Gender Differences in Savings Over the Life-Cycle: The Role of Financial Literacy*

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Abstract

This paper shows that gender differences in financial literacy, shaped by household dynamics over the life-cycle, contribute to the gender wealth gap. Using data from US and Dutch surveys, we document that women have lower financial literacy and confidence than men, are more likely to delegate financial decision within marriage, and hold systematically less wealth and equity – with gaps largest among married agents. We develop a portfolio-choice model with endogenous financial literacy accumulation, gender-specific confidence, and marital dynamics, disciplined by two wedges: a higher cost of financial literacy investment for married women and a confidence distortion in perceived returns on risky assets. Calibrated to US data, the model reproduces the life-cycle evolution of the gender literacy gap, its interaction with marital transitions, and the gender differences in portfolio composition and wealth as untargeted moments. Counterfactual exercises underscore how financial education and default portfolio-composition rules may improve women's financial literacy and investment strategies, thereby reducing gender wealth disparities over the life-cycle.

Keywords: Gender Wealth Gap, Financial Literacy, Portfolio Choice

JEL Classification: E21, G11, G53, J16

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1 Introduction

Gender differences in wealth far exceed those in wages. While estimates of the gender wage gap in advanced economies lie around 20%, the gender wealth gap varies between 40 and 60%[1]. Do marital dynamics – as well as gender differences in financial knowledge – play a role in this? In particular, marriage has historically been perceived as an insurance mechanism against financial vulnerability, enabling households to pool resources and share risks. However, wealth within married households is often managed by the husband (Fagereng et al. (2022)), which can leave women at a disadvantage in building their own financial knowledge and investment skills. This vulnerability is particularly concerning given that one in three marriages ends in divorce, with women's disposable income on average dropping sharply upon separation from their spouse. On top of this, women's longer life expectancy means they face a higher likelihood of needing to manage finances independently later in life, making the accumulation of both wealth and financial knowledge key for their long-term economic security (Love (2010)).

While financial literacy's role in wealth accumulation is established (Lusardi et al., 2017), existing literature documents a persistent gender gap in financial knowledge and confidence (Bucher-Koenen et al., 2021a). Yet, an aspect that has received less attention is how they evolve over women's life-cycle and interact with wealth accumulation patterns. For instance, we know little about whether and how life events such as marriage, divorce, widowhood and shocks to a spouse's health shape agents' financial capabilities and investment choices. Also, do these events affect women's financial literacy and portfolio decisions differently than men's? And might subjective financial confidence — not just objective knowledge — play an independent role in this? Can these differences contribute to the persistence of gender wealth disparities?

In light of these considerations, our paper examines gender differences in wealth accumulation through the life-cycle evolution of agents' financial literacy, and it does so in three steps. First, we provide motivating evidence on gender gaps in financial literacy, confidence, and wealth accumulation over the life-cycle, documenting how these gaps vary with marital status. Second, we develop a quantitative heterogeneous-agent life-cycle model with endogenous financial literacy accumulation, gender-specific confidence, and marital dynamics, disciplined by two minimal wedges that capture the gendered cost of acquiring financial literacy within marriage and a confidence distortion in perceived returns on risky assets. We calibrate the model to US data and validate it against a broad set of untargeted moments – including the life-cycle profile of the gender literacy gap, the gendered relationship between literacy and portfolio choice, and the en-

[1] See the U.S . Census Bureau (2022) for estimates of the gender wealth gap and the U.S . Bureau of Labor Statistics (2024) for the gender wage gap. For Europe, refer to the European Institute for Gender Equality (2023) report.

dogenous response of women's financial knowledge and equity exposure to marital transitions. Third, we use the calibrated framework as a laboratory to assess the effectiveness of different policies in promoting gender-sensitive and timely reductions in wealth inequality. These range from financial education targeted at key life-cycle transitions to structural interventions that directly regulate portfolio composition – such as default risky-asset shares in pension accounts.

To start, we draw motivating evidence from three US micro-level datasets – the Survey of Consumer Finances, which combines wealth data with objective and subjective measures of financial knowledge; the Survey of Household Economics and Decisionmaking, which captures financial confidence and involvement in household financial decision-making; and the National Longitudinal Survey of Youth – reporting both financial literacy and agents' cognitive abilities. In particular, we document three patterns. First, women display persistently lower financial literacy than men, with the gap largest among married individuals and not accounted for by differences in cognitive ability. Women also display persistently lower financial confidence than men across all marital status groups, pointing to a distinct role for subjective beliefs on top of objective knowledge. Second, within couples, financial decision-making is gendered: married women are significantly less likely to be primary financial decision-makers, instead managing short-term liquid accounts while long-term investment decisions fall to their husbands. Third, gender gaps in portfolio participation and individual wealth holdings emerge over the life-cycle, particularly in equity markets and among married individuals. Note that we cross-validate our findings with individual-level wealth and literacy data from the Dutch Household Survey.[2]

To quantify the macroeconomic implications of gender differences in financial literacy for existing wealth disparities, we then develop a heterogeneous-agent life-cycle model of portfolio choice with endogenous financial literacy and gendered subjective financial confidence. In the model, individuals work, consume, invest in financial knowledge, and save in both a risky and a safe asset, while differing by education, marital status, income, and health. The economy includes men and women with different initial levels of education and financial literacy and gender-specific survival probabilities. Financial literacy is modeled as a form of human capital: investing in financial knowledge is costly but increases the return savers obtain on the risky asset, thereby shaping wealth inequality. The cost of acquiring financial literacy rises for women upon marriage, reflecting higher opportunity costs of financial management and consistent with our motivating evidence on gendered patterns of household financial decision-making. Moreover, guided by our evidence on gender differences in subjective financial knowledge, we introduce a confidence wedge: conditional on the same financial literacy, women perceive the return on the risky asset – and thus the benefit of investing in financial literacy – as lower than men.

[2]We focus mostly on US surveys, but the analysis of Dutch data confirms our main findings. See Appendix A.4.

All together, the main contribution of our model is to deliver an empirically-consistent and gender-specific evolution of financial literacy over the life-cycle through two minimal but disciplined wedges: a higher cost of financial literacy investment for married women, reflecting their lower exposure to long-term financial decision-making within the household, and a confidence distortion that lowers women's perceived returns on risky assets conditional on the same level of literacy. These two wedges, motivated directly by our empirical evidence, allow the model to endogenously generate gender differences in financial knowledge accumulation, portfolio composition, and wealth accumulation that are further shaped by life-cycle marital transitions.

Calibrated to U.S. data, our quantitative framework replicates key empirical patterns of financial literacy and wealth accumulation for men and women. In particular, the model matches – as untargeted moments – the gender gap in financial literacy and its evolution over the life-cycle, the greater sensitivity of women's investment margins to financial literacy – with literacy raising equity participation more for women while translating into safe rather than risky asset accumulation on the intensive margin – and the gender gap in risky asset holdings. It also reproduces the rise in women's financial knowledge and equity exposure following marital transitions such as divorce or widowhood. Taken together, these results show that the two disciplined wedges that characterize our theory reproduce a broad set of cross-sectional and life-cycle patterns of financial literacy and wealth, lending some support to the mechanisms of our framework.

Finally, we use the calibrated model as a laboratory to evaluate policy interventions aimed at narrowing gender wealth disparities across the life-cycle. We consider two classes of policies. The first targets financial literacy acquisition directly: early-life financial education designed to close the initial literacy gap improves knowledge but has only modest effects on long-run wealth and portfolio behavior, consistent with the broader evidence (Kaiser et al., 2022; Lusardi, 2019). More persistent effects emerge from targeted financial education delivered at key life-cycle transitions — such as divorce or widowhood — when shifts in financial responsibility create strong incentives to acquire financial knowledge. The second class of policies bypasses financial literacy altogether and directly regulates portfolio composition through default risky-asset shares in pension accounts. This structural intervention effectively compresses the gender gap in equity holdings, pointing to a broader lesson: when confidence distortions and delegation patterns are difficult to shift through knowledge alone, reducing the decision-making space and limiting reliance on individual financial capability may be a viable and complementary policy tool. Together, these analyses suggest that sustainable progress toward wealth equality requires policies that are both gender-sensitive and adaptive to individuals' life-cycle circumstances — targeting women at moments of transition and reducing structural barriers to wealth accumulation.

Related Literature. This paper contributes to the macroeconomic literature on the determinants of wealth accumulation (Cagetti and De Nardi, 2008) by studying how financial literacy and household organization interact over the life-cycle to generate gendered differences in portfolio choice and wealth. Note that a growing literature shows that differences in financial literacy affect portfolio allocation and, through this channel, long-run wealth accumulation (Lusardi et al., 2011; Cota and Šterc, 2024; Gomez-Cardona, 2023; Behrman et al., 2012). However, this body of work is silent on why financial literacy evolves differently for men and women over the life-cycle. Our contribution here is to model financial literacy as an endogenous state variable, whose life-cycle accumulation may respond to incentives that differ systematically by gender.

The hypothesis our paper explores is that gender-differentiated incentives to accumulate financial knowledge may be tightly connected to household financial organization. A substantial literature documents that financial decision-making and control within couples are unevenly distributed, reflecting persistent gender differences in delegation (Guiso and Zaccaria, 2023) and bargaining power (Gu et al., 2024; Jayachandran and Voena, 2025). In particular, Fagereng et al. (2022) show that post-marriage wealth management is largely driven by the spouse with the highest pre-marriage returns, generating asymmetric exposure to financial decisions within households. We build on these considerations by capturing such asymmetries within a life-cycle model, and study how differential exposure to financial decision-making translates into heterogeneities in the accumulation of financial literacy and subsequent portfolio choices by gender.

Household organization evolves over the life-cycle, and research on family structure highlights that marriage, divorce, and widowhood are associated with changes in saving behavior and portfolio choice (Love, 2010; Low et al., 2016; Bethencourt and Rios-Rull, 2009; De Nardi et al., 2025). These transitions may reassign financial responsibilities asymmetrically across genders, suggesting a dynamic link between household structure, financial learning, and wealth accumulation. Complementing this evidence, Bacher (2024) shows that gender differences in portfolio choice already emerge among singles, and are driven by differences in income dynamics and financial risk exposure, reinforcing the role of life-cycle conditions in shaping gendered financial behavior. Our contribution is to model marital transitions and their repercussion on financial knowledge by gender, thereby linking household organization and wealth dynamics.

While most existing models focus on objective financial knowledge, recent contributions emphasize that financial decision-making also depends on subjective beliefs and confidence shaping perceived risks and returns (Lleó-Bono et al., 2025). Evidence documents persistent gender differences in financial confidence (Bucher-Koenen et al., 2021b), suggesting that this channel may be relevant in our context. To our knowledge, we are the first to explicitly incorporate gender-based financial confidence into a quantitative life-cycle framework, allowing perceived

returns to differ from objective ones, and to interact with financial literacy and portfolio choices.

Lastly, our paper builds on two strands of empirical literature. On the one hand, we link gender differences in financial sophistication (Bucher-Koenen et al., 2017a; Bottazzi and Lusardi, 2021) to work on gender norms and household financial organization (Fonseca et al., 2012; Bialowolski et al., 2020; Ward and Lynch Jr, 2019). Empirical studies associate these differences with women's lower stock market participation Almenberg and Dreber (2015); Jha and Shayo (2025), differences in risk exposure (Hibbert et al., 2013), lower expected returns (Amromin and Sharpe, 2009; Fey et al., 2023), and persistent asset gaps (Deere and Doss, 2006). We add to this literature by focusing on gendered responses to life-cycle events that might reassign financial responsibilities and shape financial learning and portfolio choice. On the other hand, our paper contributes to the literature on gender wealth inequality, which documents large and persistent gender gaps in wealth accumulation across countries (Sierminska et al., 2010; Schneebaum et al., 2018; Cordova et al., 2022; Kukk et al., 2020; Ruel and Hauser, 2013); Sierminska et al. (2019)). We though focus on a novel mechanism by relating gender differences in financial knowledge, which are shaped by household dynamics over the life-cycle, to wealth accumulation.

The paper is organized as follows: Section 2 presents motivational evidence on the life-cycle evolution of the gender gap in financial literacy and confidence, and documents gender heterogeneities in financial decision-making within the household and investment margins. In Section 3, we build a heterogeneous agents portfolio choice model that encompasses endogenous financial literacy accumulation and marital dynamics. Section 4 presents the calibration to US data and the model's fit to untargeted moments concerning gender gaps in financial literacy and wealth accumulation over the life-cycle. Section 5 discusses counterfactual experiments aimed at quantifying the impact of publicly-provided financial education and fixed portfolio-allocation rules for the life-cycle gender gap in financial literacy and wealth. Finally, Section 6 concludes.

2 Motivating Evidence

This section presents suggestive evidence that motivates the model's key wedges and will help discipline its quantitative implementation. Across different datasets, we document (i) gender gaps in financial literacy and confidence, (ii) gender disparities in wealth holdings and portfolio composition, and (iii) a gendered allocation of financial decision-making by marital status.

Data sources. We begin with a brief description of our samples. Our primary evidence draws on three US datasets. The *Survey of Consumer Finances* (SCF, 2016–2022) provides information on (some) individual and household-level wealth holdings together with measures of income,

financial literacy and confidence. The *Survey of Household Economics and Decisionmaking* (SHED, 2017–2022) is an annually fielded rotating panel that captures financial confidence and self-reported involvement in household financial decision-making. The *National Longitudinal Survey of Youth* (NLSY), pulling together the 1979 and 1997 cohorts, provides financial literacy measures at distinct life-cycle stages together with early-life cognitive test scores, allowing us to assess whether gender differences in financial literacy are driven by differences in cognitive ability.

We complement the US evidence with the *Dutch Household Survey* (DHS, 2005–2023), which attributes a wide array of wealth holdings directly to each spouse within a couple and includes a dedicated financial literacy module for each spouse, which is fielded in four waves. While the Dutch sample is smaller, its granular individual asset attribution and partially longitudinal structure allow us to validate our main findings in a different institutional setting. Appendix A provides full details on sample construction and variable definitions for all four datasets.

2.1 Financial Literacy and Financial Confidence

We begin by documenting how financial literacy and confidence vary across individuals in both the US and the Netherlands. Financial literacy (hereafter, FinLit) is measured as the number of correct answers to the Big Three questions, as originally proposed by Lusardi and Mitchell (2008).[3] FinLit is therefore an objective measure, and differs from agents' subjective confidence in their own financial proficiency. To measure the latter, we exploit respondents' self-assessed knowledge of personal finances in both the SCF and SHED.[4] In the Dutch HS, we instead use a similar question asking how many of the Big Three respondents believe they answered correctly.

Table 1 reports average financial literacy and confidence scores by gender and marital status in both the SCF and the SHED,[5] and two patterns stand out. First, women seem to have lower financial literacy than men. Across all marital status groups and both datasets, women's financial literacy scores are between 5 and 15% lower than men's, with the largest gap among married individuals. This pattern is not driven by question-specific underperformance: Table A.7 shows that women do not systematically score lower on any particular item, and the primary difference in response behavior is a higher rate of "Don't know" responses among women (Bucher-Koenen et al., 2017b). Nor is the gap accounted for by differences in cognitive ability: Table A.2 shows that IQ, proxied by standardized test scores in both NLSY cohorts, explains a similar share of financial literacy variation for men and women and does not close the gender gap. This is con-

[3] See Appendix A for the specific questions. As standard, "Don't know" responses count as incorrect (Table A.6).

[4] In the SCF, the question on financial confidence states: *"On a scale from zero to ten, where zero is not at all knowledgeable about personal finance and ten is very knowledgeable, what number would you be on the scale?"*. The SHED asks: *"How comfortable are you with choosing and managing your investments on a scale from 1 (not comfortable) to 4 (very comfortable)?"*.

[5] Averages computed in NLSY and the Dutch HS are reported in Appendix Table A.1 and Table A.22 respectively.

		SHED		SCF	
Marital Status	**Gender**	**Financial Literacy**	**Confidence**	**Financial Literacy**	**Confidence**
Co-Living/Married	Male	2.26 [2.24, 2.28]	2.55 [2.53, 2.57]	2.46 [2.45, 2.47]	2.44 [2.43, 2.46]
	Female	1.90 [1.88, 1.92]	2.11 [2.10, 2.13]	2.12 [2.11, 2.14]	2.39 [2.37, 2.41]
Never Married	Male	1.98 [1.93, 2.03]	2.47 [2.43, 2.51]	2.20 [2.18, 2.22]	2.07 [2.04, 2.11]
	Female	1.60 [1.56, 1.63]	1.91 [1.88, 1.95]	1.88 [1.86, 1.90]	1.99 [1.96, 2.03]
Sep / Div / Wid	Male	1.95 [1.91, 2.00]	2.48 [2.42, 2.54]	2.15 [2.12, 2.17]	2.13 [2.09, 2.17]
	Female	1.60 [1.56, 1.63]	2.02 [1.97, 2.06]	1.97 [1.95, 1.99]	2.31 [2.28, 2.34]

Table 1: **Financial literacy and confidence.** SHED (2017–2022) and SCF (2016–2022) estimates use survey weights. Literacy ranges from 0–3 (number of correct answers to three standard questions). Confidence is 1–4 in SHED; SCF confidence (originally 0–10) is linearly mapped to the same 1–4 scale. Entries are means with 95% confidence intervals in brackets.

sistent with financial literacy being a stock of knowledge that can evolve dynamically through experience and exposure to financial decisions (Lusardi et al., 2017), rather than an innate trait.

Figure 2 further shows that while financial literacy increases with age for both genders, the gap remains wider among married individuals than among singles or the separated, divorced, and widowed. Table A.4 documents that the gap is also sensitive to household and professional circumstances: self-employment and having an unemployed spouse are associated with relatively larger gains in financial literacy for women than for men, consistent with the view that exposure to financial decision-making drives knowledge accumulation differentially by gender.

Second, women have lower financial confidence than men. The confidence gap is visible across all marital status groups in both datasets and persists after conditioning on socioeconomic characteristics and objective financial literacy (Table A.5). Moreover, the confidence gap exhibits less life-cycle variation than the literacy gap, suggesting that the two are distinct phenomena rather than one being a simple reflection of the other. These observations motivate treating the confidence gap as a separate wedge in the model and potentially rooted in ambiguity aversion. Ambiguity aversion, or the tendency to avoid choices with uncertain probabilities, may lead women to perceive returns as lower or riskier, limiting their investment margins despite their actual financial knowledge, consistent with experimental evidence by (Lleó-Bono et al., 2025).

Cross-validation with Dutch data. Table A.22 documents that both patterns replicate in Dutch data. Women display lower financial literacy and confidence than men across all marital status groups, with gaps of similar magnitude to those observed in US data. The within-couple analysis further shows that men consistently score higher than their female partners on both measures, with little evidence of convergence over the life-cycle (Figure A.6a). The presence of these pat-

terns in a different institutional setting – with distinct marital property regimes, labor markets, and educational attainments – suggests they are unlikely to be driven by US-specific factors.

2.2 Individual Wealth Holdings and Portfolio Composition

Having documented gender gaps in financial literacy, confidence and decision-making, we now turn to individual wealth accumulation and portfolio composition. The SCF tracks individual retirement, saving, and checking accounts separately for each spouse within a couple, as well as a broader set of financial instruments for single households (e.g stock holdings, bonds and mutual funds). We first focus on the asset categories observed at the individual level for both single and married agents, which account for roughly 40% of household wealth on average. The extent of the information extracted for each married and single respondent is summarized in Table A.8. We classify these into equity and safe asset components following Table A.9.

Status	**Equity Participation Gap**	**Safe Participation Gap**	**Equity Gap**	**Safe Assets Gap**	**Total Asset Gap**
Co-Living	32.60%	12.50%	72.10%	55.70%	73.40%
Separated	20.50%	-0.86%	62.20%	49.00%	58.70%
Never Married	11.00%	2.83%	17.60%	23.10%	41.30%
Average (Men)	40.10%	74.00%	$53,832	$40,496	$94,328

Table 2: **Wealth disparities by gender: participation and asset gaps across marital status.** Uses the SCF subsample of working-age individuals (2016–2022, $N = 37{,}145$). All accounts include savings in 401(k), retirement benefits, IRA/Keogh, and savings/checking accounts. Equity and safe assets refer to stock and bond holdings, respectively.

The cross-sectional overview in Table 2 shows that gender gaps in portfolio participation are concentrated in equity markets. The extensive margin gap in safe asset participation is small and not systematically related to marital status. By contrast, the equity participation gap is large across all marital status groups, reaching 32.6% among married individuals and 11% among the never married. The intensive margin gaps are larger and more sensitive to marital status. Among married individuals, the gender gap in equity holdings reaches 72% relative to men's average, compared to 17.6% among the never married. Safe asset gaps follow a similar but less pronounced pattern. These qualitative patterns hold in SCF's sample of singles (Table A.20).

Cross-validation in Dutch data. In the DHS we can exploit a broader range of investments, including direct and indirect stock holdings and non-retirement safe assets, to perform a similar exercise to the one in Table 2. Table A.25 and Figure A.10 show that women hold lower amounts of safe and risky assets, with the gap widening at higher income levels and among households with higher financially literacy. A natural question that follows from this analysis is whether the

gender gaps in literacy and confidence documented in Section 2.1 can relate to such disparities in wealth. And could different marital configurations may play a salient role for both margins?

2.3 Household Financial Decision-Making and Delegation

Building on the established link between financial literacy and financial decision-making (Lusardi and Mitchell, 2014), we next investigate the division of financial responsibilities within couples. If women are less involved in long-term investment decisions, they may have fewer opportunities to build financial knowledge and confidence through experience, with potential implications for their portfolio risk exposure. This section documents a systematic gendered allocation of financial decision-making within marriage, using evidence from the SHED, the SCF and the DHS.

Married women are less likely to be primary financial decision-makers. The SHED asks respondents to characterize their involvement in household financial decisions as: making most decisions, sharing decisions, or delegating most decisions to another household member. Figure 1 plots the share of respondents reporting each answer by gender, marital status, and age. Among married individuals, women are substantially less likely than men to report being the primary financial decision-maker, and this gap persists across the entire working life. This pattern is absent among the never married, separated, divorced, and widowed: outside of marriage, women's financial decision-making involvement is broadly comparable to men's and increases with age. Table A.5 confirms that the marital gap in financial responsibility persists after controlling for potential socioeconomic differences in factors like education, occupation, and income.

Within marriage, women manage liquidity while men manage investments. Exploiting the SCF sample, Table A.18 shows that, conditional on controls, women hold 43 and 80% of household checking and savings balances respectively, pointing to a systematic role for women in short-term financial management. Women's ownership share of these liquid accounts increases with their relative income, suggesting that higher earnings translate into greater control over routine finances rather than long-term investments. These patterns suggest a gendered division of financial responsibilities that can motivate a higher cost of financial literacy investment for married women, though we cannot determine from cross-sectional data alone whether lower exposure causes lower literacy or whether lower-literacy women are more likely to delegate.

Cross-validation with Dutch data. The SCF reports most non-retirement assets at the household level, limiting direct inference on which spouse is responsible for managing specific financial products. The DHS addresses this limitation by attributing each asset directly to the house-

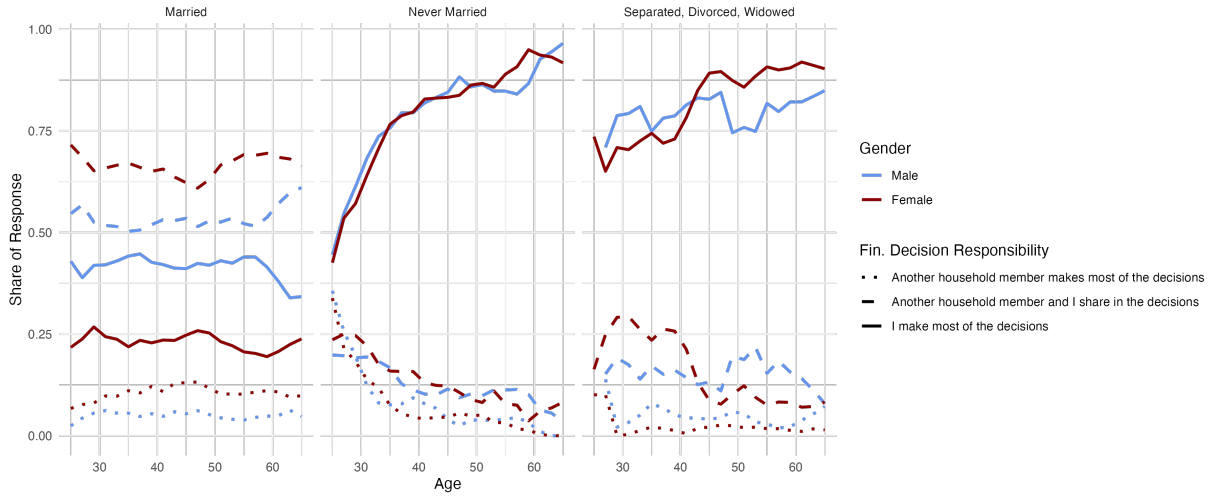


Figure 1: **Share of each financial responsibility response across the life-cycle and across marital status.** Share making most financial decisions within the household (as opposed to sharing decisions w/ somebody, somebody else making most decisions). Moving average of cross-section of households 2017-2022, with age bins and separates between the three answers to the financial responsibility question.

hold member in whose record it appears. Table A.26 shows that in 79% of Dutch couples at least one safe asset account is attributed to the woman, compared to only 43% for risky asset accounts. In terms of portfolio composition, married women hold 40% of safe assets and only 28% of risky assets within the couple. These patterns are consistent with the SHED evidence, suggesting that within-couple financial specialization is not an artifact of US survey design or institutional context. Our findings here may be seen in relation to Sections 2.1-2.2 : lower financial literacy and confidence may shape women's wealth margins. Women's lower exposure to households' financial decision-making may also translate into lower literacy investment and equity margins, with the gap compressing when financial responsibilities are more evenly distributed.

Robustness. Appendix A.3.3 reports several exercises to assess whether alternative mechanisms may account for the documented patterns. Gender differences in research effort before making investment decisions, reliance on financial advisors, tax filing arrangements, and revolving debt conditions do not appear to be the primary channels through which financial literacy gaps translate into gender differences in savings and portfolio allocations. These exercises support the interpretation that the wealth and portfolio gaps we document reflect differences in financial knowledge and confidence rather than differences in information acquisition or access.

Summary. Three suggestive patterns emerge across datasets and institutional settings. Women display lower financial literacy and confidence than men, with the gap largest among married individuals and not accounted for by differences in cognitive ability. Within couples, financial decision-making is gendered: married women manage short-term liquid accounts while long-term investment decisions fall predominantly to their husbands, an asymmetry that largely disappears outside of marriage. Large gender gaps in equity participation and wealth holdings emerge over the life-cycle, concentrated among married agents and on equity margins.

These patterns raise two questions that the data alone cannot answer: whether financial delegation within marriage lowers women's financial literacy and wealth margins, and whether a confidence gap further depresses their risk-taking. Due to the limitation of our data, we cannot disentangle the literacy-accumulation mechanism from selection or from an efficiency-based specialization story in which households optimally allocate financial responsibilities by comparative advantage. Instead, we develop a quantitative model with two reduced-form wedges – a higher cost of literacy investment for married women and a gender-specific confidence distortion – that are motivated by the empirical patterns and calibrated to match targeted moments. These wedges should be understood as sufficient statistics for the combination of mechanisms generating the observed gaps, and the model's value lies in tracing their quantitative implications for wealth accumulation over the life-cycle rather than in identifying their structural origins.

3 Model

In this section, we develop a stochastic life-cycle model of marital dynamics and portfolio choices, with endogenous accumulation of financial literacy and wealth. The economy is in partial equilibrium and encompasses rich heterogeneity across agents, specifically in their gender, income, education, marital and health status, financial literacy, risky and safe assets, as described below.

3.1 Model Overview

Time is discrete. The economy is populated by men and women, indexed by gender $g \in \{f, m\}$, who are either single or married, indexed by $k \in \{\mathcal{S}, \mathcal{M}\}$. Agents enter the model at age 25, retire deterministically at 65, and face a maximum lifespan of 85. Survival is stochastic and gender-specific: we denote by p_t^g the one-year survival probability of a gender-g agent at age t.

Heterogeneity and choice variables. At labor-market entry, agents are heterogeneous in their gender-specific education e^g, initial wealth s_{25}^g, and initial financial literacy ℓ_{25}^g (individual subscripts are omitted unless necessary). During their working life, agents earn labor income with

a deterministic age-education-gender profile and an uninsurable idiosyncratic stochastic component (Section 3.2). Each period, agents choose consumption c_t, safe asset holdings s'_t, risky asset holdings a'_t, and investment in financial literacy ι_t. Marital status evolves stochastically according to the dynamics described in Section 3.3. Married agents make consumption and saving decisions individually – departing from the unitary household model (Chiappori, 1988, 1992) – but their disposable income reflects asymmetric spousal income-sharing rules (Section 3.2), consistent with the collective framework applied to portfolio choice in Gu et al. (2024). In retirement, agents may be single or married, face stochastic medical expenditures, earn a pension, and still choose between safe and risky assets. Remarriage is not possible in retirement; if one spouse dies, the survivor continues as a single with a share of the couple's assets.

Preferences. Agents have time-separable CRRA preferences over consumption:

$$u(c) = \frac{c^{1-\gamma}}{1-\gamma}, \tag{1}$$

where $\gamma > 0$ is the coefficient of relative risk aversion, common across genders.

3.2 Income, Taxes, and Health Shocks

Labor income. Pre-tax labor income $\hat{y}_t^{g,e}$ has a deterministic and a stochastic component:

$$\hat{y}_t^{g,e} = \bar{y}^g \cdot \xi^{e,t} \cdot \tilde{y}_t, \tag{2}$$

where $\bar{y}^g$ is a gender-specific constant and $\xi^{e,t}$ is a deterministic age-education profile. The stochastic component $\tilde{y}_t$ follows an AR(1) process, and it is given by:

$$\tilde{y}_t = \rho_\nu \tilde{y}_{t-1} + \nu_t, \qquad \nu_t \sim \mathcal{N}(0, \sigma_\nu^2), \tag{3}$$

where ν_t is an idiosyncratic, mean-zero shock with variance σ_ν^2. Following Heathcote et al. (2017a), we impose a progressive tax schedule, so that after-tax income is:

$$y_t^{g,e} = \max\left\{(\hat{y}_t^{g,e})^{1-\tau},\ (1-\tau_{\max})\hat{y}_t^{g,e}\right\}, \tag{4}$$

where τ governs the progressivity of the average tax rate and $\tau_{\max}$ prevents excessive tax burdens at the top of the income distribution. When married, taxes are filed jointly.

Spousal income sharing. Within marriage, disposable income is determined by a gender-specific sharing rule $f^g(y_t^{g,e,\mathcal{M}}, y_{j,t}^{g,e,\mathcal{M}})$, which allocates to each spouse a fixed share of their own income and a fixed share of their partner's income. This allows for asymmetric income pooling within couples. Income shocks are correlated at the time of matching but evolve independently thereafter, so that spousal income provides partial insurance against idiosyncratic fluctuations.

Checking accounts. Each period, agents are required to allocate a fixed share $\lambda^{g,k}$ of disposable income to a checking account. These holdings yield no return and expire within the period. The requirement varies by marital status and by gender, consistent with the evidence in Table B.33. While the role of family composition for disposable income is often accounted for through equivalence scales (e.g. Love (2010)), our approach is instead closely related to the transaction-demand-for-cash literature (e.g. Baumol (1952); Hubener et al. (2016)). This liquidity requirement plays a role similar to a consumption floor, but has the advantage of being directly disciplined by the data we have. Hence, only disposable income net of the checking allocation is available for consumption, asset accumulation, and financial literacy investment.

Pensions. Upon retirement at age 65, each agent receives an annual pension equal to a replacement rate pen applied to their last pre-retirement income realization $\hat{y}_{64}^{g,e}$. Pensions are deterministic, fixed throughout retirement, and computed individually, with no spousal correlation.

Medical expenditures. During retirement, agents face stochastic out-of-pocket medical expenditure shocks h, modeled as i.i.d. reductions to retirement income following De Nardi et al. (2010). Each agent draws her health shock from a two-point distribution with a high shock h^{high} and a low shock h^{low}. Within couples, spouses draw health shocks independently.

3.3 Marital Dynamics

Marriage. Agents are born single and face an exogenous, age-declining probability μ_t of meeting a partner of the opposite sex. Conditional on meeting, the probability that the partner has education e_j^g is given by $\Pi(e_j^g \mid e_i^g)$, which depends on the agent's own education level e_i^g, delivering positive assortative mating on education and, through the income process, on earnings. Both spouses are assumed to be the same age. Married agents make consumption and saving decisions individually – we do not impose a unitary household model – but their disposable income reflects asymmetric spousal income-sharing rules described above in Section 3.2.

Divorce and widowhood. Married agents face an exogenous, age-declining divorce probability d_t and an exogenous, age-increasing probability ω_t that their spouse dies. Upon divorce, the couple's combined asset holdings are divided equally between the two spouses. Since we track individuals rather than couples, the former spouse's wealth is imputed as the average simulated holdings of agents of the same age, gender, and education group INCOME TOO?. Each agent's post-divorce wealth is therefore:

$$(\bar{s}, \bar{a}) = \frac{1}{2}\left(s'_{t-1} + \bar{s}^{g,e}_{j,t-1},\ a'_{t-1} + \bar{a}^{g,e}_{j,t-1}\right), \tag{5}$$

where $(\bar{s}^{g,e}_{j,t-1}, \bar{a}^{g,e}_{j,t-1})$ denote the average safe and risky asset holdings of individuals of the spouse's type at $t-1$. This rule generates a windfall gain for agents whose pre-divorce wealth falls below the spousal average, and a windfall loss otherwise. Upon widowhood, the surviving spouse retains instead their own assets and inherits half of the deceased spouse's imputed holdings:

$$(\bar{s}, \bar{a}) = \left(s'_{t-1} + \frac{1}{2}\bar{s}^{g,e}_{j,t-1},\ a'_{t-1} + \frac{1}{2}\bar{a}^{g,e}_{j,t-1}\right). \tag{6}$$

Wealth dynamics around dissolution. Equations (5) and (6) together imply that marital transitions generate discrete, gender-asymmetric shocks to individual wealth given that men and women may enter dissolution with different asset positions. This asymmetry is central to the paper's mechanism: dissolution shifts financial responsibilities toward the lower-wealth spouse, strengthening their incentive to accumulate financial literacy precisely when her resources are most constrained. The model is designed to reproduce this pattern endogenously, without imposing it through preference shifts or exogenous financial knowledge transfers.

3.4 Financial Literacy

Accumulation. Financial literacy $\ell_t \in [0, 1]$ is modeled as a form of human capital that agents accumulate over the life-cycle. At labor-market entry, men and women are endowed with gender-specific initial literacy levels ℓ^g_{25}, consistent with the empirical evidence documented in Table A.1 and with findings on gender literacy gaps in youth by Bottazzi and Lusardi (2021). Each period, agents choose an investment $\iota_t \geq 0$ in financial knowledge, and literacy evolves according to:

$$\ell_{t+1} = \delta \ell_t + \iota_t, \tag{7}$$

where $\delta \in (0, 1)$ captures the depreciation of financial skills over time (Lusardi et al., 2017). Investing in financial literacy entails a gender and marital-status specific convex cost $\kappa^{g,k}\pi(\iota_t)$.

The marriage cost wedge. The financial literacy cost shifter $\kappa^{g,k}$ is set to one for men of all marital statuses and for single women but exceeds one for married women, so that:

$$\kappa^{g,k} = \begin{cases} \kappa^{f,\mathcal{M}} > 1 & \text{if } g = f \text{ and } k = \mathcal{M}, \\ 1 & \text{otherwise.} \end{cases} \tag{8}$$

The empirical basis for this assumption is documented in Section 2.3: married women are more likely to delegate financial decision-making, to manage short-term liquid accounts rather than long-term investments, and exhibit a larger life-cycle financial literacy gap relative to men than their single counterparts. As discussed at the end of Section 2, however, we cannot causally identify the mechanism behind this pattern – the wedge may reflect higher opportunity costs of financial knowledge acquisition within marriage, gender norms (Guiso and Zaccaria, 2023), optimal intra-household specialization (Gu et al., 2024), or selection into marriage by lower-literacy women (Fagereng et al., 2022). We therefore treat $\kappa^{f,\mathcal{M}}$ as a reduced-form sufficient statistic for whatever combination of these forces generates the observed literacy gap between married and single women, calibrated to match this moment in the data in Section 4. The model's contribution is then to trace the quantitative life-cycle implications of this wedge for portfolio choice and wealth accumulation, rather than to identify its structural origins.

Returns to financial literacy. Financial literacy raises the returns agents obtain on both safe and risky assets, as detailed in Section 3.5. This creates an endogenous incentive to invest in financial knowledge: higher literacy improves investment outcomes, which in turn shapes wealth accumulation over the life-cycle. Because the cost of acquiring literacy may be higher for married women, the model generates a slower pace of financial knowledge accumulation for this group, even absent any differences in preferences, income, or baseline investment returns.

3.5 Wealth Accumulation

At any time t, agents can save in two assets: a safe asset s_t and a risky asset a_t. Consistent with our empirical focus on individual-level holdings – rather than on joint-accounts, saving decisions are modeled at the individual rather than the household level, even within marriage. This allows us to study the relationship between each agent's own financial literacy and their own portfolio choices, mapping directly to the individual wealth measures in our data.

Safe assets. The safe asset yields a gross return that depends on the agent's financial literacy:

$$R_s^g(\ell_t) = 1 + r_s^g(\ell_t), \tag{9}$$

where $r_s^g(\cdot)$ is increasing and concave in ℓ_t. This captures the idea that financially knowledgeable agents make more efficient use of risk-free saving instruments – for instance, by avoiding high-fee products or selecting better deposit rates – consistent with Lusardi et al. (2017) and Jappelli and Padula (2013). Concavity implies diminishing returns to financial literacy accumulation.

Risky assets. The risky asset offers a higher expected return but requires a fixed participation cost $\chi > 0$, paid in every period in which the agent holds a positive risky position. This term captures the costs of managing sophisticated financial products (Vissing-Jorgensen, 2003) and is distinct from the cost of investing in financial literacy. The gross return on the risky asset is:

$$R_a^g(\ell_t) = 1 + r_a^g(\ell_t) + \varepsilon_{t+1}, \qquad \varepsilon_{t+1} \sim \mathcal{N}(0, \sigma_\varepsilon^2), \tag{10}$$

where $r_a^g(\cdot)$ is increasing and concave in ℓ_t, and ε_{t+1} is an idiosyncratic return shock, independently distributed across agents and periods, realized at the end of period t.

The confidence wedge. Portfolio decisions are made on the basis of *perceived* rather than realized returns. Motivated by the persistent gender gap in financial confidence documented in Section 2.1, we allow women to discount the mapping from financial literacy to expected risky returns relative to men. Formally, the perceived gross return on the risky asset is given by:

$$R_a^{g,\text{perc}}(\ell_t) = 1 + r_a^g(\varphi^g(\ell_t) \cdot \ell_t) + \varepsilon_{t+1}, \tag{11}$$

where the confidence function $\varphi^g(\ell) = \theta^g(\theta_a + \theta_b \ell)$ is increasing and concave in ℓ_t, consistent with experimental evidence that improvements in financial knowledge raise perceived self-efficacy (Park et al., 2021; Choi et al., 2024). The gender-specific scalar θ^g introduces a confidence wedge: for instance, setting $\theta^m \equiv 1$ and calibrating $\theta^f < 1$ implies that, conditional on the same financial literacy, women perceive lower returns on risky assets than men, aligning with well-documented gender differences in expected returns on investments (Fey et al., 2023; Amromin and Sharpe, 2009). Although reduced-form, this wedge is disciplined by our empirical evidence – women report lower financial confidence than men across all marital statuses, education levels, and

occupations, and this gap persists after conditioning on objective financial literacy (Table A.5).[6]

An important timing convention follows from this structure: agents form expectations over risky returns using their perceived return $R_a^{g,\text{perc}}(\ell_t)$, but the within-period budget constraint uses the *realized* return $R_a^g(\ell_t)$. This distinction is consequential: it implies that confidence distortions affect portfolio choices without altering the actual accumulation of wealth conditional on a given portfolio, allowing us to isolate the role of beliefs from that of realized outcomes.

3.6 Timing

At the beginning of period t, each agent observes their current marital status, which may have changed due to marriage, divorce, or spousal death. If a marital transition has occurred, asset holdings are updated according to the division rules in Section 3.3. Agents then observe their income shock $\tilde{y}_t$ if working, or their health shock h_t if retired. Married agents additionally observe their spouse's income or health shock. After observing all shocks, agents allocate a fixed share $\lambda^{g,k}$ of disposable income to their checking account. The remaining disposable income is then allocated across four uses: consumption c_t, investment in safe assets s_t', investment in risky assets a_t', and investment in financial literacy ι_t. Agents who choose to hold a positive risky position pay the participation cost χ. Portfolio choices are made on the basis of perceived returns $R_a^{g,\text{perc}}(\ell_t)$, as described in Section 3.5. At the end of the period, the risky return shock ε_{t+1} is realized, and next-period financial literacy $\ell_{t+1} = \delta\ell_t + \iota_t$ is determined. The realized return $R_a^g(\ell_t)$, rather than the perceived return, governs actual wealth accumulation.

3.7 Recursive Formulation

We express agents' problems recursively, defining value functions for singles and married households separately during working life and retirement. In all cases, agents form expectations over risky returns using their perceived return $R_a^{g,\text{perc}}(\ell_t)$ as defined in Equation (11), while the within-period budget constraint uses the realized return $R_a^g(\ell_t)$. Post-dissolution asset holdings follow Equations (5) and (6) for the case of divorce and widowhood respectively.

[6] Unlike the marriage cost $\kappa^{f,\mathcal{M}}$, the confidence wedge θ^f applies to all women regardless of marital status, consistent with the evidence in Appendix A.3.5 that conservative portfolio behavior persists among single women.

Singles – working life. The state vector of a single working agent of gender g and education e is $\mathbf{x}_t^{\mathcal{S}} = (t, s_t, a_t, \ell_t, \tilde{y}_t)$. The value function is:

$$V^{g,e,\mathcal{S}}(t,s,a,\ell,\tilde{y}) = \max_{c,s',a',\iota} \frac{c^{1-\gamma}}{1-\gamma} + p_t^g \beta \Big[(1-\mu_t)\, \mathbb{E}^{\text{perc},g}\Big[V^{g,e,\mathcal{S}}(t+1,s',a',\ell',\tilde{y}') \Big] + \mu_t \sum_{e_j} \Pi(e_j^g \mid e^g)\, \mathbb{E}^{\text{perc},g}\Big[V^{g,e,\mathcal{M}}(t+1,s',a',\ell',\tilde{y}',\tilde{y}_j') \Big] \Big] \tag{12}$$

subject to:

$$\begin{aligned} s' + a' + c + \kappa^{\mathcal{S},g}\pi(\iota) + \mathbf{1}\{a'>0\}\chi &= (1-\lambda^{g,\mathcal{S}})y^{g,e,\mathcal{S}} + R_s^g(\ell)s + R_a^g(\ell)a, \\ \ell' &= \delta\ell + \iota, \\ s', a', c, \iota &\geq 0. \end{aligned}$$

Singles – retirement. The state vector is $\mathbf{x}_t^{\mathcal{S},R} = (t, s_t, a_t, \ell_t, \hat{y}_{64}, h_t)$, where $\hat{y}_{64}$ is the last pre-retirement income realization and h_t is the current health shock. The value function is:

$$V^{g,e,\mathcal{S}}(t,s,a,\ell,\hat{y}_{64},h) = \max_{c,s',a',\iota} \frac{c^{1-\gamma}}{1-\gamma} + p_t^g \beta \mathbb{E}^{\text{perc},g}\Big[V^{g,e,\mathcal{S}}(t+1,s',a',\ell',\hat{y}_{64},h') \Big] \tag{13}$$

subject to:

$$\begin{aligned} s' + a' + c + \kappa^{\mathcal{S},g}\pi(\iota) + \mathbf{1}\{a'>0\}\chi &= (1-\lambda^{g,\mathcal{S}})(1-h)\,\text{pen}(\hat{y}_{64}^{g,e,\mathcal{S}}) + R_s^g(\ell)s + R_a^g(\ell)a, \\ \ell' &= \delta\ell + \iota, \\ s', a', c, \iota &\geq 0. \end{aligned}$$

Married agents – working life. The state vector of a married working agent is $\mathbf{x}_t^{\mathcal{M}} = (t, s_t, a_t, \ell_t, \tilde{y}_t, \tilde{y}_{j,t})$, where $\tilde{y}_{j,t}$ is the spouse's current income shock. The value function is:

$$V^{g,e,\mathcal{M}}(t,s,a,\ell,\tilde{y},\tilde{y}_j) = \max_{c,s',a',\iota} \frac{c^{1-\gamma}}{1-\gamma} + p_t^g \beta\, \mathbb{E}^{\text{perc},g}\Big[(1-d_t)(1-\omega_t)\, V^{g,e,\mathcal{M}}(t+1,s',a',\ell',\tilde{y}',\tilde{y}_j') + d_t(1-\omega_t)\, V^{g,e,\mathcal{S}}(t+1,\bar{s},\bar{a},\ell',\tilde{y}') + \omega_t V^{g,e,\mathcal{S}}(t+1,\bar{s},\bar{a},\ell',\tilde{y}') \Big] \tag{14}$$

subject to:

$$s' + a' + c + \kappa^{g,\mathcal{M}}\pi(\iota) + \mathbf{1}\{a' > 0\}\chi = (1 - \lambda^{g,\mathcal{M}})f^g(y^{g,e,\mathcal{M}}, y_j^{g,e,\mathcal{M}}) + R_s^g(\ell)s + R_a^g(\ell)a,$$
$$\ell' = \delta\ell + \iota,$$
$$s', a', c, \iota \geq 0,$$

where $(\bar{s}, \bar{a})$ following divorce or widowhood are given by Equations (5) and (6) respectively, and $f^g(\cdot, \cdot)$ is the gender-specific spousal income function defined in Section 3.2.

Married agents – retirement. The state vector is $\mathbf{x}_t^{\mathcal{M},R} = (t, s_t, a_t, \ell_t, \hat{y}_{64}, \hat{y}_{64,j}, h_t, h_{j,t})$. The value function is:

$$V^{g,e,\mathcal{M}}(t, s, a, \ell, \hat{y}_{64}, \hat{y}_{64,j}, h, h_j) = \max_{c,s',a',\iota} \frac{c^{1-\gamma}}{1-\gamma}$$
$$+ p_t^g \beta\, \mathbb{E}^{\text{perc},g}\Big[(1 - d_t)(1 - \omega_t)\, V^{g,e,\mathcal{M}}(t+1, s', a', \ell', \hat{y}_{64}, \hat{y}_{64,j}, h', h_j')$$
$$+ d_t(1 - \omega_t)V^{g,e,\mathcal{S}}(t+1, \bar{s}, \bar{a}, \ell', \hat{y}_{64}, h') + \omega_t V^{g,e,\mathcal{S}}(t+1, \bar{s}, \bar{a}, \ell', \hat{y}_{64}, h')\Big] \quad (15)$$

subject to:

$$s' + a' + c + \kappa^{g,\mathcal{M}}\pi(\iota) + \mathbf{1}\{a' > 0\}\chi = (1 - \lambda^{g,\mathcal{M}})f^g\Big(\text{pen}(\hat{y}_{64}^{g,e,\mathcal{M}}), \text{pen}(\hat{y}_{j,64}^{g,e,\mathcal{M}})\Big) + R_s^g(\ell)s + R_a^g(\ell)a,$$
$$\ell' = \delta\ell + \iota,$$
$$s', a', c, \iota \geq 0.$$

3.8 Qualitative Implications

Before turning to the quantitative analysis, we summarize three testable predictions that emerge from the model. These predictions follow directly from our two key wedges – the financial literacy cost and the confidence distortion – and will guide the model validation in Section 4.2.

Prediction 1: Financial literacy and confidence generate gender-specific portfolio responses. Financial literacy raises the expected return on both safe and risky assets. However, if women perceive lower returns on risky investments conditional on the same financial literacy, increases in financial knowledge translate differently into portfolio choices across genders. Specifically, higher financial literacy may lead women to expand safe asset holdings by more than men, while men respond with stronger increases in equity exposure. This is testable in the cross-section:

controlling for financial literacy, women should hold relatively more safe assets and less equity, and the sensitivity of equity participation to literacy should be higher for women than for men.

Prediction 2: Marriage slows financial literacy accumulation for women. Upon marriage, women may face a higher effective cost of investing in financial knowledge reflecting their lower exposure to long-term financial decision-making within the household. As a result, marriage tend to slow the accumulation of financial literacy for women relative to men, even in the absence of any differences in preferences, income, or baseline returns. This implies that the gender gap in financial literacy should be wider among married individuals than among singles – a pattern we document in Section 2.1 and that we ask the model to replicate as an untargeted moment.

Prediction 3: Marital dissolution triggers gender-asymmetric adjustments in financial literacy and portfolio choice. In the model, changes in marital status through divorce or widowhood can alter the incentives for financial learning, especially for women, generating a discrete increase in their financial knowledge investment. Conditional on the confidence wedge, this should translate into greater equity exposure following dissolution among women relative to men. Importantly, these responses arise endogenously from changes in incentives rather than from exogenous preference shifts or knowledge transfers, and the model should predict that men exhibit little systematic adjustment in either margin following marital transitions.

These three predictions are difficult to disentangle empirically. Financial literacy, confidence, and portfolio decisions are jointly determined; household organization evolves endogenously over the life-cycle; and agents select into marital states based on both observable and unobservable characteristics. The absence of long individual panels jointly tracking financial responsibilities, literacy, and portfolio choices makes it hard to distinguish learning incentives from selection or belief distortions in the data. The model serves as a computational laboratory that imposes intertemporal discipline, isolating the mechanisms through which household organization shapes financial literacy and wealth accumulation differently by gender. In what follows, we calibrate the model to match key cross-sectional and life-cycle moments from Section 2, and validate it against these three predictions using additional evidence from the US and the Netherlands.

4 Quantitative Exercise

Link to numerical appendix TO UPDATEIn what follows, we calibrate the model to U.S. data and assess whether it can replicate the gendered patterns of financial literacy and saving behavior

that we observe in the data, in particular regarding their interaction with marital transitions over the life-cycle.

4.1 Calibration

The model is calibrated to the United States at an annual frequency. We proceed in two steps. First, we fix a set of parameters externally, mapping them directly to empirical moments or borrowing them from the existing literature. Second, we calibrate three parameters internally using the method of simulated moments (MSM), choosing them jointly to minimize the distance between model-implied and empirical moments. Table 3 summarizes the externally fixed parameters and Table 4 reports the internally calibrated ones together with their targeted moments.

Preferences and survival. We set the coefficient of relative risk aversion to $\gamma = 4$, in line with the portfolio choice literature (Calvet et al., 2021), and the annual discount factor to $\beta = 0.96$, following Gourinchas and Parker (2002). Gender-specific survival probabilities p_t^g are taken from the Social Security Administration's 2010 life tables,[7] which imply longer life expectancy for women and therefore a higher probability of needing to manage finances independently in retirement – one of the key motivating observations of the paper. The probability that a married agent's spouse remains alive, ω_t, is computed from the opposite-gender survival rates.

Income process. Deterministic income profiles $\xi^{e,t}$ are estimated from SCF data separately by gender, education, and marital status using a quadratic polynomial in age (Table B.32), following the empirical specification in Bacher (2024). The stochastic component follows an AR(1) process calibrated to match the unconditional variance and first-order autocovariance implied by Guvenen (2009), yielding $\rho_\nu = 0.89$ and $\sigma_\nu^2 = 0.34$. Tax progressivity is set to $\tau = 0.18$ with a maximum marginal rate of $\tau_{\max} = 0.50$, consistent with Heathcote et al. (2017b). Upon retirement at age 65, agents receive a pension equal to 75% of their last pre-retirement income realization, following Cocco et al. (2005). The fixed share of disposable income that agents are required to hold in checking accounts, $\lambda^{g,k}$, is disciplined by moments reported in Table B.33. explain alpha shares

Marital transitions and assortative matching. Age-specific marriage probabilities μ_t and divorce probabilities d_t are calibrated to match the empirical age-profiles of marital status shares in the SCF, computed separately by education group (Table **??**). Education-specific matching prob-

[7] See the SSA 2010 life tables at `https://www.ssa.gov/oact/NOTES/as120/LifeTables_Tbl_6.html`.

abilities $\Pi(e_j^g \mid e_i^g)$ are set to match the joint distribution of spouses' education among co-living couples in the SCF (Table B.31), capturing positive assortative mating on education.

Parameter	Value	Description	Parameter	Value	Description
γ	4	Risk aversion	ρ_v	0.89	Productivity shock persistence
β	0.96	Discount factor	σ_v^2	0.34	Productivity shock variance
δ	0.98	FinLit depreciation rate	p^g	(see text)	Survival probabilities
ω	(see text)	Widowhood probability	π_h	0.5	Prob. of high health shock
μ	(see text)	Marriage probability	π_l	0.5	Prob. of low health shock
d	(see text)	Divorce probability	pen	0.75	Pension replacement rate
$\Pi(\vert)$	(see text)	Education match prob.	h_{high}	\$ 8000	High health cost
λ^k	(see text)	Checking accounts	h_{low}	\$ 2000	Low health cost
χ	750 \$	Participation cost	τ	0.18	Tax progressivity
σ_r^2	0.2	Variance of risky return	$\tau_{\max}$	0.50	Maximum income tax rate
θ_a	0.879	Confidence intercept	$r_s^{\max}$	0.03	Max. excess return safe asset
θ_b	0.121	Confidence slope	$r_a^{\max}$	0.06	Max. excess return risky asset

Table 3: Externally Fixed Parameters

Asset returns and participation costs. At the beginning of their life, agents differ in initial wealth s_{25}^g. We compute gender-specific initial wealth distributions in the SCF to calibrate the log-normal distribution of safe assets by gender in the initial model period. Values can be found in B.27. The safe asset yields a literacy-dependent excess return of up to 3% at maximum financial literacy and zero return at zero literacy, consistent with the estimates in Lusardi et al. (2017). The risky asset features a literacy-dependent excess return of up to 6% and idiosyncratic return shocks with variance $\sigma_\varepsilon^2 = 0.15$, in line with standard portfolio choice calibrations (Cocco et al., 2005). The fixed participation cost is set to $\chi = \$750$, following Lusardi et al. (2017).

Financial literacy. Financial literacy depreciates at rate $1 - \delta = 0.02$, estimated from the panel structure of the DHS and consistent with Kim (2024). Initial literacy levels at age 25 are set using gender- and education-specific averages from the SCF (Table B.28), scaled proportionally to the model's $[0, 1]$ range to account for the SCF's oversampling of high-wealth households and the restricted range of the survey measure. These values are consistent with the literature (e.g., Bottazzi and Lusardi (2021)) and supported by similar patterns in SHED and NLSY data.explain finlit curvature and update value for delta

The mapping from financial literacy to confidence follows a linear specification $f(\ell) = \theta_a + \theta_b \ell$, with coefficients $\theta_a = 0.879$ and $\theta_b = 0.121$ estimated from an OLS regression of financial confidence on literacy in the SCF (Table B.35).[8] These coefficients govern the baseline level of confidence and its sensitivity to financial literacy in the full cross-section. The gender-specific confidence wedge θ^f is instead calibrated internally, as further described below.

Medical expenditures. Retired agents face a two-point distribution of out-of-pocket medical expenditure shocks, following Borella et al. (2019). A high shock of $h^{\text{high}} = \$8{,}000$ and a low shock of $h^{\text{low}} = \$2{,}000$ each occur with probability one half. Within couples, spouses draw health shocks independently.

Internally calibrated parameters. Three parameters are calibrated jointly via MSM. First, the cost of investing in financial literacy is given by $\kappa^{k,g}\pi(\iota)$, where we set the functional form to $\pi(\iota) = \bar{\pi}\,\iota^2$, in the spirit of Lusardi et al. (2017). We specify $\bar{\pi} = 200$ to match the average financial literacy level of men, as computed from the SCF. This moment identifies $\bar{\pi}$ because, for men, the marriage cost wedge is unity and the confidence wedge is normalized to one, so the cost parameter is the sole determinant of the equilibrium literacy level. The calibrated value $\bar{\pi} = 200$ is higher than in Lusardi et al. (2017) because our empirically estimated depreciation rate is lower, requiring a higher investment cost to sustain the same equilibrium literacy level. In model units, a one–grid-point increase in financial literacy corresponds to approximately \$320.

Second, the gender-specific confidence wedge θ^f is identified by the gender gap in the risky asset share. Normalizing $\theta^m \equiv 1$, the calibrated value of θ^f implies that women underestimate the return to financial literacy, generating lower perceived returns on risky assets conditional on the same literacy level. This wedge is identified separately from $\bar{\pi}$ because it shifts the gender gap in portfolio composition without affecting the average literacy level.

Third, the married-women literacy cost $\kappa^{\mathcal{M},f}$ is identified by the financial literacy gap between married and single women. This moment is informative about $\kappa^{\mathcal{M},f}$ because, conditional on the common cost $\bar{\pi}$ and the confidence wedge θ^f, the additional cost faced by married women is the sole driver of the within-gender literacy gap by marital status. The calibrated value $\kappa^{\mathcal{M},f} = 1.6$ implies that married women face a 60 percent higher effective cost of investing in financial knowledge than single women or men of any marital status.

TO UPDATE with effective moments and parameters targeted Table 4 summarizes the three targeted moments and their model counterparts. Section 4.2 assesses the model's performance

[8] Although we cannot causally pin down the elasticity of confidence to literacy, our SCF-based estimates are qualitatively consistent with those obtained in quasi-experimental settings, see for instance Salas-Velasco (2022). Figure A.4 exploits the Dutch sample to further illustrates that confidence increases monotonically with financial literacy.

along a broad set of untargeted dimensions.

Fitted	Value	Description	Moment	Model	Data
$\bar{\pi}$	200	FinLit cost	Avg. financial literacy for men	0.7969	0.70
θ^g	x	Confidence wedge	Gender gap in risky asset share	0.0657	0.06
κ	1.6	FinLit cost married women	FinLit gap single vs. married women	0.043	0.07

Table 4: Internally Fitted Parameters

4.2 Model Validation in the Cross-Section

In what follows, we assess the model's quantitative fit along four untargeted dimensions: (i) the life-cycle profile of financial literacy by gender, (ii) the gendered relationship between financial literacy and portfolio choices, (iii) the response of financial literacy and investment behaviors to marital transitions, and (iv) the cross-sectional gender gaps in wealth holdings.

Life-Cycle Profiles of Financial Literacy. Here I believe a figure of the life-cyle profile of finlit by gender data vs. model would be ideal, if not we can do the table again. mention how we simulate the model. See both options below.

Option A (Figure) Figure 2 compares model and data profiles of financial literacy over the life cycle by gender. Although we only target the average male FinLit score and the gap between single and married women, the model closely matches the overall level for women (x vs. x in the data) and implies an aggregate gender gap of about x. The differential arises endogenously from gender-specific initial conditions, higher learning costs for married women, and a confidence wedge that reduces investment incentives. Consistent with the evidence, the model generates a hump-shaped gender gap—largest in early adulthood and declining with age—while the particularly small gap in retirement is mechanically implied by the terminal condition that agents exhaust assets by the end of life in the absence of a bequest motive.

Option B (Table) We target the average FinLit score of men and the gap between single and married women, and treat the remaining age-profile moments as untargeted. The model reproduces the average level for women (x vs. x in the data) and an overall gender gap of about x. This gap emerges endogenously from gender-specific initial conditions, higher learning costs for married women, and a financial confidence wedge that dampens investment incentives. Beyond

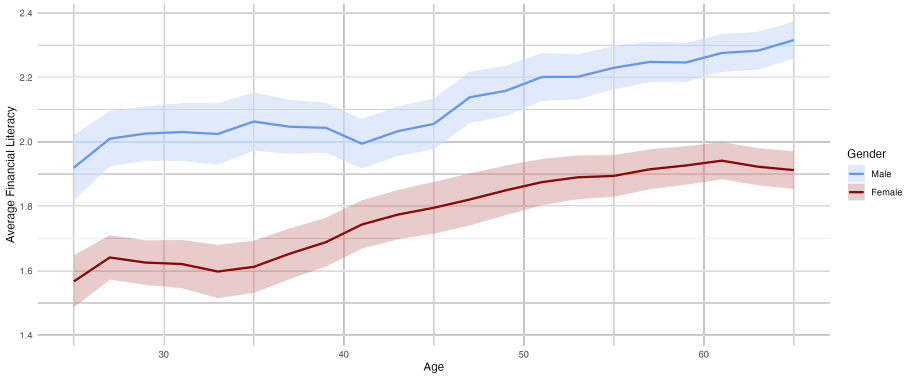


Figure 2: FinLit over the life-cycle by gender: model vs. data produce plot

these targets, the model also captures the life-cycle shape of the gender gap—peaking in early adulthood and gradually declining with age—while predicting a particularly small differential in retirement, which is mechanically driven by the terminal condition that agents end life with zero assets and no bequest motive (see Table 5).

Age Group	**Data**	**Model**
25–34	0.125	0.062
35–44	0.110	0.078
45–54	0.080	0.127
55–64	0.080	0.125
Retired	0.113	0.127

Table 5: Gender Gap in Financial Literacy by Age: Data vs. Model

Financial Literacy and Gender Differences in Portfolio Choice. Our theoretical framework predicts that financial literacy induces gender-specific portfolio responses, with women and men allocating wealth differently between equity and safe assets. Having previously documented gender gaps in financial literacy and in portfolio choice separately, we now test this implication by linking the two in the data. Controlling for marital status, age, education and income, we estimate how financial literacy maps into equity market participation and conditional portfolio allocations for men and women in the SCF sample. We then show that the calibrated model qualitatively replicates these gendered relationships on both the extensive and intensive investment

margins.

Table 6 presents this evidence. The left panel reports extensive margin regressions: in the cross-section, financial literacy is associated with higher equity market participation. While women are in general more likely to hold safe assets, financial literacy increases their participation in equity markets relatively more than for men, as indicated by the positive interaction terms.[9] The right panel examines the intensive margin through portfolio composition. Conditional on investing, higher financial literacy is associated with lower safe shares overall, but differentially so by gender: the positive interaction terms indicate that women's higher FinLit scores are associated with relatively higher safe shares compared to men. Through the lens of our theoretical framework, this is consistent with the presence of a confidence wedge that lowers women's perceived returns to risk, despite the positive effect of financial literacy on overall asset accumulation.

	Has Equity		*Safe Share*	
	Data (SCF)	Model	Data (SCF)	Model
Female	0.003	0.035	−0.015	−0.016
	(0.010)		(0.015)	
FinLit score 2	−0.009	0.081	−0.048***	−0.029
	(0.009)		(0.014)	
FinLit score 3	0.104***	0.680	−0.013	−0.539
	(0.009)		(0.012)	
Fem × FinLit score 2	0.041***	0.076	0.107***	−0.073
	(0.012)		(0.018)	
Fem × FinLit score 3	0.025**	0.032	0.048**	0.046
	(0.012)		(0.017)	
Constant	0.164***	−0.194	0.528***	0.998
	(0.012)		(0.015)	
Observations	42,062		14,595	
Adjusted R^2	0.180		0.018	

Table 6: **Extensive and Intensive Margins.** Uses SCF subsample of workers with wage income. 'Has Equity' is coded 1 for individuals with positive equity in pension, checking, or savings accounts. 'Safe Share' denotes the share of safe assets in total financial wealth. Fitted using linear probability models (Has Equity) and OLS (Safe Share). Controls include year fixed effects, age, education, income and marital status. Survey weights are used. Model columns report identical regressions on simulated data from 200,000 agents (50,000 per gender-education group). *p<0.1; **p<0.05; ***p<0.01.

The model columns report identical regressions on simulated data. On the extensive margin, the model successfully reproduces the positive gender-finlit interactions at both literacy

[9] To address potential selection bias in conditional portfolio shares, we estimate a Heckman selection model (Table A.10), which confirms that gender gaps in equity and safe asset participation are largely mediated by financial literacy.

tiers, capturing the pattern that financial literacy disproportionately increases women's equity market participation. On the intensive margin, the model matches the data well for the highest literacy group: women with the highest literacy score hold relatively safer portfolios than men, consistent with the data. The model does not fully capture this pattern for women with moderate financial literacy. In the data moderate-literacy women both participate more in equity markets and remain more conservative once they do, which could be a result of institutional channels such as employer-sponsored retirement plans. In the model, once agents cross the participation threshold, higher financial literacy monotonically shifts portfolios toward equity, leaving limited room for this intermediate-tier difference.

Note that the mapping from continuous financial literacy in the model to discrete financial literacy scores is done by assigning agents to tiers based on quantiles of the simulated cross-sectional distribution, matching the empirical shares of individuals scoring 0–1, 2, or 3 correct on the Big Three questions in the data (20.2%, 35.6%, and 44.2%, respectively). This is applied to the pooled distribution rather than separately by gender, meaning that any gender-specific patterns emerge endogenously from the model rather than from the classification itself.

Complementary analyses on Dutch data support our results. Specifically, Figure A.10 shows that women hold less risky wealth than men, with gaps widening at higher income levels. Among women, risky wealth is higher in income groups with larger shares of financially literate individuals, consistent with analogous SCF patterns in Figure A.3. Table A.11 shows that confidence is itself positively associated with equity shares, particularly for women. While subjective perceptions do not overturn the role of objective financial literacy, confidence appears to shape how financial knowledge translates into risk exposure, lending support to the modeling assumption we have made.[10]

Life-cycle Events, Financial Literacy and Investment Decisions. A central implication of the model is that marital transitions generate gender-asymmetric adjustments in financial literacy and portfolio choice. When a relationship ends or a spouse dies, the allocation of financial responsibilities within the household shifts discontinuously. In the model, this shift is captured by a change in the effective cost of acquiring financial literacy—in particular, women experience a larger increase in exposure to long-term financial decisions when they (re-)enter singlehood. As a result, the model predicts that financial literacy and equity exposure rise after divorce primarily for women, whereas men exhibit little systematic adjustment in either margin.

We test this prediction empirically using SCF data on the timing of marital transitions. Al-

[10] Appendix Tables A.12 re-estimates the specifications in Table 6 adding a measure of self-reported risk tolerance in the SCF, and the financial literacy coefficients and their gender interactions remain largely unchanged.

though the SCF is a cross-sectional survey, it includes retrospective information on years since separation, divorce, or widowhood, allowing us to examine how financial outcomes evolve with time since the marital transition. Table 7 shows that following separation, divorce or widowhood, women's financial literacy increases significantly relative to men's, as indicated by the positive interaction between gender and years since the marital transition. This suggests that increased financial responsibility enhances financial literacy for women.[11]

	Financial Literacy		*Equity Share in Own Accounts*	
	Data (SCF)	Model	Data (SCF)	Model
Female	-0.558^{***}	-2.112	-0.081^{***}	-0.078
	(0.091)		(0.017)	
Years since sep/div/widow	$-0.009^{\cdot}$	-0.003	-0.003^{***}	0.001
	(0.006)		(0.0008)	
Female $\times$ years since sep/div/widow	0.027^{***}	0.090	0.005^{***}	0.001
	(0.0009)		(0.001)	
Controls	Yes	Yes	Yes	Yes
Observations	6,593		6,593	
Pseudo / Adjusted R^2	0.085		0.084	

Table 7: **Life-cycle events, financial literacy, and equity exposure.** Data columns use the SCF wage-earner subsample. "Years since" denotes time since separation, divorce, or widowhood. Financial literacy is estimated via ordinal logit; equity share refers to the fraction of equity in individual pension, checking, and savings accounts. Controls include education, age, income, total financial wealth, and year fixed effects; survey weights are applied. Model columns report analogous regressions on simulated panel data from 200,000 agents (50,000 per gender-education group). $^{*}p < 0.1$; $^{**}p < 0.05$; ***p< 0.01.

Moreover, recall that Table 6 suggests financial literacy to be salient in predicting equity investments. Table 7 shows that shifts in financial knowledge after marital transitions are indeed mirrored in investment behavior: the positive interaction between gender and years since the transition indicates that women's equity exposure increases relative to men's over time. As women accumulate financial literacy following a marital transition, they translate this knowledge into greater equity market engagement.[12].

[11] Table A.3 replicates this finding using panel data from the NLSY79.

[12] The Female main effects on equity share differ in sign between Tables 6 and 7, though neither is statistically significant in the latter. This likely reflects differences in sample composition: Table 7 conditions on individuals who experienced marital transitions, a subpopulation with distinct wealth and portfolio characteristics. The model, which

The model counterpart rationalizes these patterns through changed incentives embedded in the cost structure. After divorce, women face a lower effective cost of acquiring financial literacy, which raises the return to investing in financial knowledge. As financial literacy improves expected investment opportunities, women optimally choose to accumulate more knowledge and translate it into greater equity exposure. Conditional on financial literacy, the confidence wedge still dampens women's perceived returns on risky assets, so the model does not predict convergence to men's equity shares. Instead, it predicts a directional increase in women's equity exposure after such a life-cycle event that is consistent with the SCF event-time gradients. The model coefficients are larger in magnitude than their empirical counterparts, as is to be expected as the model fully isolates the marital transition mechanism. The relevant comparison is therefore qualitative — whether the model reproduces the sign and pattern of gender-asymmetric adjustment. On this criterion, the model performs well. Taken together, the evidence supports the interpretation that marital dynamics — not just marital status — shape the joint evolution of financial literacy and portfolio composition over the life cycle.

Wealth Holdings and Portfolio Allocation. In Section 2, we documented substantial gender gaps in wealth holdings and portfolio composition, with disparities largest among married individuals and concentrated on the equity margin (Table 2). We now ask whether the calibrated model can replicate these patterns. Table 8 compares gender wealth gaps in the data and the model across marital status groups. Importantly, these gaps are untargeted moments: wealth gaps by marital status emerge endogenously from the model's two core mechanisms — the marital learning cost and the confidence wedge.

The model reproduces the equity gap ordering observed in the data. Gaps are largest among co-living individuals, smaller among the separated, and smallest among the never married. This pattern emerges endogenously from the marital learning cost, which slows financial literacy accumulation for married women and tilts their portfolios toward safe assets. For the never married, who are unaffected by the marital learning cost, the model provides a clean test of the confidence wedge — and captures the full equity gap observed in the data. For co-living and separated individuals, the model accounts for roughly a third of the observed disparity. The model also captures the compression of equity gaps among the separated: both in the data and in the model, disparities narrow following divorce. This is consistent with the mechanism whereby women's financial literacy increases after investment costs fall upon exiting marriage.

The model generates small safe asset gaps relative to the data. To understand why, note that the model is non-unitary: married individuals make consumption and saving decisions

features a binary safe-risky choice, does not fully capture these compositional differences.

	Data (SCF)			Model		
Status	**Equity Gap**	**Safe Assets Gap**	**Total Gap**	**Equity Gap**	**Safe Assets Gap**	**Total Gap**
Total	66.7%	44.5%	56.9%	27.54%	1.63%	17.69%
Co-Living	72.1%	55.7%	73.4%	31.24%	0.36%	20.04%
Separated	62.2%	49.0%	58.7%	22.91%	1.32%	14.68%
Never Married	17.6%	23.1%	41.3%	18.46%	11.68%	15.16%

Table 8: **Wealth disparities by gender: data vs. model.** Uses the SCF subsample of workers employed in waves 2016–2022 ($N = 37{,}145$). Equity and safe assets refer to stock and bond holdings, respectively. Model reports safe assets inclusive of checking accounts.

based on their own resources, which reflect spousal income sharing. Both men and women gain income from marriage, but men gain relatively more — widening the gender income gap among the co-living. This income gap expresses itself primarily through the equity channel, where returns depend on financial literacy. On the safe asset margin, the marital learning cost tilts married women's portfolios toward safe assets, which partially offsets the income gap. The result is a near-zero safe gap among the co-living — a mechanical consequence of the two-asset structure combined with the portfolio tilt. The data, by contrast, include wealth components that accumulate through channels outside the model's two-asset framework. The model reproduces the total wealth gap ordering between co-living and separated individuals, but generates a small reversal between the never married and separated. This is a direct consequence of the small safe asset gaps discussed above.

Summary. The model validation in the cross-section confirms the three qualitative predictions outlined in Section **??**. The marital-status-dependent learning cost and the gender-specific confidence wedge jointly discipline the life-cycle evolution of financial literacy by gender and marital status, reproducing the observed gap between single and married women as well as the gradual narrowing of the gender gap with age. These differences in financial literacy propagate endogenously into portfolio choices and wealth accumulation. On the portfolio side, the model replicates the gendered relationship between financial literacy and asset allocation: higher literacy raises equity participation more for women than for men, while women with comparable literacy hold relatively more safe assets, consistent with prediction (i). The model also captures how marriage slows financial literacy accumulation for women through the higher effective learning cost, validating prediction (ii). Finally, the endogenous response to marital transitions — whereby women's financial literacy and equity exposure rise following divorce or widowhood while men's remain largely unchanged — emerges from the reallocation of financial decision-making incentives, consistent with prediction (iii). Taken together, the calibrated

model demonstrates that getting the evolution of financial literacy right, through these two disciplined wedges, allows to generate a set of gendered patterns in portfolio choice and wealth accumulation that are difficult to disentangle using cross-sectional or short-panel data alone.

5 Counterfactuals

A growing body of evidence documents that financial education programs can improve financial knowledge and, to a lesser extent, influence financial behaviors (Kaiser et al., 2022; Hastings et al., 2013). However, the effectiveness of such interventions varies considerably depending on their timing (Kaiser and Menkhoff, 2017). Early-life financial education tends to produce measurable gains in financial literacy but often yields modest and sometimes short-lived effects on actual financial decisions (Bruhn et al., 2016; Fernandes et al., 2014). In contrast, interventions delivered at moments of heightened salience—such as following divorce or widowhood—have been shown to generate larger and more persistent behavioral responses (Hsu, 2016). Alongside education-based policies, recent policy discussions have increasingly focused on interventions that directly shape investment choices through choice architecture or market regulation, such as automatic enrollment in retirement accounts and default asset allocations (Parker et al., 2025).

In this section, we use the calibrated model as a computational laboratory to evaluate the quantitative implications of these two broad classes of policy interventions. We compare policies that target financial literacy acquisition—either early in life or at key lifecycle transitions—with policies that directly regulate investment choices, such as imposing default risky asset shares. As the model is in partial equilibrium, taking wages and asset returns as exogenously given rather than determined by market clearing conditions. The results should therefore be interpreted as illustrative counterfactuals that isolate the direct mechanical and incentive effects of each policy on individual behavior, rather than as comprehensive welfare assessments.

5.1 Financial Literacy Policies

include young widows We begin by examining two policies that aim to reduce gender wealth disparities by raising women's financial literacy. The first policy targets the initial conditions: it provides early-life financial education designed to eliminate the gender gap in financial literacy at labor market entry (age 25). Specifically, we set women's initial financial literacy equal to men's, $\ell^f_{t=25} = \ell^m_{t=25}$, effectively simulating a scenario in which school-based or early-adulthood financial education programs have successfully closed the knowledge gap before individuals enter the labor market and form households. This intervention is broadly consistent with evidence from high school financial education mandates, which have been shown to raise financial

knowledge by roughly 0.15–0.25 standard deviations (Bruhn et al., 2016).

The second policy takes a different approach, focusing not on initial conditions but on a specific lifecycle transition when financial learning incentives are particularly strong: divorce. As documented in Section 4, women's financial literacy increases sharply following marital dissolution, consistent with a shift in financial decision-making responsibility from the household to the individual (Hsu, 2016). Motivated by this evidence, we model a targeted intervention that reduces the cost of acquiring financial literacy for women in the period immediately following divorce. Specifically, we apply a x% subsidy to the investment cost $\pi(\cdot)$ for one model period. This stylized policy captures the idea of providing accessible, salient financial education or counseling services at a moment when women face an urgent need to manage finances independently.

To make the two policies comparable, we calibrate their scale such that total government expenditure is equalized. For the early-life policy, the cost is determined by the one-time transfer or subsidy required to raise all women's initial literacy to the male level. For the post-divorce policy, the cost is the sum of learning subsidies paid to all women in the first year following divorce, aggregated over the lifecycle and discounted appropriately (need to work out the details). This budget-neutral design allows us to compare the relative effectiveness of each approach in reducing gender disparities, shedding light on whether the timing of financial education matters beyond its overall provision.

	Baseline	**% of Gap Closed**		
		Early-Life Education	**Div. Discount**	**Remedial FL at Divorce**
Financial Literacy Gap				
Overall (25–65)	0.095	−57.6%	−4.9%	−0.3%
Married	0.150	−30.2%	+1.5%	+0.7%
Divorced	0.059	−39.2%	−51.3%	−61.3%
Never Married	0.041	+6.1%	+0.7%	−0.8%
Wealth Gap				
Overall	17.7%	−7.0%	−1.5%	−2.5%
Married	20.0%	−6.3%	−0.6%	−1.1%
Divorced	14.7%	−7.1%	−4.8%	−6.9%
Never Married	15.2%	−9.1%	−0.1%	−0.3%
Risky Asset Share Gap (pp)	5.78	−11.6%	+4.1%	−1.1%

Table 9: **Financial literacy policies: baseline and gap closed.** Baseline reports the gender gap in each moment from the calibrated model. Columns 3–5 report $(Baseline - Counterfactual)/Baseline \times 100$ for each policy, with a negative sign indicating a reduction in the gap and a positive sign indicating a widening. Early-Life Education sets women's initial literacy equal to men's at age 25. Divorced Discount subsidises literacy investment costs for one period following divorce. Remedial FL at Divorce transfers literacy directly at dissolution. Policy costs are in thousands of model-unit dollars per woman affected.

5.2 Default Portfolio Policies

We next consider a policy that bypasses financial literacy entirely and directly regulates portfolio composition. Specifically, we impose a default risky asset share, fixing the equity allocation to $x\%$ for both men and women regardless of their financial literacy, confidence, or marital status. This intervention is motivated by the widespread adoption of target-date funds (TDFs) and automatic enrollment policies in employer-sponsored retirement plans, which have been shown to significantly increase retirement saving and shift portfolio allocations toward age-appropriate risk profiles (Madrian and Shea, 2001; Parker et al., 2025). In the model, this policy effectively overrides the endogenous portfolio choice a' and imposes a mechanical equity share, eliminating individual variation in risk exposure that would otherwise arise from differences in financial knowledge or perceived returns.

Because this policy operates through regulation rather than fiscal transfers, we do not attempt to quantify its budgetary cost. Instead, we focus on its effectiveness in reducing gender disparities in wealth accumulation and risky asset holdings. The key question is whether a policy that directly targets portfolio composition can substitute for the slower, more indirect channel of financial literacy accumulation. In particular, we examine whether imposing a common default risky share compresses the gender wealth gap by increasing women's exposure to higher-return assets, even in the absence of changes to their financial knowledge or confidence.

	Baseline	**% of Gap Closed**
		Fixed Portfolio
Financial Literacy Gap		
Overall (25–65)	0.095	−2.0%
Married	0.150	−4.7%
Divorced	0.059	−2.5%
Never Married	0.041	+0.1%
Wealth Gap		
Overall	17.7%	−17.9%
Married	20.0%	−17.8%
Divorced	14.7%	−21.5%
Never Married	15.2%	−2.2%
Risky Asset Share Gap (pp)	5.78	−101.2%

Table 10: **Fixed portfolio policy: baseline and gap closed.** Baseline reports the gender gap in each moment from the calibrated model. Column 3 reports $(Baseline - Counterfactual)/Baseline \times 100$, with a negative sign indicating a reduction in the gap and a positive sign indicating a widening. The fixed portfolio counterfactual constrains the risky asset share to 90% for all agents regardless of financial literacy, confidence, or marital status. The near-complete closure of the risky asset share gap (−101.2%) reflects the mechanical effect of the constraint; the more limited impact on total wealth accumulation highlights the distinction between portfolio composition and wealth-level outcomes.

6 Conclusion

This paper investigates the potential role of financial literacy in explaining gender differences in wealth accumulation over the life-cycle. Drawing on survey data from the United States and the Netherlands, we document that women display persistently lower financial literacy and confidence than men, that married women are significantly less likely to be primary financial decision-makers within the household, and that large gender gaps in portfolio participation and wealth holdings emerge over the life-cycle, particularly regarding investment margins in equity.

To quantify these patterns, we develop a heterogeneous-agent life-cycle model of portfolio choice with endogenous financial literacy, gender-specific confidence, and marital dynamics. Two disciplined wedges drive the gender-specific results: married women face a higher effective cost of investing in financial literacy, reflecting their lower exposure to long-term investment decisions within the household; and conditional on the same literacy level, women perceive returns on risky assets as lower than men do. Calibrated to U.S. data, the model replicates the gender gap in financial literacy and its life-cycle profile, the greater sensitivity of women's investment margins to financial literacy, the rise in women's financial knowledge following marital dissolution, and persistent gender gaps in wealth and portfolio composition. Using the framework as a laboratory, we find that early-life financial education yields modest long-run behavioral effects, while targeted interventions at key life-cycle transitions generate more persistent responses. Default risky asset shares in pension accounts effectively compress the gender gap in equity holdings, though their impact on total wealth accumulation remains limited.

Several important extensions remain on the research agenda. First, microfounding the learning cost and confidence wedges through an explicit model of intra-household bargaining would enable a proper welfare analysis and allow for the mapping of policy elasticities—identifying, for instance, how shifts in bargaining power driven by labor market policies or legal reforms translate into changes in financial literacy accumulation and ultimately wealth inequality. Second, endogenizing marital formation and dissolution would clarify the role of selection into and out of marriage for financial learning and wealth strategies, and allow us to study whether the anticipation of divorce shapes savings behavior prior to marital dissolution. Third, incorporating fertility choices would capture their well-documented asymmetric effects on women's labor market outcomes and the likely spillovers onto saving behavior through multiple channels: precautionary motives related to child-rearing expenditures, shifts in intra-household bargaining power as women's relative earnings fall, and income effects arising from reduced labor force participation. Each of these extensions would bring the framework closer to a comprehensive account of the forces that drive gender wealth inequality over the life cycle.

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A Data and Descriptive Analysis

This appendix documents sample construction and variable definitions, and presents complementary descriptive patterns that inform the empirical analysis in the main text and the model.

We organize this appendix by institutional setting. We first present evidence from the United States, which constitutes the main empirical basis of the paper, and then turn to the Netherlands, which we use to assess robustness and external validity in a different institutional environment.

United States. Our primary evidence combines three U.S. surveys, each with a distinct role in the analysis. We first use the 1979 and 1997 cohorts of the National Longitudinal Survey of Youth (NLSY). In these cohorts, respondents participated in a financial literacy module at age 50 (NLSY79) and age 25 (NLSY97), respectively, thus covering distinct stages of the life cycle. The NLSY also contains measures of cognitive ability based on standardized tests administered in youth, which we use as a proxy for IQ. This allows us to examine whether IQ accounts for gender differences in financial literacy and whether such differences evolve over the life-cycle.

Next, we incorporate data from the Survey of Household Economics and Decisionmaking (SHED), a rotating panel survey conducted annually by the Federal Reserve Board for the years 2017–2022. We restrict attention to respondents aged 25–65, yielding a sample of 45,842 individuals, including 22,767 women and 23,075 men. In addition to financial literacy and subjective confidence, the SHED provides information on financial independence and involvement in household financial decision-making. Finally, our main wealth evidence comes from the Survey of Consumer Finances (SCF), a triennial cross-sectional survey conducted by the Federal Reserve Board and the most detailed source of self-reported wealth data in the United States. We focus on the 2016–2022 waves, which include measures of financial literacy, confidence, and risk attitudes. The final sample consists of 60,410 working-age respondents between 25 and 65 years old, and 19,855 retirees, further split between 44,885 men and 35,380 women.[13]

Netherlands. In addition to US surveys, we use data from the Dutch Household Survey (DHS) covering the period 2005–2023. The DHS provides administrative information on individual-level wealth holdings and includes a dedicated financial literacy module fielded in four waves – 2005, 2008, 2010, and 2015 – comprising 3,819 male and 3,301 female respondents.

The survey contains a longitudinal component for a subset of respondents, allowing us to identify 1,107 unique couples, 720 of whom are observed in more than one wave. While the DHS

[13]To accurately characterize respondents' demographics, we adjust for cases in which the SCF's recoding of household headship may misclassify gender or race, which would otherwise under-represent female respondents in questions related to financial attitudes (Lindamood et al., 2007).

offers precise individual-level wealth measures and a partially longitudinal structure, its overall sample size is modest relative to the U.S. surveys. We therefore use the Dutch data primarily for robustness exercises and to assess external validity in a different institutional context.

The Big Three Questions While our data sources contain several measures of subjective financial knowledge and confidence, all surveys share a common and harmonized measure of objective financial literacy based on responses to the standard "Big Three" questions introduced by Lusardi and Mitchell (2008). These questions assess individuals' understanding of interest compounding, inflation, and risk diversification. Throughout the paper, we define financial literacy as the number of correct answers to these three questions, yielding a score that ranges from zero to three. Following previous works, "Don't know" and refusal responses are coded as incorrect. In particular, the questions are worded as follows (correct answers in **bold**):

(i) Interest compounding: \$100 at 2% for 5 years — **more than \$102**; exactly \$102; less than \$102; don't know.

(ii) Inflation: 1% interest, 2% inflation — more; same; **less**; don't know.

(iii) Risk diversification: single stock safer than mutual fund — true; **false**; don't know.

A.1 Evidence from the US National Longitudinal Survey of Youth

We use the 1979 and 1997 cohorts of the National Longitudinal Survey of Youth (NLSY79 and NLSY97) to study gender differences in financial literacy at different life-cycle stages, while controlling for cognitive ability and family background. This allows us to explore any life-cycle component in the gender gap in financial literacy and the role of individual IQ in explaining it.

Table A.1 documents a sizable gender gap in financial literacy in both cohorts. The gap is already present among young adults in the NLSY97, before most individuals have accumulated substantial labor-market or financial experience, and remains at mid-life in the NLSY79. This shows that gender differences in financial literacy emerge early and persist over the life cycle.

	NLSY79 ($\sim$ 50 yo)	NLSY97 ($\sim$ 25 yo)
Men	2.30	1.95
Women	2.07	1.64
N	7022	7500

Table A.1: **Financial literacy breakdown across cohorts and gender.** Uses survey weights.

Table A.2 examines whether differences in individual ability and background characteristics can account for the observed gender gap in financial literacy. Cognitive ability explains a sub-

stantial share of the variation in financial literacy for both men and women, but its contribution is quantitatively similar across genders and therefore does not seem to explain the gap. Family background plays a limited role, indicating that gender differences in financial literacy cannot be attributed primarily to differences in individual ability.

	FinLit score			
	NLSY79 ($\sim$ 50 yo)		NLSY97 ($\sim$ 25 yo)	
	Men	Women	Men	Women
Education	0.115	0.073	0.15	0.093
IQ test	0.0625	0.0687	0.08	0.071
Educ of mother	0.0000	0.0000	0.001	0.0007
Educ of father	0.0009	0.0001	0.0004	0.000
Income	0.0085	0.0023		
Family wealth			0.006	0.0006
Observations	2,674	2,896	1,386	1,292
Adjusted R^2	0.186	0.143	0.233	0.165

Table A.2: **R^2 decomposition of financial literacy scores by cohort and gender.** IQ test corresponds to Armed Forces Qualification Test (AFQT). Income restricted to positive individual income.

In the main text, we exploit SCF data to document that major life-cycle events associated with changes in financial responsibility are correlated with increases in women's financial literacy. We replicate a similar exercise in the NLSY to assess whether this pattern also emerges in this different dataset that allows us to control directly for cognitive ability. Table A.3 shows that separations, divorces, and widowhood are associated with increases in financial literacy, with significantly stronger effects for women than for men, even after conditioning on IQ and demographics. This result reinforces the SCF evidence and indicates that the association between life-cycle events and women's financial literacy is not driven by differences in individual ability.

A.2 Evidence from the US Survey of Household Economics and Decisionmaking

Using the SHED, we extend the analysis along two dimensions. First, we document how gender differences in financial literacy vary across education, marital status, and industry, and how they evolve with age. Second, we examine how financial literacy maps into financial confidence and the allocation of household decision-making across socioeconomic groups and life-cycle stages.

	FinLit score
Female	-1.030***
	(0.233)
Years Since Sep/Divorce/Widowhood	-0.018
	(0.009)
Female:Years Since Sep/Divorce/Widowhood	0.034**
	(0.013)
IQ Test	0.017***
	(0.002)
Observations	1,706
R^2	0.082

Table A.3: **Financial literacy after life-cycle events.** Uses survey weights, with controls including age, income and education. *p<0.1; **p<0.05; ***p<0.01.

Note that, unlike the triennial SCF, the SHED is fielded annually and includes repeated respondents, which allows us to construct smoother age profiles and better track how financial literacy and confidence evolve over time. The SHED also contains consistently measured indicators of financial confidence and decision-making – variables not comparably available in the SCF.

A.2.1 Financial Literacy Across Demographics and Over the Life-Cycle

We begin by documenting heterogeneity in financial literacy across demographic and socioeconomic groups, with a particular focus on gender differences by education, marital status, occupation, and household circumstances. Note again that most of the patterns observed in the SHED can be replicated with SCF data – evidence not reported here but available upon request.

Table A.4 shows that education and marital status are more strongly associated with women's financial literacy (FinLit) than with men's. Highly educated women who are separated, divorced, or widowed display significantly higher FinLit scores relative to other women, while similar differentials are smaller for men. Household and professional characteristics—such as self-employment or having an unemployed spouse—are also associated with relatively higher financial literacy among women. These patterns suggest that women's financial literacy is more tightly linked to individual circumstances and household roles. Building on the cross-sectional heterogeneity documented in Table A.4, Figure A.1 shows average financial literacy by age, gender, and marital status. Financial literacy increases with age for both men and women, but the gender gap remains wider among married individuals than among those who are never married or separated, divorced, or widowed[14]. This pattern is consistent with household dynam-

[14]Using Dutch data, we show that the gender gap in financial literacy is persistent over the life cycle (Figure A.5a), and in the lifecycle among couples (Figure A.6a), consistent with the patterns observed in the SHED.

ics—such as marital specialization—shaping differences in financial literacy across age groups.

	FinLit score					
	(1)	(2)	(3)	(4)	(5)	(6)
Female	−0.325***	−0.388***	−0.373***	−0.359***	−0.389***	−0.347***
	(0.091)	(0.012)	(0.012)	(0.009)	(0.011)	(0.010)
Female: earns $\geq \$150,000$	0.028					
	(0.092)					
Female:Self-Employed		0.075**				
		(0.032)				
Female:Bachelor			0.016			
			(0.019)			
Female:Bachelor +			0.072***			
			(0.022)			
Female:Never Married				0.082*		
				(0.047)		
Female:Separated, Divorced, Widowed				0.150**		
				(0.062)		
Female:Spouse Unemployed					0.076***	
					(0.017)	
Female: Legal, Finance, Engineering						0.036
						(0.031)
Observations	45,312	26,823	45,312	45,312	43,030	45,312
R^2	0.235	0.233	0.235	0.235	0.236	0.237

Table A.4: **FinLit score across gender, education, and marital status.** Uses the SHED sample 2017-2022, with survey weights. FinLit score is standardized to accommodate the OLS regression. While each column focuses on one of the characteristics, income, age, education, and the indicator for spouse unemployed are always used as a control. *p<0.1; **p<0.05; ***p<0.01.

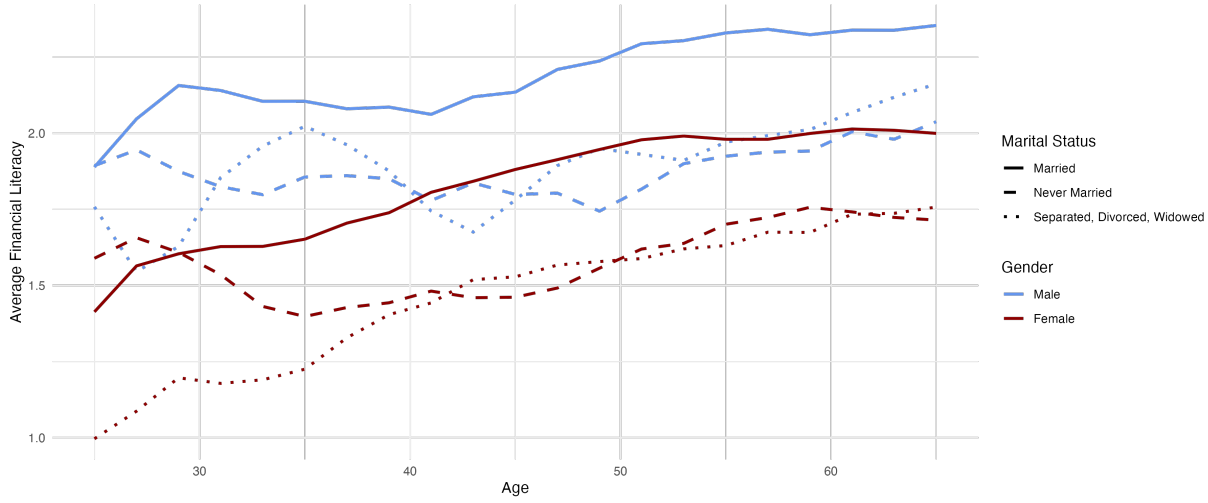


Figure A.1: **Rolling Weighted Average Financial Literacy over the Life-cycle by marital status and gender.** Uses 2017-2022 SHED waves and survey weights, N=45,842.

A.2.2 The Effect of Financial Literacy on Financial Confidence and Decision-making

We next turn to the relationship between financial literacy, financial confidence, and the division of financial responsibilities within households. This is because, even if women accumulate financial knowledge over the life-cycle, their ability to translate this knowledge into confidence and active decision-making may remain constrained by gendered household dynamics.

To capture these outcomes, we use two SHED survey variables. First, *financial confidence* is measured by the question: "How comfortable are you with making your own investment decisions in your retirement accounts?" Second, *financial decision-making* is based on the question: "When it comes to decisions regarding your household's financial activities (such as banking and investing decisions), which of the following statements best describes your involvement?" with responses ranging from (i) making most financial decisions, (ii) sharing decisions with another household member, to (iii) another household member making most decisions.

Table A.5 shows that higher financial literacy is associated with both greater financial confidence and a higher likelihood of being the primary financial decision-maker. At the same time, pronounced gender differences persist, particularly along the confidence dimension. Across marital groups, women report significantly lower financial confidence than men at comparable levels of financial literacy and education, and for working in the same occupation. The interaction terms indicate that increases in financial literacy translate into smaller gains in confidence for women than for men, and in some cases are associated with a widening confidence gap. Gender differences in decision-making authority mirror this pattern but are less pronounced. Taken together, these results seem to highlight financial confidence and decision-making as two distinct margins through which financial literacy may translate into financial behavior.

While we report the life-cycle evolution of financial decision-making for men and women by marital status in the main text, Figure A.2 extends the analysis to financial confidence. Consistent with results in Table A.4, financial confidence is higher among more educated individuals and those working in legal, finance, or engineering professions, yet a gender gap persists across all groups: even highly educated women report lower confidence than less-educated men. While confidence increases modestly with age, it exhibits less life-cycle variation than financial literacy, with the largest relative gains observed among separated women. Note that occupations are grouped into three categories: (i) Community, Healthcare and Service (healthcare workers, social workers, service staff), (ii) Creative, Education and Management (teachers, artists, administrators), and (iii) Legal, Finance and Engineering (lawyers, financial analysts, engineers).

	Ordered Logit:			*Logit:*		
	Financial Confidence			Financial Decision Making		
	Married	Never Married	Sep/Div/Wid	Married	Never Married	Sep/Div/Wid
Female	-0.352^{***}	-0.647^{***}	-0.179	-0.117^{**}	0.054	0.242^{*}
	(0.048)	(0.071)	(0.112)	(0.051)	(0.075)	(0.140)
FinLit score 2	0.0003	-0.080	0.072	0.225^{***}	0.183^{**}	0.116
	(0.049)	(0.075)	(0.120)	(0.053)	(0.085)	(0.156)
FinLit score 3	0.344^{***}	0.264^{***}	0.476^{***}	0.492^{***}	0.391^{***}	0.368^{***}
	(0.043)	(0.065)	(0.109)	(0.047)	(0.077)	(0.140)
Bachelor +	0.117^{***}	0.246^{***}	0.252^{***}	0.099^{***}	0.660^{***}	0.703^{***}
	(0.029)	(0.053)	(0.073)	(0.032)	(0.065)	(0.109)
Legal, Finance, Engineering	0.180^{***}	0.173^{***}	0.169^{**}	0.211^{***}	0.335^{***}	0.103
	(0.030)	(0.050)	(0.079)	(0.032)	(0.065)	(0.103)
Female: FinLit score 2	-0.098	0.205^{**}	-0.185	-0.305^{***}	-0.114	0.074
	(0.063)	(0.100)	(0.144)	(0.067)	(0.107)	(0.186)
Female: FinLit score 3	-0.156^{***}	-0.026	-0.412^{***}	-0.581^{***}	-0.261^{***}	-0.163
	(0.055)	(0.087)	(0.130)	(0.059)	(0.099)	(0.168)
Observations	22,526	7,785	4,042	19,777	6,649	3,515
Pseudo R^2	0.07	0.07	0.08	0.05	0.19	0.08

Table A.5: **Gendered effect of FinLit on Financial Confidence and Decision-making.** Uses the SHED sample 2017- 2022, with survey weights. Controls: income, age and year FE. *p<0.1; **p<0.05; ***p<0.01.

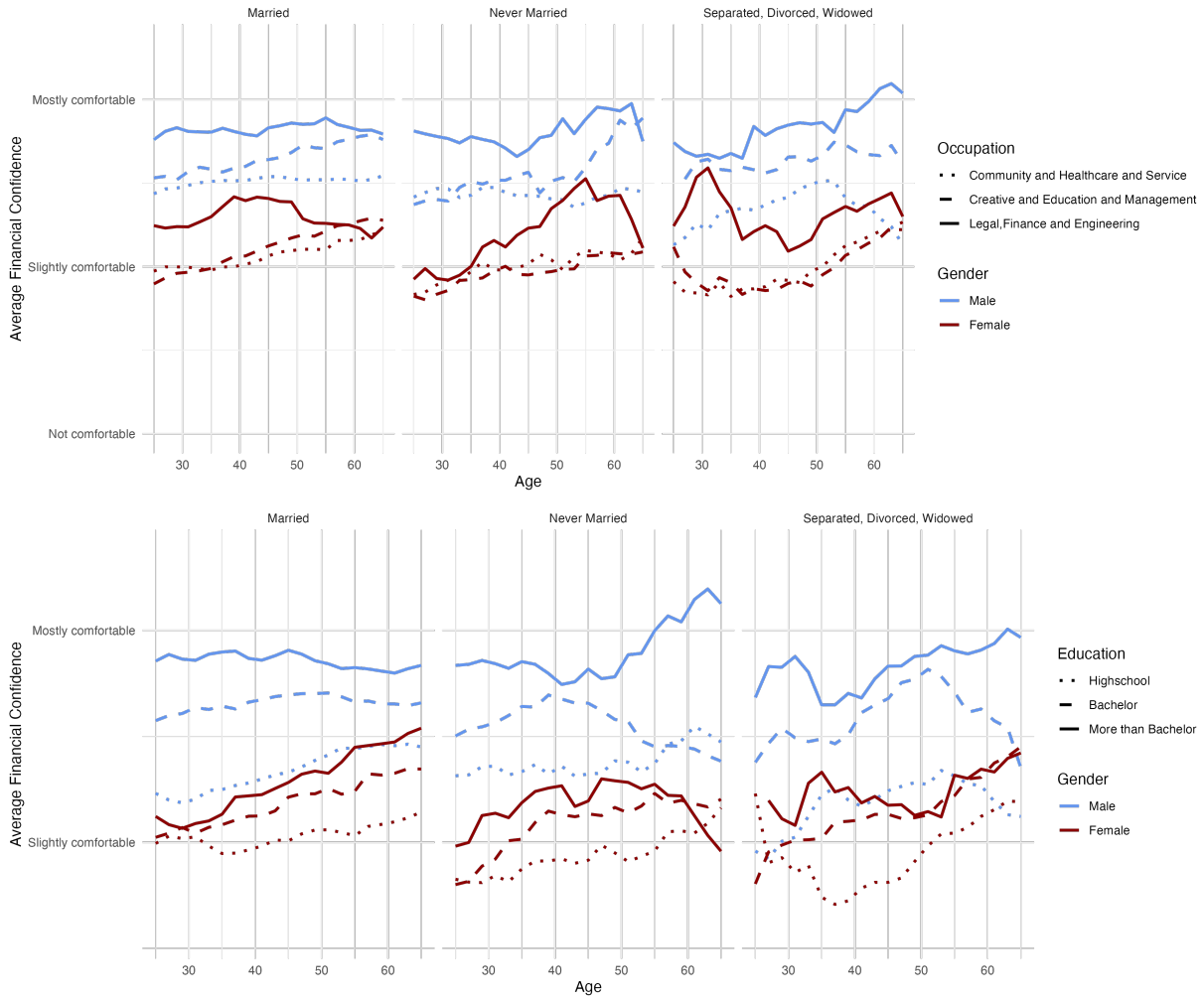


Figure A.2: **Average Financial Confidence over the Life-cycle by marital status, gender, education and occupation.** Uses the 2017-2022 SHED data, with survey weights.

A.3 Evidence from the Survey of Consumer Finances

While the SHED allows us to decompose gender differences in financial literacy, confidence, and decision-making, the SCF complements this analysis with richer data on household wealth and portfolio composition. Its coverage of households' demographics and balance sheets, combined with measures of financial literacy, self-assessed financial knowledge, and risk preferences, enables us to examine how these factors translate into wealth accumulation and investment behavior across genders, and to assess potential mechanisms underlying the gender wealth gap.

The Big Three Questions and Response Rates Across Genders Gender differences in financial literacy are documented in the SCF, as in the NLSY and SHED. To assess whether these differences reflect question-specific knowledge or systematic response behavior, we compare responses to each of the three financial literacy questions by gender.[15] Gender is defined based on the individual respondent rather than the household's designated financial respondent or main earner, ensuring consistency with the measurement of financial literacy.[16] We find no evidence that women systematically underperform on particular ones. Instead, the primary difference lies in response patterns: women are more likely to select "Don't know," as shown in Table A.6.[17]

Consistent with this, Table A.7 shows that women score lower than men on the overall financial literacy index, regardless of which item is answered correctly. Allowing the association between item-specific correctness and the overall score to differ by gender does not eliminate the gap: the interaction terms indicate that women's financial literacy remains lower even when they answer a given question correctly. Together with NLSY evidence, these results suggest that gender differences in financial literacy in the SCF are unlikely to be driven by innate ability or question content, and point to systematic differences in confidence and response behavior.

	Men			**Women**		
Question	DK/Ref	Correct	Incorrect	DK/Ref	Correct	Incorrect
Single stock safer than mutual fund	13.6	**71.0**	15.4	25.9	**57.2**	16.9
Inflation exceeds interest rate	1.9	**84.6**	5.7	3.5	**74.3**	8.2
$100 at 2% for 5 years	1.5	**82.6**	6.5	3.2	**75.4**	7.7

Table A.6: **Gender differences in responses to financial literacy questions.** SCF respondents aged 30–65, 2016–2022. Uses survey weights and represents percentages of across responses.

[15] We choose to conduct an item-level analysis of the Big Three responses in this dataset to ensure that any question-level gender difference in financial literacy is assessed in the same survey environment as our portfolio outcomes.

[16] If not accounted for, financial literacy of the respondent may reflect their spouse's (Lindamood et al., 2007).

[17] Eliminating the "Don't know" option substantially narrows the gender gap in measured financial literacy (Bucher-Koenen et al., 2021a), suggesting an important role for confidence in shaping observed differences.

	(1) Diversification	(2) Compounding ($100)	(3) Inflation
Main effects			
Female	−0.130***	−0.069***	−0.008
	(0.011)	(0.013)	(0.013)
Item correct	1.183***	1.117***	1.276***
	(0.009)	(0.011)	(0.010)
Female × item-correct			
Female × item correct	−0.025**	−0.084***	−0.108***
	(0.013)	(0.014)	(0.014)
Observations	46,045	46,045	46,045
Adjusted R^2	0.434	0.342	0.418

Notes:

Table A.7: **Gender gap in financial literacy by item correctness.** SCF respondents aged 30–65, 2016–2022; survey weights. Dependent variable is the FinLit score. "Item correct" is a dummy for answering the indicated item correctly. Uses survey weights. *p<0.1; **p<0.05; ***p<0.01.

A.3.1 Sample Construction and Individual Portfolio Measures

We exploit the SCF sample to align individual-level financial literacy with financial outcomes. Whenever possible, asset holdings are extracted at the individual level within households, since checking and savings accounts and most retirement assets are assigned separately to spouses. Note that individual labor income can also be constructed for each household member using reported earnings and payment frequency (e.g., weekly, biweekly, monthly, or annual).

Tables A.8 and A.9 summarize asset granularity and portfolio classification in the SCF. For singles, all assets are observed at the individual level; for couples, several liquid assets and retirement accounts can be assigned to individuals, while other assets are reported only at the household level. Our portfolio measures therefore focus on asset categories consistently observed at the individual level for both singles and spouses, distinguishing between equity and non-equity components within savings and retirement accounts. Asset categories jointly reported for couples—such as directly held stocks, mutual funds, bonds, and trusts—are excluded from the individual-level analysis for couples but retained for singles. However, we stress the main patterns identified in the SCF also hold in the Dutch data (Appendix A.4), where financial literacy and granular definitions of equity and safe assets can be observed for both spouses.

A.3.2 Financial Literacy, Income and Investment Strategies

Figure A.3 illustrates how asset holdings vary with income, financial literacy, and gender in the SCF, conditioning on positive asset holdings (intensive margin). Marker size reflects the share

	Spouses	Singles
Checking account	Yes	Yes
Savings account (share in stocks)	Yes	Yes
IRA/Keogh (share in stocks)	Yes	Yes
Pension account (401(k), 403(b)) (share in stocks)	Yes	Yes
Current and future pension benefits	Yes	Yes
Prepaid cards	No	Yes
Government, mortgage, corporate bonds	No	Yes
Stocks, directly held	No	Yes
Mutual funds (combined, stocks, treasury, etc.)	No	Yes
Trusts, annuities	No	Yes

Table A.8: **Granularity of wealth — individual versus household level in the SCF.**

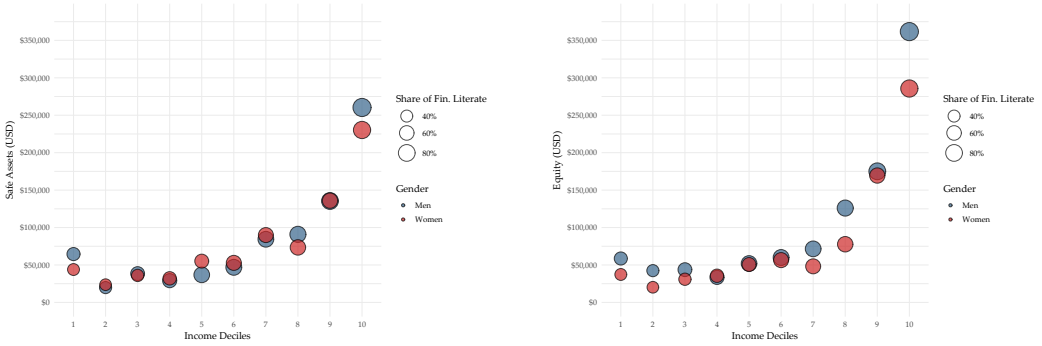
Asset Type	Safe	Risky
Savings accounts	Non-equity share	Equity share
401(k)/403(b) accounts	Non-equity share	Equity share
IRA/Keogh accounts	Non-equity share	Equity share
Pension benefits (future)	Non-equity share	Equity share
Pension benefits (current)	Non-equity share	Equity share
Checking accounts	Total amount	–

Table A.9: **Disaggregated individual asset holdings among singles and couples in the SCF.**

of individuals with the highest financial literacy score within each gender–income cell.

Higher financial literacy is associated with greater asset accumulation for both men and women at given income levels. However, portfolio composition differs systematically by gender. Even among high-literacy groups, women allocate relatively more wealth to safe assets and less to equity than men, while men's higher literacy is more strongly associated with equity exposure. These patterns closely mirror the intensive-margin estimates in Table **??**. Overall, the figure visually confirms that financial literacy raises asset accumulation but interacts with gender-specific confidence differences to generate persistent gaps in portfolio risk-taking.

Selection into Asset Ownership. One concern is that estimates for equity (or safe assets) holdings conditional on ownership (i.e. intensive margins) are biased because participation is nonrandom: individuals who hold equity may differ systematically from nonparticipants, and this selection may differ by gender. To address this, we estimate a Heckman selection model that corrects intensive-margin regressions for selection into ownership. Table A.10 shows that selection-correction is relevant (inverse Mills ratios are significant), yet the association between financial literacy and equity participation and holdings remains, reinforcing our model assumptions.



Safe Assets. Risky Assets.

Figure A.3: **Income, financial literacy, and investment strategies across gender (SCF).** SCF subsample of wage employees. Each panel conditions on *positive holdings of the asset shown* (intensive margin). Bubble size indicates the share in each gender–income bracket with the highest financial literacy score. Survey weights used; $N = 11{,}876$.

A.3.3 Alternative Explanations for Gender Differences in Financial Literacy and Wealth

	has equity	has safe	$\log\left(\frac{\text{equity}}{\text{wage income}}\right)$	$\log\left(\frac{\text{safe assets}}{\text{wage income}}\right)$	$\left(\frac{\text{equity}}{\text{equity + safe}}\right)$
Female	0.030	0.242***	−0.005	−0.216***	−0.0004
	(0.043)	(0.039)	(0.114)	(0.068)	(0.022)
FinLit score ≥ 2	0.154***	0.050	0.501***	0.295***	0.033*
	(0.037)	(0.033)	(0.101)	(0.059)	(0.019)
Fem $\times$ FinLit ≥ 2	0.085*	−0.084*	−0.153	0.191***	−0.059**
	(0.047)	(0.044)	(0.120)	(0.073)	(0.023)
Constant	−1.507***	−0.356***	−4.373***	−3.215***	0.487***
	(0.055)	(0.053)	(0.198)	(0.125)	(0.037)
Observations	42,062	42,062	16,967	31,363	16,967

Table A.10: **Selection-corrected individual wealth, intensive and extensive margins.** Uses SCF subsample of workers with wage income. Columns (1) and (3) report selection-corrected extensive margins of equity and safe asset participation. Columns (2) and (4) show intensive margins (log asset holdings relative to wage income). Column (5) shows the equity share of total financial assets. Estimates are from a Heckman selection model. Inverse Mills ratios (not shown) are significant in all second-stage regressions, consistent with selection into ownership. Controls: year fixed effects, age, education, income, marital status, and risk aversion. Survey weights used. *p<0.1; **p<0.05; ***p<0.01.

Risk Tolerance and Confidence. A natural concern is that the literacy–portfolio gradients in the main text may reflect differences in stated risk tolerance rather than financial knowledge or confidence. Conceptually, risk tolerance captures preferences over risk, whereas financial confidence reflects beliefs about one's own financial competence and expected returns; the two are

distinct objects in the model, and the former is assumed equal across genders. Table A.11 directly contrasts their explanatory power for equity shares. While higher risk tolerance is mechanically associated with greater equity exposure, it does not account for gender-differentiated portfolio responses: the interaction between female and risk tolerance is small and statistically weak. In contrast, financial confidence interacts strongly with gender. More confident women hold significantly larger equity shares, conditional on financial literacy and other controls, indicating that subjective beliefs play a central role in shaping gender gaps in portfolio composition.

We next assess whether financial literacy effects are absorbed once risk tolerance is included as a control. Table A.12 shows that literacy coefficients and their gender interactions remain stable when controlling for stated risk tolerance. Both the extensive and intensive margin responses to financial literacy are largely unchanged, suggesting that the literacy–portfolio gradient is not mediated by risk preferences. Table A.13 further shows that confidence primarily operates along the intensive investment margin and shapes how financial knowledge translates into effective risk exposure. Taken together, these results validate the model's structure: financial literacy and financial confidence jointly determine portfolio choice, while risk tolerance may explain overall exposure to risk but does not account for gender-differentiated responses to knowledge.

	(1) Risk Tolerance **equity share**	(2) Confidence **equity share**
Female	0.003	-0.179^{***}
	(0.011)	(0.035)
Moderate tolerance / confidence	0.064^{***}	0.032
	(0.009)	(0.028)
High tolerance / confidence	0.134^{***}	0.055^{**}
	(0.011)	(0.028)
Female × Moderate tolerance / confidence	-0.053^{***}	0.146^{***}
	(0.012)	(0.036)
Female × High tolerance / confidence	-0.0002	0.143^{***}
	(0.018)	(0.036)
Constant	0.476^{***}	0.497^{***}
	(0.019)	(0.033)
Observations	14,595	14,595
Adjusted R^2	0.032	0.022

Table A.11: **Risk tolerance versus financial confidence in explaining equity shares.** Column (1) includes stated risk tolerance, while Column (2) includes financial confidence. Both variables are self-reported on a 0–10 scale and grouped into terciles (low: 0–3; moderate: 4–7; high: 8–10). All regressions use SCF data for working individuals with positive wage income and control for age, education, income, year fixed effects, and financial literacy. Survey weights are applied. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

	Extensive margin		Intensive margin		
	has equity	has safe	$\log\left(\frac{\text{equity}}{Y}\right)$	$\log\left(\frac{\text{safe}}{Y}\right)$	$\left(\frac{\text{safe}}{\text{safe+equity}}\right)$
Female	0.011	0.020***	0.053	−0.242***	−0.013
	(0.010)	(0.004)	(0.082)	(0.051)	(0.015)
FinLit score 2	−0.012	0.018***	0.247***	0.044	−0.041***
	(0.009)	(0.003)	(0.072)	(0.049)	(0.013)
FinLit score 3	0.092***	0.018***	0.346***	0.501***	0.001
	(0.009)	(0.003)	(0.067)	(0.047)	(0.012)
Female × FinLit score 2	0.043***	−0.002	−0.334***	0.323***	0.101***
	(0.012)	(0.005)	(0.097)	(0.063)	(0.018)
Female × FinLit score 3	0.022*	0.001	−0.114	0.222***	0.038**
	(0.012)	(0.004)	(0.090)	(0.060)	(0.017)
Constant	0.072***	0.903***	−2.971***	−2.928***	0.496***
	(0.014)	(0.005)	(0.085)	(0.059)	(0.019)
Observations	42,062	42,062	16,967	31,363	14,595
Adjusted R^2	0.189	0.048	0.134	0.143	0.037

Table A.12: **Financial literacy, gender, and portfolio outcomes.** SCF subsample of workers with wage income. All specifications control for age, education, marital status, income, risk tolerance, and year fixed effects. Survey weights used. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

	Extensive margin		Intensive margin		
	has equity	has safe	$\log\left(\frac{\text{equity}}{Y}\right)$	$\log\left(\frac{\text{safe}}{Y}\right)$	$\left(\frac{\text{safe}}{\text{safe+equity}}\right)$
Female	−0.012	0.080***	−0.463**	−0.137	0.179***
	(0.019)	(0.007)	(0.191)	(0.102)	(0.035)
Moderate confidence	0.067***	0.064***	0.350**	0.301***	−0.032
	(0.015)	(0.006)	(0.151)	(0.080)	(0.028)
High confidence	0.119***	0.065***	0.608***	0.393***	−0.055**
	(0.015)	(0.006)	(0.151)	(0.081)	(0.028)
Female × Moderate confidence	0.024	−0.067***	0.343*	0.024	−0.146***
	(0.020)	(0.008)	(0.195)	(0.106)	(0.036)
Female × High confidence	−0.015	−0.061***	0.299	0.084	−0.143***
	(0.020)	(0.008)	(0.195)	(0.106)	(0.036)
Constant	0.185***	0.869***	−4.187***	−4.376***	0.503***
	(0.017)	(0.006)	(0.167)	(0.096)	(0.033)
Observations	42,062	42,062	16,967	31,363	14,595
Adjusted R^2	0.271	0.047	0.135	0.139	0.023

Table A.13: **Condience and portfolio outcomes.** SCF subsample of workers with wage income. Confidence is self-reported perceived financial knowledge on a scale 0-10, divided into low (0-3), moderate (4-7) and high (7-10). All specifications include age, education, marital status, income, financial literacy and year fixed effects. Survey weights used. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

Tax Filing Arrangements. Household tax filing arrangements could, in principle, affect wealth accumulation if they proxy for unequal exposure to financial decision-making. However, for this channel to explain the gender wealth gap in our framework, it would need to operate through individual financial literacy. Table A.14 shows that women score significantly lower on financial literacy than men regardless of their tax filing status. Interactions between gender and filing arrangements are small and statistically insignificant, indicating that differences in tax responsibilities may not necessarily mediate the gender gap in financial literacy. This rules out tax filing arrangements as a key driver of the gender wealth gap through differences in financial literacy, and suggests that household tax organization is not the source of the patterns we document.

	FinLit Score
Female	-0.355***
	(0.038)
Female: Filed separately	-0.052
	(0.069)
Female: Only spouse filed	-0.082
	(0.394)
Female: Only respondent filed	-0.014
	(0.167)
Observations	37,560
Pseudo R^2	0.337
Note:	*p<0.1; **p<0.05; ***p<0.01

Table A.14: **Tax filing status the FinLit score.** Uses the subsample of workers with recorded wage incomes in waves 2016-2022. Financial knowledge and FinLit score are represented with values 1-3, and the model is ordered logistic regression. Filing options are coded as dummies. Controls include year fixed effects, wage income, education, and age.

Research Effort. A potential explanation for gender differences in portfolio allocation could be women having a differential engagement in financial decision-making. We test this using a self-reported measure of search intensity when making borrowing and investment decisions. Table A.15 reports ordered logit estimates relating search effort to financial literacy and gender.

Financial literacy is positively associated with reported search effort. Conditional on controls, women report significantly higher search effort than men in both borrowing and investing decisions. However, the interaction terms indicate that the marginal association between financial literacy and search effort is weaker for women. These results do not support the hypothesis that women make lower search effort when investing, and instead suggest that the gender wealth gap arises not from information acquisition itself, but from how financial knowledge translates into portfolio risk-taking, consistent with a confidence-based distortion in perceived returns.

	Search amount borrowing	Search amount investing
FinLit score 2	0.191***	0.250***
	(0.051)	(0.050)
FinLit score 3	0.439***	0.366***
	(0.048)	(0.048)
Female	0.390***	0.201**
	(0.052)	(0.052)
Never Married	−0.421***	−0.182***
	(0.030)	(0.029)
Separated	−0.293***	−0.104***
	(0.031)	(0.030)
FinLit score 2: Female	−0.274***	−0.262***
	(0.065)	(0.065)
FinLit score 3: Female	−0.335***	−0.268***
	(0.063)	(0.062)
Observations	42,062	42,062
Pseudo R^2	0.024	0.014

Table A.15: **Research effort across gender and financial literacy.** Uses the subsample of workers with recorded wage incomes in waves 2016-2022. Research effort is denoted with 1-3, depending on the time reported spent in searching. FinLit score is discrete with values 1-3, and the model is ordered logistic regression. Controls include year fixed effects, wage income, education, and age. *p<0.1; **p<0.05; ***p<0.01.

Financial Advisors. We next examine whether reliance on professional financial advice mitigates gender differences in portfolio allocation. If advisors substitute for lower financial literacy or confidence, resorting to advisors should attenuate gender gaps in risky asset holdings. Table A.16 shows that women are more likely than men to consult financial advisors when making investment decisions. Moreover, financially literate women are particularly likely to seek advice, indicating that advisor use complements rather than substitutes for financial capability. Despite this greater reliance on external advice, women continue to hold lower equity shares. These patterns suggest that differential access to professional advice does not explain the gender gap in portfolio risk-taking. Instead, they are consistent with a mechanism in which differences arise from how financial knowledge is translated into perceived returns and portfolio choices.

Revolving Debt. Table A.17 examines whether financial literacy is associated with differential credit card borrowing costs across genders. Women face modestly higher interest rates on average, but this gap narrows with financial literacy: the interaction terms indicate that high-literacy women face significantly lower rates, closer to those of men. We find no evidence that financially literate women face tighter credit conditions. These results suggest that differential borrowing costs are unlikely to be the channel through which financial literacy gaps translate into gender differences in saving and portfolio allocation.

	Turning to financial advisor when...	
	borrowing	investing
Female	−0.049***	0.053***
	(0.009)	(0.010)
FinLit score 2	−0.034***	−0.011
	(0.008)	(0.009)
FinLit score 3	−0.046***	−0.017
	(0.008)	(0.009)
Never Married	−0.053***	−0.070***
	(0.005)	(0.006)
Separated	−0.041***	−0.070***
	(0.005)	(0.006)
Female: FinLit score 2	0.034***	−0.002
	(0.011)	(0.012)
Female:FinLit score 3	0.070***	0.038***
	(0.010)	(0.012)
Constant	0.147***	0.154***
	(0.026)	(0.031)
Observations	42,062	42,062
Pseudo R^2	0.019	0.040

Table A.16: **Financial advisor uptake across gender and FinLit score.** Uses the SCF subsample of workers with reported wage income and survey weights. Advisor take-up is coded as an indicator, and FinLit and marital status are category variables with "1" and "Married" as references. Controls include age, income, education, and year fixed effects. *p<0.1; **p<0.05; ***p<0.01

	Credit card interest rate
Age	−0.027***
	(0.003)
Female	0.471**
	(0.184)
FinLit score 2	−0.422**
	(0.170)
FinLit score 3	0.528***
	(0.162)
Female × FinLit score 2	−0.018
	(0.221)
Female × FinLit score 3	−0.349*
	(0.211)
log(wage income)	−0.155***
	(0.047)
$\log(1 + \text{max debt})$	−0.120***
	(0.013)
Never Married	−0.410***
	(0.100)
Separated	0.496***
	(0.104)
Observations	31,854
Adjusted R^2	0.025

Table A.17: **Credit card interest rates by gender and financial literacy.** Weighted OLS using SCF respondents with credit card debt and wage income. All specifications control for age, education, marital status, log wage income, mortgage debt, credit-limit status, credit behavior indicators, log outstanding debt, and year fixed effects. Reference categories: male and lowest financial literacy group. Survey weights used. $^{*}p < 0.1$; $^{**}p < 0.05$; $^{***}p < 0.01$.

A.3.4 Checking and Savings Accounts

Building on the individual-level asset data described above, we examine how liquid account balances are distributed between spouses within couples. Table A.18 shows that, conditional on controls, women hold approximately 43% of household checking and 80% of savings balances. These shares decline with household income (Columns 1–2) but increase with women's relative wages (Columns 3–4), indicating that within-household allocation of liquid assets responds to each spouse's income contribution. While women earn less than half of household income on average, they manage a disproportionate share of the household's short-term liquidity.

These patterns reinforce the evidence on gendered financial specialization documented in Section 2.3 and are consistent with the liquidity ratios reported in Table B.33: co-living women allocate a larger share of their income to liquid accounts than co-living men (19.3% vs. 15.2%), a gap that largely disappears among separated and never-married individuals. The fact that this gap is largely absent among separated and never-married individuals suggests that the higher female liquidity share among couples reflects household financial organization rather than a gender-specific preference for liquid assets.

	Share of own accounts in household (HH)'s accounts			
	checking	saving	checking	saving
Female	0.425***	0.798***	0.160***	0.219***
	(0.063)	(0.074)	(0.008)	(0.009)
log(HH income)	−0.026***	−0.009**		
	(0.004)	(0.004)		
log(wage/HH income)			0.007	−0.067***
			(0.006)	(0.007)
Female × log(HH income)	−0.032***	−0.059***		
	(0.005)	(0.006)		
Female × log(wage/HH income)			0.076***	0.138***
			(0.009)	(0.010)
Observations	30,777	18,397	21,782	13,270
Adjusted R^2	0.068	0.059	0.078	0.079

Table A.18: **Share of own accounts in all household's checking and savings accounts.** The table uses SCF couples with respondents aged 30-65 and positive household income, restricted to respondents that also report their own wage income in Columns (3)-(4). Personal shares in checking and savings accounts are calculated as the individual's own amount divided by the overall household's one, respectively. Estimates account for survey weights and control for year fixed effects, education, financial literacy, individual's age, and the age gap between spouses. *p<0.1; **p<0.05; ***p<0.01.

A.3.5 Analysis on Singles

Since the SCF is organized at the household level, it does not allow us to observe the allocation of all assets across household members. We thus turn to never-married individuals to examine whether the association between financial literacy and wealth holdings is robust when a broader set of individual assets is considered. Table A.19 summarizes the asset classification used in this exercise, which expands coverage beyond retirement, checking, and savings accounts.

Two patterns emerge. First, the gender wealth gap among single workers remains sizable when this broader asset definition is applied. Expanding the asset measure does not attenuate the gap; if anything, it reinforces the magnitude of disparities documented in the main text in Table 2. Second, financial literacy remains strongly associated with women's equity participation. Table A.21 shows that women are less likely to hold equity on average, but the interaction terms indicate that financial literacy narrows this gap on the extensive margin. On the intensive margin, literacy is also associated with larger safe and risky holdings relative to income.

Taken together, the persistence of the participation effect and the stronger intensive-margin correlations in this individual setting support our interpretation that financial literacy plays a direct role in shaping women's portfolio decisions, consistent with the mechanism emphasized in the model.

Risky asset	**Safe Assets**
savings account share in stocks	savings accounts share outside of stocks
total stock in trusts	total bond in trusts
corporate, mortgage-backed and foreign bond	government, tax-free and savings bonds
company and foreign stock value	-
stock, combination, and other funds	-
IRA/Keogh share in stocks	IRA/Keogh share in bonds
pensions share in stocks	pensions share in bonds
-	checking accounts

Table A.19: **Asset breakdown among singles in the SCF data.** Assets are grouped into 'Equity' and 'Safe Assets' for the analysis. While some items in the 'Equity' category—such as corporate and mortgage-backed bonds—are technically bonds, they are included here due to their higher perceived risk and return volatility. This classification aligns with how equity is defined in the empirical analysis.

Equity Participation Gap	**Safe Participation Gap**	**Equity Gap**	**Safe Assets Gap**	**Total Asset Gap**
15.60%	3.61%	55.60%	29.70%	44.90%

Table A.20: **Gender gaps in asset participation and holdings among single workers.** Uses the SCF subsample of never-married workers employed in waves 2016–2022 ($N = 7{,}160$). Asset decomposition follows Table A.19: equity includes direct and indirect stock holdings and the share of retirement accounts invested in stocks; safe assets comprise the remaining financial assets. Gaps are computed relative to men.

	has equity	has safe	$\log\left(\frac{\text{equity}}{\text{wage income}}\right)$	$\log\left(\frac{\text{safe assets}}{\text{wage income}}\right)$	$\left(\frac{\text{safe assets}}{\text{safe assets + equity}}\right)$
Female	-0.070^{***}	0.036^{***}	-0.482^{**}	-0.441^{***}	0.041^{***}
	(0.019)	(0.009)	(0.225)	(0.087)	(0.014)
FinLit score 2	0.004	0.056^{***}	-0.622^{***}	0.133	-0.002
	(0.019)	(0.009)	(0.202)	(0.084)	(0.013)
FinLit score 3	0.133^{***}	0.041^{***}	-0.152	0.657^{***}	-0.058^{***}
	(0.019)	(0.009)	(0.187)	(0.083)	(0.013)
Female: FinLit score 2	0.081^{***}	-0.026^{**}	0.239	0.093	-0.043^{**}
	(0.024)	(0.012)	(0.269)	(0.110)	(0.017)
Female: FinLit score 3	0.046^{*}	-0.004	0.334	0.118	-0.031^{*}
	(0.025)	(0.012)	(0.252)	(0.112)	(0.018)
Constant	0.213^{***}	0.870^{***}	-1.789^{***}	-2.125^{***}	0.881^{***}
	(0.024)	(0.012)	(0.210)	(0.089)	(0.017)
Observations	7,610	7,610	2,312	8,176	6,861
Adjusted R^2	0.198	0.065	0.170	0.133	0.113

Table A.21: **Individual wealth, intensive and extensive margins among single workers.** Uses the SCF sample of never-married individuals with reported wage income and survey weights. 'Has safe' indicates individuals with positive assets in checking and savings accounts, certificates of deposit, tax-free, government, savings, other bonds, and all retirement accounts. 'Has equity' is coded as 1 for individuals with positive assets in stock shares in trusts and funds, foreign and domestic stocks, combination funds, corporate or mortgage-backed bonds and all retirement accounts. In Columns (3)-(4), the dependent variable denotes asset holdings in these accounts, adjusted by wage income. Controls include year fixed effects, age, and education. *p<0.1; **p<0.05; ***p<0.01

A.4 The Dutch Household Survey

A.4.1 Institutional and Cultural Background

In the U.S., the SCF provides detailed information on household wealth, with some scope to approximate individual ownership through retirement accounts and personally held checking and savings accounts – our focus in the main text. Yet, most other assets are reported at the household level, which limits any direct inference on intra-household specialization. Marital property regimes also vary across states, with some following community property rules and others separate property arrangements, but comprehensive national data on marital property remain scarce. Data from the DHS provides more comprehensive and specific evidence on both. Before turning to the Dutch evidence, we briefly outline important institutional and cultural characteristics of the U.S. and the Netherlands that are relevant for interpreting our analysis.

In the Netherlands, the DHS attributes both safe and risky accounts explicitly to individual household members, providing a clearer view of within-couple financial roles. Until 2018, Dutch marital property law mandated full community of property, under which most assets were jointly owned, after which a limited community of property regime was introduced. Culturally, although the Netherlands ranks high on egalitarian attitudes (OECD, 2019), households often display a gendered division of financial responsibilities: women are more engaged in managing liquidity and routine payments, while men are more often responsible for long-term investments and riskier assets (Fred van Raaij et al., 2020; van der Cruijsen et al., 2025).

Educational and labor market patterns in the Netherlands provide further context to interpret household financial roles. Women have recently outnumbered men in higher education; in the 2021/22 academic year, 54% of university enrollments were female, and among the working-age population (ages 25–34), 54% of women have higher education.[18] Labor market participation, however, differs sharply. In the Netherlands, nearly two-thirds of employed women work part-time, reflecting institutional and cultural work–care arrangements (OECD, 2019). In the U.S., women are less likely to work part-time, but participation still lags behind men's (OECD report available here). Cross-national analyses indicate that higher education narrows gender gaps in participation and time use, yet wage inequality persists in both countries, in some cases widening among the highly-educated due to weaker returns for women (Evertsson et al., 2009).

Taken together, we believe that these institutional and cultural differences make the DHS a potentially interesting complement to our US-based analysis. The DH survey provides detailed individual-level attribution of safe and risky assets within couples, allowing us to observe intra-household financial roles directly, in a setting with different marital property rules and

[18] Statistics Netherlands' reports are available here and here. U.S. education statistics are available here and here.

labor market institutions. The fact that we recover similar patterns in this distinct environment indicates that the observed gender gaps in financial literacy, portfolio allocation, and wealth accumulation are unlikely to be driven by US-specific institutions or variable-measurement.

A.4.2 Sample Construction

The DHS spans the years 2005–2023 and includes more than 36,000 individuals. It provides information on asset holdings, account ownership, individual characteristics, and life-cycle events such as marriage, divorce, and widowhood. A dedicated financial literacy module was fielded in four waves (2005, 2008, 2010, and 2015), covering 7,424 respondents (3,961 men and 3,463 women). The module includes three measures related to financial knowledge and beliefs:

1. **Financial literacy score**, based on responses to the "Big Three" questions.
2. **Performance-based confidence**, measured by asking respondents how many of the literacy questions they believe they answered correctly.
3. **Self-assessed financial knowledge**, reported on a seven-point scale and broadly comparable to the SCF measure.[19]

Although the DHS is primarily cross-sectional, a subset of individuals and couples are observed in multiple waves. We use them to construct a synthetic life-cycle panel by aligning respondents by age at first observation and following them for up to ten years. This approach allows us to approximate life-cycle dynamics and examine within-couple and gender differences in financial literacy and related outcomes, even in the absence of a long individual panel.

We first document gender differences in financial knowledge using the financial literacy module. We then use the full DHS sample to examine gender gaps in asset holdings and portfolio composition. Finally, we jointly analyze financial literacy and individual asset ownership within couples and relate these patterns to the SCF evidence presented in the main text.

Consistent with U.S. findings, Table A.22 documents substantial gender gaps across objective financial literacy and both subjective measures of confidence, which persist across marital statuses and are precisely estimated. Table A.23 shows that literacy and confidence are positively associated with age, education, employment in finance-related occupations, and engagement with financial news, consistent with financial knowledge accumulating with exposure and experience. Figure A.4 further illustrates that confidence increases monotonically with financial

[19] In the main U.S. analysis based on the SCF, confidence is measured using respondents' self-assessed knowledge of personal finance. In the Dutch data, we observe both performance-based confidence (beliefs about answers to the financial literacy questions) and a broader self-assessed knowledge measure. In what follows, we use these as alternative measures of financial confidence and distinguish them explicitly when necessary.

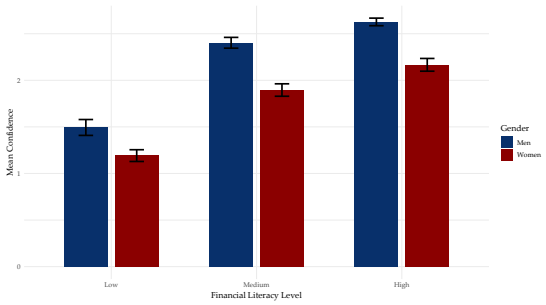
		FinLit Score	Subjective Fin. Knowledge	Financial Confidence
Co-Living/Married	Male	2.49 [2.45, 2.53]	2.25 [2.21, 2.30]	2.31 [2.26, 2.35]
	Female	2.11 [2.06, 2.16]	1.91 [1.85, 1.96]	1.71 [1.65, 1.76]
Never Married	Male	2.40 [2.32, 2.48]	1.95 [1.86, 2.04]	2.13 [2.03, 2.23]
	Female	2.02 [1.91, 2.13]	1.90 [1.79, 2.00]	1.53 [1.42, 1.64]
Sep / Div / Wid	Male	2.30 [2.13, 2.47]	2.07 [1.89, 2.25]	2.27 [2.07, 2.47]
	Female	1.84 [1.71, 1.98]	1.86 [1.74, 1.98]	1.46 [1.31, 1.60]

Table A.22: **Financial literacy, subjective financial knowledge, and confidence.** This table reports FinLit measures by gender and marital status for working-age population (25-64), together with 95% confidence intervals. Financial literacy and confidence range from 0–3 (number of correct answers to three standard questions and beliefs). Subjective financial knowledge is represented on a 1–4 scale, based on sample quartiles. Observations are weighted by survey weights.

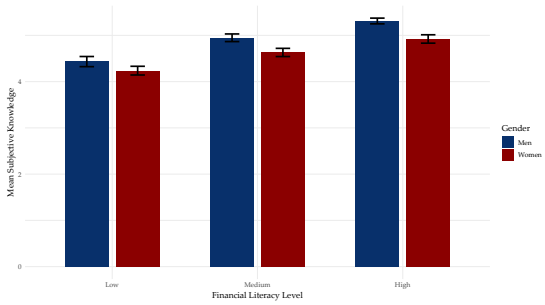
literacy, but the relationship is far from one-to-one: individuals with similar literacy levels display meaningful dispersion in confidence. This imperfect mapping supports treating literacy and confidence as distinct dimensions rather than interchangeable proxies. Finally, Figure A.5 shows that the gender gap in both measures remains large and stable over the life-cycle.

	FinLit Score	Confidence	Subjective Financial Knowledge
Female	−0.085***	−0.139***	0.003
	(0.014)	(0.016)	(0.012)
Age	0.001*	0.003***	−0.001
	(0.001)	(0.001)	(0.000)
Bachelor	0.050***	0.052***	0.013
	(0.016)	(0.017)	(0.013)
Postgrad	0.180***	0.198***	−0.003
	(0.018)	(0.021)	(0.016)
Log Personal Gross Income	0.005*	0.006	0.006**
	(0.003)	(0.004)	(0.003)
Partnered	0.062***	0.043***	0.004
	(0.015)	(0.016)	(0.011)
Occupation in Finance	0.107***	0.101***	0.099***
	(0.019)	(0.029)	(0.019)
Self-employed	0.017	−0.009	0.013
	(0.027)	(0.032)	(0.018)
Follows Financial News	0.226***	0.286***	0.315***
	(0.026)	(0.028)	(0.022)
Constant	0.505***	0.329***	0.471***
	(0.043)	(0.052)	(0.035)
Observations	2,406	2,406	2,406
R^2	0.173	0.212	0.166

Table A.23: **Determinants of financial knowledge in the Netherlands.** All dependent variables are rescaled to range from 0 to 1. Regressors are specified as dummy variables, with the exception of log personal gross income and following financial news. All estimates are weighted using survey weights applied. *p<0.1; **p<0.05; ***p<0.01.

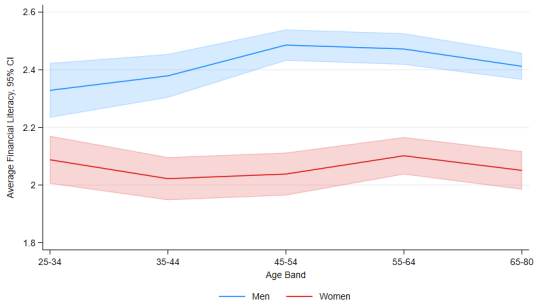


Confidence across FinLit levels. N=5,364.

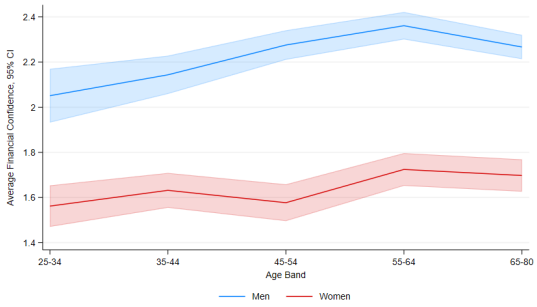


Subjective knowledge across FinLit levels. N=6,747.

Figure A.4: **Financial Literacy is Positively Associated with Confidence.** Both panels use the financial literacy module of DHS, apply survey weights, and display 95% confidence intervals for average confidence and subjective knowledge. Sample sizes differ across panels due to variation in question availability across survey waves.



(a) **Financial Literacy Score.** N=7,037.



(b) **Confidence.** N=5,545.

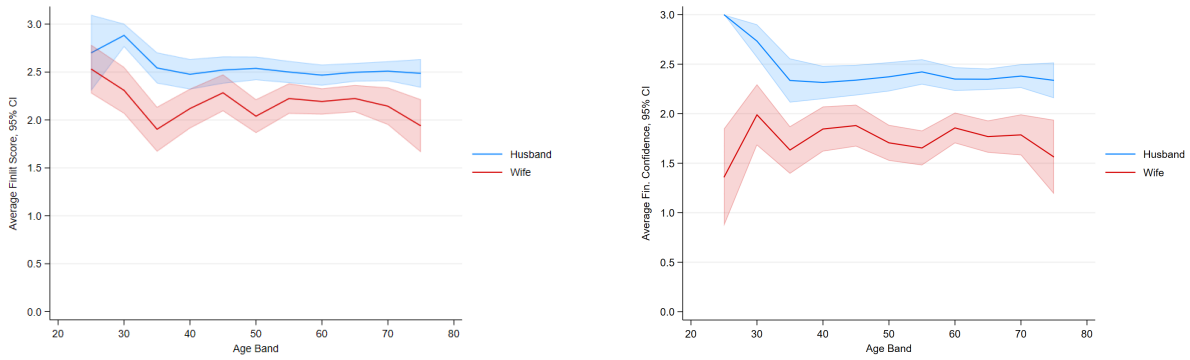
Figure A.5: **Financial Literacy and Confidence Across Age Bins.** Estimates are based on the financial literacy module of the DHS. Shaded areas show 95% confidence intervals computed with household survey weights. Sample sizes differ across panels due to variation in question availability across survey waves.

A.4.3 Financial Literacy and Confidence Within Couples

The DHS contains short panel components, as a subset of individuals and couples is observed in multiple waves. We exploit this feature to construct a synthetic life-cycle panel and examine how gender gaps in financial literacy and confidence evolve within couples over time. Educational attainment has converged across genders in the Netherlands, and gender earnings gaps have gradually narrowed.[20] Yet the within-couple gap in financial literacy remains persistent and economically meaningful, suggesting that differences in financial knowledge are not mechanically driven by education or earnings gaps. Figure A.6 plots the within-couple gender

[20]Statistics Netherlands reports on earnings and education are available at CBS (earnings) and CBS (education).

gaps in objective financial literacy and confidence using the synthetic panel. We link individuals observed in multiple waves (typically 8–10 years), assign an entry year, and group ages into five-year bins; the panel includes 2,289 observations and restricts individuals to at most ten years of follow-up. In both measures, men consistently score higher than their female partners, and the gaps remain stable over time, with little evidence of convergence within couples.



(a) Financial literacy gap

(b) Confidence gap

Figure A.6: **Financial literacy and confidence gaps among spouses across the life cycle.** Confidence measure is based on perceived performance in answering the Big Three financial literacy questions. Both panels use the synthetic life-cycle panel of couples, restricting to individuals observed for at most ten years. Shaded areas represent 95% confidence intervals, and observations are weighted by survey weights. $N = 2,289$.

A.4.4 Asset Holdings in the Dutch Data

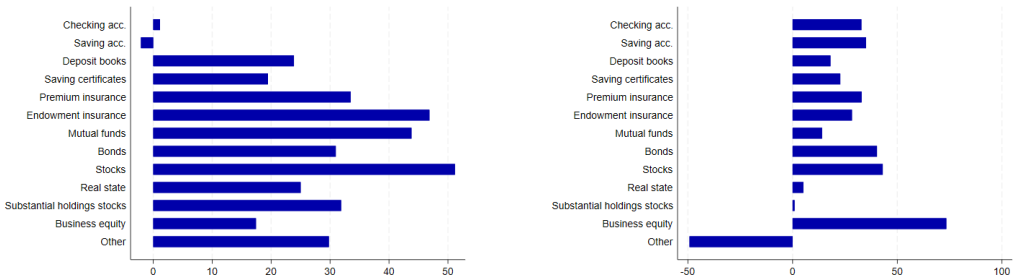
Risky Assets	Safe Assets
Investment real estate	Checking accounts
Growth and mutual funds	Savings accounts
Bonds and mortgage bonds	Deposit books
Stocks and shares	Savings certificates
Other personal investments	Annuity and endowment insurance policies
Substantial shareholdings	–
Private business equity (professions and self-employed)	–

Table A.24: **Classification of risky and safe assets in the DHS data.** The data exclude investments in durable goods such as vehicles and boats. All monetary values are deflated to 2015 euros using the Consumer Price Index from Statistics Netherlands (CBS). CPI data are available here.

The Dutch Household Survey (DHS) provides granular information on non-retirement asset holdings, including for both spouses within a couple. Unlike the SCF, where most non-retirement assets are reported at the household level, the DHS allows us to attribute risky and

safe assets directly to each partner. For each asset category, reported amounts are attributed to the specific household member in whose record they appear, allowing us to observe portfolio composition separately for each spouse within a couple. Legal ownership may be joint – particularly under community property regimes – but the survey structure enables us to study the de-facto allocation of asset holdings within households. Note that the DHS also contains complete marital histories, including marriage, divorce, and widowhood, allowing to examine how gender gaps in asset ownership evolve over the life-cycle and through relationship transitions[21].

We start by classifying assets into risky and safe categories (Table A.24),[22] and Figure A.7 summarizes the gender gap across both participation and intensive margins for the asset categories listed in Table A.24. Consistent with the U.S. evidence, we document systematic gender gaps in asset holdings, particularly in the extensive and intensive risky-asset margins.



Participation gap. **Intensive margin.**

Figure A.7: **Gender differences in asset holdings by asset type.** The left panel shows gaps in participation, measured as the percentage-point difference between men and women who own a given asset, expressed relative to men's ownership rate. The right panel shows gaps at the intensive margin, measured as the percentage difference in average holdings between men and women relative to men's holdings, conditional on owning the asset. Estimates are based on the subsample of working-age respondents (ages 25–64) across waves 2005–2023 ($N = 16,934$). Observations are weighted using sample weights.)

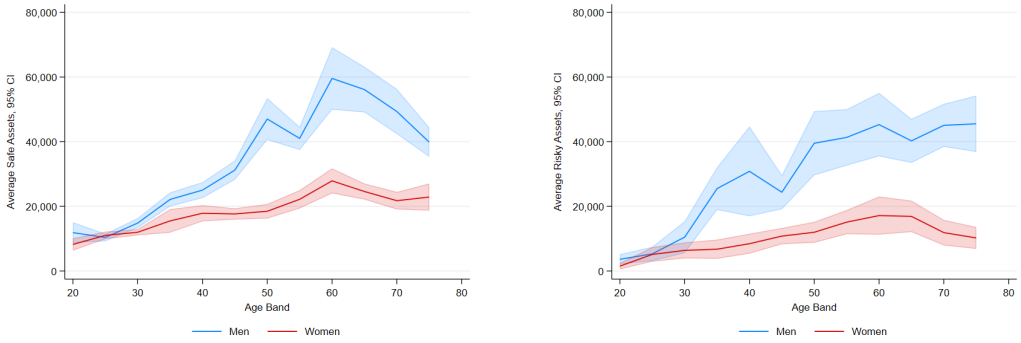
Despite institutional differences between the two surveys, the DHS closely replicates the wealth gap patterns observed in the SCF (Table A.25 vs. Table 2). In both datasets, women are less likely to participate in equity markets and, conditional on participation, hold smaller amounts of equity than men, across all marital statuses. The life-cycle evidence reinforces these cross-sectional findings. Figures A.8 and A.9 show that holdings of both safe and risky assets increase with age for men and women. However, women consistently hold lower amounts of both risky and safe assets, and are also less likely to participate in equity markets at all ages.

[21] Due to the tiny number of divorcees and widows in our short panel we were not able to conduct event studies.

[22] Negative values are observed for approximately 5% of asset observations, primarily reflecting overdrafts in certain sub-categories (e.g., checking accounts). These negative values are excluded from the analysis.

Status	Equity Participation Gap	Safe Participation Gap	Equity Gap	Safe Assets Gap
Co-Living	46.6%	0.47%	53%	41.17%
Separated	45.7%	-4.48%	72.3%	28.9%
Never Married	56.8%	2.17%	69.9%	39.8%
Average (Men)	28.1%	90.1%	21,299	34,195

Table A.25: **Wealth disparities by gender: participation and asset gaps across marital status.** Gender gaps are defined relative to men's averages: participation gaps are percentage-point differences in ownership rates, and asset-holding gaps are percentage differences in average holdings (including individuals with zero holdings). Assets are classified into safe and equity categories as shown in Table A.24. Estimates are based on the subsample of working-age respondents (ages 25–64) across waves 2005–2023, $N = 17,015$. All observations are weighted using sample weights.

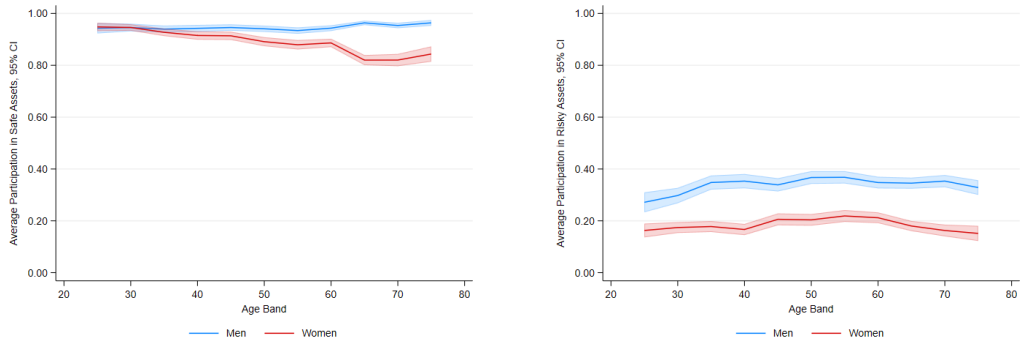


Safe assets. Risky assets.

Figure A.8: **Gender Differences in Safe and Risky Assets.** Estimates are based on a synthetic panel constructed from overlapping age-entry cohorts, using 20-80 year old respondents observed for up to ten consecutive years in the survey. Shaded areas represent 95% confidence intervals. The x-axis corresponds to age at observation, N=26,454. All observations are weighted using sample weights.

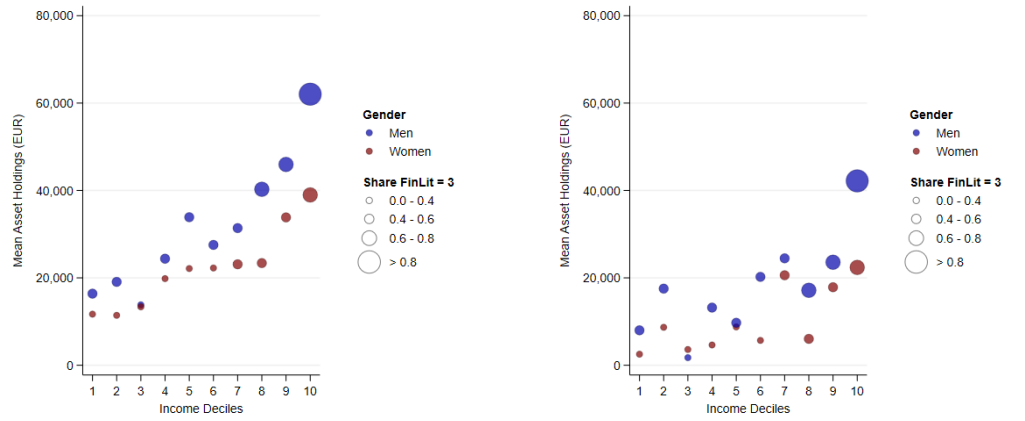
Financial Literacy, Confidence and Asset Holdings We next relate financial literacy and confidence to observed differences in asset holdings. Figures A.10 and A.11 plot average safe and risky asset holdings by deciles of gross personal income and gender in the DHS. Across the income distribution, men hold more of both asset types, with the gap widening at higher income levels, particularly for risky assets. Bubble size reflects the share of respondents within each gender–income cell reporting the highest level of objective financial literacy (Figure A.10) or subjective financial knowledge (Figure A.11). Among both men and women, higher literacy and confidence are associated with greater risky asset holdings, consistent with a positive link between financial knowledge and risk-taking. However, even in the highest literacy and confidence cells, women's risky asset holdings remain substantially below those of men.

These patterns are consistent with the SCF evidencepresented in Figure A.3 in Appendix A.3, displaying a similar gradient between literacy and risky asset holdings across the income



Safe assets. Risky assets.

Figure A.9: **Gender Differences in Participation in Safe and Risky Assets.** Estimates are based on a synthetic panel constructed from overlapping age-entry cohorts, using 25-80 year old respondents observed for up to ten consecutive years in the survey. Shaded areas represent 95% confidence intervals. The x-axis corresponds to age at observation. All observations are weighted using sample weights. N = 27,484.

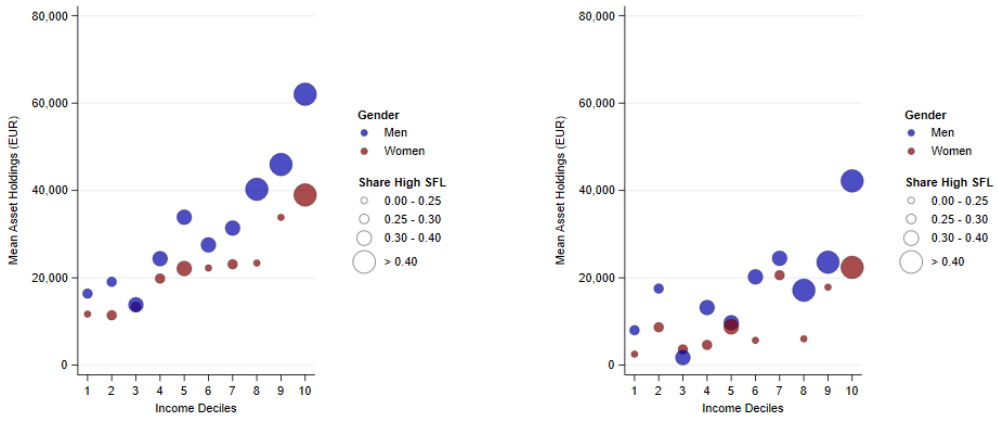


Safe Assets. Risky Assets.

Figure A.10: **Income, Financial Literacy and Investment Strategies across Gender.** Subsample excluding the self-employed. Bubble size indicates the share of respondents in each gender–income cell with the highest financial literacy score. N = 4,792; uses survey weights.

distribution. In both datasets, literacy and confidence correlate with equity participation, yet substantial gender gaps in portfolio composition persist, particularly along the risk margin.

Asset Holdings Within Couples We next use the subsample of couples in the DHS to further examine the allocation of asset holdings within households. Recall that asset amounts are recorded at the individual level in the DHS and attributed to the respondent in whose sur-



Safe Assets. Risky Assets.

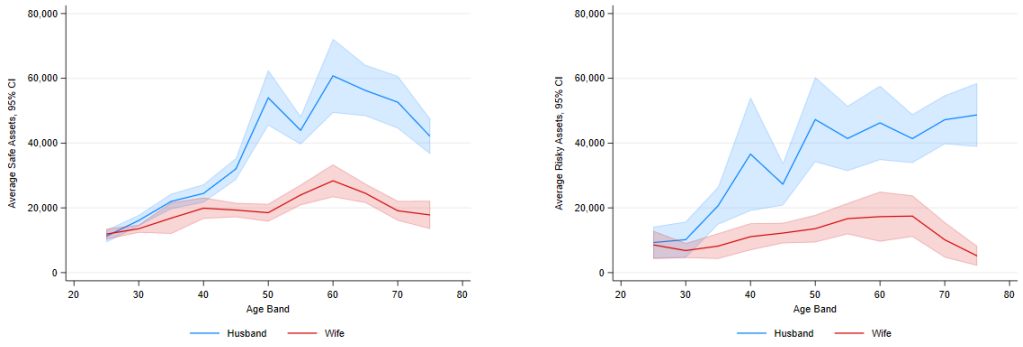
Figure A.11: **Income, Subjective Fin. Knowledge and Investment Strategies across Gender.** Subsample excluding the self-employed. Bubble size reflects the share reporting high financial confidence (subjective knowledge in the top category). N = 4,792; survey weights applied.

vey record they appear. The data reveal a persistent intra-household wealth gap. Only 43% of women in couples hold any risky assets, compared to substantially higher participation rates among men. Participation in safe assets is instead more widespread, as 79% of women hold at least one safe account, but conditional holdings remain unequal. On average, women account for 28 percent of total risky assets and 40 percent of total safe assets within the couple (Table A.26).

Variable	Mean	SD	Min	Max
Share of Women with Risky Assets within Couple	0.43	0.50	0	1
Share of Risky Assets held by Women within the Couple	0.28	0.41	0	1
Share of Women with Safe Assets within Couple	0.79	0.41	0	1
Share of Safe Assets held by Women within the Couple	0.40	0.37	0	1

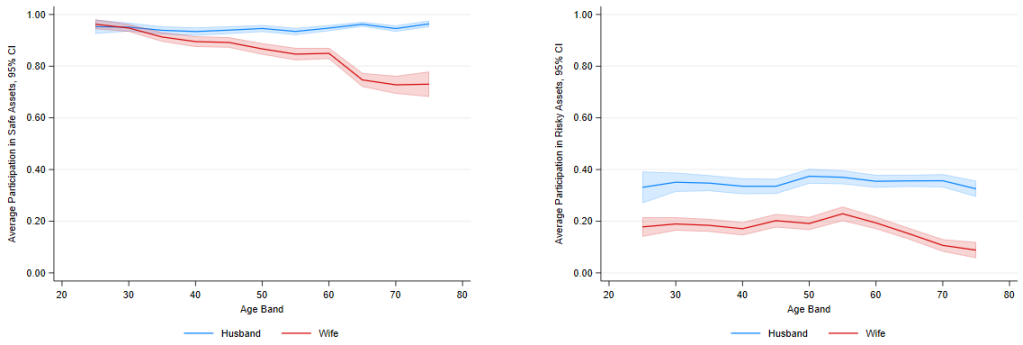
Table A.26: **Asset Ownership Within Couples.** Rows 1 and 3 report the share of couples in which the woman holds any risky (safe) assets. Rows 2 and 4 report the woman's share of total risky (safe) assets within the couple. $N = 6{,}168$ spouses. The first and third variables are indicators; the second and fourth are asset shares in $[0, 1]$.

Figures A.12 and A.13 show that these disparities persist over the life-cycle, as women hold smaller amounts of risky assets and are less likely to participate in equity markets at all ages. Differences in safe assets holdings are also present. Intra-household differences in exposure to risky assets reflect participation and intensive-margin gender gaps that are of similar pattern and magnitude to those estimated in the broader sample of all households (Figures A.8 and A.9).



Safe Assets, N=19,593. Risky Assets, N=19,613.

Figure A.12: **Life-Cycle Asset Holdings Within Couples.** Safe and risky asset levels by gender using a synthetic life-cycle panel of coupled respondents aged 25–80. Shaded areas denote 95% confidence intervals. Survey weights applied.



Safe Assets, N=20,269. Risky Assets, N=20,269.

Figure A.13: **Life-Cycle Asset Participation Within Couples.** Participation rates in safe and risky assets by gender among coupled respondents aged 25–80. Shaded areas denote 95% confidence intervals. Survey weights applied.

Marital Property Regimes In 2018, the Netherlands reformed its marital property law, replacing the default regime of universal community property with a limited community regime. Under the new system, premarital wealth, gifts, and inheritances remain individually held, while assets accumulated during marriage are jointly owned. Roughly 10% of married households in our sample fall under the limited community regime. Figures A.14 and A.15 show that the limited-community regime registers smaller financial confidence and literacy gender gaps. Yet, the magnitude of the wealth gaps is similar across systems, indicating that differences in legal ownership structures do not just eliminate disparities in portfolio allocation within couples.

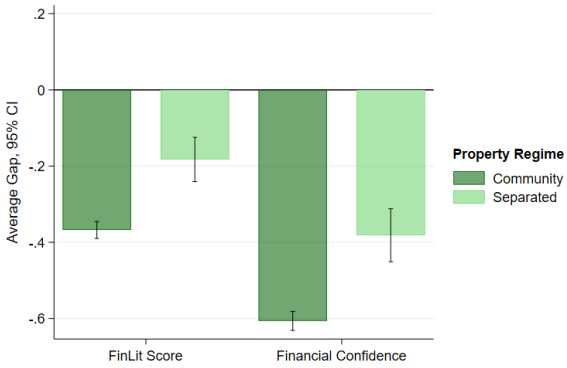
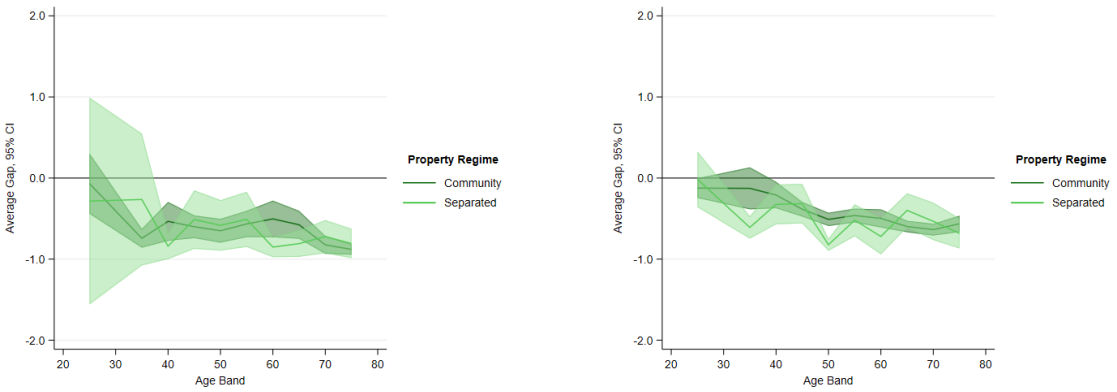


Figure A.14: Financial Knowledge Gap by Marital Property Regime. Uses the subsample of married individuals aged 25–80, with reported financial literacy (N=3,864) and confidence (N=3,173). Gender gap is defined as the difference between women's and men's average financial literacy (or confidence) scores. Confidence intervals computed using standard errors of group mean differences. All observations are weighted using sample weights.



Risky Assets, 95% CI. N=4,361

Safe Assets, 95% CI. N=12,759

Figure A.15: **Relative Wealth Gap Among Spouses Across Marital Regimes.** Uses the subsample of married couples aged 25–80. Gaps are defined as (wives' holdings – husbands' holdings) / husbands' holdings. Confidence intervals use delta method standard errors. All observations are weighted using sample weights.

B Calibration and Parametrization

This section describes the calibration of the model. Parameters are divided into externally calibrated objects, which are directly disciplined by data moments, and internally calibrated parameters, which are jointly determined using the method of simulated moments (MSM). Unless otherwise stated, all empirical moments are computed using SCF survey weights.

B.1 External Parameters

Table 3 summarizes the externally calibrated parameters. These include marital transition probabilities, assortative matching patterns, initial conditions, income processes, and liquidity requirements. All such parameters are directly mapped to empirical counterparts in the SCF.

The model is initialized using SCF data on:

- education shares,
- initial financial wealth,
- initial financial literacy.

Initial Conditions Initial wealth distributions are estimated from the SCF for single individuals aged 25–27 with reported wages. Table B.27 summarizes mean and log-normalized moments of wealth by gender and education. Standard deviations of log wealth are adjusted to match the empirical 90th percentile. For comparison, analogous SIPP wealth data (total financial assets plus retirement accounts for households under age 35) show a slight overstatement in SCF averages by roughly \$1,000–\$4,000.[23]

Group	Mean Wealth	Mean (log)	SD (log)	90th Pctl	Subsample Share
Female, College	18,166	8.142	1.815	35,156	0.289
Female, Non-College	2,130	6.378	1.579	4,453	0.210
Male, College	66,701	9.009	1.969	102,000	0.240
Male, Non-College	5,663	7.756	1.461	15,200	0.261
Female (all)	11,405	7.398	1.914	18,992	0.499
Male (all)	34,956	8.358	1.502	29,200	0.501

Table B.27: Wealth statistics by gender and education for singles aged 25–27 (SCF). Sample restricted to individuals with self-reported wages, $N = 925$.

[23] SIPP wealth tables available at https://www.census.gov/topics/income-poverty/wealth/data/tables.html.

The initial financial literacy (FinLit) gap is estimated using respondents aged 25–30 in the SCF. Financial literacy is measured as the standardized FinLit score (divided by three). Table B.28 reports mean values by gender and education level.

	All (Mean FinLit)	Non-College	College
Male	0.750	0.664	0.829
Female	0.643	0.605	0.709

Table B.28: Here I would add column with scaled down averages or replace.Initial financial literacy in the SCF. Sample restricted to ages 25–30 with reported wages, weighted by survey weights.

	All (Mean FinLit)	Non-College	College
Male	0.733	0.676	0.861
Female	0.633	0.606	0.691

Table B.29: Initial financial literacy in the SCF. **Sample restricted to ages 20–25** with reported wages, weighted by survey weights.

Marital Transitions and Assortative Matching Age-specific marital status shares are computed from the SCF in five-year age bins and separately by education (Table B.30). Let μ_t^e denote the annual probability that a single individual of education e marries at age t, and let d_t^e denote the probability that a married individual separates.

Annual transition probabilities are inferred from year-to-year changes in cross-sectional marital shares across adjacent age bins. For each education group, the sequences $\{\mu_t^e\}_t$ and $\{d_t^e\}_t$ are chosen so that the model reproduces the observed evolution of marital status shares with age. Check

Educational assortative matching is calibrated using the joint distribution of spouses' education among co-living couples in the SCF (Table B.31). Let $\Pi(e_j \mid e_i)$ denote the probability that an individual with education e_i marries a partner with education e_j. These conditional probabilities are computed from survey-weighted shares and normalized so that $\sum_{e_j} \Pi(e_j \mid e_i) = 1$ for each e_i. The matching matrix is assumed age-invariant.

Educational assortative matching is calibrated using the joint distribution of spouses' education in the SCF (Table B.31). Let $\Pi(e_j \mid e_i)$ denote the probability that an agent with education e_i marries a partner with education e_j. These conditional probabilities are computed from weighted shares of co-living couples and normalized so that, for each e_i, $\sum_{e_j} \Pi(e_j \mid e_i) = 1$. The matching matrix is held constant across ages.

	Non-College		College	
Age Group	Married	Separated	Married	Separated
25–30	0.59	0.06	0.54	0.04
30–35	0.60	0.12	0.62	0.06
35–40	0.62	0.17	0.69	0.10
40–45	0.66	0.18	0.66	0.17
45–50	0.62	0.24	0.71	0.19
50–55	0.59	0.29	0.63	0.23
55–60	0.61	0.29	0.65	0.25
60–65	0.54	0.35	0.68	0.25

Table B.30: Marital status shares by education group (SCF).

Gender	**Education Combination**	**Weighted Share (%)**
Male	Non-College Respondent, Non-College Spouse	20.3
Female	Non-College Respondent, Non-College Spouse	21.9
Male	Non-College Respondent, College Spouse	4.0
Female	Non-College Respondent, College Spouse	5.6
Male	College Respondent, Non-College Spouse	10.9
Female	College Respondent, Non-College Spouse	12.1
Male	College Respondent, College Spouse	17.0
Female	College Respondent, College Spouse	8.1

Table B.31: Educational combinations of co-living couples by respondent gender (SCF).

Income Process The deterministic component of the income process depends on gender, education, and marital status, following the empirical specification in Bacher (2024) check. Income profiles are estimated from the SCF using a quadratic polynomial in age, separately for each subgroup.

Pre-tax income includes labor earnings, Social Security and pension income, and public transfers. Business income is excluded and the top 1% of the distribution is trimmed. Household-level income components are divided equally across spouses. All values are deflated to 2016 USD using CPI data and estimates are computed with SCF survey weights.

Formally, log income is specified as

$$\log y_t^{g,e,m} = \alpha^{g,e,m} + \beta^{g,e,m}\, t + \gamma^{g,e,m}\, t^2,$$

where g denotes gender, e education, and m marital status. Table B.32 reports the estimated coefficients. These deterministic profiles are taken as exogenous inputs in the model.

Coefficient	Male		Female	
	College	No College	College	No College
Co-Living				
Intercept	8.70	9.77	8.67	9.62
Age	0.116	0.0453	0.0987	0.0324
Age^2/100	-0.112	-0.0437	-0.102	-0.0266
Single				
Intercept	9.91	9.32	8.68	8.90
Age	0.0545	0.0635	0.105	0.0713
Age^2/100	-0.0565	-0.0731	-0.115	-0.0800

Table B.32: Deterministic wage–income profile coefficients (quadratic polynomial) by gender, education, and marital status. Sample includes potential homemakers; income sources limited to wages, wage compensation, Social Security income, and welfare assistance (child support/alimony excluded). Estimated separately within each subgroup with SCF weights, N=40,841.

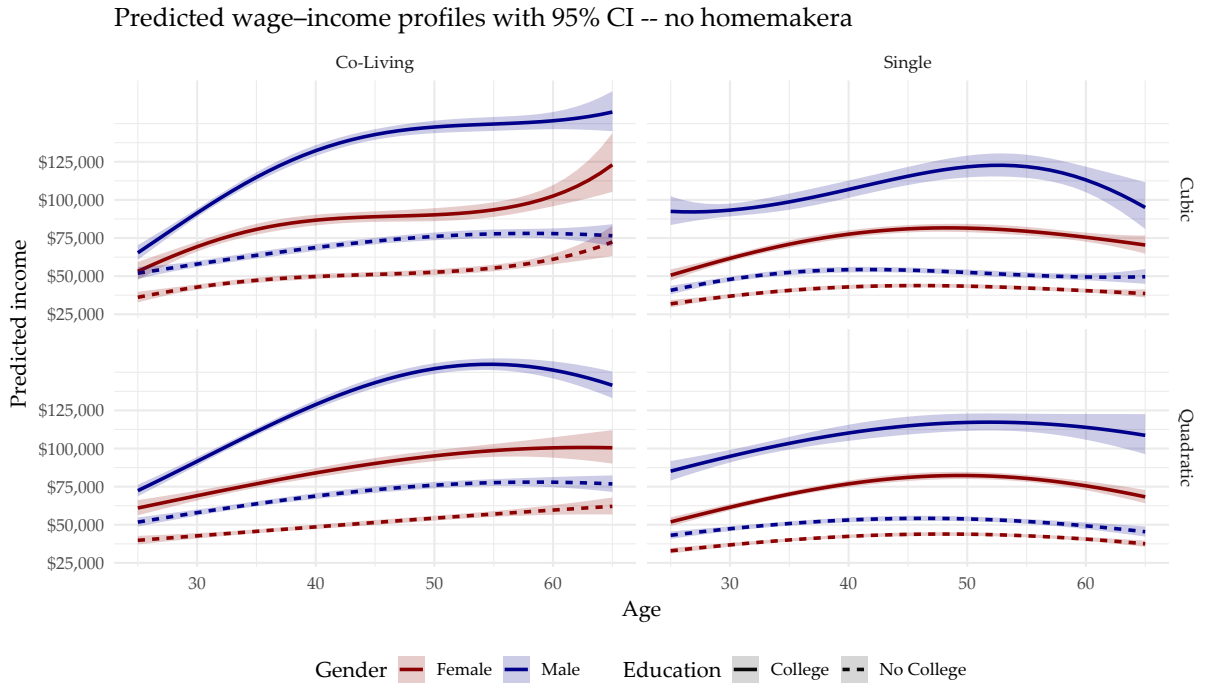


Figure B.16: **Predicted plots for coefficients used in Table B.32.**

Liquidity Requirement (Checking and Savings Accounts) The liquidity requirement parameter λ_k is disciplined using SCF survey data on individual checking and savings balances. Let Liquid$_i$ denote individual checking (or checking+savings) balances and y_i denote individual

annual income. For each individual we compute the ratios

$$\frac{\text{Liquid}_i}{y_i} \quad \text{and} \quad \frac{\text{Liquid}_i}{\text{SafeAssets}_i}.$$

We estimate survey-weighted means of these individual ratios using SCF sampling weights.

Gender	Marital Status	Liquid / Income	Liquid / Safe Assets
Male	Co-Living	0.152 (0.007)	0.569 (0.006)
Male	Separated	0.218 (0.011)	0.856 (0.008)
Male	Never Married	0.253 (0.011)	0.888 (0.005)
Female	Co-Living	0.193 (0.014)	0.640 (0.007)
Female	Separated	0.214 (0.010)	0.849 (0.005)
Female	Never Married	0.237 (0.019)	0.881 (0.005)

Table B.33: **Survey-Weighted Mean Liquid Balance Ratios (Checking+Savings).** Entries report survey-weighted means of individual ratios Liquid_i/y_i and $\text{Liquid}_i/\text{SafeAssets}_i$ computed using SCF sampling weights. Sample restricted to individuals aged 25–65 with positive income and positive safe assets; observations with income below the 1st percentile are excluded. Standard errors are reported in parentheses.

Gender	Marital Status	Liquid / Income	Liquid / Safe Assets
Male	Co-Living	0.079 (0.007)	0.379 (0.005)
Male	Separated	0.112 (0.006)	0.618 (0.010)
Male	Never Married	0.116 (0.005)	0.606 (0.008)
Female	Co-Living	0.065 (0.004)	0.422 (0.006)
Female	Separated	0.103 (0.006)	0.603 (0.007)
Female	Never Married	0.094 (0.006)	0.621 (0.007)

Table B.34: **Survey-Weighted Mean Liquid Balance Ratios (Checking Only).** Entries report survey-weighted means of individual ratios using checking balances only. Sample restricted to individuals aged 25–65 with positive income and positive safe assets. Standard errors in parentheses.

Financial Literacy and Confidence To discipline the mapping between financial literacy and perceived returns, we estimate the association between self-reported financial confidence and financial literacy in the SCF, with both variables normalized to $[0, 1]$. Table B.35 reports OLS estimates of

$$\text{Confidence}_i = \alpha + \beta\, \text{FinLit}_i + \varepsilon_i,$$

for the full adult sample and the working-age subsample (25–65).

Financial literacy is positively and precisely associated with confidence across specifications. In the working-age sample, the slope is $\beta = 0.132$ in the full sample and $\beta = 0.091$ among

women. The relationship is economically moderate ($R^2 \approx 0.03$) but stable across age groups, supporting a parsimonious linear specification.

Accordingly, we assume a linear mapping in the model,

$$\phi^g(\ell) = \theta_g \ell,$$

where θ_g captures a gender-specific wedge in how literacy translates into perceived returns. The smaller empirical slope for women motivates $\theta_f < \theta_m$. While Table B.35 disciplines the functional form and relative magnitudes, the exact value of the gender wedge is determined jointly with other parameters in the internal calibration to match gender differences in risky asset participation and portfolio allocation.

	Dependent Variable: Confidence (0–1)			
	Ages 25–80		Ages 25–65	
	(All)	(Female)	(All)	(Female)
FinLit (0–1)	0.128***	0.091***	0.132***	0.091***
	(0.003)	(0.004)	(0.004)	(0.006)
Constant	0.630***	0.654***	0.618***	0.646***
	(0.002)	(0.003)	(0.003)	(0.004)
Observations	77,060	33,895	42,062	18,249
R^2	0.027	0.013	0.032	0.015
Adjusted R^2	0.027	0.013	0.032	0.015

Table B.35: **Financial Literacy and Confidence.** OLS regressions of normalized confidence (0–1) on normalized financial literacy (0–1). Columns 1–2 use respondents aged 25–80; columns 3–4 restrict the sample to ages 25–65 with positive reported wages. Standard errors are reported in parentheses. $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$. How do we do rescaling?

B.2 Internal Parameters

Three parameters are calibrated internally using the method of simulated moments (MSM): the financial literacy investment cost $\bar{\pi}$, the gender-specific confidence wedge θ_g, and the married-women literacy cost shifter κ. Parameters are chosen jointly to minimize the distance between model-implied and empirical moments. All targeted moments are computed using the survey-weighted working-age sample (25–65) with positive reported wages.

The investment cost $\bar{\pi}$ is disciplined by the average level of financial literacy by gender (Panel A of Table B.36). The empirical literacy index is proportionally rescaled to align units with the model's continuous literacy state.

The confidence wedge θ_g is identified by matching gender differences in risky asset behavior (Panel B), including equity participation and conditional equity shares.

The parameter κ shifts literacy investment costs for married women and is disciplined by the literacy gap between co-living and never-married women (Panel C).

Table B.36 summarizes the targeted moments.

Table B.36: **Targeted Moments for Internal Calibration (Working-Age 25–65 Sample)**

Panel A: Financial Literacy by Gender		
	Male	Female
Average Financial Literacy	0.803	0.709
Panel B: Risky Asset Behavior by Gender		
	Male	Female
Equity Participation	0.40	0.31
Conditional Equity Share	0.59	0.51
Panel C: Financial Literacy by Marital Status (Women)		
	Co-Living	Never Married
Average Financial Literacy	0.732	0.658

Notes: Survey-weighted moments computed using SCF respondents aged 25–65 with positive reported wages. Equity shares are conditional on holding equity.

B.3 Numerical Implementation

The model is solved by backward induction over a finite life-cycle horizon. At each age, agents choose next-period safe assets, risky assets, and financial literacy investment to maximize expected lifetime utility.

State Space An individual at age t is characterized by

$$x_t = (g, e, k_t, s_t, a_t, \ell_t, y_t),$$

where $g \in \{m, f\}$ denotes gender, $e \in \{\text{college}, \text{non-college}\}$ education, $k_t \in \{S, M\}$ marital status, s_t safe assets, a_t risky assets, ℓ_t financial literacy, and y_t idiosyncratic income.

Gender and education are fixed over the life cycle. Marital status evolves according to the calibrated transition probabilities.

Income Process Log labor income follows a persistent AR(1) process,

$$\log y_{t+1} = \rho \log y_t + \varepsilon_{t+1}, \quad \varepsilon_{t+1} \sim \mathcal{N}(0, \sigma^2),$$

which is discretized using the Rouwenhorst method with five income states Check.

Grids Safe assets, risky assets, and financial literacy are discretized on a $40 \times 25 \times 25$ grid. The safe asset grid is denser to accurately capture liquidity constraints. Financial literacy is discretized on $[0, 1]$. The full state space combines these discrete grids with income, marital status, education, and gender states.

Solution Method At each age and state, expectations are computed using the discretized transition matrices for income and marital status. The value function is evaluated on the discrete state space and maximized over next-period safe assets, risky assets, and literacy investment. Convergence is achieved when the sup-norm difference between successive value functions falls below 10^{-5} Check.

Windfall Implementation

B.4 Portfolio shares

Christelis et al. (2013) finds 47% vs much lower in Europe. Catherine (2021) plots it over working age for SCF - around 50% all together. Choukhmane and de Silva (2024) takes a look at several studies that try to get at the portfolio shares, participation rates in the SCF again on average around 50%. Bacher (2024) finds similar estimates in the SCF – ballpark is around 50 percent across studies that use SCF. PSID is lower, and very heterogeneous over the years; Gomes and Smirnova (2021) puts the average at around 30%.

Risky shares in the SCF for the working-age population:

Table B.37: Unconditional Equity Share

gender	share	se
Male	0.28	0.00
Female	0.19	0.00

Table B.38: Conditional Equity Share (Equity > 0 only)

gender	risky share	se
Male	0.58	0.00
Female	0.53	0.00

B.5 Non-targeted

Equity shares and financial literacy across the lifecycle, 25-80, SCF. The third column excludes retirement accounts.

Age Group	Gender	Equity Share	Equity Share (no ret acc)	Avg. FinLit.
25–29	Male	0.19	0.67	0.75
25–29	Female	0.09	0.61	0.64
30–34	Male	0.21	0.64	0.79
30–34	Female	0.17	0.62	0.65
35–39	Male	0.27	0.68	0.78
35–39	Female	0.20	0.60	0.68
40–44	Male	0.33	0.68	0.81
40–44	Female	0.19	0.57	0.69
45–49	Male	0.31	0.64	0.79
45–49	Female	0.21	0.58	0.70
50–54	Male	0.30	0.61	0.81
50–54	Female	0.21	0.58	0.74
55–59	Male	0.32	0.59	0.81
55–59	Female	0.20	0.52	0.75
60–64	Male	0.31	0.54	0.82
60–64	Female	0.20	0.54	0.72
65–69	Male	0.29	0.55	0.81
65–69	Female	0.16	0.50	0.71
70–74	Male	0.26	0.51	0.82
70–74	Female	0.19	0.54	0.72
75–80	Male	0.28	0.53	0.81
75–80	Female	0.10	0.45	0.67

Table B.39: **Equity share by age and gender, with and without retirement accounts.**

Metric	Gender Gap (%)
Mean_eq_participation	22.26%
Mean_safe_participation	5.71%
Mean_Equity	52.72%
Mean_Safe_Assets	41.27%
Risky_Share	3.36 p.p.

Table B.40: SCF data, singles, survey weights, 25-65, ret acc+ all other holdings.

Gender	Mean	Std. Error
Male	1.126	(0.077)
Female	1.485	(0.303)

Table B.41: **Average Asset-to-Income Ratio by Gender (25-65).** Weighted means, using workers with wages above social security income for the total HH, and caps wealth at top 1.

Eq Part. Gap (%)	Safe Part. Gap (%)	Equity Gap (Uncond. %)	Safe Gap (Uncond. %)	Equity Gap (Owners %)	Safe Gap (Owners %)
22.67	-7.88	66.65	44.46	56.88	48.52

Table B.42: **Gender gaps in participation and wealth.** Unconditional wealth gaps include all individuals; conditional gaps = owners. 25-65, workers with reported wages.

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Safe Asset share in Income Table C.43 shows the estimates by gender and without gender decomposition using **all safe assets** (includes retirement accounts). Table C.44 shows the estimates by gender and without gender decomposition using **only checking and savings accounts**.

	Marital Status		
	Co-Living	Separated	Never Married
Panel A: Total Safe Assets / Income			
Male	0.664 (0.023)	0.522 (0.033)	0.438 (0.024)
Female	0.605 (0.026)	0.430 (0.023)	0.548 (0.093)
All	0.641 (0.017)	0.459 (0.019)	0.494 (0.048)
Panel B: Relative to Co-Living			
Male		0.786	0.660
Female		0.710	0.906
All		0.716	0.772

Table C.43: **Share of Total Safe Assets over Income.** Subsample: workers with wage income above the 1st percentile.

Total wealth gaps leftovers Table C.45 reports the total asset gap as well. Table C.46 reports the same for people 25–85.

Risky share and FinLit Elasticity Table C.47 depicts the regression, and a 1% increase in financial literacy is associated with a 1.43% increase in risky portfolio share (evaluated at the sample mean).

	Marital Status		
	Co-Living	Separated	Never Married
Panel A: Checking & Savings / Income			
Male	0.152 (0.007)	0.218 (0.011)	0.253 (0.011)
Female	0.193 (0.014)	0.214 (0.010)	0.237 (0.019)
All	0.168 (0.007)	0.215 (0.008)	0.245 (0.011)
Panel B: Relative to Co-Living			
Male		1.43	1.67
Female		1.11	1.23
All		1.28	1.46

Table C.44: **Share of Checking and Savings over Income.** Subsample: workers with wage income above the 1st percentile.

Status	Equity Part Gap	Safe Part Gap	Equity Gap	Safe Assets Gap	Total Asset Gap
Co-Living	15.8%	-0.29%	64.6%	44.6%	71.2%
Separated	20.4%	-0.86%	62.1%	49.0%	59.0%
Never Married	10.8%	2.84%	19.6%	23.3%	42.5%

Table C.45: **Wealth disparities by gender: participation and asset gaps across marital status.** Uses the SCF subsample of workers with reported wage income. N=33,975.

Status	Equity Part Gap	Safe Part Gap	Equity Gap	Safe Assets Gap	Total Asset Gap
Co-Living	34.8%	12.9%	76.0%	70.1%	86.9%
Separated	8.63%	-2.03%	49.0%	37.3%	72.1%
Never Married	11.9%	4.87%	15.0%	13.3%	64.8%

Table C.46: **Wealth disparities by gender: participation and asset gaps across marital status (Ages 25–85).** Uses the SCF subsample of individuals aged 25–85, N=78,965.

	risky share	
	(All)	(Men Only)
FinLit (standardized)	0.329***	0.379***
	(0.005)	(0.008)
Constant	−0.022***	−0.028***
	(0.004)	(0.007)
Observations	61,213	35,262
R^2	0.059	0.059

Table C.47: **Risky share regressed on FinLit.** Uses the SCF subsample 25–85 with positive total assets. Column (2) are men. *p<0.1; **p<0.05; ***p<0.01

D Numerical Implementation

We solve the model using backward induction on a discretized state space, separately for each of the four demographic groups (female college, female non-college, male college, male non-college). The model period is one year. Agents work for $T_{\text{work}} = 40$ periods (ages 25–64) and may live through $T_{\text{ret}} = 21$ retirement periods (ages 65–85). The state space is discretized over total wealth W, financial literacy ℓ, income shocks, and idiosyncratic risky returns, the latter two via the Tauchen method.

The solution order follows the marital transition structure: we begin with the absorbing divorced state, then the married state, and finally the single state, iterating backward from retirement to age 25 within each. Since women perceive lower risky returns than men conditional on financial literacy, agents optimize under perceived returns while the budget constraint uses realized returns. Because wealth windfalls at divorce and widowhood depend on endogenous spouse asset holdings, we use a two-step procedure: the model is first solved without windfalls to obtain average spouse wealth profiles by income state and age, which are then used as inputs in a second solve that incorporates the windfall.

After having solved for the policy functions, we simulate $N_{\text{sim}} = X$ agents per demographic group over their life-cycle. At age 25, each agent is assigned an initial level of wealth and financial literacy. We then simulate a chain of income shocks, risky return realizations, and marital transitions and assign each agent a certain chain of these processes. Lastly, we construct the moments for each simulation and minimize a weighted distance between model moments and their empirical counterparts using `fmincon` with the sequential quadratic programming algorithm.