a few European countries (e.g., Ireland, Spain). The European average hides important heterogeneities, as there are countries which have reached levels of wealth that are more than 6.5 times the national income in the 2010s (e.g., Italy, Spain and Switzerland), and others for which wealth is lower than 2.5 times the national income (e.g., Lithuania, Poland and Romania). The wealth to income ratio in the US has increased much more rapidly than in Europe since the early 2010s, so that the US could likely reach the European levels in the coming years.



(a) Wealth to Income Ratios (b) Top 1% Wealth Share

Fig. 1. Aggregate Household Wealth and Top Wealth Concentration, 1970–2018: Europe and the United States,*Notes*: This figure depicts the evolution of aggregate wealth to income ratios (panel a) and of the top 1% wealth share (panel b) in both Europe and the United States using the Distributional Wealth Accounts (DWAs) for Europe and the United States DWAs of Saez and Zucman (b). The gray lines depict the country-specific evolutions in Europe. The European estimate is based on a wealth-weighted average.

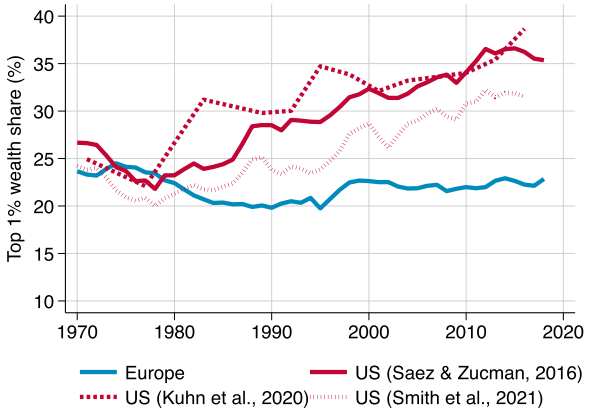


Fig. 2. Robustness Checks using Alternative US Top 1% Wealth Shares *Notes*: This figure compares the evolution of the top 1% wealth share in Europe over the period 1970–2019 to the evolution of the top 1% wealth share in the US using three alternative sources: Saez and Zucman (b) and Smith et al. (2020) using tax and survey data, and Kuhn et al. (2020) using survey data. The European estimate is based on a wealth-weighted average.

Fig. 3.2 b depicts the average evolution of the top 1% wealth share in Europe and the United States since 1970. For the United States, we rely on the wealth distribution series of Saez and Zucman (b). Although aggregate household wealth has similarly evolved in Europe and the United States (except for the recent decade), the dynamics of wealth inequality have been strikingly different in both regions. After an equalizing period during the 1970s, top 1% wealth concentration rose since 1980 in both regions, but much more moderately in Europe than in the United States. The differential trend in the top 1% wealth share between the US and Europe is robust to the use of other alternative sources and methods for the US, such as those used by Kuhn et al. (2020) and Smith et al. (2020) (Fig. 2). Interestingly, there is no single European country with the wealth concentration levels of the United States since the mid-1980s. Nonetheless, the European average hides important heterogeneities (Fig. 3). Northern Europe had much lower wealth concentration levels than Western Europe in the 1980s. The gap has declined over time, as wealth concentration has increased faster in Northern than in Western Europe. Wealth concentration in Southern Europe was lower than in Western Europe and slightly higher than in Northern Europe during the 1990s and 2000s, but in the 2010s the levels of wealth concentration have converged to those of Western Europe. Finally, Eastern Europe is the region with the highest average levels of wealth concentration in the 2010s.

The United States also differs from Europe in the composition of the top 1% wealth share. Fig. 4 shows that net housing has become increasingly more important for the top 1% wealth share in Europe at the expense of financial assets. Moreover, net housing and business assets account for a larger share of total wealth for the top 1% in Europe than in the United States throughout the whole period of analysis. Financial assets are thus more important for the top 1% in the United States than in Europe and they have become increasingly more important over time.

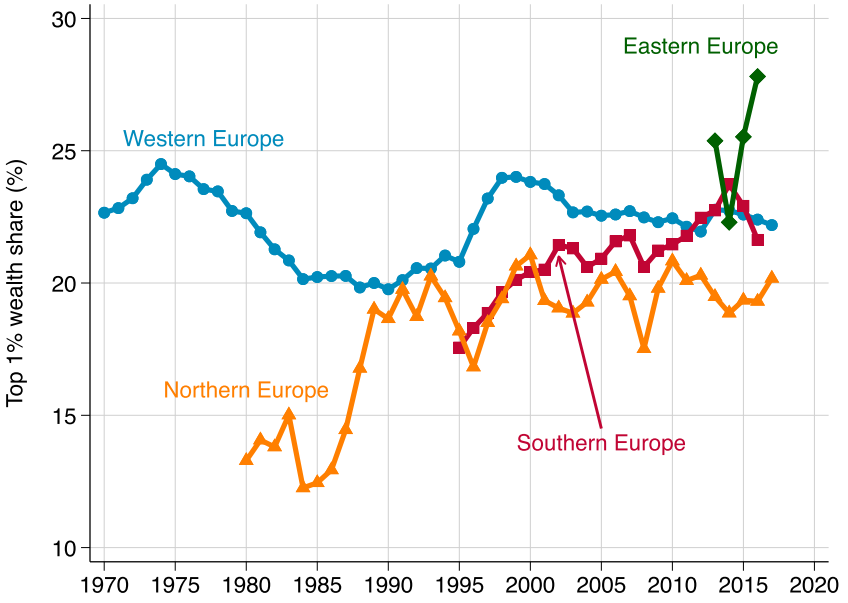
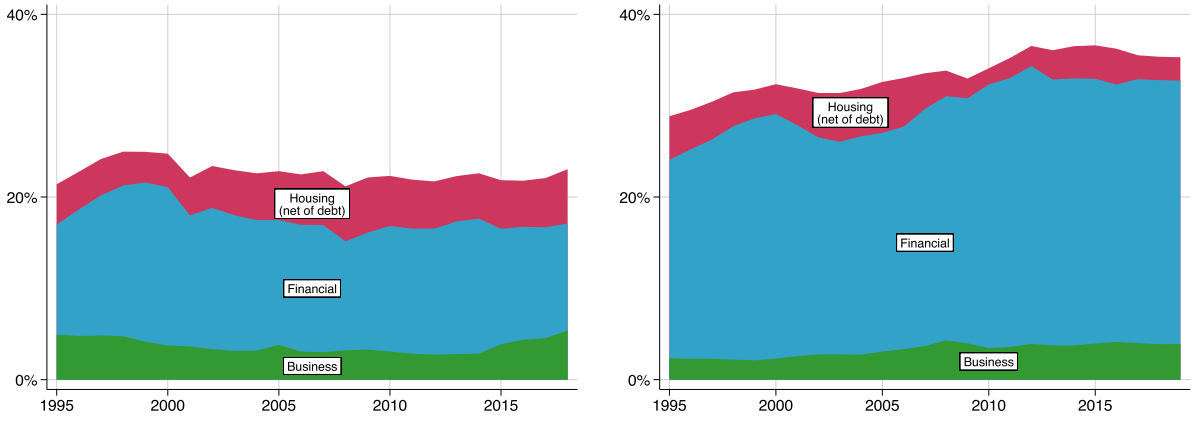


Fig. 3. Wealth Concentration in Europe by Region, 1970–2018*Notes*: This figure depicts the evolution of the top 1% wealth share across European regions using the Distributional Wealth Accounts (DWAs). *Eastern Europe*: Estonia, Hungary, Latvia, Lithuania, Poland. *Northern Europe*: Denmark, Finland, Iceland, Norway, Sweden. *Southern Europe*: Croatia, Cyprus, Greece, Italy, Malta, Portugal, Slovenia, Spain. *Western Europe*: Austria, Belgium, France, Germany, Ireland, Luxembourg, Netherlands, Switzerland, United Kingdom. All estimates are based on a wealth-weighted average.



(a) Composition of top 1% wealth share in Europe (b) Composition of top 1% wealth share in US

Fig. 4. Composition of Top 1% Wealth Share, 1970–2018: Europe and the United States,*Notes*: This figure depicts the evolution of the asset composition of the top 1% wealth share in both Europe and the United States over the period 1970–2018. Total wealth is decomposed between housing (net of debt), financial assets and business assets using the Distributional Wealth Accounts (DWAs) for Europe and the United States DWAs of Saez and Zucman (b). The European estimate is based on a wealth-weighted average..

3.2. Understanding the determinants

To assess the relative importance of volume versus price effects in explaining the aggregate wealth trajectories across the two regions, we rely on the asset-specific wealth accumulation decompositions and the aggregate wealth, income and investment series.

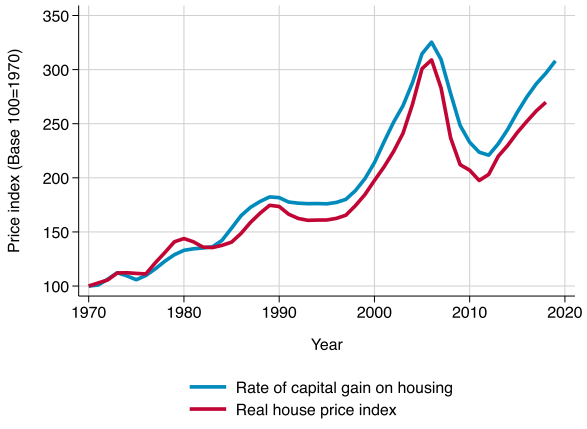
Although wealth to income ratios have evolved similarly in both regions (except for the recent decade), the relative importance of volume versus price effects and of each asset class has not been the same. As shown in Fig. 5a, total volume effects have been larger in the United States, while total price effects have been slightly more important in Europe. Prices evolved similarly in Europe and in the United States until the 2010s, but they have increased faster in Europe over the last two decades due mainly to the larger rise in house prices. Instead, volume effects have been larger in the United States than

Fig. 5. Aggregate Wealth Accumulation Decomposition, 1970–2018: Europe and the United States, Notes: This figure depicts the evolution of volume versus price effects using the wealth accumulation decompositions described in Section 2.4. Panel (a) presents the volume and price effects for total wealth, while panels (b) to (d) present the volume and price effects for housing, financial assets and business assets, respectively. The series are normalized using 1970 as a base year. The European estimates are based on a wealth-weighted average.

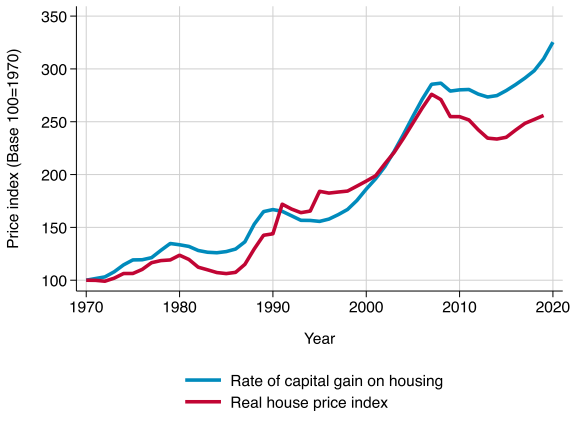
in Europe, mainly due to the stronger increase in business investment in the United States relative to Europe (Figs. 5b, 5 c, and 5 d).

We perform several robustness checks to ensure that the different trajectories of price effects across the two regions are not driven by measurement error resulting from the wealth accumulation decompositions. Figs. 6a and 6 b compare the evolution of capital gains on housing resulting from our asset-specific wealth accumulation decompositions with the evolution based on the house price indices in both Europe and the US. We rely on the house price indices database published by the Bank of International Settlements. For Europe, the house price index is a weighted population average for those countries for which both series (i.e., capital gains on housing and house price indices) are available. The evolution is quite similar between both sources.

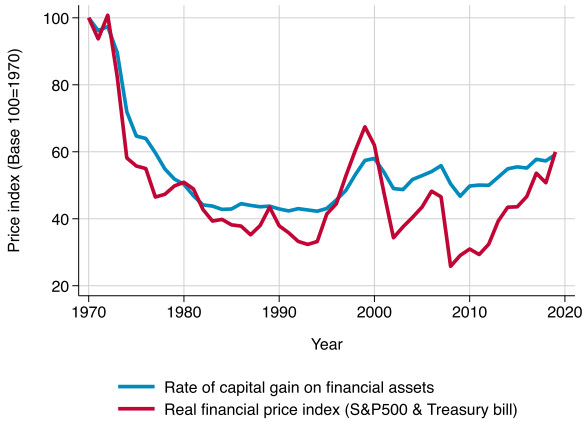
Fig. 6 c compares the evolution of capital gains on financial assets in the US with the evolution of a financial price index based on the weighted average of the S&P stock market price index from Shiller (2015) and the 6-month US Treasury bill index from the Federal Reserve Bank of St. Louis. The weights are the US annual portfolio shares on equities and fixed-income assets out of total financial assets, respectively. We rely on this weighted index and not the stock market price index, as our financial assets category includes both stocks and fixed-income assets. Hence, it is more comparable. The evolution is also quite similar between the two sources. We do not compare the evolution of capital gains on financial assets with the evolution of country-specific stock market indices for European countries, as country-specific stock market price indices are unlikely to capture the evolution of country-specific capital gains on financial assets due to the international diversification of portfolios by investors.



(a) Evolution of house prices in the US



(b) Evolution of house prices in Europe



(c) Evolution of financial asset prices in the US

Fig. 6. Robustness Checks for the Evolution of Capital Gains, *Notes*: This figure compares the evolution of capital gains on housing and financial assets resulting from our asset-specific wealth accumulation decompositions with the evolution based on external sources in both Europe and the US. Panels (a) and (b) compare the evolution of capital gains on housing with the evolution of house price indices from the Bank of International Settlements (BIS). For Europe, the two series are based on a weighted population average for those countries for which both series are available. The only excluded European countries from our database for which no house price indices are available on the BIS database are Greece, Iceland and Slovenia. Panel (c) compares the evolution of capital gains on financial assets in the US with the evolution of a financial price index calculated as a weighted average between the S&P stock market price index from Shiller (2015) and the 6-Month US Treasury Bill index published by the Federal Reserve Bank of St. Louis. The weights are the US annual portfolio shares on equities and fixed-income assets out of total financial assets, respectively.

The differences in price and volume trajectories between the US and Europe are also robust to the use of a balanced panel of countries (Fig. 7) and to the inclusion of corporate savings as part of households' savings on financial assets (Fig. 8).

To further assess the relative importance of volume versus price effects in explaining the different wealth inequality trajectories across the two regions, we run several counterfactual simulations using these asset-specific wealth accumulation decompositions and the DWAs. We rely for our benchmark analysis on France and not on the entirety of Europe, since France is the only country for which we have the joint income and wealth distribution since 1970. We present similar simulations including more European countries since 1995 at the end of the section.

Fig. 9 compares the benchmark top 1% wealth share in France and the United States to the counterfactual wealth shares obtained by shutting down one channel at a time over the period 1986–2018.We do so by fixing for every wealth group each force (i.e., asset prices, saving rates, or labor income shares) to be the average of the pre-simulation period 1970–1985.

Fig. 9 a shows that saving rate inequality seems to be the main driver of the moderate rise in the top 1% wealth share in France since the mid-1980s. The reason is that absent changes in saving rates, the top 1% wealth share would have declined over time. Instead, labor income inequality seems to have pushed wealth concentration down, as absent changes in labor income disparities the top 1% wealth share would have been higher. Finally, asset prices seem to only have played a role since the 2000s pushing also wealth concentration down. This is largely explained by the outperformance of house prices relative to financial assets (Fig. 10) and the increasing importance of housing for middle and bottom wealth groups (Fig. 4).

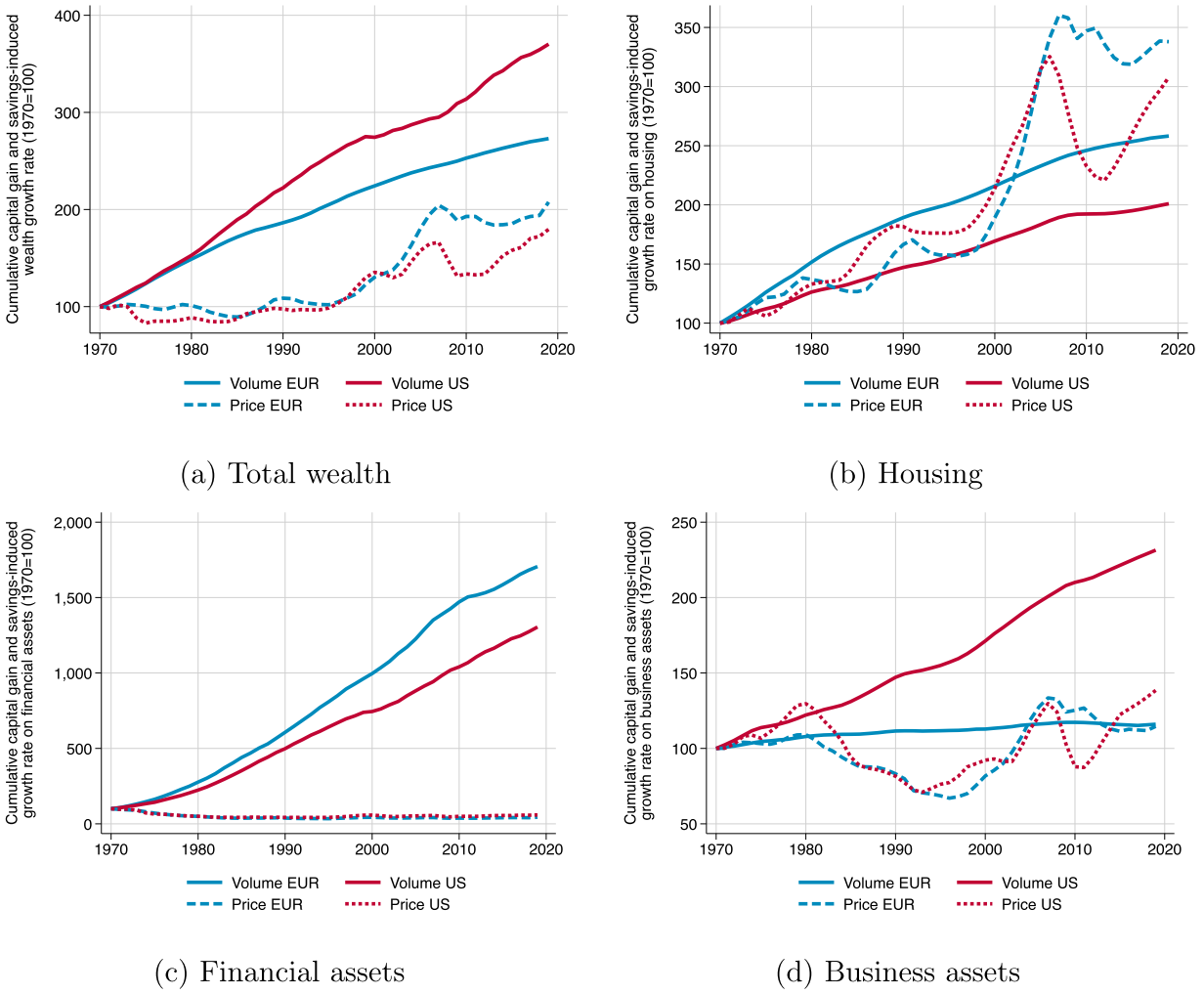


Fig. 7. Aggregate Wealth Accumulation Decomposition, 1970–2018: Europe and the United States (Balanced sample),*Notes*: This figure depicts the evolution of volume versus price effects using the wealth accumulation decompositions described in Section 2.4. The only difference with respect to Fig. 5 is that the European decomposition in this case is based on a balanced (instead of an unbalanced) panel of European countries. Panel (a) presents the volume and price effects for total wealth, while panels (b) to (d) present the volume and price effects for housing, financial assets and business assets, respectively. The series are normalized using 1970 as a base year. The European estimates are based on a population weighted average.

Fig. 9 b shows that in the United States all channels seem to have somehow contributed to rising top wealth concentration since the mid-1980s. Contrary to France, asset prices and labor income inequality—and not only saving rate inequality—have contributed to the rise in the top 1% wealth share.

In order to better understand the different wealth inequality trajectories between Europe and the United States, Fig. 11 applies the dynamics of asset prices and labor income shares of the top 1% wealth group in France to the top 1% wealth share in the United States. Labor income inequality has grown faster in the United States than in France over the period, thus explaining why the level of wealth concentration in the United States would have been lower with the labor income inequality trajectory of France. Furthermore, the top 1% wealth share in the United States would have also been lower with the asset price dynamics of France. This is largely due to the stronger rise in house prices relative to financial assets in Europe than in the United States (Fig. 10) and the larger importance of housing in the portfolios of middle and bottom wealth groups (Fig. 4).

To make sure that the results between France and the United States can be extrapolated to the rest of Europe, we also run similar simulations for a weighted average of European countries since 1995.[10] Fig. 12 applies the dynamics of asset prices and labor income shares of the top 1% wealth group in the United States to the top 1% wealth share in Europe. All

[10] Note that we start in 1995, as this is the first year for which we have distributional income and wealth series for a sufficient amount of European countries available.

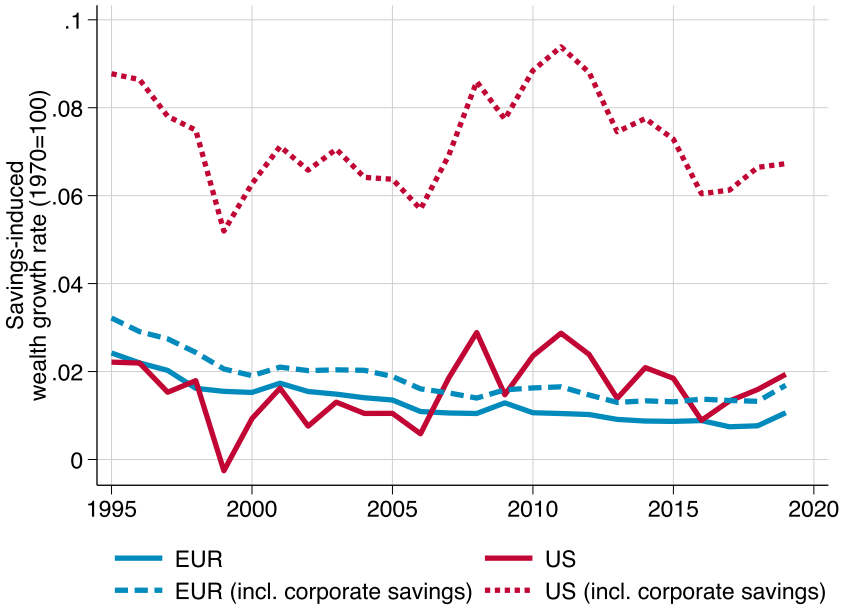
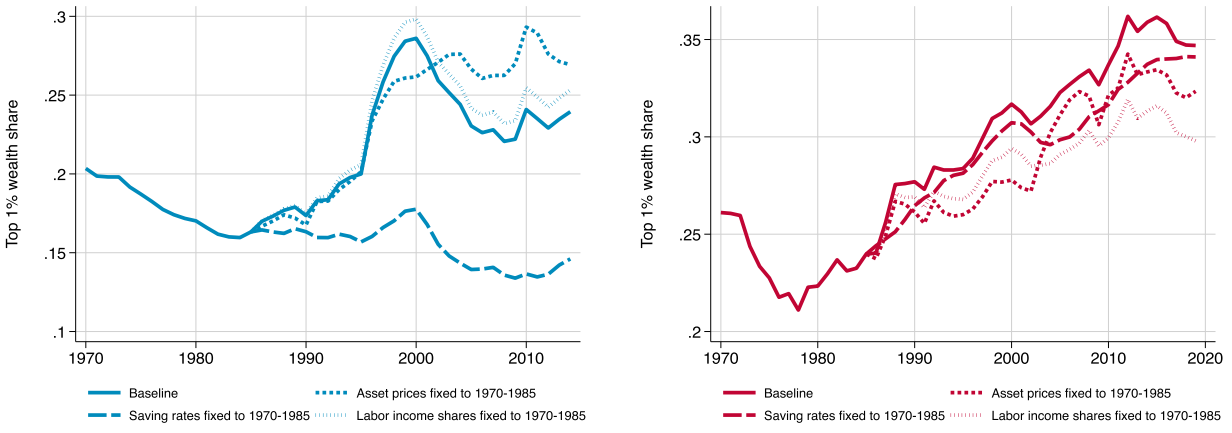


Fig. 8. Robustness Checks accounting for Corporate Savings, 1970–2018: Europe and the United States *Notes*: This figure compares the evolution of the savings-induced wealth growth rate in Europe and the US over the period 1970–2019 to the evolution of the savings-induced wealth growth rate accounting for corporate savings in the wealth accumulation decomposition. The European estimate is based on a wealth-weighted average.



(a) Top 1% Wealth Share in France (b) Top 1% Wealth Share in United States

Fig. 9. Top 1% Wealth Share Simulations, 1970–2019: France and the United States,*Notes*: This figure compares the actual evolution of the top 1% wealth share in both France (1970–2014) and the United States (1970–2014) to the counterfactual evolution fixing either asset prices, saving rates or labor income inequality to their average between 1970–1985. For instance, for the simulation with fixed asset prices for France, we fix the rate of capital gain over the period 1986–2014 to be the average rate of capital gain over the period 1970–1985.

simulations are in line with the ones using only the French distributional series. Labor income inequality has grown faster in the United States than in Europe over the period, thus explaining why the level of wealth concentration in Europe would have been higher with the labor income inequality trajectory of the United States. Moreover, the dynamics of asset prices seem to have pushed wealth concentration up in the United States and not in Europe, as wealth concentration in Europe would have increased much more with the asset price dynamics of the United States. All in all, this evidence indicates that the results for France seem to hold more broadly for Europe.

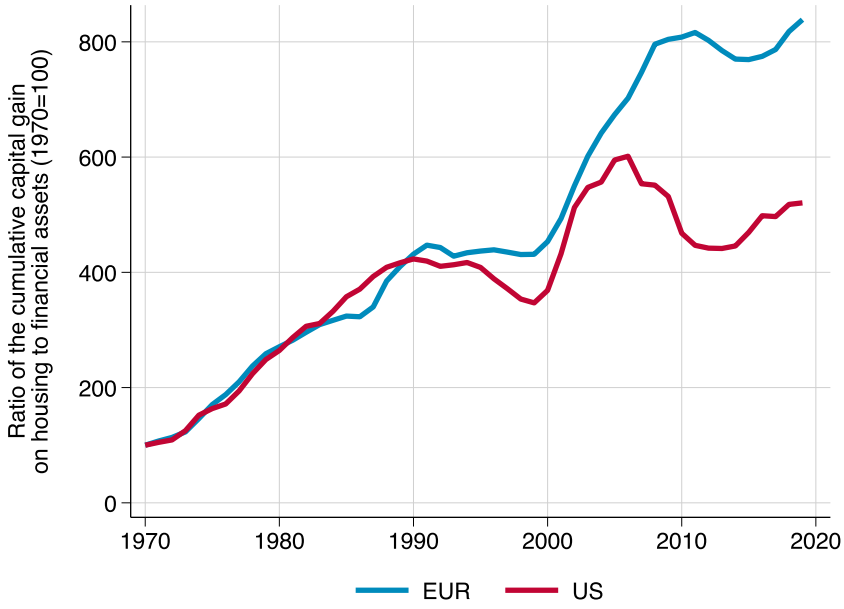


Fig. 10. Cumulative Capital Gains in Europe and the United States: Housing vs. Financial Assets *Notes*: This figure compares the cumulative evolution of capital gains on housing and financial assets in Europe and the United States. The indicator that is depicted is the ratio of the cumulative gains on housing to the cumulative capital gains on financial assets normalized to 1970. The capital gains are derived from the wealth accumulation decomposition. The European estimate is based on a wealth-weighted average.

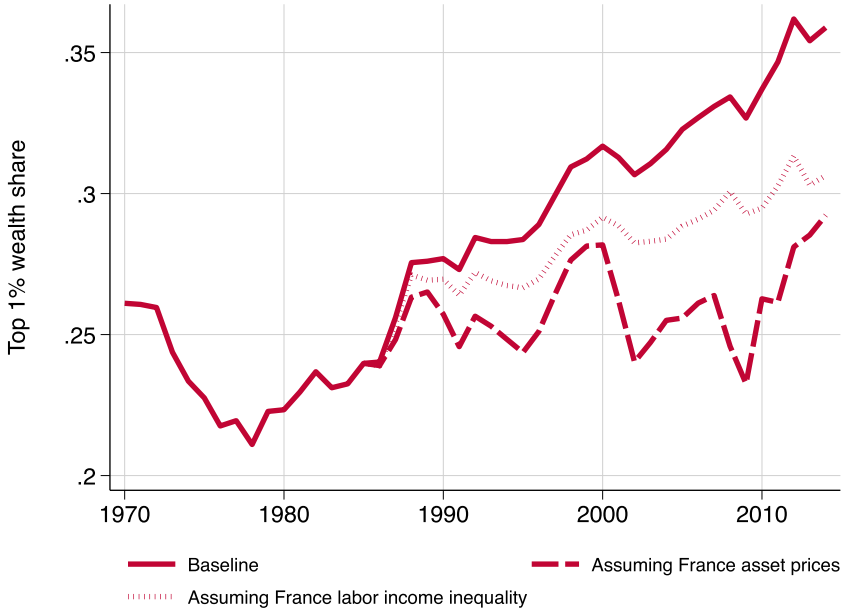


Fig. 11. Counterfactual Evolution of Wealth Inequality in the United States using France Parameters *Notes*: This figure compares the actual evolution of the top 1% wealth share in the United States over the period 1970–2014 to the counterfactual evolution assuming either the asset prices or the labor income shares of the top 1% wealth group in France. The counterfactual simulations follow the methodology described in Section 2.4..

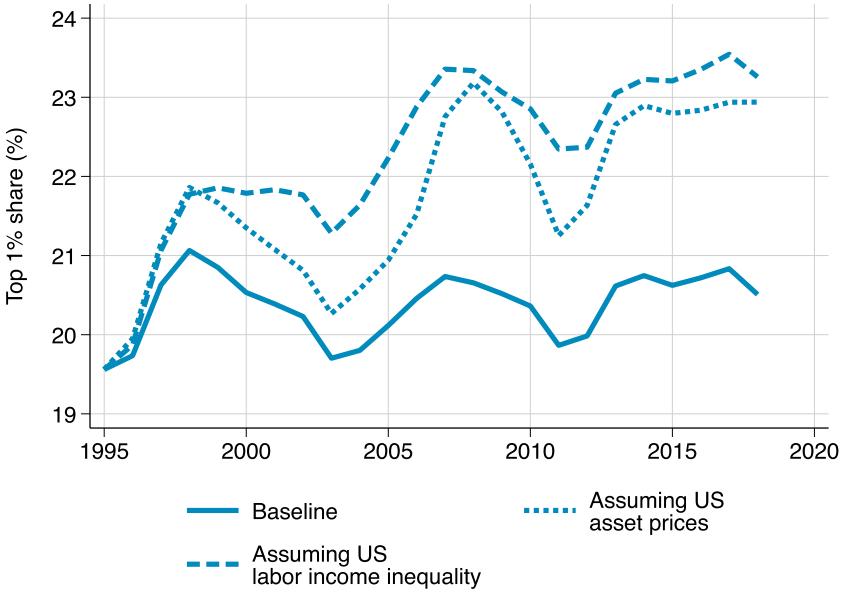


Fig. 12. Counterfactual Evolution of Wealth Inequality in Europe using United States Parameters *Notes*: This figure compares the actual evolution of the top 1% wealth share in Europe over the period 1995–2018 to the counterfactual evolution assuming either the total asset price effects or the labor income share of the top 1% wealth group in the United States. The counterfactual simulations follow the methodology described in Section 2.4. "Europe" for this exercise refers to a population-weighted average of Germany, Denmark, Finland, United Kingdom, Italy, Netherlands, France and Spain. These are countries for which it is possible to obtain a balanced panel with a sufficiently detailed decomposition over the entire period.

4. Conclusion

This paper combines national accounts, tax records and surveys to build the first Distributional Wealth Accounts (DWAs) for Europe over the period 1970–2018. Our new database reveals that aggregate wealth relative to national income has evolved similarly in Europe than in the United States, while wealth inequality has grown much faster in the United States than in Europe since the mid-1980s.

Using wealth accumulation decompositions, we find that both the weaker rise in labor income inequality and the stronger rise in house prices relative to financial assets in Europe relative to the United States appear to explain why Europe has experienced a more moderate rise in wealth concentration since the mid-1980s. Our analyses thus reveal that cross-regional comparisons can be powerful to understand the drivers of different wealth inequality trajectories and that the forces pushing wealth concentration up or down are quite heterogeneous across regions.

This paper has made some progress in better understanding the determinants of aggregate wealth and wealth inequality dynamics in Europe and the United States. We hope that our new and rich historical database on European aggregate household wealth and its distribution will open up new avenues for future empirical and theoretical research on the determinants of wealth inequalities. We also hope our work will encourage government agencies to collect and release more wealth information to better understand wealth inequality trajectories outside of the Western world.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jmoneco.2022.11.010

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