

# The Wealth Inequality of Nations

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# Fabian T. Pfeffer<sup>a</sup> and Nora Waitkus<sup>b</sup>

# Abstract

Comparative research on income inequality has produced several frameworks to study the institutional determinants of income stratification. In contrast, no such framework and much less empirical evidence exist to explain cross-national differences in wealth inequality. This situation is particularly lamentable as cross-national patterns of inequality in wealth diverge sharply from those in income. We seek to pave the way for new explanations of crossnational differences in wealth inequality by tracing them to the influence of different wealth components. Drawing on the literatures on financialization and housing, we argue that housing equity should be the central building block of the comparative analysis of wealth inequality. Using harmonized data on 15 countries included in the Luxembourg Wealth Study (LWS), we demonstrate a lack of association between national levels of income and wealth inequality and concentration. Using decomposition approaches, we then estimate the degree to which national levels of wealth inequality and concentration relate to cross-national differences in wealth portfolios and the distribution of specific asset components. Considering the role of housing equity, financial assets, non-housing real assets, and non-housing debt, we show that cross-national variation in wealth inequality and concentration is centrally determined by the distribution of housing equity.

### **Keywords**

wealth, income, housing, inequality, comparison

Decades of comparative empirical research have examined cross-national differences in income inequality (e.g., Gottschalk and Smeeding 1997; Kenworthy 2004; Salverda, Nolan, and Smeeding 2009; Smeeding, O'Higgins, and Rainwater 1990). Influential analytic frameworks and typologies-such as Worlds of Welfare Capitalism (Esping-Andersen 1990) or Varieties of Capitalism (Hall and Soskice 2001)-have been used to explain why income is distributed more unequally in some countries than in others. An entire industry of scientific work has expanded or critiqued these typologies to further elucidate the institutional drivers behind cross-national differences in income inequality (e.g., Arts and Gelissen 2002; Hemerijck 2013; Korpi and Palme 1998; Orloff 1996). In contrast, a cohesive framework to understand crossnational differences in wealth inequality does not exist. This lack of progress would be largely unproblematic if cross-national differences in wealth inequality coincided with those in income inequality. However, that is not the case. In fact, income and wealth

<sup>a</sup>University of Michigan <sup>b</sup>London School of Economics and Tilburg University

#### **Corresponding Author:**

Fabian T. Pfeffer, University of Michigan, 426 Thompson Street, 2042 Institute for Social Research, Ann Arbor, MI 48104 Email: fpfeffer@umich.edu appear to constitute largely independent dimensions of national levels of inequality. We will begin by exploring this finding and carefully documenting the lack of relationship between national levels of income inequality and wealth inequality, considering measures of broad inequality as well as concentration at the top of the distribution.

The non-association between national levels of income inequality and wealth inequality suggests the two may be driven by distinct institutional influences. Here, we take a first step toward connecting the study of wealth inequality to emerging theoretical work that holds explanatory potential. We argue that efforts to construct cohesive institutional explanations of wealth inequality need to pay attention to the growing literature on housing and financialization. In line with this argument, our empirical analyses reveal the central role of housing wealth in accounting for national levels of wealth inequality. We show that the composition of asset portfolios, and inequality within asset components, varies widely across nations, and the distribution of housing equity is most closely related to overall levels of wealth inequality.

# BACKGROUND AND MOTIVATION

Wealth Inequality

Over the past three decades, scholarly interest in the distribution of household wealth has grown substantially (Keister and Moller 2000; Killewald, Pfeffer, and Schachner 2017; Spilerman 2000). Research in this area is based on three main insights into the distinctiveness of wealth as a dimension of social stratification. First, wealth is a measure of economic well-being that is partly independent of other, more established indicators of economic status, reflected, for instance, in the far-from-perfect correlation between wealth and income at the household level. An exclusive focus on income will thus provide only a partial picture of economic advantage and disadvantage. Also, such a focus understates the degree of inequality in living conditions, as estimates of wealth inequality exceed those of income inequality.

Second, wealth is associated with important life-outcomes net of other socioeconomic predictors—for example, with individuals' labor market trajectories, demographic outcomes, and, perhaps most importantly, the socioeconomic attainment of following generations (Killewald et al. 2017). For instance, family wealth is strongly associated with the next generation's educational attainment and eventual wealth position (Charles and Hurst 2003; Pfeffer 2018; Pfeffer and Killewald 2018).

Third, the study of wealth may reveal distinct mechanisms that govern the maintenance of inequality. Investigations of the determinants of household wealth should simultaneously consider contemporary and historical explanations, because wealth reflects the accumulation of advantage across both time and generations (Oliver and Shapiro 1995). Investigations of the consequences of wealth point to its unique role in providing a safety net to buffer economic shocks and in the intergenerational maintenance of inequality (e.g., Hällsten and Pfeffer 2017; Rodems and Pfeffer forthcoming).

If wealth is important to our understanding of the distribution of economic well-being across households, it should also be central to the cross-national comparative study of inequality. First, cross-national comparisons based on wealth reveal a higher degree of inequality in living conditions, including in countries that are relatively more equal in terms of income. Second, a neglect of wealth in comparative work risks neglecting important inequalities in life-outcomes, including intergenerational inequalities, not only within the very wealthy elite but also across broad swaths of the population. For instance, variation in the intergenerational persistence of income is widely documented, both across countries (Corak 2013) and within countries across regions (e.g., Bloome 2015; Chetty et al. 2014), but no such evidence exists for the intergenerational persistence of wealth.

Third, a focus on wealth may not only reveal new stratification mechanisms at the individual level but, as we will argue, also lead us to identify new institutional determinants of inequality.

# Wealth and Income Inequality in Comparison

One of the earliest findings of comparative research on wealth is that inequality in net worth is surprisingly high in contexts that are typically considered more egalitarian based on their level of income inequality. For instance, the first series of findings based on a small set of countries included in the first wave of the Luxembourg Wealth Study (LWS) showed that egalitarian Sweden had a remarkably high level of wealth inequality and, more generally, that the inequality rank of Western industrialized countries differed greatly between measures of income and wealth (Jaentti, Sierminska, and Van Kerm 2013, 2015; Sierminska, Brandolini, and Smeeding 2006). Skopek and colleagues (Skopek, Buchholz, and Blossfeld 2014; Skopek et al. 2012) and Maestri, Bogliacino, and Salverda (2015) draw similar conclusions based on different comparative data (e.g., the Survey of Health, Ageing and Retirement in Europe and the Global Wealth Databook): wealth inequality varies greatly across countries, and there is no clear correlation with countries' levels of income inequality. Besides confirming the surprising position of Scandinavian countries, their findings also reveal that Southern European countries show comparably high levels of income inequality but low levels of wealth inequality. Semyonov and Lewin-Epstein (2013:1136) conclude from their analysis of 16 industrialized countries that "income inequality [is] a poor predictor of societal wealth inequality."

Given the important role of income for the accumulation of wealth and the resulting correlation between income and wealth at the household level (Killewald et al. 2017), these findings may still be surprising. At least two empirical concerns may be raised. First, given the highly skewed distribution of wealth, with a sizeable part of the population holding no wealth at all and a wealthy few possessing a large share, distribution-wide measures of inequality used in most prior research, such as Gini coefficients, may fail to reveal a strong association between the concentration of wealth and income at the top.<sup>1</sup> We therefore also consider measures of wealth and income concentration, namely the income and wealth shares held by the top 5 percent of the income and wealth distributions, respectively. Second, one reason why one may expect wealth and income inequality to be more closely correlated is that, at the household level, income and wealth overlap partly because income measures include asset income, that is, income derived directly from wealth (e.g., interest, realized capital gains, rent from real estate). We therefore also assess whether a crossnational income-wealth correlation emerges once we focus on asset income.

# Determinants of National Levels of Wealth Inequality

Few prior contributions have sought to relate national levels of wealth inequality to institutional and macro-structural features of nations. Semyonov and Lewin-Epstein (2013), who focused on institutional predictors of wealth levels, rather than wealth inequality, did not find any notable correlations between wealth and a country's level of economic development, social expenditures, tax rates on income, inheritance taxation, or accessibility of housing. Other work has investigated the relationship between countries' demographic structure-the distributions of age, household size, family structures, or educational attainment-and their level of wealth inequality and portfolio structure, revealing a similarly surprising lack of associations (Bover 2010; Christelis, Georgarakos, and Haliassos 2013; Cowell, Karagiannaki, and McKnight 2018; Sierminska and Doorley 2018). Macro-structural drivers of wealth inequality are also the focus of Piketty's (2014) explanation of trends in wealth

inequality, with the now-famous claim that increasing wealth inequality results from the rate of asset returns outpacing the economic growth rate. Because this rule is assumed to apply to all capitalist societies, differences between nations are ascribed largely to differences in the timing of capitalist development rather than specific institutional arrangements (but see also Acemoglu and Robinson 2015).

Overall, the few existing empirical studies aimed at identifying macro-structural determinants of wealth inequality have thus far not found institutional or demographic features of nations that clearly relate to wealth inequality, or they have largely negated or subsumed the importance of institutional features to general economic laws. We believe the lack of progress in explaining cross-national variation in wealth inequality stems from a lack of theoretical and empirical attention to separate components of household wealth.

We next draw on two strands of research that help motivate a renewed focus on housing wealth as the central dimension of wealth inequality. Prior research has noted the empirical centrality of housing in national wealth portfolios (e.g., Christelis et al. 2013; Cowell et al. 2017; Davies and Shorrocks 2000; Doorley and Sierminska 2014; Sierminska and Doorley 2018; Skopek et al. 2012). In this article, we empirically relate cross-national differences in wealth inequality and wealth portfolios. We quantify the role of housing wealth in accounting for cross-national differences in wealth inequality and argue that it provides us with theoretical leads on the institutional bases of wealth stratification.

# WEALTH, HOUSING, AND FINANCIALIZATION

The most common definition and measure of household net worth, which we use here, sums households' financial assets, housing assets, other real assets, and subtracts their debts. Within such wealth portfolios, the most widely-held components are housing assets and mortgages (Davies 2008; Wolff 2017). Prima facie, these assets and debt obligations should play a substantial role in determining a country's overall level of wealth inequality. Beyond this empirical observation, in this section we derive theoretical expectations about the central role of homeownership and mortgage debt from emerging and complementary literatures in housing research and political economy. We begin by discussing work that assesses cross-national variation in housing regimes and its (non)relationship to comparative stratification research. Housing markets are closely intertwined with national lending regimes through mortgage financing (Aalbers 2016; Quinn 2019), so we argue for the relevance of a micro-level orientation of the broad and quickly expanding literature on financialization to help make sense of international differences in wealth inequality. That is, our theoretical focus is on strands of research that point to the role of housing assets and mortgages.

We do not mean to imply that other asset components are of inherently less theoretical interest in terms of their relationship to crossnational differences in wealth inequality. Certainly, in many countries, financial assets play a central role in the concentration of economic advantage at the very top (Godechot 2016; Piketty 2014), as do business assets. Both of these wealth components should be centered in theories of economic elites (Savage 2015), and they have been central to the study of wealth concentration not just among the top 1 percent, but especially among the top .01 per cent (Saez and Zucman 2016). In contrast, our analytic interest is in wealth inequality as a population-wide phenomenon; in a sense, inequality among the remaining 99 percent. Because we mostly draw on nationally representative survey data, financial elites and large business owners are largely missing from our data (more details below), similar to the absence of proper capitalists from applied social class analyses (Erikson and Goldthorpe 1992:40). Finally, other wealth components that are typically missing from measures of net worth, such as pensions assets, may call for additional theoretical and empirical extension to our work, a point we will revisit.

# Housing and Comparative Stratification Research

Not only is there mounting evidence on the central role of housing assets for wealth accumulation at the household level (e.g., Killewald and Bryan 2016; Lersch and Dewilde 2018), but comparative research is also paying attention to housing as a central part of the political economy (Aalbers and Christophers 2014; Ansell 2019; Schwartz and Seabrooke 2009). This focus has generally been slow to develop, as research on housing has long been "isolated from theory and from wider issues of welfare" (Kemeny 2001:68; see also Kohl 2018). Described as the "wobbly pillar under the welfare state" (Torgersen 1987), the status of housing in modern welfare states is indeed ambiguous; in capitalist societies, the universal right for shelter is typically not met by public provision but instead supported by subsidized private ownership. As a consequence, the long dominant paradigm of welfare state research, Esping-Andersen's (1990) "Worlds of Welfare," also generally overlooked housing. Early empirical research on the relationship between housing and welfare state regimes considered widespread homeownership as a substitute for strong welfare states (Castles 1998; Kemeny 1981). In contrast, more recent analyses show that, today, strong welfare states also show higher levels of homeownership (Ansell 2014; van Gunten and Kohl 2020).

In spite of this correlation between ownership rates and welfare state generosity, the cross-national variation in housing markets defies classification along the lines of traditional welfare state typologies (Blackwell and Kohl 2019). The identification of independent housing regime types is thus a growing area of research. Recently proposed typologies of housing regimes focus on the structure of mortgage markets (Blackwell and Kohl 2018, 2019) and a broader set of regulations that define who can gain access to homeownership (Wind, Lersch, and Dewilde 2017). These efforts are likely to expand as housing markets vary along multiple dimensions, including the historical legacy of public investment in the housing stock, the structure of subsidized rental housing, tenure rules, regulation of the construction market, tax treatment of housing assets, and, most importantly, regulation of access to mortgages (Aalbers 2016; Blackwell and Kohl 2018; Schwartz and Seabrooke 2009).

However, even this more recent comparative literature on housing has not used the resulting housing typologies to explain broader patterns of economic inequality. In some ways, the initial disconnect between housing research and comparative stratification research persists. This is to the detriment of both fields: housing research could profit from a more direct analysis of distributional outcomes beyond homeownership rates, and comparative stratification research would be well advised to expand beyond its conceptual and empirical focus on distributional outcomes determined on the labor market (see also Adkins, Cooper, and Konings 2020; Kurz and Blossfeld 2004). We believe a focus on housing is particularly helpful to reorient our understanding of wealth inequality. In a similar vein, in response to Piketty's Capital, economists have argued that attention to housing assets and returns could alter our conclusions about the determinants of wealth inequality (Bonnet et al. 2014; Fuller, Johnston, and Regan 2020; Jorda et al. 2019; Knoll, Schularick, and Steger 2017; Rognlie 2015). This focus on housing, however, cannot rest solely on the analysis of ownership rates or even housing prices. It also demands the consideration of credit and debt in the form of mortgages (Ansell 2019; Dwyer 2018; Quinn 2019). The fact that housing markets and mortgage markets are intimately intertwined has been painfully illustrated by debt-driven bubbles in housing prices (see Krippner 2011; Schelkle 2012; Schwartz 2012).

### Mortgages and Financialization

The expansion and deregulation of debt and mortgage markets figures centrally in the expanding literature on financialization. Financialization studies have pursued explanations of broad-scale economic transformations at multiple levels of analysis, from the financialization of entire economies (macro level) to companies' increasing reliance on financial markets (meso level) to households' economic behaviors (micro level) (van der Zwan 2014). With regard to wealth inequality, two perspectives are most relevant to our analysis: (1) the role of financialized mortgage markets and (2) the spread of finance culture among households.

The macro-level perspective on financialization focuses on credit and mortgage markets as the supply side of the political economy (Aalbers and Christophers 2014; Quinn 2019). For the United States, scholars have argued that the reliance on consumption-driven economic growth has fueled an expansion of credit, partly in response to the economic crises of the 1930s (Prasad 2012) and 1970s (Krippner 2011). The deregulation of financial markets has also bolstered housingbased lending in other countries (Baccaro and Pontusson 2016; Fuller 2015; Jorda, Schularick, and Taylor 2016). Some countries, including the United States, have relied on the expansion of credit to buffer lacking or decreasing welfare spending (Prasad 2012), but the increase in housing credit also occurred in more generous welfare states. For instance, Sweden and the Netherlands have seen the most pronounced rise in mortgage credit, even more so than the United States or the United Kingdom, indicating that more protective labor markets can also facilitate borrowing in financialized housing markets (Johnston, Fuller, and Regan 2020).

The micro-level perspective on financialization provides the complementary demand-side argument: as the deregulation of financial markets progresses, households develop "financial cultures" that shift their asset portfolio toward leveraging debts for investment. The spread of finance culture among U.S. households, the poster child of financial culture (Fligstein and Goldstein 2015; Harrington 2008), is related to increased status competition behavior. Frank (2013) hypothesizes "expenditure cascades," in which households invest ever more in their homes, reflected in the rapid increase in average home size over the past decades. The deregulation of the mortgage market not only sustained a mortgage-fueled arms race of the middle class (Dwyer 2009; Fligstein, Hastings, and Goldstein 2017; Goldstein and Hastings 2019), but it also expanded mortgage credit to other populations, in particular minority households, and on predatory terms (Rugh and Massey 2010; Taylor 2019). Increases in credit market participation also occurred in other countries (Rona-Tas and Guseva 2018) and were driven by rising mortgage debt (Johnston et al. 2020). For many households, leveraging housing may in fact be economically rational, as returns to housing investments have outperformed those to financial assets in the long run (Jorda et al. 2019). In non-U.S. contexts, mortgage debt has risen chiefly through intensifying, rather than extending, mortgage participation, that is, due to households borrowing more rather than more households borrowing (van Gunten and Navot 2018).

Notably, and somewhat surprisingly, research on financialized mortgage markets and on the financial cultures they produce has only just begun to explicitly consider their relationship to distributional outcomes. Most prior empirical investigations of the link between financialization and stratification outcomes focused on income concentration rather than wealth inequality (Flaherty 2019; Godechot 2016; Lin and Tomaskovic-Devey 2013; Tomaskovic-Devey and Lin 2011), which is surprising given the obvious empirical link between mortgage lending and net worth.<sup>2</sup>

The housing and financialization literatures discussed above argue for the centrality of housing assets and mortgages, respectively, for our understanding of the political economy and households' economic conditions. The interactive forces of housing and credit regimes are encoded in the national distribution of housing equity. Here, we provide a detailed comparative assessment of wealth portfolios and the role of specific wealth components in determining national levels of overall wealth inequality and concentration. Based on our review, we expect housing equity to have a pronounced role in explaining cross-national differences in wealth inequality. By analyzing the relationship between housing equity (and other asset components) and overall levels of wealth inequality, we also bring the housing and financialization literatures into direct conversation with comparative stratification research, whose primary attention lies in eventual distributional outcomes. In particular, our analyses expand on the exclusive focus on national income distributions, which characterize both the established welfare state literature and the early-stage literature on financialization's effects on inequality. Furthermore, to assess not merely whether but also how housing wealth matters for national levels of wealth inequality, we distinguish between the contribution of homeownership and the distribution of housing equity. These analyses directly expand on work that shows the importance of considering cross-national differences in the degree-not just the occurrence-of participation in mortgage markets (van Gunten and Navot 2018).

# ANALYTIC APPROACH

Data and Sample

Progress in documenting and understanding cross-national differences in wealth inequality has long been limited by the availability of comparative data on household wealth. The Luxembourg Wealth Study (LWS 2020; Sierminska et al. 2006) ameliorates this situation by providing harmonized, populationrepresentative wealth data, expanding on the long-standing collection of harmonized income data from the Luxembourg Income Study (LIS). Unlike the Household Finance and Consumption Survey (HFCS) it also includes non- European countries (see Appendix Table A1; LWS also includes some HFCS surveys). Using LWS (wave 9), we can compare wealth and income inequality across 15 countries: Austria, Australia, Canada, Finland, Germany, Greece, Italy, Luxembourg, Norway, Slovakia, Slovenia, Spain, Sweden, the United Kingdom, and the United States.<sup>3</sup> Appendix Table A1 provides an overview of the countries, underlying data sources, and measurement years.

For most countries, LWS wealth measures are derived from existing, high-quality nationally representative survey data. Survey measures of household wealth rely on a battery of questions that ask respondents to estimate the value of their wealth holdings, separately for different asset components, namely a variety of financial assets (e.g., savings accounts, stocks, other financial instruments), non-housing real assets (e.g., business, vehicle, other durables), housing assets (primary home and other real estate), and debt (e.g., mortgages, business loans, consumer loans, educational loans). Typically, respondents are asked to separately report on the value of an asset and any debts held against it. For instance, home-owning respondents are asked to estimate the current market value of their home and the remaining mortgage principal. We can compare structures of wealth portfolios for all countries included here, with the exception of Norway and Sweden, where the data do not allow for the separation of mortgage debts from other debts. For Norway and Sweden, LWS ascertains wealth data from wealth tax registers (more details below).

We draw on wealth and income measures between 2012 and 2014 for all countries except Sweden, where the latest wealth data are available only for 2005. That is, for all countries except Sweden, wealth is measured after the latest financial crisis. We know that U.S. wealth inequality expanded significantly during the Great Recession (Pfeffer, Danziger, and Schoeni 2013; Wolff 2017). For six countries, including the United States, we can also draw on pre-recession measures of wealth. These robustness analyses are reported in Part S.1 of the online supplement; our overall conclusions about the international ranking of wealth inequality, in particular for the United States, as well as our conclusions about the centrality of housing, are substantively unaltered.

We restrict our sample to households with working-age household-heads (age 25 to 64).4 Doing so is important for two reasons. First, it captures the current circumstances of households actively engaged in both income production and asset accumulation and, thereby, the potentially more proximate institutional determinants of current wealth holdings. Second, prior comparative work has examined wealth inequality and asset portfolios among the aging population, largely because this work exclusively focused on wealth and not income (e.g., Christelis et al. 2013; Skopek et al. 2014). However, there are important differences in the wealth portfolios of elderly and non-elderly households (Sierminska and Doorley 2018) and, in the case of the United States, an increasing wealth gap between those populations (Gibson-Davis and Percheski 2018; Pfeffer, Gross, and Schoeni 2019).

Readers may also be interested in different age restrictions (e.g., lifting them altogether to provide estimates of overall wealth inequality) or restricting them in other ways (e.g., comparing households earlier and later in their wealth accumulation trajectory). In Part S.2 of the online supplement, we provide estimates based on these alternative sample restrictions. Estimates are very similar to those reported here and leave our substantial conclusions unaltered. That is, any age differences in wealth inequality and concentration within countries are eclipsed by cross- national differences in wealth inequality and concentration (see also Pfeffer and Waitkus 2021).

# Data Quality and Limitations

The national data underlying the LWS were collected using different sampling strategies, survey instruments, and data editing and imputation procedures (see Sierminska et al. 2006). LWS seeks to make the resulting wealth data cross-nationally comparable, following a meticulous ex-post harmonization process that was developed over decades with the Luxembourg Income Study. Although expost harmonization cannot account for and correct all country-specific data idiosyncrasies, the continued improvement of harmonization efforts for wealth data is certainly one important frontier of future wealth research. For instance, instead of relying on imputation algorithms developed and applied by the national data providers (namely, in Austria, Germany, Greece, Luxembourg, Slovakia, Slovenia, Spain, and the United States), LWS could seek to provide harmonized imputation approaches for its wealth data. We have no a priori reason to suspect this kind of data improvement would fundamentally alter the findings presented here, but two more specific potential data issues, one technical and one substantive, are worth considering for the potential bias they may induce.

First, most of the data used here come from household surveys that rely on self-reported asset information and, hence, confront the general problem of non-response and underreporting. There is evidence that financial assets in particular, which are more heavily concentrated at the top of the wealth distribution, tend to be underestimated in surveys. The resulting underestimation of net worth at the top chiefly arises from item and unit nonresponse, with the wealthiest households less likely to respond to a particular survey item or the survey itself (HFCN 2016; Johansson and Klevmarken 2007; Vermeulen 2016). As stated before, population-representative surveys are likely to miss the super wealthy. Our reported measures of wealth concentration (and, less so, wealth inequality) may therefore be conservative. The more important question, however, is whether the degree to which we underestimate wealth at the very top varies across countries in a way that may bias our comparative conclusions. In particular, one may worry that countries reporting higher estimates of wealth inequality and concentration are simply more successful in measuring wealth at the top. For countries that rely on surveys, that success could be based on effective oversampling strategies (which, in principle, we account for via survey weights). The seven countries in our sample that include oversamples of rich or high wealth households (i.e., Greece, Finland, Luxembourg, Slovakia, Slovenia, Spain, and the United States) are, however, spread across the international ranking of wealth inequality and concentration (most are in the middle, one at the bottom, one at the top). That is, countries with oversamples of wealthy households do not tend to show higher wealth inequality or concentration.

The worry about higher data quality leading to higher estimates of wealth concentration may still apply to countries where wealth estimates can be derived from administrative records. Sweden and Norway, where wealth tax records and other administrative data are available to estimate net worth, indeed show comparatively high (but by no means exceptional) levels of wealth concentration. However, as our results will show, the questionable distinction of international leadership in wealth concentration is held by another country, for which we draw on survey data. Part S.3 of the online supplement goes beyond this consideration of bias from distinct data collection strategies and reports additional analytic approaches that add credibility to our comparative conclusions: (1) based on limited opportunities for external validity checks, we do not observe a systematic bias of wealth inequality and concentration estimates derived from LWS data; (2) reasonable assumptions about measurement error suggest our crossnational comparison of wealth and income inequality is likely to be stable; and (3) variation in the under-coverage of top wealth is unlikely to alter our cross-national findings or to explain the high degree of wealth concentration in our outlier nation.

Second, as another measurement and conceptual challenge, we note the absence of pension assets from the LWS wealth data and most national surveys it relies on. The design of national pension systems differs greatly across industrialized countries, including the mix of private, employment-based, and public pension entitlements (Ebbinghaus 2011). But even before taking into account this cross-national variation, it is empirically and conceptually challenging to approximate the current value of pension entitlements. Few empirical studies construct measures of augmented net worth by imputing the current value of both public and private pension entitlements (based on assumptions about longterm investment returns, mortality patterns, and other error-prone components). Yet the addition of pension wealth can indeed alter estimates of wealth levels and inequality (for evidence from a U.S.-German comparison, see Boenke et al. 2020). It is entirely possible that the international ranking of inequality in augmented net worth will deviate from that in net worth. For instance, we would expect inequality in augmented wealth to be less severe in countries with comparatively generous public pension systems, and thus a more equal distribution of pension wealth, such as Sweden (Sierminska et al. 2006).

Based on the available data, we cannot take into account public pension entitlements but, to a limited degree, we can draw on measures of private and occupational pensions. In Part S.4 of the online supplement, we show that wealth inequality measures remain stable when integrating occupational or private pensions or both, and the crossnational ranking remains unaltered. In our analysis, we assess privately held wealth of the working-age population. For a range of outcomes (e.g., the ability to smooth current consumption), we consider currently held private wealth, or marketable wealth (Davies and Shorrocks 2000), a more meaningful indicator than augmented wealth, particularly public pension wealth, which is typically inaccessible before retirement and not transferable to offspring.

### Main Measures

Our main measure of wealth is households' net worth, composed of the sum of housing equity (home value minus mortgages), financial assets (e.g., savings, stocks, investment funds), and other non-housing real assets (e.g., business equity, vehicles, other durables), minus any other financial liabilities and debts (e.g., consumer loans, student debts) (see also Appendix Table A4). Our assessment of

wealth portfolios distinguishes these same components: housing equity, financial assets, other non-housing real assets, and other debts. Our theoretical motivation argued for a central role of housing wealth, which we capture with our measure of housing equity. Housing equity is a combined measure of the value of homes owned by a household (owner-occupied, secondary homes, and any real estate) minus the value of remaining mortgage principal(s). This combined measure reflects our theoretical interest in the interwoven influence of housing markets and financialization as they mutually determine the distribution of housing wealth. In other words, we do not believe that further decomposing our housing equity measure into its linear components, home values and mortgages, would be meaningful, given the interactive dynamics of housing and mortgage markets (but see Part S.8 of the online supplement). We do, however, believe it is important to distinguish between the role of homeownership itself and the distribution of housing wealth among homeowners, as in the decomposition approach described below, and suggested in prior work on cross-national differences in mortgage debt (van Gunten and Navot 2018).

We measure household income as households' total sum of income from labor, public transfers, private transfers, asset income, and the total value of non-monetary goods and services received from labor and transfers. In additional analyses (see Part S.7 of the online supplement), we also distinguish between asset income (i.e., returns on financial and non-financial capital, excluding one-time lump sum payments) and labor income (from employment or independent work).

Our wealth and income measures are neither top- nor bottom-coded; that is, they include zero and negative values. Both wealth and income are adjusted for household size  $\left(\frac{1}{\sqrt{hsize}}\right)^5$  We compute Gini coefficients as established summary measures of distribution-wide inequality and the share of wealth and income held by the top 5 percent of the wealth and income distributions, as measures of concentration at the top. All

analyses are weighted using the LWS-provided survey weights.

# Methods

We proceed in two stages. First, we compare national levels of inequality in wealth to those in income. This assessment of the correlation between wealth and income inequality relies on the Gini coefficient (hereafter, simply referred to as inequality) and the top 5 percent share (hereafter, concentration). We also assess these correlations separately for gross wealth and debts (and, in additional analyses reported in Part S.7 of the online supplement, for selected income and wealth components).

Second, we use formal factor decomposition approaches that estimate the independent contribution of each wealth component to wealth inequality and concentration. Our analyses rely on a decomposition approach initially proposed by Shorrocks (1982) and Lerman and Yitzhaki (1985) for the decomposition of income; it estimates the role of each wealth component in contributing to overall inequality in the sum of all wealth components. For the analysis of national levels of wealth inequality, the underlying model

$$G_i = \sum_{k=1}^{K} S_{ik} G_{ik} R_{ik} \tag{1}$$

partitions the Gini coefficient of total wealth, G, in country *i* into the additive contribution of each wealth component, k = 1, ..., K (housing equity, financial assets, non-housing real assets, and other debts) according to a given component's relative share in the asset portfolio,  $S_{ik}$ , the component's inequality measured as the Gini coefficient within the given asset category,  $G_{ik}$ , and the Gini correlation between the component and total wealth,  $R_{ik}$ .<sup>6</sup> Lerman and Yitzhaki (1985:152) show that  $R_{ik}$  has similar properties to a Pearson's rank correlation, ranging from -1 to +1, with positive values indicating that a wealth component increases total wealth inequality.

Prior work has used this approach to decompose wealth Gini coefficients (e.g., Azpitarte 2008; Davies, Fortin, and Lemieux 2017; Skopek et al. 2012), but we additionally turn to a new and parallel approach to also decompose measures of wealth concentration, namely the share held by the wealthiest 5 percent. Drawing on a proposal by Atkinson, Piketty, and Saez (2011) and mimicking the set-up of the model in Equation 1, we decompose wealth concentration as

$$C_{i} = \sum_{k=1}^{K} S_{ik} C_{ik} A_{ik}, \qquad (2)$$

partitioning the share of total wealth held by the top 5 percent, C, in country i into the additive contribution of each wealth component, k = 1, ..., K (housing equity, financial assets, non-housing real assets, and other debts) according to a given component's relative share in the asset portfolio (average percent of total wealth),  $S_{ik}$ , the component's concentration measured as the share of the component wealth held by the top 5 percent of its distribution,  $C_{ik}$ , and the alignment coefficient,  $R_{ik}$ , which measures the overlap between the concentration of component wealth and total wealth (more specifically, the share of component wealth held by the top 5 percent of the total wealth distribution divided by the share of component wealth held by the top 5 percent of the component wealth distribution; for an exposition based on income components, see Atkinson et al. 2011:61).

We report the country-specific parameter estimates— $S_{ik}$ ,  $G_{ik}$ , and  $R_{ik}$  for the analysis of wealth inequality, and  $S_{ik}$ ,  $C_{ik}$ , and  $A_{ik}$  for the analysis of wealth concentration-which can be directly compared across countries (see Appendix Table A4). But to pursue a more formal cross-national comparison, we draw on these estimates as inputs into a simulation (or "coun terfactual") analysis. We fix (or "constrain") a set of parameter estimates, for example, the shares of all wealth components,  $S_k$ , in each country to the parameter estimate from another country, the United States. In essence, this amounts to assigning the wealth portfolio observed in the United States to all other countries-holding constant the nation-specific within-component inequality,  $G_{ik}$ , and Gini correlation,  $R_{ik}$  (or, for the analysis of wealth concentration, the withincomponent concentration,  $C_{ik}$ , and alignment coefficient,  $A_{ik}$ ).<sup>7</sup>

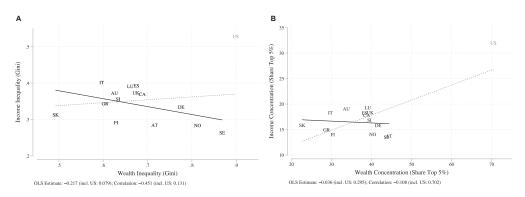
Based on these fixed parameter estimates, we then generate a simulated total wealth Gini coefficient (top share) for each country. In the case just described, the simulated Gini coefficient (top share) addresses the hypothetical question of how high total wealth inequality (concentration) in a given country would be if the wealth portfolio of its households matched that of U.S. households, but no other aspects of the wealth distribution were changed (i.e., the inequality of wealth within components and the inequalityreducing or inequality-increasing influence of a given component remained at the country's observed level). As with other decomposition approaches, this is a purely descriptive analysis geared at estimating the relative weight of a given factor ceteris paribus, not a counterfactual analysis to predict the potential effect of an intervention.

We engage in another simulation analysis by fixing the within-component coefficients,  $G_{ik}$  ( $C_{ik}$ ), which answers the question of what level a nation's wealth inequality (concentration) would be if the inequality (concentration) of different asset components were the same across countries, but cross-national differences in wealth portfolios and Gini correlations (alignment coefficients) remained as observed. The more similar the simulated wealth inequality (concentration) across countries, the greater the contribution of these different aspects of the wealth distribution to the observed cross-national variation in wealth inequality (concentration).

# RESULTS

# Wealth and Income Inequality/ Concentration in Comparison

Comparing national levels of income inequality and wealth inequality based on Gini coefficients in Figure 1a reveals the striking outlying position of the United States (for country labels and estimates, see Appendix



**Figure 1.** Wealth and Income Inequality and Concentration *Note:* Data from the Luxembourg Wealth Study (LWS). Inequality in household income (wealth) is measured using the Gini coefficient. Concentration is measured as the income (wealth) share held by the top 5 percent of the income (wealth) distribution. The dotted line is the fitted OLS line including the United States; the solid line is the fitted OLS line excluding the United States.

Table A2). In line with prior evidence, the United States emerges as by far the most unequal country in terms of income among those included here (Gini coefficient of .528). Its income Gini coefficient is a full .126 Gini points higher than that of the second-most income-unequal country, Italy (.402), and double that of the most income-egalitarian country, Sweden (.264). In addition, the United States surpasses all other included countries in terms of its level of wealth inequality, with a net worth Gini coefficient of .899.

The United States is exceptional in another regard, namely the correspondence between its level of inequality in income and wealth. Excluding the United States, countries with comparatively lower levels of income inequality are not also marked by comparatively lower levels of wealth inequality. In fact, if anything, the relationship between national levels of income inequality and wealth inequality is negative (correlation of -.451). For instance, the two most income-egalitarian countries included here, Sweden and Norway, are also the next most unequal countries in terms of wealth, behind the United States (net worth Gini of .868 and .813, respectively). Conversely, many countries that are far apart in terms of their level of wealth inequality (e.g., Germany, net worth Gini of .776,

and Greece, .604), share similar levels of income inequality (income Gini coefficient of approximately .34). Figure 1a also reveals that wealth is more unequally distributed than income in all countries. Finally, cross-national variation in wealth inequality is larger—especially when excluding the United States—than cross-national variation in income inequality. That is, there is a great deal of cross-national difference in search of explanation.

Before embarking on that task, we examine the lack of positive correlation between national levels of wealth and income inequality further, as it may be surprising given positive income-wealth correlations at the household level. Perhaps wealth should instead be thought of as a measure of concentration of economic advantage at the very top, rather than an indicator of population-wide inequality (but see Killewald et al. 2017)? That is, an assessment based on Gini coefficients, as provided so far, may hide cross-national differences in the concentration of economic advantage.8 Would top-heavy measures of inequality reveal a closer alignment between income and wealth indicators? They do not, as Figure 1b clearly documents. A cross-national comparison of the wealth and income shares of the top 5 percent of the wealth and income distributions again reveals no association once we exclude the United States (correlation of -.108). The United States again combines exceptionally high income concentration and exceptionally high wealth concentration. The U.S. level of wealth concentration is even more exceptional than its distribution-wide wealth inequality. The wealthiest 5 percent in the United States own about 70 percent of all national wealth; the top 5 percent in most other countries own less than half of that.<sup>9</sup>

In the four countries that come closest to the United States in terms of wealth concentration-Austria, Sweden, Germany, and Norway-the wealthiest 5 percent own between 40 and 44 percent of national wealth. Note that the countries with the highest concentration of wealth come from all three "worlds of welfare": liberal (United States), socialdemocratic (Sweden and Norway), and conservative (Austria and Germany). Again, we take this to suggest that existing comparative schemas hold limited promise to elucidate the wide cross-national variation in wealth concentration or inequality. For instance, among liberal regimes, only the United States reports very high levels of both wealth and income inequality, whereas we observe only average levels of wealth inequality and concentration in the United Kingdom, Canada, and Australia.

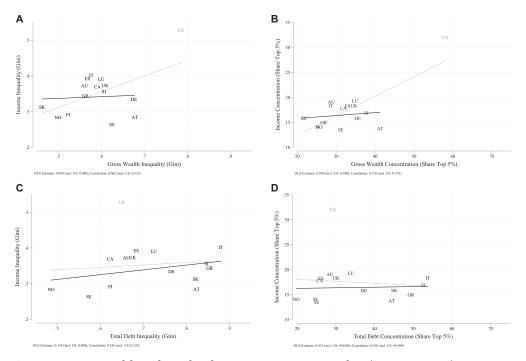
We further explore whether our approach obscures a potential correlation between wealth and income because we use net worth as our indicator of wealth inequality. In theory, the lack of correlation could be consistent with countervailing correlations between income inequality and inequality in assets (gross wealth) versus inequality in liabilities (debts).10 For instance, income inequality could be positively correlated with gross wealth inequality and negatively with debt inequality. However, as Figure 2 shows, this is not the case. When correlating income inequality (concentration) with gross wealth inequality (concentration) or with debt inequality (concentration), we still find no association between these income- and wealth-based measures of economic inequality.

In a final attempt to rescue the idea that comparative evidence based on income

measures could approximate cross-national differences in wealth, one may suspect that inequality in certain components of income may capture inequality in certain components of wealth (see Part S.7 of the online supplement). Intuitively, it makes sense to assume that cross-national inequalities in asset income would be related to cross-national inequalities in financial wealth (after all, asset income [e.g., in the form of interest and realized capital gains] directly derives from financial wealth). Yet, empirically, we fail to find a strong relationship between national levels of inequality and concentration of asset income and financial wealth (in fact, the relationship is somewhat more consistent, although still low, for labor income rather than asset income; see Part S.7 of the online supplement).

# Components of Wealth Inequality and Concentration

The presented evidence suggests wealth inequality and concentration vary widely across countries and in ways that are distinct from the patterns observed for income. We believe a first step toward an explanation of this cross-national variation in wealth inequality and concentration should begin with an assessment of the role of individual asset components. Similar to the way our understanding of cross-national differences in income inequality would change if these differences arose chiefly from cross-national differences in labor income versus transfer income (Gornick and Smeeding 2018), our understanding of international variation in wealth inequality depends on how different asset components contribute to it. Here, we provide an initial, descriptive approach that we will expand on using formal and more detailed decomposition analyses in the next section. To assess two asset dimensions we hypothesized to hold particular importancehousing and debt-we draw on simple indicators of national homeownership rates and the prevalence of households with any financial liabilities (i.e., debt held against an asset or in the form of unsecured debt).

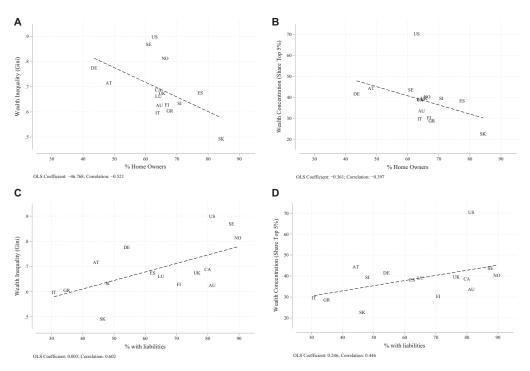


**Figure 2.** Gross Wealth and Total Debt versus Income Inequality (Concentration) *Note:* Data from the Luxembourg Wealth Study (LWS). Inequality is measured using the Gini coefficient. Concentration is measured as the income (wealth) share held by the top 5 percent of the income (wealth) distribution. The dotted line is the fitted OLS line including the United States; the solid line is the fitted OLS line excluding the United States.

Figures 3a and 3b display the relationship between national homeownership rates (drawn from the same data and sample) and wealth inequality and wealth concentration, respectively. We observe a negative correlation: countries with higher homeownership rates are, on average, marked by lower levels of wealth inequality and concentration (see also Kaas, Kocharkov, and Preugschat 2019). Homeownership rates, of course, do not fully account for the observed cross-national variation in wealth inequality and concentration. In particular, the high level of wealth inequality in Sweden and Norway, and the exceptional level of wealth inequality and concentration in the United States, coincide with just average homeownership rates in these countries. Most other countries with average homeownership rates also display average levels of wealth inequality and concentration. In fact, few countries are marked by substantially

more restricted homeownership (only Germany and Austria) or substantially broader homeownership (Slovakia). The very high homeownership rates in Slovakia are likely due to the quick sell-off of state-owned rental blocks after the end of socialism (Ronald 2008:20). Slovakia is also the most wealthegalitarian country in our sample. Overall, cross-national variation in homeownership rates is considerably less pronounced than variation in overall wealth inequality.

Of course, for most households, homeownership entails borrowing via mortgages. The share of households with financial liabilities, of which mortgages are one important form, might thus show a similar relationship to national levels of wealth inequality and concentration as national homeownership rates. This is not the case, as displayed in Figures 3c and 3d. On average, countries with more widely spread debt obligations also



**Figure 3.** Wealth Inequality/Concentration, Home Ownership, and Debt *Note:* Data from the Luxembourg Wealth Study (LWS). Inequality in household wealth is measured using the Gini coefficient. Concentration is measured as the wealth share held by the top 5 percent of the wealth distribution. The dashed line is the fitted OLS line including the United States.

have higher levels of wealth inequality and concentration, although the relationship is somewhat less pronounced than the associations with homeownership rates.

The resulting potential for a wealth-stratifying effect of credit markets vis-à-vis the potentially equalizing effect of accessible housing markets calls for the type of detailed joint analysis of housing and debt, in the form of housing equity, that we engage in next. As noted, Sweden and Norway cannot be part of such an analysis, as the administrative wealth data from which the LWS draws do not allow us to allocate different debt obligations to the assets against which they are held. This is regrettable because prior research has found interesting patterns of financial obligations in these two countries-a high concentration of consumer debt in Norway (Poppe, Lavik, and Borgeraas 2016) and very high mortgage debt in Sweden (Persson 2009)-and these nations are also marked by particularly high levels of wealth inequality. The loss of these two cases thus calls for future research on the role of wealth portfolios in the Scandinavian context; for now, Finland remains as the only representative of Nordic countries.

# Decomposition of Wealth Inequality and Concentration

We now delineate the relative role of different asset components in contributing to national levels of wealth inequality and concentration, continuing our effort to build a fruitful foundation for an explanatory approach to wealth inequality. Here, we focus on two aspects of the role of distinct asset components in their relationship to overall wealth inequality and concentration. First, we examine the relative share of each asset component, that is, the average composition of wealth portfolios, or, in the language of factor decomposition analysis, the "composition effect." Second, we look at the distribution of wealth within each asset component, that is, the component- specific level of wealth inequality and concentration; in factor decomposition analysis, this is often called the "structural effect."

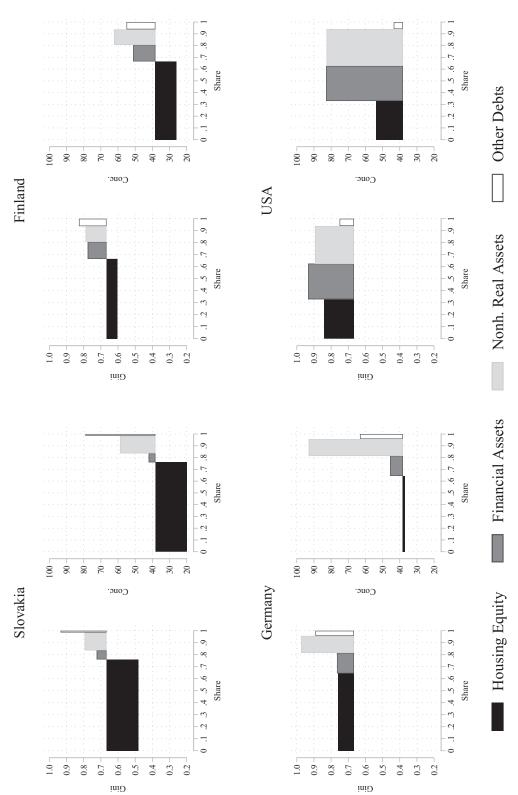
# Description of Decomposition Components

As a backdrop to our decomposition analysis, Appendix Table A4 reports descriptive estimates for both of these aspects, the composition of national wealth portfolios and within- component levels of wealth inequality and concentration. In Figure 4, we depict these estimates for four countries that represent wealth-egalitarian contexts (Slovakia and Finland) and contexts with very high wealth inequality (Germany and the United States), respectively. The bar width in these figures indicates the portfolio share of a given asset component in a country, and the bar length indicates the level of inequality/ concentration within a given asset category in relation to the international (unweighted) mean of total wealth inequality/concentration (i.e., if the bar goes down, a given asset component is distributed more equally than average total wealth inequality). The resulting area of a given bar therefore provides a first indication of the degree to which a given asset component may contribute to a country's overall level of wealth inequality/ concentration.

One immediate impression in Figure 4 is the centrality of housing equity as a central component of Slovakian households' asset portfolios, and the fact that it is much more equally distributed than average total wealth inequality. In contrast, other debts in Slovakia are marked by comparatively high levels of inequality and concentration; however, their quantitative contribution to the average wealth portfolio in Slovakia is still minuscule. The patterns for Finland go in the same direction but are less pronounced. The visual impression for the United States is strikingly different: several asset components, namely housing equity, financial assets, and nonhousing real assets, contribute to households' wealth portfolio to a similar degree (at least in terms of the Gini coefficient) and in the same direction. All three components are substantially more unequally distributed than total wealth at the country-average. For Germany, in contrast, we see the dominance of concentrated non-housing real assets (likely, business wealth) for total wealth concentration.

Extending our perspective beyond these four cases to all countries (based on Appendix Table A4), we note a few further descriptive insights. Housing equity dominates the wealth portfolio in most countries, but we also see large cross-national variation in the importance of housing. It is lowest in the United States, where the wealth portfolio is most diversified (see Figure 4). On the other side of the continuum are Slovakia and Greece, where more than three quarters of national wealth is made up of housing equity, and the next most important asset component is non-housing real as sets. In these countries, the distribution of housing equity (as measured by its Gini coefficient and top 5 percent share) is also considerably more equal than in other countries.

In most countries (except Australia, Luxembourg, and Finland), the next largest component of the national wealth portfolio is non-housing real wealth. Overall levels of inequality and concentration in non-housing real wealth are higher than those in housing wealth (with the exception of the United Kingdom and Australia), and, compared to other parts of the national wealth portfolio, particularly more unequal and concentrated in Germany (see Figure 4), Austria, and Slovenia, where they surpass even the high levels of real asset inequality and concentration observed in the United States. Prior research has documented a high concentration of business assets in some of these countries (Carney and Nason 2018; Grabka and Westermeier 2014; Keister 2014), although direct crosscountry evidence is rare. Financial assets make up a substantial portion of national





wealth portfolios (about a fifth) in the United Kingdom and Australia, and close to a third in the United States, where they are very unequally distributed and highly concentrated at the top. Luxembourg stands out with a very high financial asset concentration. Finally, other debts (i.e., financial obligations outside of mortgages) occupy a minor role in most countries' wealth portfolios; they make up the greatest share, 4 to 6 percent, in Canada, Germany, Finland, and the United States.

### Decomposition of Main Components

To assess the extent to which national levels of wealth inequality and concentration can be attributed to differences in national asset portfolios or the distribution of wealth within each asset component, Table 1 reports results of our first decomposition analysis. Starting with wealth inequality, the first column reports the observed Gini coefficient of total wealth (see note 6), and the following columns report simulated Gini coefficients. The latter are derived from fixing a given component of the decomposition. For instance, in (1) we impose the same asset shares on all countries or, more precisely, we calculate the simulated Gini coefficient that would arise if all countries had the same asset portfolio composition as the United States, but no other aspect of the national distribution of wealth changed.<sup>11</sup> Similarly, we compute simulated Gini coefficients that arise when (2) we hold within-component inequality constant at the levels of within-component inequality observed in the United States while allowing the shares (wealth portfolios) and Gini correlations to vary across nations.

Finally, (3) we fix only the Gini correlations to match those observed in the United States. By comparing simulated and observed Gini coefficients, we can assess the importance of each component of our decomposition. Where simulated and observed Gini coefficients are similar, the assignment of a particular feature of the wealth distribution (e.g., imposing the U.S. wealth portfolio structure, as in Model 1) does not help explain cross-national variation in wealth inequality. If, in contrast, simulated Gini coefficients are more similar across nations than are observed Gini coefficients, the assignment of a particular feature of the wealth distribution (e.g., imposing the U.S. level of within-asset component inequality, as in Model 2) accounts for some of the cross-national variation in total wealth inequality.

The immediate conclusion from the comparison of observed and different simulated Gini coefficients is that levels of wealth inequality are accounted for most strongly by cross- national differences in within-asset component inequality, rather than crossnational differences in wealth portfolios (or Gini correlations). In all countries, imposing the U.S. level of inequality within each asset component increases the overall Gini coefficient substantially, but imposing the U.S. wealth portfolio does not (in fact, in many countries, it would decrease overall wealth inequality). Note that the limited effect of assigning U.S. wealth portfolios to all other countries is not due to relative cross-national similarity in observed portfolios. As discussed earlier and illustrated in Figure 4, the U.S. wealth portfolio stands out as quite distinctive from all others. Yet, this feature does not account for the high level of wealth inequality in the United States or the lower level of wealth inequality in other countries. In contrast, within-asset component inequality accounts most strongly for national levels of wealth inequality: imposing the U.S. level drastically reduces the simulated cross-national variation in wealth inequality. In other words, based on U.S. levels of within-component wealth inequality, all countries display a similar overall level of wealth inequality to that observed in the United States. Even the most wealthegalitarian country, Slovakia, whose total wealth Gini coefficient is over 40 percent lower than that of the United States (.483 versus .822), would effectively catch up and reach a level of wealth inequality just 7 percent below that of the United States (.762 versus .822).12 Our decomposition analysis clearly documents that differences in wealth structure (within-asset inequality), not wealth composition (portfolio shares), underlie most

Decomposition
1.
Table

		Gini C	Gini Coefficient			Top S.	Top Share (5%)	
		(1)	(2)	(3)		(4)	(5)	(9)
		Shares $= U.S.$	Comp. Ginis = U.S.	Gini corr. = U.S.		Shares $=$ U.S.	Comp. concent. = U.S.	Alignm. factor = U.S.
	Observed	Simulated (change)	Simulated (change)	Simulated (change)	Observed	Simulated (change)	Simulated (change)	Simulated (change)
USA	.822				63.5			
Australia	.605	.574(-5.0%)	.770(27.3%)	.638(5.6%)	32.7	33.7(3.1%)	54.7(67.2%)	34.7(6.0%)
Austria	.704	.655(-7.1%)	.791(12.3%)	.728 (3.3%)	44.0	42.7 (-2.9%)	54.9(24.7%)	46.7(6.1%)
Canada	.633	.654(3.4%)	.767 (21.1%)	.665(5.1%)	35.6	39.8(11.9%)	52.8(48.3%)	39.0(9.4%)
Finland	.586	.605(3.2%)	.762(3.1%)	.616(5.1%)	29.4	36.8(25.1%)	51.1(74.0%)	31.0(5.4%)
Germany	.711	.713 (.3%)	.770 (8.3%)	.744(4.5%)	39.2	46.1(17.5%)	52.0(32.6%)	41.8(6.6%)
Greece	.590	.577 (-2.1%)	.772(3.9%)	.620(5.2%)	28.0	29.5(5.3%)	49.9(78.0%)	30.7(9.4%)
Italy	.590	.580(-1.7%)	.785 (33.1%)	.618(4.7%)	29.4	32.5(10.5%)	$53.2 \ (80.8\%)$	32.2(9.5%)
Luxembourg	.649	.652(.5%)	.799(23.1%)	.660(1.7%)	38.5	44.9(16.5%)	54.7(42.0%)	38.3 (6%)
Slovakia	.483	.504(4.2%)	.762(57.8%)	.522(8.0%)	22.5	28.1(25.0%)	50.1(122.6%)	25.2(11.9%)
Slovenia	.622	.614(-1.2%)	.790(27.1%)	.647(4.0%)	38.8	40.9(5.4%)	55.5(42.9%)	40.8(5.1%)
Spain	.654	.668(2.2%)	.781(19.4%)	.686(4.8%)	37.2	43.5(16.8%)	54.7~(46.9%)	39.4(5.9%)
United Kingdom	.648	.634 (-2.0%)	.799 (23.4%)	.669 (3.3%)	38.3	39.6 (3.5%)	59.4(55.2%)	39.5 (3.2%)

of the cross-national variation in overall wealth inequality.

Before we scrutinize this finding further, we ask whether this general conclusion holds for measures of wealth concentration. A comparison of the observed concentration of total wealth to simulated levels produced in Models 4 to 6 of Table 1 generally confirms the dominating role of wealth structure (compared to composition). Imposing (5) the same level of within-component concentration is substantially more influential than imposing (4) the same wealth portfolio or (6) alignment factor. In all countries, a U.S. level of withinasset concentration would produce much higher levels of overall wealth concentration, although none of the countries would come quite as close to the U.S. level of overall wealth concentration as they did to the U.S. level of wealth inequality. In most countries, the overall share of the top 5 percent would rise significantly, to about half of overall wealth (with the exception of the United Kingdom, where it would be 59.4 percent). This is still considerably below the level of concentration observed in the United States, where the top 5 percent hold close to two thirds (63.5 percent) of total wealth. Imposing the more diversified asset portfolio of the United States on other countries does increase concentration in several of them (in particular, Canada, Finland, Germany, Italy, and Slovakia), although, as before, to a substantially more limited extent than imposing the same level of within-asset component concentration. Overall, we find some evidence that the diversification of wealth portfolios (wealth composition) does underlie some of the cross-national variation in overall wealth concentration, but the within-asset component of wealth distribution (wealth structure) is still central in accounting for cross-national differences in wealth concentration and, certainly, wealth inequality.

### Decomposition by Asset Type

As cross-national differences in within-asset component inequality most strongly account for cross-national differences in wealth inequality and concentration, the natural next question is whether we can trace these differences to the distribution of a specific asset type (housing equity, financial assets, nonhousing real assets, or other debt). To address this question, we engage in another counterfactual decomposition analysis, reported in Table 2. Again, we show simulated Gini coefficients and simulated top concentration measures, this time generated by fixing just a single coefficient of the decomposition model, that is, the Gini coefficient/concentration of housing equity (Models 1 and 5, respectively), financial assets (Models 2 and 6), non-housing real assets (Models 3 and 7), or other debt (Models 4 and 8). A similarly clear-cut pattern emerges: the distribution of housing equity most strongly accounts for cross-national differences in wealth inequality and concentration.

Holding all other aspects of nations' wealth distributions constant-that is, the overall asset portfolio composition, the correlation/ alignment between different components, and the wealth distribution within all non-housing assets and debts-the level of inequality and concentration of housing wealth is the principal underlying factor accounting for overall levels of wealth inequality and concentration. If the distribution of housing equity in all countries was equal to that in the United States, all countries included here would display a level of total wealth inequality above a Gini coefficient of .7, and some closer to .8. similar to the observed Gini coefficient of .82 in the United States. In terms of overall inequality, only in the United Kingdom and Australia do we observe any appreciable contribution of non-housing components, namely the level of inequality within non-housing real assets. The contribution of non-housing real assets is larger for measures of wealth concentration, where the concentration of these assets positively contributes to overall wealth concentration, although still much less (again with the exception of the United Kingdom) than the concentration of housing equity. In contrast, imposing U.S. levels

			Gini Coefficient					Top Share (5%)		
		(1)	(2)	(3)	(4)		(5)	(9)	(2)	(8)
		Housing Equity	Financial Assets	Non-housing Assets	Other Debts		Housing Equity	Housing Equity Financial Assets	Non-housing Assets	Other Debts
	Observed	Simulated (change)	Simulated (change)	Simulated (change)	Simulated (change)	Observed	Simulated (change)	Simulated (change)	Simulated (change)	Simulated (change)
USA	.822					63.5				
Australia	.605	.704(16.4%)	.618(2.2%)	.658 (8.8%)	.605 (1%)	32.7	44.5(36.1%)	36.0(9.9%)	39.7(21.4%)	32.7 (2%)
Austria	.704	.772 (9.7%)	.730(3.6%)	.698 (8%)	.704 (1%)	44.0	52.0(18.1%)	47.1(7.1%)	44.0 (0%)	43.9 (4%)
Canada	.633	.726(14.8%)	.645(1.9%)	.660(4.3%)	.634 (.2%)	35.6	45.7 (28.3%)	37.9(6.5%)	40.3(13.1%)	35.8 (.5%)
Finland	.586	.736(25.6%)	.604(3.0%)	.597 (1.9%)	.584 (4%)	29.4	46.0(56.6%)	32.7(11.3%)	31.6(7.5%)	29.0 (-1.3%)
Germany	.711	.761(7.0%)	.733(3.1%)	.701 (-1.5%)	.709 (3%)	39.2	49.2 (25.5%)	43.5(10.9%)	38.0 (-3.1%)	38.9 (7%)
Greece	.590	.755(28.1%)	.593(.6%)	.604(2.5%)	.588 (2%)	28.0	46.0(64.2%)	28.8(2.6%)	31.3(11.6%)	27.9 (4%)
Italy	.590	.742(25.7%)	.600(1.8%)	.623(5.6%)	.590 (0%)	29.4	45.9(56.1%)	31.4(6.7%)	34.7~(18.0%)	29.4 (0%)
Luxembourg	.649	.780 (2.2%)	.661(1.9%)	.657(1.2%)	.648 (2%)	38.5	51.0(32.2%)	41.2(7.0%)	39.9(3.4%)	38.3 (6%)
Slovakia	.483	.742(53.6%)	.493(2.0%)	.495(2.4%)	.482 (2%)	22.5	45.8(103.6%)	24.3(7.8%)	25.2(11.8%)	22.4 (6%)
Slovenia	.622	.793(27.6%)	.625(.5%)	.616 (9%)	.621 (0%)	38.8	54.8(41.3%)	39.4(1.7%)	38.8(.0%)	38.8 (1%)
Spain	.654	.765(16.9%)	.666(1.9%)	(%6.)099.	.652 (2%)	37.2	50.6(35.9%)	39.8(6.9%)	38.9(4.5%)	37.1 (5%)
United Kingdom	.648	.722(11.4%)	.664 (2.4%)	.710(9.5%)	.648 (0%)	38.3	47.4 (23.9%)	41.8(9.3%)	46.7~(22.0%)	38.3 (.0%)

 Table 2.
 Decomposition: Within-Component Inequality/Concentration

of concentration in non-housing real assets produces a slightly more equal overall level of wealth concentration in Germany, where business equity is even more highly concentrated than in the United States. Finally, only in Australia, Finland, Germany, and the United Kingdom do we see any appreciable contribution (around 10 percent or higher change) of the concentration of financial assets to overall wealth concentration.

### Summary

Overall, the decomposition results reported here establish a dominant contribution of the distribution of housing equity to cross-national differences in wealth inequality and concentration. Rather than the differential allocation of wealth across types of assets, that is, crossnational differences in wealth portfolios, differences in inequality and concentration within housing wealth account for much of the crossnational variation in overall wealth inequality and concentration. This finding parallels and extends the insights of prior work on the debt-side of housing wealth (namely mortgage debt), which shows differences in mortgage intensity, rather than merely participation in mortgage markets, account for cross-national differences in overall mortgage debt (van Gunten and Navot 2018). The main finding of our decomposition analyses is also in line with our theoretical expectations: explanations of wealth inequality should prioritize an understanding of the distribution of housing equity. This is no small task, as cross-national differences in the distribution of housing equity emerge from different processes besides just differences in homeownership rates (which we have shown to be negatively related to wealth inequality and concentration). Housing equity is jointly and interactively determined by the structures and dynamics of housing markets and mortgage markets (Aalbers 2016; Blackwell and Kohl 2018).

In our decomposition analyses, we assessed the role of the distribution of housing equity as the net result of these processes, that is, as determined by home values and mortgage debt of both owner-occupied housing and real estate housing. We decided to analyze housing equity without disaggregating it into these constitutive components, as housing values and mortgages are interactively determined: mortgage markets affect home prices, and real estate investments interact with the price of and access to owner-occupied housing. Some readers may be interested in an assessment of the relative contribution of each constitutive element of housing equity, namely owneroccupied home values, real estate values, and mortgages. We believe the task of delineating the separate contribution of each of these is difficult, as they are interactively determined. As a corollary, results from additive decompositions of their relative contribution should also be interpreted with great caution. For the adventurous, we nevertheless provide results from such an analysis in Part S.8 of the online supplement.

# CONCLUSIONS

Advanced capitalist societies are marked by high levels of inequality in household wealth and the concentration of wealth in the hands of a few, but considerable variation exists in the extent of national levels of wealth inequality and concentration. Yet, current knowledge about national patterns and determinants of wealth inequality is limited and, as we argued, will rely on fundamentally different explanatory approaches than those developed over past decades in research on international differences in income inequality. As we have shown, international differences in income inequality tell us close to nothing about international differences in wealth inequality. In fact, many countries that we customarily describe as comparatively egalitarian using income-based comparisons (e.g., Scandinavian countries) can be classified as anything but in terms of their levels of wealth inequality. Many countries that are similarly unequal in terms of income (e.g., Germany and Greece) differ greatly in terms of their level of wealth inequality (with Germany displaying very high levels). As such, prior institutional explanations of inequality hold little promise in elucidating the international ranking of wealth inequality, and the vast cross-national variation in wealth stratification remains in urgent need of explanation.

This contribution takes but one first step in this direction by carefully investigating the role of different asset components in accounting for the overall distribution of wealth. We surmise that any potential institutional explanations of wealth inequality must rest on a careful consideration of the operative components of wealth. That is, we first need a clear understanding of how the distribution of different types of assets relates to nations' overall level of wealth inequality and concentration. Is wealth inequality, for instance, largely a reflection of the spread of debt, financial liabilities, and general exposure to financial markets, as emerging theories of financialization may suggest? Or can we best understand the degree of wealth concentration in a given country as the concentration of capital held in real assets, reflected, for instance, in the hoarding of wealth among a business elite? Our empirical findings consistently point in a different direction: cross-national differences in wealth inequality and concentration chiefly reflect the level of inequality in and concentration of housing equity.

Simple indicators of homeownership rates, typically used to capture the overall importance of housing assets in a given country, suggest broader access to homeownership may dampen wealth inequality and concentration, but the overall distribution of housing equity, of which the prevalence of homeownership is just one aspect, is the central element accounting for overall wealth inequality. A country's distribution of housing equity explains its overall level of wealth inequality and concentration to a substantial degree, including both the outlying position of the United States and the overall variation across many different countries. This is not to say the strong concentration of financial assets and business equity at the top of the wealth distribution in most countries is unimportant. In fact, a focus on financial assets and business equity is likely central to understanding elite closure and the accelerating wealth accumulation of the top 1 percent (Carney and Nason 2018; Piketty 2014). But, based on the evidence presented here, an understanding of wealth inequality among the remaining 99 percent requires increased attention to the structure and dynamics of housing and mortgage markets.

Our two main findings-the non-correlation of income inequality and wealth inequality and the centrality of housing equity-are thus connected. Cross-national differences in income inequality do not predict crossnational differences in wealth inequality, because the latter are most centrally driven by housing equity. In turn, the distribution of housing equity, we argue, is crucially determined by financialization and housing market dynamics, that is, in institutional spheres outside the labor market and the classical realms of the welfare state. Work on comparative stratification and welfare state regimes will have to expand its view to these additional institutional factors to make sense of profound and lasting inequality. Ideally, future work will draw on both qualitative and quantitative indicators of financialized housing markets, such as housing and mortgage market regulations.

It seems unfortunate that one of the most ambitious theoretical and empirical studies on the determinants of wealth inequality, Piketty's (2014) Capital, mostly disregards the role of housing as a driver of wealth inequality (see also Bonnet et al. 2014; Fuller et al. 2020; Rognlie 2015), and the proposed "rule" of growing wealth inequality (r > g)at best discounts the importance of a careful analysis of the institutional determinants of wealth inequality (see also Acemoglu and Robinson 2015). An alternative, theoretically ambitious effort that focuses on the role of housing may, instead, naturally align with the rapidly expanding literature on financialization that forcefully argues for the central role of mortgage lending.

One way to bring the literatures on financialization and wealth into closer conversation

would be to establish a clear empirical link between different lending regimes and the structure of national housing markets. Doing so would also ameliorate the surprising disconnect between the scholarships on wealth and debt (see also Dwyer 2018). The comparative study of lending regimes is at an early stage, but it has produced some interesting initial insights. For instance, in a comparison of the mortgage debt structure in six European countries, van Gunten and Navot (2018) show that differences in the distribution of mortgage debt is best captured by the degree of credit intensity, that is, the expansion of credit among those already holding it, rather than differences in mortgage market participation (which also makes the distribution of mortgage credit largely independent from national homeownership rates). This pattern chimes well with our finding of the dominant role of the distribution of housing equity, rather than homeownership rates, in explaining overall wealth inequality. However, in the United States, mortgage debt has expanded into new population groups as the "predatory inclusion" of minority households has grown through new, exploitative mortgage products (Rugh and Massey 2010; Taylor 2019). Future research should thus expand its comparative range to understand different modes of housing market financialization (see also Blackwell and Kohl 2018). Some of this research may also take a mesolevel approach, popular in some financialization studies, to compare the role of banks and asset management firms, the real estate industry, or other intermediaries involved in expanding and intensifying mortgage credit (Baradaran 2017; Braun forthcoming; Jorda et al. 2016; Taylor 2019).

To pursue an explanatory agenda, comparative wealth research could also fruitfully draw on research on recent housing market dynamics. For instance, Adkins and colleagues (2020) propose property price inflation as the foundation of a new logic of inequality: having access to homeownership in areas experiencing such inflation determines individuals' economic well-being over and above their employment. The extent to which homes out-earn the individuals who own them, of course, also varies vastly within countries. Prior work documents the geographic polarization of homeownership and housing prices in several countries (e.g., Baldenius, Kohl, and Schularick 2020; Levin and Pryce 2011), which can lead to runaway home values in "superstar" cities, where transnational wealth elites store and invest vast fortunes and drive up home prices (Fernandez, Hofman, and Aalbers 2016). Outside these zones of wealth storage and accumulation, asset prices are depressed and yield lower wealth returns (e.g., in U.S. minority neighborhoods) (Killewald and Bryan 2016; LaBriola 2021). Future research might relate national-level wealth inequality and concentration to regional and other spatial inequalities within countries.

Recent work that pursues similar questions in the context of the U.S. income distribution shows national-level trends in income inequality are the main driver of regional income inequality (Manduca 2019), and the distribution of income across and within U.S. geographies has large, causal effects on the economic well-being of the next generation (Chetty and Hendren 2018). If the variation in local housing markets is at least as large as that in local labor markets, one may hypothesize that geographic variation in wealth levels and inequality may be even more pronounced and consequential for the distribution of opportunity among the next generation. For most nations, this vital analysis of withincountry variation in wealth levels, inequality, and persistence awaits the development of a new data infrastructure to assess the distribution of wealth at the subnational level (e.g., based on full-population tax data or other administrative records).

Finally, complementary to a focus on recent housing market dynamics, a comparativehistorical approach to uncover the institutional foundations of countries' housing and mortgage markets can draw on recent work that not only documents high longterm wealth returns on housing (Blackwell and Kohl 2019; Jorda et al. 2019) but also great cross-national variation in housing price trajectories (Knoll et al. 2017). We remind readers that our data are chiefly drawn from the period following the Great Recession. And although our stability analyses based on immediate pre-recession measures for a few countries suggest our main conclusions are stable, we believe the cross-national variation in the effect of the housing crisis provides new analytic opportunities.

Future wealth research also stands to learn a lot from a focus on countries at either end of the international ranking of wealth inequality. As some of the most wealth-egalitarian countries in our analysis, post-socialist nations' radical shift in homeownership regulations during the market transition provide promising analytic opportunities (Marcuse 1996; Song and Xie 2014; Tsenkova 2017; Xie and Jin 2015; Zavisca 2008). At the same time, we expect our results will trigger additional interest in analyzing countries with the highest level of wealth inequality and concentration. The unfortunate leadership position of the United States in the international ranking of wealth inequality will not come as a surprise to most comparative stratification scholars; the degree to which the United States outranks its peer countries in terms of wealth concentration may. We have gone to great lengths to rule out that the high wealth concentration estimate for the United States is simply a product of (putatively) superior data quality. It is also not exclusively a reflection of deep racial inequalities in wealth; even among White U.S. households, the level of wealth concentration is exceptional in comparative perspective.

The next two most wealth-unequal countries in our analysis, Sweden and Norway, may cause yet more surprise and critique, even though we are not the first to document high wealth levels for these countries (e.g., Jaentti et al. 2013; Roine and Waldenstroem 2009). After all, comparative stratification research has long held up Scandinavia as the egalitarian poster child based on its national income distributions. An analysis of wealth considerably complicates this image and invites scholars to revisit the assessment of Scandinavian egalitarianism. High wealth stratification in Scandinavian countries may well be a long-term reflection of its much less egalitarian history (see, e.g., Piketty 2020) as well as the more recent neo-liberal turn in their politics (Fagerberg et al. 1990; Ryner 1999). Critics may still wonder whether high wealth inequality takes on a fundamentally different social significance in a context with comparatively generous systems of public insurance that may make wealth less central to maintaining more stable lives. In contrast, we submit that wealth inequality in such contexts is still highly consequential for a range of outcomes, in particular, for the intergenerational reproduction of inequality. Recent work highlights the independent role of wealth in the distribution of educational opportunity and the intergenerational transmission of advantage in Sweden and Norway (Adermon, Lindahl, and Waldenstroem 2018; Galster and Wessel 2019; Hällsten and Pfeffer 2017; Hansen 2014).

At the same time, concerns about the public insurance context of different wealth inequality regimes point to an important area for future research: the inclusion of (estimated present values of) public pension entitlements is certain to provide lower estimates of inequality in Scandinavia and other contexts. Our analysis, in line with most other wealth research, applies a definition of net worth that does not include public pensions nor most other forms of employer-provided pensions. We focused on assets available to workingage households. Unlike the marketable assets included in our analyses, pension wealth is inaccessible (to varying degrees depending on the type of pension) to households until older ages. Measures of wealth that include the present values of pensions (i.e., augmented net worth) thus shift the analytic question.<sup>13</sup> Although harmonized measures of augmented net worth will be enormously difficult to construct for a broad range of countries given cross-national differences in pension systems, future comparative studies of augmented net worth inequality may provide a different country ranking. Institutional explanations of such ranking will likely profit from direct connections to the literatures reviewed here, as the financialization of pension systems complements that of housing markets (Dixon 2008; Schwartz 2012; van Gunten and Kohl 2020).

Finally, the study of wealth inequality stands to gain from future expansion of its comparative scope to other national contexts (see also Davies 2008) and historical periods (Piketty 2020). For instance, it would be interesting to learn how contemporary levels of wealth inequality relate to historical levels of income inequality in a broader set of countries. Also, as typical of most medium-N and large-N cross-national comparisons, our sample of countries is a reflection of data availability, which in turn is based on various historical and political contingencies that prohibit inference to other countries (see Ebbinghaus 2005). Furthermore, the selectivity of our country sample also arises from distinct historical processes, including colonial exploitation, that have built some of the wealth observed in several of the nations included here. We thus provide only an initial descriptive approach that awaits expansion to other countries and time periods as the availability of LWS and other wealth data continues to expand (see Killewald et al. 2017; Zucman 2019), eventually supporting analyses of the global interdependencies of wealth that are obfuscated by comparisons of inequality within advanced capitalist countries (Bhambra 2021). However, the findings reported here may also facilitate the meaningful selection of a smaller number of comparative cases (Ebbinghaus 2005) that, in a small-N comparison, would help elucidate the institutional foundations of distinct housing and mortgage markets and their relationship to overall wealth. The inability to draw firm causal conclusions from comparative approaches should not keep us from taking the next significant step in filling the lacuna of evidence on the sources of national levels of wealth inequality.

# APPENDIX

Abbrev.	Country	Survey	Year	N
AT	Austria	Household Finance and Consumption Survey (HFCS)	2014	10,243
AU	Australia	Survey of Income and Housing (SIH)	2014	1,928
CA	Canada	Survey of Financial Securities (SCF)	2012	8,302
FI	Finland	Household Wealth Survey (HWS) / Household Finance and Consumption Survey (HFCS)	2013	7,982
DE	Germany	German Socio-Economic Panel (SOEP)	2012	11,162
GR	Greece	Household Finance and Consumption Survey (HFCS)	2014	2,113
IT	Italy	Survey of Household Income and Wealth (SHIW)	2014	4,544
LU	Luxembourg	Household Finance and Consumption Survey (HFCS)	2014	1,306
NO	Norway	Household Wealth Statistics (Statistics Norway)	2013	163,726
SK	Slovakia	Household Finance and Consumption Survey (HFCS)	2014	1,461
SI	Slovenia	Household Finance and Consumption Survey (HFCS)	2014	1,805
ES	Spain	Survey of Household Finances (EFF)	2014	3,530
SW	Sweden	Household Income Survey (HINK/HEK)	2005	11,076
UK	United Kingdom	Wealth and Asset Survey (WAS)	2013	12,471
US	United States	Survey of Consumer Finances (SCF)	2013	4,452

Table A1. List of Countries

			Net Wealth		Total Income				
Abbrev	. Country	Mean	Median	Gini	Top 5%	Mean	Median	Gini	Top 5%
AT	Australia	243,411	130,054	.625	33.7	52,012	42,401	.373	19.1
AU	Austria	241,065	102,338	.716	44.3	41,174	36,560	.284	13.8
CA	Canada	193,395	83,814	.688	38.7	46,347	38,232	.369	17.8
FI	Finland	142,170	83,468	.629	30.3	44,382	39,449	.292	14.0
DE	Germany	117,810	39,543	.776	41.6	46,608	39,779	.334	15.8
GR	Greece	102,701	63,962	.604	28.7	21,109	18,271	.344	15.0
IT	Italy	177,976	113,682	.596	29.7	28,680	23,205	.402	18.3
LU	Luxembourg	444,767	237,367	.661	39.1	62,105	47,800	.391	19.3
NO	Norway	122,543	62,803	.813	40.3	58,116	52,413	.284	14.1
SK	Slovakia	62,528	49,722	.493	22.7	16,874	15,024	.313	15.8
SI	Slovenia	143,864	79,525	.634	39.4	22,604	19,110	.356	16.9
ES	Spain	173,698	88,019	.675	38.3	27,526	21,993	.393	18.3
SW	Sweden	71,646	22,616	.868	43.7	36,591	33,139	.264	13.5
UK	United Kingdom	207,948	92,992	.674	39.6	38,723	31,078	.373	18.3
US	United States	239,380	24,422	.899	70.4	58,482	36,083	.528	32.0

Table A2. Distributional Summaries

*Note:* Mean and median expressed in 2017 US\$ PPP (using Consumer Price Index and World Bank Development Indicators).

Table A3.	Wealth	Components
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Net Worth

Financial Assets	Housing Equity	Non-housing Real Assets	Other Debt
Deposit Accounts and Cash Financial Investments Bonds, Other Securitie Stocks, Other equity Investment Funds et	7	Business Equity Consumer Goods Vehicles Other Durables, Valuables	Investment Loans Consumer Good Loans Educational Loans Other Non-housing Liabilities
Other Non-pension Financial Assets		Other Non-financial Assets	

	Gini Decomposition Components			Concent	ration Decon Components	
	C	Components	3		Components	;
	s = Share	g = Gini	r = Corr.	s = Share	c = Concentr.	a = Alignment
	(1)	(2)	(3)	(7)	(8)	(9)
Australia						
Housing Equity	.572	.658	.955	.572	31.2	.914
Financial Assets	.217	.864	.881	.217	65.0	.834
Non-housing	.181	.507	.762	.181	30.3	.738
Other Debts	.030	.777	.443	.030	49.0	.423
Austria	1000		1110	1000	1010	1120
Housing Equity	.564	.713	.951	.564	37.4	.866
Financial Assets	.123	.652	.732	.123	37.6	.559
Non-housing	.303	.913	.940	.303	82.8	.910
Other Debts	.000	.953	.360	.011	84.0	.438
Canada	.011	.555	.000	.011	01.0	.100
Housing Equity	.534	.653	.941	.534	31.4	.847
Financial Assets	.145	.840	.861	.145	61.1	.728
Non-housing	.145	.776	.893	.259	62.1	.870
Other Debts	.062	.698	.093	.062	36.9	.418
Finland	.002	.090	.471	.002	30.9	.410
Housing Equity	.665	.605	.961	.665	26.0	.899
Financial Assets	.143	.776	.782	.143	20.0 51.2	.732
Non-housing	.143	.788	.782	.143	62.3	
Other Debts						.828
	.063	.828	.528	.063	55.1	.536
Germany	0.4.4	750	000	0.4.4	07.0	007
Housing Equity	.644	.759	.963	.644	37.0	.927
Financial Assets	.172	.766	.759	.172	45.7	.667
Non-housing	.141	.973	.913	.141	93.0	.839
Other Debts	.043	.892	.405	.043	63.2	.327
Greece		010	000		00.0	0.40
Housing Equity	.775	.619	.969	.775	29.2	.948
Financial Assets	.062	.861	.722	.062	62.7	.578
Non-housing	.145	.755	.731	.145	46.0	.611
Other Debts	.019	.929	.397	.019	74.9	.175
Italy	0.5.5	0				
Housing Equity	.668	.603	.960	.668	26.4	.904
Financial Assets	.099	.801	.792	.099	53.4	.672
Non-housing	.227	.722	.852	.227	53.8	.808
Other Debts	.006	.911	.153	.006	63.7	.089
Luxembourg						
Housing Equity	.747	.660	.979	.747	36.5	.962
Financial Assets	.135	.821	.807	.135	57.0	.771
Non-housing	.099	.800	.861	.099	67.6	.866
Other Debts	.019	.889	.498	.019	68.0	.482

# Table A4. Decomposition Coefficients

(continued)

		Decomposi Components		Concent	Concentration Decomposition Components			
	(	Components	3		Components	3		
	s = Share	g = Gini	r = Corr.	s = Share	c = Concentr.	a = Alignment		
	(1)	(2)	(3)	(7)	(8)	(9)		
Slovakia								
Housing Equity	.760	.483	.955	.760	20.0	.909		
Financial Assets	.075	.724	.618	.075	42.2	.573		
Non-housing	.150	.795	.789	.150	58.9	.745		
Other Debts	.015	.935	.396	.015	79.0	.252		
Slovenia								
Housing Equity	.614	.546	.950	.614	23.7	.868		
<b>Financial Assets</b>	.059	.858	.650	.059	61.6	.516		
Non-housing	.315	.911	.933	.315	82.7	.926		
Other Debts	.011	.875	.215	.011	59.7	.182		
Spain								
Housing Equity	.641	.659	.957	.641	31.5	.935		
<b>Financial Assets</b>	.161	.844	.834	.161	62.7	.795		
Non-housing	.174	.854	.856	.174	70.8	.801		
Other Debts	.024	.901	.416	.024	67.6	.294		
United Kingdom								
Housing Equity	.504	.687	.963	.504	34.1	.923		
<b>Financial Assets</b>	.186	.840	.904	.186	60.2	.841		
Non-housing	.290	.655	.898	.290	50.1	.887		
Other Debts	.020	.772	.147	.020	40.0	.128		
United States								
Housing Equity	.329	.840	.949	.329	53.7	.902		
Financial Assets	.297	.934	.960	.297	82.9	.923		
Non-housing	.314	.892	.953	.314	82.7	.922		
Other Debts	.060	.751	.586	.060	43.5	.356		

#### Table A4. (continued)

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### **ORCID** iDs

FabianT.Pfeffer Phttps://orcid.org/0000-0002-6196-0617 Nora Waitkus D https://orcid.org/0000-0001-6905-3360

### Notes

- In contrast, Skopek and colleagues (2014) find that the correlation between income inequality and wealth inequality is somewhat weaker at the top of the income distribution
- 2. One notable exception is Lin and Neely (2020), who argue for a bifurcated experience of U.S.

households in a rapidly financializing economy: wealthy households reap benefits from stock market participation, whereas the bottom half, young households, and minority households incur debt on increasingly predatory terms.

- 3. We have to exclude Japan from our analyses because it lacks a comparable measure of net worth.
- 4. For the United Kingdom, we can only draw on a categorical measure of age in five-year groups. The analytic sample for the United Kingdom is therefore based on household heads aged 25 to 60. Stability checks that use ages 25 to 65 yield substantively equivalent results (e.g., Gini coefficient of .674 instead of .675, and top share of 39.6 instead of 39.9).
- 5. Unlike for income, there is no established consensus on the need for or value of household size adjustments for wealth (see Killewald et al. 2017). Our sensitivity checks based on non-equivalized measures of inequality and concentration yield the same substantive conclusions (for an illustration of the close correspondence between inequality and concentration measures based on equivalized versus non-equivalized wealth, see Part S.5 of the online supplement).
- 6. Note that this decomposition necessarily relies on "total wealth" (rather than "net worth") as an additive measure of each asset component, including "other debts."
- 7. We chose to fix coefficients to those observed for the United States because it occupies an exposed role, both empirically and theoretically, in the work on financialization and housing markets and, as we will show, also in regard to the level of wealth inequality and concentration. To address concerns about the well-known dependency of decomposition analyses on the reference category (Fortin, Lemieux, and Firpo 2011), or here, reference country, we replicate our decomposition analyses based on an alternative country-Slovakia, as the country with the lowest level of wealth inequality and concentration, less developed financialization, and high homeownership rates. The substantive conclusions are unaltered and are reported in Part S.6 of the online supplement.
- Note that the long-standing view that the Gini coefficient is more sensitive to inequality in the middle of the distribution rather than the extremes (Atkinson 1970) has recently been questioned empirically (Gastwirth 2017).
- 9. We note that the United States is marked by extreme levels of racial inequality in wealth (Oliver and Shapiro 1995). However, the high level of wealth inequality and concentration in the United States is not solely a reflection of racial wealth gaps: high between-race wealth inequality coexists with high within-race wealth inequality. For instance, wealth inequality is nearly equally high when re-estimated among White households only (Gini coefficient of .882 compared to .899 for the full population, and

top 5 percent share of 69.0 versus 70.4 for the full population). Of course, this does not imply that high wealth stratification and concentration emerged outside of structures of racism and White supremacy; indeed, the latter enabled the former (see Darity and Mullen 2020).

- 10. We thank a reviewer for this insight.
- In Part S.6 of the online supplement, we provide a stability analysis based on the most wealth-egalitarian country, Slovakia, as the reference case, which yields the same substantive conclusions.
- 12. Imposing U.S. levels of within-component inequality exerts the lowest influence for Germany, where the simulated Gini coefficient lies just 8 percent above its observed Gini coefficient. This is not surprising, as we learned from Figure 4 that withincomponent levels of inequality in Germany are generally high and similar to those of the United States. Yet, in relative terms, imposing the same within-component inequality still accounts for the largest portion of Germany's wealth inequality.
- 13. We do, however, acknowledge that pension systems may also shift households' savings behaviors, creating a connection between the distribution of net worth and pension wealth (see Domeij and Klein 2002).

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Fabian T. Pfeffer is Associate Professor and Associate Chair of the Department of Sociology and Research Associate Professor at the Institute for Social Research at the University of Michigan. He serves as the Director of the Center for Inequality Dynamics (CID) as well as a Co-Investigator of the Panel Study of Income Dynamics (PSID). His research investigates social inequality and its maintenance across time and generations. Current projects focus on wealth inequality and its consequences for the next generation, social mobility across multiple generations, the maintenance of inequality through education, and the effects of experiencing social mobility.

**Nora Waitkus** is Assistant Professor in the Department of Sociology at Tilburg University and a Researcher at the International Inequalities Institute at the London School of Economics and Political Science (LSE). Her research investigates social inequality across countries, time, and classes. Current projects include cross-national differences in wealth inequality, how they relate to welfare, housing, land, and financialization regimes, class theory and property regimes, as well as the cultural processes contributing to the legitimization of elites and business wealth concentration.