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Editorial

Wealth Stratification and the Insurance Function of Wealth

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Abstract
This thematic issue examines the insurance function as a mechanism to underlie wealth effects on various outcomes. The articles in this issue shed an innovative light on the insurance function of wealth concerning a range of topics relevant to social stratification and social policy researchers. This editorial provides an overview of the contributions of this thematic issue and highlights some gaps and remaining open questions. Altogether, the contributions suggest that wealth can provide insurance against adverse life events in various contexts. However, this insurance effect depends on welfare state characteristics, wealth portfolios, and the way families handle their wealth.

Keywords
asset poverty; assets; Covid-19; debt; housing; negative life events; social security; welfare state

Issue
This editorial is part of the issue "Wealth Stratification and the Insurance Function of Wealth" edited by Nora Müller (GESIS–Leibniz Institute for the Social Sciences), Klaus Pforr (GESIS–Leibniz Institute for the Social Sciences), and Jascha Dräger (University of Strathclyde).

1. Introduction

Until the end of World War II, only an elite group of people had access to wealth and the possibility to accumulate it. Accordingly, wealth research fell into the realm of elite sociology, and wealth was considered primarily in the context of power, for example in LeBon (1939/1895), Michels (1925/1911), Mosca (1950/1896), Pareto (1955/1916), or, more recently, in Mills (1956). Only since the 1950s, in times of economic prosperity and peace in the industrialized world, has wealth become a quantitatively significant economic resource for the population as a whole.

For some decades now, wealth has (again) been high on the research agenda of social stratification scholars for several reasons. The first is population aging, accompanied by a public pension retirement limit set by the modern welfare state. Due to this development, old age has become a distinct phase of life, which is much more structured by leisure and consumption than by labor market activity (Kohli, 1988). Thus, as individuals grow older, wealth increasingly determines their economic status, while income becomes less meaningful.

The second reason is the increasing importance of private provisions for old age. As a reaction to population aging and declining birth rates, welfare states nowadays reduce public pension benefits and try to set incentives for private old-age provisions. Consequently, responsibility for old-age provision is partly transferred from the welfare state to the individual actor, making the accumulation of personal wealth an even more relevant topic for the latter. Third, the growing interest in social science research on wealth correlates with the increased availability of data that enables researchers to analyze personal wealth holdings empirically.

Recent research has found that private wealth is an essential component of socioeconomic status with substantial effects on different outcomes, including education, family formation, and health (cf. Killewald et al., 2017). Less clear, however, are the mechanisms underlying these effects. Interested mainly in the impact of parental wealth on the educational outcomes of children,

Hällsten and Pfeffer (2017) distinguish between three such mechanisms, which can also be applied to other outcomes. The (a) purchasing mechanism refers to the fact that wealth (similar to income) can be used to purchase goods and services related to achieving or increasing the outcome of interest—in this case, wealth is directly consumed. The (b) insurance mechanism represents the psychological benefits of having wealth and being able to make use of it, if necessary (wealth as a safety net). Finally, the (c) social norms mechanism operates through the positive association between wealth and norms and values, which favor the outcome of interest. Our thematic issue is dedicated to the insurance mechanism.

There are two scenarios of how wealth can affect behavior by acting as a safety net. First, wealth can protect individuals from the consequences of adverse events ("actual insurance function"), like job loss, divorce, illness, or reduced income during retirement. Second, wealth allows individuals to make riskier decisions because they can anticipate wealth to protect against adverse events that may occur in the future ("anticipated insurance function"). From a macro perspective, the life-cycle hypothesis (Modigliani & Brumberg, 1954) suggests a substitution effect between the generosity of welfare state services and individual savings. The insurance function of wealth may have been particularly important during the Covid-19 pandemic.

2. Previous Research and Open Questions

2.1. Wealth as a Buffer Against the Negative Consequences of Adverse Life Events

Numerous studies indicate that wealth works as a safety net, buffering the negative consequences of adverse life events. Leopold and Schneider (2011) show that adult children's economic need triggers parental gifts. Rodems and Pfeffer (2021), as well as McKernan et al. (2009), analyze the buffering function of wealth in experiencing material hardship. Rodems and Pfeffer (2021) find that household net worth effectively buffers the risk of material hardship associated with divorce, disability, and income loss. McKernan et al. (2009) find that families with liquid assets are less likely to experience material hardship in the aftermath of an involuntary job loss, the onset of a health-related work limitation, or a parent leaving the family. Moreover, they find that the buffering function of liquid assets works most efficiently for the bottom and middle terciles of the income distribution but less for the top one.

Findings are less conclusive for subjective well-being (SWB). Smith et al. (2005) find a buffering effect of household net worth against the detrimental effects of a disability on SWB. Kuhn and Brulé (2018) do not find any buffering effect of wealth for the negative consequences of separation, death of a closely related person, unemployment, and disability on SWB. Interested in the moderating effect of wealth during the Covid-19 pandemic, Roll and Despard (2020) do find a buffering effect of liquid assets on the negative impacts of Covid-19-related job and income loss on financial distress.

2.2. The Effect of Wealth on Individual Behavior

Transfers and inheritances can affect individual behavior in various ways. Basiglio et al. (2022) show with Dutch data that individuals perceive expected inheritances as a potential increase in their wealth, leading to a reduction in their savings. Moreover, expected inheritances affect intentions to bequeath and intended choices on work versus leisure in the future. Similar findings have been reported by Lundberg (2020) for Sweden.

Wealth, both current and future expected assets, cannot only affect saving and labor market behavior but can also allow individuals to make riskier decisions, knowing that they will be financially protected in case of failure. Such decisions include educational decisions (choosing a more versus a less competitive educational track or field of study) and occupational decisions (applying for higher and more demanding versus lower and less demanding occupational positions), but also investment decisions (investing in riskier portfolios with higher payoffs versus more conservative portfolios with lower payoffs) or family decisions (timing of marriage and childbirth, divorce, fertility decisions). Previous research shows that an increase in housing wealth increases fertility rates among homeowners (Lovenheim & Mumford, 2013) as well as college enrollment rates (Lovenheim, 2011) in the US.

Numerous studies show that higher parental wealth is related to higher educational attainment and achievement (Conley, 2001; Dräger, 2022; Dräger & Müller, 2020; Elliott & Sherraden, 2013; Hällsten & Pfeffer, 2017; Pfeffer, 2018; Wiborg, 2017; Wiborg & Grätz, 2022). However, most of these studies do not directly test the insurance effect of wealth. Erola et al. (2018) show that also the extended family's wealth can help prevent low educational or occupational outcomes for children from resource-poor families.

Several studies show that the level of individual wealth is related to risk adversity in investment behavior, though with unclarity about the direction of this relationship (Brunnermeier & Nagel, 2008; Kihlstrom et al., 1981; Paravisini et al., 2010). As to expected wealth, Greenberg (2013) finds a low-risk aversion among individuals who imagine being wealthy in the future.

2.3. Wealth and the Welfare State

A huge body of research, mostly from economics, analyses the effects of social security on individual savings behavior (e.g., Attanasio & Brugiavini, 2003; Attanasio & Rohwedder, 2003; Farley & Wilensky, 1985; Feldstein, 1983; Feldstein & Pellechio, 1979; Lefebvre & Perelman, 2020). Most of these studies find that the generosity of (public) social security partly offsets individual savings as

suggested by the life-cycle hypothesis, especially at the bottom and in the middle of the income distribution.

International comparative research showed that wealth is more relevant for several individual-level outcomes—including SWB (Hochman & Skopek, 2013), health (Maskileyson, 2014), and education (Pfeffer & Hällsten, 2012)—in countries with less generous social welfare state services as compared to countries with more generous welfare state services. These findings indicate that welfare state services can moderate the relevance of wealth as private insurance.

2.4. Open Questions

Despite the numerous studies mentioned above, various open research questions remain regarding the insurance function of wealth. As to the buffering effect of wealth, few studies directly analyzed if wealth can buffer the consequences of adverse life events, how far the buffering effects differ across such events, and whether there is heterogeneity in such buffering effects across the distribution of wealth. Wealth as an additional resource to compensate for the negative consequences of adverse life events might be especially relevant in a nationwide crisis such as the Covid-19 pandemic (cf. Kuypers et al., 2022).

As to the direct effects of the insurance function of wealth on various outcomes, little research has been done on risk-taking behavior outside investment decisions, like marriage behavior, the timing of childbirth, or educational and occupational decisions. Especially interesting here is the anticipated insurance effect: Do people who expect to receive larger amounts of wealth make riskier life decisions? Or does the timing of important life-course transitions and events differ between persons who expect and don't expect to receive larger amounts of wealth?

Regarding the moderating effect of welfare state services or social security wealth on the importance of wealth as private insurance, previous research lacks large international comparative studies to analyze this relationship. Open questions also remain regarding the definition and operationalization of social security wealth.

Moreover, there remain open questions about how individuals and families manage their wealth and how wealth and its insurance function are perceived. The potential of wealth to buffer against adverse events will only affect behavior if actors assume that their wealth will remain stable or increase, but not if they fear wealth losses. Likewise, wealth can only buffer against adverse events if actors have control over their wealth.

Our thematic issue aims to shed light on these and related open questions regarding the insurance function of wealth.

3. Content and Contributions of the Thematic Issue

Our issue includes six contributions. Two of them are large international comparative studies: One compares 27 European countries (Heidenreich & Broschinski, 2023) and the other one looks at 17 European countries and the US (Rapp & Humer, 2023). The remaining four are single-country studies carried out with data from Germany, Italy, and the UK. Five of the six studies carry out quantitative data analyses, and one study (Carmichael, 2023) decided on a qualitative research design. Three out of six studies measure wealth in terms of housing wealth (homeownership/tenure status and housing value; see Althaber et al., 2023; Bedük, 2023; Heidenreich & Broschinski, 2023), one study measures it in terms of financial wealth (Rapp & Humer, 2023) and another creates an index to directly measure the insurance capacity of wealth (Gritti et al., 2023). One study investigates high-net-worth individuals (Carmichael, 2023).

The first two contributions test the insurance function of wealth each for a single country but under very different circumstances: Bedük (2023) tests the insurance function of wealth against job loss in the UK, while Gritti et al. (2023) test the insurance function of wealth against the consequences of the Covid-19 pandemic in Italy.

Bedük (2023) examines the effect of job loss on several outcomes and its moderation by wealth in the UK with household panel data from 1991 to 2008. The author uses homeownership status and housing values as wealth measures and earnings, net household income, relative and absolute poverty, and life satisfaction as outcomes. He finds that renters have a higher risk of job loss than owners, while housing values do not matter. For the effect of job loss on most examined outcomes, he similarly finds greater differences between renters and owners as compared to the differences across housing value percentiles. Also, he finds a distinct moderating effect of the housing value on poverty.

Gritti et al. (2023) analyze the impact of the Covid-19 pandemic in Italy on individuals' psychological and socioemotional responses—measured as dispositional optimism. To operationalize the insurance function of wealth as directly as possible, they create an "insurance capacity" index. This index combines respondents' capacity to cover their financial obligations and afford their basic necessities in case of a shortage of income with their current housing situation. The authors then analyze the relationship between the pandemic and dispositional optimism across groups of individuals with different levels of insurance capacity. They find slightly higher optimism for individuals with a higher insurance capacity. Overall, however, their findings show only weak support for the insurance function of wealth in the socioemotional sphere.

The next contribution tests differences in the insurance function across country contexts. Heidenreich and Broschinski (2023) compare the insurance function of wealth against unemployment across 27 European countries. The authors use the EU-SILC data to examine homeownership as a form of wealth that can be used as insurance against life risks. They look at short-term

unemployment's effect on households' perceived financial situation and find that debt-free homeownership reduces financial stress among homeowners due to unemployment compared to tenants and owners holding debt. The authors use the cross-national comparison of EU-SILC to examine if social protection regimes moderate the effect of homeownership and outstanding mortgage payment. Against their expectation, they find that this difference in perceived financial stress between debt-free owners and owners who still pay off mortgages and tenants is larger in countries with high unemployment benefits.

In the next contribution, Rapp and Humer (2023) evaluate directly how welfare states and family transfers compensate for vulnerability in European countries and the US. The authors propose a measure of vulnerability, which besides asset poverty also takes into account buffering by public insurance programs and the possibility of receiving financial assistance from relatives or friends. The measure is derived from and applied to a sample of 17 European countries and the US based on data from the Household Finance and Consumption Survey (HFCS) and data from the Survey of Consumer Finances (SCF), respectively. Results show that while asset poverty in the US is lower than in most European countries, households are less vulnerable in the latter due to higher cushioning through insurance systems. Help through social networks is substantial in several countries, yet may not be available to its full extent when shocks are distributed broadly across the population. Taking into account the insurance function of wealth (and private transfers) in the measurement of poverty thus allows a different assessment of poverty rates in countries with different welfare state systems.

The two concluding contributions evaluate the strategies of how individuals and families manage assets to maintain their wealth and its insurance function. Althaber et al. (2023) assess how within-couple income and wealth inequalities affect couples' money management strategies. Carmichael (2023) evaluates de-risking strategies of high-net-worth individuals in the UK.

Althaber et al. (2023) evaluate how income and wealth inequalities among couples are associated with money management. Using data from the German Socio-Econonomic Panel, they find that couples with unequal income are more likely to pool their money. In contrast, similar-income couples are more likely to manage money independently. Yet, they find the opposite within couple wealth inequality: Couples with unequal wealth are more likely to manage money independently, while couples with similar levels of wealth are more likely to pool their money. Both patterns are independent of which partner has more income or wealth.

Carmichael (2023) analyzes how high-net-worth individuals perceive the insurance provided by their wealth and their strategies to maintain it during their future retirement based on qualitative interviews with 35 individuals in the top 5% of the net worth distribution in the UK. In contrast to many other studies, the author finds that high-net-worth individuals perceive and fear risks that may jeopardize a comfortable retirement. Thereby, she challenges the view that wealth releases individuals from the psychological burden of worrying about retirement. Carmichael identifies two main causes of worries: (a) the risk of making bad decisions due to emotions and (b) the fear of missing out on the most profitable investments and the pressure to keep up with others' wealth. To deal with these worries, high-net-worth individuals rely on two strategies: (a) relying on outside expert advice and (b) preservation through expense/debt reduction and tax reduction strategies.

4. Conclusion and Avenues for Future Research

Wrapping up the findings of the six articles in our thematic issue, we can conclude:

1. Wealth can insure against different kinds of negative life events. The articles in this thematic issue found wealth to insure against some of the negative consequences of unemployment and, to a lesser extent, the negative consequences of the Covid-19 pandemic.
2. Not all wealth components exert an insurance function. In line with previous findings, the articles in our issue indicate that housing wealth can function as private insurance. This is especially true if the housing asset is free of debt.
3. As expected and lining up with previous findings, the function of wealth as insurance seems to be more relevant in less generous welfare states than in more generous ones. Indeed, wealth appears to be an important supplement or compensation for low coverage by the social welfare state.
4. Wealth is usually assumed to be pooled among couples. However, this is not necessarily the case. While couples with similar levels of wealth indeed pool their wealth resources, couples with different levels of wealth don't. This has important implications for the insurance function of wealth, implying that individuals (at some point) have access to it.
5. While almost all articles show that wealth can buffer the consequences of negative events, referring to its actual insurance function, one article suggests that this might not necessarily be the case for its anticipated insurance function. Carmichael (2023) shows that very wealthy individuals feel uneasy and concerned about the future insurance capacity of their actual wealth.

Most of our questions about the insurance function of wealth formulated in the introduction have been tackled by one or several of our contributions. Only indirectly addressed by the articles in our thematic issue is the anticipated insurance function of wealth. We still

do not know if people who expect to receive larger amounts of wealth make riskier life decisions, or if the timing of important life-course transitions and events differs between persons who expect and don't expect to receive larger amounts of wealth. This may be due to the high demands on the data to answer such questions. To answer these questions, we need data on the decision behavior of individuals combined with information on their parents' wealth holdings. So far, only very few data sets provide such information, among them the German Socio-Economic Panel Study and the US-American Panel Study of Income Dynamics.

Moreover, we still know little about how far the buffering effect of wealth on the consequences of negative life events differs across different life events and different outcomes and if this differs across countries. Also, while we have seen a good example of how to operationalize social welfare state benefits, the definition and operationalization of social security wealth still offer much potential for future research. In addition, the contributions in this thematic issue have only considered the insurance function in Europe and the US. Yet, the insurance function may work very differently in other countries, particularly in countries of the Global South.

Althaber et al. (2023) raise new questions on how wealth management affects its insurance function. If wealth is controlled by only one partner in a couple, this will affect who may profit and who is protected by the insurance function of wealth. This does not only apply to the couple but also to their extended network. Moreover, this raises the question of whose wealth insures against adverse events. The wealth of individuals, the wealth of the couple, or the wealth of the extended family? To answer this question, analyzing the insurance function of wealth within network structures may be fruitful.

Likewise, Carmichael (2023) raises new questions on how the fear of losing one's wealth affects the "anticipated" insurance function. If individuals or families are afraid to lose their wealth, this may stop them from making risky decisions. Here the question is whether this fear also emerges for individuals with moderate levels of wealth, whether it also affects other aspects than retirement planning, and whether the fear of wealth losses is also present among children. For example, while the fear of losing wealth may affect the investments of high-net-worth individuals, it may not affect the educational or career decisions of their children.

Another task for future research would be to test whether it is actually wealth that provides the buffering against adverse events or whether the variance in the consequences of adverse events can be attributed to other factors that cause both wealth and the outcomes of interest (e.g., race/ethnicity, or other dimensions of the socioeconomic status). In other words, are the effects of adverse events causally moderated by wealth (Bansak, 2021)? Depending on this, policy recommendations will be different because if the insurance function of wealth is not a causal moderation, we would observe the same heterogeneity in the consequences of adverse events, even if wealth were more equally distributed.

We hope that the articles in our thematic issue will contribute to the continued and increasing collection and provision of high-quality wealth data and that researchers will take up the cause of answering the still open and newly opening research questions on the insurance function of wealth.

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Conflict of Interests

The authors declare no conflict of interest.

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Article

Insured Privately? Wealth Stratification of Job Loss in the UK

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Abstract
Job loss is a significant income shock that can lead to declines in living standards and satisfaction. Wealth can provide a key resource in stratifying the risk and the consequences of such an event. In this article, I examine the extent to which wealth stratified the experience of job loss in the UK from 1991 to 2008. I distinguish between different wealth groups using information on homeownership and home value of primary residency, and then study whether these groups face different risks and/or consequences of job loss. The results show that renters were a significantly disadvantaged group compared to homeowners during the observation period. Not only did they faced a significantly higher risk of job loss, they also experienced greater declines in earnings, household income, and life satisfaction, and larger increases in income poverty in the year of job loss. Among homeowners, the risk and consequences of job loss were similar. In a country like the UK with minimal public insurance for unemployment, homeownership appears to provide a significant source of stratification for job loss.

Keywords
homeownership; home value; insurance function; job loss; welfare stratification

Issue
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1. Introduction

Wealth has recently gained wider recognition as a separate dimension of stratification and inequality. Wealth is more unequally distributed than income (Pfeffer & Waitkus, 2021) and is positively associated with a wide range of valued life outcomes: Those with higher wealth tend to have higher educational achievement, better health, and better subjective well-being (Killewald et al., 2017). Such wealth advantages are considered to arise from two main sources (Pfeffer, 2011). First, wealth provides a greater command over resources (e.g., through long-term use and cost savings) and can be used as collateral to access more resources and purchase goods, activities, and services. Second, wealth serves as both a psychological and a real private safety net against the consequences of risky behaviour and provides insurance against negative income shocks. Through these purchasing and insurance functions, wealth influences outcomes by shaping initial behaviour as well as its consequences.

These wealth advantages become especially critical around key life events. For anticipated and intentional events (e.g., various desired life transitions such as childbearing or marriage), wealth can provide the necessary resources, give individuals the opportunity to plan ahead, and possibly offer a choice on factors such as the timing, place, and type of such events. For unanticipated and unintentional events, such as unexpected income shocks, wealth can compensate for income and consumption losses and protect against negative consequences on living standards and satisfaction.

Job loss is an important life event that might be stratified by wealth. Evidence shows significant long-term losses in earnings, reductions in consumption, increased poverty risk, health deterioration, and declines in life satisfaction as a result of job loss (Brand, 2015; Jenkins, 2011; Kalleberg & von Wachter, 2017). Given the various advantages of wealth, not only the risk but the consequences of job loss as well may differ across wealth groups. While there is relatively little evidence on how the risk of job

loss varies across wealth groups, evidence on the consequences of job loss across wealth groups is mixed. In a recent paper, Rodems and Pfeffer (2021) found strong stratification by wealth in the risk of material hardship following disruptive life events such as divorce, disability and income loss in the US. Kuhn and Brulé (2019), on the other hand, have argued that material resources—including wealth—do not provide any buffer against the subjective well-being consequences of adverse events. André et al. (2019) recently showed differential effects of unemployment on subjective well-being between homeowners and renters in Australia, although they also found no stratification of effects among homeowners with different home equities.

In this article, I contribute to this literature by examining whether the risk and consequences of job loss vary across different wealth groups in the UK during 1991–2008. More specifically, I examine (a) how the risk of job loss differs across groups with different levels of wealth and (b) how the effects of job loss on valued life outcomes, such as poverty and life satisfaction, are moderated by wealth. To analyse the consequences of job loss, I use a dynamic event-study model (difference-in-differences) and focus on changes in the year of respondents' job loss relative to the year prior to the event. To distinguish between wealth groups, I use information on housing wealth and separately look at (a) the differences between renters and homeowners and (b) the differences among homeowners with varying home values. The results reveal significant differences across wealth groups, specifically between renters and homeowners, in the consequences of job loss for earnings, poverty measured by income, and satisfaction with the use of leisure time.

2. Job Loss and Wealth Stratification

2.1. Risk of Job Loss

Many have been concerned with rising insecurity in the labour market in recent decades due to loosened employment protections and the proliferation of atypical contracts (e.g., Kalleberg, 2011, 2018). However, empirical evidence has not always been supportive of these arguments. For example, except for peaks during recessionary periods and some modest trends observed for specific groups (e.g., low-skilled men in France and Germany), the rate of involuntary job loss has been relatively stable—if anything, it has decreased over the last three decades in most OECD countries (Bergmann & Mertens, 2011; Davis, 2008; Farber, 2017; Givord & Maurin, 2004; Quintini & Venn, 2013). Manning and Mazeine (2022) further argue that the widely supposed trend towards rising insecurity is not observed even in subjective measures of job insecurity for the UK, the US, and Germany. In the UK, during the present study's observation period (1991–2008), the rate of dismissals, redundancies, and job separations (i.e., flows from employment to unemployment) also shows a relatively decreasing trend (Upward & Wright, 2019).

Trends aside, job loss affects a significant group of people every year. Quintini and Venn (2013) estimate that the rate of job loss among workers varies between 3% and 5% in OECD countries. These numbers tend to be significantly higher in recessionary periods; for example, Farber (2017) estimated that the rate of job loss doubled in the US after the 2008 recession. Upward and Wright (2019) estimate that the rate of redundancy in the UK was between 2% and 4.5% during 1991 and 2008.

2.2. Stratification of Job Loss Risk by Wealth

While we know little about the stratification of job loss risk across wealth groups, evidence shows a higher risk of job loss for those with lower educational attainment and social class (Brand, 2015; Farber, 2017; Hacker & Rehm, 2022; Quintini & Venn, 2013). For example, in the UK, although the gradient across groups is relatively diminished in the early 2000s, the rate of job loss is below 1% for those with a degree, while it is around 2% for those with a degree below the GSCE level (i.e., high school; see Gomes, 2012). Similarly, a clear social class gradient is also observed between blue-collar and white-collar workers in the UK concerning the risk of experiencing unemployment during the observation period (Goldthorpe & McKnight, 2006).

Whether similar patterns can be observed across wealth groups is an open question. Wealth is closely associated with education and thus might reflect similar patterns, whereby wealthier groups have a lower risk of experiencing a job loss. However, given the psychological safety net that wealth provides, wealthier individuals might follow riskier pathways and be more likely to leave their jobs for better opportunities. At the same time, the labour market in the UK is considered relatively open, external, and flexible. Specifically, this means that skills are generally transferable and progression is typically reached through job mobility; regulations for firing and hiring are not strict for either regular or temporary workers, and the divide between outsiders and insiders is not strong, such that those with stable and unstable jobs have similar chances of losing or finding employment (Ferragina & Filetti, 2022; Häusermann & Schwander, 2012). Considering the above, there is no clear theoretical expectation of the patterns of job loss risk across the distribution of wealth.

2.3. Consequences of Job Loss

Job loss is a costly event for several outcomes. Evidence shows significant losses in yearly earnings, both in the short and long term. The level of losses is dependent on the speed and conditions of re-employment. In the short term, losses account for between 20% and 50% of previous income across high-income countries (Bertheau et al., 2022; Couch & Placzek, 2010; Farber, 2017). While

the level of these losses reduces over time, they are persistent in the long term. For example, Davis and von Wachter (2011) show that the negative effect of job displacement on yearly earnings is still observable after 20 years in the US. In the UK, losses in the year of job loss are estimated at around 40–50% of pre-displacement earnings, which decreases to 18% after five years and 10% after 10 years (Hijzen et al., 2010; Upward & Wright, 2019).

These losses might be compensated through multiple private and public mechanisms. Three private mechanisms are particularly relevant to wealth. The first is dissaving. Building a buffer against unexpected income shocks is likely an important motivation for saving (Carroll, 1997), especially in countries with inadequate public insurance, such as the UK (Banks et al., 2001; Lugilde et al., 2019). When households anticipate an income shock, they respond by reducing consumption, moving their investments to safer assets and increasing savings prior to the shock event (e.g., Barceló & Villanueva, 2016; Hendren, 2017). Dissaving might include using liquid assets (e.g., cash savings), converting illiquid assets to cash and borrowing (e.g., taking out loans, using credit). For example, for Denmark, Andersen et al. (2021) show that, during the first two years after a job loss, reduced saving in liquid assets accounts for around half of the total loss in household incomes. Braxton et al. (2020) show that in the early 2000s, in the US, around one-third of those who lost their jobs replaced a significant part of their lost earnings by borrowing, which, in turn, put households in debt and only delayed the consequences of the income shock (Kalleberg & von Wachter, 2017; Sullivan, 2008). The second mechanism is financial support from other households (e.g., parents or relatives), which has been shown to be particularly relevant during life course events to support children in need. However, their amount is usually small compared to the extent of losses (e.g., Karagiannaki, 2011; Leopold & Schneider, 2011; McGarry, 2016). The third mechanism is household labour supply. The existence of other earners in the household is a critical source for limiting losses in household income (Figari et al., 2010) and labour supply response (e.g., added worker effect) is an additional source, but significant mainly in recessionary periods and only for countries with weaker social security, such as the UK (Bredtmann et al., 2018; Bryan & Longhi, 2018).

Earnings losses can also be compensated publicly through social security programmes. In the UK, however, the generosity of unemployment insurance (UI) is particularly low. During the observation period (1990–2008), the benefit level of UI was fixed at around 15–20% of average wages for singles (e.g., £73 in 2020), which amounts to an average replacement rate of approximately 20% of previous earnings. Eligibility is conditional on previous employment (at least six months) and certain behavioural requirements, such as being available for and actively seeking work, and the benefit is available for a maximum of six months. Minimum income schemes (MIS), including social assistance, child and housing benefits, and tax credits, are relatively more generous and were significantly increased during the 1999 New Labour welfare reform, providing on average around 50–60% of median income (OECD, 2022). Therefore, MIS might be particularly helpful for compensating earnings losses—albeit only for households with low income and few assets, as these schemes are generally means-tested in terms of both income and assets (i.e., savings and property ownership).

If not compensated through these private or public mechanisms, earnings losses following a job loss might lead to reductions in household income and affect living standards and satisfaction. In the year of job loss, individuals are estimated to lose around 5–30% of their household income across OECD countries and around 20% in the UK (see, among others, Di Nallo & Oesch, 2021; Ehlert, 2012; Seim, 2019). Evidence also shows significant declines in consumption following a job loss in Canada, Denmark, and the US (Andersen et al., 2021; Browning & Crossley, 2008; Ganong & Noel, 2019). Employment events—more specifically reductions in earnings—are key trigger events for entering poverty as measured by income in the UK (Jenkins, 2011). Job loss is also associated with declines in life satisfaction through its effects on mental health, family disruption, and loss of psychosocial assets (e.g., self-confidence, goals, and meaning in life; see Brand, 2015; Paul & Moser, 2009). Non-pecuniary functions of employment, such as structuring time and fostering social relationships, are also expected to be affected by job losses (Jahoda, 1981). Evidence suggests that unemployment is associated with the degree to which individuals perceive their use of time as structured and useful (Wanberg et al., 1997), although unemployed individuals spend more time on leisure and enjoyable activities (Hoang & Knabe, 2021).

2.4. Stratification of Job Loss Consequences by Wealth

The consequences of job loss might vary significantly across wealth groups due to differences in initial earnings losses or the level of private and public compensation. First, initial earnings might differ if, for example, wealthier individuals return to employment more quickly and with conditions more similar to their previous job, compared with less wealthy individuals. For example, those with lower educational attainment remain unemployed for longer after a job loss (Quintini & Venn, 2013).

Second, the level of private compensation is likely to be higher for wealthier groups. Those with higher wealth have more savings (Rowlingson & McKay, 2011, pp. 53–80), are likely to have greater precautionary savings (Jappelli & Pistaferri, 2017), are more likely to borrow (Sullivan, 2008) and have higher incidences and levels of transfers from other households (Nolan et al., 2022). At the same time, most families do not have adequate liquid financial wealth to compensate for significant losses

in earnings (Dickens et al., 2017; Gustafsson et al., 2021). For example, in the UK, around half of working-age households have less in savings than their monthly incomes, and around three-quarters have less than six months' monthly income (Gustafsson et al., 2021). In the US, those in the bottom decile of wealth do not generally borrow in response to income losses following a job loss, given their limited access to credit (Sullivan, 2008).

Third, in the UK, public compensation is likely to be significant only for those with low wealth, given its targeted design. All households might benefit from the UI scheme, as it does not include means testing, but given that it provides a relatively meagre and fixed amount, its value for wealthier households is likely to be insignificant. MIS benefits in the UK can only be received by those with low incomes and assets and hence are likely to compensate some losses for these groups.

As a result of the stratified process in initial earnings losses and the ability to compensate losses privately, the consequences of job loss in terms of poverty and life satisfaction are likely to be worse for less wealthy households. Public compensation can replace income losses only for those at the bottom of the distribution. For wealthier groups, job loss—even if it leads to significant losses in earnings—might have a rather limited effect on the risk of poverty and life satisfaction.

3. Housing Wealth and Wealth Stratification

I define wealth groups based on housing wealth. More specifically, I first distinguish between renters and homeowners. I then investigate how the effects of interest vary among homeowners by examining differences across the distribution of the gross value of their primary residence.

This choice can be justified on three main grounds. First, the wealth stratification patterns described above can equally apply to housing wealth. For example, housing wealth can provide an insurance function and prove to be a resource for smoothing consumption against transitory income shocks (Carroll, 1997). While one generally expects households to allocate precautionary savings to liquid assets with little cost (e.g., savings accounts), Carroll et al. (2003) find that precautionary wealth accumulated by the wealthier is mainly reflected in housing rather than other types of more liquid wealth. Similarly, a large literature has consistently found significant consumption responses to changes in housing wealth (Berger et al., 2018; Campbell & Cocco, 2007), which have sometimes been shown to be much higher than consumption responses to changes in financial wealth (e.g., Carroll et al., 2011). These housing effects are mainly explained by changes in households' perceived wealth or relaxed borrowing constraints (Campbell & Cocco, 2007).

Second, homeownership is not only a valued outcome as a marker of transition to adulthood, social status, and family formation (Bayrakdar et al., 2019; Coulter et al., 2020); it also represents the main—and often only—component of wealth for most households. For example, over the last three decades, around 60–65% of total net wealth (excluding private pensions) in the UK has been in housing (Office for National Statistics, 2022). Indeed, the gross value of a person's primary residence has been shown to highly correlate and closely proxy overall wealth in its associations with stratification outcomes, such as education and marriage (Blanden et al., 2021; Pfeffer & Killewald, 2017; Wagner et al., 2020).

Third, housing wealth is also the main source of wealth inequality within and between countries (Pfeffer & Waitkus, 2021). For example, substantial rises in home prices almost entirely explain the reductions in wealth inequality in the UK between 1996 and 2005 (Bastagli & Hills, 2012). In recent decades, homeownership has increased in tandem with rising housing prices, which has helped to slow the growth in wealth inequality (Holmans et al., 2007). However, the significant divide is now between renters and homeowners, which is usually a matter of having no wealth versus some wealth (Coulter, 2016). Variation in home value, on the other hand, reflects differences between those with low and high wealth.

4. Research Design

4.1. Data

I used a sample from the British Household Panel Survey (BHPS) comprising data collected between 1991 and 2008. The initial BHPS sample included households from Britain; since 2001, with boost samples, Northern Ireland has also been included. I did not use data from Understanding Society (UKHLS), the successor of the BHPS for the more recent period, because yearly household income cannot be estimated based on the information collected in the UKHLS.

4.2. Target Population and Sample Selection

Given this study's focus on job loss, the target population consists of prime-age workers (i.e., between 25 and 55 years old) in the UK during the period 1991–2008. I used an unbalanced sample of 15,949 individuals with information from at least two years. I removed self-employed individuals, full-time students, those who self-described as long-term sick or disabled, retirees, and inactive from the sample, as their employment trajectories are likely to differ from the overall working-age population. To account for attrition, I calculated longitudinal weights for each outcome, accounting for the probability of dropping out in three-year periods and multiplying the inverse of this risk of attrition with cross-sectional weights of the middle year (i.e., the base year).

4.3. Measures

The main event—job loss—was defined based on individual information on monthly unemployment. I define

job loss based on three conditions: (a) being unemployed for at least three months in the current year, (b) being employed for at least 4.5 months in the previous year, and (c) not being unemployed for more than three months in the previous year. This definition captures more substantive shocks while leaving out temporary movements in and out of employment that would be expected to have limited influence on yearly outcomes. Moreover, it includes both employer-initiated events (e.g., termination, lay-offs due to downsizing, closure, other business operations) and employee-initiated events (e.g., health problems, care responsibilities, dissatisfaction with work or career).

The variables used to measure homeownership and home value are self-reported. I used the question on housing tenure to define homeownership. Those who owned their house (all or share), either through a mortgage or outright payment, were defined as homeowners and all others as renters. Home value is the gross value of respondents' primary residence and reflects respondents' answers to the question: "How much would you expect to get for your home if you sold it today?" This variable is transformed into a percentile rank.

I used multiple outcome measures (namely earnings, net household income, poverty based on income, and poverty based on deprivation) and various satisfaction measures (namely satisfaction with life overall, social life, amount of leisure time, and use of leisure time). For earnings and net household income, I used the imputed variables provided by Levy and Jenkins (2012), which subsequently show gross yearly earnings considering usual pay from main and second jobs (including income from self-employment) and net household income (including earnings, private transfers, investment income, taxes, and transfers). I equivalised household income using the modified OECD scale. I used two poverty measures: one based on income, with a threshold of 60% of median household income, and the other based on deprivation, using six available deprivation items and with a threshold of one (i.e., having more than one deprivation was considered poverty). These six items are the ability to afford (a) keeping one's home warm, (b) paying for an annual holiday, (c) replacing old furniture, (d) buying new clothes, (e) eating meat on alternate days, and (f) having visitors once a month. Lastly, satisfaction indicators were measured with a seven-point Likert scale following the question: "In general, are you satisfied with your life?" Answers ranged from *completely satisfied* to *not satisfied at all*.

As control variables, I included other types of critical events that might be associated with job loss and affect outcomes, such as partnership dissolution (formal divorce of marriage or civil partnership, widowhood, separation) and number of children. I used age, calendar year, and gender to residualise outcome variables.

Data for all these variables are available for the period 1990–2008, except material deprivation and life satisfaction, for which data are only available from 1996.

In Table 1, descriptive statistics for the target population are presented. These statistics are presented separately for renters versus homeowners and treatment versus control groups in the Supplementary Material.

4.4. Effects of Interests

I am interested in the change in outcomes (Y) in the year of job loss event (E) compared to the level just prior to the event. This is a descriptive quantity: The group of individuals who experience a job loss is likely to be selective and the interest here is in describing the outcomes of this group, not identifying the causal effect of job loss (in Section 4.5, I discuss further what this means for estimation).

My questions involve whether and how much this effect varies (a) between renters and homeowners and (b) among homeowners with different home values. These can be formally defined as follows:

a. Renters vs. homeowners:

$$\varphi_{1r} = \frac{1}{n}\sum_{i=1}^{n} Y_{it} - Y_{it-1} \mid (E_{it} = 1), \quad t = 1, 2, 3; r = 0, 1$$

b. Among homeowners with different home values:

$$\varphi_{1o} = \frac{1}{n}\sum_{i=1}^{n} Y_{iqt} - Y_{iqt-1} \mid (E_{it} = 1), t = 1, 2, 3; \quad q = 5, 10, \ldots, 95$$

In these definitions, t is event time (where $t = 1$ is the year of the event), r is homeownership status (where $r = 1$ is renter), and q is percentiles of home value.

4.5. Estimation

To estimate these effects of interest, I used a dynamic event-study model (difference-in-differences) with fixed effects, defined as follows:

$$Y_i = \alpha_i + \delta_{it}\, I\,[z = t] + \beta_i\, C + \gamma_i + \varepsilon_i \qquad \text{(Equation 1)}$$

Prior to the analysis, Y was outcome residualised for year, age and gender. The first term is event time t dummies, including two lags and four lead years (i.e., $t = -2, -1, 0, 1, 2, 3, 4$) relative to the timing of job loss. The remaining lags and leads are bunched together. C is controls, such as partnership and number of children, and γ_i is the individual fixed effects. I am interested on the effect in the year of job loss—that is, δ_{i1}, which is an estimate of φ_{1r}—separately for renters and homeowners.

This is a difference-in-differences specification, where the control group is those who never experience a job loss. Therefore, the effects show the difference between those who experienced a job loss (treatment) and those who did not experience a job loss (control). Although the effect of interest here is purely descriptive, I apply this model to account for general trends in the population, more specifically in workers' earnings. For example, part of the loss in earnings after a job loss

Table 1. Descriptive statistics: Total sample.

Total	Mean	*SD*	Min.	Max.	No. of non-missing
Renter	0.20	0.40	0	1	83,037
Home value	148,435	141,664	1	6,500.000	63,795
Job loss	0.02	0.13	0	1	74,221
Controls					
Partnership dissolution	0.02	0.14	0	1	75,495
Number of children	0.70	0.96	0	7	83,037
Outcomes					
Yearly gross earnings	19,382	15,195	0	253,521	82,887
Equivalised household income (yearly)	16,668	9,088	0	496,952	83,037
Poverty (deprivation)	0.06	0.24	0	1	63,367
Poverty (income—60% of median)	0.07	0.26	0	1	83,037
Satisfaction with life overall	4.48	0.98	0.87	6.09	58,512
Satisfaction with social life	3.49	0.98	0.73	5.10	58,641
Satisfaction with amount of leisure	2.96	0.99	0.68	4.74	58,640
Satisfaction with use of leisure	3.29	0.98	0.70	4.93	58,626
Other					
Year	2000	5	1991	2008	83,037
Age	40	9	25	55	83,037
Education	2.74	1.40	1.00	5.00	82,434
N (person*year)	83,037				
N (person)	10,421 (1,663 singletons)				

Notes: Estimates are weighted using survey design weights; education shows the highest qualification measured based on five categories, namely, degree (5), other high degree, A-level, GCSE, other qualification, and no qualification (1).

comes from foregone earnings: the possible growth in earnings if the job loss had not occurred. By including a control group who have never experienced a job loss, such growth trajectories can be accounted for.

In the Supplementary File, I compare the characteristics of the treatment and control groups separately for renters and homeowners. Overall, the groups appear to be very similar except that the control group has slightly higher homeownership and value, more children, higher earnings and household income, and lower deprivation. Still, the differences are relatively small. Individual fixed effects also account for differences among these groups that are constant over time.

For the comparison among owners, I apply a smooth-varying coefficient model (Rios-Avila, 2020), using the same model as in Equation 1. The idea is to estimate a linear relationship between two variables, such as job loss and income, conditional on a non-linear smoothing variable, such as home value percentiles. Similar to non-parametric regressions, a smoothing function is first estimated based on a kernel method. Then, the coefficients from that model are used in the main model where the main relationship is estimated for each chosen bandwidth (e.g., 20 groups, one for each five-percentiles). Thus, it is a semi-parametric model that relaxes the linearity assumption of interaction models and allows for estimating interaction effects flexibly across a continuous variable.

Before estimation, outcome variables were residualised for year, age, and gender fixed effects. Such flexible residualisation aims to average out period, life cycle, and gender effects. I used log transformation for earnings and household income and present the results as semi-elasticities (i.e., percent change in outcome in the year of job loss relative to the previous year). Average marginal effects are presented for poverty, showing percentage changes in the rate of poverty, while standardised coefficients are used for the satisfaction measures.

5. Results

5.1. Risk of Job Loss

Figure 1 shows the risk of job loss over two decades, between 1991 and 2008, (a) for renters and homeowners and (b) among homeowners across the distribution of home values. The results for the latter comparison show

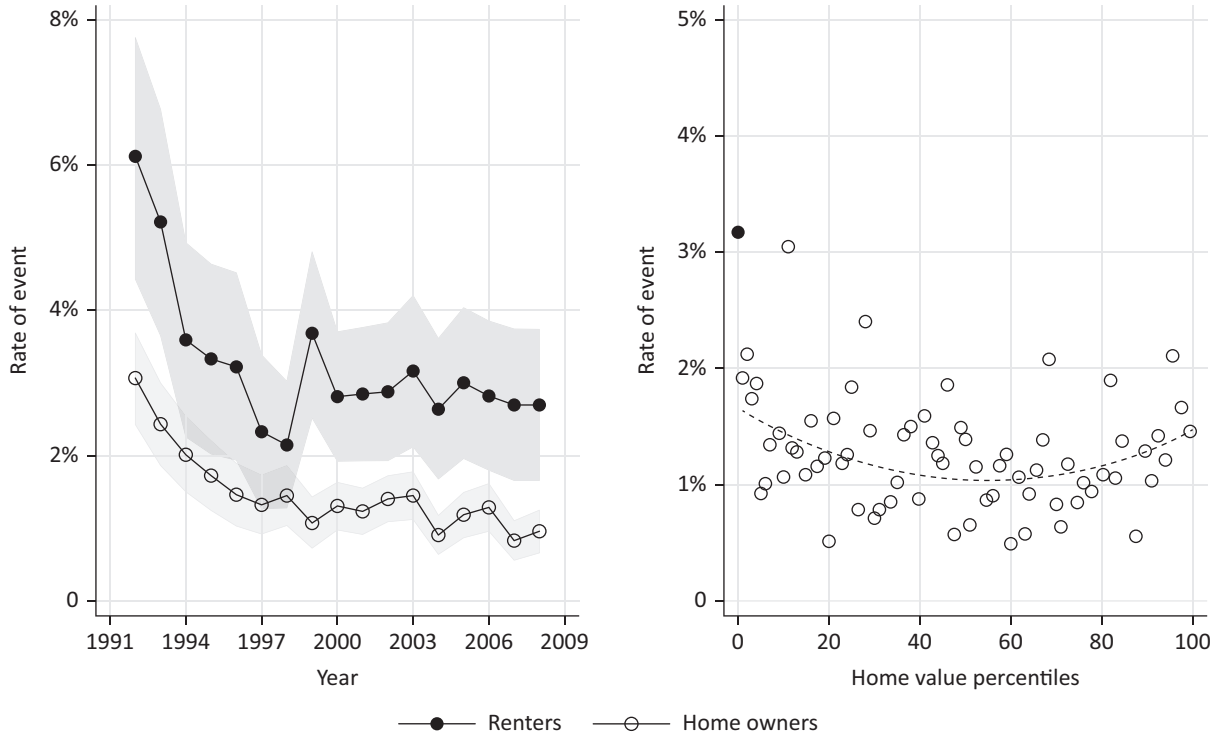

Figure 1. Risk of job loss: Renters vs. homeowners and across the distribution of home value. Notes: The first graph shows the rate of job loss across the observation period and how it varies between renters and owners; the second graph shows how the rate of job loss among homeowners across the distribution of home value in the pooled data; quantiles are defined based on the gross home value of primary residency in the year before the job loss; the estimates of the first graph show grouped averages across years, while the grey areas represent 95% confidence intervals of the point estimate; the second graph shows estimates from pooled data based on binned scatters (using 100 bins) and quadratic fit, calculated using binscatterplot command in Stata (see Stepner, 2013); for definitions of outcomes see Section 7.1.

estimates from a binned scatter plot of the pooled data (i.e., for all years), where the quantiles are defined separately for each year based on the respondent's gross home value in the previous year (i.e., the year before the job loss), then averaged across years. The results for the former comparison show grouped mean estimates across years with 95% confidence intervals, indicated in grey.

The results show significant variation between renters and homeowners. While in general there is a downward trend in the risk of job loss, renters have a consistently higher rate of job loss than homeowners over the years. On average, the rate of job loss is around around 3% for renters and 1–1.5% for homeowners. Among homeowners, however, we do not see much variation. Across the distribution, the rate of job loss is around 1–1.5%. Considering these results, the main divide appears to be between renters and homeowners, while the risk of job loss is relatively equally distributed among homeowners.

5.2. Consequences of Job Loss for Renters Versus Homeowners

Figure 2 shows how various outcomes differ in the year of job loss for renters compared with homeowners. The estimates are presented as percentages, rates, or standard deviation changes relative to the base year ($t - 1$).

Starting with yearly gross earnings and yearly net household income, both renters and homeowners lost a significant percentage of their earnings and income in the year of job loss. However, renters lost considerably more than homeowners: 89% versus 56% of earnings and 29% versus 22% of household income. These differences are statistically significant for earnings but not for household income. The losses in household income are lower, possibly due to household labour supply or transfers from other households.

Similar differences are also observed for poverty as measured by income. In the year of job loss, the risk of poverty increases by 20% among renters compared with 8% among homeowners. Both changes are statistically different from both each other and zero. These differences might be a result of the different losses experienced for household income but also the position of renters versus homeowners in the income distribution: renters are more likely to be closer to the poverty threshold, which may lead to more people falling below this threshold after job loss. Even if similar relative losses are observed for renters and homeowners, the risk of poverty rises more for renters given their initial position.

There are some increases in the risk of poverty measured in terms of deprivation, around 4% for both groups. Given the differences in income poverty risk

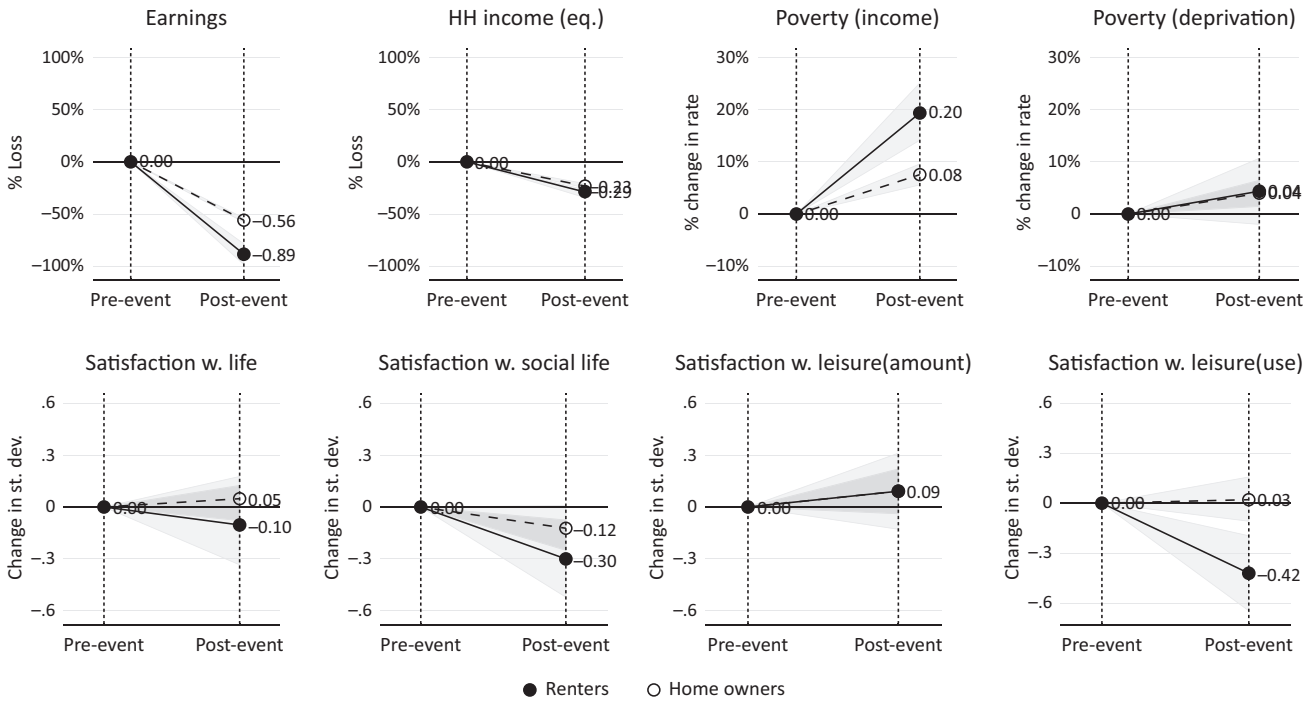

Figure 2. Outcomes in the year of job loss: Renters vs. homeowners. Notes: The graphs show changes in different outcomes in the year of job loss and how this effect varies between renters and homeowners; results for income variables show percentage losses, poverty variables show increases in the risk of poverty, and satisfaction variables show changes in standard deviation; the estimates are based on a difference-in-differences model. The shaded areas show a 95% confidence interval of estimates; the models include other risk events such as partnership dissolution and childbirth as controls; outcomes are residualized for year, age, and gender; for definitions of outcomes see Section 7.1.

between renters and homeowners, this might be surprising. However, first, the losses in household income are very similar between the two groups, and second, material deprivation shows lack of consumption. Hence, both groups seem to manage to smooth consumption to the extent that they do not face significant consequences for material deprivation.

Lastly, significant differences between renters and homeowners can also be observed for the satisfaction measures, specifically regarding use of leisure time. Homeowners experience slight increases in their satisfaction with life overall and with their amount and use of leisure time, as well as slight decreases in satisfaction with their social lives (around 0.12 standard deviation). None of these changes, however, is statistically significant. On the other hand, renters experience statistically and substantively significant declines in their satisfaction with their social lives and use of leisure time (by 0.3 and 0.42 standard deviation, respectively). Therefore, although homeowners experience significant declines in earnings and household income following a job loss, the effect of these losses on other life outcomes, such as poverty and life satisfaction, is relatively limited.

5.3. Consequences of Job Loss Among Homeowners

In Figure 3, I show how various outcomes differ in the year of job loss and whether these changes vary among homeowners. The estimates are presented as percentages, rates or standard deviation changes relative to the base year ($t - 1$).

The results show significant losses in earnings (around 40–50% of pre-job loss earnings) among all homeowners. These losses are relatively similar across the distribution. Likewise, losses in household income are significant (around 20–25%) and generally similar across the distribution. On the other hand, the changes in the risk of poverty as measured by income follow a clear gradient, high at the bottom (e.g., around 18%) and low—almost zero—at the top. This may be due to the varying positions of these groups in the income distribution: Those with lower home values are more likely to fall into poverty because their initial incomes are more likely to be closer to the poverty threshold.

Despite such a clear gradient in poverty as measured by income, poverty as measured by deprivation does not appear to significantly rise in the year of job loss for any homeowners across the distribution. Similarly, there are no differences in satisfaction with overall life, social life, or amount and use of leisure time among households with different home values. Therefore, despite significant losses in earnings and household income, the consequences of job loss for deprivation and life satisfaction appear to be muted for homeowners, even those with the lowest home values. This is possibly due to the private insurance provided by wealth, specifically through

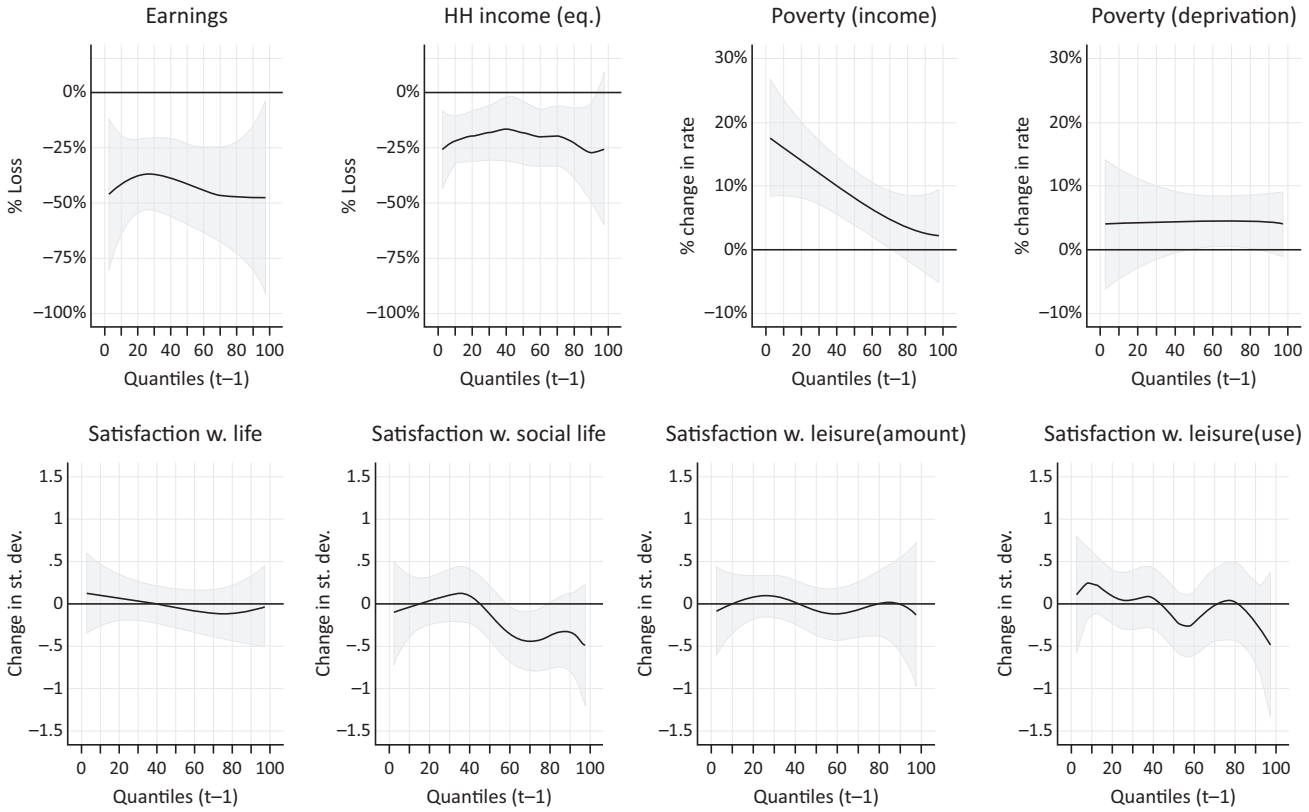

Figure 3. Outcomes in the year of job loss among owners across the distribution. Notes: The graphs show changes in different outcomes in the year of job loss and how this effect varies across the distribution of home value; quantiles are constructed based on home value in the year before the job loss. Results for income variables show percentage losses, poverty variables show increases in the risk of poverty, and satisfaction variables show changes in standard deviation; the estimates are based on a smooth-varying coefficient model proposed by Rios-Avila (2020), a semiparametric kernel regression, where the effect of job loss varies as a "smooth" function of quantiles; the shape of the function is estimated using multiple thresholds (i.e., 20) and certain bandwidths, which are optimally estimated by the program (using vc_pack Stata package by Rios-Avila, 2020); the shaded areas show a 95% confidence interval of estimates; the models include other risk events such as partnership dissolution and number of children as controls; outcomes are residualized for year, age and gender; for definitions of outcomes see Section 7.1.

dissaving, which seems to be equally relevant across the distribution of housing wealth.

5.4. Robustness Checks

I tested the sensitivity of results to the definitions of job loss and renter status. The results are presented in the Supplementary File. Regarding the definition of job loss, increasing or decreasing the condition of unemployment duration following the job loss event did not significantly affect the results. Using a longer unemployment condition (at least five months) decreased the risk of job loss, while using a shorter unemployment condition (at least two months) increased the risk of job loss specifically for renters and those with lower home values, reflecting a gradient across wealth groups (Supplementary File, Figures S2–S3). However, these changes in the definition of job loss did not alter the findings on the consequences (Supplementary File, Figures S4–S7).

Regarding the definition of a renter, I tested whether social renters (e.g., those who rented through social housing or housing associations) differed from private renters, as the latter might be relatively more disadvantaged in terms of housing cost and security. Around half of all renters are social renters. The consequences for social renters are substantively similar and only slightly (but not significantly) worse for poverty as measured by deprivation and for life satisfaction (Supplementary File, Figure S1). I also ran the analysis separately for women and men. The results showed generally greater effects for women, especially for renters' life satisfaction measures (Supplementary File, Figures S12–S15). Lastly, I ran the analysis using the longitudinal weights provided by the survey, with substantively similar results (Supplementary File, Figures S8–S11).

6. Discussion

I asked whether there is any variation in how significant job loss events were experienced across different wealth groups in the UK between 1991 and 2008. Various advantages of wealth, mainly compensating income losses and

smoothing consumption, provide the basis for stratification of risks and consequences of job loss. I examined outcomes related to income, consumption and life satisfaction and how the effect of a job loss on these outcomes varies across wealth groups, which are defined based on housing wealth.

The results reveal that the main divide is between renters and homeowners. Risk of job loss was significantly higher for renters than homeowners throughout the observation period, while it did not vary among homeowners with different home values. Similarly, the short-term consequences of job loss for earnings, income-based poverty and satisfaction with life and use of leisure time differ significantly for renters and homeowners, but less so among homeowners with different home values. Among homeowners, both the risk and consequences of job loss are relatively similar across the distribution (with one exception of income-based poverty possibly due to varying income positions relative to the poverty threshold of those with different home values).

What might explain homeowners' advantage over renters when it comes to the consequences of job loss? There might be mechanisms directly or indirectly related to wealth. The first is the private compensation mechanisms that are directly related to greater wealth, such as dissaving for smoothing consumption. This is a reasonable explanation, as we find similar losses in household income between renters and homeowners but significantly different outcomes for poverty as measured by income and satisfaction measures. Therefore, although homeowners may experience significant losses in earnings and household income in the year of job loss, they may compensate for these losses through their savings and limit the negative effects of the job loss on life satisfaction. The second is the mechanisms that are indirectly related to wealth, more specifically selection into homeownership (e.g., Lersch & Dewilde, 2019). Homeowners might be advantaged in observed characteristics (e.g., education) or unobserved characteristics (e.g., personality, social skills, networks) that are conducive to faster re-employment with better conditions, higher savings, and better life satisfaction. Similarly, given assortative mating on education and employment, homeowners might be more likely to have other earners in their household, which limits losses in household income. Alternatively, given their advantaged position, they might be more likely to receive support from other households, such as parents or relatives.

Why do we not find similar differences among homeowners with different home values in terms of the risk and consequences of job loss? Regarding the risk of job loss, we did not have a clear expectation considering the flexible and open labour markets in the UK, and the results show no clear difference in the risk of job loss among homeowners. Regarding the consequences of job loss, similar outcomes for earnings and household income shows that the level of income shock was similar among homeowners. Given that, outcomes for deprivation-based poverty and life satisfaction does not vary among homeowners possibly because all homeowners (so not only the richer ones) had enough resources to compensate for income losses through dissaving and prevented any declines in consumption and life satisfaction. This supports arguments that the renters have become a particularly disadvantaged group in the UK, which has significant implications for the life chances of future generations (Coulter, 2016).

The analysis is limited in several respects. First, I only examined the consequences in the year of job loss, not how these losses develop over time and are affected by anticipation prior to the event. Second, individuals who experience job loss are likely to be a selective group, and certain characteristics that lead to job loss might also be the source of disadvantaged outcomes. Similarly, homeowners' advantages might not be related to their wealth per se but rather to other observed or unobserved characteristics. Third, although the analysis reveals important insights into what compensation mechanisms may be responsible for differences in consequences among wealth groups, they are not directly observed in the analysis. Lastly, this analysis is based on the UK, a country with relatively meagre social security; hence, the results might not be generalisable to areas with more generous UI schemes.

Especially in countries without adequate social insurance systems (and efforts to suppress the risk of negative life events) such as the UK, private insurance is a crucial factor for maintaining living standards and satisfaction after individuals are exposed to income-disrupting life events. This study's results show stratification in the risk and consequences of job loss, specifically between renters and homeowners. although it is still a relatively rare event to have a significant impact in the short run, job loss risk might lead to widening income and wealth inequality, in the long run, considering the stratification in its economic consequences. Adapting a generous UI scheme could help reduce layers of inequality and serve as a crucial strategy for dealing with the risk of job loss (Kalleberg & von Wachter, 2017).

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Conflict of Interests

The author declares no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

The Buffer Function of Wealth in Socioemotional Responses to Covid-19 in Italy

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Abstract
The social stratification of material consequences of individual-level disruptive events is a widely researched topic. Less is known about the stratification of psychological outcomes in response to contextual-level disruptive events. We aim to fill this gap by investigating the aftermath of the Covid-19 pandemic on individuals' dispositional optimism and the stratification based on unequal wealth resources. The study focuses on Italy, the first European country to be strongly hit by Covid-19, and one characterised by high levels of private savings and homeownership. Theoretically, we draw on the conventional social inequalities framework informed by insights from the literature on natural disasters, positing that wealth-related resource disparities may have stratified the socioemotional response to the pandemic. Empirically, we leverage a combination of individual-level longitudinal survey data (Bank of Italy's Special Survey of Italian Households) and municipality-level official statistics on excess mortality (Italian National Institute of Statistics), covering the first 17 months of the Covid-19 pandemic in Italy. Results indicate overall negative consequences of severe exposure to risks associated with the pandemic on optimism. However, we found evidence in line with a post-traumatic growth scenario, as optimism slightly increased over the course of the pandemic. The insurance function of wealth emerges in the higher optimism of individuals with more resources. Nevertheless, resource disparities are not translated into stark differences in susceptibility to risk exposure or post-traumatic growth. Overall, our findings support a limited insurance function of wealth in the socioemotional sphere.

Keywords
Covid-19; disruptive events; excess mortality; Italy; risk exposure; social inequality; socioemotional responses; wealth

Issue
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1. Introduction

With the first deaths in February and until the end of April 2020, Italy was one of the European countries hit hardest by Covid-19. To date, three additional pandemic waves (October–December 2020, March–May 2021, and autumn 2021) have occurred. Following the increase in cases and hospitalisations, containment measures and other unprecedented alterations of daily life were variably imposed and relaxed. Starting in December 2020, a mass immunisation campaign was rolled out, with full coverage of over 60% for all age groups achieved by September 2021, making it possible to live with the virus (Marziano et al., 2021). Existing literature focusing on the Italian case is quite unanimous in highlighting the negative consequences of the pandemic on people's emotional state and psychological conditions in general (Ferrucci et al., 2020; Giusti et al., 2020; Quaglieri et al., 2021). Amidst the pandemic, social scientists further investigated inequalities across several domains, spanning fields such as health (Consolazio et al., 2021), the labour market (Brini et al., 2021; Del Boca et al.,

2020), education (Contini et al., 2022), and demography (Guetto et al., 2021; Luppi et al., 2020).

Compared to other countries, the study of social inequality in Italy hinges on a thorough examination of wealth. Italy features a Southern model of the welfare state characterised by relatively high levels of familism (Ferrera, 1996; Saraceno, 1994). In the literature on wealth differences across countries or between households, welfare state expenditures are often found to be substitutes for private wealth: The more insurance provided by the state, the less need for households to accumulate private wealth (Fessler & Schürz, 2018; Jappelli, 1995). Interestingly, however, the strength of this relationship varies over the wealth distribution, as the decrease in net wealth associated with an increase in public expenditure is stronger for poorer households. The explanatory mechanism appears to concern lower savings and increased consumption for households at the lower end of the wealth distribution. Wealth inequality could thus increase as a consequence of stronger social security (Fessler & Schürz, 2018). Considering the residualistic role of the welfare state, it is not surprising that Italy features very high levels of savings and mass homeownership (Sierminska et al., 2006; Skopek et al., 2014). Furthermore, wealth inequality in Italy has been steadily increasing, homeownership decreasing for younger generations, and intergenerational wealth transfers increasing in size (Acciari & Morelli, 2022) and relevance (Gritti & Cutuli, 2021). Accordingly, an investigation of wealth-based inequalities in the context of the unprecedented situation created by the Covid-19 pandemic is an important endeavour. There is reason to speculate that the sense of security conveyed by wealth may have acted as a crucial buffer during the pandemic not only in economic terms—in addition to or as a substitute for emergency benefits (Gallo & Raitano, 2022)—but also in socioemotional terms.

Extant sociological research on wealth as a predictor of social inequalities has largely focused on socioeconomic outcomes and individual-level disruptive events (e.g., Rodems & Pfeffer, 2021). Instead, we aim to investigate psychological or socioemotional outcomes in response to a disruptive contextual-level event, that is, the Covid-19 pandemic. To do so, we bridge the conventional social inequalities framework and insights from the literature on emotional responses to natural disasters. Empirically, we test the insurance function of wealth by leveraging a combination of individual-level longitudinal survey data and municipality-level official statistics on excess mortality, covering the first 17 months of the Covid-19 pandemic.

2. Background

Among socioeconomic predictors, accumulated wealth provides resources that translate into advantages for owners and kin across several life domains (Hällsten & Thaning, 2021; Killewald et al., 2017). Hällsten and Pfeffer (2017) introduced three mechanisms of the intergenerational influence of wealth—purchasing, insurance, and normative—which can be extended to how wealth functions in general. As for the insurance role, wealth latently serves as a buffer against the negative consequences of actual events or potential failures. The relative importance of this mechanism largely depends on macro-social, institutional, and policy factors.

2.1. Covid-19 as a Contextual-Level Disruptive Event

Disruptive events can be either micro- or macro-level phenomena with population-wide exposure. These two levels are interconnected and particularly all macro-level events ultimately spill over to the individual level with micro/macro interactions. The Covid-19 pandemic has been framed in the sociological literature as an exogenous, contextual-level disruptive event, whose consequences have not been equally distributed in the population (Settersten et al., 2020). Two divergent frameworks can inform the study of unequal responses to such events: normativity on the one hand, and resource disparities and cumulative disadvantage on the other hand (Aquino et al., 2022). According to the normativity framework, vulnerability to a negative shock is negatively associated with its prevalence and predictability in specific subgroups of the population or social settings (i.e., the lower the likelihood of the event, the stronger the impact). In contrast, the second framework predicts that the level of available resources differentiates the ability and the opportunities to cope with the negative consequences of disruptive events. Furthermore, disparities can cumulate across different domains and over time, thus generating long-term multi-dimensional disadvantages. Given that the pandemic was an unprecedented shock for the entire population, we shall focus on mechanisms connected to resource disparities and cumulative disadvantages as the dominant explanatory factor underlying unequal responses.

2.2. Risk Aversion and Dispositional Optimism

Risk aversion is a widely adopted concept in various disciplines, including economics, psychology, and sociology. It generally refers to the tendency to prefer lower returns with known risks to higher returns with unknown risks (de Blasio et al., 2018; Hartog et al., 2002). A tangent concept is dispositional optimism, that is, the tendency to have generalised positive expectations about future events, even in the presence of obstacles (Scheier & Carver, 1987). Beyond representing a mere personality trait, it has been analysed as a crucial predictor of individual conditions, choices, and behaviours, from health to financial-, fertility-, and career-related decisions (Carver & Scheier, 2014). Compared to other psychological or socioemotional aspects, dispositional optimism represents a more stable psychological quality and

cognitive structure. It is thus not surprising that existing research has found optimism to be a relevant predictor of more transient states, among which is subjective well-being (Carver et al., 2010; Rius-Ottenheim et al., 2012; Zhang et al., 2014). In the context of a pandemic, focusing on transformations in (usually) stable psychological traits enables us to go beyond temporary changes in satisfaction with one's current life conditions (as captured by subjective well-being) and to better understand individuals' present and future choices and behaviours. Analysing optimism further implies shifting the focus from the specific concept of risk aversion to individuals' expectations and narratives about the future, including those about the aggregate institutional and economic situation. This appears to be a particularly promising framework for understanding individual behaviour in times of high uncertainty, such as the Covid-19 pandemic (Vignoli et al., 2020).

Existing psychological research (Boehm et al., 2015; Heinonen et al., 2006) has demonstrated that dispositional optimism as a stable personality tendency is positively associated with higher socioeconomic resources, stemming from a stronger sense of control from childhood throughout the entire life course. Among the various resources, wealth features the highest degree of permanence over the life course and across generations (Hällsten & Pfeffer, 2017).

Research on psychological reactions to natural disasters (Monzani et al., 2021; Trumbo et al., 2011) also found that dispositional optimism is positively associated with an optimistic bias, that is, a systematic tendency to perceive oneself as less likely to be harmed by external shocks and more likely to achieve goals. Another insight from the natural disasters literature (Cameron & Shah, 2015) is the importance of investigating the proximity to the adverse event, such as the geographical distance to an earthquake. For research on Covid-19, proximity is represented by the exposure to the risk of infections or pandemic-induced mortality.

2.3. The Socioemotional Paradox of the Covid-19 Pandemic

A large body of research has investigated the psychological consequences of the pandemic and the related containment measures. Contrary to conventional wisdom, meta-analyses (Aknin et al., 2022; Prati & Mancini, 2021) reported that the overall impact has been small in magnitude but complex and that it has depended on the rigidity of containment measures, the stage of the pandemic, and the direct experience of the disease. Furthermore, the pandemic induced heterogeneous psychological responses as the result of unequal resources and differences in genetic sensitivity to environmental shocks (de Vries et al., 2022). Interestingly, Recchi et al. (2020) found an unexpected increase in subjective well-being (measured as the self-assessed frequency with which respondents had feelings of nervousness or relaxation, sadness or happiness, etc.) following the pandemic outbreak in France. Conversely, subjective feelings of depression significantly decreased following the first wave of the Covid-19 pandemic in European countries (Van Winkle et al., 2021). Optimistic feelings about the future (both societal and personal) could be at least partly driven by advantaged groups being shielded against the pandemic (Fouques et al., 2021). Few studies explicitly considered the role of resource disparities in this regard. A parallel and more dynamic explanation has been offered by the psychological literature, pointing out the role of psychological resilience in the immediate response to traumatic events (Rutter, 1987). Notably, resilience is strictly related to dispositional optimism as individuals with high psychological resilience tend to be more optimistic (for a review see Masten, 2001). A fruitful concept in this regard is that of post-traumatic growth, signalled by gains in self-perception, interpersonal relationships, and positive views about the future. This represents a coping mechanism—and sometimes a compensatory illusion—against traumatic events, including Covid-19 (Shevlin et al., 2020; Vazquez et al., 2021).

2.4. Linking the Insurance Function of Wealth and the Socioemotional Response to Covid-19

Bridging the resource disparities and cumulative advantages frameworks, and drawing on the literature on natural disasters, we theorise that the latent insurance function of wealth generated unequal responses throughout the pandemic via two situational-specific dynamics (for a graphical illustration see Figure 1). First, individuals with a better insurance capacity of wealth have a divergent susceptibility to risks connected to Covid-19, as they more commonly display dispositional optimism as a stable personality trait, regardless of their risk exposure (see Section 2.2). Second, the accumulation of advantages makes individuals with better insurance capacity of wealth more likely to display steeper growth in the overtime response to the unfolding of the pandemic, as they disproportionately benefit from the possibility and ability to optimistically react to a disruptive event. It is worth noting that these two dynamics are analytically distinct but empirically entwined, with their interplay generating unequal responses throughout the pandemic. This is also because the timing of Covid-19 compounds two phenomena: While the outbreak of the pandemic has been a common shock and consequently the time to get used to it has been synced for all, non-linear variations in the epidemic intensity have occurred as a result of pandemic waves and local heterogeneities.

In light of the aforementioned arguments, we postulate the following hypotheses related to socioemotional responses to Covid-19 in the general population (H1, H3a) and to inequalities stemming from resource disparities (H2a, H2b, H3b), considering static (H1, H2a, H2b) and longitudinal (H3a, H3b) differences:

H1: A relatively greater exposure to Covid-19 risks is negatively associated with levels of dispositional optimism in the general population.

H2a: Individuals with a high insurance capacity of wealth show higher dispositional optimism compared to individuals with a low insurance capacity of wealth.

H2b: Dispositional optimism of individuals with a high insurance capacity of wealth is less sensitive to exposure to Covid-19 risks compared to the optimism of individuals with a low insurance capacity of wealth.

H3a: Over the course of the pandemic, dispositional optimism increases in the general population.

H3b: Over the course of the pandemic, individuals with a high insurance capacity of wealth display a greater increase in optimism, compared to individuals with a low insurance capacity of wealth.

3. Data and Methods

3.1. Data

We relied on the representative Special Survey of Italian Households (SSIH) conducted by the Bank of Italy (2022) to measure the economic situation of individuals residing in Italy throughout the pandemic. The target population was composed of individuals, aged 18 and older, who resided in Italy during the survey administration. To date, six rounds covering May, September, and November 2020 and February, April, and September 2021 were conducted. In each subsequent wave, a portion of individuals already interviewed was followed longitudinally and new samples were added.

Aside from following the unfolding of the pandemic for 17 months, we leverage spatial differences in the exposure to excess mortality as a measure of proximity to pandemic-related risks. SSIH data provides useful spatial information, such as respondents' statistical area and municipality size, which enables us to link official statistics on mortality collected on a monthly basis at the municipal level (excluding the province of Bolzano) by the Italian National Institute of Statistics (Istat). Such information is of crucial importance as we could not perform a pre- and post-pandemic comparison (since everyone was living under the pandemic during the surveyed period).

3.2. Variables

As for the dependent variable, we present results related to two indicators of dispositional optimism obtained from five-point Likert scales capturing opinions about the situation of (a) the overall Italian economy in the following 12 months and (b) labour market conditions in Italy in the following 12 months. The latter item had a slightly different framing in the first survey wave, as it asked about national unemployment specifically. Response categories ranged from *will significantly deteriorate* to *will significantly improve*, with *will remain stationary* representing the central value. We excluded any *do not know* answers.

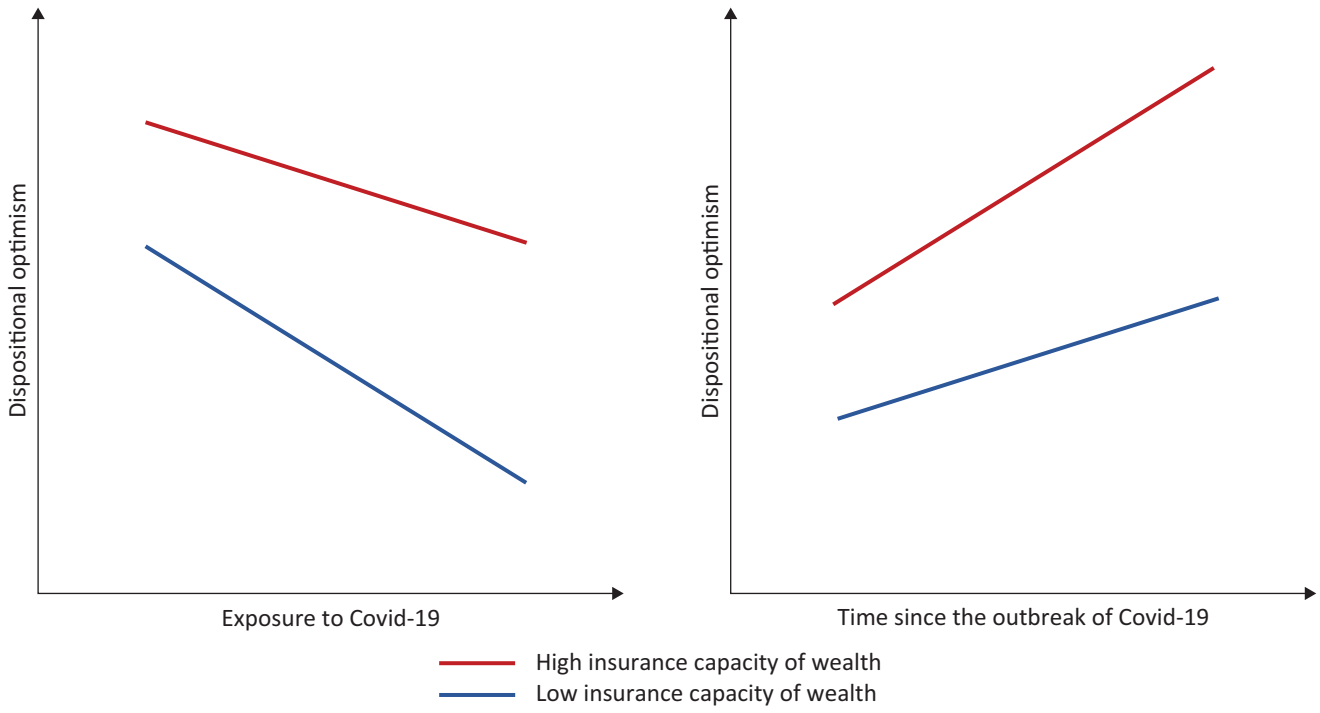

Figure 1. Illustration of research hypotheses linking the insurance capacity of wealth with socioemotional responses to Covid-19: Divergent susceptibilities (left) and divergent growth (right).

Our main independent variable was the spatial average exposure to excess mortality in the two months prior to each survey wave. As established in the epidemiological literature (Konstantinoudis et al., 2022), we leverage the percentage difference between the contextual month-specific mortality rate and its 2015–2019 average to construct a measure of exposure to excess mortality. Spatial units are given by the combination of statistical area (northwest, northeast, centre, south, and islands) and municipality size (up to 5,000; 5,000 to 10,000; 10,000 to 30,000; 30,000 to 50,000; or more than 100,000 inhabitants). Figure 2 presents the imputed average excess rate at the municipal level. As the distribution varies substantially over time, we standardised this measure in each wave and reported results for deviations from the wave-specific average, which therefore measures the proximity to the disruptive event.

As for the moderating role of wealth, we resorted to a direct operationalisation of the insurance capacity of wealth by combining two different wealth-related questions. First, respondents were asked how long their family could afford basic necessities and repay the debt through household financial assets, including cash, savings, deposits, bonds, stocks, and mutual funds. Possible responses included *less than one month*, *at least one month*, *three months*, and *six months*. Second, respondents were asked about their housing situation. Possible responses included: *living rent-free*, *paying rent*, *homeowners with a mortgage*, and *homeowners without a mortgage* (see Figure S1 in the Supplementary File). Because wealth is composed of financial assets, real assets, and debts, these two variables capture a sizeable portion of total wealth and its capacity to provide insurance in hard times. In addition, the inclusion of the respondents' housing status is critical, as a stable housing situation conveys advantages in terms of ontological security, sense of belonging to the community, and social standing (Zavisca & Gerber, 2016). In homeownership societies like Italy, where owning a home is perceived as the only way to ascend to the middle class (Gentili & Hoekstra, 2021), it is potentially even more relevant to include it as part of the insurance capacity of wealth. Nonetheless, real assets, excluding a primary dwelling, are not measured and may provide additional insurance that we cannot consider in this study. We combined the two ordinal items through a principal component analysis based on polychoric correlations (Kolenikov & Angeles, 2004)—a common practice in studies of intergenerational educational inequalities (Jerrim et al., 2021)—to obtain a metric measure of the latent insurance function of wealth. As the last step, we grouped respondents into four groups having (a) high, (b) medium-high, (c) medium-low, and (d) low insurance capacity, based on the quartile distribution of the metric measure. As shown in Table S4 in the Supplementary File, the quartiles obtained grouped individuals coherently, depending on their insurance capacity.

Lastly, SSIH data provide additional relevant information. This includes sex, age, household size, the highest educational level attained, as well as employment status (*employee*, *self-employed*, *student/jobseeker*, *retired*, and *homemaker*) and employment contract. Unfortunately, labour market income at either the household or the individual level is not present in the SSIH survey data.

After a listwise deletion of missing cases, our analytical sample is composed of 11,350 observations nested in 3,216 individuals (for further details about sample composition see Table S1 in the Supplementary File).

3.3. Analytical Strategy

To account for repeated observations within individuals, we applied linear mixed-effect models that provide a weighted average of between- and within-individual differences. Standard errors were corrected for the clustering of observations within individuals.

We began by investigating possible selection in exposure to excess mortality regressing the standardised measure of excess mortality on the previously mentioned covariates. Only a few statistically significant differences emerged, which appear to be uniquely driven by the insurance capacity of wealth, household size, and survey waves (see Table S5 in the Supplementary File). Under the assumption of conditional independence (Hainmueller, 2012), we attempted to purge the influence of observable confounders by following recent developments in the dose-response literature and estimating entropy balance weights for a continuous treatment (Tübbicke, 2022; Vegetabile et al., 2021). This method allowed us to nullify the correlation between our continuous treatment variable, the insurance capacity of wealth, and other relevant covariates such as sex, age (also squared), highest educational level attained, employment status, household size, and interview wave. Of course, we could not ensure any causal estimation since unobservable confounders could still be at play. In this regard, survey-related measurement errors may take the lion's share in confounding the relationship of our interest. The availability of additional observable characteristics among which personality traits (albeit rarely surveyed), detailed occupational position, family dynamics, income, and more detailed wealth measures would have been useful to better adjust for confounding.

We then proceeded with a three-step analysis. First, we estimated the association between contextual exposure to excess mortality and optimism (H1). Only in this step, we compared results (a) without controls, (b) including all covariates, and (c) with entropy balancing and sample weights. Equation 1 displays the formulation of the latter multilevel specification where βEXP_{ij} stands for the marginal effect of our standardised measure of excess mortality, while υ_i and ε_{ij} account for the time-constant unobserved heterogeneity and the idiosyncratic individual error, respectively. Our preferred

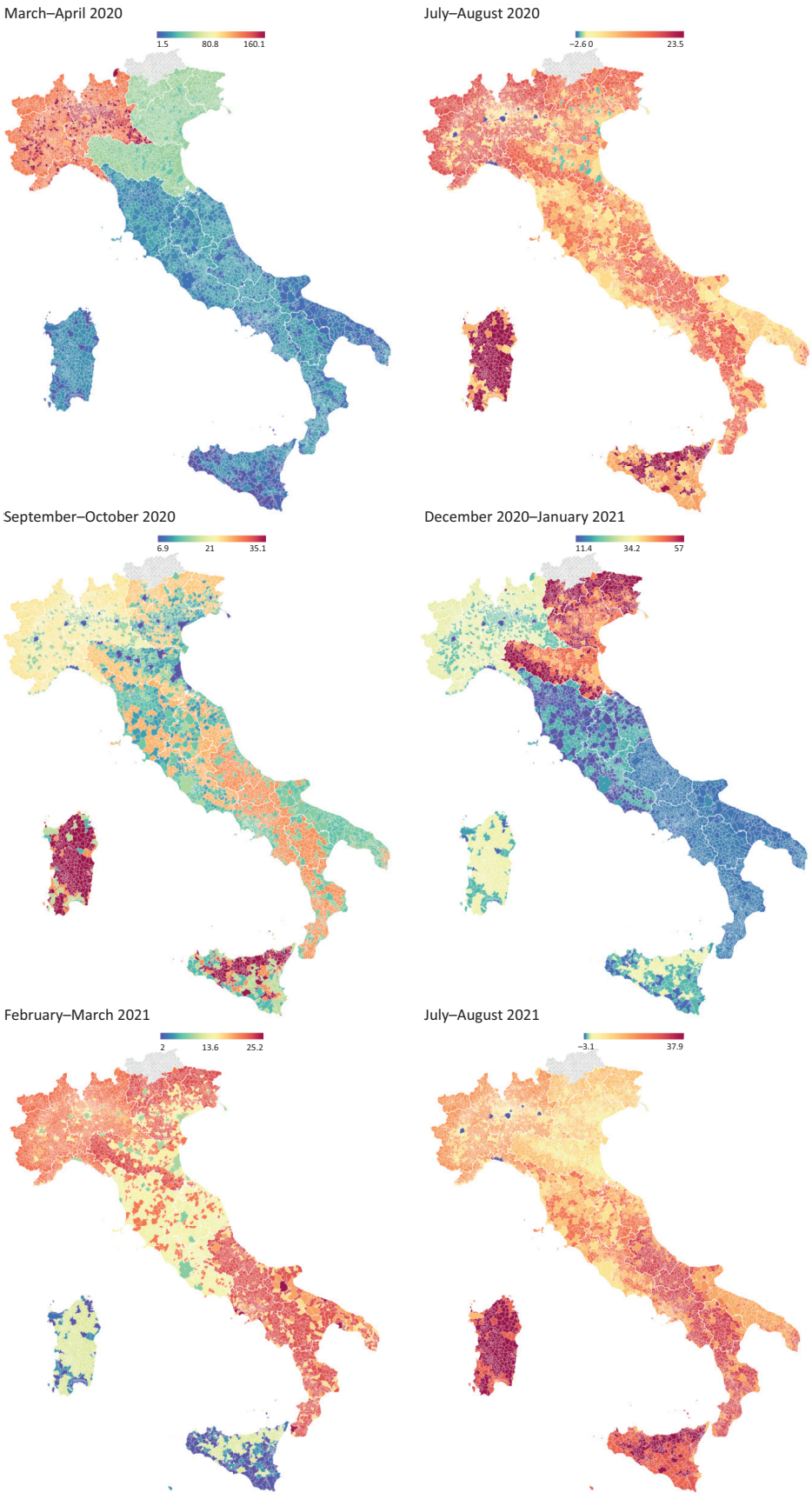

Figure 2. Imputed excess mortality rates at the municipal level from March–April 2020 to July–August 2021. Notes: Color gradients indicate wave-specific severity; missing information for the province of Bolzano. Source: Authors' work based on Istat (2022) mortality data.

strategy to account for the observable (and disposable) confounders also for subsequent steps was via the inclusion of entropy balancing weights—the third specification discussed above.

Equation 1: $Y_{ij} = \beta_0 + \beta EXP_{ij} + \upsilon_i + \varepsilon_{ij}$, where covariates ($\beta_n x_{ij}$) are absorbed via entropy-balancing weights

Second, as presented in Equation 2, we test expectations on resource disparities (H2a, H2b) by including a two-way interaction [$\beta(EXP_{ij} \times WEALTH_{ij})$] between the continuous treatment (exposure to excess mortality) and the insurance capacity of wealth (four categories).

Equation 2: $Y_{ij} = \beta_0 + \beta EXP_{ij} + \beta WEALTH_{ij} + \beta(EXP_{ij} \times WEALTH_{ij}) + \upsilon_i + \varepsilon_{ij}$

Finally, we account for time-related heterogeneity (to test H3a and H3b) by further adding a three-way interaction term that includes six survey waves [*TIME*].

Equation 3: $Y_{ij} = \beta_0 + \beta EXP_{ij} + \beta WEALTH_{ij} + \beta TIME_{ij} + \beta(EXP_{ij} \times WEALTH_{ij}) + \beta(EXP_{ij} \times TIME_{ij}) + \beta(WEALTH_{ij} \times TIME_{ij}) + \beta(EXP_{ij} \times WEALTH_{ij} \times TIME_{ij}) + \upsilon_i + \varepsilon_{ij}$

For the sake of readability and to simplify the interpretation of interaction terms, we report predicted values graphically. Descriptive statistics related to all variables included in the analyses are presented in Tables S2 and S3 in the Supplementary File.

4. Results

4.1. Exposure to Covid-19-Related Risks and Dispositional Optimism

Table 1 presents coefficients derived from linear mixed models capturing the relationship between standardised exposure to excess mortality and optimism towards the future economy and labour market. Coefficients are negative for both dependent variables in all models, independently from the inclusion of control variables or entropy balancing weights. Looking at the gross models, we observe that an increase of one standard deviation in excess mortality decreases optimism towards the future of the economy by 0.028 and towards the labour market by 0.007. However, the negative relationship between Covid-19 exposure and optimism only reaches statistical significance ($p < 0.05$) in the case of views towards the economic future. Statistical significance is reduced when including controls ($p < 0.1$) and disappears with entropy balancing. In sum, the relationship between Covid-19 exposure and dispositional optimism is overall negative, but with low substantial relevance and low or null statistical significance.

Table 1. Linear mixed models predicting dispositional optimism towards the economy and the labour market.

Optimism on economy						
	Gross		With controls		Entropy balance (and sample weights)	
	Beta	[C.I.]	Beta	[C.I.]	Beta	[C.I.]
Standard exposure excess mortality	−0.028*	[−0.049, −0.008]	−0.020^{+}	[−0.039, 0.000]	−0.008	[−0.049, 0.033]
Variance U	−0.229		−0.245		0.235	
Variance e	−0.105		−0.151		−0.152	
N observations	11,350		11,350		11,350	
N individuals	3,216		3,216		3,216	
Optimism on labour market						
	Gross		With controls		Entropy balance (and sample weights)	
	Beta	[C.I.]	Beta	[C.I.]	Beta	[C.I.]
Standard exposure excess mortality	−0.007	[−0.031, 0.017]	−0.013	[−0.034, 0.009]	−0.021	[−0.076, 0.033]
Variance U	−0.342		−0.325		−0.349	
Variance e	−0.047		−0.060		−0.053	
N observations	11,350		11,350		11,350	
N individuals	3,216		3,216		3,216	

Notes: Coefficients related to exposure to excess mortality (standardised); gross, controlled, and weighted models; cross-sectional sample weights do not let gross and controlled models to converge; $^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Source: Bank of Italy (2022); Istat (2022).

4.2. Wealth Disparities and Differences in Dispositional Optimism

This preliminary picture might, nevertheless, hide heterogeneity based on resource disparities. Figure 3 shows the average dispositional optimism towards the economy (left panel) and the labour market (right panel), depending on the insurance capacity of wealth (see also Figure S3 in the Supplementary File). In general, the higher the insurance capacity, the (slightly) higher the optimism, in line with H2a. Individuals with high insurance capacity show an average optimism of 2.78 regarding both the economy and the labour market. This value falls between the Answer Category 2, indicating a slight deterioration in the future, and even closer to Category 3, representing stationarity. The gap between the highest and the lowest insurance capacities is slightly larger in the case of perceptions towards the economy (0.36), compared to views about the labour market (0.18), but is substantially very small. This result provides information about different overall levels of optimism for individuals with different levels of insurance capacity of wealth, but a further step is needed to investigate how these resources moderate the association between exposure to Covid-19 and dispositional optimism.

Figure 4 presents predicted levels of optimism towards the economy and the labour market for those individuals with low and high insurance capacity at different levels of standardised excess mortality. Looking at differences between the two groups at an average level of exposure (dashed line), we can confirm the result shown in Figure 3. Individuals with a high insurance capacity of wealth display higher levels of optimism; this is true especially looking at optimism towards the economy. As exposure to excess mortality increases, however, the gap between individuals with different insurance capacities diminishes and progressively disappears. On the one hand, the group with the lowest amount of insurance capacity remains stable or even decreases in optimism towards the future (especially about the labour market), conditional on an increase in exposure to risk. Results concerning optimism towards the economy could be possibly due to a "floor effect" for individuals at the lower end of the insurance capacity distribution (Kuper-Smith et al., 2021). On the other hand, individuals with the highest level of insurance capacity become less optimistic as risk exposure increases, especially regarding perceptions about the future economy. In other words, those who have the most to lose seem to be the most negatively affected by a relative increase in risk exposure, running counter to H2b. At the maximum level of exposure to excess mortality, the two groups converge in their predicted levels, reaching a level of around 2.6 for optimism towards the economy and from 2.6 to 2.7 in the case of the labour market.

4.3. Heterogeneity Throughout the Covid-19 Pandemic

How has optimism towards the future developed over the course of the pandemic in Italy? Figure 5 shows the average level of optimism over the six survey waves, providing information about the period from May 2020 to September 2021. Optimism regarding both the future economy and the labour market has overall increased

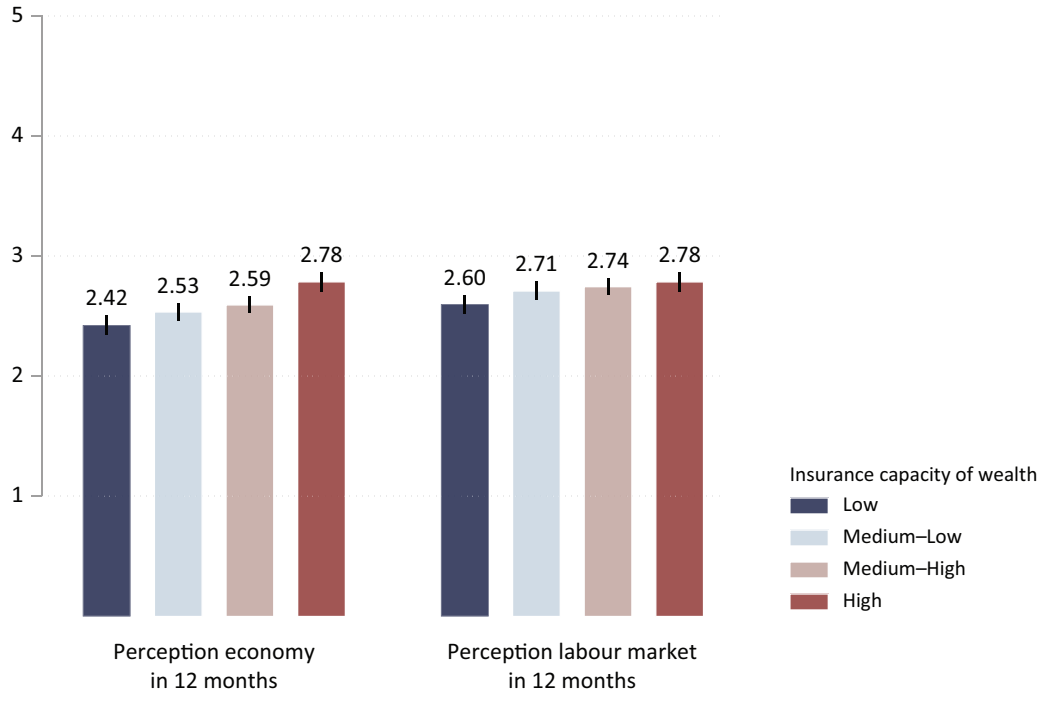

Figure 3. Average dispositional optimism towards the future Italian economy and labour market in 12 months, by insurance capacity of wealth (N = 11,350). Source: Authors' work based on Bank of Italy (2022).

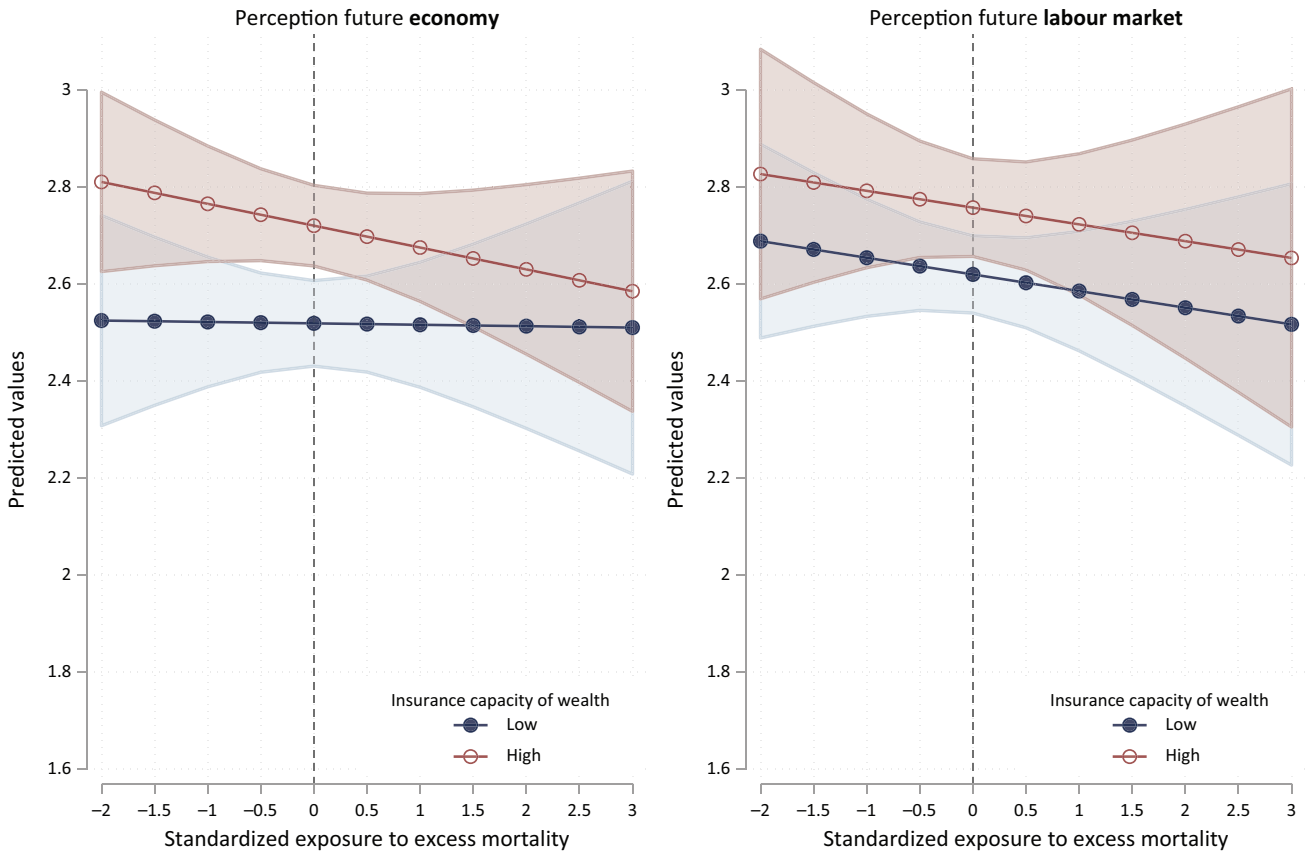

Figure 4. Predicted levels of dispositional optimism from linear mixed models for individuals with very poor and excellent insurance capacity of wealth, conditional on exposure to excess mortality (N = 11,350). Note: See Section 3.2 for details about the operationalisation of the insurance capacity of wealth. Source: Authors' work based on Bank of Italy (2022); Istat (2022).

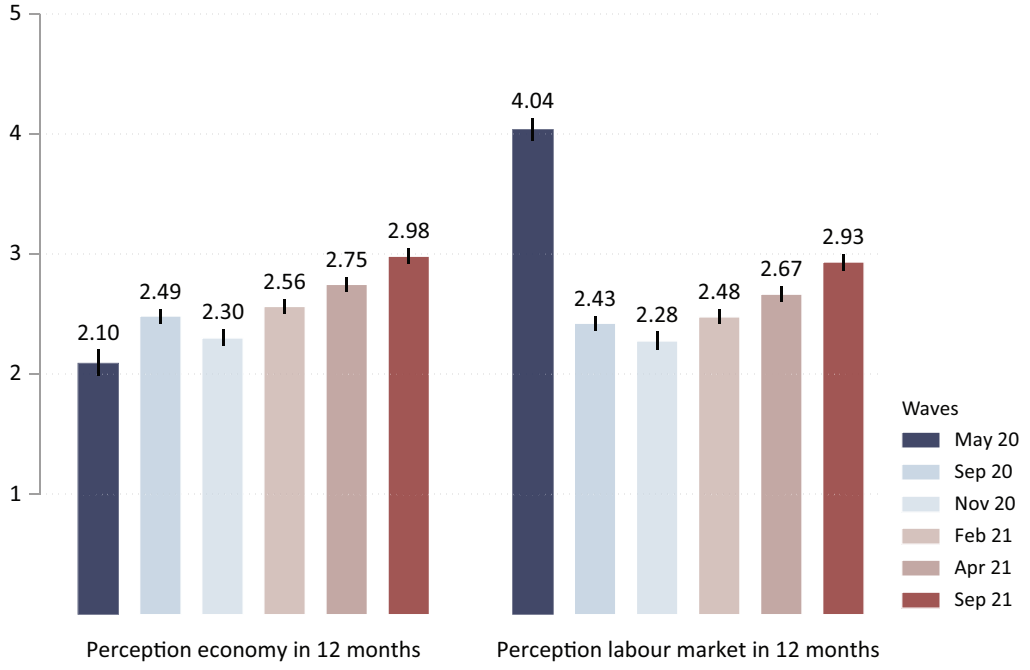

Figure 5. Average dispositional optimism towards the future Italian economy and labour market, over survey waves (N = 11,350). Source: Authors' work based on Bank of Italy (2022).

over time, reaching a level of around three in September 2021. This is in line with the expectation of increased dispositional optimism over time (H3a). Interestingly, May 2020 shows a relatively high average level of optimism towards the labour market (with a value around four, compared to 2.10 in the case of views towards the economy). This finding illustrates the importance of looking at specific stages of the pandemic, characterised by different levels of institutional restrictions. From the end of April 2021, Italians witnessed a loosening of containment measures related to the first (and strictest) national lockdown. The re-opening of public places and shops and the renewed possibility to travel might have been beneficial for optimistic views towards the labour market.

Finally, Figure 6 plots predicted levels of optimism towards the economy (upper panel) and the labour market (lower panel) for individuals with low and high insurance capacity of wealth, over exposure to excess mortality (standardised), and by wave. H2b posited that individuals with high insurance capacity should be inelastic to Covid-19 exposure, while those with low insurance capacity should show more volatility. This was true only in the first pandemic waves, until November 2020. In the following waves, individuals with a high insurance capacity showed greater variation over levels of exposure to Covid-19. In February 2021, trends in optimism decreased no matter the level of insurance capacity of wealth. In the latest months, especially in April 2021, trends for the two groups differed, with individuals with high insurance capacity witnessing an overall increase in optimism and individuals with low insurance capacity experiencing a decrease in optimism as exposure to Covid-19 increased. These findings once again point to the importance of looking beyond aggregate levels and trends and differentiating various pandemic periods. Finally, as regards the pace of over-time change for the two levels of insurance capacity of wealth, Figure 6 suggests similar over-time trends for individuals with high and low insurance capacity in terms of optimism towards both the economy and the labour market, thus not supporting H3b.

5. Conclusion

With this article, we aim to contribute to the literature on the consequences of the Covid-19 pandemic, considered a contextual-level disruptive event, on psychological and socioemotional outcomes, particularly dispositional optimism. Focusing on the Italian context in the period from May 2020 to September 2021 and leveraging geographical and time variation in excess mortality rates, we investigated the relationship between exposure to Covid-19-

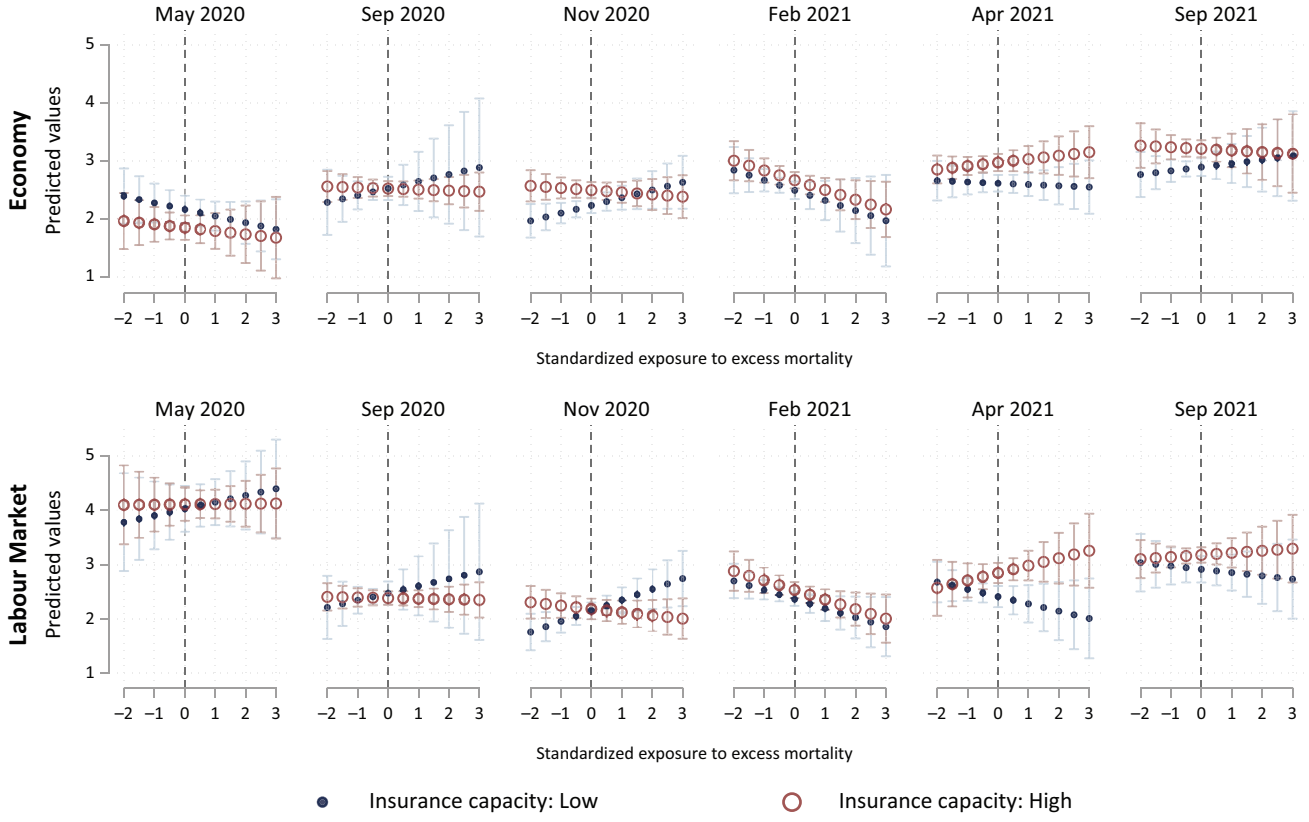

Figure 6. Predicted levels of dispositional optimism from linear mixed models for individuals with low insurance capacity of wealth and high insurance capacity of wealth, conditional on exposure to excess mortality and over waves (N = 11,350). Note: See Section 3.2 for details about the operationalisation of the insurance capacity of wealth. Source: Authors' work based on Bank of Italy (2022); Istat (2022).

related risks and optimism towards the economy and the labour market. We paid particular attention to heterogeneity based on wealth, which might represent a buffer against this disruptive event, its associated risks, and variations over time.

Our findings suggest that, looking at the general population, relatively greater exposure to Covid-19-related risks is slightly negatively associated with dispositional optimism. However, we found that dispositional optimism towards the future increased over the course of the pandemic. These results confirm the disruptive consequences of the pandemic and the post-traumatic growth scenario, confirming our theoretical hypotheses H1 and H3a, respectively (and in line with Recchi et al., 2020). The insurance function of wealth is visible in the higher relative level (H2a) of optimism for individuals with greater resources. Wealth, however, appears to be only a partial shelter against the influence of exposure to risks on socioemotional outcomes, as individuals equipped with high insurance capacity of wealth were characterised by levels of optimism inelastic to Covid-19 exposure only during the first pandemic waves—thus, only partially confirming H2b. Finally, no relevant differences related to individuals' level of insurance capacity of wealth were found in the pace of over-time changes in optimism—thus not confirming H3b.

These results however require contextualisation. Information about optimism towards the future derives from a *relative* question (as it captures views on the future at the time of the interview) asked in harsh economic and labour market times. The pandemic outbreak and its unfolding, together with the related lively debate among health experts, inevitably affected Italian public opinion in many respects. As an example, the situation of collective danger led citizens to generally accept anti-Covid-19 measures (Segatti, 2020) and to gather around the government (as it often happens in the aftermath of natural disasters; see Baker & Oneal, 2001; Healy & Malhotra, 2009). However, the extent to which individuals were hit by the pandemic represented a crucial divide: Respondents who underwent a worsening of their economic insecurity were less likely to show support for the government (Segatti, 2020). One should therefore be cautious when substantially interpreting levels, trends, and groups' differences in "optimism," as they inevitably mirror the critical economic and labour market conditions at the moment when the survey was conducted. This would also explain why, in the data used, a large share of respondents reported not expecting any changes in the economic and institutional future of the country and only a minority expected an improvement (see Table S2 and S3 and Figure S3 in the Supplementary File).

Notwithstanding the importance of taking into account contextual and historical features, we believe the contribution of this article surpasses the specificities of the Covid-19 pandemic. We argue that the latter, considered a disruptive event, has created the conditions to test conventional theoretical perspectives on social stratification—among which are those related to the insurance function of wealth. We did so in a national context where accumulated wealth is a critical dimension of social stratification. Further research could explore the cross-country variation of the insurance function of wealth in the case of micro- as well as contextual-level disruptive events, jointly considering material as well as socioemotional outcomes. It could be the case that, depending on the macro-level context, the insurance function of wealth spreads out to different spheres.

In our study, we addressed the variation in the influence of the disruptive event by subgroup analysis using observational data. This conventional approach comes with two shortcomings in addition to the confounding problems discussed in Section 3: (a) The theoretically-driven selection of the stratification variable may obscure even more meaningful interactions across the population and, in our case, wealth could not have been the most relevant moderator in the susceptibility and resilience to Covid-19 exposure; and (b) from a causal inference standpoint, we cannot distinguish between effect heterogeneity among subgroups and true causal moderation, which in our case means that we cannot isolate the effect of the insurance function of wealth from heterogeneous responses due to other causes correlated with wealth. Recent advances in statistical approaches (Bansak, 2021) and technical methods (Brand et al., 2021) offer promising solutions for estimating sociologically meaningful moderation effects.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary File

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Is Property an Insurance or an Additional Burden? Financial Stress Among Homeowners in Europe

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Abstract
A crucial function of wealth is to protect individuals from the consequences of adverse life events. However, sometimes wealth also implies additional financial risks. In addition to the insurance function of homeownership (the most common form of wealth), we therefore also examine financial squeezes that reflect the indebtedness and social embeddedness of homeowners and limit their options for dealing with social risks. A third hypothesis expects a trade-off between social protection and homeownership. Taking the example of unemployment, we examine the effects of short-term unemployment on the perceived financial situation of households based on data derived from EU-SILC for 27 European countries. It can be shown that debt-free homeownership reduces financial stress in the case of unemployment compared to tenants and indebted owners. A debt-free home thus offers an additional buffer and insurance against the financial consequences of unemployment. However, indebted homeowners are particularly hard hit by unemployment because they have to use all their financial resources to pay off their mortgages. Finally, we did not find a trade-off but a cumulation of advantages due to homeownership and generous unemployment benefits in countries with high net replacement rates.

Keywords
financial stress; homeownership; mortgage; unemployment; wealth inequality

Issue
This article is part of the issue “Wealth Stratification and the Insurance Function of Wealth” edited by Nora Müller (GESIS–Leibniz Institute for the Social Sciences), Klaus Pforr (GESIS–Leibniz Institute for the Social Sciences), and Jascha Dräger (University of Strathclyde).

1. Introduction

For more than half of all European households, the property they own is their most valuable asset (European Central Bank, 2021, p. 21). Thus, for the majority of the population, wealth inequalities are documented by whether they live in an owned home or not. Property is a key dimension of wealth and wealth inequality (Pfeffer & Waitkus, 2021). Homeownership can offer many advantages: It may provide a higher income due to saved or received rents, or contribute to better living and housing conditions, a better living environment, and higher household life satisfaction (Zavisca & Gerber, 2016). Property may also increase the possibility and inclination to take economic risks because homeowners have easier access to loans since they can use their homes as guarantees. Thus, homeownership may function as additional insurance against life risks. At the same time, however, the opposite may also be true: Homeownership may imply a higher financial burden due to mortgage payments, expenditures for maintenance, or property and inheritance taxes. Homeownership may thus expand the financial room for manoeuvre but may also restrict it. The empirical question is therefore whether the financial opportunities or the financial risks of homeownership are more important when owners face adverse life events like unemployment. This is also a politically relevant question because it highlights the risks of a strategy

that tries to reduce the secular increase in economic insecurity (Hacker, 2019) by a higher ownership rate. This strategy might have unintended consequences in the case of job loss, divorce, illness, or other risks, generating even more inequality, insecurity, and status anxiety. In this article, we focus on the example of short-term unemployment in order to examine whether homeownership alleviates or increases financial stress in the case of biographical risks.

A second question relates to the national context and, in particular, to welfare institutions. Is homeownership in Europe, where social security levels are still considerably higher than in the US (Rehm et al., 2012), another way of reducing economic insecurity in addition to public welfare? Or is there a trade-off between homeownership and welfare because, in general, the levels of social protection are lower in less affluent countries, while less affluent countries in Europe generally have higher property ownership rates? The proportion of households that live in their own property varies between 40% and nearly 100%—with an average of 69% in the 27 countries as shown in Figure 1. While 91% of Slovaks and 90% of Croats lived in their own property in 2018, in Switzerland and Germany this is only the case for 43% and 51% of the population respectively. As per the authors' calculations based on 2018 data from the Europe-wide survey on income and living conditions (EU-SILC), the proportion of households owning their accommodation is highest in Central and Eastern Europe (87%) and Southern Europe (74%), and lower in Nordic (68%), liberal (65%), and Continental European countries (59%). Such a trade-off has already been shown in the 1980s (Castles, 1998; Kemeny, 2005). This thesis assumes that homeownership in poorer countries with less-developed welfare states plays an essential role in mitigating social risks—a role that in more affluent countries is played by public systems of social protection. This functional equivalence of private and public forms of insurance against social risks and the related trade-off seems to have been weakened or even reversed in recent years (Van Gunten & Kohl, 2020). However, this debate focuses mostly on the macro level and pensions. This raises the question of whether the expected relationship between homeownership and welfare can also be observed at the micro level and in other fields.

This article discusses the following two research questions:

1. Which role does homeownership play for households facing adverse life events such as unemployment in terms of financial stress?
2. Is the relationship between homeownership and financial stress in the case of unemployment moderated by the level of social protection?

The article is structured as follows: A review of the existing literature is followed by a discussion of property's potential insurance functions against the risks of unemployment and its role in relation to social benefits. We then present the data and method used. After presenting some descriptive evidence, we test the impact of short-term unemployment on subjective financial stress by type of homeownership as well as potential trade-offs between social protection and homeownership. The article concludes with a summary and discussion of the main results.

2. Property as Insurance Against the Financial Risks of Unemployment

The debate on the insurance function of wealth assumes that wealth can protect individuals from the consequences of adverse life events: "Wealth…provides insurance for various types of failures, for instance, by substituting income losses or smoothing career disruptions, thereby reducing the impact of uncertainty by substituting for income" (Hällsten & Pfeffer, 2017, pp. 332–333). This has been convincingly demonstrated for the intergenerational transmission of educational inequalities: Children and their parents from lower socioeconomic backgrounds usually take more risk-averse educational decisions by choosing lower, supposedly less-risky educational courses, schools, and trajectories. These so-called secondary effects of class differentials in educational attainment reflect higher constraints on available information and resources and a lower ability to deal with failures. In contrast, children from more affluent households (or their parents) can take more risky decisions. This is often the basis for the more successful educational careers of children from more affluent families—even if the educational attainments of children from higher and lower social classes are identical (Jackson et al., 2007). This exemplifies the insurance function of wealth in the case of educational choices.

In this vein, Rodems and Pfeffer (2021) were able to show that the relationship between disruptive life events, e.g., divorce, disability, or income loss, and the likelihood of experiencing material hardship strongly depends on households' wealth. They conclude that higher household wealth provides an effective private safety net to buffer adverse life events. On a general level, this raises the question of whether the *insurance function* of wealth also applies to "crystallized" forms of wealth such as property.

Previous studies examining the insurance function of property and homeownership are rare. Manturuk et al. (2012) provide one of the few contributions that could show that during the financial crisis of 2009, homeowners, in contrast to renters, were less psychologically-stressed and felt more satisfied with their financial situation when experiencing financial hardship. They conclude that homeownership somehow provides more financial security, resulting from a greater sense of being in control of their lives in times of financial hardship. However, Tharp et al. (2020) pointed out that, when it comes to financial satisfaction, a distinction has to be

made between debt-free homeowners and those still paying a mortgage. They show that debt-free homeownership is positively associated with financial satisfaction while having a mortgage is negatively associated with financial satisfaction. Given this background, we discuss the question of whether homeownership—as the most common form of wealth in Europe—can play such a role in the case of an adverse life event like unemployment. Unemployment is one of the most devastating life events for individuals and households due to its serious and long-lasting effects on the household's financial situation, life satisfaction, and the employability of persons of working age (Blanchard, 2006). Protection against the related financial risks would be a major advantage because unemployment has a strong and durably negative effect on life satisfaction (Clark et al., 2008; Voßemer et al., 2018), on income levels (Pohlig, 2021), and on further career and wage opportunities (Gangl, 2006).

But why should property function as insurance against the financial consequences of unemployment? One reason could be that property facilitates access to loans, even if the dwelling is not sold. In addition, homeownership reduces the costs of living, thus facilitating the maintenance of the previous living standard in the case of unemployment as well.

Another reason could be that—similar to the previously mentioned educational choices of more affluent families—homeowners can take riskier decisions, for example, by staying in their local environment. This expectation can be based on the classic Oswald (1997) hypothesis, which postulates that homeowners exhibit lower spatial mobility as a result of higher relocation costs. Selling a house and buying a new one is expensive and takes time, which reduces the willingness of homeowners to accept a new job in a different location. This increases their unemployment risks and, in particular, the duration of their unemployment spells. The Oswald hypothesis has been intensively discussed and specified by considering various control variables at the macro (e.g., level of unemployment benefits, unionisation) and micro levels. For example, Green and Hendershott (2001, p. 1518) have confirmed the hypothesis for middle-aged households (35–64 years) in the US, but not for younger or older heads of household, who are more often in education or retirement. For middle-aged households, their result "is close to the Oswald result of 10 percentage points of additional ownership leading to a 2 percentage point higher unemployment rate." Other studies have also confirmed that "homeownership hampers mobility" (Munch et al., 2006, p. 993). However, this does not lead to longer unemployment spells because homeowners may find local jobs more easily. From an insurance perspective, the lower mobility of homeowners at the core of the Oswald hypothesis can thus be interpreted as the preparedness of homeowners to take a greater risk in order to stay in their local context, keep their friends and their usual living environment (and the related employment opportunities not only for the temporarily-unemployed person but also for their partner/family). Taking this risk is facilitated (and enforced!) by the economic security of a home. The study by Munch et al. (2006) shows that, in general, this bet pays off. If this risk-based reinterpretation of the Oswald hypothesis is correct, lower financial stress could not only reflect more resources but also better local employment opportunities for homeowners—despite the higher mobility of tenants.

Therefore, we assume that homeownership reduces financial stress in the case of short-term unemployment compared to tenancy because property reduces the cost of accommodation and increases the possibility of obtaining loans to buffer income losses (H1).

However, opposing trends can also be expected: for example, the lower job mobility expected by Oswald (1997), or the "employment constraints, financial stress, and social intolerance" arising from homeownership observed by Zavisca and Gerber (2016, p. 350). Therefore, it can be assumed that property increases the financial burden of households experiencing unemployment if the dwelling is not yet fully paid off. In this case, unemployment will impede the repayment of loans. Another serious obstacle to the insurance function of wealth is that households are generally reluctant to sell their own homes. This is also true if a condition for the receipt of unemployment benefits is the previous mobilisation of resources—which might imply the sale of the dwelling. Households could oppose such forced insurance against adverse life events by refraining from mobilising their resources for as long as possible. This would increase (and not reduce) the financial stress of indebted homeowners even if they are often in a more privileged professional situation (also in comparison to debt-free owners): In a previous study (Heidenreich, 2022, ch. 10), we demonstrated that the poverty risks of tenants are significantly higher than those of debt-free and indebted property owners. This is not really surprising because only well-off households can afford to buy a property. Surprisingly, however, the poverty risk is higher for debt-free than for indebted households because homeowners paying their mortgage are in general younger, better educated and healthier and they earn more than debt-free homeowners. Only a very small proportion of indebted owners live in a household with a low work intensity. The adults in these households are still in the middle of their working lives and have to pay off their property—often a decades-long challenge. Mainly well-off, qualified, employed persons in good health can afford to buy a property. Many of the debt-free owners, on the other hand, are already retired. On average, they are older, the share of educationally poor is considerably higher and their health is poorer.

The insurance function of wealth thus might encounter serious obstacles when wealth consists mostly of property. Therefore, we assume that the moderating role of homeownership on financial stress in the case of unemployment decreases if households have to

service a mortgage (H2). The expected financial squeeze highlights the financial vulnerability of households with a mortgage, both in comparison to tenants and to households with debt-free property.

Unemployment is a major challenge for public systems of social security, even if the levels of expenditure (4.3% of total social protection expenditure in 2019 and 1.2% of GDP in the EU-27; see Eurostat, 2022a) are much lower than expenditures on pensions, health, family and children, and disability. In addition, owning a home may also act as a buffer against unemployment in the particular case of an adverse life event. Similar to the previously-mentioned relationship between homeownership and pensions (Castles, 1998), a trade-off between social protection for the unemployed and homeownership can thus be expected. This is the case least at the macro level: Figure 1 shows a negative relationship between net replacement rates (NRRs) and homeownership. The correlation between these variables is high and explains nearly a fifth of the variation. Therefore, it can be expected that wealth and, specifically, property can work as a private substitute for social benefits because home and family relations (in particular in Southern, Central, and Eastern Europe) are important forms of social protection against the risks of adverse life events. At the micro level, this would mean that debt-free homeowners in particular, in countries with low replacement rates, report lower levels of financial stress in the case of short-term unemployment compared to other households. In countries with high replacement rates, all groups benefit equally from the buffering of financial risks of short-term unemployment by welfare (H3).

In sum, we expect an *insurance* role for debt-free owners, a financial *squeeze* for indebted owners, and a *trade-off* between homeownership and welfare. These three hypotheses will be discussed in the following sections based on microdata for 27 European countries.

3. Data and Methods

3.1. Dataset

In the following analysis, we deploy the EU-SILC for 2010–2018, in which the income, housing, and living conditions of individuals and private households in Europe are surveyed in great detail at the micro level (Eurostat, 2021). It is the only available up-to-date data source for international comparative and supranational analyses of income and living conditions in Europe (Guio et al., 2021). The chosen period includes both a deep crisis—the Eurozone crisis (2010–2013) directly after the Great Recession—and the subsequent upswing, until 2018, when the UK participated for the last time in EU-SILC. The following analysis includes the United Kingdom, Norway, Switzerland, and 27 EU member states (without Denmark, the Netherlands, and Slovenia, for which data on urbanisation and mortgages are not available). The inclusion of at least 25 countries is recommended for a linear multi-level analysis in order to properly estimate the impact of contextual factors on the

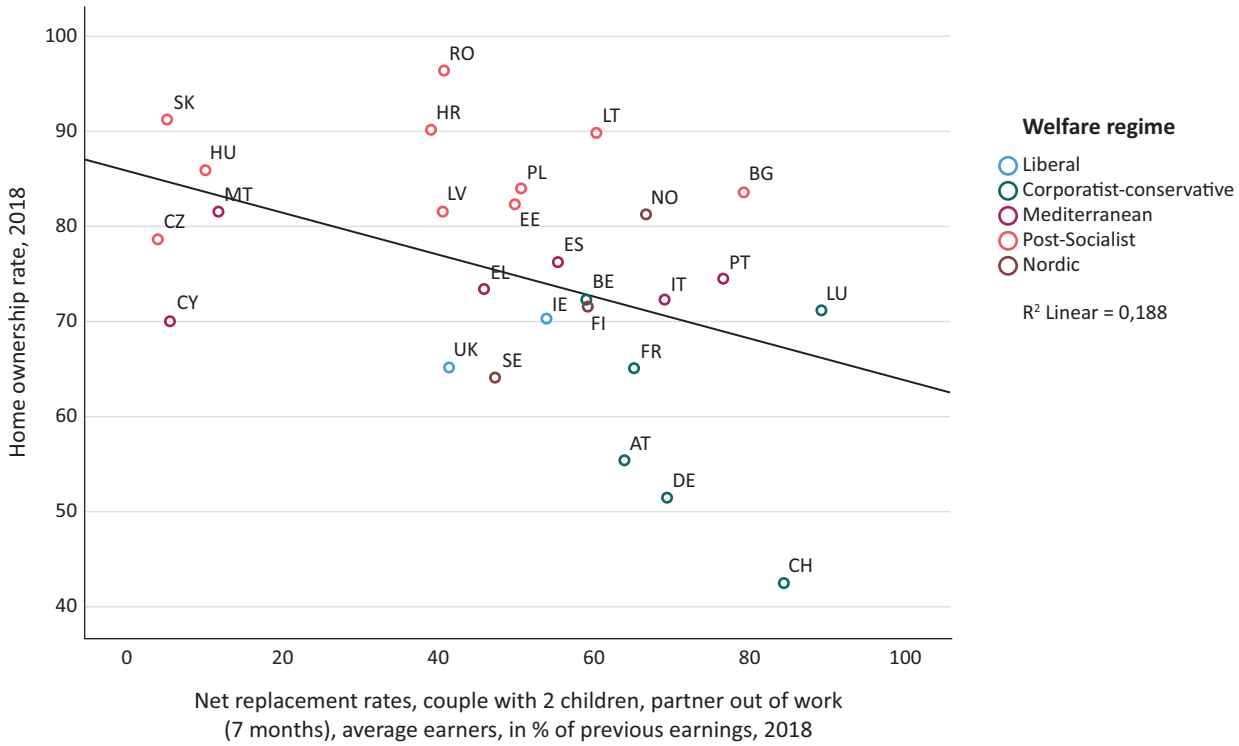

Figure 1. Net replacement and homeownership rates in Europe, 2018: Couples with two children, partner out of work (seven months), average earners (percentage in relation to previous earnings). Source: Based on Eurostat (2022b) and OECD (2022).

situation of individuals and households (Bryan & Jenkins, 2016). The 27 European countries represent five different employment and welfare regimes (Gallie, 2007): liberal, Nordic, corporatist-conservative, Mediterranean, and post-socialist European countries (cf. Supplementary File, Table A1). In the housing literature, related regime concepts have been discussed (Stephens, 2020). In particular, we will use the social embeddedness of homeownership in extended family networks in Southern, Central, and Eastern European countries. The sample is restricted to individuals aged 25–64 years who are either employed or short-term unemployed.

3.2. Variables

The dependent variable in this analysis is *subjective financial stress*, measured by whether the household is able to "make ends meet," i.e., can pay for its usual necessary expenses (hs120). Values range from 1 (*with great difficulty*) to 6 (*very easily*). See Table A2 in the Supplementary File for all variables.

For the sake of a more intuitive interpretation of the results, we have inverted the values so that higher values indicate higher financial stress. We treat this ordinal variable as continuous due to the relatively high number of categories (6) and approximately normally distributed residuals. Our main independent variable is the *tenure status* (hh021), which distinguishes tenants and owners with and without a mortgage. The second key independent variable measuring an adverse life event is *short-term unemployment*. This variable indicates an adverse life event that households seek protection from. If owning a home serves as a buffer for the related reduction in disposable income, this can be seen as insurance against the financial outcomes of unemployment. To focus on this life event, it is necessary to exclude the long-term unemployed, because long-term unemployment is not a temporary event but a permanent situation of lower income as well as lower financial and life satisfaction. Persons are counted as short-term unemployed if they had been unemployed in the previous year for at least one and not more than 11 months. This does not correspond exactly to the official statistics that define short-term unemployment as being unemployed for less than a year, but it is the only way of measuring short-term unemployment in the cross-sectional EU-SILC data. Accordingly, a person who became unemployed in February of the previous year and who is still unemployed during the survey in spring will be counted as short-term unemployed in the following analysis, even if the actual unemployment spell is longer than a year. At the level of individuals, we further control for age group, household type, education, social class, degree of urbanisation, housing costs (as a share of disposable income), and disposable household income.

At the macro level, the NRR is used as a key indicator of the generosity of the welfare state in the case of short-term unemployment. The NRR is the ratio of net income while out of work (unemployment benefits if unemployed or means-tested benefits if on social assistance) divided by net income while in work (see Figure 1). To account for cross-country differences in living standards, prosperity, and the housing market, we further control for: the national median income (in purchasing power standards); the total household debt in percentage of the GDP (also an indicator of the liquidity of the housing market); the average housing costs for tenants and indebted owners; and the share of mortgage repayments as a percentage of the disposable income of indebted homeowners (as an indicator of the role of mortgages and thus for the liquidity of the housing market in a country). Moreover, to account for common period effects, year dummies are included. A detailed description of all variables used can be found in Table 1 (see also Supplementary File, Table A1).

3.3. Analytic Approach

In order to estimate the impact of short-term unemployment on financial stress by different types of tenure, we apply linear multi-level regression analysis to account for the hierarchical structure of the data (individuals nested within countries) by estimating separate intercepts for each higher level (Rabe-Hesketh & Skrondal, 2012). Multi-level techniques also enable the analysis of cross-level interaction effects, i.e., the relationship between explanatory variables on the individual level and the country level. In particular, we estimate random intercept models including random slopes for types of tenure to account for the possibility that the relationship between the type of tenure and financial stress may be different across countries. Further, we estimate various three-way cross-level interaction effects to test whether the moderating role of welfare regimes and the NRR on the association between short-term unemployment and financial stress differs depending on the type of tenure, i.e., tenants and owners with and without a mortgage.

4. Financial Stress of Homeowners: Empirical Evidence

In the following, we analyse the impact of short-term unemployment on financial stress for different types of tenure in order to examine whether homeownership offers insurance against the financial risks of unemployment. We start with a description of the financial stress of homeowners in 27 European countries and the five previously-mentioned European country groups. Figure 2 shows the level of financial stress by type of tenure. The subjective assessment of their financial situation clearly differs between homeowners with and without debts and reflects the excellent financial situation of indebted owners: Only 10.9% (in 2018) of them report that they have difficulties in making ends meet; their average stress level is 3.1. This is considerably lower than for debt-free owners (18.5% and 3.5) and tenants (23.3% and 3.5), illustrating that owners paying a mortgage are

Table 1. Descriptive evidence for 27 European countries by welfare regimes.

Country groups	Liberal	Corporatist-conservative	Mediterranean	Post-socialist	Nordic	Total (27)
Micro level						
Financial stress (mean)	3.3	3.2	4.1	4.2	2.5	3.7
Tenure status (%)						
Tenants	30.3	40.6	24.2	12.9	27.0	27.5
Owners without debts	32.8	31.5	52.5	78.7	21.4	48.2
Owners paying mortgage	37.0	28.0	23.3	8.4	51.7	24.3
Age group (%)						
15–24 years	7.9	6.8	4.9	5.0	8.0	6.0
25–54 years	54.9	54.8	60.7	56.7	52.3	56.8
55 years and older	37.2	38.4	34.5	38.3	39.8	37.2
Household type (%)						
One-person household	16.1	21.6	13.4	13.1	26.4	16.7
Adults, no children	48.4	43.4	46.6	45.2	41.1	45.3
Single parents	3.5	3.4	2.0	1.6	3.6	2.6
Adults with children	32.0	31.7	38.0	40.1	29.0	35.4
Education (%)						
Low education	26.1	20.3	45.3	18.0	21.0	27.5
Medium education	35.4	47.8	30.9	60.8	44.6	44.3
High education	38.5	31.9	23.8	21.2	34.5	28.2
Social class (%)						
Salariat	40.5	42.8	27.7	28.6	41.7	34.9
Intermediate employees	13.5	18.7	14.4	10.2	11.9	14.5
Small employers and self-employed	6.1	2.8	7.7	8.1	2.4	5.9
Lower sales and service tasks	18.7	12.2	15.5	13.3	20.9	14.7
Lower technical and routine work	21.2	23.5	34.7	39.9	23.1	30.1
Urbanisation (%)						
Densely-populated area	55.7	41.1	45.3	36.5	36.0	43.1
Intermediate area	28.0	32.7	31.5	22.6	30.6	29.2
Thinly-populated area	16.4	26.2	23.2	40.9	33.4	27.7
Short-term unemployed (% total)	2.9	5.7	7.8	5.5	5.5	5.8
Housing cost (% of disposable income)	21.9	20.6	18.8	23.5	19.8	20.9
Housing cost indebted owner	19.1	17.4	19.4	35.4	16.3	22.4
Housing cost tenant	39.9	30.7	41.9	39.6	31.8	37.3
Macro level						
National median income (PPS)	20,938	23,361	17,675	9,747	23,979	18,247
Household debt (in% of GDP)	93.4	59.2	59.4	29.4	80.9	58.0
Mortgage repayments (% income)	10.7	13.4	14.8	11.2	8.1	12.6
Net replacement rate (%)	46.9	67.8	62.2	35	58.2	55.1

Source: Based on data derived from Eurostat (2021, 50% sample, years 2010-2018) and OECD (2022).

in a comparatively-good financial position due to their higher disposable household income and their strong involvement in the labour market.

Figure 2 also demonstrates that the lowest level of financial stress can be observed in Nordic and corporatist-conservative countries and the highest in the Mediterranean and some Eastern European countries (Bulgaria, Hungary, Croatia). This also reflects different levels of social security—in general, higher in Northern and Continental Europe and lower in Southern and Eastern Europe. Interestingly, the gap between the financial stress levels of homeowners and tenants is smaller on the right-hand side of the figure and much higher on the left, i.e., in countries with higher levels of social benefits. This result already raises doubts about H3 because it was assumed that, in countries with lower levels of social security, a particularly low level of financial stress for homeowners compared to tenants and indebted homeowners could be expected. In countries with higher levels of social security, H3 would expect a lower gap between

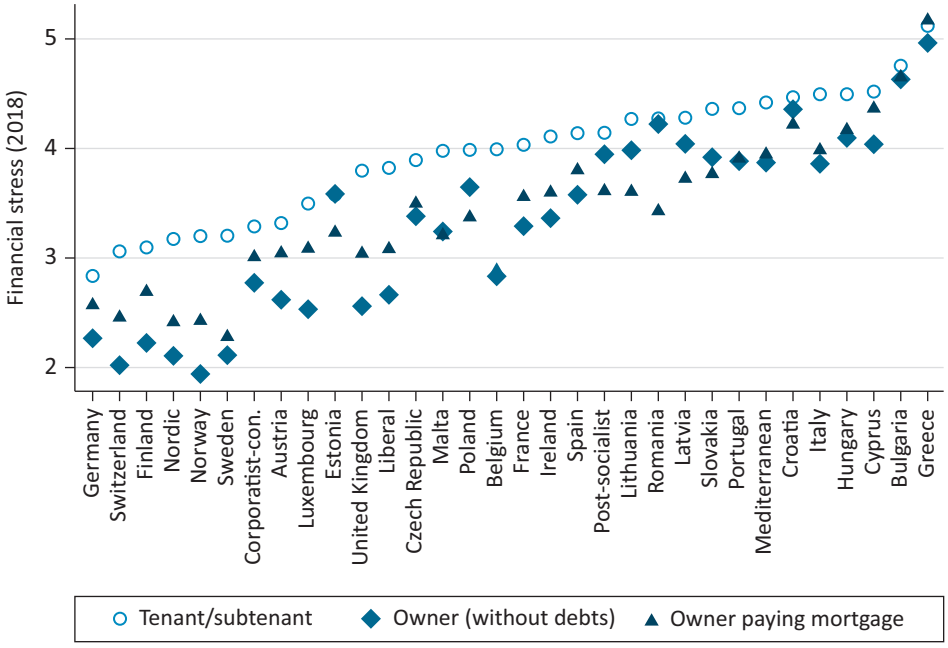

Figure 2. Difficulty in making ends meet in 2018 (averages by type of tenure). Note: The scale should be read from 6 (*with great difficulty*) to 1 (*very easily*). Source: Based on Eurostat (2021).

the stress levels of tenants and homeowners due to the better protection of all groups.

Concerning the impact of adverse life events, Figure 3 shows that the ability to make ends meet clearly differs between the short-term unemployed and employed persons in various European employment and welfare regimes. While the financial stress due to short-term unemployment increases in all European employment regimes, the additional stress of debt-free owners is lower in the Liberal, Nordic, and corporatist-conservative

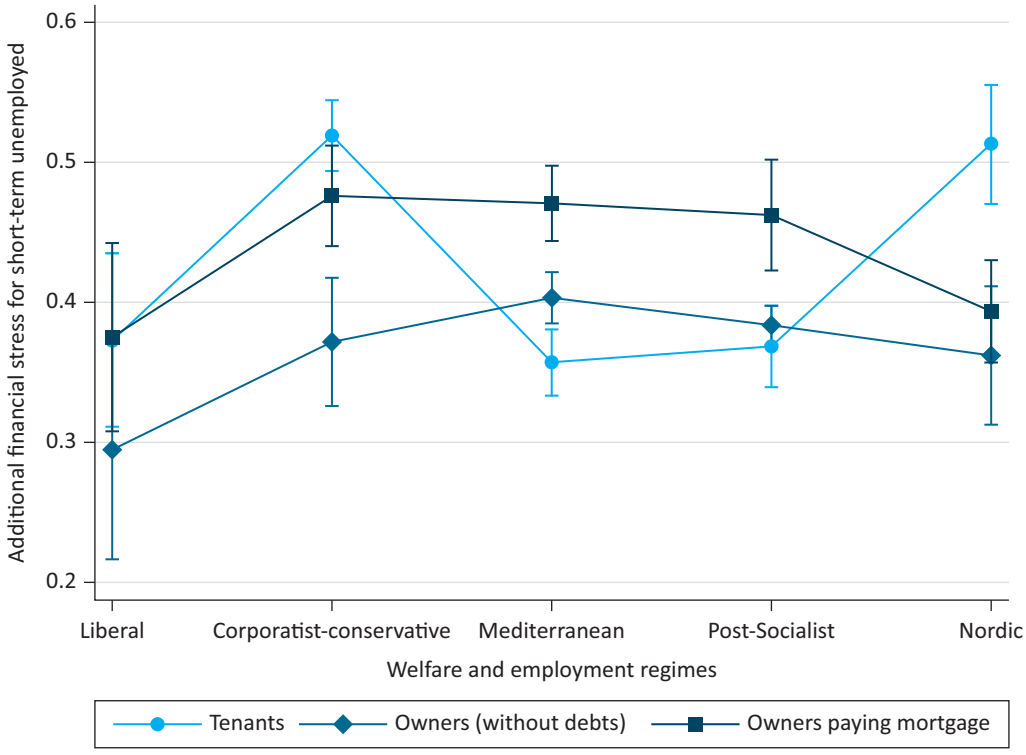

Figure 3. The additional financial stress of short-term unemployment (for 2010–2018, 27 countries, 95% confidence interval). Notes: N = 1,503,456 people aged 25 to 64 years; plot of the average marginal effects of a three-way interaction (regime*tenure status*short-term unemployment) in a linear multi-level regression on subjective financial stress; no individual or national control variables are considered. Source: Based on Eurostat (2021).

countries. These are wealthy countries with advanced systems of social protection. In the poorer Southern and Eastern European countries, however, where property is the backbone of family-based assets and family networks (Allen et al., 2004; Stephens et al., 2015), even the economic stress of debt-free owners is higher in comparison to the additional stress of tenants in particular. An explanation could be that the hypothesised insurance function of wealth threatens the socioeconomic basis of extended family relations. It is hard to sell a family home or to use it as a guarantee for a loan if this endangers the essential basis of social integration—the extended family. If this expectation can be confirmed by a more fine-grained analysis, it would contradict H3, which expects lower levels of homeowners' financial stress in countries with lower, but not higher, levels of social security. In contrast to H3, the figure might indicate a cumulative advantage of private and public forms of social security, housing, and public welfare. Therefore, a closer look at and careful control of individual characteristics and national context factors is necessary. It is this next step to which we now turn.

Table 2 presents the compressed results of five linear multi-level regression models (Rabe-Hesketh & Skrondal, 2012) on the impact of short-term unemployment on financial stress by type of tenure for the five welfare and employment regimes in Europe shown in Figure 3 (model 1). In model 2, seven socio-demographic control variables at the individual and household levels have been included to eliminate composition effects. Next, the impact of the NRR on financial stress is examined (model 3). In model 4 and Figure 4, this impact on the additional financial stress is shown as a function of the tenure status. Model 5 controls whether the effect of the replacement rate remains stable even after the inclusion of indicators for the national income situation and the national financial and housing markets.

Model 1 and Figure 3 illustrate that short-term unemployment has a significant positive effect on financial stress. This effect is especially high for tenants compared to homeowners without debt. The respective interaction effects remain significant in the following models (except for model 3). It is noteworthy that, in the case of short-term unemployment, the additional stress of indebted homeowners does not differ significantly from the stress of tenants. This means that H1 can only partially be confirmed: Homeownership reduces financial stress in the case of short-term unemployment compared to tenants only when the dwelling is debt-free. The financial leeway of indebted homeowners is severely restricted and additional challenges

Table 2. Homeownership and national welfare as determinants of subjective financial stress (2010–2018).

	Regime and 3-way interaction (1)	Individual controls (2)	Replacement rate (3)	Replacement rate & 3-way (4)	Replacement rate & national controls (5)
Ownership (ref. tenants)					
Owners without debts	−0.8795*	−0.3193*	−0.3192	−0.3874*	−0.4001*
	(0.3911)	(0.1610)	(0.1664)	(0.1668)	(0.1682)
Owners paying mortgage	−0.4580	−0.0852	−0.0853	−0.1235	−0.1140
	(0.3911)	(0.1611)	(0.1664)	(0.1676)	(0.1691)
Short-term unemployed	0.3731***	0.2599***	0.2601***	0.1505***	0.1551***
	(0.0317)	(0.0064)	(0.0064)	(0.0190)	(0.0190)
Short-term unemployed * Owners without debts	−0.0784	−0.0296***	−0.0295***	0.0925***	0.0900***
	(0.0508)	(0.0081)	(0.0081)	(0.0219)	(0.0219)
Short-term unemployed * Owners paying mortgage	0.0020	0.0002	0.0001	0.0282	0.0262
	(0.0465)	(0.0099)	(0.0099)	(0.0302)	(0.0301)
Net replacement rate			0.0009***	−0.0002	−0.0005
			(0.0001)	(0.0003)	(0.0003)
Constant	4.0535***	3.9041***	3.9005***	3.9130***	3.9225***
	(0.2766)	(0.1139)	(0.1177)	(0.1185)	(0.1196)
Respondents	1503456	1503456	1503456	1503456	1503456
Wald Chi^2	22357	306417	306474	306548	308564
McFadden pseudo-R^2	0.327	0.433	0.433	0.433	0.433
AIC	4499629	4242597	4242833	4242851	4241268

Notes: Linear multi-level models for active persons (without apprentices, 25–64 years) and 27 European countries; year dummies and control variables at the individual level (models 2–5) and the national level (model 5) included but not shown (for detailed models see Supplementary File, Table A2; for a description of the variables used see Table A1); standard errors in parenthesis; * p < 0.05, ** p < 0.01, *** p < 0.001. Sources: Based on Eurostat (2021) and OECD (2022).

due to unemployment will often exceed their financial possibilities—despite their better professional and financial position. This may also be explained by the lower job mobility of homeowners predicted by the Oswald hypothesis. Therefore, it can be established that property can work as insurance against the financial risks of unemployment but only if it is fully paid off—in clear support of H2.

The additional financial stress differs significantly between the various European welfare and employment regimes included in the first model. The stress is lower in the corporatist-conservative and Nordic countries compared to the Liberal, Mediterranean and Post-Socialist countries (see Figure 3; cf. Supplementary File, Table A1). However, the reference to regimes cannot be considered a sociological explanation: the challenge of comparative research consists in the replacement of names (i.e., the name of a regime) by substantial variables as Kohn (1987) has argued. Therefore, we will include in the next steps individual (models 2–5) and national control variables (model 5). Model 2 controls for various sociodemographic characteristics: financial stress is higher for younger persons; single-parent households; low- and medium-educated persons; those in lower technical and routine occupations; persons living in a thinly-populated area; households with a lower disposable income and higher housing costs (Supplementary File, Table A2). The model confirms that homeownership reduces financial stress. The financial stress for homeowners with debt-free homes is clearly lower than the financial stress of tenants.

To test H3, the NRR is included as an indicator of social welfare (model 3). As expected, this rate has a significant impact on financial stress. In contrast to our expectations. However, this effect is positive i.e., a higher NRR is associated with a higher level of financial stress. To better understand this surprising result, we include a three-way interaction between homeownership, short-term unemployment and the NRR to differentiate between the three types of homeownership (see Figure 4 and Table 2, model 4). The replacement rate—which refers now to the situation of tenants—is no longer significant in this model, while the interaction between replacement rate, unemployment and owners without debts is significantly negative (model 4; see also Supplementary File, Table A2). This is also illustrated in Figure 4. In countries with an NRR of 60% and more, the additional stress of debt-free homeowners experiencing short-term unemployment is significantly lower compared to tenants and owners paying a mortgage. This is primarily the case in Continental and Northern European countries, but also some Eastern and Southern European states (Bulgaria, Portugal, Italy, and Lithuania). Once again, this result contradicts H3, which assumed an identical increase in stress for tenants and homeowners. Furthermore, it also contradicts the Oswald hypothesis, which would expect a lower stress level among tenants due to their higher job mobility. The trade-off hypothesis thus has to be refuted since the additional financial stress of debt-free homeowners decreases with higher NRRs. Therefore, debt-free homeowners not only benefit

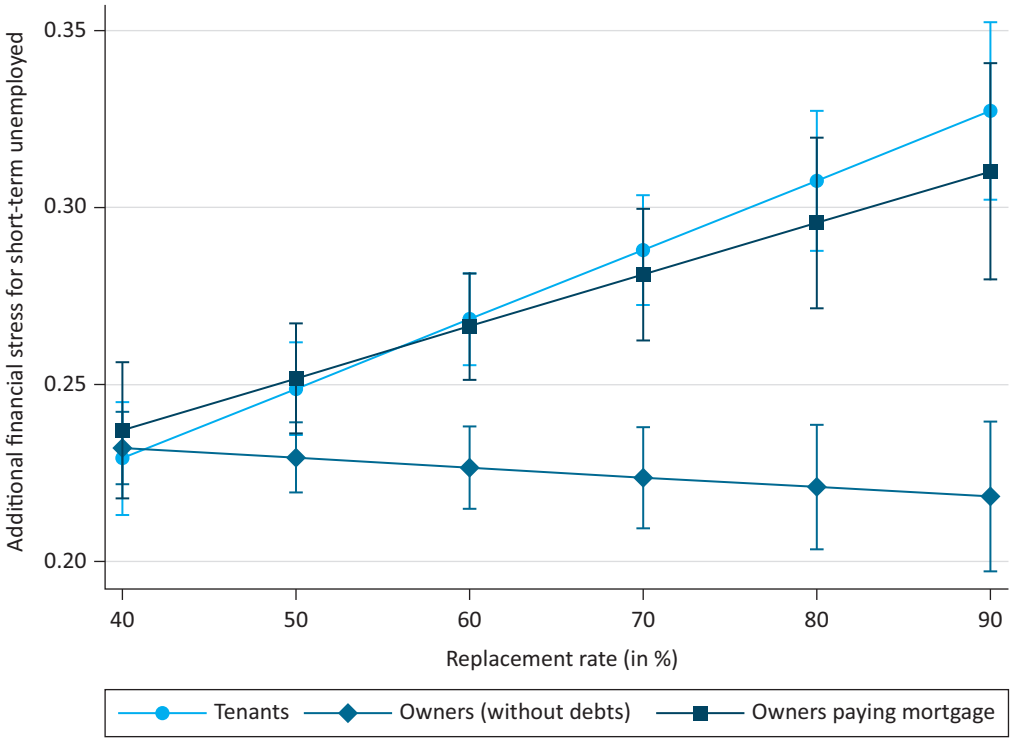

Figure 4. The additional financial stress of short-term unemployment—as a function of the NRR and homeownership (2010–2018; 27 European countries; without controls for national context; based on Table 2, model 4). Source: Based on Eurostat (2021).

from relatively-high unemployment benefits and other forms of public assistance but also from the financial advantages of owning their homes, in particular from lower running expenses and easier access to credit due to property that can be used as a guarantee. Instead of a trade-off between welfare and homeownership, we thus observe a *cumulation* of (also wealth-based) advantages. The advantages of public and private insurance add up. An explanation for the surprisingly-high financial stress of indebted homeowners (which does not differ significantly from the stress of tenants) could be the previously-reported squeeze of indebted owners (H2).

In Table 2, model 5, five additional macro-variables have been added to control for the national context: the average national income situation and its interaction with the disposable household income; the average housing costs for tenants and indebted homeowners; the national average for mortgage repayments (in percentage points of disposable income); and the debts of private households (in percentage points of GDP). Models 4 and 5 are almost identical in demonstrating that the reported relationships between national replacement rates and the additional financial stress of tenants and homeowners are stable even after the control of the national context. They do not reflect national specificities of the income situation or the housing and financial markets. This is also clear in Figure A1 in the Supplementary File, in which the impact of the previously-mentioned national context factors are also controlled for and which is nearly identical to Figure 4.

As previously outlined, the replacement rate—which indicates now the additional financial stress of tenants—is no longer significant in models 4 and 5. This result can be interpreted in the context of the compensation perspective (Rodrik, 2018), which explains public welfare expenditures by the need to buffer the social consequences of modernisation and globalisation. Higher replacement rates in more affluent countries might only partially compensate for the increased economic insecurity in case of unemployment—in particular for tenants and indebted homeowners. More specifically, one explanation for the *squeeze* also observed in affluent countries such as the Scandinavian and Continental European ones could be that financial losses due to unemployment are only partly buffered even by relatively high unemployment benefits. On the one hand, housing prices are relatively high due to the commodification of housing in the more advanced, richer countries in Northern, Continental, and Northwestern Europe, but, on the other, additional resources (self-help, moonlighting, support by members of the extended family, secondary activities, for example in the agricultural sector) are less important than in the Southern and Eastern European countries.

In sum, we found strong evidence that debt-free homeowners' property reduces financial stress in the case of unemployment compared to tenants and indebted owners. A debt-free home offers an additional buffer and insurance against the financial consequences of unemployment (H1). Indebted homeowners, however, have to use all their financial resources to pay off their mortgages; thus, they are particularly hard hit by short-term unemployment (H2). A trade-off between unemployment benefits and homeownership in reducing the consequences of adverse life events could not be observed (H3). Instead, a cumulation of advantages due to homeownership and public benefits in countries with higher NRRs was found, with no significant differences in financial stress in countries with lower NRRs.

5. Discussion and Conclusion

In this study, we interrogated the relationship between homeownership and critical life events on the perceived financial stress of households, taking the example of short-term unemployment. Based on microdata for 27 European countries, three hypotheses were tested by applying linear multi-level regression models: the *insurance* hypothesis, which expects that wealth increases the capacity to face additional risks; the *squeeze* hypothesis, which expects that illiquid resources increase these risks; and the *trade-off* hypothesis, which expects that countries with lower levels of social protection rely more on homeownership for dealing with social risks.

The insurance hypothesis is supported by the observation that homeowners' financial stress is significantly lower than that of tenants. However, a more detailed analysis finds that this best describes the situation of debt-free homeowners in wealthier societies. Their additional financial stress while experiencing short-term unemployment is clearly lower than the financial stress of indebted homeowners or tenants in corporatist-conservative countries.

The squeeze hypothesis best describes the situation of indebted homeowners whose financial situation is as severe as the situation of tenants despite their higher income, professional status and wealth.

The trade-off hypothesis assumes lower additional stress for homeowners in countries with less-generous welfare systems. However, a higher replacement rate reduces financial stress for debt-free homeowners in particular, indicating a *cumulation* of advantages due to homeownership and a good social protection system. Otherwise, an effect of the replacement rate or significant differences between the additional stress of unemployed tenants and homeowners could not be observed. One explanation could be that the extended family plays an important role in homeownership, especially in Southern and Eastern European countries, thus limiting the owner's opportunity to use the property to guarantee a loan. Therefore, even if wealth is more relevant for well-being in countries with less-generous social protection (Hochman & Skopek, 2013), this is not true for the financial stress of unemployed homeowners. These results imply that the function of property as insurance against adverse life events is restricted to particular

groups of homeowners, i.e., debt-free owners in more affluent societies. Therefore, it is useful to carefully analyse the limitations of particular types of wealth in buffering negative life events.

In addition, our results contribute to the debate on the Oswald hypothesis—even if unemployment was an independent variable in our study and not a dependent variable as it was for Oswald (1997). First, the Oswald hypothesis contributes to the explanation of the relatively-high financial stress of indebted homeowners in contrast to debt-free homeowners in the case of unemployment: even if the initial financial losses of unemployment may generally be sustainable, the spatial constraints of homeowners and their expected poorer opportunities of finding another job increase their perceived stress. This is particularly true for indebted owners, who are more often still of working age than debt-free homeowners. Second, the comparable stress levels of homeowners with a mortgage and more mobile and, thus, more-easily employable tenants might also reflect the better local employment opportunities of homeowners observed by Munch et al. (2006).

The political conclusions that can be drawn from these results point to a dilemma. On the one hand, debt-free homeownership is correlated with significantly higher life and financial satisfaction in comparison to tenants when controlling for age, household type, social class, education, urbanisation, and housing costs. On the other hand, the life satisfaction of homeowners with a mortgage is lower than the life satisfaction of tenants—a crucial flip side to the much-acclaimed "ownership society" (Hacker, 2019). This obviously reflects the risks of buying a home. Therefore, increasing homeownership rates is only a promising strategy for improving financial security and life satisfaction for non-wealthy households if the risks of this strategy are taken into consideration (for example, by covering payment default risks by unemployment insurance in Bismarckian systems). A classical alternative to such an approach is the publicly-supported provision of dwellings—an important form of "in kind" social welfare. However, due to data limitations, the social housing market could not be considered in this study. This points to an even broader opportunity for future research which fully takes into consideration the internal heterogeneity of owners and tenants and the heterogeneity of the housing and rental markets in European countries, as well as the various regulations for housing in terms of tenure security, rent regulation or housing-specific support for unemployed homeowners.

Conflict of Interests

The authors declare no conflict of interest.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Wealth and Welfare: Do Private and Public Safety Nets Compensate for Asset Poverty?

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Abstract
Economic shocks test the resilience of families around the world. Lockdowns, extended periods of unemployment, and inflation challenge the capabilities of private households to maintain their living standards whilst keeping their budgets in balance. Asset poverty is a concept invoked frequently to measure the capacity of private households to mitigate income loss by relying exclusively on their savings. In contrast to conventional asset poverty measures, we quantify the combined cushioning effect of private and public safety nets. Highlighting the importance of public safety nets and familial networks, this article devises a modified concept of asset poverty: Rather than purely simulating a household's asset decumulation without replacement income, the modified indicator accounts for replacement income in a static setting. The empirical assessment of modified asset poverty in Europe and America combines harmonised microdata on household finances with simulations of institutional rules set by social insurance systems. Our results reveal how differences in social relations and institutional rules shape cross-country variation in the vulnerability of private households. We find that, in contrast to the US, where the asset poverty of families is particularly low, households in most European countries are less vulnerable because generous social security systems coexist with low private assets. However, in some European countries, benefit generosity decreases the longer income losses last, exposing time dynamics in vulnerability. Complementing social insurance mechanisms, in countries such as Greece, households are more likely to receive financial support from family or friends. Cross-national heterogeneity in vulnerability suggests that a shock may have different implications across countries.

Keywords
family networks; financial buffers; private wealth; safety nets; social insurance; vulnerability; welfare state

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1. Introduction

According to the IMF's world uncertainty index, global economic uncertainty has been on the rise in the last decade. The index value has peaked recently, showing the highest levels of uncertainty recorded since its inception in the 1950s. Recent shocks, not least Covid-19, are mirrored in the economic sentiment. In this global environment, vulnerability and insurance are more important than ever when monitoring social conditions. This brings questions about the performance of different economies—specifically in relation to maintaining living standards, financial stability, and aggregate demand—to the fore. This article engages in refining the measurement of vulnerability. It aims to devise a composite indicator ("augmented asset poverty") reflecting different insurance mechanisms at the disposal of private households. In a cross-national comparison, we explore

whether the shock-absorbing capacity of social insurance, private wealth, and family networks differ across OECD countries. In addition to proposing a new indicator, this article contributes to the debate by assessing the balance between potential crowding-out effects of private insurance through public provision and under-insurance in the absence of the latter. As such, it offers a comparative perspective on vulnerability outcomes.

The concept of vulnerability is characterised frequently by referring not to current deprivation, but to "defencelessness, insecurity, and exposure to risk, shocks and stress" (Chambers, 1989, p. 1). Private assets are considered a key determinant of vulnerability (Kuypers & Marx, 2019; Swift, 1989). In this spirit, asset poverty is an indicator that is often used to assess households' vulnerability to shocks (Azpitarte, 2012; Haveman & Wolff, 2004; Kuypers & Marx, 2021; Oliver & Shapiro, 2006). While different definitions exist, the benchmark approach to asset poverty in this article identifies households that cannot replace their income for a given amount of time by drawing down assets. Thus, it measures their private capacity to weather income loss by running down assets. Especially during times of economic uncertainty, the use of such an indicator could provide invaluable information to policymakers. For example, Mongey et al. (2020) find that workers most affected by social distancing measures during the Covid-19 pandemic tend to have disproportionately lower liquid savings. It is important to note that asset poverty has been an underused indicator, particularly in European analyses. This may, in part, be due to scepticism around the extent to which assets are used as buffers to shocks across countries. Indeed, extensive social safety nets, strong labour market interventions, or informal familial support can render asset poverty less critical to vulnerability outcomes.

This article aims to provide a definition of asset poverty that integrates measures of private and public insurance in order to document more exhaustively the vulnerability of private households across countries. Thus, the measure considers how states, markets, and families act as (potentially imperfect) substitutes for one another in some situations, whilst providing limited insurance in other situations. At the same time, income and wealth correlate imperfectly, such that a joint measure of safety net adequacy will not identify the same set of vulnerable households as one that focuses on assets only. Analytically, the augmented measurement approach allows for the decomposition of cross-national patterns of vulnerability outcomes according to the different types of insurance mechanisms—both private and public. In view of policymaking, an encompassing measure of the safety nets available to households may prove useful for the monitoring of social conditions and well-being. Moreover, the different levels of insurance across countries revealed by this augmented measure of asset poverty implies that symmetric shocks to a group of countries have asymmetric consequences. This calls for specific policy responses in an EU context, for instance. From an analytical perspective, the augmented measure of asset poverty developed in this article is a new lens through which to compare vulnerability outcomes across countries.

This article draws on microdata from European and US household surveys in order to carry out a cross-country comparison of asset poverty. Adjusting asset poverty measures for the US and 17 European countries to include income replacement policies in a first step, we find that, in Europe, accounting for replacement income from social insurance systems implies lower levels of vulnerability. In contrast, the absence of generous social insurance provisions in the US leaves a large share of the population with inadequate buffers. However, even in some European countries, support from social insurance is only available for a limited amount of time, resulting in an increasing reliance on private forms of welfare provision over the longer term. Therefore, we consider the extent to which intra-family transfers can provide insurance in addition to formal social policies. While in some countries, such as Greece, social networks play a decisive role in resource provision, these mechanisms might not be available at full shock-absorbing capacity if income losses affect broader segments of the population simultaneously.

Our analysis begins with a literature review in Section 2, exploring the concept of asset poverty and its connection to the insurance function of private wealth. It suggests that existing measures do not suffice to identify deficient safety net coverage. Therefore, our key contribution is to extend the asset poverty measure by including in the analysis several additional buffers available to private households during lockdown, as described in Section 3. Section 4 presents the results of the empirical implementation, starting with the mitigating effect of social benefit systems and proceeding to short-time work arrangements and informal networks. Section 5 offers a synthesis of the findings and their implications for policy.

2. Rethinking Asset Poverty

Asset poverty is a measure frequently employed to measure household vulnerability. In this perspective, vulnerability needs not to be confined to households vulnerable to social exclusion by living with low or insufficient incomes, consumption deprivation, and subjective economic stress; instead, it has been argued that low asset holdings and the lack of other buffers are also essential to vulnerability (World Bank, 2000). Conventionally, measures of asset poverty assess the extent to which families can draw on private wealth to buffer shocks. To date, the most prominent operationalisation of asset poverty calculates the share of individuals living in households with insufficient financial assets to support them at the level of the income poverty line for at least three months (Balestra & Tonkin, 2018; Brandolini et al., 2010). Others

convert wealth into an annuity flow so as to make income and assets commensurable (Weisbrod & Hansen, 1968).

Asset poverty has gained increasing relevance as a measure of vulnerability, not least against the background of rising wealth-to-income ratios in many countries (Piketty, 2020) and thus the growing economic significance of private wealth. Furthermore, the Covid-19 pandemic has stirred interest in asset poverty (Kuypers et al., 2022; Loschiavo & Graziano, 2022). A growing literature investigates the extent to which accounting for assets and debt affects indicators of poverty and living conditions (Jäntti et al., 2008; Kuypers & Marx, 2021). For example, it has been noted that a "substantial share of income poor elderly households own significant assets" (Kuypers & Marx, 2019, p. 131). Moreover, Kuypers and Marx (2021) find that accounting for asset holdings in poverty measurement demonstrates that elderly households particularly are better off. Azpitarte (2012) finds a similarly strong life-cycle dependence on the importance of assets in completing the picture of household resources and vulnerability in a comparison of the US and Spain. Yet, he finds that pronounced cross-country differences in vulnerability as measured by asset poverty prevail, even when taking into account the differences in household characteristics associated with high asset poverty.

Several recent contributions address the cushioning effect of wealth when it comes to averting shocks to household living standards. Research on the buffer function of wealth points towards an important role of private assets in moderating the effects of adverse life events. For instance, Rodems and Pfeffer (2021) show that the link between material hardship and disruptive life events, such as income loss and divorce, depends crucially on household asset endowments. While results are more mixed when the moderating effect of wealth on the link between shocks and subjective outcomes is considered (Kuhn & Brulé, 2019), significant cross-country heterogeneity may make general conclusions more challenging (Müller et al., 2021). Closely related to this article, Kuypers et al. (2022) investigate the cushioning effect of assets to help households weather income shocks during the Covid-19 pandemic. Combining information on the probability of earnings losses with a careful approach to modelling income dynamics in a realistic lockdown scenario, they find that half of Covid-19-related earnings losses can be compensated by private assets. Most importantly, the study also draws on estimates of the effect of Covid-19 on gross incomes vis-à-vis net incomes, to model the buffering effect of taxes and transfers.

The substantial cross-country variance in the importance of assets and their buffer function against adverse shocks highlights the important role of the institutional environment (Hochman & Skopek, 2013). Indeed, trends related to "property-based" welfare, referring to the idea that households draw on home equity to support their livelihoods in contingencies traditionally covered by now-retrenching welfare states, have crucial implications for household balance sheets (Crouch, 2009; Dewilde & Flynn, 2021; Lennartz, 2017). In countries where these trends are the furthest developed, asset poverty is likely to be a crucial determinant of well-being. This line of reasoning is closely related to a strand of literature that investigates the relationship between wealth inequality and the welfare state (Feldstein, 1976; Fessler & Schürz, 2018). Most relevant to this article on asset poverty is a recent study comparing asset poverty outcomes in Canada and the US that suggests that increases in benefit generosity may indeed raise asset poverty rates (Rothwell et al., 2020). However, the study also finds lower levels of asset poverty in the US, despite its more residual social policy institutions. The authors caution against drawing a causal interpretation of such findings.

In addition to welfare state institutions, familial support networks are likely to shape the accumulation process of assets and the importance of ownership. Indeed, networks of family and friends are a relevant support system for dealing with the material consequences of unexpected financial shocks. Lusardi et al. (2011) use a specialised survey to analyse the coping strategies of households during financial shocks in eight advanced economies. They find that assistance from family and friends is the second most used mechanism in an emergency after drawing from own savings in all but one of the countries considered in the study. Based on this evidence, it is crucial to investigate the role of a family's capability to financially support other households, thus mitigating financial hardship. In countries with residual welfare states, friends and relatives assume a particularly important buffering function.

In sum, the welfare state and family institutions determine the importance of private assets as an insurance mechanism and the speed at which assets are depleted when household circumstances change. Yet, the asset poverty measure is indifferent towards these institutions. This article's contribution is to provide an augmented measure of asset poverty, respecting different institutional environments. While the value of such an extended view has been stressed before (Balestra & Tonkin, 2018; Shapiro et al., 2009; Weller & Logan, 2009), we propose a definition and examine cross-national differences in household capacity for self-insurance after controlling for the safety net provided by both the welfare state and family networks. Rather than providing an assessment of the buffering capacity of assets in a specific shock such as Kuypers et al. (2022), we offer a more general adjustment to the measurement of asset poverty.

In addition to refining the measurement of asset poverty, the approach taken here also contributes to the broader research field around economic security, defined by Eurostat (2022) as an "individual's ability to make use of financial resources if these are urgently required" (for a comprehensive overview see Hacker, 2018). Most importantly, the augmented measure of asset poverty developed here marries a micro-level

approach with benefit rules derived from social insurance system characteristics. The latter, in the form of aggregate statistics on loss probabilities and benefit replacement rates, has previously been featured in the economic security literature (Osberg, 2015). Another popular indicator of vulnerability identifies the share of households that see their income decline by 25% in a given period and lack the wealth to replace the cumulative income loss. Even though it is possible to assess the income-smoothing effect of social security (Hacker, 2018), this perspective is limited to households that have experienced income losses in the past. Additionally, this approach relies on substantial data requirements that are not met in many countries. The augmented measure of asset poverty in this article offers a simple alternative.

3. Method and Data

3.1. Method

Given the need to adapt existing approaches, insights from the asset-based measurement of living standards can be employed to design a measure that accounts for the role of both private and public safety nets in reducing vulnerability and allows us to disentangle their respective contributions. Rather than considering assets as a separate dimension of well-being, wealth can be made commensurable to income if it is converted into an annuity (Brandolini et al., 2010; Weisbrod & Hansen, 1968). While this usually measures current living standards rather than economic security, we propose the consideration of assets as a supplement to replacement income and other buffers, thus changing the perspective to vulnerability. Such a measure better informs the user about households' capacity to maintain a minimum living standard over three, six, or 12 months without income.

Building on the annuitised income approach, we take the idea of integrating income and assets into one measure to assess living standards and supplement this by drawing on some features of the asset poverty measure. In particular, rather than assuming a parameter for the length of the annuity, we compute our measure for different time horizons reflecting shock scenarios. As we focus on limited periods of up to 12 months maximally and financial assets with potentially low interest rates, assumptions on the latter are left aside. Instead, we simply take the present market value of financial assets and assess the extent to which it covers the difference between the poverty line and replacement income.

We concentrate on total financial assets as they can be mobilised quickly to fund current consumption. Financial assets differ in their liquidity from real assets such as cars or housing wealth, where markets may be significantly less liquid. While this argument unquestionably holds for deposits and securities, it might be less obvious if it is applied to long-term investments. In particular, this refers to private pension plans, that constitute an important part of household portfolios in some countries. In line with previous literature (Brandolini et al., 2010; Haveman & Wolff, 2004), we assume that, in times of need, potentially even pension savings are liquidated to cover necessities of life and therefore also consider them a part of households' financial buffers. In doing so, and as we refrain from including assumptions about fire-sale discounts, our estimates represent lower bounds for the actual vulnerability of private households. Based on these considerations, we derive the ordinary income poverty rate. It is defined as the proportion of households with an equivalised disposable income after social transfers below 60% of the national median. This is complemented by the share of asset-poor households and our extended measure. We consider households to live in asset poverty if:

$$W_{ic} < \frac{t}{12}\left(Z_c - Y^r_{ict}\right) \quad t \in \{3, 6, 12\}$$

The condition identifies households i in country c that possess insufficient financial assets W_{ic} to cover the difference between their net replacement income Y^r_{ict} and the national poverty line Z_c for three, six, and 12 months of market income loss respectively. Note that both Z_c and Y^r_{ict} are computed on an annual basis. Therefore, we divide both by $\frac{t}{12}$, so as to obtain the share of annual income required to remain above the poverty line and the share of annual replacement income disbursed in t months. Each household satisfying this condition is weighted by the number of household members to obtain a headcount.

The annual replacement income Y^r_{ict} derives from pre-shock disposable income Y^l_{ic} and a replacement rate R_{kct} measuring the share of net disposable income that is replaced in the case of unemployment, including all other transfer income such as family allowances. The replacement rates are derived from the OECD TaxBEN database and differ across countries, time horizons, and household type k:

$$Y^r_{ict} = Y^l_{ic} \bullet R_{kct}$$

Challenges remain in measuring assistance from social networks. As a result, we simply consider whether households below the poverty line, when accounting for other buffers, can count on financial support of a given amount of €5,000.

The analysis can be readily extended and refined. For instance, a limitation of the account offered in this article is its indifference towards actual benefit take-up, as it uniformly imputes replacement incomes. Indeed, some groups might be less inclined to claim the benefits they are entitled to receive, which results in lower buffers for those households. It should be also noted that depending on the type of shock, asset valuations could decline during an economic crisis and thereby limit the capacity to provide for basic consumption needs for a specific period of time. Concerning the reporting of transfers in the surveys, there is likely to be underreporting of benefits as they are surveyed through only a limited set of questions.

Moreover, a more differentiated approach towards deriving net incomes from gross income data can improve the analysis. For example, some transfers can also be taxable while access to certain benefits may be lost when becoming eligible for other benefits. While this can be done using the OECD TaxBEN model, such a level of detail is beyond the scope of this treatment. On the contrary, the OECD TaxBEN model explicitly does not consider asset tests, which restrict access to or lower the number of social benefits in some countries. While this results qualitatively in an overestimation of the cushioning effect of benefits and replacement incomes, the quantitative impact on our results is arguably limited, given that households with significant assets are not considered asset poor in either the original or the modified concept. Instead of financial assets, one could regard total assets net of liabilities as the buffering capacity of private households. Since net wealth generally exceeds financial assets, using this measure would lead to lower levels of asset poverty although the implications of welfare state and family buffers are qualitatively similar. In an addition, our indicator can be combined with data on income loss probabilities for different segments of the population. For example, a possible extension would consist in combining our approach with the Lockdown Working Ability Index developed by Palomino et al. (2020), to reflect the shock scenario of Covid-19 in particular. Another option, that reflects the probability of income loss, is to analyse unemployment rates by occupation.

3.2. Data

For our analysis, we draw on survey data from the third (2017) wave of the European Central Bank's Household Finance and Consumption Survey (HFCS), ensuring a high level of cross-national comparability. For the US, the computations rely on the 2016 Survey of Consumer Finances. These data sources allow for a comparison of augmented asset poverty across different welfare state regimes (Esping-Andersen, 1990). The entire set of HFCS countries is included in the analysis, except for Croatia, Cyprus, Ireland, Malta, and Spain. For the first two countries, income data is incomplete, Ireland and Malta lack information on relevant household characteristics, and Spain deviates strongly from the other countries in terms of the year of data collection. Detailed methodological reports are provided by the European Central Bank (2020) and the Board of Governors of the Federal Reserve System (2016). Weights, as well as the multiple imputations provided by the data producers, are appropriately taken into account. The field period of the 2016 Survey of Consumer Finances is 2016 to 2017. All income variables in the HFCS refer to income in 2016, with the exception of Greece, Hungary, Poland, and Luxembourg. While in Luxembourg income refers to the year 2017, in Greece, Hungary, and Poland, data refers to income over the last 12 months. Assets in the HFCS are measured at the time of the interview, except in Belgium (2017), Greece (2018), as well as in Italy, Lithuania, and Finland (2016). Fieldwork in all HFCS countries was conducted between 2016 and 2018.

The surveys provide us with information on the financial wealth of households, the number and age of all household members, factor income as the sum of labour and capital income as well as public and private transfers. Additionally, within the HFCS, households are asked if they can rely on financial assistance of €5,000 from friends or relatives in an emergency. Aggregating the income components allows the gross total household income to be determined. However, both data sources lack information on taxes and social security contributions, which are necessary to derive the disposable income of households.

In order to address this issue, we use information from the OECD tax-benefit model to impute a proxy of disposable income. The OECD TaxBEN model considers the detailed national tax and benefit rules and calculates household incomes after government intervention for a wide range of policy-relevant family situations (OECD, 2020a). More specifically, we use the average all-in tax rates by single and couple households, both with and without dependent children for the respective reference period of the survey data, to estimate net factor income. Disposable income is then the sum of net factor income and all monetary transfers, as reported in the surveys. To make the living conditions of different household types more comparable, we equivalise disposable income and wealth with the square root of household size. Relying on the square root scale is in line with previous literature on asset poverty and allows us to include Finland and Poland, where the HFCS database does not provide the age of all household members, in the analysis.

Furthermore, the OECD TaxBEN model provides comprehensive information on benefit rules for the same household constellations as described above. Besides unemployment benefits, the model also considers guaranteed minimum income provisions as well as child and housing benefits for various eligibility periods. We apply these replacement rates to the components of household income earned on the labour market. This also includes incomes of the self-employed, as we assume governmental income replacement programmes extend comparably to this group of the labour force as well. This assumption will only have a limited impact on our estimates because the self-employed constitute a small part of the working population (OECD, 2020b). Taken together, this allows us to impute net replacement rates for different household types and unemployment spells of three, six, and 12 months.

In sum, the estimation of asset poverty rates follows from individual-level information from the wealth surveys. Aggregate information on income replacement rates from social insurance policies enters the analysis to estimate the incomes of individual households for the hypothetical scenario where labour market income is zero. Informal networks are considered by distinguishing

between vulnerable households that can rely on their networks and vulnerable households lacking this support. The following section sets out the findings.

4. Results

Before elaborating on our extensions of the asset poverty measure, the conventional measure is computed for all countries in the sample. We present the results of our analysis in Figure 1. It shows the poverty rate (dashed line), the share of vulnerable households according to the traditional definition (light grey bar), and our refined measure that includes the operations of social insurance schemes (dark grey bar) by different unemployment spells for 18 OECD countries in the most recent wave of their wealth surveys.

Traditional asset poverty is considerably more widespread than income poverty in almost every country. While the poverty rate lies between 15% and 30%, asset poverty ranges between 23% and 75% (three months) and 50% and 92% (12 months).

The only exception within our sample is the Netherlands, where the shares of income and asset-poor households (three months) are almost on par. However, it is important to note that these are not necessarily the same households. In Austria and the Netherlands, approximately only half of income-poor families are also poor in terms of assets, whereas in the US (80%) and Latvia and Greece (more than 90%) the vast majority of income-poor households lack the necessary levels of financial wealth to buffer income shocks.

As expected, the share of vulnerable households increases as the timeframe in which income losses must be covered solely by savings is extended. Even so, heterogeneity prevails; countries with lower rates of short-run asset poverty tend to be characterised by more

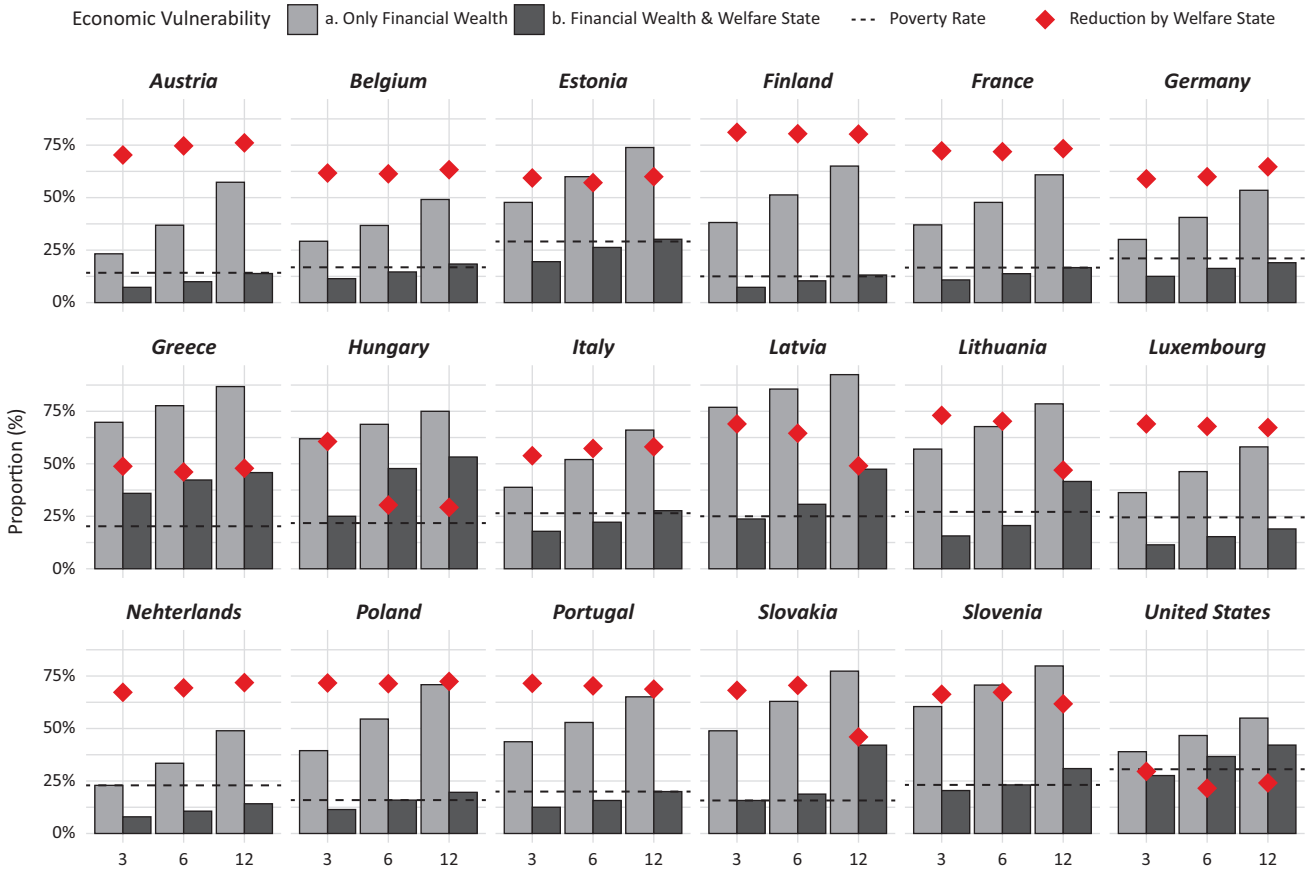

Figure 1. Economically vulnerable households in selected OECD countries. Notes: This graph shows the share of individuals that are vulnerable (defined as living in households with insufficient savings to finance consumption at the level of the national income poverty threshold); the bars in dark grey show the proportion that cannot fund the difference between welfare state provisions and the poverty line; the red rhombus refers to the percentage reduction in asset poverty by the welfare state; the red rombus corresponds to the fraction of households considered asset poor by the traditional measure of asset poverty, but do not count as asset poor once welfare state support is accounted for (for example, the traditional measure for asset poverty for the duration of six months in Austria is 37%); considering social assistance from the welfare state results in a value of around 9%, which is equivalent to a reduction of measured asset poverty by 75%; results are displayed for spells of income loss for three, six, and 12 months. Sources: Authors' work based on Board of Governors of the Federal Reserve System (2016); European Central Bank (2020); OECD (2020a).

noticeable gains over time, partly resulting in a doubling of rates over a 12-month period.

4.1. Social Insurance

The most significant finding of our analysis uncovers the extent to which social insurance substitutes for the lack of financial assets that can be mobilised in case of emergency. Across all countries and unemployment durations, the share of vulnerable households is substantially smaller compared to the traditional approach. Asset poverty, according to the enhanced measure, is particularly low in Austria, Finland, and the Netherlands (7%). In 14 out of the 18 countries, the rate is below 20% in the three-month period and below 30% in the 12-month perspective. Only Latvia, Hungary, the US, and Greece have proportions of vulnerable families above these numbers. When compared to the poverty line, all countries except Greece and Hungary bring vulnerability below the current poverty line. It follows that in these countries, over three months, even the combined effort of private wealth and the social security system may not fully absorb the shock of the crisis. From an annual perspective, social insurance and private wealth will absorb the shock to an extent that prevents vulnerability from increasing beyond the poverty threshold in only six out of 18 countries. In Belgium, Estonia, Finland, and Italy, vulnerability—as measured by the enhanced asset poverty indicator—exceeds the anchored poverty rate only by a small margin.

Governmental programmes have a pronounced dampening effect on the share of economically vulnerable households. For the European countries, we see that welfare state mechanisms reduce the number of asset-poor individuals by more than half. In Finland, Austria, France, Poland, and Portugal, the numbers drop by about 75%. Whilst cross-national variation is limited for the three-month perspective, the longer-term view brings substantial differences between economies to the fore. Welfare states differ in their generosity of income support, particularly after six or 12 months of unemployment. While the mitigating effect of social transfers remains reasonably stable in most countries, it drops after 12 months in Latvia, Lithuania, and Slovakia. In Hungary, a similar drop occurs after six months.

The US provides an interesting comparison to Europe. Starting with a comparatively low share of households in asset poverty in the standard approach, the US income support is less effective in cushioning asset poverty compared to its European equivalents. According to our extended measure of asset poverty, the US belongs to the top three nations in terms of the share of vulnerable families.

4.2. Support of the Networks of Family and Friends

In many situations, support from family members can be vital to maintaining living standards. However, the share of households that can count on their network of family and friends differs substantially across countries. As defined by a household's ability to raise €5,000 among relatives and friends, economic support from such networks is particularly widespread in the Benelux countries and Portugal. In Greece and Italy, such households account for almost half of the population. The Baltic countries stand out with a particularly high prevalence of households unable to rely on family and friends for financial support. Indeed, in Estonia and Latvia, at least two-thirds of all individuals live in households without social network buffers.

The differences in family safety nets between countries remain when the scope is narrowed down to households living in asset poverty. Figure 2 illustrates the reduction in asset poverty rates achieved by family networks. It shows the reduction of asset poverty if only households without family buffers are considered asset poor. Given that the implicit assumption behind this approach is that households with family support of at least €5,000 will have enough support to weather income shocks of three to 12 months, Figure 2 refers to an upper boundary of the buffering capacity of family support systems. In the Netherlands, Luxembourg, and Poland, around half can count on financial support from family. Crucially, this number is below the rate of the total population (i.e., Netherlands and Luxembourg: 69%; Poland: 75%), suggesting that households in asset poverty are less likely to be supported by their family and friends in emergencies. In contrast, asset-poor households in Greece and Italy are only slightly less likely to be supported by relatives and friends than those with adequate asset buffers. Finally, a notable case is Portugal, where support networks tend to be widespread (70% of the total population); indeed, familial support is just as important in households with low financial assets, as in more privileged households.

Along with the share of households in asset poverty supported by family and friends, Figure 2 plots the reduction of the asset poverty rate achieved by social safety nets and their combined effect. In most countries, familial networks realise a lower buffering effect than social security safety nets. France and Estonia can be found among the countries with the most clear-cut dominance of public social security nets. Furthermore, some countries rely on the welfare state in the short run, while over the 12-month period, family support may become more pivotal, ultimately substituting for the welfare state; the most pronounced cases include Latvia, Lithuania, and Slovakia.

It should be noted that such networks may be less effective when most needed; if many households experience income shocks at the same time, their capacity to lend informally to others is likely to fall. The data for Greece illustrates this point: After a prolonged recession, the number of individuals without potential support from other households peaked in 2014 (corresponding results available upon request), at almost

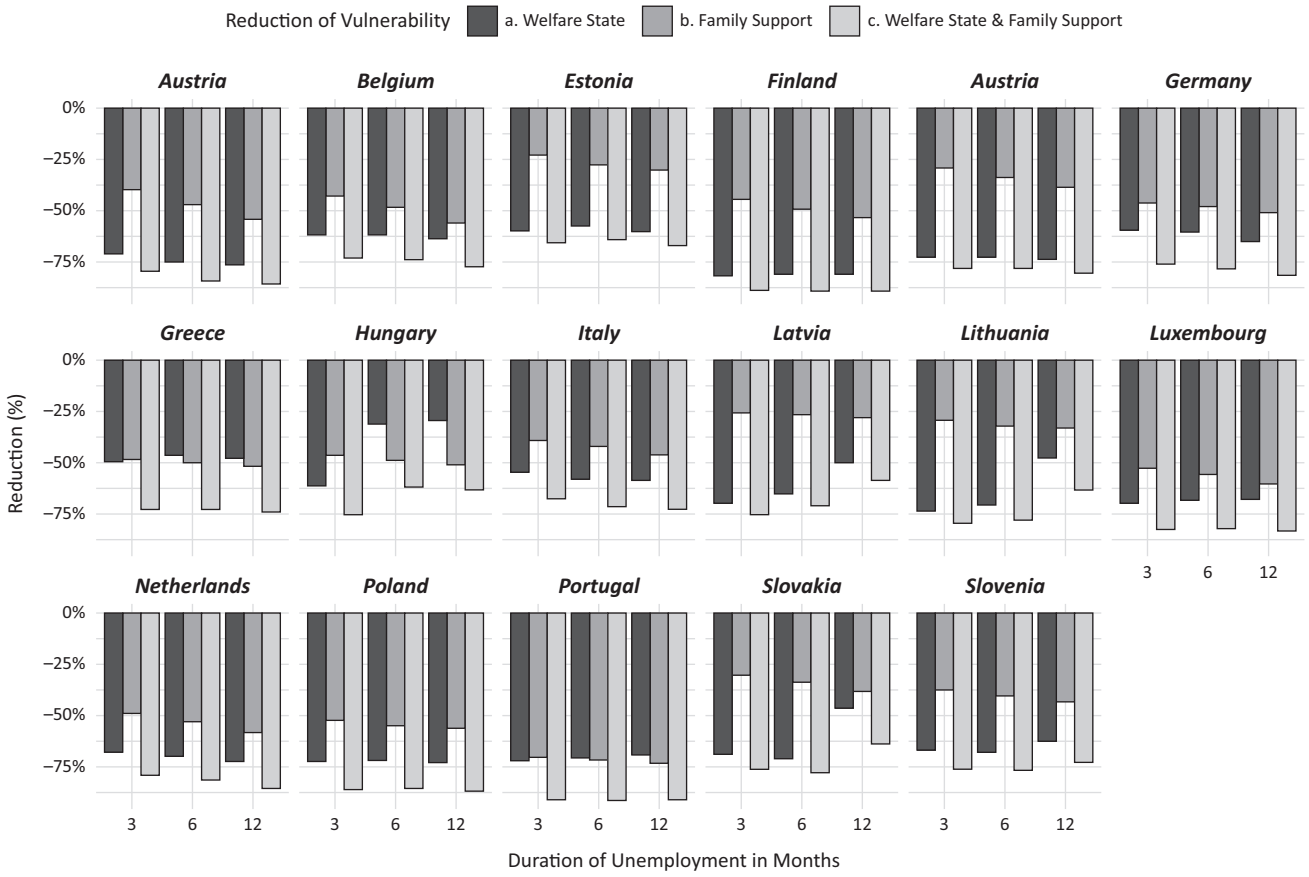

Figure 2. Reduction of vulnerability by welfare state and wider family. Notes: This graph shows the reduction of vulnerability achieved by the welfare state, family networks, and their interaction; reduction is measured as the relative difference between the traditional asset poverty indicator and our extended measures; results are displayed for income losses of three, six, and 12 months; missing values in some countries for family support (variable HB0800) have been discarded: around 1% (Latvia, Portugal, Estonia), around 3% (France, Belgium, Finland, Hungary), and between 5 and 6% (Poland, Lithuania, Netherlands). Sources: Authors' work based on European Central Bank (2020); OECD (2020a).

two-thirds of the total population, before recovering in 2017.

5. Conclusion

Our assessment of the shock-absorbing capacity in 18 OECD economies, which relies on a holistic measure of the buffers available to households, highlights important cross-national differences in vulnerability. Indeed, our augmented asset poverty measure demonstrates that countries with converse levels of asset poverty arrive at similar levels of vulnerability once other buffers are considered. For example, the US has a high prevalence of private buffers and therefore one of the lowest asset poverty rates in our sample. At the same time, it exhibits comparatively high levels of vulnerability due to weakly developed social safety nets according to the enhanced asset poverty measure. While asset poverty is reduced by one-quarter in the US by social insurance mechanisms, some European countries, such as Austria and Finland, reduce vulnerability by approximately three-quarters. However, it is not only in the US that large fractions of the population do not have adequate safety nets; in several European countries, certain buffering systems may also be insufficient for mitigating the impact of long-term income losses, due to decreases in the generosity of benefits over longer entitlement periods. Networks of relatives and friends are an important source of funds during emergencies in some countries. However, we find that in the context of wide-ranging economic shocks, the effectiveness of such networks decreases.

Further research may refine the augmented asset poverty indicator in view of addressing its limits as outlined in this article. In addition, the indicator could be employed to study the link between insurance mechanisms and vulnerability in countries beyond Europe and the US as well as over time. Given that public insurance is only one dimension of welfare regimes, an indicator of vulnerability outcomes that goes beyond formal social insurance mechanisms to include dimensions of private buffers may shed new light on the nature and extent of change in social policy.

Despite several shortcomings, the measure set out in this article remains better suited to the needs of policy-

makers required to consider asset poverty within their national institutional context. In addition to serving as a practical tool to monitor policies and living conditions following large-scale disruptions in the labour markets, our analysis provides important insights for the consideration of the future of social insurance. For example, the European Monetary Union's incompleteness in view of the shallow integration of its automatic stabilisers might prove a weakness in responding to the crisis. Our analysis reveals that countries differ markedly in their capacities to buffer the economic fallout of large shocks. This constitutes a serious threat to the European Monetary Union, as differences in vulnerability can result in asymmetric consequences. Indeed, in the aftermath of the 2008 financial crisis, the differences in the way the European Monetary Union's member states experienced the crisis challenged the union's foundations. As a consequence, the idea of a European unemployment (re-)insurance scheme has been debated with increasing frequency and ardour (Andor, 2016). A more uncertain future might galvanise renewed support for such arguments.

In order to decrease vulnerability, extending the length of eligibility for generous unemployment protection (usually granted only for the initial weeks without work) to cover longer spells of unemployment may be an effective policy response. However, the Covid-19 pandemic has also shown that governments may be willing to use discretionary measures to support patchy social insurance mechanisms. The extent to which policymakers strike the balance between automatic and discretionary policies in the future, and the degree to which the latter is employed to complete existing systems of insurance, will have important implications for vulnerability.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Financial Solidarity or Autonomy? How Gendered Wealth and Income Inequalities Influence Couples' Money Management

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Abstract
It is well established that women have lower income and wealth levels than men. These inequalities are most pronounced within heterosexual couples and grow once partners get married and have children. Nevertheless, equality in controlling money within couples is highly valued and might ameliorate women's disadvantages in income and wealth ownership. Previous research has focused on explaining gender wealth inequalities at the household level; less is known about the possible consequences of these inequalities on how couples manage their money. In this article, we investigate how income and wealth inequalities among couples are associated with joint or independent money management. In theoretical terms, we perceive money management systems as representing two different norms of reciprocity within couples for buffering income and wealth inequalities between partners, depending on the transferability of resources and their institutional regulation. We apply pooled logistic regression models to data from the German Socio-Economic Panel Study. Our findings confirm that income and wealth are relevant but have opposite associations with couples' money management strategies. While couples with unequal income constellations tend to pool their money, couples with unequal wealth constellations manage their money independently. Accordingly, couples seem to use labour income to buffer gender inequalities by sharing resources, thereby following the norm of partnership solidarity. In contrast, gender wealth inequalities are reproduced by keeping resources separate, thus representing the norm of financial autonomy.

Keywords
couple households; gender inequality; Germany; income; money management; wealth

Issue
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1. Introduction

Labour income and wealth are important dimensions of social stratification in contemporary societies (Hällsten & Thaning, 2022; Killewald et al., 2017; Pfeffer & Waitkus, 2021; Skopek et al., 2014). This particularly holds true for gender inequalities. In most Western industrialised countries, women not only earn less income than men, they also possess less wealth: Compared to other OECD countries, the gender wage gap in Germany is especially high (OECD, 2018). As a consequence, partnered women contribute significantly less to the household income than their male partners (Dieckhoff et al., 2020; Krause, 2008). Wealth disadvantages for women in Germany are even larger, and again, they are most pronounced for partnered women (Grabka et al., 2015; Schneebaum et al., 2017; Sierminska et al., 2010). Thus, couples' financial arrangements are central to understand the (re-)production of gender inequalities. However, both women and men also benefit from partnerships in terms

of wealth accumulation. Partnered women and men not only have more long-term financial security due to overall higher wealth levels but are also able to reduce gender inequalities in income and wealth by sharing access to resources or joint investments (Frémeaux & Leturcq, 2022; Lersch, 2017b; Nutz, 2022).

Empirical research on money management in couples has centrally focused on differentiating between the ownership of and access to money. Individual access to money in couples depends on how the partners manage and control their money (Evertsson & Nyman, 2021; Pahl, 1989). In Germany, about two-thirds of couples pool their money and jointly manage it, followed by about one-fourth of couples who engage in independent management; patterns in which one partner is solely responsible are less common today (Çineli, 2022; Lott, 2009, 2017). In this article, we ask why couples pool their money or manage it independently. Previous research shows that partners' income constellations are an important factor in understanding couples' money management (Çineli, 2022; Lott, 2009; Ludwig-Mayerhofer, 2006). This article expands these findings by examining whether wealth inequalities between partners, in addition to income inequalities, are also associated with their money management. Even though couples generally do not pool their wealth in terms of ownership (Lersch, 2017a; Nutz, 2022), equality in control and management of money within couples is also highly valued in terms of wealth (Evertsson & Nyman, 2021; Joseph & Rowlingson, 2012; Tisch & Lersch, 2021).

Conceptually, we differentiate between labour income and wealth as distinct monetary resources. While labour income is mainly used to cover couples' daily living expenses and is easily transferable between partners, wealth provides an important basis for financial security and larger expenditures, that is, long-term investments (Hällsten & Pfeffer, 2017; Rodems & Pfeffer, 2020). Wealth thus serves as a buffer against couples' life risks in the long run. Compared to income, wealth ownership is less easily transferable between partners and more strongly regulated by legislation. We further divide couples' wealth into the components of home ownership and non-housing wealth, since home ownership is a key determinant of wealth inequality in general (Pfeffer & Waitkus, 2021; Skopek et al., 2012, 2014). Moreover, gender inequalities differ significantly between these two wealth dimensions (Joseph & Rowlingson, 2012; Kapelle, 2022; Nutz & Gritti, 2021).

In the following, we present the state of research on gender inequalities in labour income and wealth as well as on money management within couples. Thereafter, we develop a theoretical framework based on exchange theory on how couples' income and wealth inequalities might be associated with strategies of pooling and independently managing money. We explore these associations empirically with data from the German Socio-Economic Panel (SOEP) by estimating pooled logistic regression models for a sample of heterosexual couples.

2. Gender Inequalities in Income and Wealth and Couples' Money Management

The gender wage gap, that is, the fact that women earn less than men, is a stable feature of Western industrialised countries (OECD, 2018). Compared to other OECD countries, Germany has a particularly high gender wage gap, with women having earned about 18% to 22% less than men since the mid-1990s (OECD, 2018; Statistisches Bundesamt, 2022). The few empirical studies examining wage differentials within households have indicated that partnered women in particular earn less than their male partners (Dieckhoff et al., 2020; Krause, 2008). Previous research has highlighted that gendered employment careers and care responsibilities are especially important for explaining gender inequalities in wages and income, particularly within couples (e.g., England et al., 2020; Minkus & Busch-Heizmann, 2020).

Wealth is even more unequally distributed between men and women than labour income. In a European comparison, the gender wealth gap in Germany is rather large and mainly driven by gender disparities in gross wealth (Schneebaum et al., 2017), with women possessing about 28% less wealth than men (Grabka & Westermeier, 2014). Again, gender wealth inequalities are most pronounced within couples (Grabka et al., 2015; Sierminska et al., 2010) and are mainly due to women's substantially lower accumulation of financial wealth (Kapelle, 2022). While financial assets are more often held separately (Nutz & Lersch, 2021), housing wealth is predominantly owned jointly by both partners and represents the largest investment for most couples (Joseph & Rowlingson, 2012; Kapelle, 2022; Nutz & Gritti, 2021).

Most studies on gender wealth inequalities, both in general and within couples, have investigated how these disparities come about and have identified four important factors: First, gender wealth inequalities are driven by men's higher labour incomes (Grabka et al., 2015; Sierminska et al., 2010). Second, the gender wealth gap seems to be highest within married couples (Killewald et al., 2017; Sierminska et al., 2010), particularly for older cohorts and for non-real-estate wealth (Lersch, 2017b). Third, the birth of a child seems to have a negative impact on women's wealth development, while men's wealth is hardly affected by it (Lersch et al., 2017). Fourth, the matrimonial property regime seems to matter (Nutz et al., 2022). While married couples with a community property regime accumulate less wealth than married couples with a separate property regime, the gender wealth gap is smaller among couples with a community property regime (for data from France see Frémeaux & Leturcq, 2022). However, married couples only very rarely opt out of the default property regime of accrued gains in Germany (Nutz et al., 2022).

While most quantitative studies have analysed gender inequalities in the ownership of wealth, qualitative studies have revealed that the possession of and

access to wealth within a couple might in fact not only depend on ownership but on the perceptions of who owns their wealth (Evertsson & Nyman, 2014; Joseph & Rowlingson, 2012). This finding is supported by the seminal study by Pahl (1989) for the United Kingdom, which showed that money flowing into the household was not automatically regarded as the total income of the family; rather, access to money depended on how partners managed and controlled their money. She identified different money management systems, depending on whether the man or the woman was solely responsible, whether both partners pooled their money or whether they managed it independently (Pahl, 1995, 2005). Comparative studies on couples' money management indicated that today, the pooling system is generally adopted by a majority of couples; independent management predominates in very few European countries, such as Finland or Portugal, while sole money management, mostly by men, is more prevalent in non-European countries (Çineli, 2022; Yodanis & Lauer, 2007). Germany represents a rather typical case among European countries, with 64% of couples completely pooling their money, 24% managing all or most of their money independently, and only 12% assigning sole responsibility to either the man or the woman (with data for 2005 see Lott, 2009, p. 339; see also Holst & Schupp, 2005; Lott, 2017; Ludwig-Mayerhofer, 2006).

The partners' relative labour income has been identified as an important factor influencing couples' money management. Comparative studies have indicated that couples with income homogamy either adopt the pooling system or manage money independently rather than engaging in sole management (Çineli, 2022; Yodanis & Lauer, 2007). In Germany, pooling is more common if the partners' income constellations are very unequal. In contrast, if women's income share increases, independent management becomes more likely (Hu, 2021). Empirical studies examining changes in money management within couples are rare, but their results support the evidence from analyses of between-couple differences (Lott, 2017).

Previous literature on money management mainly refers to the management of money derived from labour income. The importance of partners' wealth constellations for couples' money management has not yet been studied. Results from qualitative studies have pointed towards a relevant association since couples with unequal constellations refer to each other's wealth as a buffer when explaining their money management practices (Evertsson & Nyman, 2014; Joseph & Rowlingson, 2012). Therefore, we investigate how wealth inequalities within couples, in addition to income inequalities, are associated with how couples manage their money in Germany. In the following, we develop a theoretical framework based on exchange theory and then derive hypotheses in this regard.

3. Norms of Reciprocity and Money Management Systems in Couples

We start from the premise that today, most couples no longer opt for the traditional sole management system but have to decide on whether to adopt a complete pooling or an independent management system. To explain couples' money management, previous research has often applied resource theory (Blood & Wolfe, 1960), which assumes that the more resources a person has in terms of education, income, or occupational status, the more power he or she will have in the relationship. Applied to couples' money management, this implies that the partner with the greater quantity of resources would be solely responsible for managing the money of the household (cf. Çineli, 2022; Lott, 2009; Yodanis & Lauer, 2007). However, resource theory is less suitable for understanding independent management systems (Hu, 2021; Lott, 2017), since it cannot explain why the partner with the lesser quantity of resources retains the power to manage money on his or her own within the couple.

We therefore apply a broader exchange perspective and perceive couple relationships as exchange relations (for an overview see Lott, 2012, pp. 42–56; see also Safilios-Rothschild, 1976). Within the framework of exchange theory, spouses exchange different types of desirable goods, which include both economic and non-economic resources, such as financial support or material goods, but also love, esteem, and respect (Safilios-Rothschild, 1976). Partners exchange these valued resources according to established rules of exchange, mostly according to the norm of reciprocity, since the long-term balance of exchange is more important than the gains of one partner (Lott, 2012, p. 44). At the same time, the availability of alternatives to each partner that can provide these valued resources is also important (Safilios-Rothschild, 1976). Resources such as individual income and wealth, but also access to money and the division of labour within the couple, are therefore part of the exchange process and establish a couple-specific dependence relation. Based on exchange theory, we perceive the pooling and independent money management systems as representing varying notions of reciprocity in couples' exchange processes (cf. Pepin, 2019).

The pooling system involves the complete sharing of the couple's money and its management (Hu, 2021; Pahl, 1995; Vogler et al., 2006). Both partners have equal access to all money that enters the household, and both spend from a common pool, such as a joint bank account. "Couples adopting this system often explain that 'it is not my money or his/her money—but our money' " (Pahl, 1995, p. 366). The norm of reciprocity associated with the pooling system is called "partnership solidarity," which prioritises the shared goals of both partners through the sharing of resources. This norm of solidarity treats the couple as a unit, where both gains and losses are shared equally between partners,

especially in unequal constellations with regard to economic resources (Hu, 2021; Pepin, 2019). Having equal access to all the couple's resources offers the potential for equal sharing and therefore might serve as a buffer against life risks for both partners. At the same time, this system does not necessarily indicate effective equal control of money, since it often conceals the fact that the partner who is earning less money, mostly the woman, often has (self-)restricted access to the money from the joint pool (Vogler et al., 2006).

The independent management system "is defined by both partners having their own source of income and neither having access to all the household funds" (Pahl, 1995, p. 366). Accordingly, couples managing their money independently base their exchange on the reciprocal norm of "financial autonomy for both partners." They perceive their partnership as an association of two autonomous individuals who retain ownership of their respective money, and they are oriented towards maintaining economic independence for both partners (Bennett, 2013; Hu, 2021; Pepin, 2019; Vogler et al., 2006). However, this is not at odds with couples perceiving themselves as a unit and pursuing collective goals (Nyman, 2003; Pahl, 2005). Couples embracing the reciprocal norm of autonomy often strive for (financial) equality. However, independent money management does not necessarily guarantee equality but provides financial autonomy to those individuals who earn enough to make a living on their own (Evertsson & Nyman, 2014). Therefore, if couples with unequal resource constellations manage their money independently, they often negotiate their finances and employ informal compensation payments (Evertsson & Nyman, 2014; Joseph & Rowlingson, 2012; Nyman, 2003). Consequently, life risks remain more individualised and protection against life risks is more strongly related to partners' individual resources than in the pooling system (Hu, 2021; Vogler et al., 2006).

In sum, we perceive these two different money management systems as representing specific norms of reciprocity that are associated with different ways of buffering inequalities between the partners (Evertsson & Nyman, 2014; Nyman, 2003; Tisch & Lersch, 2021). If labour income and wealth constitute valued economic resources in the exchange process, couples' use of either the complete pooling or the independent money management systems should be linked to the corresponding norm of reciprocity. However, since income and wealth differ regarding their transferability between partners and the legal regulations governing them, we assume that the specific norm of reciprocity adopted should differ for income and wealth inequalities within the couple.

Money from labour income is the most liquid financial resource; it is mainly used for living expenses in everyday life and can thus be regarded as a type of monetary flow (Killewald et al., 2017; Spilerman, 2000). It can be easily transferred between partners and directly used to make up for financial inequalities within the couple, i.e., by establishing a joint bank account from which both partners can withdraw money. We assume that couples adopt a pooling system and thus follow the norm of partnership solidarity if their income constellation is unequal, that is, if one partner earns substantially more than the other.

This should hold true for male breadwinning couples, which are based on the notion of separate spheres and according to which the male partner earns the income and the female partner takes care of the household and children (Yodanis & Lauer, 2007). Since the female homemaker bears the burden of higher economic risks, the reciprocal norm of solidarity between the partners ensures redistribution of income via the pooling system. This norm of partnership solidarity is reinforced by the normative ideal of the modified male breadwinner model that underlies the conservative German welfare state, for example, through the joint taxation of married couples with very unequal incomes (Hipp & Leuze, 2015), derived social security entitlements for the partner with no or only a very low income (Minkus & Busch-Heizmann, 2020), or the community of accrued gains as the default matrimonial property regime (Nutz et al., 2022). This should likewise hold true for female breadwinning couples. In these non-traditional constellations, both partners seek to comply with traditional gender roles too, since women still carry the burden of housework and childcare despite earning more than their partners (Brines, 1994). As a consequence, money from women's income should have less value in claiming financial control (Zelizer, 1989) and both partners may consider it legitimate for the man to exercise control over financial decisions (Tichenor, 2005). Therefore, in this income constellation, the reciprocal norm of solidarity between partners should also result in pooled management but mainly due to compliance with traditional gender roles. The pooling of money therefore should be more prevalent among couples with unequal income constellations, regardless of whether the male or the female partner earns more.

In contrast, couples with income homogamy do not have to rely on the reciprocal norm of solidarity to the same extent. Due to the dual-earner model, both partners share similar economic risks and both partners retain the economic potential to make a living on their own to a certain degree. This likely strengthens the norm of financial autonomy for both partners, which increases the likelihood of independent money management (Çineli, 2022; Lott, 2009). We therefore expect an unequal distribution of labour income between partners to increase the likelihood of a pooled management system, while a rather equal distribution of labour income should make the independent management system more likely (H1).

Wealth inequalities within couples should engender different associations with the type of money management. Unlike income, wealth represents a stock of financial resources (Killewald et al., 2017; Spilerman, 2000), since it constitutes an important basis for financial

security in the long run and thus can reduce life risks in the long term (Hällsten & Pfeffer, 2017; Rodems & Pfeffer, 2020). Moreover, legal regulations and the design of contracts required for the ownership of wealth impose limits on the transferability between partners. This is most obvious in the case of real estate assets, including homeownership, which have the lowest liquidity and, if owned only by one partner, also the lowest level of transferability between partners (Hällsten & Pfeffer, 2017). But also financial assets, such as investment shares, are mostly owned by one person and only become available if sold on the financial market (Nutz & Lersch, 2021). They offer slightly more liquidity in the short run than real estate assets but are still less easily transferable between partners than labour income.

Moreover, there are no clear institutional incentives to pool wealth throughout the partnership, a feature that distinguishes wealth from income. Even in the default matrimonial property regime, the community of accrued gains, personal wealth remains the individual property of the two partners (Nutz et al., 2022). In addition, wealth inequalities within couples are not visible in everyday routines but only become relevant in certain situations, for instance when couples separate (Boertien & Lersch, 2021; Kapelle, 2022). Persistent wealth inequalities within the couple often emerge from outside of the couple context—i.e., they are rooted in wealth differences from before union formation and result either from intergenerational inheritances and donations or from previous relationships or marriages (Fagereng et al., 2022; Joseph & Rowlingson, 2012). Therefore, the wealthier partner has a strong incentive to secure his or her individual long-term financial security, especially if one partner has higher debts. This does not preclude the wealthier partner from using their assets as a buffer for the less wealthy partner. Nevertheless, support and temporary redistribution are typically achieved by informal compensation payments rather than by changes in wealth ownership (Evertsson & Nyman, 2014; Joseph & Rowlingson, 2012). In couples with marked wealth inequalities, we thus assume that the norm of financial autonomy will prevail and make independent money management more likely.

In contrast, equal wealth distribution between partners mainly results from joint investments in assets (Nutz, 2022). Joint homeownership in particular is a common strategy of male breadwinning couples to compensate for unequal life risks in the long run that result from the division of paid and unpaid labour (Joseph & Rowlingson, 2012). This implies that both partners do not necessarily make the same financial contribution to the joint investment, but that ownership of the asset is shared equally. This might strengthen the norm of partnership solidarity through the sharing of resources. Therefore, we expect an equal distribution of wealth between partners to be associated with a higher likelihood of a pooled management system, while an unequal distribution of wealth should increase the likelihood of an independent management system (H2). Overall, the lower the transferability between partners, the stronger the association between the gender wealth ratio and couples' money management should be. We thus distinguish between owner-occupied housing wealth, which should have a low degree of transferability compared to other financial resources, and non-housing wealth, which should be more easily accessible for spending purposes.

4. Data, Measurements, and Methods

For our empirical analysis, we used data from the SOEP (v36; see Goebel et al., 2019). We relied on four survey years containing information on wealth (2002, 2007, 2012, 2017) and merged them with information on money management from subsequent waves (2004, 2008, 2013, 2018). Our unit of analysis was the couple. We limited our sample to heterosexual couples living in one household, with both partners aged between 18–64 years. We selected respondents who were both born in Germany and had German citizenship to ensure a comparable institutional frame for income and wealth accumulation. We relied on the imputed personal labour income, household income, and personal wealth data provided by the SOEP survey team (Grabka & Westermeier, 2015). Personal labour income was set to 0 for non-employed respondents with missing values. We addressed item non-response affecting other relevant analytical variables through multiple imputation by chained equations using Stata's mi procedure (version 16); to do so, we combined estimation results from five imputed data sets using Rubin's rule (Rubin, 1987). Table S1 in the Supplementary File provides an overview of variables used in the imputation process as well as information on the number and percentage of missing data. Since changes in money management practices were not the focus of our analysis and 50% of the couples in the initial sample were observed only once throughout the survey years, we further restricted our sample to a random draw of one observation per couple and two types of money management. The remaining couple observations were distributed equally across the survey years (Table S2 in the Supplementary File). Our final sample consisted of N = 8874 couples.

Our dependent variable was the couple's money management system, which was measured by the survey question: How do you and your partner (or spouse) decide what to do with the income that one or both of you receive? We used three of the five original response categories and recoded them into a dummy variable. Complete pooling (0) was based on the category *we pool the money and each take what we need*. Independent management of money (1) was measured by the two categories *each keeps track of his/her money* and *we each contribute to a common fund and keep part of our money for ourselves.* The latter refers to partial pooling. It requires an independent management to some extent and involves negotiations between partners on

spending decisions. We therefore perceived the practice of partial pooling as closer to a completely independent management of money rather than to complete pooling. Even though the stimulus of the question addressed income only, we nevertheless perceived the item to be a valid measure of money management in general due to the broader focus on money in the response categories. Couples with sole management by either the man or the woman were excluded (10% of couples). For most of the couples (87%), both partners' responses were identical. When responses did not match (11%), we randomly selected either the woman's or the man's answer (for a similar approach see Lott, 2017); in 1% of cases, we only had one valid response, which we used as a couple level indicator.

Our independent variables were relative labour income, relative non-housing wealth, and relative housing wealth within the couple. To measure relative income, we used the individual net employment incomes of both partners, which were adjusted for inflation using the Consumer Price Index set to 2015 prices. We focussed on net rather than gross income since it measured disposable income, which can be pooled by the partners or not. After adding up the net income of both partners, we calculated the woman's share of the couple's income and formed four groups: 0–<40% indicated that the woman had a lower income than her partner; 40–<60% indicated income parity within the couple; and 60–100% indicated that the woman had a higher income than her partner; couples without any labour income, i.e., those living on social security entitlements, were coded as a separate category, since some transfers, such as child and housing benefits, were household related and not paid individually.

To calculate relative wealth measures at the couple level, we used the personal gross wealth of both partners, since the gender wealth gap in Germany was mainly driven by gender disparities in gross wealth (Schneebaum et al., 2017) and it better reflected the long-term prospects for asset investments than net wealth. Personal housing wealth referred to the respondent's share of the monetary worth of the owner-occupied property. Personal non-housing wealth was measured by the respondents' shares of other property assets, financial assets, life insurance policies and private pensions, business assets, and tangible assets. These two personal wealth measures were inflation-adjusted to 2015 prices and top-coded for the extreme 0.01% of wealth values. After adding up each of the personal wealth measures of both partners, we again calculated the share of couples' housing and non-housing wealth held by women and categorised them into four groups following the operationalisation of labour income. We chose a categorial operationalisation of resource inequalities in order to directly assess possibly gendered associations with money management.

As the overall level of available resources has been shown to affect how couples manage money (Holst & Schupp, 2005; Hu, 2021; Lott, 2009; Ludwig-Mayerhofer, 2006), we added couples' total net household incomes, gross non-housing wealth, and gross housing wealth as controls. Furthermore, we included couples' total debts, comprising mortgages, consumer loans, and other liabilities (again all inflation-adjusted and top-coded). As data on income, wealth, and debts were highly right-skewed, we categorised couples into quartiles for each of these measures. Because there was a high share of couples without either housing wealth or debts, we grouped the first and second quartiles together. To check for multicollinearity, we estimated Cramer's V for the relative and absolute resource measures (Table S3 in the Supplementary File), which indicated low to intermediate associations and thus was not considered to be problematic.

At the couple level, we controlled for further variables that were possible confounders for the association between relative resources within the couple and money management. Compared to married couples, cohabiting couples had higher wealth inequalities (Sierminska et al., 2010) and pooled their money less often (Hiekel et al., 2014; Lott, 2009). The presence of children below age 18 in the household increased the within-couple gender wealth gap (Grabka et al., 2015) and led to a higher likelihood of pooling money (Hiekel et al., 2014; Lott, 2017). In contrast to the income gap, the within-couple wealth gap remained stable over the course of a partnership (Kapelle & Lersch, 2020), but the likelihood of pooling money increased with the couple duration (Hiekel et al., 2014). The gender wealth gap was significantly higher among West German than among East German couples (Grabka et al., 2015). Not only did income and wealth gaps vary by education and age (Sierminska et al., 2010), but the likelihood of independent management of money did so as well (Hiekel et al., 2014; Ludwig-Mayerhofer, 2006). Thus, we controlled for both partners' education levels, measured by recoding the CASMIN classification into low (1a, 1b, 2b, 2c_gen), medium (1c, 2a, 2c_voc), and high (3a, 3b) levels of education. Age was measured as age groups for the male partner and the age difference in years within the couple due to the high correlation between both partners' ages. Finally, we added dummies for the survey years to control for time-dependent variations. Summary statistics for all variables can be found in Table S2 in the Supplementary File.

To examine the association between relative resources and the way couples manage money, we first described within-couple resource inequalities in terms of income, non-housing wealth, and housing wealth. Second, we estimated logistic regression models with robust standard errors by applying a pooled cross-sectional design to use the full potential of the available data instead of focussing on one SOEP survey wave as a snapshot. In doing so, we analysed between-couple differences but not changes within couples. This would have required us to estimate fixed-effects models,

which was not possible due to the limited within-couple variation (<15%) in the dependent variable (for a similar approach at the individual level see Lersch, 2017a). Therefore, we were only able to descriptively assess the association between couples' resource constellation and their money management, but not to examine their causal relationship. We presented model results as average marginal effects (AMEs) of the different resource constellations and 95% confidence intervals. We employed a stepwise model setup for each of the relative resources, the corresponding overall resource levels, and the control variables to rule out confounder or suppressor effects (for full regression models see Table S4 in the Supplementary File).

To check that our results were robust, we ran several alternative model specifications and used alternative measurements. First, we applied a more detailed grouping to all relative resource measures (women's share: 0–<20%, 20–<40%, 40–<60%, 60–<80%, 80–100% and couples without income/wealth; see Table S5 in the Supplementary File). Second, we estimated separate models for each survey year with the full sample of couple observations, which, however, meant there were lower case numbers per model (Table S6 in the Supplementary File). Third, we changed the specification of the wealth measures by including overall gross wealth instead of distinguishing between housing and non-housing wealth (Table S7 in the Supplementary File). Fourth, we used quintiles as an additional specification to measure the overall levels of couples' household income, non-housing wealth, housing wealth, and debt (Table S8 in the Supplementary File). Finally, we estimated a multinomial logistic model that also included couples with sole money management by one partner (Table S9 in the Supplementary File). All alternative model specifications and measurements provided results that were very similar to our main results and indicated no significant deviations.

5. How Couples' Income and Wealth Constellations Affect Money Management

How do German couples manage money? On average, 68% of German couples in our sample pooled their resources and managed money jointly, while 32% applied independent management (see Table S2 in the Supplementary File). According to our theoretical assumptions, these different money management systems should have been associated with the distribution of financial resources within couples. Figure 1 presents a univariate description of couples' resource constellations regarding labour income, non-housing wealth, and housing wealth. It is apparent that, except for housing wealth, a large proportion of women had lower resources than their male partners. In 60% of couples, the female partner earned less, and, in 45% of couples, the female partner owned less non-housing wealth. In contrast, gender parity was most often reported for housing wealth (43%), but it was evident in only 20% of couples for labour income and 25% of couples for non-housing wealth. Women less frequently earned more and owned more wealth than their male partner, which points towards prevailing gender inequalities in income and wealth within couples and thus supports previous findings (e.g., England et al., 2020; Kapelle & Lersch, 2020; Minkus & Busch-Heizmann, 2020; Nutz & Gritti, 2021). A considerable share of couples did not own residential property (41%), which reflects comparable low

Figure 1. Distribution of labour income, non-housing wealth, and housing wealth within couples. Notes: Based on SOEP v36; unweighted; first set of imputed values used; *N* = 8874 couples.

homeownership rates in Germany due to strict mortgage regulations and modest returns to residential investments (Lersch & Dewilde, 2018; Skopek et al., 2012). Couples without any labour income (8%) or non-housing wealth (10%) were not very common.

How were inequalities in these different financial resources related to couples' money management? The results of the pooled logistic regression models for the likelihood of independent money management compared to the pooling system are presented in Figure 2.

Regarding labour income, we expected that an unequal distribution between partners would increase the likelihood of using the pooling system, while within-couple income equality would heighten the probability of employing the independent management system (H1). This assumption was supported by the analyses. The left panel of Figure 2 indicates that income inequalities between partners decreased the probability of using the independent management system. When women earned less than their partners, the couple had a lower probability of managing their money independently by about seven percentage points compared to couples with balanced incomes (model M8). When women had higher earnings than their male partners, the probability was five percentage points lower. This association was strongest when no further controls were applied (model M1) and after considering the couples' overall resource endowment (model M2). Yet it was still significant after controlling for further variables (models M7 and M8).

In line with previous research (Lott, 2009), the likelihood of employing the pooling system thus was higher for couples with unequal labour incomes in both male and female breadwinning couples. It seems that couples with unequal incomes pooled their resources and followed the reciprocal norm of partnership solidarity. The pooling system allows for equal access to money for the partner with the lower income and thus reduces resource inequalities regarding living expenses. In contrast, if income was distributed rather equally between partners, they adhered to the notion of financial autonomy, managed their money independently, and mitigated life risks in the short run rather individually.

Concerning wealth, we anticipated the opposite—we expected that an equal distribution between the partners would make the pooling system more likely, while within-couple wealth inequality would increase the probability of the independent management system (H2). Again, the results supported this assumption. The middle panel of Figure 2 shows that an unequal distribution of non-housing wealth within couples increased the probability of independent money management by about four percentage points, irrespective of whether the women possessed less or more than the male partner (model M8). For housing wealth, this association was even stronger (right panel of Figure 2). If women had a lower share of housing wealth than their partner, this increased the probability of employing an independent management system by 10 percentage points compared to couples with a certain degree of equality in non-housing wealth (model M8). If women owned more housing wealth than their partners, the probability was seven percentage points higher. Again, both associations

Figure 2. AME for independent money management. Notes: Logistic regression with robust standard errors; controlled for net household income, couple's total gross non-housing and housing wealth, total couple debts, marital status, children, couple duration, East German/West German/mixed socialization, woman's qualification, man's qualification, man's age, age difference between partners, survey year; based on SOEP v36; multiply imputed data; unweighted; *N* = 8874 couples.

were strongest in models without any further controls (models M3 and M5) and after considering the couples' respective absolute resource endowment (models M4, M6), but they remained significant after controlling for further variables (models M7 and M8).

An unequal wealth distribution within couples, therefore, increased the likelihood of using the independent management system for both housing and non-housing wealth. If both partners held about the same personal wealth, either in terms of non-housing or housing wealth, couples were more likely to pool their money. Couples seemed to follow the norm of partnership solidarity if they owned about an equal share of wealth, typically coming from joint wealth investments. In contrast, persistently unequal wealth distributions within couples increased the likelihood of independent management for both housing and non-housing wealth. This association was evident for both genders. Against the background of within-couple wealth inequalities, couples thus seemed to adhere to the notion of financial autonomy in the long run. This was most obvious for housing wealth, where ownership was gained through buying, donation, or inheritance. But this was also evident for non-housing wealth, which was often owned individually.

6. Conclusions

In Western industrialised societies, women earn less income and own less wealth than men, particularly within heterosexual couples. While previous research mostly sought to explain why women have lower income and less wealth than men, this article set out to analyse possible consequences of gendered resource constellations within couples. We started with the observation that having access to money in couples was not the same as the ownership of income and wealth but more strongly depended on how couples managed their money. Previous research already indicated that couples' income inequalities mattered in this regard. We expanded this literature by including within-couple wealth inequalities as an additional factor. Accordingly, we asked how couples' income and wealth inequalities were associated with couples' money management. By adding an explicit focus on gendered wealth inequalities, we aimed to contribute to the understanding of wealth as an independent dimension of social stratification (Hällsten & Thaning, 2022; Killewald et al., 2017; Pfeffer & Waitkus, 2021; Skopek et al., 2014).

To understand why couples pool their money or manage it separately, we developed hypotheses based on exchange theory. We perceived these two management systems as representing different norms of reciprocity guiding the exchange process—the norm of partnership solidarity and the norm of individual financial autonomy. Accordingly, we moved beyond the idea of money management as an expression of individual power, as previous studies have done (Lott, 2009; Yodanis & Lauer, 2007). We argued that the money management system adopted has different implications for making up for resource inequalities between partners, and for buffering life risks collectively or individually within the couple.

Our empirical analyses based on data from the SOEP demonstrated that both income and wealth inequalities between partners mattered, yet in opposite directions. Regarding income, a rather equal distribution strengthened the norm of financial autonomy for both partners and increased the likelihood of independent money management. In contrast, if one partner had less income than the other, the pooling of money seemed to strengthen the norm of partnership solidarity, where both gains and losses were shared equally between partners. This was true for both male- and female-breadwinner households, which pointed to historical changes in the way couples manage money: Today, modernized male breadwinning implies a sharing of resources rather than money management by men alone as was the case in the past (Pahl, 1989, 1995; Zelizer, 1989). At the same time, resource pooling helps female breadwinning couples to comply with traditional gender roles (Brines, 1994). Overall, our results indicate that money from labour income is easily transferred between partners and can therefore be directly used to buffer financial inequalities within the couple. This is supported by the German modified male breadwinner model, where social policies have been built on the implicit assumptions of separate spheres and of partners sharing their resources.

Regarding wealth, the norms of reciprocity associated with the respective management systems worked in the opposite direction: If both partners held about the same personal wealth, they were more likely to use the pooling system. Accordingly, they followed the norm of partnership solidarity and most likely established this equality through joint wealth investments (Kapelle & Lersch, 2020; Nutz, 2022). In contrast, couples with persisting unequal wealth endowments more often used an independent money management system. Thus, wealth inequalities within couples strengthened the norm of individual financial autonomy. Previous research supports this interpretation, since wealth inequalities within couples only became relevant in certain situations, for instance, when couples separated (Boertien & Lersch, 2021; Kapelle, 2022). Therefore, the wealthier partner had a strong incentive to secure his or her individual long-term financial security, especially if one partner had higher debts (Joseph & Rowlingson, 2012). At the same time, legal wealth regulations often restricted the transfer of assets between partners, which most likely encouraged independent money management. Since men hold more wealth than women, particularly regarding non-housing wealth, this implies that wealth inequalities were not buffered between partners but might have been reinforced by the independent money management system.

Overall, our results demonstrate that money within the household, either in terms of income or wealth, is not a power resource per se as resource theory

would suggest. Nor do all couples pool their money to increase the gains of the household as a unit, as the new home economics approach assumes. Rather, couples negotiate how to manage their money based on more complex exchange processes, with particular norms of reciprocity structuring the respective outcomes. About the (re-)production of gender inequalities in general, one major concern was that disparities in economic resources could eventually lead to less pooling and separation of resources between the partners, thereby reproducing inequalities within a couple (Pahl, 1995). However, current research highlights that the couple as a collective unit remains a strong normative ideal. Today, it is a major challenge for couples to balance their commitment to the couple as a collective unit and their pursuit of individual financial autonomy within the partnership (Evertsson & Nyman, 2021; Pepin, 2019). Taken together, our results demonstrate that income and wealth inequalities in couples are relevant for their money management, yet in very different ways. While income inequalities tend to be buffered by a pooling of resources, wealth inequalities are not. Thus, the latter might contribute to a reproduction of gender inequalities also in terms of other outcomes (e.g., Tisch, 2021).

However, the interrelation between these two dimensions of financial resources might matter for the adopted money management strategy too, which may suggest a pathway for further research. Moreover, the adopted money management could also have an impact on couples' future accumulation of wealth, which underlines the importance of a longitudinal analysis. Finally, further research will have to establish whether welfare state policies supporting a dual-earner model compared to male breadwinning result in different associations between partners' wealth constellations and couples' money management. This might also be the case when comparing East and West Germany, where historically varying property and gender regimes resulted in different levels of gender income and wealth inequalities, with possible consequences for couples' money management.

Our analyses faced several limitations. First, the stimulus measuring our dependent variable focussed on income management and not the management of all financial resources or wealth specifically. However, the answers to this stimulus referred to money management in general. It therefore remains an open question whether respondents included wealth management in their answers or not. It is necessary to develop better measures on how couples manage wealth, possibly by differentiating between wealth components. Moreover, the available items in the SOEP survey did not allow us to differentiate between money management, control over money, and spending decisions; nor was it possible to measure the varying norms of reciprocity related to the different money management systems. Finally, the between-couple analysis only allowed us to investigate associations between couples' resource constellations and their money management but not to assess within-couple variations, which would pave the way to a more causal analysis. More fine-grained measurements on how couples manage, control, and spend money would possibly increase the variation of couples' practices and therefore allow more causal analyses of the consequences of gendered income and wealth inequalities.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Wealth Accumulation and De-Risking Strategies Among High-Wealth Individuals

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Abstract
The emergence of the asset economy in advanced capitalist countries has enabled significant asset accumulation by high-wealth individuals, and the rise of finance has provided new, profitable investment vehicles for those with investable capital. This accumulation process has been described as a form of compensatory logic to achieve protection from future risks, especially in the current neoliberal environment with governments reducing state pensions while promoting tax-deductible private investments as a substitute for state provision. This article reports the results of qualitative research into the private wealth accumulation attitudes and behaviours of high-wealth individuals and their worries about achieving a comfortable retirement despite their substantial wealth holdings. Although the interviewees reside within the top 5% of the wealth distribution in the UK and would be expected to feel confident that their wealth will be sufficient to support their retirement needs, they convey a sense of uneasiness and concern that they will still not have enough to support their expected retirement lifestyles. In response to this perceived risk, these high-wealth individuals engage in a variety of what I call "de-risking" behaviours with the goal of mitigating the risk of insufficient wealth to support retirement. The article contributes to our understanding of the processes utilised by high-wealth individuals to help ensure they have sufficient wealth to support their desired comfortable retirement by engaging in strategies intended to de-risk their financial lives.

Keywords
de-risking; financialisation; high-wealth individuals; inequality; perceived risk; retirement; wealth accumulation

Issue
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1. Introduction

Although top-income earners, especially the infamous 1%, have received substantial scholarly, media, and political attention, the concentration of wealth is more extreme than the concentration of income (Atkinson, 2015; Piketty, 2014), with a tiny proportion of the population possessing significant wealth holdings, while large segments of the population have very little wealth, or even negative wealth holdings (Hansen, 2014). Each year, the Oxfam organisation releases its annual analysis of global wealth distribution, and over the last 20 years has reported staggering increases in the concentration of wealth in fewer hands (Ahmed et al., 2022). In early 2022, Oxfam reported that 2,668 billionaires—573 more than in 2020—owned $12.7 trillion of wealth, an increase of $3.78 trillion from the previous year, and the world's 10 richest individuals (all men) possessed more wealth than the bottom 40% of the global population of 3.1 billion people. Although the topic of income distribution, and especially the focus on top incomes, has attracted increased scholarly attention, the study of wealth and accumulation is a relatively recent stream of research. Early articles pointed to wealth as an under-researched aspect of economic inequality (Keister & Moller, 2000; Spilerman, 2000), with a growing number of researchers now examining the increasing concentration of wealth at the top of the distribution (Acciari et al., 2021; Saez & Zucman, 2016). Several important research streams have emerged from this research, including efforts to

understand the effect of wealth on other socio-economic outcomes, and highlighting the need for further research into both the determinants and outcomes of wealth, as well as the need for sociological insights into wealth-generating and accumulation processes (Keister & Lee, 2014; Killewald et al., 2017), including wealth accumulation processes over the life course (Keister, 2014).

This research examines the perceptions and behaviours of high-wealth individuals and finds that despite their substantial wealth holdings, they remain fearful that their wealth will not sustain their desired comfortable retirement and adopt de-risking strategies to mitigate against this perceived potential financial hardship.

2. Why Study the Wealthy?

The role of the wealthy in escalating inequality is unequivocal and, as Carr (2019, p. 43) stated, "their financial management practices exacerbate wealth inequality." Financialisation has provided them with the opportunity to expand their wealth dramatically over the last 20 years, by benefitting from an environment that enables greater returns from capital than from labour (Piketty, 2014), providing them with access to exclusive, and often exotic, financial instruments that generate high returns, and having the financial ability to acquire the services of accountants, lawyers, and financial advisors to help them preserve and expand their wealth efficiently while minimising taxes (Harrington, 2016). It has been pointed out that the rich often have the luxury of flexibility in deciding when and how to receive income, including realised capital gains (Corlett et al., 2020), providing them with greater manoeuvrability to minimise their taxes payable. These researchers also found that 92% of taxable capital gains go to the top 1% of the income distribution, therefore illustrating the ability of the rich to derive lower-taxed income from capital gains. Globalisation is providing the opportunity for the wealthy to lower their tax burden by shifting assets and income to lower-tax jurisdictions (Harrington, 2016; Shaxson, 2011). The ability to dramatically expand and preserve wealth in a highly financialised economy means that the possession of financial capital becomes an even more potent and differentiating characteristic across the wealth distribution.

Piketty (2014) demonstrated that wealth inequality has exhibited a major uptick in the US since 1970, and in Europe since about 1980, and suggested that the significant increase could be attributed to the rate of return on capital exceeding the economic growth rate ($r > g$), and described the $r > g$ formula as the central contradiction of capitalism, arguing that:

> $r > g$ implies that wealth accumulated in the past grows more rapidly than output and wages. This inequality expresses a fundamental logical contradiction. The entrepreneur inevitably tends to become a rentier, more and more dominant over those who own nothing but their labor. Once constituted, capital reproduces itself faster than output increases. (Piketty, 2014, p. 571)

Furthermore, he argued that "unequal access to high financial returns" is a key driver of the gap between the return on capital versus economic growth. Since financial wealth can attract higher returns than the general rate of economic growth (including the growth of labour income), the preservation and expansion of the privileged economic position of the rich is assured (Nau, 2013; Piketty, 2014; Roberts, 2019). Saez and Zucman (2016) argued that divergences in financial returns across the wealth distribution have been one of the most important drivers in rising wealth inequality in the US over the past few decades. These findings highlight the importance of accumulated wealth, especially in the form of financial assets such as stocks, bonds, and other yield-producing instruments, as well as real assets such as property, as they have expanded in value to a greater extent than labour-based income.

Although conventional wisdom suggests that the wealthy allocate more of their investment capital towards higher-risk assets with potentially higher returns, Fagereng et al. (2020) examined returns on wealth and found that even their investments in more conservative financial assets generated higher returns. The data showed that those in the 75th percentile of wealth distribution who invested $1 in 2004 would have yielded $1.50 by the end of 2015—a return of 50%—while those in the top 0.1% would have achieved $2.40 on the same invested dollar—a return of 140%. They suggested that this heterogeneity of risk-adjusted returns across the wealth distribution may be a result of the wealthy being more financially literate and sophisticated, and may have access to exclusive investment opportunities, more capable financial advisors, and greater access to financial information.

The safety net provided by private wealth has been suggested as a form of buffer which can mitigate the negative impacts of adverse life events such as illness, divorce, job loss, or life choices such as discretionary retirement (Killewald et al., 2017) by providing direct financial support. Private wealth can function as a substitute for state-provided welfare support, and previous research has found that private wealth is more important in countries with minimal provision of state-sponsored social benefits (Maskileyson, 2014; Pfeffer & Hällsten, 2012). In the case of UK residents, the state pension currently begins at age 66 for both men and women, although 30 years of contribution to the National Insurance program is required to be eligible for the current full pension amount of £9,627.80 per year. This pension income is taxable for those earning more than £12,571/annum. For wealthy retirees who wish to maintain their standard of living, the UK public pension payment represents a minuscule portion of their financial need, and for most, the state pension income will be

clawed back via progressively higher tax rates based on total income.

3. Who Are High-Wealth Individuals?

Advani et al. (2020, p. 7) analysed wealth distribution in the UK using the Office of National Statistics' Wealth and Assets Survey, which they described as "the best source of data on the wealth holdings across much of the UK's wealth distribution." They examined the distribution of wealth in the UK, comprising five categories of assets: physical assets (vehicles, home contents, etc.), property assets (real estate), financial assets (stocks, bonds, cash, etc.), business assets (vehicles, raw materials, inventory, equipment, cash, etc.), and private pension assets (occupational and personal pensions, excluding future state pension payments). They pointed out that wealth can be defined differently, as there is considerable variation in the processes and accuracy of the valuation of these different types of assets, and suggested that these assets can be valued using the "open market value" principle which is the price which the asset might reasonably be expected to fetch if sold in the open market. The valuation of pension, financial, and real property assets, they suggested, is fairly straightforward as much of this data resides in financial institutions or can be calculated with input from regulators (e.g., The Pensions Regulator) and government agencies (e.g., the Valuation Office Agency for property). More problematic is the valuation of business assets, described as hard-to-value assets by Advani et al. (2021), given the fact that these are often illiquid assets with no easily accessible benchmarks for valuation. As well, there is a risk of double counting; for example, an individual may include a vehicle as a personal (physical) asset, but it may also be included as a business asset if used for business purposes.

Business assets include the value of assets used within a business in which the respondent is self-employed or is a director or partner. Recent research has illustrated the importance of business assets in the calculation of wealth; for example, Keister et al. (2021) pointed out that business assets can be instrumental in elevating individuals into the top wealth realms such as the top 1%. However, according to research by Advani et al. (2020), in reality this is a material factor only among those at the upper end of the wealth distribution (net wealth over £5 million per adult) than for families with lower wealth levels whose wealth is more dominated by property and pensions. In light of the challenges of valuation of business assets and the smaller proportion of this asset class below the top 1%, the criteria I used for interviewee selection was based on financial assets as they are the most liquid and malleable in terms of portfolio composition and management; however, the value of the other asset classes provided further wealth context for this group.

An in-depth quantitative analysis by Advani et al. (2020) indicated that those with a minimum of £250,000 of purely financial assets (excluding private pension, property, business, and physical assets) correspond approximately with the top 5% across the UK wealth distribution and represent about 2.5 million adults in the UK. This group of the top 5% of wealth-holders is described by the researchers as part of a group of "high-wealth" individuals, and they will be referred to as such throughout this article. The top 5% hold about £1.5 million in total wealth across all five asset classes, with about 42% of their wealth (£630,000) composed of private pension assets, 31% in property assets, and about 7% in private business assets. Given that the top 5% hold about 16% (£240,000) of their wealth in financial assets, a minimum threshold of £250,000 in financial assets for interviewee recruitment would correspond approximately with the top 5% of wealth-holders, according to the Advani et al. (2020) analysis.

As a further corroboration of the Advani et al. (2020) definition of the top 5% high-wealth, the Financial Conduct Authority (2022) has stated in their handbook that they define a "high net worth investor" as an individual having £250,000 or more in financial assets.

4. Methodology and Research Design

It can be extremely challenging to identify, access, and recruit wealthy people for research purposes (Sherman, 2017). Three key approaches were deployed in order to identify and recruit appropriate interviewees for the research: (a) networking at various in-person conferences and seminars such as finance-oriented conferences and professional organisations' meetings and seminars, (b) recruitment from LinkedIn and professional associations' membership lists, and (c) snowball recruitment techniques.

At the conclusion of each interview, participants were asked if they could suggest others who had achieved financial success and who may be willing to participate in the research, and many did provide some names and contact information once they confirmed with the potential interviewee. This snowball method generated many excellent candidates for participation in the research, and a list of additional interviewees was created throughout the project, with follow-up and scheduling activities undertaken.

Participants completed the consent form along with a brief questionnaire to gather basic demographic information (gender, age) and key financial information (amount of financial assets) to ensure they were qualified to participate in the research; specifically, as discussed above, eligible interviewees were required to have financial assets of at least £250,000, thereby putting them in the top 5% of the wealth distribution in the UK (Advani et al., 2020). All 35 interviews were audio-recorded and transcribed afterwards. Although the questionnaire did not request income or education information, the job titles of the interviewees suggested that they are engaged in senior roles mostly in

finance, consulting, IT, accounting, manufacturing, law, etc. The age of interviewees ranged from 35 to 64 and it was revealed during the interviews that all had achieved a university education to a minimum of a bachelor's degree, with many having attained a master's degree and one with a PhD. The interviewee pool comprised 20 males and 15 females. In the course of the interviews, additional details emerged regarding homeownership (all owned a principal residence and many owned recreation/investment properties), as well as children (all had children except for four interviewees). All interviewees resided in England, primarily in London although extending beyond to smaller towns, but they often travelled to London for business and personal reasons.

The interviews were scheduled for 45–60 minutes, at the interviewee's place of work or an agreed-upon location in central London, or by Zoom in a few cases. A semi-structured interview guide was used during the interview to attempt to ensure that all key topics were discussed during the interview, although in some cases it was not possible to get through the entire guide due to prolonged conversations on specific topics based on interviewees' interests. The interviews were audio-recorded and transcribed, and the data were analysed using thematic analysis to identify key themes across the data corpus.

5. Findings

This section will report the findings from the analysis and is divided into four subsections: objectives for wealth accumulation, goals for retirement, fears about insufficient wealth, and perceived risks to wealth holdings.

5.1. Objectives for Wealth Accumulation

Cagetti (2003) has suggested that two of the primary reasons to accumulate wealth are to finance expenditures during retirement (retirement or life cycle motive) and to protect consumption against unexpected shocks (precautionary motive) such as job loss, divorce, or illness. Individuals are subject to several sources of risk (in earnings, health, mortality, etc.), and an important way to self-insure against them is to accumulate a buffer stock of wealth, thereby providing the ability to finance future consumption such as during retirement.

The interview data indicated an overwhelming and universal priority for these interviewees was to ensure that they had sufficient wealth to sustain a comfortable and fulfilling retirement, with a frequently stated preference for early retirement (before state retirement age). All interviewees stated that having sufficient wealth to support retirement was their primary reason for wealth accumulation, with the objective of maintaining their lifestyle and allowing them to engage in a wide variety of activities and new experiences during retirement. This finding is consistent with research by Cagetti (2003) on individuals' objectives for wealth accumulation.

5.2. Goals and Preferences for Retirement

Interviewees described their goals for retirement, with most focusing on maintaining their current comfortable lifestyle and having the financial resources to enjoy life:

> J1: [What] I realised a long time ago, like, when I was thinking about money, is: What do I care about? Right, like, just care about having enough to live and having enough to be comfortable.

> K1: I think how much is enough is that once I retire that I could sustain the lifestyle that I had, right? So that was my bar. Yeah, that was my bar, but my threshold was will I be able to live the way I thought, and you know, so I'm comfortable.

> H11: Primarily retirement, and freedom. To do nothing. A lot of people you know, take art classes, but the freedom to do nothing, I like to do nothing.

> K2: Well, I would say that old adage, I've been poor, and I've been wealthy, and wealthy is better. It's a matter of having options.

Others had more exotic retirement activities in mind:

> W1: Buy a half-million-dollar ocean-going powerboat. It's a Nordhavn 47. They last forever, buy it for half a million, sail it around the planet once or twice in a two- or three-year period, and sell it for 475 or 450k. But it will enable me to travel the world and have a vessel which is my accommodation, transportation, and entertainment all in one and to tuck into places in the South Pacific that very few people really get to see. And live that dream for a couple of years, and then do something else and then do something else again.

> W22: We love to travel. We love to get out and experience things. So that's a bit of a selfish thing. What do I get out of it? It's only me that gets something out of it. But I enjoy that, I thrive on that, that's part of happiness, happiness as an individual, happiness as a couple, happiness as a family. So, part of the reason why I invest is to make sure I have enough money to be able to enjoy life.

> K3: But in terms of enough, I would be just as happy opening up a bike store in Maui.

> K2: And I would like to be able to travel and live a decent quality of life while I'm here. Because it's a short ride, and it's getting shorter every hour. I want to look at real estate, I want to look into antiques, and I want to goof off with my friends.

5.3. Fears About Not Having Enough

Despite the fact that these interviewees are in the top 5% of the wealth distribution, with at least £250,000 in financial assets and about £630,000 in private pension wealth, they are still worried about not having enough, about running out of money to support themselves in retirement, and the stress associated with potential financial hardship:

> W22: I am rich, but I'm not really, I don't ever consider myself that because I think I'm gonna live till 85. I look at my, you know, my bank account, my retirement plan, do we have enough money? You never know if you really do have enough money. Because it's a dog-eat-dog, tough world out there. Money isn't everything, it isn't, but it does help you be less stressed in this world.

> B1: The problem you have is that, how can I put it, the care safety net, pretty much doesn't exist in Britain. But theoretically, I could live another 25 years, my wife could do the same. And if one of us had long-term care requirements, you know, that money goes pretty quickly. So, on the one hand, you would like to be able to gift money to the kids, on the other you can end up without your own safety net.

> W22: We're growing older, and we're going to need some capital so that we're not destitute, you know, you need some money and that your children don't have to be accountable for caring for me, right? So, part of my motivation is just having enough that I'm not a burden on anybody. Because likely I will outlive Brian, likely. I may have dementia; my mother has dementia. So, you know, that's very likely to be my scenario.

5.4. Perceived Risks to Having Sufficient Financial Resources to Support Retirement

Interviewees expressed concern about several risks that could cause them to have insufficient money for their retirement, including fear of making bad financial decisions due to emotions such as greed, egocentrism, hubris, emotional attachment, and worry about the risk of missing out on opportunities to preserve or expand their wealth.

5.4.1. The Risk of Making Bad Decisions Due to Emotions

Many interviewees expressed fear of making bad decisions which could threaten their financial well-being, especially in anticipation of retirement needs, and often blamed "emotions" as a risk to good decision-making. In some cases, interviewees cited previous situations where emotional decision-making resulted in a substantial loss of capital. B2, for example, was extremely animated when describing a bad decision involving his emotional attachment to an asset, expressing significant distress, upset, and regret about the experience, and was adamant that he will never make the same mistake and will tell others (everyone) not to make this same mistake:

> B2: I've made one very big mistake in my investing career. And that was to buy a boat, which I thought was going to be the foundation of a business. There was an emotional attachment to the river. And I let that emotion go too far in terms of the investment in the boat. And that was really, really foolish. The most important thing is knowing, thinking that you have an exit. And at the time, the exit that I thought I had turned out not to be one. And, therefore, it became very, very difficult to try and get out of that situation. It felt so good, old timbers, but that was a bad decision. I will go so far as to write that down in big capital letters for my kids, and, hopefully, they'll pass it on to their grandchildren. And I'll just tell them again and again and again. And again. Whatever you do in life, don't buy a boat. No, never, ever, ever, ever invest in a boat. I will never ever forget that. And I'd like to tell that to the rest of the world.

K2 referenced the pressure to preserve his substantial wealth and the potentially destructive impact of "stupid" ego-driven decision-making on wealth holdings:

> K2: You know, it's not all what people think it's cracked up to be. The more you have, the more pressure there is to keep it. And I think, yeah, that's right. But I feel that and just because you've got 50 million bucks in the bank, you can do a couple of really stupid egocentric moves, you can be down to 10 in a hurry. And people with nothing think 10 million is a lot of money. Make another bad move? You're in a tent. Yeah. Yeah. And it happens. It happens.

The negative effects of greed, hubris, and ego-driven decisions figured prominently in the comments of several interviewees:

> B2: The other thing is the biggest danger. And again, I've seen it time and time again, including in the business that I was involved in, is this wonderful world of hubris. And the moment that people think that they are super smart because they've done well, that's probably the most dangerous thing you can ever do. So, it's absolutely natural human nature to be greedy.

> K2: And so, the more money you have, I see that, I see it in the world of antiques and art, completely. Oh, I have so much money, I make good decisions. And they've done no studying. It's all ego and bank account. Watch me, I can afford to buy that. I don't really understand what it's all about. But that hotshot

> salesman for the biggest gallery in town, he says I shouldn't be doing it. Watch me, I got the money, I'm gonna do it. And there's a bunch of them that elevate the whole thing. Tell me why Rolex watches are worth 100,000 pounds. And, you know, it's, it's because they've got the money and they think, well, I'm worth it.
>
> T1: Men lie about a few things all the time. One of them that I can speak to, is how they do on their investments. Right. And so, it's more ego-driven than it is anything else. I think men have more ego quite often, women may be more trying to accomplish a goal which doesn't involve their self-worth as a person.

The concept of "loss aversion" can be invoked to help explain these (often seemingly extreme or exaggerated) reactions to bad decision-making due to emotions such as greed, hubris, ego, and emotional attachment. Loss aversion draws from the behavioural finance discipline and is defined as the tendency of investors to experience regret about having incurred losses, which leads them to try to avoid future losses and the accompanying upset and regret (Kahneman & Tversky, 1979). Loss aversion usually results in investors being more distraught about losses or potential losses than they are pleased with financial gains (Gupta & Shrivastava, 2021). In other words, losses loom larger than gains in financial decision-making. The role of sentiment and emotions in wealth accumulation and investing is well-established in the literature (Piñeiro-Chousa et al., 2016). Landberg (2003) suggested that all investors are guided by two basic qualities: fear and greed.

The explicit reference to greed, fear, and regret expressed by several interviewees would suggest that loss aversion often underpins financial decision-making among this group and generates anxiety and distress in the face of financial losses or potential losses. Despite the substantial wealth holdings of this group (top 5% in the UK), they still experience worry and fear about their wealth and the risk of losing some or all of their wealth holdings. The concept of loss aversion provides a useful lens through which to understand this seemingly groundless fear.

5.4.2. The Risk of Failure to Retain/Expand Wealth

Several interviewees talked about the existence of worries and stress about experiencing loss of wealth by missing out on an opportunity to retain/expand wealth, or not having the things that others possess and the pressure to keep up with or surpass others' wealth:

> B2: And then you get this from another human psychology cycle, a thread, which is called FOMO. Fear of missing out. And it's actually like you realise there's a relativity, so you might have made 10 million, but the next guy's made 100 million. The moment a guy bought a flat in Verbier (Switzerland) was the seed of the disaster because you have a five million pound flat here, someone else got a 50 million pound flat.
>
> W22: I was looking at the market, and I'm one of those shareholders going, dammit, dammit, look at it, it's going down, going down. I watch, I look at my stocks.
>
> K3: The problem I have is I'm always thinking about tomorrow. People stress, always thinking about tomorrow. So, if you keep thinking about tomorrow, it stresses you out.
>
> W22: But I mean, ultimately, the reason why I invest is because it would be dumb not to just as an individual because you know there's opportunity to grow your money.
>
> D1: If I was 87 years old, I would be worried because I wouldn't know whether or not I'd see the cycle return before I kicked off. Touch wood I'm gonna be around long enough to see the assets bounce.

"Fear of missing out" (FOMO) emerged from the discipline of behavioural finance (Dogan, 2019; Hodkinson, 2019) and is described as a well-established and embedded concept that leads individuals to believe they are missing out on an opportunity or event that others are enjoying; or in this study, missing out on an opportunity to retain or expand wealth. Gupta and Shrivastava (2021) suggest that an investor's financial decisions are knowingly or unknowingly influenced by feelings of FOMO. The same can be said about investors who, under the influence of the desire to earn higher profits, may feel they could miss out on potential opportunities if they do not take immediate action (Kang et al., 2020).

B2 explicitly references FOMO in the context of someone else having more capital than you or something better/bigger/nicer than you have, and he views this as a recipe for disaster. It can be inferred from his comments that he feels that individuals can potentially be influenced by FOMO to their detriment, especially if FOMO drives them to make misguided decisions based on what others have. WFJ observed that it would be "dumb" not to invest capital, given what they perceive as an undeniable opportunity to make money and not engaging in investing would essentially be "missing out." D1 references the temporal aspect of wealth accumulation and the notion that, given enough time, wealth expansion will always occur in the long run; this reflects not only their willingness to engage in patient investing so as to avoid missing out on capital growth but also a seemingly unswerving faith in the capital-expanding power of the financial markets.

6. Responses to Fears and Risks: De-Risking Strategies of the Wealthy

The data indicate that, surprisingly, these high-wealth individuals feel that they are exposed to risks that could threaten their financial security and retirement plans, deplete their substantial wealth holdings, or fail to capitalise on opportunities to expand their wealth. How are the wealthy responding to the stress of this perceived threat to their financial well-being and the implications for their desired comfortable retirement? They are engaging in a variety of behaviours which I am describing as "de-risking" strategies. I borrow this term from other contexts and suggest that it appropriately describes the responses of this high-wealth group of individuals to financial risk, although it has not previously been used in a sociological context such as this study. The term de-risking is often used in the context of financial institutions which selectively terminate relationships with some high-risk clients. It is also used in the discipline of project management, where de-risking refers to identifying risks to large-scale projects and taking actions to mitigate the risks. It is also used with respect to asset allocation models in portfolio analysis to achieve a target asset mix. In this study, I use the term de-risk to describe how interviewees develop and adopt actions to mitigate the perceived risks associated with potentially having insufficient wealth, thereby threatening their financial well-being and their retirement plans.

To reiterate, the two primary risks emerging from the data include (a) the risk of emotions leading to bad decision-making which arises from loss aversion, and (b) the risk of capital depletion or failure to expand wealth, resulting in perceptions of FOMO. Specific strategies for dealing with both of these risks were articulated by interviewees, as follows.

The first strategy was to de-risk by hiring professional financial advisors to remove emotions from wealth decision-making and provide objective advice based on interviewees' wealth needs and philosophies. Many of the interviewees stated that they obtain financial advice from independent advisors, and expressed confidence in the wisdom of this decision and the associated costs, thus directly addressing their risk of feelings of loss aversion and FOMO by relying on outside experts to inform their wealth strategies:

> K2: I am fortunate enough to have advisors that know what my principles are and what my objectives are. And, yeah, they're going to try and keep my money secure and give me a good return.

> K1: I trust that my advisers tell me when I should make a change, which they do. So, me personally, right now, I don't have confidence in the way it's going, generally, but I have confidence that I'm being taken care of.

> T1: I've had the same broker who went to university with me, right, same guy for 30 years. And he understands, and my philosophies changed over 30 years. But generally speaking, it's a weekly discussion on where the portfolios stand, what's winning and what's losing. So, we're, like, where, what, where are the holes in the bucket? And what are we going to do about it? What the current trends in the market are? And how do we anticipate it? And he'll make a recommendation.

> B1: I've always seen the value of independent advice. I've been prepared to pay the money for that. A lot of people, they don't have enough money to afford to do that. Or they just don't see the need for that. And they make decisions without advice.

> J1: It's just purely here, here's my money. I have a financial planner and good luck with it. To be honest, there's really no conversation at all. I don't even care what the return on investment [is], it's just as long as it grows, it's fine. I got other things to do.

K3 spoke directly about the need for emotional detachment from wealth accumulation decisions in order to avoid "stupid" emotion-driven decisions, and his willingness to pay for achieving that emotional distance: "Even though I know how to manage money…I give it to a money manager because investing is emotional. So, he's a gatekeeper to me, and I'll pay for that because I'll make stupid moves."

The second strategy was to de-risk by capital preservation through expense/debt reduction and tax reduction strategies to protect wealth holdings. Many interviewees were highly focused on preserving their wealth holdings through careful management of their own debt and expense behaviours:

> M1: But I've got rid of my mortgage, which is the big sort of safety thing that you always have there, that it doesn't really matter what happens in your life, you've always got your home.

> H11: So, you know, I think I did very well. But I could have had a much bigger house, or I could have had a cottage or a new car every year. Well, then, you know, or maybe I wouldn't have had this house then, if I'd done that.

> W22: I'm not a big spender. I'm not that. You know what you need. I'm not a big shopper like, you know, I bought this top 10 years ago. I've had these shorts like for 12 years.

Interestingly, one interviewee proudly boasted about his focus on saving money, by simple actions such as getting a takeaway meal versus an eat-in meal and thus saving £2 as a result. However, he also mentioned that he is

perfectly comfortable with spending £3,000 on a single antique item, feeling that it was a good decision:

> K2: I went into a Japanese restaurant in Piccadilly. And I said, I thought you know what, I'm really hungry. I had very little for breakfast. It's already two o'clock. And so, I bought a thing of sushi. And I bought a thing of like, teriyaki chicken, rice, or whatever. It was £5 and £5. And she said, are you going to eat it in or taking it? And I said, I'll eat in. And she said, that's £11.98. And I said two pounds, just eat it here? She said yes. I said I'll take it. So, she cancelled the transaction and charged me £10. And I stood on the sidewalk for five minutes, and I ate it, and I saved two pounds. I'm okay with that. And yet, I'll go buy an antique candlestick for £3,000. And say well, that was a good deal.

Others were intently aware of the benefits of careful tax strategising to retain wealth:

> K3: Okay, so this is where I am coming from, a high net worth place. I've seen people trying to save a million dollars of taxes, but they will spend $900,000 on lawyers and accountants. I don't know if they pay a premium in their life to reduce complexity. I will. And they also had tax accountants and lawyers who structured family trusts to minimise their taxes. They're still playing within the rules of the game. Yeah, but you can minimise your taxes.

> K1: It's tax avoidance. It's simple. Everybody knows they're doing everybody knows you're doing it [in] those countries if they do it, and it's legal. It's perfectly legal.

> C1: I think there was a general understanding amongst the industry that it [carried interest income]is a loophole, and that it ought to be closed from a purely public policy perspective. I think that that's how they looked at it, I'm getting paid this, I can structure it in a way where I'm paying lower tax.

> T2: So, I think we should all be tax efficient, and we shouldn't be paying more than what we need to. And, you know, we need to be making sure that we're claiming for everything that we're allowed to. Tax avoidance is finding loopholes [so] as not to pay a tax that you in theory should be paying, right. So be tax efficient, be tax savvy.

7. Summary and Conclusions

This research has found that the high-wealth individuals in this study, occupying the top 5% of the wealth distribution in the UK, experience fear and worry about the ability of their substantial wealth to sustain them into retirement. Despite having both significant financial assets and private pension assets, they still perceive the existence of risks that could jeopardise their plans for a comfortable retirement. Risk, it seems, pervades the thinking of the wealthy in financial matters but seemingly in many aspects of their lives. For example, K2 discussed risk in a broader holistic manner in terms of life decisions:

> K2: I was very, very fortunate in terms of what I made. I tried to say to my kids. And as they were growing up, I would, I would say to them, and I believe this to be true, that life is a series of decisions and it only takes one or two bad ones, and you're screwed. So be very deliberate and careful. It is about calculated risk. It's not just investments, it's about life, who your friends are, how you choose to spend your time, how many drinks you've had before you get behind the wheel of the car. There's a lot of opportunities to really make a mess of things. And there but for the grace of God go I, and so I've been pretty fortunate.

The contemplation and adoption of specific financial de-risking strategies by these high-wealth individuals is evident in this study, indicating that risk is a phenomenon that requires acceptance and thoughtful consideration in terms of how they manage and mitigate financial risk. This study has provided insights into the stress and fears of high-wealth individuals in response to the perceived risk of insufficient wealth to provide adequate retirement income. Although this research did not specifically explore the happiness levels of the high-wealth interviewees, this finding does seem to conflict with the commonly held view that the wealthy derive happiness and comfort from their substantial wealth (Clark et al., 2008; Jantsch & Veenhoven, 2018).

The interview data also provided insights into the degree of understanding and acceptance of financialisation as described by Fligstein and Goldstein (2015) in their landmark article noting the rise of a finance culture at the household level following the broader financialisation of the economy and society. The interviewees generally expressed high levels of comfort and fluency with finance and economics and the processes of wealth accumulation. The financial acumen and fluency of the interviewees are exemplified by these comments from V1:

> V1: So, if you look at a developed market, rates would be 1 to 3%. Yeah, but your stock market would give you 5, 6, 7, 8%. If you look at developing markets, the loan rates could have been 7, 8, 9%, and your portfolio could have given 10, 12, 15, 20% return. So, you have an alternate cost. That's one. Second, for your mortgage you're taking for your primary residence, right? Through the early part of your career, a majority of the return that you make in your network is through appreciation of your primary residence. Right? Right, right, because initially 40% of my annual income was going to pay for my house, yeah, 40%, women up to 60%, then 40%. And then gradually, that is a big component. If you can leverage and

take a loan and you have some margin money, then that's what creates wealth, right?

Furthermore, the research did not examine the macroeconomic context of interviewees' wealth accumulation attitudes and experiences and, given the current turmoil in the economies of many countries including the UK (such as spiralling inflation and interest rates), this may be contributing temporally to their feelings of unease and concern about the ability of their wealth to support their desired comfortable retirement, including the de-risking mechanisms they have adopted. The interviewees were knowledgeable and keenly aware of current events in the financial markets and fluctuations in broader economic indicators and, as such, they may be hyper-sensitive to geopolitical and macroeconomic upheavals that could impact their wealth and the performance of their investments.

Those with lower levels of wealth may not experience the stress and fears engendered by wealth accumulation for retirement purposes and may in fact be dependent on state-provisioned pension income. Future research could include qualitative research with less affluent individuals to understand their attitudes and behaviours with respect to wealth accumulation and retirement plans. Future research could continue to explore the conceptualisations of risk in the lives of the wealthy, not only in the financial domain but also in terms of family, education, career, health, and other life course events.

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Conflict of Interests

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