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Examining the Dynamics of Saving Inequality between 1995 and 2018: Evidence from 10 Western Countries

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Abstract:

Previous research has focused primarily on income and wealth inequalities, with less emphasis on saving behavior which is one of the key mechanisms linking these components. This study examines the extent of disparities in household saving behavior across Western countries and how these disparities have evolved over the past two decades. Using data from the Luxembourg Wealth Study (LWS), the most comprehensive dataset on saving behavior to date, this analysis covers 10 countries between 1995 and 2018. The analysis yields three key findings. First, saving inequalities are most pronounced in Spain, Finland, Italy, and the United States. However, the baseline of likelihood of saving among low-income earners vary significantly. Bottom quartile earners in the United States and Finland report saving behavior eight times higher than their counterparts in Italy, and twice that of Spain. Second, saving behavior correlates more strongly with a country's economic performance than with its welfare state or social expenditure levels. Third, the financial crisis impacted saving behavior differently across countries. It reduced saving for all economic strata in Italy and Slovakia, while increasing saving inequalities in Austria, Spain, and the United States.

Keywords: Saving Behavior, Welfare States, Financial crisis, Cumulative advantage

JEL classification: D14 Household Saving; Personal Finance, E21 Consumption; Saving; Wealth, H55 Social Security and Public Pensions, I38 Welfare, Well-Being, and Poverty: Government Programs; Provision and Effects of Welfare Programs, P52 Comparative Studies of Particular Economies

1. Introduction

Scholars have studied income and wealth inequality extensively. This research found that median income growth has slowed in Western countries since the 1980s (Nolan, 2020), which has contributed to rising income inequality. Moreover, studies suggest that high income inequality in some countries does not necessarily coincide with significant wealth inequality (Pfeffer and Waitkus, 2021). In essence, income and wealth disparities are not consistently correlated at the national level (Killewald et al., 2017). While studies on wealth and income inequality have expanded in recent years, saving behavior, a critical intermediary between the two, has been largely overlooked by researchers.

Examining the likelihood of saving could help explain better the weak relationship between wealth and income inequality. Moreover, studying saving behavior independently of the income-wealth link is important for several reasons. First, saving is crucial for households' financial stability, helping them weather economic uncertainties, achieve long-term goals and gain access to housing. Second, savings play a critical role in supporting a nation's economic vitality. They do this in two ways: by providing funds for investment in businesses and infrastructure, and by giving people the financial security to spend on goods and services. Both of these activities are essential to economic growth. Third, by studying whether people save, we gain valuable insights into society's attitudes toward spending and financial planning. This information helps shape economic policy. Thus, examining saving behavior and saving inequalities is as important as analyzing income or wealth inequalities. Despite its importance, research on household saving behavior remains scarce compared to income and

wealth inequality. While there are some early studies (Carroll et al., 1994; Carroll and Weil, 1994; Hubbard et al., 1995), this area of research has been largely neglected more recently.

This article addresses several important research questions. First, how does the propensity to save vary across households with different levels of purchasing power and across Western societies? Second, is saving behavior strongly correlated with a country's economic strength or its social expenditure? Third, did the 2008 financial crisis and the double-dip recession aggravate saving inequalities? This study makes several important contributions to the field. First, it addresses a notable gap in the literature by examining saving behavior as a critical link between income and wealth inequality. Second, by analyzing data from 1995 to 2018, the study provides valuable insights into long-term trends and changes in saving behavior across several countries. Third, the use of the Luxembourg Wealth Study allows for a comprehensive comparative analysis that was previously difficult due to data limitations. This research deepens our understanding of saving patterns across socioeconomic groups and countries, while also exploring the interplay between macroeconomic factors and saving inequality. Fourth, it highlights the impact of the 2008 financial crisis on saving inequality. These findings are not only of academic importance, but also crucial for policymakers concerned with financial stability and reducing economic inequality.

The findings reveal significant variability in saving patterns both within and across countries. Saving inequalities are highest in Spain, Finland, Italy, and the United States. In these countries, low-income earners' likelihood of saving also varies greatly. The bottom quartile earners in the U.S. and Finland report saving eight times more than those in Italy, and twice that of Spain. Beyond these country-specific observations, the study reveals broader trends

across nations. In six out of ten countries, there is no difference in saving likelihood between the bottom and second quartile. This suggests the bottom half of the population faces similar challenges in saving, indicating a non-linear relationship between saving behavior and socioeconomic status. The study's findings extend beyond households comparisons to uncover broader trends. Contrary to traditional expectations, the study finds no significant relationship between social spending and saving, and only a weak correlation with pension wealth. Moreover, the research challenges the notion of uniformity within welfare state regimes, showing that countries within the same regime can exhibit divergent saving behavior. This suggests a more complex interaction between welfare systems and household saving than previously thought. Finally, the study highlights the profound impact of macroeconomic shocks on the propensity to save, especially for lower-income groups. The sharp decline in saving following the 2008 financial crisis was both severe and prolonged in some countries, highlighting the vulnerability of these households to economic downturns.

2. Theoretical Framework

2.1 The Concept of Household Saving Behavior

Household saving behavior represents the decisions made by families to set aside a portion of their current income for future use. This may involve depositing money in savings accounts, investing in stocks or bonds, or setting aside cash. The propensity to save is a measure of the inclination of households to save a proportion of their disposable income rather than spend it immediately.

This behavior is influenced by a complex mix of psychological, sociological and economic factors. Psychologically, it's shaped by attitudes to risk, and planning for the future (Lusardi and Mitchell, 2007). Sociologically, factors such as welfare states (Esping-Andersen, 1990), cultural norms about thrift (Weber, 2011), and family dynamics affect saving behavior (Zelizer, 1995; Webley and Nyhus, 2006). For example, the structure and generosity of welfare systems can have an impact on individuals' propensity to save. In social democratic welfare states, such as the Scandinavian countries, where there are comprehensive social security and public pension systems, households may feel less pressure to save for retirement or emergencies. In contrast, liberal welfare states such as the United States or the United Kingdom, with more limited public benefits, may encourage higher personal savings rates as individuals prepare for potential financial uncertainties. Economically, factors such as interest rates, inflation expectations, and government fiscal policy play an important role (Elmendorf, 1997). Savings contribute to the national pool of capital available for investment, boosting productivity, infrastructure development, and economic expansion (Feldstein and Horioka, 1980). At the micro level, savings act as a financial safety net for households, protecting them against unexpected economic challenges and facilitating access to housing when needed.

The Life Cycle Hypothesis offers insights into individuals' financial behaviors across their lifespan (Modigliani and Brumberg, 2005). This theory suggests that people strive to maintain consistent consumption levels throughout their lives, shaping their spending and saving patterns accordingly. In their younger years, when earnings are typically lower, individuals may borrow money with the expectation of repaying that debt as their income increases. As they approach middle age and their earning potential peaks, they increasingly save, particularly with an eye to retirement, in order to maintain a stable lifestyle.

Evidence suggests that many people accumulate savings not only for retirement, but also with the intention of leaving a legacy (Modigliani, 1986). This observation modifies the traditional Life Cycle Hypothesis by introducing uncertainties, such as unpredictable life expectancy and the desire to leave bequests, that significantly influence saving behavior. These factors suggest that savings do not always decline as rapidly in old age as the basic Life Cycle Hypothesis would predict.

While understanding the general concept of household saving behavior provides a foundation, it is important to recognize that saving patterns are not uniform across segments of society. Income levels play an important role in shaping these behaviors, which leads us to examine how different income groups approach saving.

2.2 Income Groups and Saving

Within countries, saving behavior varies considerably across households. Socioeconomic factors such as income, education, and employment status have been shown to influence saving rates (Jappelli and Pistaferri, 2010). Higher-income households are more likely to save compared to lower-income households, as they have more disposable income after meeting basic consumption needs. For example, previous research shows that higher-income U.S. households exhibit notably higher saving rates (Dynan et al., 2004). Financial literacy and access to financial services also play a role in shaping saving behavior (Chang, 2005). Individuals with higher levels of financial literacy are more likely to save and invest in a diversified portfolio, while those with limited access to financial services may face barriers to saving (Karlan et al., 2014).

Household saving behavior is a complex phenomenon that goes beyond mere economic considerations. While the primary purpose of saving money might seem to be financial security or future spending, it can also serve a broader role in people's lives. This behavior reflects strategies for accumulating what sociologists call social and cultural capital (Henretta and Campbell, 1978). High-income households can save money to invest in art, exclusive club memberships, and luxury vacations. These investments, while seemingly consumption, serve to maintain and elevate their social status. Thus, reinforcing their cultural dominance (Bourdieu, 1984). By integrating Weber's concepts of class, status, and power, it becomes clear that an individual's motivation to save is closely tied to their role within these interconnected yet separate dimensions (Weber, 1978). Households in higher income brackets may save not only to solidify their economic standing but also to preserve or elevate their societal status and to potentially wield influence in political realms. Conversely, lower-income households may prioritize savings that provide a measure of economic security, both to improve their class situation and to prevent falling further below their current economic level.

Analyzing the literature of saving behavior across income groups reveals clear differences, but these are not static. They can be widened or narrowed by broader economic conditions, especially in times of economic upheaval. This leads us to consider how economic recessions and the principle of cumulative (dis)advantage can affect the saving behavior of different socioeconomic groups.

2.3 Cumulative (dis)advantage and economic recession

The theory of cumulative (dis)advantage posits that initial differences in resources can lead to divergent outcomes over time, a concept also encapsulated by the Matthew Effect, where "the rich get richer and the poor get poorer" (Merton, 1968; DiPrete and Eirich, 2006). In the context of savings inequality, this framework is particularly relevant, as savings provide both a financial safety net and a means of wealth accumulation. Prolonged economic crises, such as the Great Recession (Albertini et al., 2020; Moawad, 2023), have been shown to exacerbate income inequality, which can have profound implications for savings inequality and long-term financial security.

During periods of economic stability, middle and lower income households may manage to save, albeit to varying degrees. However, economic recessions can change this dramatically. As financial pressures mount, these groups save less. Middle income families, who typically put money aside during stable times, often might divert potential savings towards essential expenses or debt management during economic downturns. Low income households, already operating on tighter budgets, can face an even harsher circumstances. Any opportunity to save, however small, is further diminished as Inflationary pressures, rising expenses, and income reduction. This shift isn't just about how much people save, but whether they can save at all. In other words, middle and lower income households view saving as a luxury, focusing instead on immediate financial survival during economic recessions. On the other hand, higher income groups can still save or even take advantage of investment opportunities that arise during economic downturns (Biddle, 2014). This reduced ability to save during recessions can widen the gap between socioeconomic groups, making those unable to save more financially vulnerable over time.

The introduction of automation technologies was accelerated during the 2008 financial crisis (Hershbein and Kahn, 2018). As firms invest more in automated technology during that period, the labor market demands higher-skilled workers, often leaving those without specific skills or higher education at a disadvantage. This disparity in employment opportunities directly affects households' ability to save, further skewing the distribution of savings in favor of the highly skilled and educated. This not only affects employment opportunities, but can change the landscape of wealth accumulation, by making it increasingly difficult for low income households to close the savings gap. This gap can be further exacerbated by institutions. Financial institutions often offer better interest rates and investment opportunities to households with higher initial deposits or balances, reinforcing the savings gap between different socioeconomic groups (Redbird and Grusky, 2016). Low skilled workers may encounter these challenges during a growing economic cycle, but these issues become significantly more pronounced during an economic recession.

While the impact of economic recessions and cumulative (dis)advantages on saving behavior provides valuable insights, it is equally important to consider how these patterns manifest themselves on a larger scale. To gain a more comprehensive understanding, we need to examine how saving behavior differs across countries, considering various economic and institutional factors.

2.4 Country Differences

Economic development is a key determinant of cross-country saving behavior. Countries with higher per capita income tend to have higher saving rates (Loayza et al., 2000), as a larger

proportion of the population can save after meeting basic needs. However, the relationship between economic development and saving may not be linear. Institutional factors, including the pension system and welfare state development, can shape cross-country saving behavior.

A key indicator of the effectiveness of a pension system is the level of generosity it provides at the time of retirement. This is best assessed by examining net pension wealth, which reflects the present value of future pension benefits after accounting for taxes and social security contributions (OECD, 2016). Net pension wealth provides a comprehensive view of the financial resources available to retirees, including public pension benefits and any mandatory private pensions required by the state. In countries with higher net pension wealth, households may be less inclined to save independently in anticipation of a substantial retirement income from the state.

In countries with lower net pension wealth, households are often encouraged to save more for retirement to compensate for reduced public benefits. Research suggests that individuals in these countries are more likely to increase their private retirement savings to ensure financial stability in later years (Attanasio and Brugiavini, 2003). The level of net pension wealth can vary significantly across countries due to differences in pension system design, tax policies and social security contributions (Whitehouse, 2006).

While pension systems are a crucial component of the welfare state affecting saving behavior, other aspects of social security and public services also play significant roles in shaping cross-country saving patterns. The generosity of unemployment benefits, the extent of publicly provided education, and the organization of healthcare systems (whether primarily public or

private) can all influence household saving decisions. For instance, countries with comprehensive unemployment insurance may reduce the need for precautionary savings, while those with predominantly private healthcare systems might encourage higher savings to offset potential medical expenses. Similarly, extensive public education funding could lower the imperative for households to save for their children's education. These various elements of the welfare state interact to create a complex landscape of incentives and disincentives for saving (Esping-Andersen, 1990).

2.5 Research questions

This article explores three key research questions to deepen the understanding of saving behavior in Western countries. The first research question includes three elements. First, it examines whether countries with higher GDP per capita (adjusted for purchasing power) have higher household saving behavior. Second, it investigates whether households in countries with generous welfare systems are less likely to save compared to those in countries with weaker social safety nets. Third, it examines the relationship between the generosity of pension funds and saving behavior.

The second research question examines how saving behavior varies among different income quartiles both within individual countries and when comparing across countries. The aim is to identify which countries have the largest or smallest gaps in saving behavior across income groups. It also seeks to uncover any patterns or commonalities that emerge across countries with respect to these savings inequalities.

Third, the article examines whether the 2008 financial crisis and subsequent double-dip recession exacerbated saving inequalities. It does so by examining trends in saving behavior before and after the Great Recession. This analysis will provide insights into the long-term effects of economic shocks on saving inequality.

By addressing these questions, this research aims to contribute to the understanding of the dynamics of saving behavior, its relationship to economic and institutional factors, and the relationship of major economic events with savings behavior.

3. Data, Measures, and Method

3.1 Data and sample

Data from the Luxembourg Wealth Study (LWS) is used for ten countries: Austria, Estonia, Greece, Finland, Italy, Slovakia, Slovenia, Spain, the United Kingdom, and the United States. These countries were chosen based on the availability of data on saving behavior and to capture institutional diversity in terms of welfare states. The selected countries represent different welfare regimes: the Anglo-Saxon (UK and US), conservative continental (Austria), Mediterranean (Greece, Italy, and Spain), post-socialist (Estonia, Slovakia, and Slovenia), and social democratic (Finland) (Esping-Andersen, 1999; Ferragina and Seeleib-Kaiser, 2011).

The LWS database provides a unique source of cross-nationally comparable data from various surveys, such as the Survey of Consumer Finances (US), Wealth and Assets Survey (UK), Survey of Household Finances (Spain), Survey of Household Income and Wealth (Italy), and the Household Finance and Consumption Survey (HFCS) for the remaining countries. The endpoint for the data is 2017, as that year is covered by the LWS survey in six countries. For

Finland, Italy, and the US, the endpoint is 2016, while for Greece, it is 2018, since these countries were not surveyed in 2017. The analysis goes back several years from this benchmark, selecting the earliest module with consistent information. The starting point is 1995 for the US, 2002 for Spain, 2009 for Greece and the United Kingdom, 2010 for Italy and Slovakia, 2011 for Austria, 2013 for Estonia and Finland, and 2014 for Slovenia. Table 1 depicts the start and end years of each country.

3.2 Measures

The dependent variable is a binary variable reflecting saving behavior, reported by the head of the household. It indicates whether the household saved (coded as 1) during the income

Table 1. Summary of start and end years by country

Country	Start Year	End Year
Austria	2011	2017
Estonia	2013	2017
Spain	2002	2017
Greece	2009	2018
Finland	2013	2016
Italy	2010	2016
Slovenia	2014	2017
Slovakia	2010	2017
United Kingdom	2009	2017
United States	1995	2016

reference year, considering all sources of income (earned, rent, and capital income) and private transfers. This analysis focuses solely on whether individuals have saved, without

considering the amount saved. The latter aspect is excluded due to data limitations and theoretical considerations. Household consumption data are missing for 9 out of 10 countries in the dataset, preventing the assessment of how much people saved. Even if the data were available, individuals often struggle to accurately recall and report their average monthly consumption (Neter and Waksberg, 1964). Recall bias is common in financial self-reporting, especially for complex or irregular expenditures (Das and van Soest, 1999). However, individuals are more likely to reliably recall whether they saved in the past year, as this is a simpler and more salient memory task. Thus, analyzing savings behavior is consistent with the available data and provides a more reliable measure of household saving decision-making than attempting to quantify savings amounts.

To compare saving behavior across socioeconomic backgrounds, I use total current household income and divide it into quartiles. It is adjusted for inflation (using LWS consumer price indices) and household size (using the LWS equivalence scale: the square root of the number of household members). Household income includes cash and noncash income from work, capital, public social benefits, and cash and noncash private transfers. The use of quartiles avoids arbitrary cut-off points that may not be meaningful or comparable across countries.

By using quartiles, the analysis takes into account country-specific income distributions, which can vary in terms of compression or dispersion (see Table A1). This approach makes it possible to compare households in similar positions within their own country's distribution. Another advantage of using quartiles is that savings behavior is influenced by psychological as well as economic factors. For example, a household may feel financially secure and more inclined to save if it is in the top quartile of its country's income distribution, even if its

absolute income would place it in a lower category in a richer country. Other measures of socio-economic background such as education and social class could be deployed, however, they suffer more shortcomings than household income quartiles. Education levels vary significantly across countries, making comparisons problematic. Moreover, the premium of higher education varies largely across countries. While social class measures may better capture a household's economic power than education, the LWS lacks occupation information for several countries.

In this study, three macroeconomic variables are considered. The first is GDP per capita, measured in Purchasing Power Parity (PPP), obtained from the World Bank. The second is the total social expenditure of a given country, and the third is net pension wealth. Net pension wealth represents the total expected lifetime pension income, adjusted for taxes and social security contributions. This measure reflects the duration and variation in value of pension payments over time, influenced by factors such as life expectancy and retirement age. The data on social expenditures and net pension wealth are obtained from the OECD.

This study incorporates a range of demographic factors that can influence savings behavior. First, it considers the gender of the household head, with women coded as 1, recognizing that gender differences may lead to varying levels of risk tolerance and financial decision-making, shaped by social, cultural, and economic influences (Charness and Gneezy, 2012). Age is also controlled for as a continuous variable, acknowledging that an individual's savings needs and earning potential evolve with age, reflecting changes in financial priorities and behavior over time.

Additionally, the number of people in a household is included as a control, as larger households generally face higher expenses for essentials like food, housing, and healthcare, which can impact their savings capacity. Similarly, the study accounts for the number of children and the age of the youngest child, given that these factors can affect a household's expenditures, particularly due to the costs associated with education, childcare, and healthcare (Kornrich and Furstenberg, 2013).

The analysis also accounts for relationship status (with being in a union coded as 1), as it affects saving behavior through factors like income pooling, economies of scale, and shared financial goals (Grinstein-Weiss et al., 2006; Knoll et al., 2012). Homeownership status is another factor considered in the study. Owning a home (coded as 1) may suggest greater financial stability and a tendency towards long-term financial planning. However, homeownership, especially with an accompanying mortgage, could also limit one's capacity to save. In contrast, renting or not owning a home (coded as 0) might offer different financial implications for saving behavior.

Lastly, the study accounts for labor market status, categorizing it into employee, self-employed, and employer. Labor market status is a key determinant of saving behavior, influencing income levels and job security. For instance, self-employed individuals often experience more variable incomes and have different savings needs related to business investments or the absence of employer-sponsored retirement plans. Descriptive statistics for all the variables are presented in Table A2 in the appendix.

The primary unit of analysis is the household head with the outcome variable (savings behavior). This approach is chosen because the head of the household typically has the most significant influence on financial decisions and savings strategies for the entire family unit. They often have the primary responsibility for managing household finances, making long-term financial plans, and setting savings goals. The demographic control variables, such as gender, age, and labor market status, refer to the household head. Other variables, such as the number of children and the age of the youngest child, are characteristics at the household level. Income quartiles are also calculated at the household level, as this approach better reflects the overall financial situation of the household. Throughout this analysis, the term "household" is used to refer to the head of the household.

3.3 Method

The aim of this study is descriptive rather than causal. It contributes by providing novel evidence on cross-country comparative saving behavior over time. The following regression model is used separately for ten countries and for different years:

$$(1) Y_i = \beta_0 + \beta_1 \text{Income_Quartiles}_i + \beta_2 \text{Controls}_i + \epsilon_i$$

Y represents the probability of saving for households i . The coefficient β_1 indicates whether a given quartile is less or more likely to save relative to the top quartile - the baseline category. Controls_i includes a vector of control variables such as number of persons in the household, number of children, age of the youngest child, labor market status, house ownership, marital status, sex, and age. The error term ϵ includes anything that is not observed in the model, such as measurement error or luck.

In this study, the dependent binary variable of savings is estimated using a linear probability model (LPM). In addition to having more interpretable coefficients than logistic regression, the LPM has the advantage of being comparable across groups, samples, and models (Mood, 2010). LPM is particularly recommended when the probability of the event is not extreme for most observations. In this study, the event probabilities are not close to 0 or 1, making LPM an appropriate choice (Andreß et al., 2013). To make sure the results are robust, I run the marginal effects for a logistic model. The results of the latter are shown in Figure A2 and Figure A3 in the appendix. Both the LPM and logistic regression yield similar results. For replicating all analyses, the code is provided online (Anonymous, 2024).

4. Findings

4.1 Descriptives

Table 2 highlights the saving behavior of the population across income quartiles. The UK exhibits the highest propensity of households saving, with 57% of households reporting savings in the last year. This is higher than the saving behavior observed in other countries in the dataset. The United States and Finland also display relatively high percentages of households saving, with 55%, indicating that more than half of the households in these countries reported having saved money in the past year. At the other end of the spectrum, Greece has the lowest reported proportion of households saving at 15%. This suggests that a very small percentage of Greek households reported setting aside money in the past year compared to the other countries surveyed. The remaining countries are in a middle range, where the percentage of households reporting savings varies between 31% and 39%. Austria sits at the upper end of this range, with 39% of households saving. Meanwhile, Estonia, Italy,

Slovenia, Slovakia, and Spain are grouped together, with roughly one-third of households reporting savings.

This analysis examines how saving behavior varies with household purchasing power, focusing on household income quartiles. As expected, the percentage of households reporting savings consistently increases when moving from the bottom to the top income quartile, underscoring the income and saving relationship. In the bottom quartile, the propensity to save range from 4% in Greece to 35% in Finland, the UK and the US. The disparity is particularly stark in Italy, where only 9% of the lowest earners report saving compared to the national average of 33%. This gap in saving behavior in Italy between the bottom quartile and the national average is the largest across all countries. The US and UK follow with a gap between the bottom quartile and the population average of 20 and 22 percentage points, respectively.

As households move up income quartiles, the propensity to save generally increases, but the degree of increase varies across countries. Austria, Finland, Italy, the UK, and the US see significant jumps in saving behavior from the bottom to the second quartile, with increases of 16-20 percentage points, though their baseline in savings behavior differ. Conversely, Estonia, Greece, and Slovenia exhibit much smaller increases, with Greece showing particularly low propensity to save across the bottom two quartiles.

When moving from the second to third quartile, the largest increases in savings are seen in Estonia, Finland, Italy, Spain, the UK, and the US (14-18 percentage points), while Austria and Slovakia see much smaller gains. Although Greece has seen significant improvements, it still

has the lowest score in saving behavior within the top quartile. In contrast, Finland, the UK, and the US lead this group, with 79-82% of households reporting savings.

Table 2. Household saving behavior by income quartile and saving gap between quartiles across countries

Country	Population Average	Bottom Quartile	Second Quartile	Third Quartile	Top Quartile
Greece	15	4	7	16	34
Estonia	31	18	25	39	49
Slovakia	32	17	26	31	45
Spain	33	18	30	48	59
Italy	33	9	26	41	56
Slovenia	34	25	26	37	52
Austria	39	21	38	42	55
Finland	55	35	54	68	82
US	55	35	55	69	81
UK	57	35	51	66	79

Source: Luxembourg Wealth Studies, module 2016-2018.

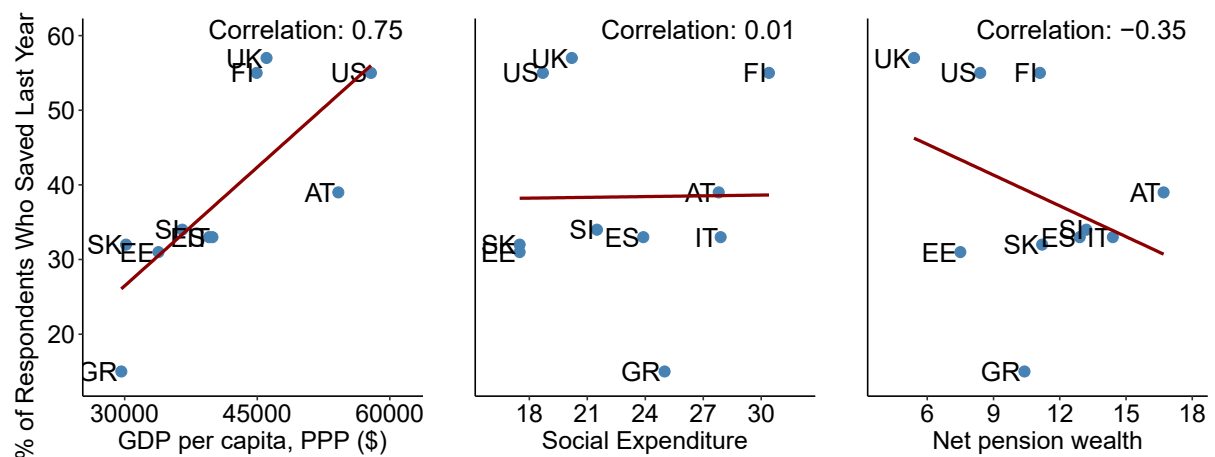
The analysis of Table 2 reveals significant variations in household saving behavior both across and within countries. Saving behavior consistently rise with income, but the extent of these increases differs substantially. High-income countries like Finland, the UK and the US maintain high saving behavior across all quartiles. Conversely, countries like Greece struggle with low saving behavior even among top quartiles, suggesting persistent economic challenges.

To gain a deeper understanding of the relationship between these national averages of savings with macro indicators, Figure 1 examines their correlations with economic performance and the welfare state. The first research question of this article sought to understand the relationship between macro-economic indicators and saving behavior. Figure

1 validates the expectation that there is a positive correlation between economic performance and saving behavior. The left panel shows a strong positive correlation (0.75) between GDP per capita (PPP) and the percentage of households who saved in the previous year. Countries with higher economic output per person tend to also have higher proportions of households saving. The UK, US, and Finland are examples of countries with both high GDP per capita and high proportions of households saving.

The middle panel analyzes the correlation between household saving behavior and the total social expenditure of a certain country. Interestingly, there is a near-zero correlation (0.01) between social spending and savings behavior. This challenges the simplistic notion that more generous welfare states lead to lower savings, suggesting that the relationship between welfare systems and savings behavior is more complex than often assumed.

Figure 1. Correlations Between Economic Factors and Personal Savings Rates Across Countries



Note: The microdata on household saving behavior was obtained from the Luxembourg Wealth Study, module 2016 to 2018. Data on GDP per capita was sourced from the World Bank database. Information regarding social expenditure and net pension wealth was acquired from the Organisation for Economic Co-operation and Development (OECD).

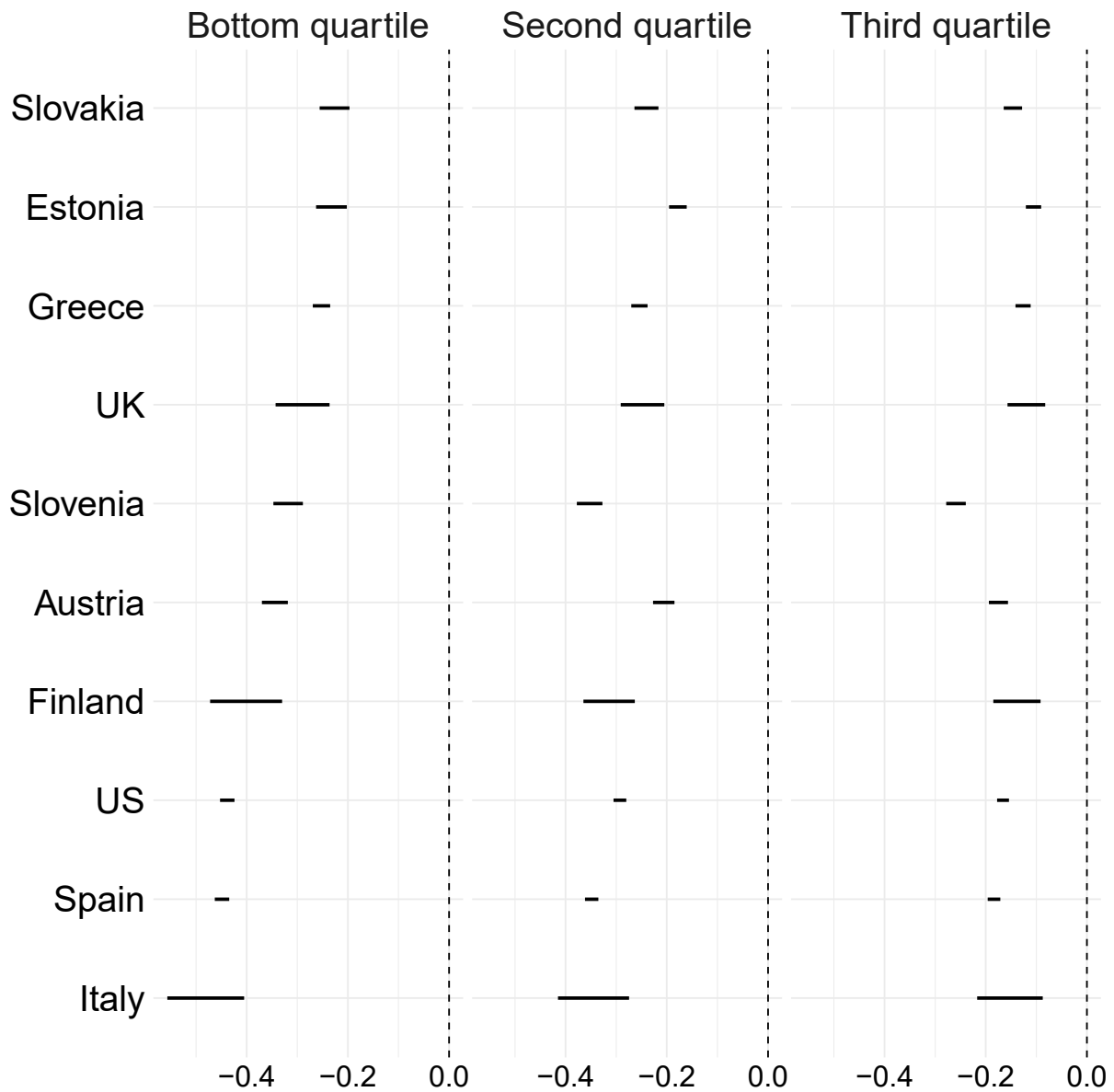
The right panel analyzes the correlation between household saving behavior and the net pension wealth of a certain country. As discussed in the theoretical framework, net pension wealth is a dimension of social expenditure that may be more relevant to household saving behavior. The data reveal a moderate negative correlation (-0.35) between net pension wealth and savings behavior. Countries with higher net pension wealth tend to have lower rates of household saving, possibly due to a greater sense of financial security in retirement. While the correlation may be weak, this finding underscores the importance of focusing on specific dimensions of the welfare state, rather than relying solely on broad social expenditure measures, when examining saving behavior.

4.2 Multivariate models

Figure 2 shows the probability of households in the bottom quartile (left panel), the second quartile (middle panel) and the third quartile (right panel) of having saved money in the past year compared to households in the top quartile. The second research question explored how saving behaviors differ across households with varying economic performance, and how these differences manifest across different countries. Looking at the gap in saving behavior between the bottom and top quartiles (left panel), we observe significant variations across countries. Italy stands out with the largest gap, where households in the bottom quartile are 48 percentage points less likely to save than those in the top quartile. Similarly large gaps are evident in Finland, Spain, and the United States, ranging from 40 to 45 percentage points. This cluster of countries demonstrates substantial disparities in saving behavior between their highest and lowest income groups. In contrast, Slovakia exhibits the smallest gap, with households in the bottom quartile only 23 percentage points less likely to save than those in top quartiles - less than half the gap observed in Italy. Between these extremes, countries

such as Austria, Slovenia, and the United Kingdom fall in the middle range, with gaps of 29-34 percentage points.

Figure 2. Gap in saving behavior between income quartiles



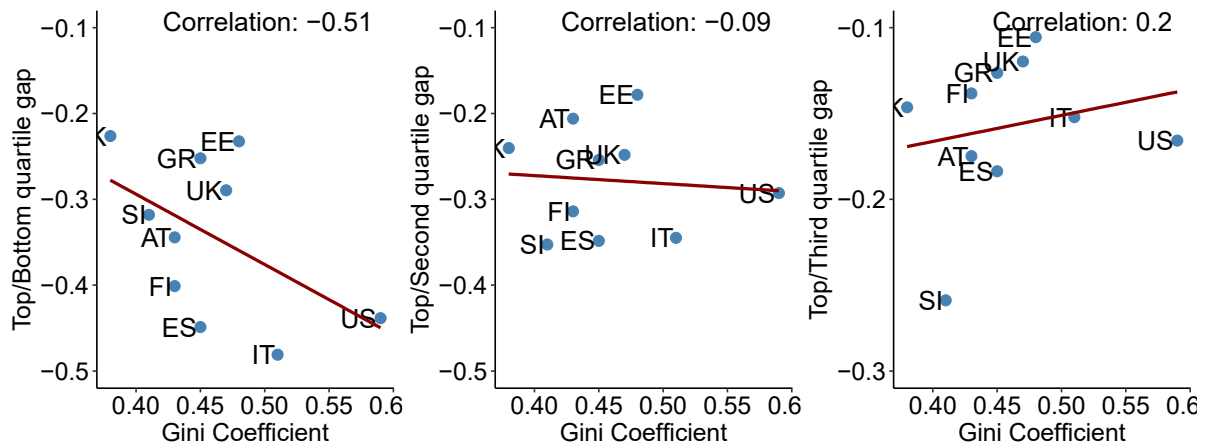
Note: The estimates are extracted from linear probability models. 95 percent confidence intervals are plotted horizontally. Dependent variable: saving behavior (binary, “yes” code as 1). Models control for number of persons in the household, number of children, age of the youngest child, labor market status, marital status, sex, and age.

The middle panel of Figure 2 shows the gap in saving probability between the second and top quartiles. These gaps are only slightly smaller than those between the bottom and top

quartiles in most countries, suggesting that households in the second quartile face similar barriers to saving as those in the bottom quartile. The third panel on the right compares the saving probability of households in the third income quartile with those in the top quartile. The differences here are much smaller than in the previous two panels, indicating that third quartile households are closer to the top quartile in saving behavior and face fewer constraints than lower income groups.

The distribution of household income within countries may affect these results. Countries with greater income inequality could have higher saving inequality simply because of a wider range of incomes. To check this relationship, Figure 3 plots the correlations between the estimates of saving gaps in Figure 2 and the Gini coefficient for income. The Gini coefficient was chosen in this context because it effectively reflects income dispersion within countries, in addition to being a widely recognized measure of income inequality. Figure 3 reveals that the strongest correlation exists between the bottom and top income quartiles (left panel). A strong negative correlation (-0.51) indicates that countries with higher income inequality tend to have wider savings gaps between the bottom and top quartile groups. The second and top quartiles (middle panel) show a weaker negative correlation (-0.09), suggesting little to no relationship between income inequality and savings inequalities among this group. Similarly, a weak positive correlation (0.2) is observed between the third quartile and the top quartile (right panel).

Figure 3. Correlation between saving inequalities and GINI coefficient for earnings inequality

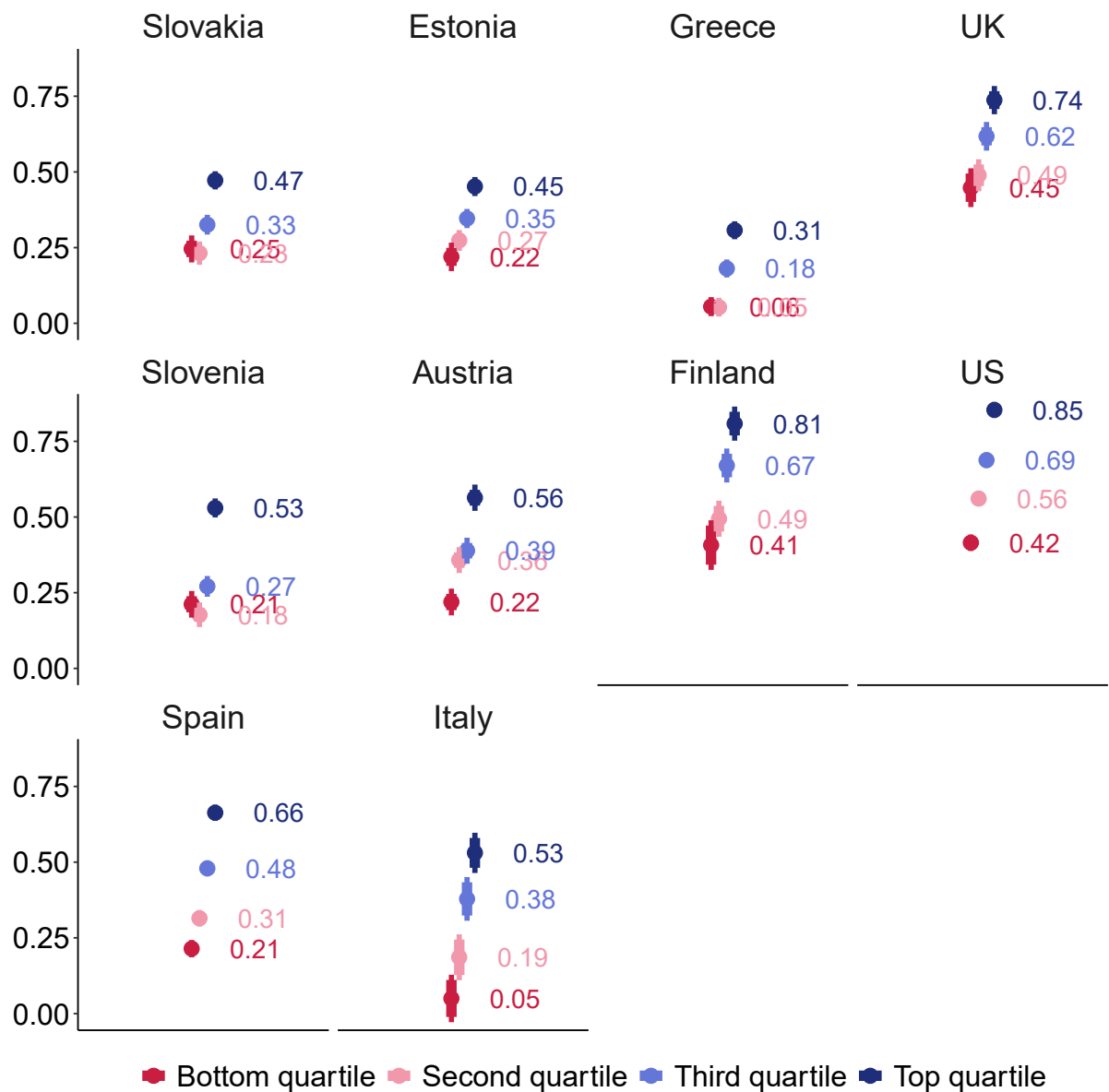


Note: The gap between the top quartile and the other three quartiles is derived from Figure 2. The GINI coefficient is sourced from the World Inequality Database.

To better understand the differences in saving behavior across countries and within income quartiles, Figure 4 shows the predicted probabilities of saving behavior by income quartile and country. Figure 4 highlights three important observations. First, there is a significant gap in saving behavior between the lowest and highest income quartiles, particularly in Finland, Italy, Spain and the United States. While these four countries have the largest gap between the bottom and top quartiles, they have different levels of saving at the bottom of the income distribution. For the bottom income quartile, the model predicts a probability of saving of 5% in Italy, 21% in Spain, 41% in Finland, and 42% in the US, underscoring substantial cross-country differences. In Finland and the US, the probability of saving for the lowest quartile is about twice as high as in Spain and about eight times as high as in Italy.

The probability of saving does not increase linearly across income quartiles, a trend visible in both Figure 2 and more prominently in Figure 4. Figure A1 further illustrates this by comparing saving behavior between the bottom and second quartiles. In several countries—Greece, Slovakia, Slovenia, and the United Kingdom—the increase in saving probability from the

Figure 4. Predicted probabilities of saving behavior by income quartiles



Note: The predicted probabilities are extracted from linear probability models. 95 percent confidence intervals are plotted vertically. Dependent variable: saving behavior (binary, “yes” code as 1). Models control for number of persons in the household, number of children, age of the youngest child, labor market status, marital status, sex, and age.

bottom to second quartile is not statistically significant. Estonia and Finland show only minimal increases. This suggests that households in these lower income brackets face similar financial challenges, regardless of income differences. Conversely, Italy and Spain show a greater increase in the probability of saving when moving from one quartile to another.

Countries such as Austria present a unique pattern, with the second and third quartiles grouped closely together, but both showing significant deviations from the bottom and top quartiles.

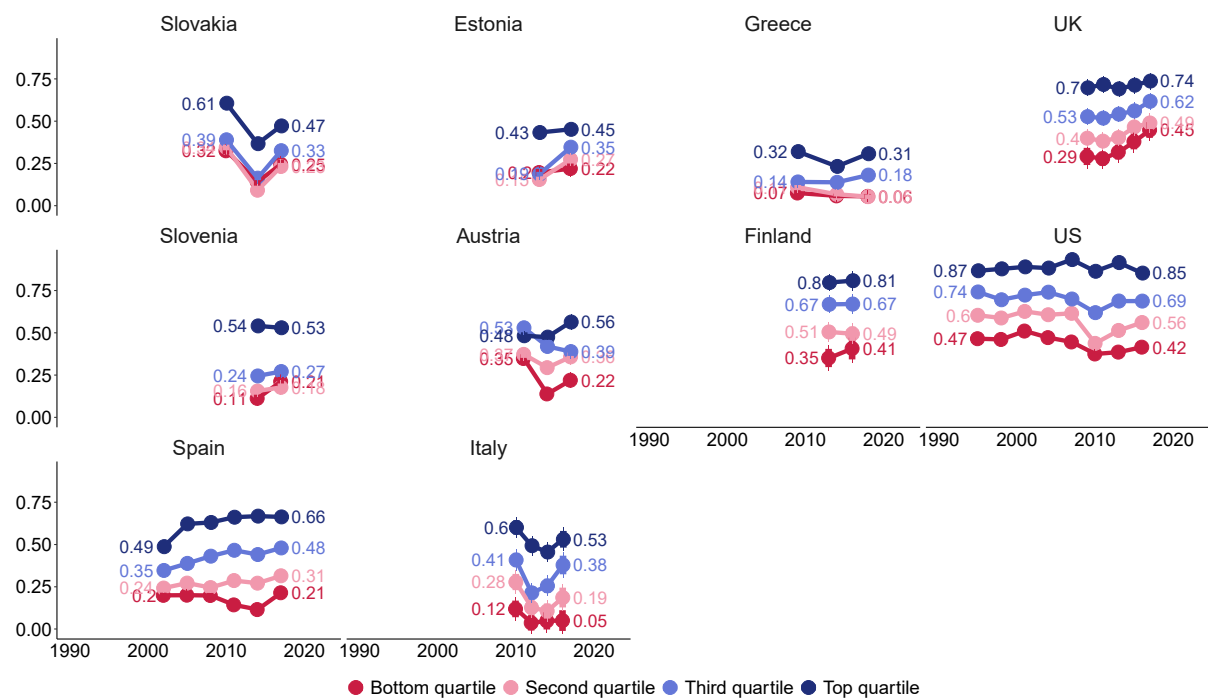
Third, there is no uniform pattern of saving across different welfare state regimes. The Southern European countries (Italy, Spain, Greece) show different saving probabilities across countries. For example, the lowest quartile in Spain is four times more likely to save than in Italy and Greece. Similarly, while Anglo-Saxon countries (UK, US) have higher saving behavior than other countries, they show similar trends to the social democratic welfare state in Finland. Even among the Anglo-Saxon countries, there is some variation in saving gaps across all quartiles, where they are largest in the US compared with the UK. Austria is more in line with the Eastern European countries in terms of saving probabilities, which differs from the trends observed in the Anglo-Saxon countries.

Figure 5 builds on Figure 4 by plotting the predicted probabilities of saving behavior over time across income quartiles. The Great Recession and subsequent double dip recession had a significant impact on savings in many countries, although the severity and duration varied. In most countries, there were persistent gaps in saving across income groups. In some places, these gaps widened, while in others they narrowed over time. The recovery from the recession was also uneven, with some countries making a full or partial recovery and others struggling with prolonged low saving behavior.

Slovakia stands out among the hardest hit countries, with a sharp drop in savings during the double-dip recession. There was some recovery by 2017, but the propensity to save remained

low across all income groups, with the gap between them narrowing. Italy experienced the steepest decline after the Great Recession, with an uneven recovery through 2017. For the bottom quartile, the propensity to save fell from 12% to 4%. The second quartile saw a drop from 28% to 13%. In the third quartile, savings halved from 42% to 21%. Even the top quartile wasn't spared, with savings slipping from 60% to 49%. In the United States, savings fell sharply between 2007 and 2010, followed by a partial recovery by 2016. However, savings remained lower than in 1998 across all income groups, with the bottom three quartiles more affected than the top.

Figure 5. Predicted probabilities of saving behavior by income quartiles and years



Note: The predicted probabilities are extracted from linear probability models. 95 percent confidence intervals are plotted vertically. Dependent variable: saving behavior (binary, "yes" code as 1). Models control for number of persons in the household, number of children, age of the youngest child, labor market status, marital status, sex, and age.

On the other hand, some countries showed improvement. Estonia and Slovenia both experienced an overall increase in the likelihood to save, especially from 2014 to 2017, possibly as a recovery from the recession. In the United Kingdom, savings gradually increased over time. The bottom quartile saw a rise from 29% in 2009 to 45% in 2017. This trend narrowed the gap in saving behavior between income quartiles. Spain showed diverging savings trends. After 2002, the top quartile's savings surged from 49% to 66% by 2017. In contrast, the bottom quartile's savings dropped sharply during the double-dip recession, only recovering to 21% by 2017. This widened the gap between the bottom and top quartiles from 29 to 45 percentage points.

Other countries showed mixed or stable trends. Greece maintained a low savings behavior with little change from 2009 to 2018, with only small differences across income groups. Finland showed stable saving patterns from 2013 to 2016. Austria showed mixed trends, with significant drop in saving behavior, especially in the bottom quartile.

These results highlight key points. Economic shocks can have a lasting impact on savings behavior, with recovery varying across countries and income groups. In Austria, Italy, Slovakia and the US, there was a scarring effect, with household saving never returning to pre-recession levels. In other countries, such as Spain, the initial drop in savings due to the recession was later recovered. This suggests the need for policy interventions to address persistent savings gaps and support recovery in countries with low savings behavior.

4.3 Robustness checks

In additional analyses available in the online supplementary material, Figure A2 and Figure A3 replicate the findings using predicted probabilities from a logistic regression model instead of a linear probability model. The results between the predicted values from logistic regression and linear probability models lead to the same conclusions.

5. Discussion and conclusion

Savings and inheritance are two important mechanisms of wealth accumulation. While prominent research has examined inheritance, income inequality, and wealth inequality (Beckert, 2008; Piketty, 2014; Hansen and Toft, 2021; Pfeffer and Waitkus, 2021; Schechtl and Waitkus, 2024), they have focused less on saving behavior. This paper contributes to this literature by examining saving behavior across countries and over time. Ten countries are analyzed using the Luxembourg Wealth Study, which covers the years between 1998 and 2018.

Four notable observations emerge from this study. First, the data shows significant variations in household saving behavior across countries. This aligns with previous studies that have noted differences in saving patterns across nations (Carroll and Lawrence, 1991; Börsch-Supan and Lusardi, 2003). This study contributes additional insights by examining how saving behavior varies across income levels. In countries with high GDP per capita like Finland, the UK, and the US, all income groups report high propensity of saving. Conversely, in countries with lower GDP per capita like Greece, even high income earners report lower propensity of saving than the lowest income group in wealthier nations. This pattern suggests a correlation between national economic indicators and saving behavior. Moreover, contrary to some theoretical frameworks, the results indicate no correlation between social spending and

saving behavior, and only a weak correlation between pension wealth and saving behavior. These findings differ from some existing perspectives on the relationship between welfare provision and household saving (Esping-Andersen, 1990; O'Rand and Henretta, 1999). However, they align with Hurst and Ziliak's (2009) observations on the limited correlation between welfare programs and saving in the US.

Second, the variability in saving behavior across income quartiles within countries underscores the influence of socioeconomic status on the ability to save, with lower-income households facing more significant barriers to saving than their higher-income counterparts. This finding supports previous research that has found a positive relationship between socioeconomic status and saving behavior (Dynan et al., 2004). However, this study adds a new dimension to this understanding by showing that the differences in saving behavior across income quartiles do not follow a linear pattern. In four out of ten countries, there is no significant difference in saving tendencies between the lowest and second quartile - with two additional countries showing minimal variations. As a result, half the populations in Estonia, Finland, Greece, Slovakia, Slovenia, and the UK encounter similar savings challenges, regardless of being in the bottom or second income quartile.

Third, the results suggest that there is no uniform pattern of saving across welfare state regimes. In some cases, countries within the same regime show different saving probabilities and gaps across income quartiles. In the Southern European welfare model, households in Greece have a much lower propensity to save than Spain and Italy. Moreover, even though Italy has a higher GDP per capita than Spain, saving behavior is remarkably higher in Spain, especially for the bottom quartile. The US and Finland have similar saving patterns at all

income levels, even though the US is part of a liberal regime and Finland belongs to a social democratic regime. These findings challenge some assumptions about the role of welfare provision in influencing household saving behavior (Esping-Andersen, 1990; O'Rand and Henretta, 1999). The findings of this study call for a more nuanced approach to understanding the relationship between institutional frameworks and saving behaviors, echoing other critiques of the welfare regime typology (Emmenegger et al., 2015).

Fourth, the analysis of saving behavior before and after the 2008 financial crisis provides empirical support for concerns about cumulative disadvantage scenarios for disadvantaged subgroups (Redbird and Grusky, 2016). The sharp rise in saving inequalities observed in countries like Austria, Spain, and the United States, underscore the vulnerability of household savings to macroeconomic shocks. This finding aligns with previous research on how the Great Recession exacerbated income and wealth inequality in Europe and the United States (Pfeffer et al., 2014; Albertini et al., 2020). This study extends this understanding by demonstrating the specific impact on saving behavior, a crucial mechanism in wealth accumulation.

These findings have important implications for both policy and future research. From a policy perspective, the observed differences in saving behavior across income groups and countries suggest the need for targeted interventions to promote saving among low-income households. Policymakers should consider the broader economic context when designing strategies to promote household saving, especially in the face of economic shocks. Notably, the minimal impact of social spending or pension funds on saving behavior is an encouraging result. It indicates that governments can implement or expand welfare programs without the fear of diminishing household savings. This provides greater flexibility in social policy, allowing

policymakers to enhance citizens' well-being through social initiatives without worrying about adverse effects on national savings rates. Nonetheless, to fully address saving behavior, integrating approaches that consider economic growth, financial literacy, and access to financial services could be beneficial alongside social spending efforts.

Some avenues for future research emerge from the findings. There is a need to explore the specific mechanisms through which country-specific factors influence household saving behavior. This could include in-depth case studies of countries. Finally, given the observed impact of the 2008 financial crisis on saving behavior, future studies should investigate the long-term effects of economic shocks on saving patterns and their implications for wealth accumulation and inequality.

References

- Albertini, M., Ballarino, G., & De Luca, D. (2020). Social Class, Work-Related Incomes, and Socio-Economic Polarization in Europe, 2005–2014. *European Sociological Review*, 36(4), 513–532. <https://doi.org/10.1093/esr/jcaa005>
- Andreß, H.-J., Golsch, K., & Schmidt, A. W. (2013). *Applied Panel Data Analysis for Economic and Social Surveys*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-32914-2>
- Attanasio, O. P., & Brugiavini, A. (2003). Social Security and Households' Saving. *The Quarterly Journal of Economics*, 118(3), 1075–1119. <https://doi.org/10.1162/00335530360698504>
- Beckert, J. (2008). *Inherited Wealth*. Princeton University Press. <https://doi.org/10.1515/9780691187402>
- Biddle, J. E. (2014). Retrospectives: The Cyclical Behavior of Labor Productivity and the Emergence of the Labor Hoarding Concept. *Journal of Economic Perspectives*, 28(2), 197–212. <https://doi.org/10.1257/jep.28.2.197>
- Börsch-Supan, A., & Lusardi, A. (2003). Saving: A cross-national perspective. In A. Börsch-Supan (Ed.), *Life-cycle savings and Public Policy: A cross-national study of six countries* (pp. 1–31). Elsevier.
- Bourdieu, P. (1984). *Distinction: A social critique of the judgement of taste* (11. print). Harvard Univ. Press.

- Carroll, C. D., & Lawrence, S. (1991). Consumption Growth Parallels Income Growth: Some New Evidence. In B. D. Bernheim & J. B. Shoven (Eds.), *National saving and economic performance*. University of Chicago Press.
- Carroll, C. D., Rhee, B.-K., & Rhee, C. (1994). Are There Cultural Effects on Saving? Some Cross-Sectional Evidence. *The Quarterly Journal of Economics*, *109*(3), 685–699. <https://doi.org/10.2307/2118418>
- Carroll, C. D., & Weil, D. N. (1994). Saving and growth: A reinterpretation. *Carnegie-Rochester Conference Series on Public Policy*, *40*, 133–192. [https://doi.org/10.1016/0167-2231\(94\)90006-X](https://doi.org/10.1016/0167-2231(94)90006-X)
- Chang, M. L. (2005). With a Little Help from My Friends (and My Financial Planner). *Social Forces*, *83*(4), 1469–1497. <https://doi.org/10.1353/sof.2005.0061>
- Charness, G., & Gneezy, U. (2012). Strong Evidence for Gender Differences in Risk Taking. *Journal of Economic Behavior & Organization*, *83*(1), 50–58. <https://doi.org/10.1016/j.jebo.2011.06.007>
- Das, M., & Van Soest, A. (1999). A panel data model for subjective information on household income growth. *Journal of Economic Behavior & Organization*, *40*(4), 409–426. [https://doi.org/10.1016/S0167-2681\(99\)00062-1](https://doi.org/10.1016/S0167-2681(99)00062-1)
- DiPrete, T. A., & Eirich, G. M. (2006). Cumulative Advantage as a Mechanism for Inequality: A Review of Theoretical and Empirical Developments. *Annual Review of Sociology*, *32*(1), 271–297. <https://doi.org/10.1146/annurev.soc.32.061604.123127>
- Dynan, K. E., Skinner, J., & Zeldes, S. P. (2004). Do the Rich Save More? *Journal of Political Economy*, *112*(2), 397–444. <https://doi.org/10.1086/381475>
- Elmendorf, D. W. (1997). *The effect of interest-rate changes on household saving and consumption: A survey*. Federal Reserve Board.
- Emmenegger, P., Kvist, J., Marx, P., & Petersen, K. (2015). *Three Worlds of Welfare Capitalism: The making of a classic*. *Journal of European Social Policy*, *25*(1), 3–13. <https://doi.org/10.1177/0958928714556966>
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton University Press.
- Esping-Andersen, G. (1999). *Social Foundations of Postindustrial Economies*. Oxford University Press.
- Feldstein, M., & Horioka, C. (1980). Domestic Saving and International Capital Flows. *The Economic Journal*, *90*(358), 314. <https://doi.org/10.2307/2231790>
- Ferragina, E., & Seeleib-Kaiser, M. (2011). Thematic Review: Welfare regime debate: past, present, futures? *Policy & Politics*, *39*(4), 583–611. <https://doi.org/10.1332/030557311X603592>
- Grinstein-Weiss, M., Zhan, M., & Sherraden, M. (2006). Saving Performance in Individual Development Accounts: Does Marital Status Matter? *Journal of Marriage and Family*, *68*(1), 192–204. <https://doi.org/10.1111/j.1741-3737.2006.00241.x>
- Hansen, M. N., & Toft, M. (2021). Wealth Accumulation and Opportunity Hoarding: Class-Origin Wealth Gaps over a Quarter of a Century in a Scandinavian Country. *American Sociological Review*, *86*(4), 603–638. <https://doi.org/10.1177/00031224211020012>

- Henretta, J. C., & Campbell, R. T. (1978). Net Worth as an Aspect of Status. *American Journal of Sociology*, 83(5), 1204–1223. <https://doi.org/10.1086/226679>
- Hershbein, B., & Kahn, L. B. (2018). Do Recessions Accelerate Routine-Biased Technological Change? Evidence from Vacancy Postings. *American Economic Review*, 108(7), 1737–1772. <https://doi.org/10.1257/aer.20161570>
- Hubbard, R. G., Skinner, J., & Zeldes, S. P. (1995). Precautionary Saving and Social Insurance. *Journal of Political Economy*, 103(2), 360–399. <https://doi.org/10.1086/261987>
- Hurst, E., & Ziliak, J. P. (2006). Do Welfare Asset Limits Affect Household Saving?: Evidence from Welfare Reform. *Journal of Human Resources*, XLI(1), 46–71. <https://doi.org/10.3368/jhr.XLI.1.46>
- Jappelli, T., & Pistaferri, L. (2010). The Consumption Response to Income Changes. *Annual Review of Economics*, 2(1), 479–506. <https://doi.org/10.1146/annurev.economics.050708.142933>
- Karlan, D., Ratan, A. L., & Zinman, J. (2014). Savings by and for the Poor: A Research Review and Agenda. *Review of Income and Wealth*, 60(1), 36–78. <https://doi.org/10.1111/roiw.12101>
- Killewald, A., Pfeffer, F. T., & Schachner, J. N. (2017). Wealth Inequality and Accumulation. *Annual Review of Sociology*, 43(1), 379–404. <https://doi.org/10.1146/annurev-soc-060116-053331>
- Knoll, M. A. Z., Tamborini, C. R., & Whitman, K. (2012). I Do ... Want to Save: Marriage and Retirement Savings in Young Households. *Journal of Marriage and Family*, 74(1), 86–100. <https://doi.org/10.1111/j.1741-3737.2011.00877.x>
- Kornrich, S., & Furstenberg, F. (2013). Investing in Children: Changes in Parental Spending on Children, 1972–2007. *Demography*, 50(1), 1–23. <https://doi.org/10.1007/s13524-012-0146-4>
- Loayza, N., Schmidt-Hebbel, K., & Serven, L. (2000). Saving in Developing Countries: An Overview. *The World Bank Economic Review*, 14(3), 393–414. <https://doi.org/10.1093/wber/14.3.393>
- Lusardi, A., & Mitchell, O. S. (2007). Baby Boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of Monetary Economics*, 54(1), 205–224. <https://doi.org/10.1016/j.imoneco.2006.12.001>
- Merton, R. K. (1968). The Matthew Effect in Science: The reward and communication systems of science are considered. *Science*, 159(3810), 56–63. <https://doi.org/10.1126/science.159.3810.56>
- Moawad, J. (2023). How the Great Recession changed class inequality: Evidence from 23 European countries. *Social Science Research*, 113, 102829. <https://doi.org/10.1016/j.ssresearch.2022.102829>
- Modigliani, F. (1986). Life Cycle, Individual Thrift, and the Wealth of Nations. *Science*, 234(4777), 704–712. <https://doi.org/10.1126/science.234.4777.704>
- Modigliani, F., & Brumberg, R. (2005). Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data. In F. Modigliani, *The Collected Papers of Franco Modigliani*. The MIT Press. <https://doi.org/10.7551/mitpress/1923.003.0004>

- Mood, C. (2010). Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It. *European Sociological Review*, 26(1), 67–82.
<https://doi.org/10.1093/esr/jcp006>
- Neter, J., & Waksberg, J. (1964). A Study of Response Errors in Expenditures Data from Household Interviews. *Journal of the American Statistical Association*, 59(305), 18–55.
<https://doi.org/10.1080/01621459.1964.10480699>
- Nolan, B. (2020). The Median Versus Inequality-Adjusted GNI as Core Indicator of ‘Ordinary’ Household Living Standards in Rich Countries. *Social Indicators Research*, 150(2), 569–585.
<https://doi.org/10.1007/s11205-020-02311-0>
- OECD. (2016). *Pensions Outlook*. OECD. https://doi.org/10.1787/pens_outlook-2016-en
- O’rand, A., & Henretta, J. C. (2018). *Age and Inequality: Diverse Pathways Through Later Life*. Routledge.
- Pfeffer, F. T., Danziger, S., & Schoeni, R. F. (2014). Wealth levels, wealth inequality, and the Great Recession. *Recession Brief*. New York: Russell Sage Foundation. Accessed May, 10, 2016.
- Pfeffer, F. T., & Waitkus, N. (2021). The Wealth Inequality of Nations. *American Sociological Review*, 86(4), 567–602. <https://doi.org/10.1177/00031224211027800>
- Piketty, T. (2014). *Capital in the Twenty-First Century*. Harvard University Press.
- Redbird, B., & Grusky, D. B. (2016). Distributional Effects of the Great Recession: Where Has All the Sociology Gone? *Annual Review of Sociology*, 42(1), 185–215.
<https://doi.org/10.1146/annurev-soc-073014-112149>
- Schechl, M., & Waitkus, N. (2024). Where Income Becomes Wealth: How Redistribution Moderates the Association between Income and Wealth. *Socius: Sociological Research for a Dynamic World*, 10, 23780231241261599. <https://doi.org/10.1177/23780231241261599>
- Weber, M. (1978). *Economy and society: An outline of interpretive sociology* (Vol. 1). University of California press.
- Weber, M. (2011). *The Protestant ethic and the spirit of capitalism: The revised 1920 edition* (S. Kalberg, Trans.). Oxford University Press.
- Webley, P., & Nyhus, E. K. (2006). Parents’ influence on children’s future orientation and saving. *Journal of Economic Psychology*, 27(1), 140–164.
<https://doi.org/10.1016/j.joep.2005.06.016>
- Whitehouse, E. (2006). *Pensions Panorama: Retirement-Income Systems in 53 Countries*. World Bank. <https://doi.org/10.1596/978-0-8213-6764-3>
- Zelizer, V. A. R. (1995). *The social meaning of money*. Basic Books.

Table A1. Household income distribution by percentile in selected countries

Country	P10	P25	P50	P75	P90
Austria	13,357	19,161	27,858	39,351	54,319
Estonia	3,927	5,920	11,745	20,912	31,746
Spain	6,608	10,806	18,679	32,530	56,991
Finland	16,056	24,191	35,931	51,871	73,742
Greece	5,520	8,614	12,881	19,048	27,058
Italy	7,288	10,897	16,798	25,124	35,868
Slovenia	3,530	7,188	11,711	18,031	26,168
Slovakia	3,734	5,373	7,637	11,085	16,054
United Kingdom	9,195	13,991	22,720	36,275	54,825
United States	11,746	23,010	47,737	110,301	550,732

Table A2. Descriptive statistics of key variables

	Austria	Estonia	Finland	Greece	Italy
N of children	0.46	0.73	0.65	0.71	0.68
Age of youngest child	13.27	13.84	11.03	16.17	19.69
Employee	0.87	0.92	0.76	0.70	0.80
Self employed	0.08	0.03	0.17	0.23	0.12
Employer	0.05	0.05	0.06	0.07	0.08
Own house	0.46	0.90	0.78	0.73	0.79
In union	0.49	0.44	0.54	0.62	0.59
Female	0.55	0.56	0.49	0.55	0.47
Household income	33029	15647	42561	15383	20359
Age	52.18	51.56	50.70	51.40	60.15
N of household members	2.09	2.54	2.45	2.56	2.39
	Slovakia	Slovenia	Spain	UK	US
N of children	0.74	0.79	0.76	0.62	0.78
Age of youngest child	17.70	17.92	18.39	11.37	12.19
Employee	0.83	0.88	0.71	0.85	0.69
Self employed	0.12	0.07	0.18	0.13	0.31
Employer	0.05	0.05	0.11	0.03	0.00
Own house	0.89	0.88	0.90	0.74	0.71
In union	0.55	0.69	0.66	0.51	0.65
Female	0.43	0.59	0.40	0.39	0.22
Household income	9398	14007	30762	30085	454219
Age	53.06	53.11	58.95	54.98	51.02
N of household members	2.53	2.77	2.60	2.28	2.49

Figure A1. Gap in saving behavior between bottom (reference category) and second quartile

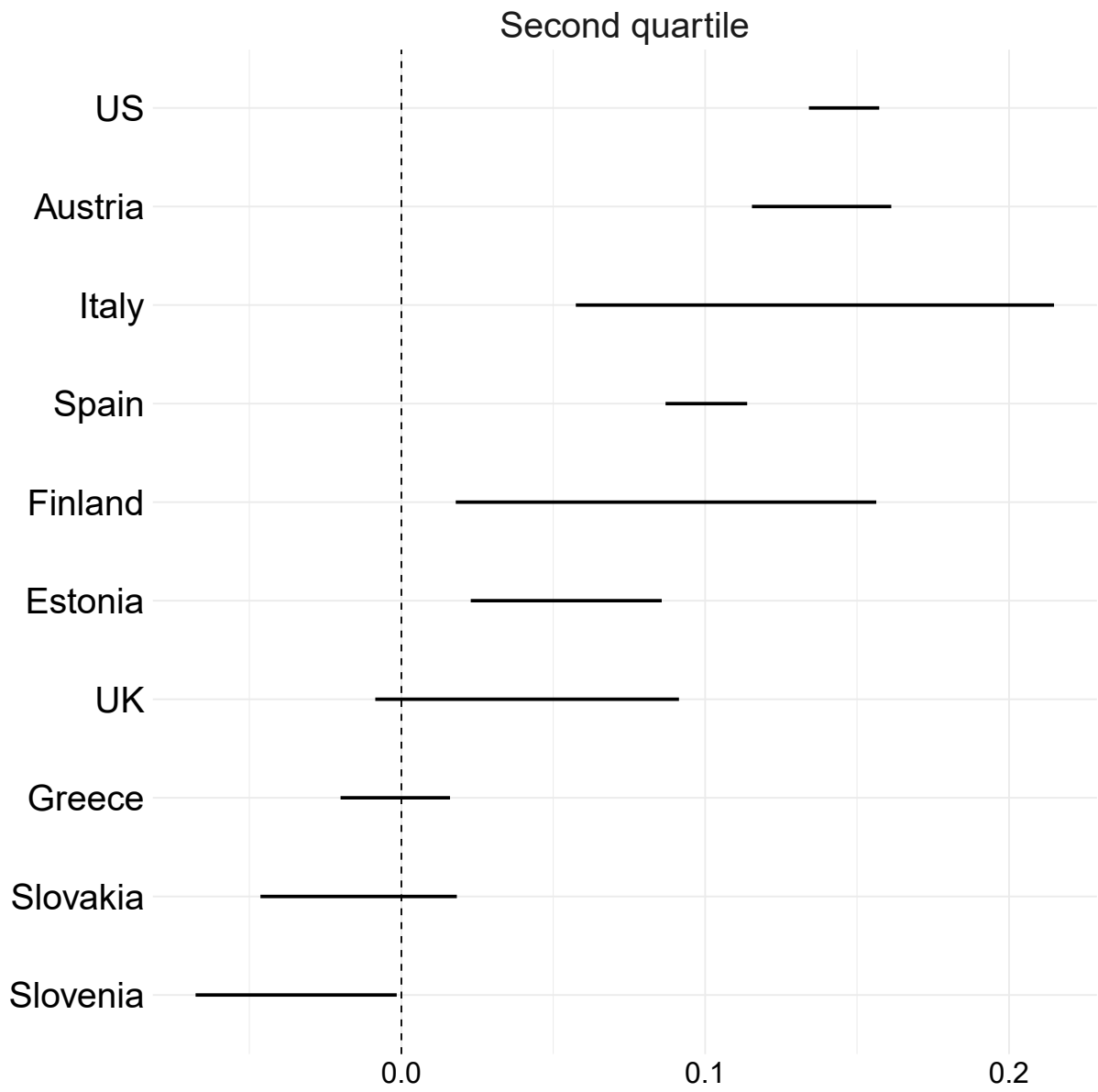
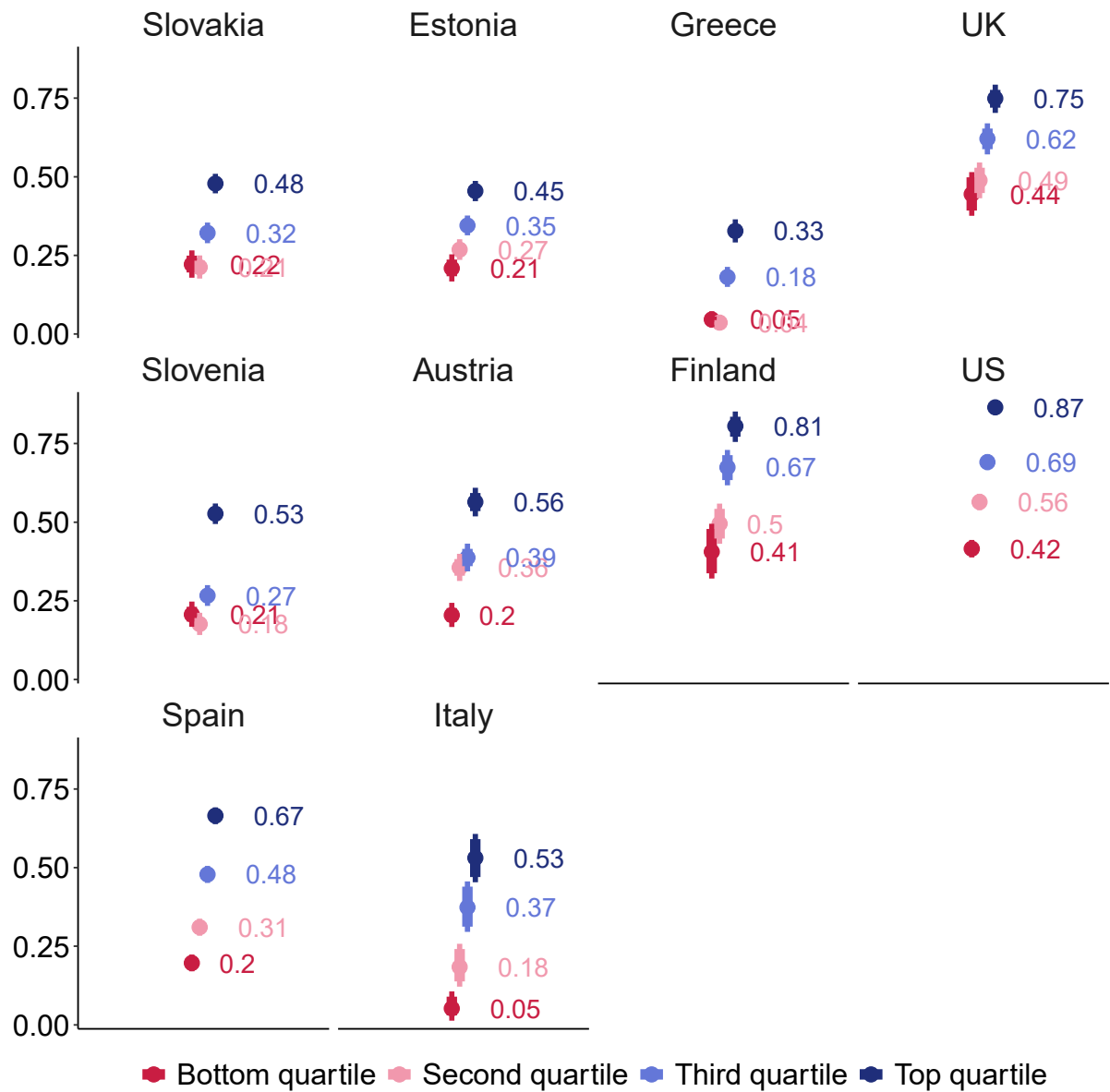
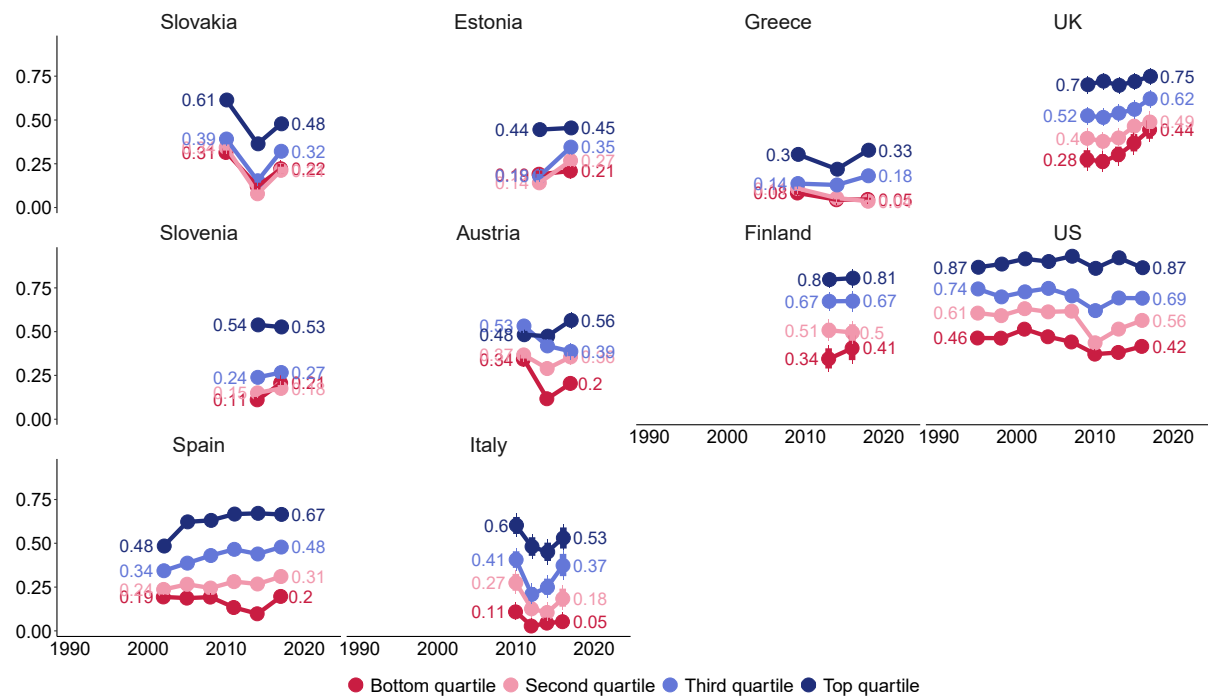


Figure A2. Predicted probabilities of saving behavior by income quartiles – using logistic regression instead of linear probability models



Note: The predicted probabilities are extracted from a logistic regression model. 95 percent confidence intervals are plotted vertically. Dependent variable: saving behavior (yes code as 1 and no coded as 0). Models control for number of persons in the household, number of children, age of the youngest child, labor market status, marital status, sex, and age.

Figure A3. Predicted probabilities of saving behavior by income quartiles and years– using logistic regression instead of linear probability models



Note: The predicted probabilities are extracted from a logistic regression model. 95 percent confidence intervals are plotted vertically. Dependent variable: saving behavior (yes code as 1 and no coded as 0). Models control for number of persons in the household, number of children, age of the youngest child, labor market status, marital status, sex, and age.