

Stockholding in Europe: Evidence from the Consumer Expectations Survey

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Disclaimer

The views expressed in this paper are those of the authors and do not necessarily reflect the views of the European Central Bank.

Why another paper about stock market participation?

- **Stock market participation puzzle**

- Persistently low participation rates across EU households (<40%), despite substantial long-run equity premia
- Standard models (risk aversion, transaction costs) quantitatively insufficient to explain non-participation

- **Changing investment landscape**

- Rapid digitalisation of retail finance (low-cost trading platforms, robo-advice)
- Expansion and accessibility of ETFs → lower diversification costs
- Increased information flow (and misinformation) affecting expectations (e.g. AI)

- **Policy relevance (Capital Markets Union)**

- Broadening household participation is central to CMU objectives
- Implications for: (i) *Wealth inequality* (ii) *Monetary policy transmission* (via asset channel) and (iii) *Financial resilience* of households (financial stability)

Policy relevance

The household side:

*“Europeans favor low-risk, liquid savings products. [...] This has two main consequences for our economy. First, **European households are much less wealthy than they could be**. Second, the flow of savings into capital markets is much lower than it could be.”*

Christine Lagarde, November 2024.

The firm side:

*“We want to give our citizens the incentives to actually put their savings to work. And by that, we would also be able to **direct more funds into our capital markets, give more opportunities to our companies**, which would be able to grow, innovate and create better jobs.”*

Maria Luíz Albuquerque, September 2025.

Outline

- **Document recent trends of participation** in stock markets
- Study **why households do not participate**: new direct questions on reasons for not investing in stocks or mutual funds
- **Analyse portfolio mobility with panel data**: entry and exit rates for stocks and mutual funds, and characteristics of recent entrants.
- **Analysis of crypto assets** to see if participation in risky digital assets differs from traditional risky asset holdings
- Examine **policy proposals** to raise stockholding
- **No claims of causality, Descriptive analysis with comparable panel data in the Euro Area (2020-24)**

Preview of findings

- **Limited participation coexists with considerable turnover:** while overall participation is <40%, **10% of non-stockholders enter** each year, while about **20–30% of stockholders exit**
- **Barriers are both financial and behavioural:** lower-income households mainly cite **lack of resources**, while **risk, low trust, and lack of knowledge** remain important across the whole income distribution.
- **New entrants differ from long-term investors:** they tend to be **younger and less educated, with lower income, liquidity, and financial literacy** compared to legacy investors.
- **Participation is quite uneven:** stockholding is more prevalent among investors with high **education, income, and wealth**. Persistent cross-country differences.
- **Crypto ownership is non-trivial:** around **8–10%** hold crypto; adoption is concentrated among younger, male, risk-tolerant households and is **held back mainly by lack of trust**.

Related literature

Household stockholding in Europe

- Guiso et al. (2002, 2003); Christelis et al. (2013, 2025),
 - Strong gradients by wealth, income, and sophistication
 - We provide new cross-country panel evidence (11 EA countries)

Participation costs and information frictions

- Haliassos and Bertaut (1995); Vissing-Jørgensen (2002); Campbell (2006)
 - Fixed costs and information barriers limit participation

Financial literacy and sophistication

- Lusardi and Mitchell (2011); Van Rooij et al. (2011)
 - Key determinant of participation and portfolio choice
 - We show literacy also shapes entry and exit dynamics

Portfolio dynamics and investor behaviour

- Calvet et al. (2009); Biliias et al. (2010)
- Portfolio inertia and rebalancing behaviour
 - We document high turnover and heterogeneous entry/exit rates

Beliefs, trust, and behavioural factors

- Guiso et al. (2008); Gennaioli et al. (2015)
- Trust, expectations, and beliefs affect participation
 - We show trust is central (especially for crypto markets)

Crypto retail investments

- Auer and Tercero-Lucas (2022); Hackethal et al. (2022)
- Speculative motives and distinct investor profiles
 - We provide new evidence on adoption, turnover, and barriers

The Consumer Expectations Survey - CES

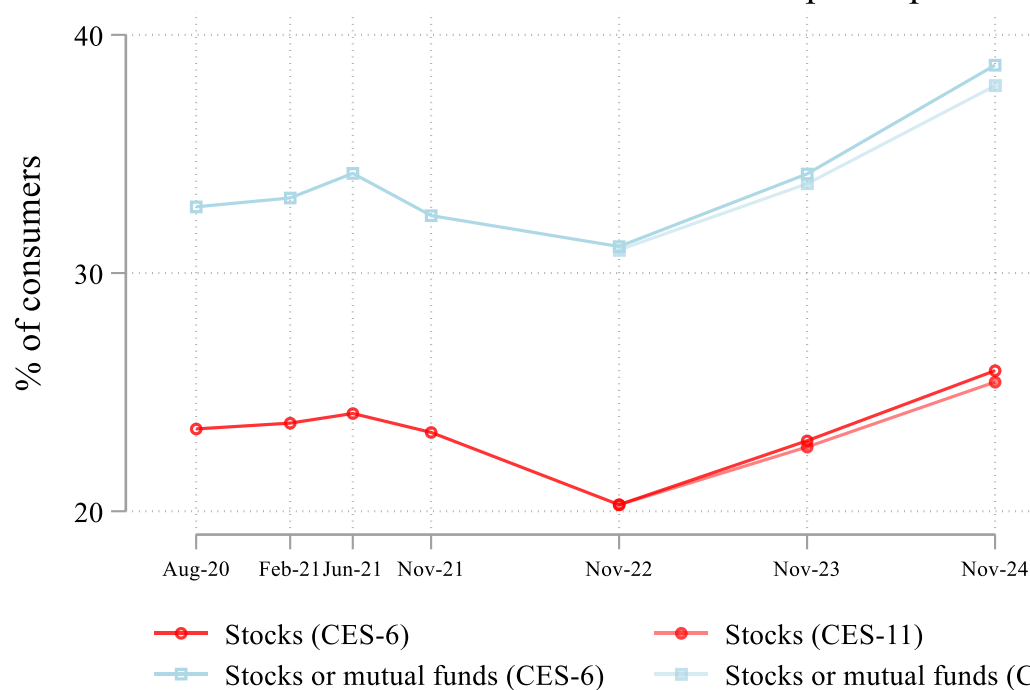
- **Monthly internet panel** from the [ECB](#): eleven largest EA countries; ~ 19,000 households. **November module** on financial portfolio
- **Key strengths**: cross-country comparability, standardised portfolio definitions, rotating panel structure allows mobility analysis from the annual **topical module on consumer finances**.
- **Additional CES advantages**: background information on **financial literacy**, **trust**, **risk tolerance**, and **liquidity** helps explain both ownership and non-participation
- **Flexible enough to study emerging asset classes**: topical modules on crypto ownership (timing, amounts invested, reasons for non-adoption).
- CES Description: Georgarakos and Kenny ([2022, JME](#)), Christelis et al. ([2025, JME](#)), ECB Report ([ECB OP, 2021](#)), Methodological Guide ([ECB, 2026](#))
- *In this paper we use data from 2020 to 2024; We restrict: Age < 71*

1. Stockholding in the Euro Area
2. Reasons for non-participation
3. Portfolio mobility
4. Investment in crypto assets
5. Policy proposal

1. Stockholding in the Euro Area

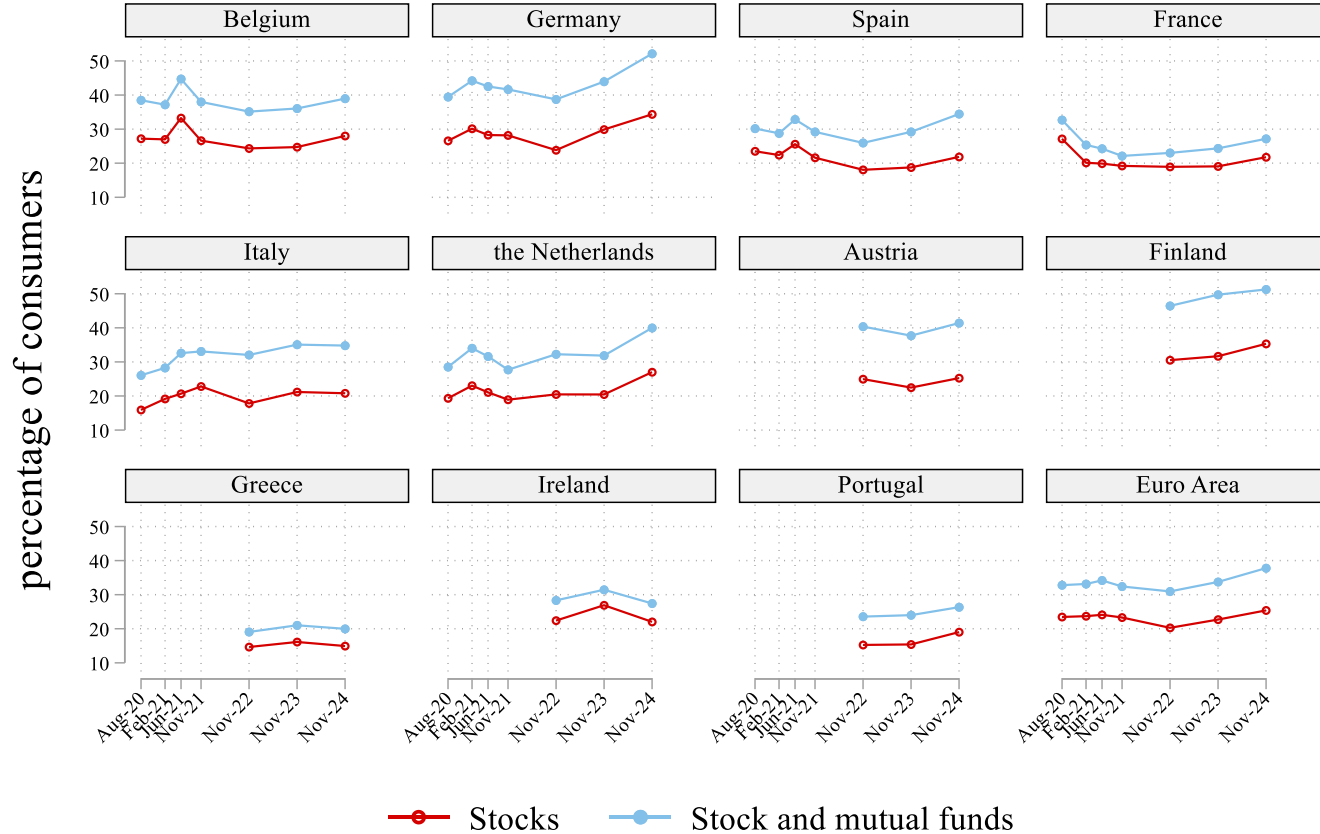
Stock market participation, 2020-24

Direct and indirect stock market participation

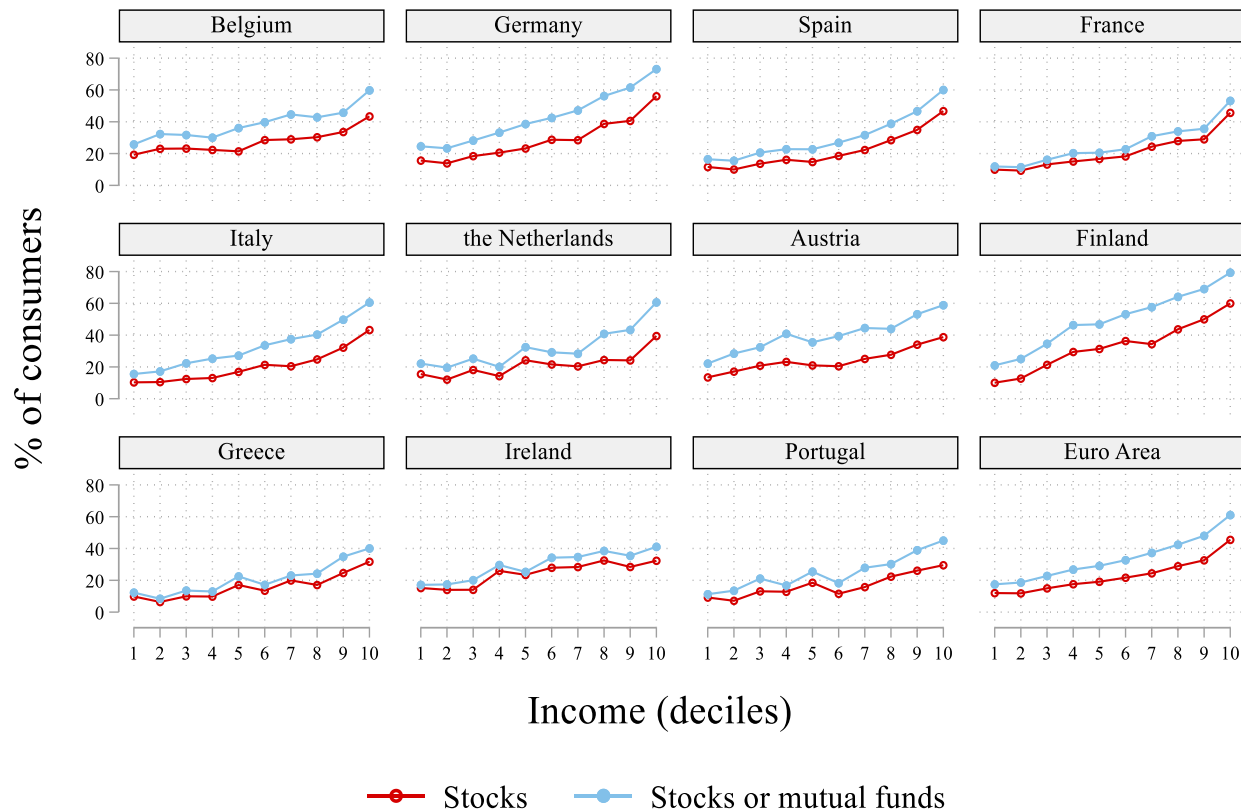


- Stock market participation remains low in Europe (~25% direct, ~40% incl. mutual funds)
- Dip in 2022, followed by recovery
- Recent increase → participation now above levels during the pandemic
- Patterns are robust across country coverage (CES-6 vs CES-11)

Stockholding by country, 2020-2024

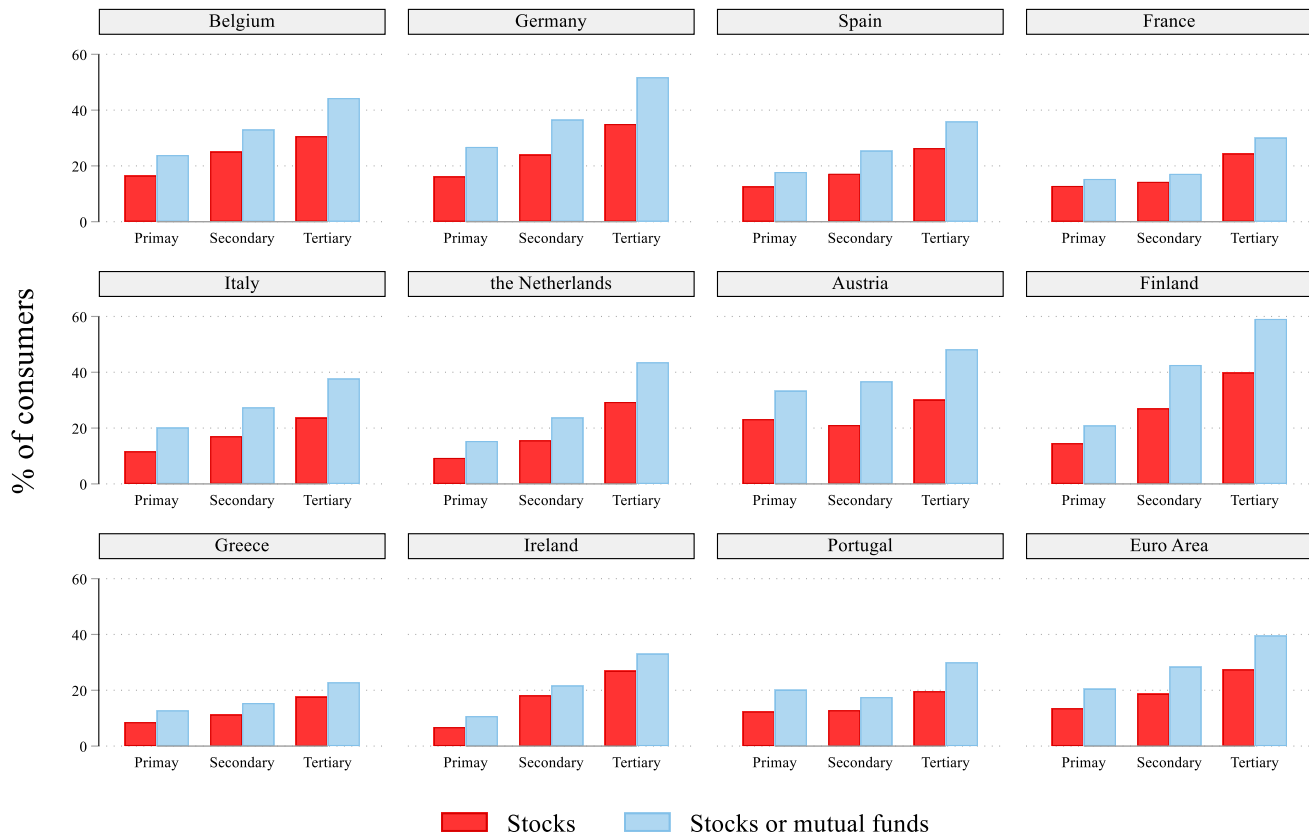


Stockholding and households' resources



- Stockholding **increases** strongly with **income**.
- Even stronger gradient for **wealth**
- Cross-country differences are level shifts, not difference in pattern

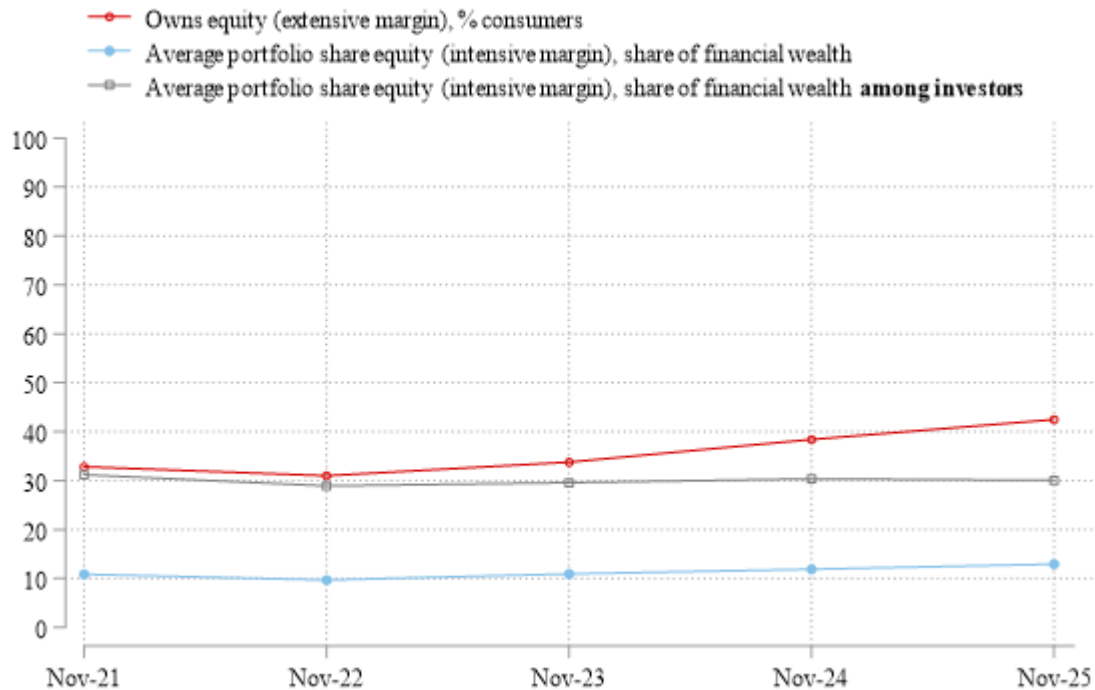
Stockholding, by education



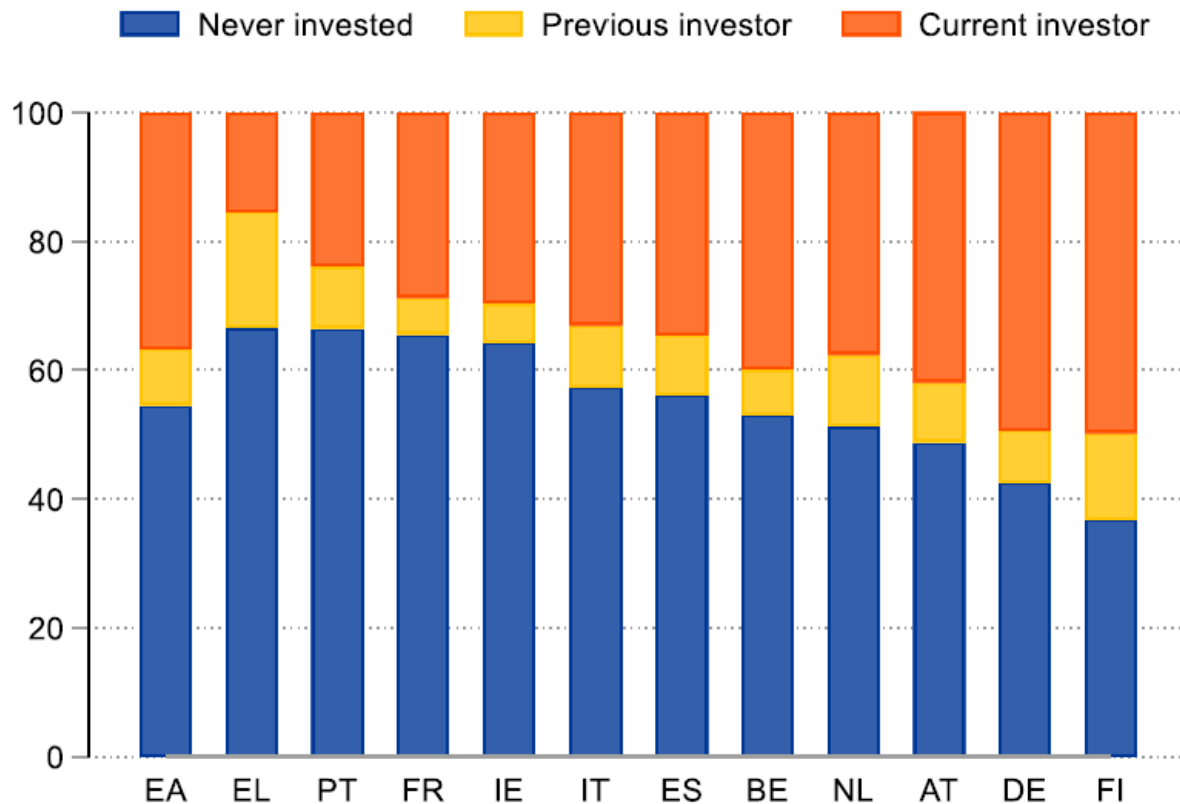
Regressions show that stockholding also correlates strongly with:

- Horizon (age);
- Trust
- Risk tolerance

Stock market participation over time



Composition of equity ownership



Considerable variation regarding “current investors” and “never invested”.

2. Reasons for non-participation

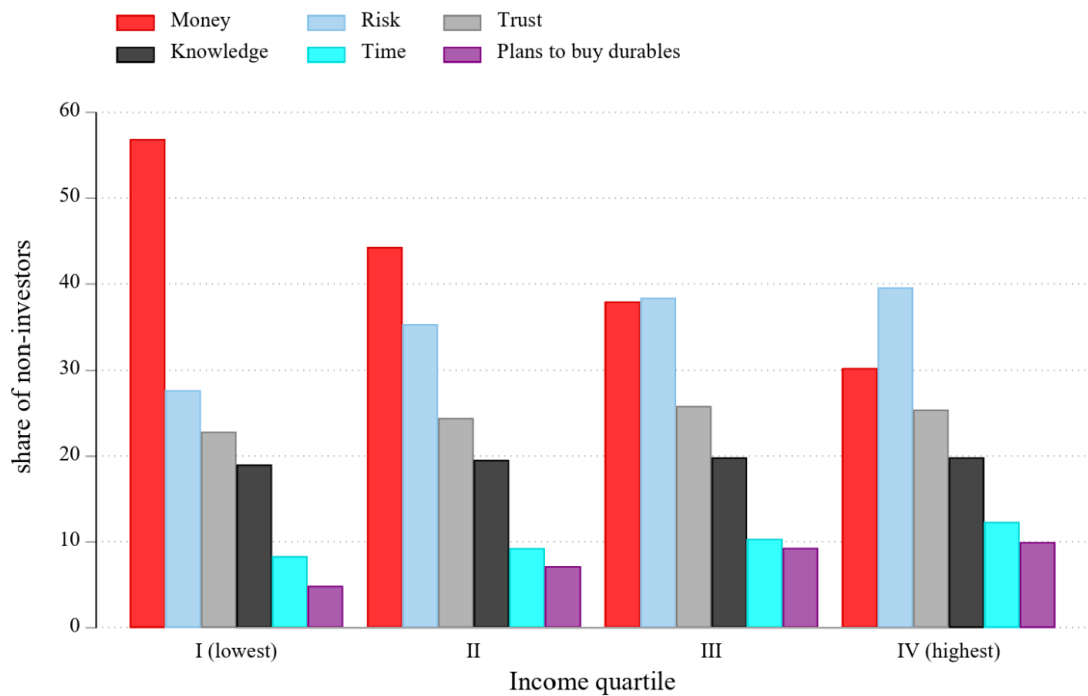
Why do people not participate in the stock market?

- As part of the consumer finance module, we elicit reasons for not investing across the countries covered by the CES:

What are the main reasons why you and your household are currently not investing in stocks or mutual fund shares?

- Not enough money to invest
- Afraid of risk in financial markets
- Don't know how to invest
- Saving for a large purchase
- Not enough time
- Don't trust banks, mutual funds or financial markets in general

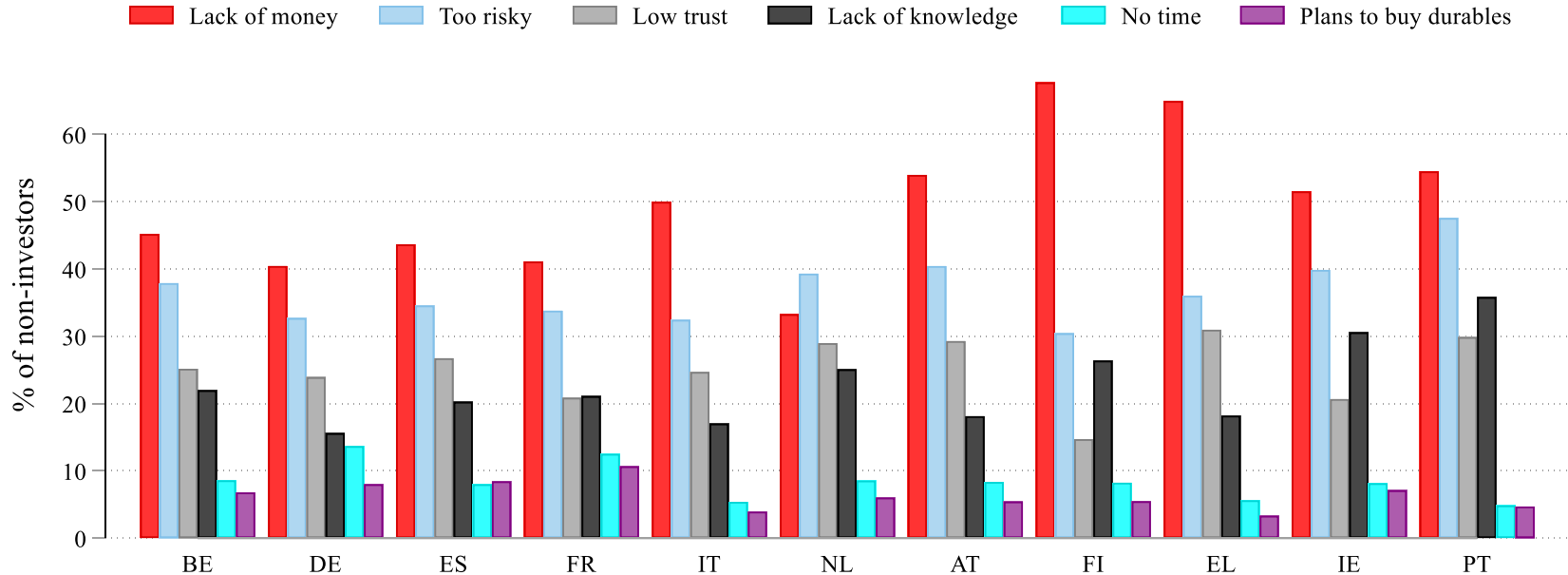
Why do people not participate in the stock market?



- Low-income households: mainly financial constraints (“not enough money”)
- High-income households: mainly **risk** and **trust** concerns
- **Financial literacy**: a barrier across the distribution
- **Key take away**: barriers to participation are both financial and behavioural

Cross-country differences

Reasons for not investing in stocks / mutual funds

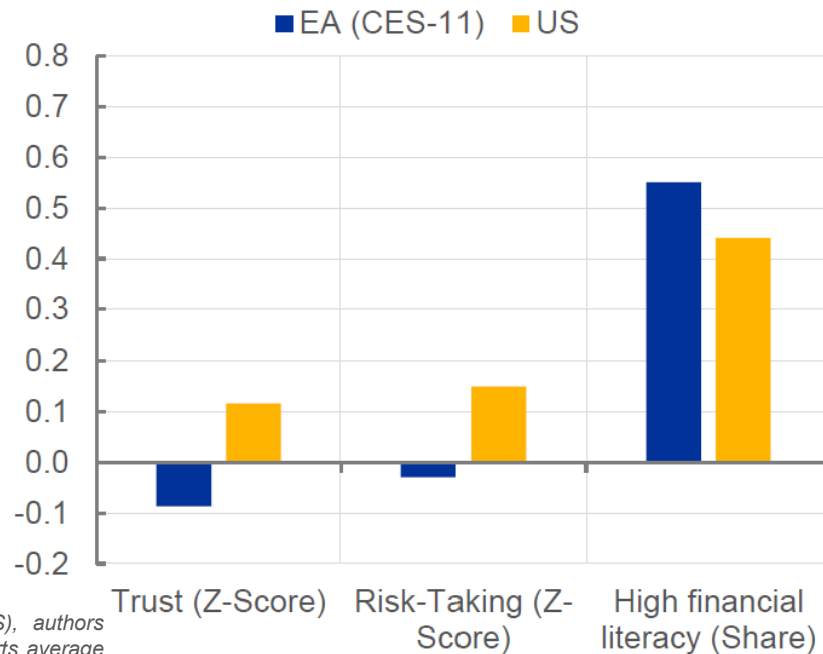


Barriers to stock market participation are remarkably **similar across countries**, with lack of resources, risk perceptions and trust consistently dominating

Within country differences across consumers

- **Income & liquidity:** strongly reduce “lack of money” constraints (participation cost argument)
- **Higher income households:** more likely to cite risk (not resources)
- **Age gradient:** Older households, more money constrained; less knowledge and time barriers
- **Take away:** participation frictions vary across different groups of consumers.

Differences between US and EA consumers' trust, risk taking and financial literacy (percentage of consumers)



Source: ECB Consumer Expectations Survey (CES), authors calculation. Population-weighted data. The chart reports average standardised (z-) scores for trust and risk tolerance. Variables are standardised within each survey prior to aggregation. Financial literacy is measured using the harmonised Lusardi and Mitchell (2011) questions in the CES (November 2024) and the US Survey of Consumer Finances (2022). Measures of trust and risk tolerance are based on population-weighted country estimates from the Global Preferences Survey following Falk et al. (2018).

3. Portfolio mobility

Mobility: Stock market entry and exit

- **Participation is not static:** households enter and exit markets
- Net participation might mask underlying flows
- Previous evidence: substantial inertia
- CES Panel data allow us to track:
 - **Entry** into stockholding
 - **Exit** from stockholding

- For each year, we construct transition matrices:

P_{00} = no participation in $t - 1$ and t

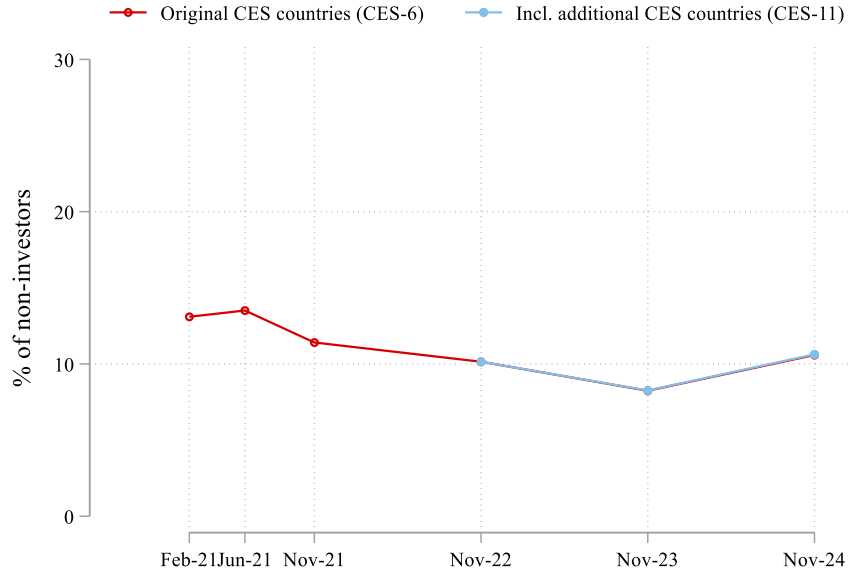
P_{11} = participation in $t - 1$ and t

P_{10} = participation in $t - 1$ and no participation t

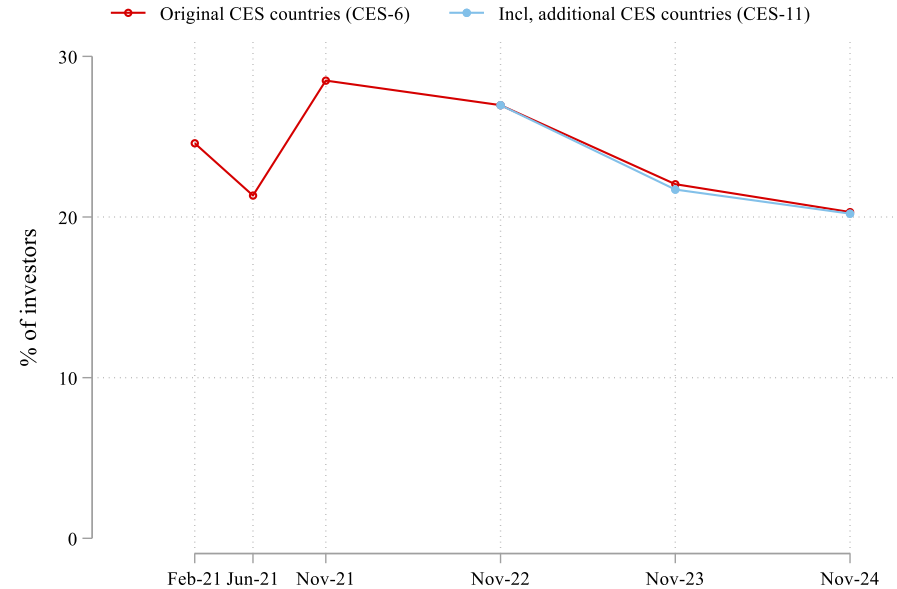
P_{01} = no participation in $t - 1$ and participation t

Entry and exit rates over time

Entry in the stock market (stocks/mutual funds)



Exit from the stock market (stocks/mutual funds)



Entry $\approx$ 10%; Exit $\approx$ 20–30%. But notice that the denominator is different

Stock market entry and exit

$$P = \begin{pmatrix} P_{00} & P_{01} \\ P_{10} & P_{11} \end{pmatrix}$$

By construction

$$P_{00} + P_{01} = 1 \quad P_{10} + P_{11} = 1$$

The **one-period transition matrix** determines both the long-run stockholding rate and the speed of convergence toward it.

The **long-run stockholding rate** is determined by the entry rate relative to the sum of entry and exit rates.

$$\pi_0 = \frac{P_{10}}{P_{01} + P_{10}}, \pi_1 = \frac{P_{01}}{P_{01} + P_{10}}$$

Transition matrix and long-term steady states

	Short-run mobility				Year-specific implied steady states	
	P00	P01	P10	P11	$\Pi 0$	$\Pi 1$
Stocks						
2020 to 2021	0.91	0.10	0.29	0.71	0.74	0.26
2021 to 2022	0.94	0.06	0.35	0.65	0.85	0.15
2022 to 2023	0.94	0.06	0.25	0.75	0.81	0.19
2023 to 2024	0.92	0.08	0.27	0.73	0.77	0.23
Stocks or MF						
2020 to 2021	0.87	0.13	0.25	0.75	0.66	0.34
2021 to 2022	0.90	0.10	0.27	0.73	0.73	0.27
2022 to 2023	0.92	0.08	0.22	0.78	0.73	0.27
2023 to 2024	0.89	0.11	0.20	0.80	0.65	0.35

Time varying transition matrix

Stocks or MF	P00	P01	P10	P11
P2021	0.87	0.13	0.25	0.75
P2122	0.90	0.10	0.27	0.73
P2223	0.92	0.08	0.22	0.78
P2324	0.89	0.11	0.20	0.80
P2024	0.75	0.25	0.56	0.44

P2024 is the product of the year transition matrices

Conditional on being **non-investor in 2020**, the prob of being an investor in 2024 is 25%

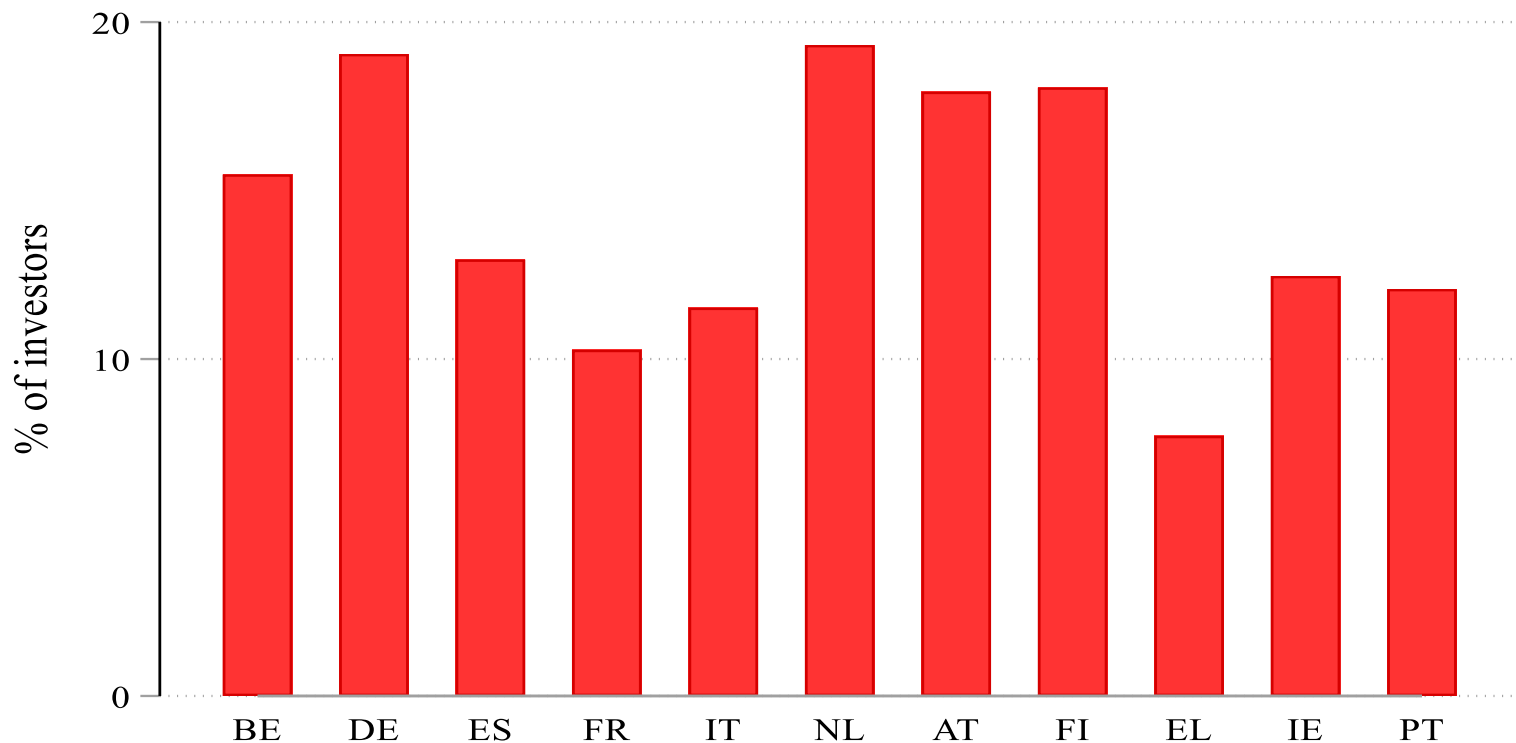
Conditional on being **investor** in 2020, the prob of being an investor in 2024 is 44%

Entry and exit rates over time

- Participation stays low despite non-negligible entry
 - Conditional exit rate higher than conditional entry rate.
 - Despite sizeable entry, high exit rate helps explain why participation remains limited
- Our estimates suggest **less inertia in stock-market participation** than found in earlier studies (Madrian and Shea; Agnew et al; Ameriks and Zeldes; Biliias et al).
- Pandemic dynamics
 - 2020–21: high entry rates (lockdowns, savings, market rebound)
 - 2021–23: high exit rates (uncertainty, inflation, tightening)
 - Data suggests entry was temporary
- Question: who are the entrants and do they differ from previous investors?

New entrants since 2020. Strongest in NL, DE, FI, AT

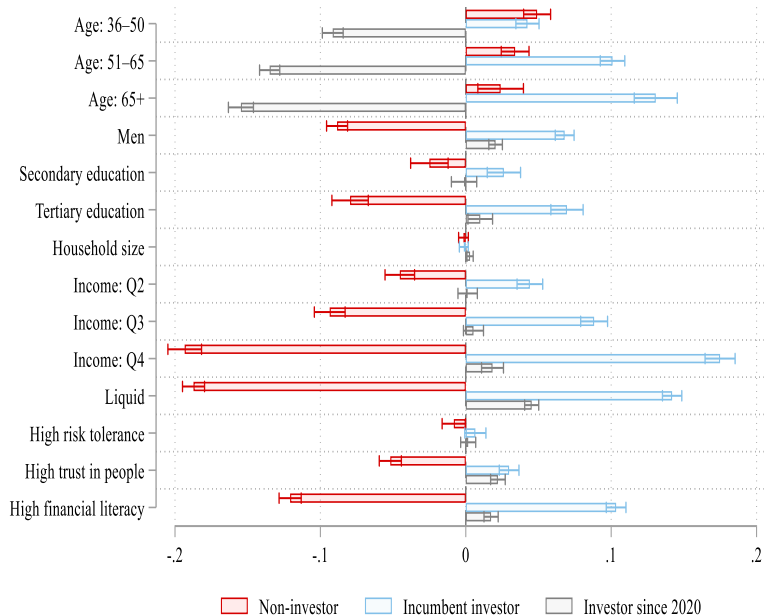
First time ownership since 2020



Who entered the stock market recently?

Characteristics of old and recent stock market entrants

Average marginal effects from multinomial probit



Reference outcome: investor pre-2020. Country and wave dummies included but not shown.

Three groups: non-investors, incumbent investors, and recent entrants.

Recent entrants differ from incumbents: less liquid, lower income, younger, less financial literacy, less risk tolerant

Expansion of participation occurred along the extensive margin, but into more fragile population groups.

Characteristics of new entrants

Recent stock-market entry is concentrated among younger households; individuals aged 65+ are **13 p.p. less likely** to be first-time investors.

Education and income strongly predict long-term participation but are much less important for recent entry.

Liquidity (enough money to make unexpected payment equal to one month of income) **matters more for established investors.**

Financial literacy associated with long-term investors: +11.1 p.p. versus only +1.6 p.p. for recent entrants.

Post-2020 entrants resemble non-investors more closely than traditional stockholders in education, income, and financial literacy.

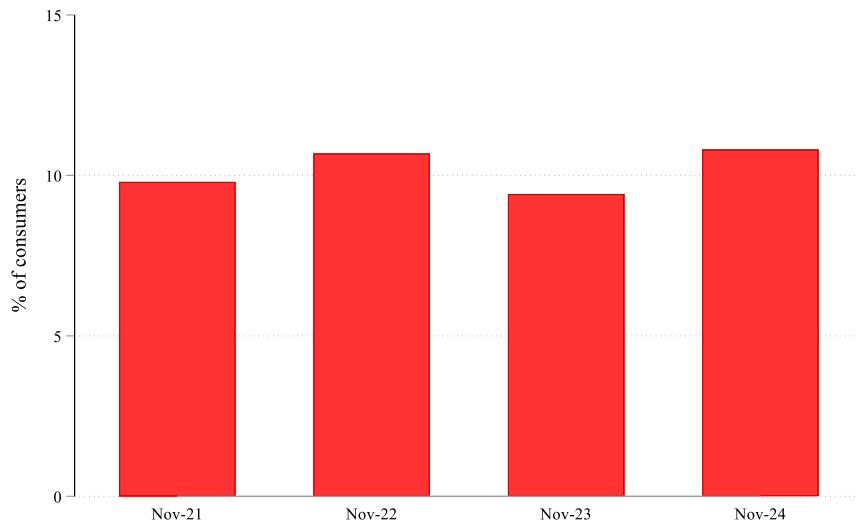
A possible explanation: **pandemic conditions lowered barriers to entry:** higher savings, more free time, greater online activity, and the 2020 market rebound.

4. Investments in crypto assets

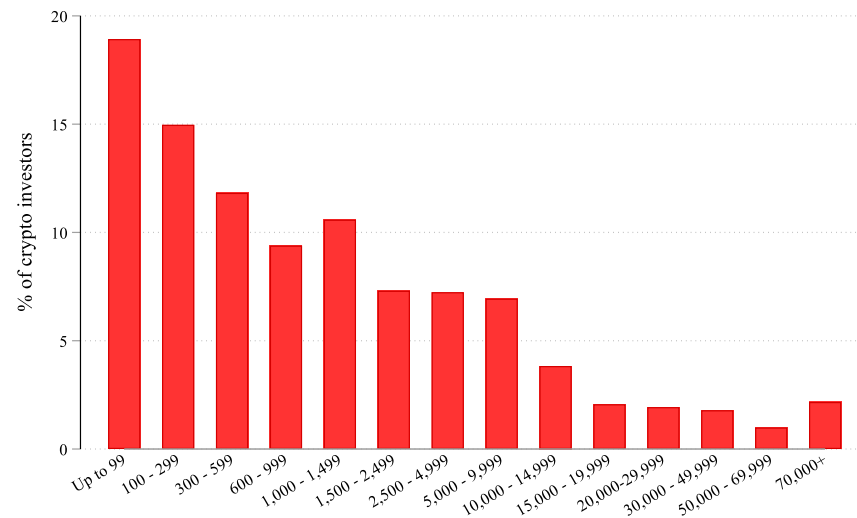
Consumers investment in crypto assets

- Crypto participation is (~10–11%) and stable over time
- Holdings are **highly skewed toward small** amounts → limited crypto exposure of households

Crypto asset ownership over time



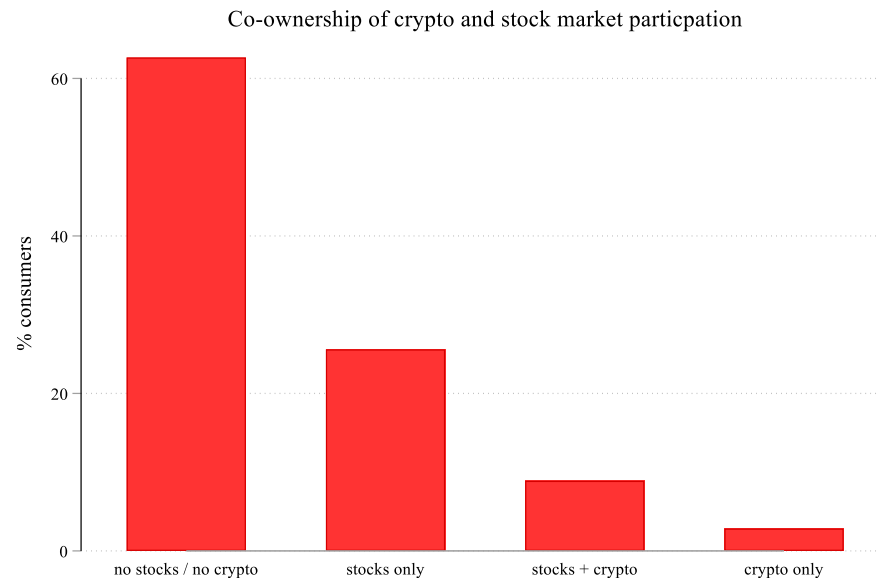
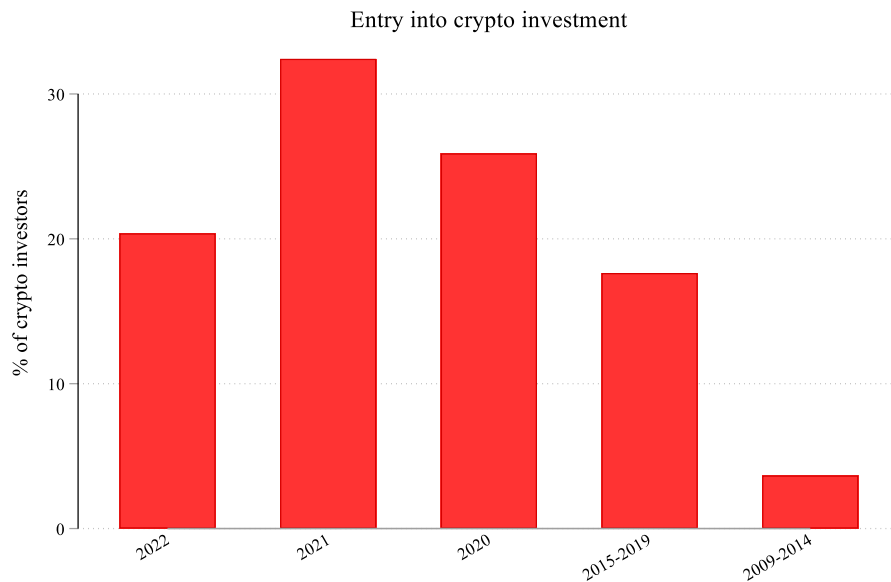
Amount held in crypto (in €)



Crypto assets: less a core investment vehicle, more a small-scale and speculative exposure

Co-ownership of crypto and stocks

- Strong entry wave during the pandemic (2020–2022)
- Majority of households hold neither stocks nor crypto; **Most crypto investors also hold stocks**



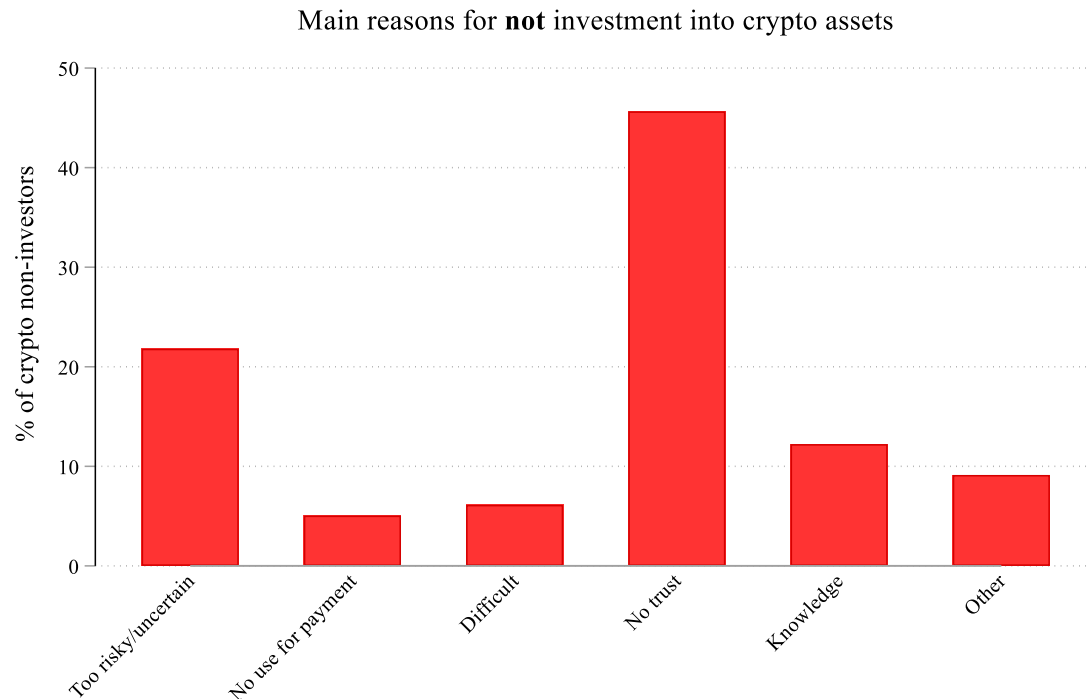
Recent stock market entrants

Are recent stock market entrants also more likely to co-own crypto assets?

Stock-market experience	Probability of owning crypto (average marginal effects)	Std. err.
Never invested	-0.141***	0.004
Past investor	-0.094***	0.005
<i>Base: Entered before 2020</i>		
Entered since 2020	0.085***	0.006

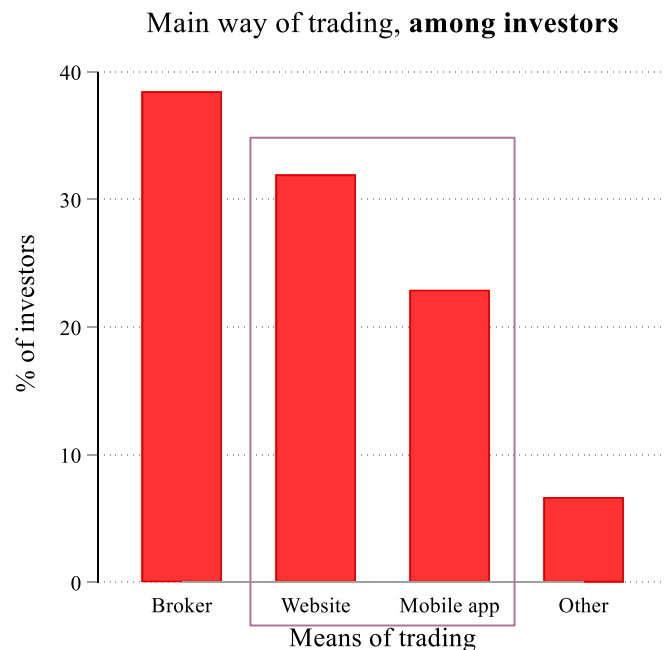
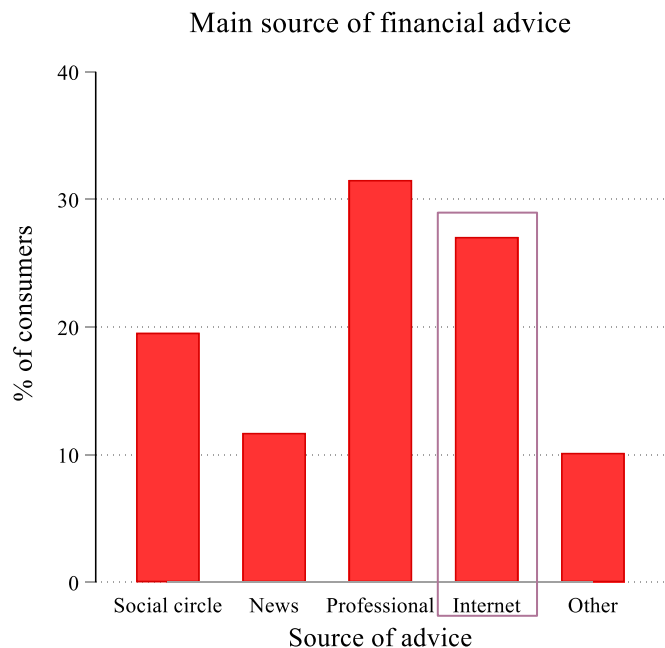
Average marginal effects from a probit regression where the dependent variable equals one if the respondent owns crypto-assets. The omitted category is investors who entered the stock market before 2020.

Reasons for not investing int crypto assets



- **Lack of trust** is the dominant barrier to crypto adoption (**quite different than for stocks**)
- Risk and uncertainty also play an important role
- Knowledge and usability constraints are secondary

Digitalisation in personal finance



Source: ECB Consumer Expectations Survey (CES), authors calculations. Pooled and population-weighted experimental data from the annual topical module on consumer finances (Nov. 21', 22', 23', 24')

Summary

Participation is relatively low, uneven and markets are dynamic

- Limited stockholding coexists with considerable **turnover**
- Entry is non-negligible, but compensated by **exit rates**

Multidimensional barriers to stock market participation

- Stocks: financial constraints + knowledge + risk perceptions
- Crypto: lack of trust dominates

New investors are more vulnerable

- Less wealthy, less literate, less experienced
- Expansion of participation occurs into more fragile population groups

Insights for policy

Stock market participation and barriers to entry

- Consumers perceive high costs of entry
- Low-cost products and improving financial literacy are key for broadening participation
- Trust in financial markets and institutions is central, especially for fully digital assets

Mobility

- Turnover rates among retail investors might warrant monitoring for financial stability (retail segment might be more volatile)

Thank you!

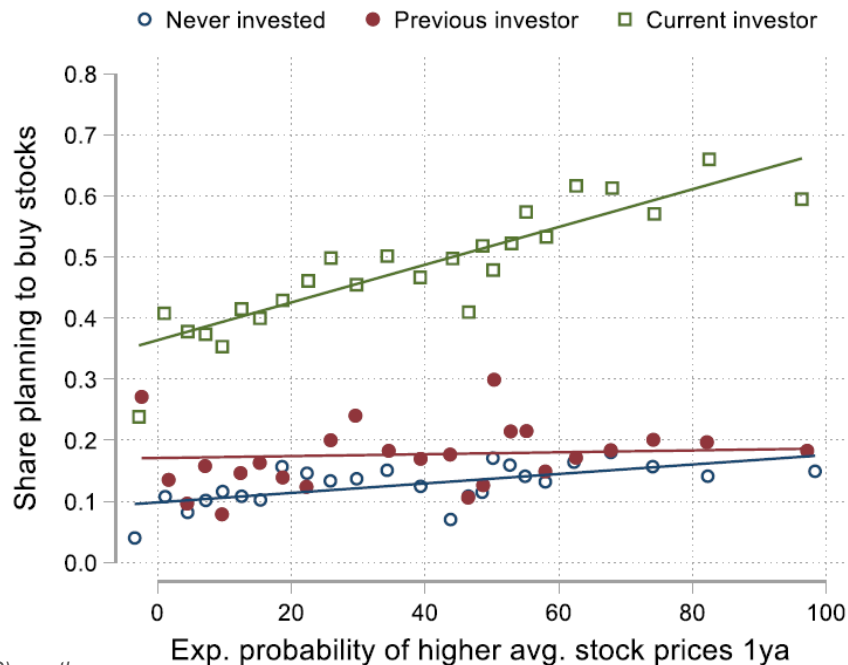
References (selection)

- Arrondel, L. et al. (2016). How do households allocate their assets? *International Journal of Central Banking*.
- Auer, R. and Tercero-Lucas, D. (2022). Distrust or speculation? *Journal of Financial Stability*, 62.
- Christelis, D., Georgarakos, D., Jappelli, T., Pistaferri, L. and Van Rooij, M., 2021. Heterogeneous wealth effects. *European Economic Review*, 137, p.103805.
- Christelis, D. et al. (2026). Stockholding in Europe: Evidence from the CES. (forthcoming)
- ECB (2021). Consumer Expectations Survey: Overview and evaluation. Occasional Paper No. 28.
- Georgarakos, D. and Pasini, G., 2011. Trust, sociability, and stock market participation. *Review of Finance*, 15(4), pp.693-725.
- Georgarakos, D. and Kenny, G., 2022. Household spending and fiscal support during the COVID-19 pandemic: Insights from a new consumer survey. *Journal of monetary economics*, 129, pp.S1-S14.
- Gomes, F., Haliassos, M. and Ramadorai, T., 2021. Household finance. *Journal of Economic Literature*, 59(3), pp.919-1000.
- Guiso, L., Sapienza, P. and Zingales, L., 2008. Trusting the stock market. *The Journal of Finance*, 63(6), pp.2557-2600.
- Haliassos, M. and Bertaut, C. (1995). Why do so few hold stocks? *The Economic Journal*, 105(432).
- Mitchell, O.S. and Lusardi, A., 2011. Financial literacy around the world: An overview. *Journal of Pension Economics and Finance*, 10(4), pp.497-508.
- Vissing-Jørgensen, A., 2002. Limited asset market participation and the elasticity of intertemporal substitution. *Journal of political Economy*, 110(4), pp.825-853.

Appendix

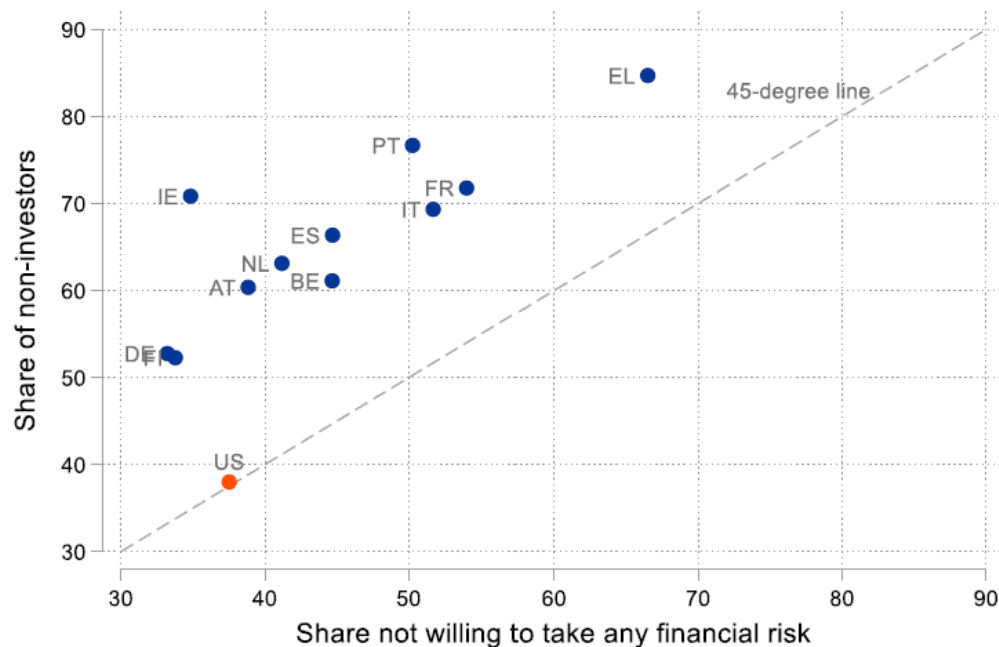
Background material

Expected stock market performance and plans to buy stocks over the next 12 months (share of consumers)



Source: ECB Consumer Expectations Survey (CES), authors calculation. Population weighted data from the experimental topical module on consumer finances fielded in November 2024 linked with data from the quarterly module in October. The probability of stock prices in the country respondents currently live in being higher 12 months from now is elicited each quarter and taken from October 2024.

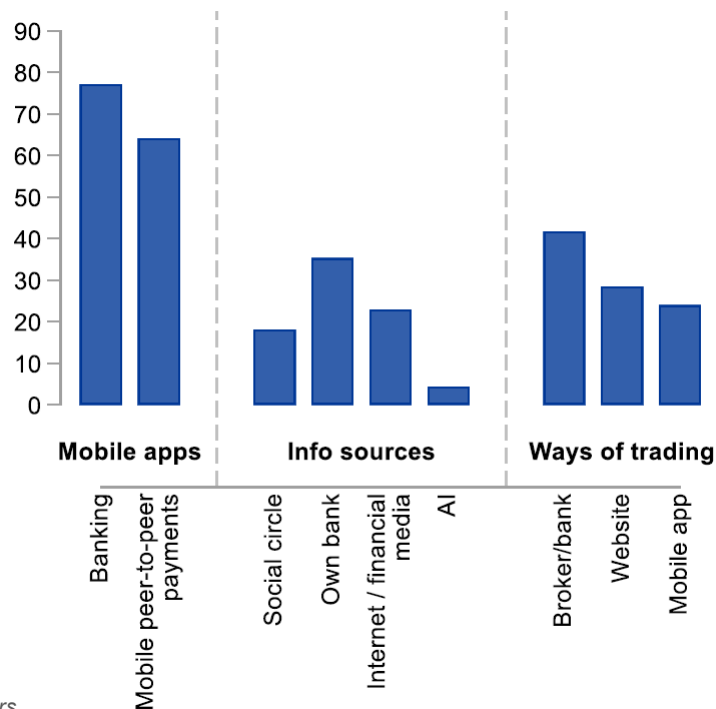
Financial risk taking and stock market participation (percentage of consumers)



Source: ECB Consumer Expectations Survey (CES), authors calculation. Population weighted data. The chart shows the share of respondents who do not invest in equity via stocks, mutual funds or private pension products (y-axis) and the share of people who are not willing to take any financial risks (x-axis).

Digitalisation of personal finances

(percentage of consumers)



Source: ECB Consumer Expectations Survey (CES), authors calculation. Population weighted data from the experimental topical module on consumer finances (November 2024). Population weighted data from the experimental topical modules on central banking (August 2025) and consumer finances (2024 and 2025).

Entry into and exit from the stock market

Table 6. Entry into stocks and mutual funds

Variables	Stocks		Stocks or mutual funds	
	Coeff.	Std. error	Coeff.	Std. error
Age: 36-50	-0.019***	(0.004)	-0.022***	(0.005)
Age: 51-65	-0.026***	(0.004)	-0.028***	(0.005)
Age: 65+	-0.025***	(0.006)	-0.030***	(0.007)
Men	0.016***	(0.003)	0.022***	(0.004)
Secondary	-0.001	(0.005)	-0.007	(0.006)
Tertiary	0.013***	(0.005)	0.013**	(0.006)
Household size	0.006***	(0.001)	0.008***	(0.002)
Household Income: Q2	0.005	(0.004)	0.014***	(0.005)
Household Income: Q3	0.024***	(0.004)	0.034***	(0.005)
Household Income: Q4	0.055***	(0.005)	0.069***	(0.006)
Liquid	0.034***	(0.003)	0.053***	(0.004)
High tolerance for fin. risk	0.007**	(0.003)	0.014***	(0.004)
High trust in people	0.010***	(0.003)	0.012***	(0.004)
High financial literacy	0.009***	(0.003)	0.019***	(0.004)
No. of Obs.	34,610		30,169	

Table 7. Exit from stocks and mutual funds

Variables	Stocks		Stocks and mutual funds	
	Coeff.	Std. error	Coeff.	Std. error
Age: 36-50	-0.027**	(0.013)	-0.026***	(0.010)
Age: 51-65	-0.053***	(0.013)	-0.053***	(0.010)
Age: 65+	-0.081***	(0.017)	-0.071***	(0.013)
Men	-0.073***	(0.010)	-0.044***	(0.007)
Secondary	-0.067***	(0.020)	-0.055***	(0.015)
Tertiary	-0.087***	(0.019)	-0.077***	(0.014)
Household size	0.006	(0.004)	0.013***	(0.003)
Household Income: Q2	0.026	(0.017)	0.026**	(0.012)
Household Income: Q3	0.005	(0.016)	-0.001	(0.012)
Household Income: Q4	-0.024	(0.016)	-0.046***	(0.012)
Liquid	-0.199***	(0.015)	-0.183***	(0.012)
High tolerance for fin. risk	0.022**	(0.010)	0.031***	(0.008)
High trust in people	-0.014	(0.009)	-0.017**	(0.007)
High financial literacy	-0.110***	(0.011)	-0.121***	(0.008)
No. of Obs.	10,848		15,732	

Crypto asset investment and stock market participation

Characteristic	No stocks / no crypto	Stocks only	Stocks + crypto	Crypto only
Age: 36–50	++	+	--	-
Age: 51–65	++	++	---	--
Age: 65+	++	++	---	--
Men	--	++	++	+
Secondary educ.	-	++	0	0
Tertiary educ.	--	++	0	0
Household size	0	-	0	0
Income Q2	--	++	0	0
Income Q3	---	++	0	+
Income Q4	---	+++	+	0
Liquid	---	+++	++	0
High risk tolerance	-	0	+	0
High trust in people	--	+	+	0
High financial literacy	---	+++	0	0