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July 2026

Number

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POPULATION AGEING AND PORTFOLIO CHOICES IN THE MAIN EU COUNTRIES

by Raffaella Giordano*, Luigi Infante*, Andrea Neri*,
Giada Andrea Prete* and Matteo Spuri*

Abstract

In this paper, we investigate the impact of population ageing on household portfolio choices in Italy, France, Germany, and Spain, drawing on HFCS data for the period 2010–2020. The findings indicate that the propensity to hold risky assets follows an inverted U-shaped pattern over the life cycle and is comparatively lower in Italy; this difference cannot be attributed to demographic factors but rather reflects structural determinants. However, when business wealth is incorporated into the definition of risky assets, cross-country disparities are substantially reduced, suggesting that Italian households are not less exposed to risk per se, but instead hold it through alternative asset compositions.

JEL Classification: C25, D14, D15, D31, G51, J11.

Keywords: household portfolio, life cycle, financial wealth, non-financial wealth, risky assets.

DOI: 10.32057/0.QEF.2026.1036

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1. Introduction¹

Population ageing constitutes one of the major structural transformations currently affecting advanced economies. In Europe, and particularly in Italy, the rising share of older individuals is projected to persist over the coming decades, with potentially significant implications for household saving behaviour and for the allocation of wealth across assets with different risk profiles. Recent demographic projections for Italy point to a gradual decline in the resident population over the next fifty years, from approximately 59 million in 2023 to 55 million in 2050 and 46 million in 2080. Over the same horizon, the ratio of working-age individuals (15–64) to dependents (aged 0–14 and 65 and over) is expected to decrease from about 3:2 in 2023 to roughly 1:1 by 2050 (Istat, 2024).

A well-established stylised fact is that Italian households participate substantially less in financial markets characterised by high volatility and capital risk (such as equities and equity mutual funds) than their counterparts in other major economies. One possible explanation lies in demographic factors: a relatively older population may exhibit a lower propensity to hold risky assets. Alternatively, structural determinants – such as the degree of financial market development, the features of the productive system, or household preferences – may play a more prominent role.

From a theoretical standpoint, the relationship between age and portfolio choice is typically framed within the life-cycle hypothesis. In this setting, individuals accumulate wealth during their working years and decumulate it in later life to finance consumption. As retirement approaches, the investment horizon shortens, human capital declines, and risk aversion increases, thereby reducing the attractiveness of risky assets (see Gollier, 2002; Gollier and Zeckhauser, 2002). In equilibrium, this implies an inverted U-shaped age profile of participation in risky asset markets. However, institutional, cultural, and economic factors – such as pension system generosity, bequest motives, and the degree of financial integration – may affect both the magnitude and the direction of these effects, contributing to the mixed empirical evidence.

This paper examines the role of age and demographic composition in shaping household portfolio choices, with the aim of assessing the extent to which these factors account for observed cross-country differences, and of providing insights into how ongoing demographic trends and changes in household structure may influence such choices going forward. Specifically, we address three interrelated questions. First, we analyse how age affects both the probability of holding risky assets and the share of wealth allocated to them. Second, we assess whether the lower participation of Italian households in risky financial markets, relative to France, Germany, and Spain, can be explained by differences in demographic and socioeconomic composition. Third, we investigate whether this gap

¹ We thank Silvia Fabiani and Alfonso Rosolia for useful comments. The views expressed in this paper are those of the authors and do not necessarily reflect those of Banca d'Italia. All remaining errors are our own responsibility.

narrows when adopting a broader definition of risky assets that includes the non-financial component of wealth associated with business activities conducted outside corporate forms.²

The empirical analysis relies on data from the four waves of the Household Finance and Consumption Survey (HFCS) and focuses on a set of euro area countries that are broadly comparable in terms of economic development, but exhibit marked differences in household portfolio composition.

The empirical strategy combines descriptive analysis, econometric estimation, and a counterfactual decomposition exercise in the spirit of DiNardo, Fortin, and Lemieux (DFL, 1996). The econometric analysis identifies the role of individual characteristics – most notably age – in shaping the probability of holding risky assets. The counterfactual decomposition exploits these relationships to assess the extent to which observed cross-country differences can be attributed to population composition as opposed to behavioural and institutional factors.

The results indicate that age plays a significant role in portfolio choices: the propensity to hold risky assets is higher in the middle stages of the life cycle and declines among older households. However, cross-country differences – particularly the lower participation of Italian households in risky financial markets – are not explained by demographic composition. When a broader definition of risky assets is considered, encompassing business-related assets, the gap between Italy and the other countries narrows substantially. This finding suggests that overall household exposure to risk does not differ markedly across countries and that, in the case of Italy, it largely stems from holdings of instruments different from traditional financial ones, particularly those associated with entrepreneurial activities. Overall, the evidence suggests that population ageing tends to reduce the holding of risky assets, while cross-country differences primarily reflect heterogeneity in wealth composition. Assessments of the impact of ageing on the supply of risk-bearing capital should therefore jointly account for both the financial and entrepreneurial components of household wealth.

The remainder of the paper is organised as follows. The next section reviews the main findings in the literature on the relationship between demographic structure and household portfolio choices in Italy, also in comparison with other European countries. Section 3 describes the data and presents descriptive evidence. Section 4 reports the results of the econometric analysis on financial wealth, which is subsequently extended to include non-financial assets related to business activities in Section 5. Section 6 concludes.

2 In the case of business activity conducted in the form of corporations, non-financial investments are owned by the firms themselves, while households hold shares or equity stakes, which are classified as risky financial instruments. In other cases, fixed capital investments are directly owned by households.

2. What do we know

A large body of studies agrees on the existence of a link between demographic structure and portfolio choices, particularly of an inverted U-shaped relationship between age and the share of wealth invested in risky assets, consistent with the life-cycle hypothesis.³ By contrast, the evidence on the relationship between demographic structure and asset prices and returns appears far more inconclusive.⁴

With reference to Italian households, Guiso and Jappelli (2001) document a substantial increase in stock market participation over the final decade of the twentieth century, accompanied by a corresponding decline in the share of portfolios held in deposits and government bonds. Using data from the Bank of Italy's Survey of Household Income and Wealth (SHIW) for the period 1989–1998, they show that the share of Italian households investing in risky assets rises significantly with both wealth and educational attainment, while exhibiting the standard inverted U-shaped profile with respect to age predicted by theory. Participation increases from around 15 per cent among households with a head younger than 30, to nearly 20 per cent among middle-aged households, before declining to around 10 per cent for those aged 60–69 and to below 7 per cent for those over 70. By contrast, among households that do participate in the stock market, the share of wealth invested in risky assets remains broadly stable across age groups – at around 45 per cent – and varies only marginally with wealth. These findings are confirmed by regression analysis distinguishing between the decision to participate in the stock market and the portfolio share allocated to risky assets conditional on participation.

Brunetti and Torricelli (2010) extend the analysis of Guiso and Jappelli (2001) along several dimensions. Relying on SHIW data for a later period (1995–2006), they adopt an alternative classification of assets by risk profile and explore how the effect of age on financial choices varies across households with different levels of net wealth. Their results confirm the limited diversification of household portfolios – around 70 per cent of wealth being held in deposits – as well as a gradual decline in holdings of government securities, while the expansion of equity investment comes to a halt around 2000. The evidence of a higher propensity of middle-aged households to take on risk is robust throughout the period, but wealth is found to have a significant and heterogeneous effect during the sample period on portfolio choices across age groups. While at the beginning of the sample the

3 For a comprehensive review and systematisation of the literature available up to the early 2000s on the effects of population ageing—both on portfolio choices and on asset prices and returns—in the United States, Italy, and other European and non-European countries, see Brunetti (2007).

4 For instance, Poterba (2001) examines the relationship between the real returns on various financial instruments—short- and long-term government securities and equities—and a set of demographic indicators in the United States, using historical data for the period 1926–1999, and, for Canada and the United Kingdom, from 1961 onwards. The findings do not support the existence of a significant and robust relationship between asset returns and demographic factors.

inverted U-shaped profile is observed only among the wealthiest households, in more recent years this pattern also emerges among less wealthy households.

In an international comparative perspective, Guiso, Haliassos, and Jappelli (2001, 2003) document persistent differences between the composition of household portfolios in Italy and other European countries and that observed in the United States and the United Kingdom. In the latter two countries at the end of the twentieth century approximately 20 per cent of households directly held equities, compared with about 7 per cent in Italy (and around 15 per cent in France, Germany, and the Netherlands). The share of equities held both directly and indirectly, through mutual and pension funds, ranged from nearly 50 per cent in the United States to about 15 per cent in Italy. Given the strong correlation between stock market participation and both wealth and education – and the relatively limited importance of these factors for the share invested among participants – the authors attribute these cross-country differences to the presence of fixed participation costs (in terms of both information and fees), whose distribution across countries is broadly consistent with observed participation rates. Once again, the inverted U-shaped relationship between age and stock market participation emerges as a robust empirical regularity across countries: participation peaks in the 50–59 age group and declines after retirement. By contrast, the age profile of risky asset shares among participating households remains largely flat.

A recent collection of contributions (“Famiglie e risparmio. Come cambiano le scelte finanziarie degli italiani”, edited by L. Guiso) provides updated evidence on the evolution of Italian households’ financial choices based on the latest available surveys. Using SHIW data for the period 1989–2022, Borella and Nicodano (2025) analyse the evolution of household wealth and its composition. They show that, despite financial innovation, the allocation of wealth between real and financial assets has remained broadly stable over time. At the same time, financial innovation has contributed to greater diversification of household portfolio, whose overall value has increased, with a declining share of deposits and government bonds and rising shares of pension funds, equities, and bonds. Consistent with life-cycle theory, the share of financial wealth invested in equities – both directly and through pension funds – has declined with age.

Haliassos and Tzamourani (2025) compare the asset allocation of Italian households with that of other euro area countries using HFCS data for the period 2010–2020. Their analysis, which distinguishes between a “Southern” and a “Northern” European group of countries,⁵ positions Italy broadly as an intermediate case. Italian households hold a particularly large share of their wealth in real estate, while their participation in financial markets is among the lowest. Direct participation in the stock

5 The “South” group includes Cyprus, Greece, Ireland (due to the fiscal difficulties experienced over the period considered), Portugal, and Spain. The “North” group comprises Austria, Belgium, France, Germany, Luxembourg, and the Netherlands.

market is lower than in both the “Northern” and most “Southern” countries (with the exception of Portugal, where it is similar, and Greece, where it is lower); conditional on participation, the average value of equity holdings is below the euro area average and comparable to that of the lower segment of the “Northern” group. Focusing on the most recent survey wave, the authors also examine wealth levels and composition across five segments of the wealth distribution and across age groups. The youngest households (aged 16–34) in Italy rank among the wealthiest across countries, largely due to real estate holdings, while for middle-aged households (aged 50–64) higher wealth is mainly driven by ownership of private business equity. The particularly high average value of these holdings is concentrated among the top 20 per cent of wealth distribution. In all countries, total wealth peaks in the 50–64 age group.

3. Data and preliminary descriptive statistics

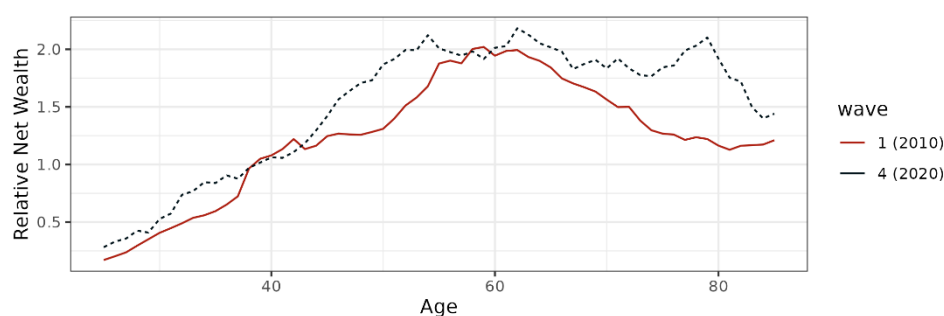
The analysis is based on microdata from the European Household Finance and Consumption Survey (HFCS), which collects detailed and harmonised household-level information on wealth, income, and consumption across euro area countries. The study considers the four available waves of the HFCS – 2010, 2014, 2016, and 2020 – for Italy, France, Germany, and Spain, which are broadly comparable in terms of the size and structure of their financial markets.

The measure of wealth used in this study includes the main categories of financial assets (deposits, debt securities, mutual funds and managed accounts, life insurance, private pensions, listed and unlisted equities) and non-financial assets (housing and business-related non-financial wealth). Cash, non-life insurance, derivatives, trade credit, and other accounts receivable, which jointly account for roughly 10 per cent of total wealth in all countries considered, are excluded.

Consistent with Guiso and Jappelli (2002) and Brunetti and Torricelli (2009), financial instruments are classified into three risk categories: low-risk assets (deposits), medium-risk assets (public and private debt securities, life insurance products, private pensions, and mutual fund shares including managed portfolios), and high-risk assets (listed and unlisted equities and equity participation).

Figure 1 reports, at the aggregate level for the euro area, the profiles of net wealth (defined as the sum of financial and non-financial assets net of liabilities) across households grouped by the age of the household head, as observed in the first and fourth waves of the survey. Consistent with life-cycle theory, both profiles suggest a pattern of wealth accumulation at younger ages, with a peak reached around age 60, followed by a phase of decumulation in older age groups.

Figure 1: Relative net wealth by age

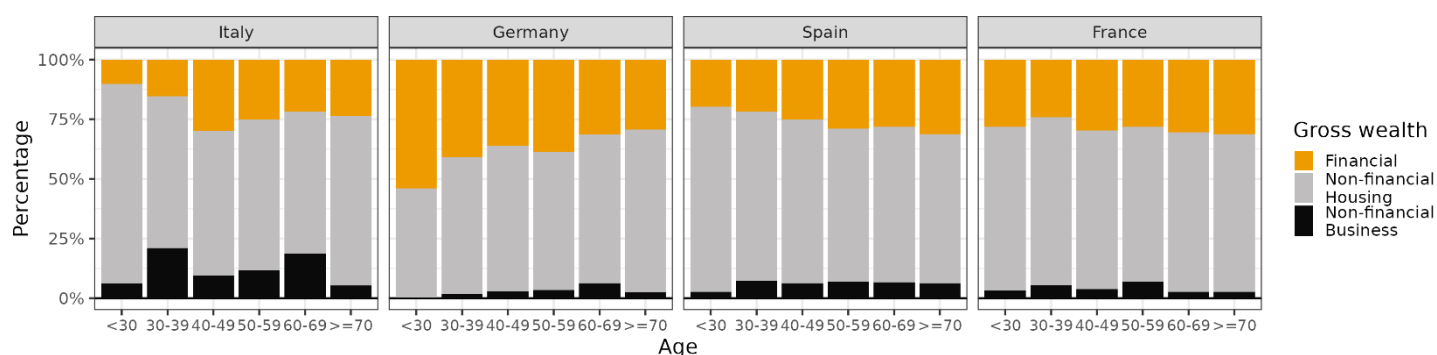


Note: Relative net wealth is defined as the mean value observed for each age group, normalised with respect to the average wealth of the 35–44 age group, which is taken as the reference category. Age profiles are constructed by applying a five-year moving average: each point represents the average of the value observed for a given age, the two preceding ages, and the two subsequent ages. To mitigate issues related to limited sample size in the tails of the distribution, the analysis is restricted to individuals aged between 25 and 85.

Considering the composition of wealth across age groups, the predominance of housing wealth over the entire life cycle emerges in all countries, albeit with some notable cross-country differences (Figure 2). In Italy, housing wealth represents the largest share of total wealth across all age groups, while the financial component remains relatively limited, particularly in the middle stages of the life cycle. Business wealth, although modest on average, is more prominent among middle-aged households, especially in comparison with other countries.

Germany stands out for a higher incidence of financial wealth, particularly among younger households, while housing wealth plays a less dominant role. Spain and France exhibit intermediate patterns, with a substantial share of housing wealth alongside a non-negligible presence of financial assets.

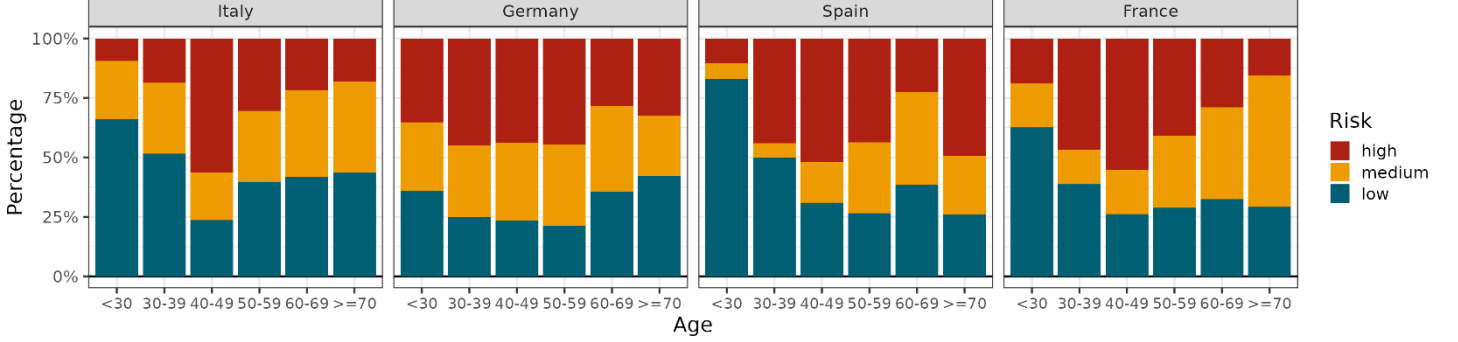
Figure 2: Composition of wealth by age group and country



Note: The figure reports the composition of households' gross total wealth by age group and country. The bars show the percentage shares attributable to financial wealth, housing wealth, and business (non-financial) wealth. Data are weighted using HFCS sampling weights.

Moreover, when examining the composition of financial wealth by risk profile, we observe across all countries in the sample a peak in the share allocated to risky assets among middle-aged households and, with the exception of Spain, a decline after age 60. (Figure 3).⁶

Figure 3: Composition of financial wealth by age group and country



Note: The figure reports the composition of households' financial wealth by age group and country, restricted to households with non-zero financial wealth. The bars display the percentage shares allocated to low-risk assets (deposits), medium-risk assets (public and private debt securities, life insurance products, private pensions, and mutual fund shares including managed portfolios), and high-risk assets (listed and unlisted equities and equity participation). Data are weighted using HFCS sampling weights.

4. The Life-Cycle Profile of Financial Wealth

To analyse how investment in risky assets varies with household characteristics, we distinguish between the extensive and the intensive margins. The former captures the decision to participate in risky markets, i.e. the probability that a household holds at least one high-risk financial instrument; the latter measures the share of financial wealth invested in such assets, conditional on participation.

For the extensive margin, we estimate a logit model of the following form:

$$Pr(risk_{high,i} = 1 | D_i, Z_i, \delta_{c \times w}) = \Lambda(\alpha + \sum_{k \in K} \beta_k D_{k,i} + \gamma' Z_i + \delta_{c \times w}) \quad [1]$$

where $D_{k,i}$ denotes the dummy variable for age group k (with $K = 30 - 39, 40 - 49, 50 - 59, 60 - 69, 70 +$, and the reference group being those below 30), Z_i includes demographic control variables (gender, education level, housing status, employment type, and household structure), and $\delta_{c \times w}$ represents country-by-wave fixed effects.

For the intensive margin, we estimate a fractional logit model (Papke–Wooldridge), which allows modelling the share of risky assets held by households conditional on market participation:

⁶ For each country considered, the Appendix reports tables on the composition of financial portfolios by age group and net wealth deciles, based on data from the fourth wave of the HFCS. Portfolio shares are defined as the ratio of the amount invested in each instrument to total financial assets.

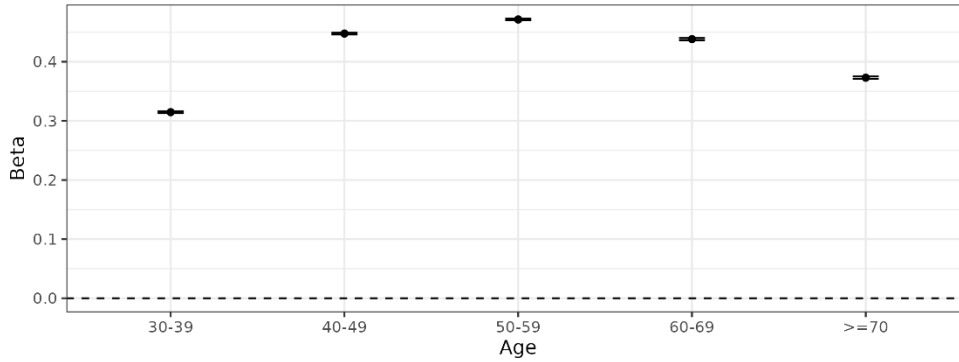
$$E(s_i|D_i, Z_i, \delta_{c \times w}) = \Lambda(\alpha + \sum_{k \in K} \beta_k D_{k,i} + \gamma' Z_i + \delta_{c \times w}) \quad [2]$$

where $s_i \in [0,1]$ represents the share of financial wealth invested in risky assets.

Both models are estimated considering only the financially active population, defined as the set of households holding at least one financial asset (in the 2020 wave, this share exceeded 90 per cent in all countries included in the analysis).

Figure 4 reports the association between age groups and the probability of holding risky financial instruments, as estimated by the logit model on the pooled data for the four countries. The evidence confirms the well-established finding in the literature of an inverted U-shaped relationship between age and the probability of holding assets.

Figure 4: Estimated effects of age groups on the probability of holding risky assets (extensive margin)

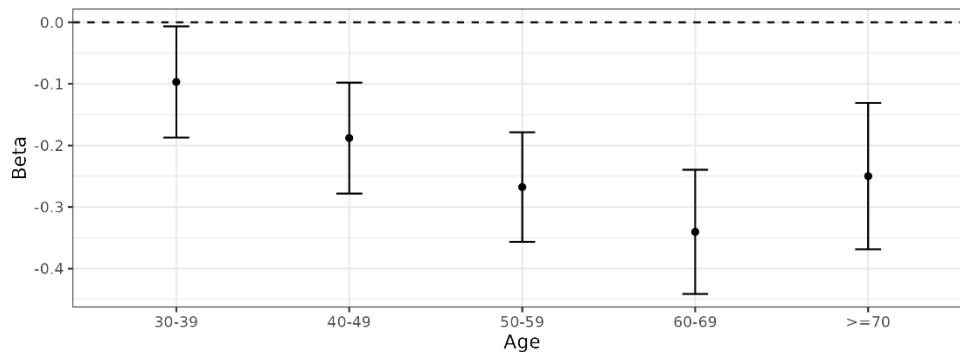


Note: The figure reports the estimated coefficients from the logit model for the age group dummies (reference category: below 30). The horizontal bars represent 95 per cent confidence intervals; given the precision of the estimates, these are very narrow and appear as lines intersecting the point estimates. The dependent variable is a dummy indicating the holding of risky financial assets (extensive margin). The coefficients are not directly interpretable as changes in probability but rather indicate the direction and strength of the association relative to the reference category.

The estimated effects of age on the share of risky assets display a pattern opposite to that observed for the extensive margin, with negative coefficients relative to the reference category (below 30) that increase in absolute value with age (Figure 5).

These estimates are far less precise than those obtained for the extensive margin, as indicated by wider confidence intervals. Furthermore, they contribute to explaining overall behaviour only marginally, since they apply to the subset of households already holding risky assets and do not alter total exposure when both margins are considered jointly, which remains consistent with the evidence from the extensive margin.

Figure 5: Estimated effects of age groups on the share of risky assets (intensive margin)

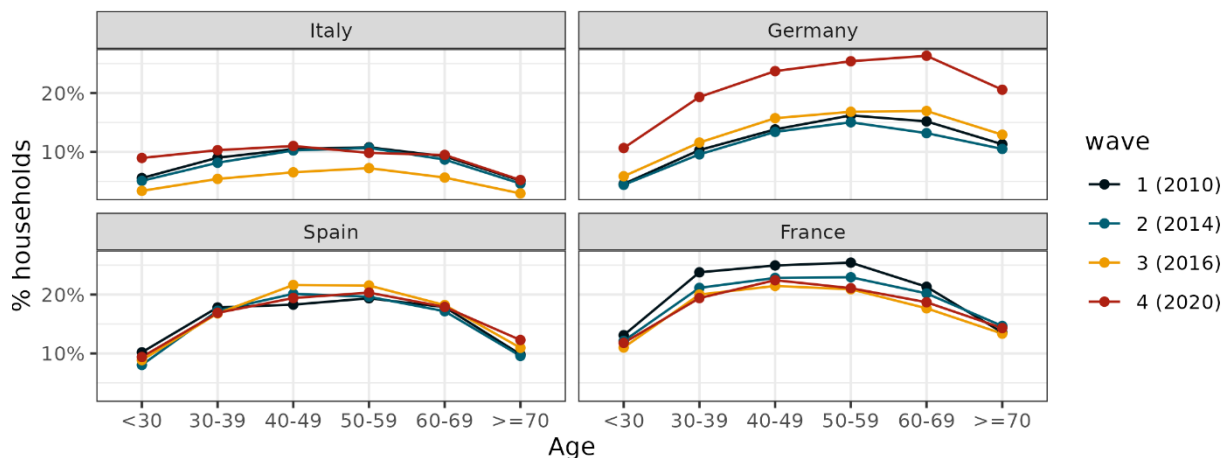


Note: The figure reports the estimated coefficients from the fractional logit model for the age group dummies (reference category: below 30). The horizontal bars represent 95 per cent confidence intervals. The dependent variable is the share of financial wealth invested in risky assets, conditional on participation in risky markets (intensive margin). The coefficients are not directly interpretable as changes in the share but rather indicate the direction and magnitude of the association relative to the reference category.

In line with the existing literature, the results thus indicate that demographic characteristics primarily affect the extensive margin, while the share invested among participating households is less sensitive to these factors. For this reason, the analysis that follows focuses on this margin.

Figure 6 reports the probabilities, by country and age group, estimated from model [1]. These probabilities are computed as marginal predictions on the observed sample, holding the coefficients associated with age groups constant across countries. Cross-country differences therefore reflect the effect of country dummies as well as the demographic composition observed within each country–age group. The results show that, in Italy, the propensity to hold risky assets is significantly lower than in the other countries: the estimated probability is around 10 per cent, compared with values of approximately 25 per cent in Germany and France and 21 per cent in Spain.

Figure 6: Estimated probabilities of holding risky financial assets



Note: The figure reports the predicted probabilities from the logit model in equation [1] of holding high-risk financial instruments, conditional on participation in financial markets (i.e. non-zero financial wealth). For each country–wave–age group cell, predictions are computed based on the observed demographic composition of the sample and aggregated using weighted averages with HFCS sampling weights.

The analysis conducted so far shows that individual characteristics, including age, affect the probability of holding risky assets, but does not clarify the extent to which these factors account for cross-country differences.

To address this issue, we implement a counterfactual decomposition in the spirit of DiNardo, Fortin, and Lemieux, which allows us to disentangle the role of population composition from that of differences in behaviour and institutional contexts. Specifically, we assign Italy the demographic structure of Germany and France while holding constant the estimated relationship between individual characteristics and the probability of holding risky assets. The analysis deliberately focuses on a limited set of basic demographic characteristics in order to isolate the role of population composition, while other dimensions (such as income or labour market status) are absorbed in the residual component (Table 1).

Table 1: Counterfactual decomposition of holdings of risky financial assets

Comparison country	Italy (observed) (a)	Italy (counterfactual) (b)	Country (osservato) (c)	Overall gap (d)	Composition effect (e)	Structural effect (f)
Germany	0.079	0.09	0.213	0.134	0.011	0.123
France	0.079	0.083	0.176	0.0973	0.0043	0.0929

Note: The table reports the results of the counterfactual decomposition in the spirit of DiNardo, Fortin, and Lemieux (1996). Column (b) shows the estimated probability of holding risky assets for Italian households if they had the same distribution of observable characteristics (age, education, and household structure) as the comparison country. The overall gap between Italy and the comparison country (column d) is decomposed into: (i) a composition effect, capturing the share of the gap explained by differences in observable characteristics (column e), and (ii) a structural effect, accounting for differences in behaviour, preferences, or unobserved institutional factors (column f).

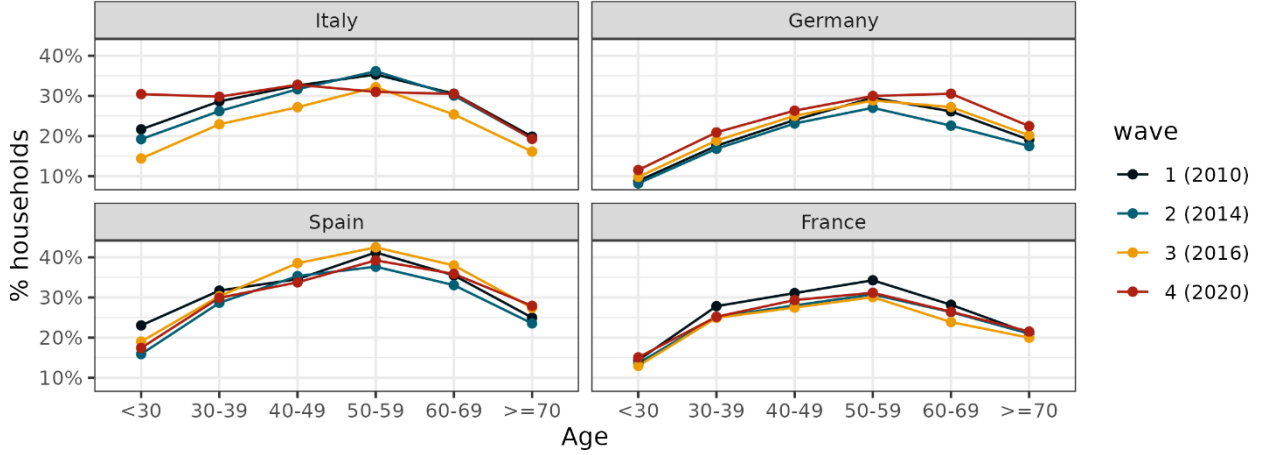
Overall, the results indicate that cross-country differences are not driven by demographic composition. In other words, even if Italy had the same age structure and observable characteristics as Germany or France, the probability of holding risky assets would remain significantly lower.

5. Non-financial Wealth as a Risky Asset

The analysis conducted thus far adopts a conventional definition of risky wealth, limited to financial assets only. While this choice is consistent with the existing literature, it may be overly restrictive in the Italian context, where a substantial share of wealth is held in the form of real business assets. This wealth – comprising both tangible assets (non-residential real estate, plant, machinery, and land) and intangible assets (intellectual property products) – is employed in entrepreneurial activity and is characterised by high illiquidity and significant exposure to operational and idiosyncratic business risk.

To provide a more comprehensive representation of risk exposure, model [1] is re-estimated by including these assets in the definition of risky wealth. The resulting predictions, reported in Figure 7, point to a substantial narrowing of the differences between Italy and the other countries in the probability of holding risky assets. By contrast, the hump-shaped relationship with age remains confirmed.

Figure 7: Estimated probabilities of holding risky financial assets (including business wealth)



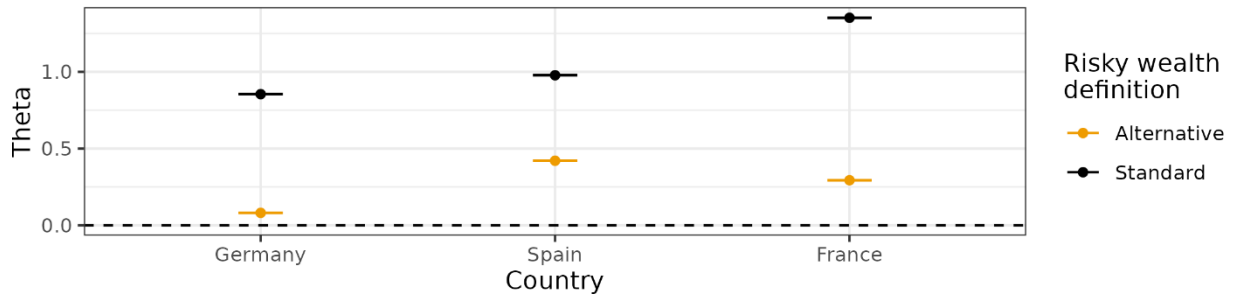
Note: The figure reports the predicted probabilities from the logit model in equation [1] of holding high-risk assets under an extended definition of risky wealth, which includes business-related non-financial wealth. Participation is defined as the joint holding of financial and business wealth (i.e. non-zero total holdings). For each country–wave–age group cell, predictions are computed based on the observed demographic composition of the sample and aggregated using weighted averages with HFCS sampling weights.

To formally assess whether cross-country differences remain significant under the revised definition of wealth, the model is reparameterised by explicitly introducing country dummies, S_c , and country-by-wave fixed effects $\tilde{\delta}_{(c \times w)}$ constrained to sum to zero within each country ($\sum_w \tilde{\delta}_{(c \times w)} = 0, \forall c$). This restriction ensures that the fixed effects capture only wave-specific deviations from each country's mean, while the country dummy identifies the time-invariant country effect. The resulting specification is therefore given by:

$$Pr(risk_{high,i} = 1 \mid D_i, S_i, X_i, \tilde{\delta}_{(c \times w)}) = \Lambda \left(\alpha + \sum_{k \in K} \beta_k D_{k,i} + \sum_{c \in C} \theta_c S_{c,i} + \gamma' X_i + \tilde{\delta}_{(c \times w)} \right)$$

Holding household characteristics constant, the country effect estimated using this alternative definition of risky wealth is significantly smaller than that obtained under the conventional definition (Figure 8).

Figure 8: Country effects under the two definitions of risky wealth



Note: The figure reports the estimated coefficients of the country effect (θ) on the probability of holding risky assets, obtained from model specifications that differ in the definition of risky wealth. The “standard” definition includes only financial assets, whereas the “alternative” definition also incorporates the non-financial component associated with business activities. The horizontal bars represent 95 per cent confidence intervals; given the precision of the estimates, these are very narrow and appear as lines intersecting the point estimates. The coefficients are not directly interpretable as changes in probability relative to Italy; the dashed line indicates the zero value.

As a robustness check, we replicate the DiNardo–Fortin–Lemieux decomposition using the revised definition of risky wealth and comparing Italy with France and Germany. The results confirm that the previously observed cross-country gap narrows substantially (Table 2). In the case of Germany, the differential in observed values is essentially zero, with composition and structural effects offsetting each other. In the case of France, the gap is modest (0.9 percentage points) and is primarily driven by factors unrelated to demographic characteristics.

Table 2: Counterfactual decomposition of holdings of risky financial assets (including business wealth)

Comparison country	Italy (observed) (a)	Italy (counterfactual) (b)	Country (osservato) (c)	Overall gap (d)	Composition effect (e)	Structural effect (f)
Germany	0.240	0.246	0.240	0.000	0.007	-0.007
France	0.240	0.242	0.248	0.009	0.002	0.006

Note: The table reports the results of the counterfactual decomposition in the spirit of DiNardo, Fortin, and Lemieux (1996). Column (b) shows the estimated probability of holding risky assets for Italian households if they had the same distribution of observable characteristics (age, education, and household structure) as the comparison country. The overall gap between Italy and the comparison country (column d) is decomposed into: (i) a composition effect, capturing the share of the gap explained by differences in observable characteristics (column e), and (ii) a structural effect, accounting for differences in behaviour, preferences, or unobserved institutional factors (column f).

6. Concluding remarks

The analysis has examined the role of age and household characteristics in the holding of risky assets, comparing Italy, France, Germany, and Spain.

The results show, first, a common age profile across all countries considered: the probability of holding risky assets is higher in the middle stages of the life cycle and declines among older households. This relationship primarily reflects the decision to participate in risky markets, while it is less pronounced when considering the share held by participating households.

Second, Italian households participate significantly less in risky financial markets than their counterparts in other countries. The counterfactual decomposition indicates that this gap is not explained by demographic composition or other observable characteristics but is instead mainly attributable to structural differences in behaviour or institutional settings.

Third, when the definition of risky assets is broadened to include non-financial wealth associated with business activities, the gap between Italy and the comparison countries largely disappears.

Overall, the evidence suggests that population ageing tends to reduce exposure to financial risk. In the case of Italy – where such exposure is already relatively low – rather than demographic factors, this reflects the greater importance of entrepreneurial assets in total wealth.

These findings imply that any assessment of the effects of ageing on the supply of risk-bearing capital should jointly consider both the financial and the entrepreneurial components of household wealth.

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Appendix

Table A.1: Portfolio composition by age group and net wealth. Italy, 2020.

Percentile	Assets	<30	30-39	40-49	50-59	60-69	>70
Below 50th	Bonds	3.11	0.74	3.00	1.20	6.60	5.59
	Deposits	88.83	85.21	80.21	77.77	77.78	83.35
	Investment fund shares	5.89	2.52	1.94	5.55	5.11	9.78
	Listed shares	1.11	2.65	0.36	0.27	2.85	0.34
	Unlisted shares and other equity	0.00	0.17	1.29	0.22	0.37	0.31
	Life insurances	0.40	7.50	12.17	13.22	7.24	0.64
	Private pensions	0.32	1.21	1.04	1.78	0.06	0.00
Between 50th and 90th	Bonds	1.04	3.62	5.58	7.04	17.89	19.71
	Deposits	58.38	57.94	51.65	54.69	53.51	57.37
	Investment fund shares	19.58	19.55	13.22	14.84	13.43	15.87
	Listed shares	10.71	5.17	2.99	2.62	1.32	3.61
	Unlisted shares and other equity	0.00	4.98	8.53	7.34	6.44	0.29
	Life insurances	9.86	7.51	13.97	11.97	7.08	3.15
	Private pensions	0.43	1.22	4.07	1.51	0.33	0.01
Above 90th	Bonds	28.92	1.34	1.76	7.07	9.94	8.16
	Deposits	54.18	33.71	13.75	31.62	34.74	33.21
	Investment fund shares	0.10	11.02	4.38	16.84	24.00	30.93
	Listed shares	18.78	10.42	1.09	6.29	5.87	3.80
	Unlisted shares and other equity	0.02	21.53	69.30	33.72	22.56	21.63
	Life insurances	0.00	19.82	9.38	3.66	2.49	2.15
	Private pensions	0.00	2.13	0.34	0.79	0.41	0.12

Table A.2: Portfolio composition by age group and net wealth. Germany, 2020.

Percentile	Assets	<30	30-39	40-49	50-59	60-69	>70
Below 50th	Bonds	0.07	0.09	0.32	0.07	0.08	1.19
	Deposits	58.44	49.85	37.42	38.70	50.10	78.20
	Investment fund shares	4.37	5.67	3.15	3.79	2.96	6.69
	Listed shares	6.99	2.88	1.35	1.77	0.49	4.41
	Unlisted shares and other equity	4.19	6.83	3.95	1.66	0.16	0.01
	Life insurances	16.57	19.31	30.23	33.73	23.49	6.11
	Private pensions	9.38	15.37	23.58	20.28	22.72	3.39
Between 50th and 90th	Bonds	0.00	0.36	0.48	0.52	0.29	1.29
	Deposits	27.30	35.38	38.56	31.46	49.81	61.53
	Investment fund shares	21.41	6.90	8.13	7.56	7.98	18.19
	Listed shares	26.38	8.06	4.83	5.26	6.03	8.06
	Unlisted shares and other equity	2.60	10.00	3.83	6.86	5.57	2.69
	Life insurances	12.01	22.87	28.22	30.88	17.42	5.86
	Private pensions	10.30	16.41	15.94	17.47	12.91	2.39
Above 90th	Bonds	0.00	0.11	0.58	0.38	1.20	9.89
	Deposits	5.76	6.87	10.11	15.97	25.93	21.40
	Investment fund shares	2.62	2.44	3.31	4.25	12.10	11.17
	Listed shares	0.56	1.36	11.76	5.52	6.24	29.30
	Unlisted shares and other equity	88.94	81.12	64.13	54.70	34.30	24.23
	Life insurances	1.56	5.82	6.72	12.76	12.19	2.83
	Private pensions	0.56	2.27	3.38	6.42	8.04	1.18

Table A.3: Portfolio composition by age group and net wealth. Spain, 2020.

Percentile	Assets	<30	30-39	40-49	50-59	60-69	>70
Below 50th	Bonds	0.01	0.00	0.00	0.00	0.29	1.90
	Deposits	91.89	82.48	65.04	69.03	74.44	85.55
	Investment fund shares	0.01	0.84	8.48	2.01	1.79	3.36
	Listed shares	0.97	4.33	3.91	0.37	1.71	2.98
	Unlisted shares and other equity	0.16	7.64	4.91	4.92	6.70	2.67
	Life insurances	0.88	1.91	7.31	12.77	10.73	2.24
	Private pensions	6.09	2.79	10.35	10.91	4.34	1.30
Between 50th and 90th	Bonds	0.00	0.01	0.20	0.86	0.09	0.03
	Deposits	71.67	79.74	54.71	51.11	60.65	68.05
	Investment fund shares	1.03	1.62	4.33	7.62	7.16	16.63
	Listed shares	1.67	5.31	3.75	1.69	2.45	6.31
	Unlisted shares and other equity	21.08	6.85	12.24	10.18	3.00	0.97
	Life insurances	3.03	2.78	10.60	11.77	17.76	5.24
	Private pensions	1.52	3.70	14.17	16.76	8.90	2.77
Above 90th	Bonds	0.00	0.85	0.05	0.19	0.21	0.16
	Deposits	79.15	3.22	12.62	14.87	29.86	14.71
	Investment fund shares	5.98	3.23	4.94	13.48	21.56	16.79
	Listed shares	9.28	4.20	8.27	15.62	8.25	7.01
	Unlisted shares and other equity	0.00	87.81	69.57	42.27	20.55	52.92
	Life insurances	2.89	0.46	2.18	7.05	14.06	5.52
	Private pensions	2.69	0.24	2.38	6.52	5.52	2.89

Table A.4: Portfolio composition by age group and net wealth. France, 2020.

Percentile	Assets	<30	30-39	40-49	50-59	60-69	>70
Below 50th	Bonds	0.00	0.01	0.00	0.00	0.09	0.00
	Deposits	82.62	77.99	66.78	51.87	64.18	72.68
	Investment fund shares	2.42	2.40	3.14	2.18	0.25	0.53
	Listed shares	1.46	2.91	1.82	1.05	0.53	0.70
	Unlisted shares and other equity	3.36	7.60	6.34	26.92	6.81	0.94
	Life insurances	10.13	9.06	21.92	17.91	27.10	24.86
	Private pensions	0.02	0.02	0.00	0.07	1.05	0.29
Between 50th and 90th	Bonds	0.00	0.01	0.01	0.07	0.00	0.23
	Deposits	42.84	49.72	53.77	49.76	56.64	49.56
	Investment fund shares	4.99	8.72	5.97	2.66	3.61	2.03
	Listed shares	1.94	3.05	3.65	5.18	2.52	4.61
	Unlisted shares and other equity	36.66	26.26	19.82	9.44	2.01	1.07
	Life insurances	13.56	12.13	16.76	32.10	33.32	38.70
	Private pensions	0.00	0.11	0.02	0.80	1.90	3.80
Above 90th	Bonds	0.00	0.00	0.34	0.34	0.26	1.58
	Deposits	20.98	10.11	10.94	18.95	20.60	15.06
	Investment fund shares	6.55	2.22	3.18	5.18	4.89	3.93
	Listed shares	1.19	3.48	3.36	6.79	6.67	14.39
	Unlisted shares and other equity	33.29	76.43	69.36	45.35	33.79	7.64
	Life insurances	37.99	7.76	12.79	23.15	30.52	48.79
	Private pensions	0.00	0.00	0.03	0.25	3.27	8.61