

Stockholding during the COVID-19 Crisis: An International Comparison

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OEE - Saving Behaviours during the Covid Crisis

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Motivation and research questions

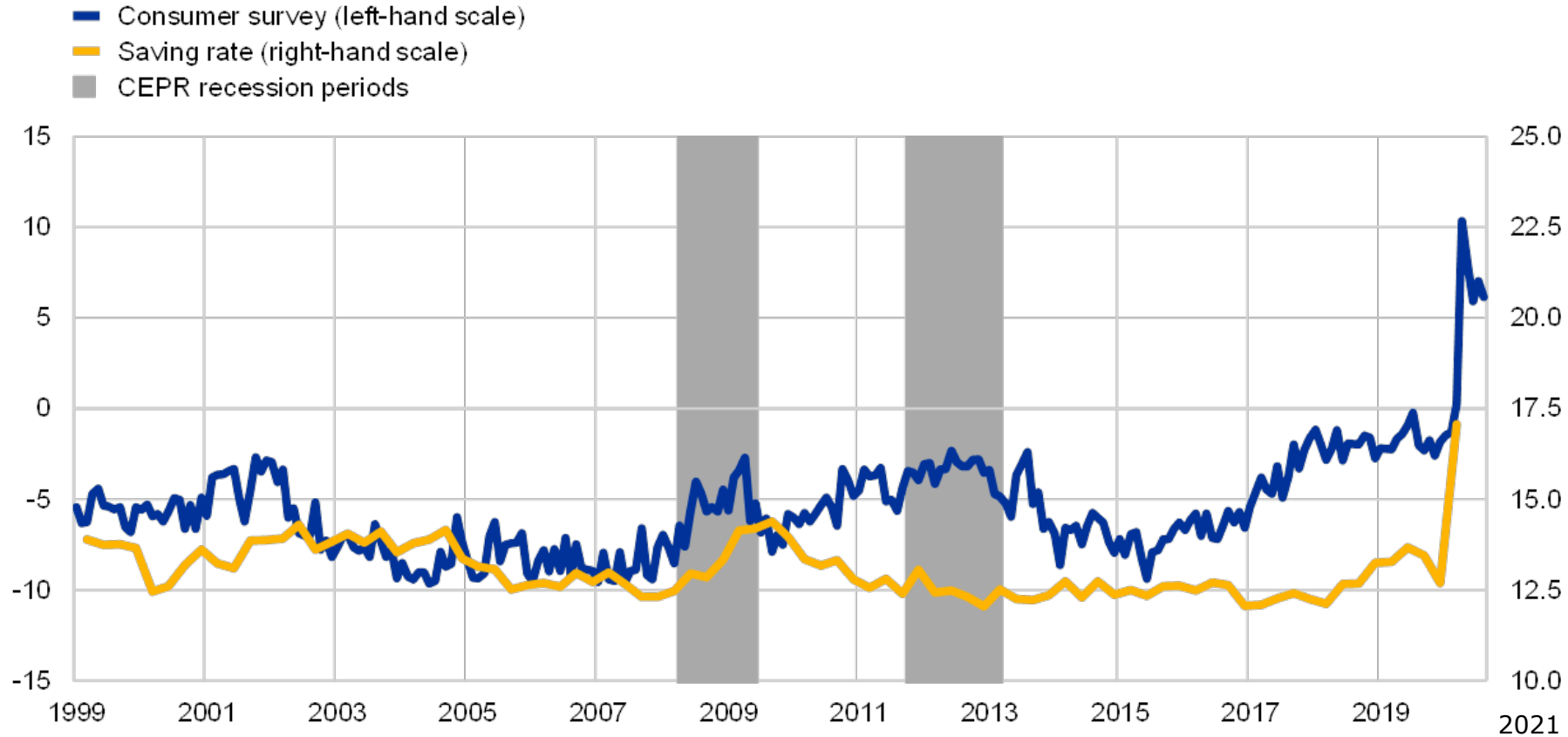
- Sharp drop in consumption during the Covid-19 crisis in the euro area. Milder movements in disposable income, due to government support policies.
- Propensity to save has risen in the euro area.
- Saving was not a buffer but increased during the recession.
- After an initial drop in share prices in March-April 2020, strong increase in share prices until end of 2021.

1. What was the effect on stockholding and asset shares invested in stocks?
2. Who are the households that increased their financial risk exposure?

Portfolio adjustments during Covid-19

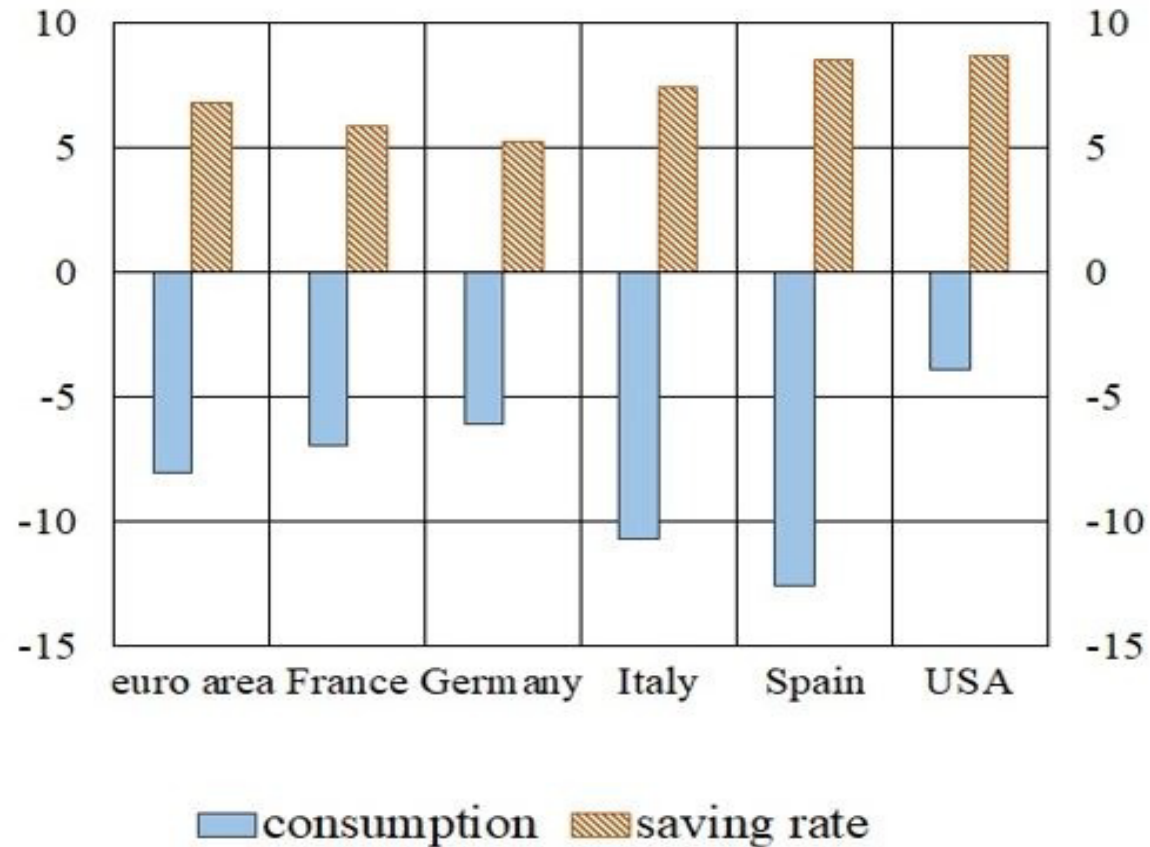
- The pandemic represents a shock to household current and expected financial resources, as well as their health.
- Such shocks would be expected to reduce exposure to risks that can be avoided, such as financial risk.
- However, during the pandemic, many households entered the stock market
 - Higher savings due to the inability to spend.
 - More time spent at home due to lockdowns and furlough schemes.
 - Large drops in share prices in March 2020, perceived as opportunity to buy stocks at cheap prices
 - Strong increase in share prices from mid-2020 to end of 2021

The propensity to save during Covid-19



Source: Maarten Dossche and Stylianos Zlatanos, ECB Economic Bulletin. The European Commission Consumer Survey includes a qualitative indicator of the propensity to save. Grey areas are recession periods as defined by CEPR.

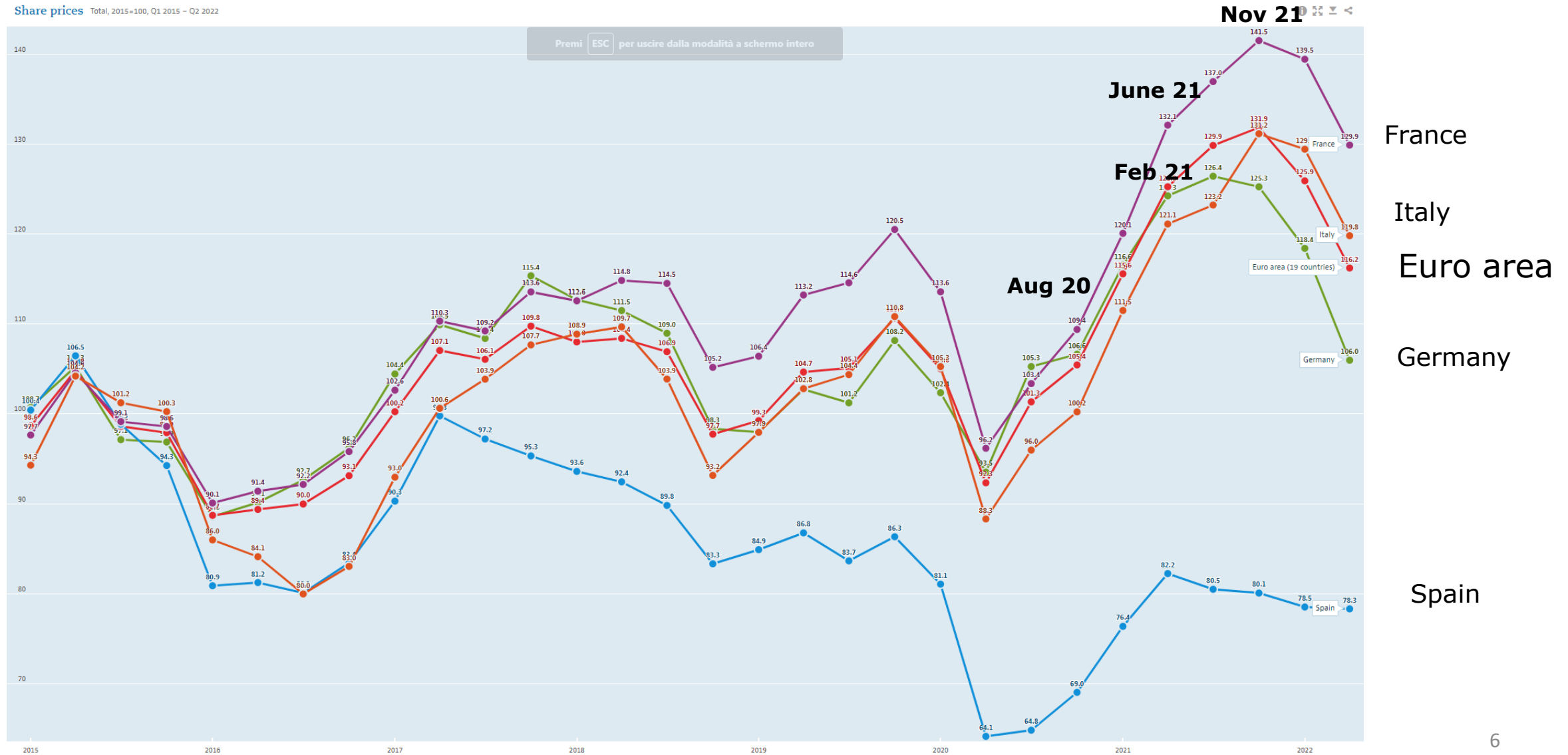
The consumption drop and the increase in the saving rate during the pandemic in the Euro Area and in the US



Changes in household consumption and the saving rate between 2019 and 2020.
Source: Guglielminetti and Rondinelli, 2021, UERF Policy Brief, No 142.

Share prices in the euro area (marked data are ECB-CES surveys)

Share prices Total, 2015=100, Q1 2015 – Q2 2022



Country-level studies on saving and portfolios during Covid-19

- US: Baker et al. (2020), Cox et al. (2020), Chetty et al. (2020), Coibion et al. (2020)
- UK: Crossley (2021), Fetzer et al (2020), Chronopoulos et al (2020) Hacıoglu (2020), Dunn et al (2021)
- Denmark: Andersen et al (2022)
- France: Bounie et al (2020)
- Italy: Guglielminetti and Rondinelli (2021), Jappelli et al (2022)
- Portugal and Spain: Carvalho et al (2020, 2021)
- Euro area: Christelis et al (2021)
- Portfolio effects: Altig et al (2020), Baker et al (2020) Hanspal et al (2021) Menkhoff, Schröder (2022)

Outline of the report

1. The ECB-CES survey

2. Participation in stocks and mutual funds:

2.1. Participation over time

2.2. Entry and exit during Covid

2.3. First-time entry during Covid vs. before Covid

3. Conditional asset shares in stocks and mutual funds

4. RCT on participation and assets shares

ECB-Survey of Consumer Expectations

- We use data from the new ECB-coordinated Survey of Consumer Expectations (CES).
- High frequency panel, with online interviews
- Countries covered: Belgium, France, Germany, Italy, Spain and the Netherlands
- Our Panel: **August 2020, February 2021, June 2021 and November 2021 waves**
- Approximately 10,000 observations in each of the 4 waves
- Data on holdings of **stocks, mutual funds, timing of first entry into the stock market.**
- Includes demographics, income, **Covid-induced fear about finances and health**
- We also designed an **RCT** on propensity to take risk and invest in stocks (Nov. 2021)

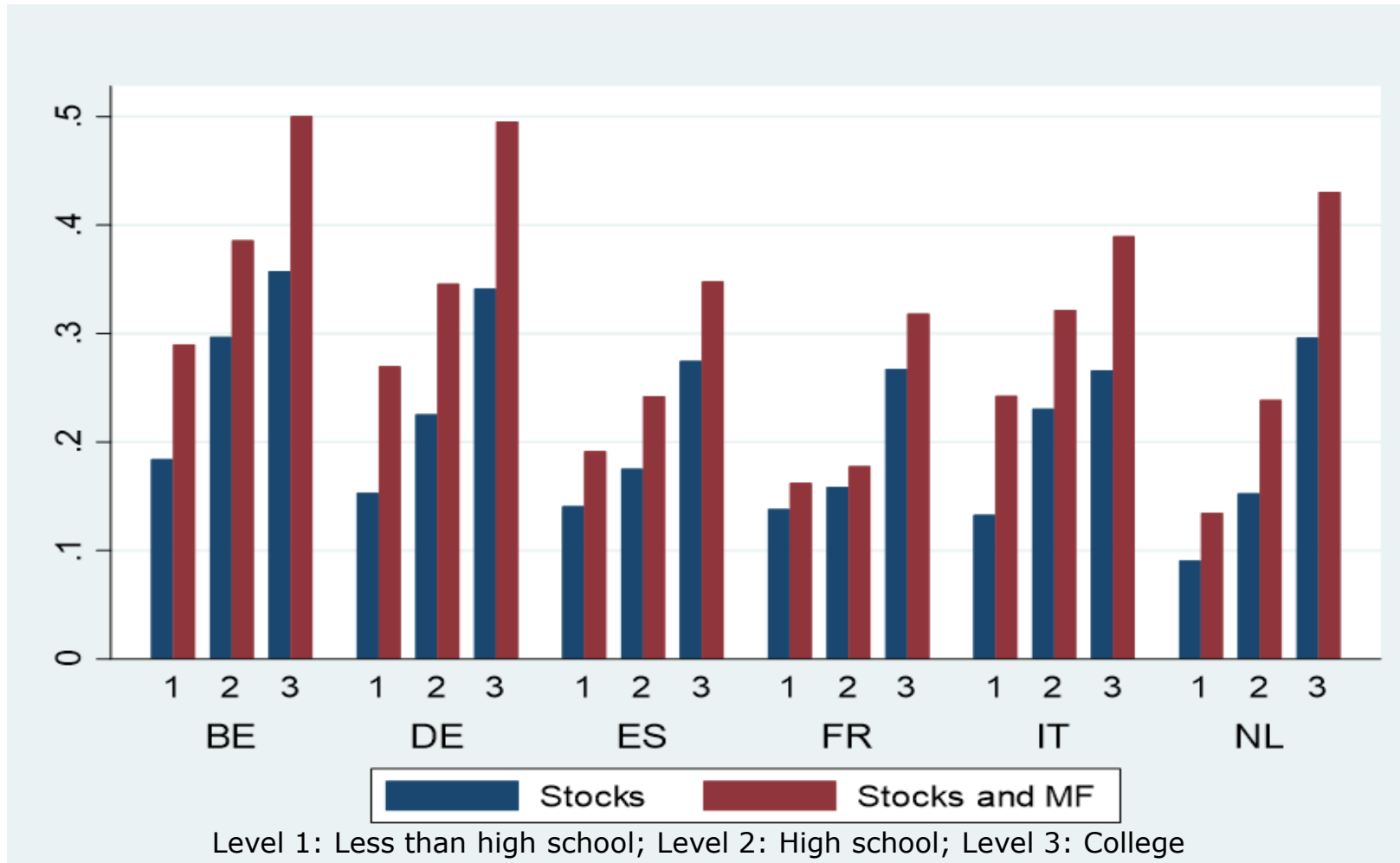
Our contribution

- Previous studies mostly with administrative data, mostly single-country studies
- We use **high-frequency survey data**
- Six euro area countries
- Micro-level **panel data** on households' portfolio: needed to analyze entry/exit rates, and control for unobserved heterogeneity
- Contain data on expectations, preferences, hypothetical questions, etc
- **Special modules**: allow experiments on propensity to take risk during Covid-19
- However: our data start in **August 2020**, we cannot compare with pre-Covid period

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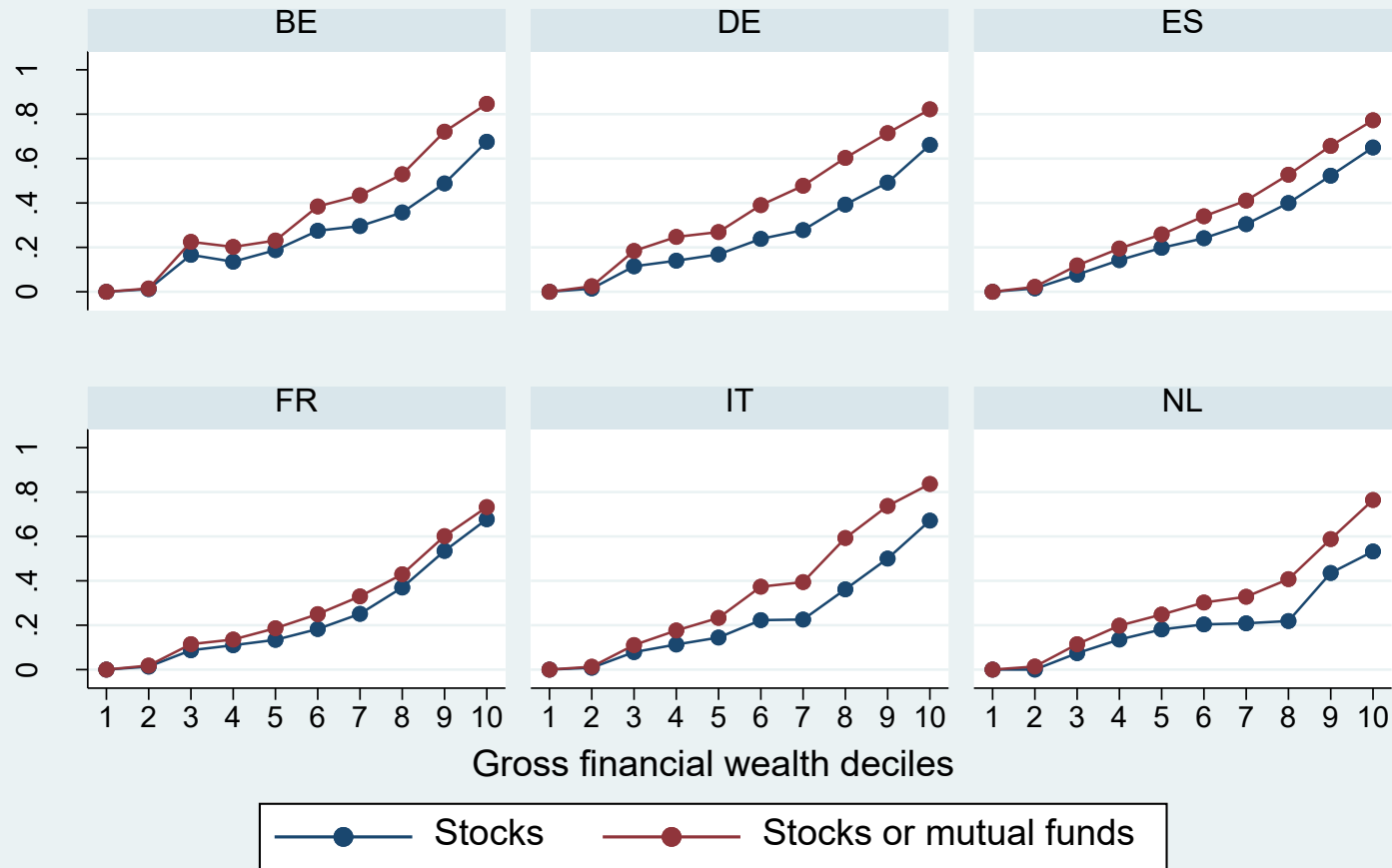
Stock market participation by education



We use a narrow and a broad definition of stockholding.

CES shows strong correlation between participation and education in each country.

Stock market participation by wealth deciles



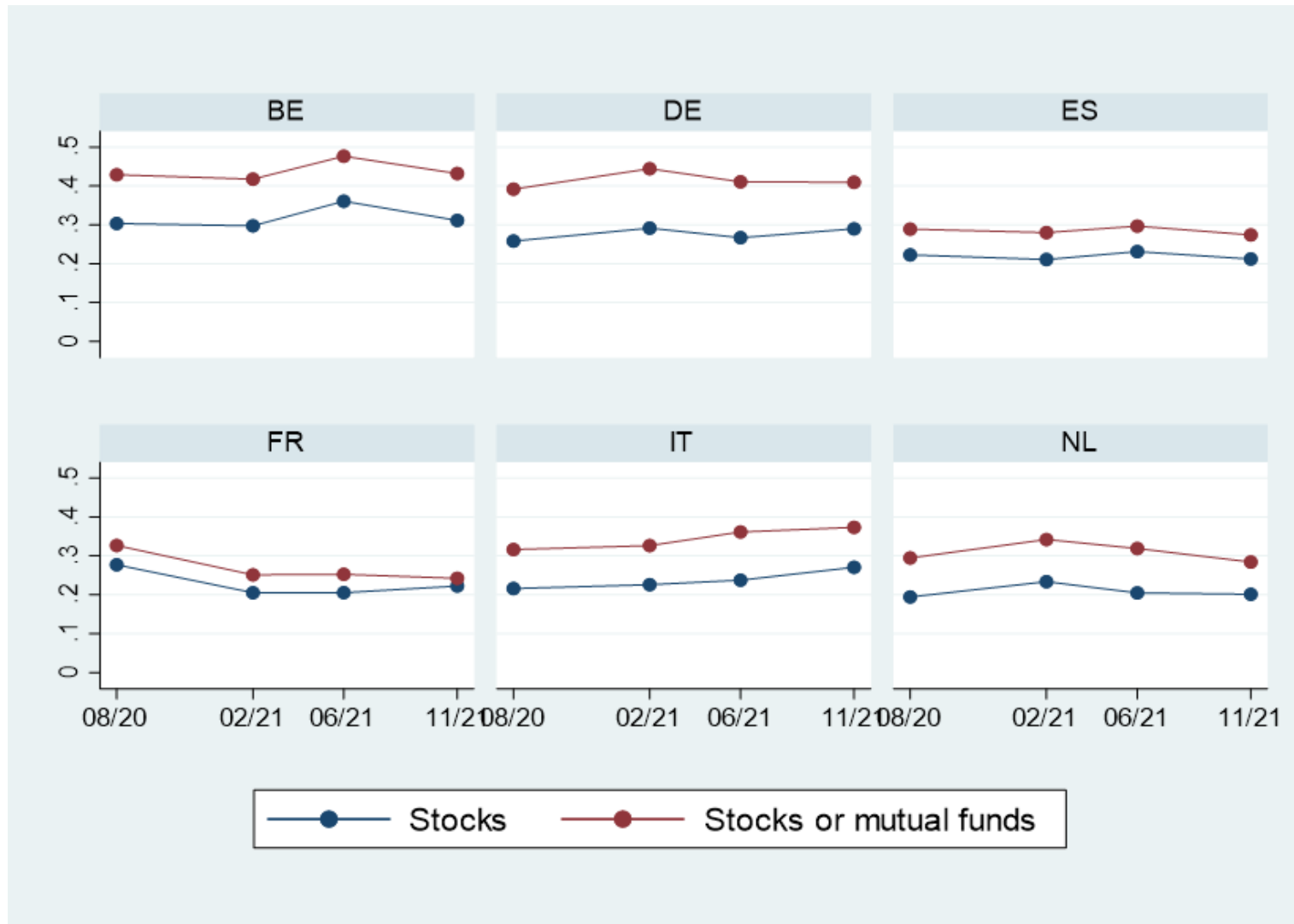
Strong correlation between stockholding and financial wealth in each country.

Often interpreted as evidence of participation costs (but cannot explain non-participation at high level of wealth).

Our report shows that stockholding profiles by age, cohort, income, wealth, and correlations with other relevant variables agree with previous country-level studies.

Important to validate CES.

Stock market participation over time – Aug. 2020 to Nov. 2021



Levels of participation differ by country (higher in Germany, and Belgium), lower in Italy, Spain and France.

Dynamics over time is similar across countries for narrow and broad definitions.

Overall, participation has not increased during the crisis.

However, we will see considerable turnover during the period (entry and exit).

Determinants of stockholding

	OLS	Fixed effects
Financial concern due to COVID-19	-0.008***	-0.004***
Health concern due to COVID-19	-0.001	-0.001
Age	0.000	
Male	0.071***	
Secondary education	0.017***	
Tertiary education	0.065***	
Household size	0.007***	
Log of household income	0.099***	
Has liquidity	0.110***	0.056***
High tolerance for financial risk	0.004	
High financial literacy	0.082***	
Observations	40,858	42,050

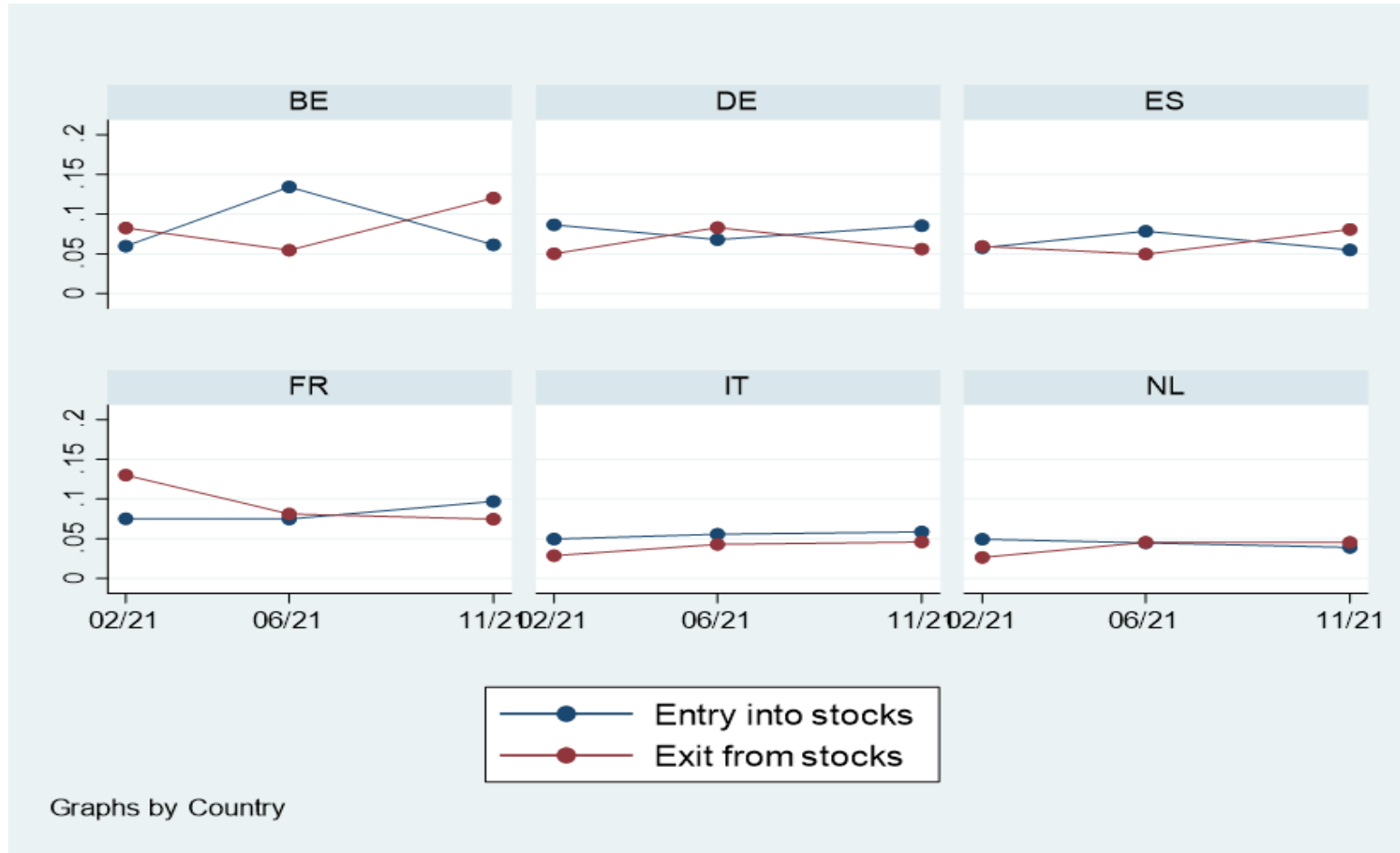
Results broadly confirm previous findings about characteristics related to stockholding.

In addition, we find a negative impact of **financial concern** due to Covid-19, even controlling for individual fixed effects.

Results with fixed effects (conditional logit) do not identify coefficients of variables that do not change over time.

Results similar for broader definition of stockholding.

Entry and exit in stocks during Covid-19



Entry and exit rates can only be computed with panel data.

For comparability, entry and exit rates are computed in the total population.

They roughly balance in the sample period (between 5 and 10% in each country in each quarter).

Similar pattern for broader definition.

Entry and exit in stocks during Covid-19

	Probit for entry	Probit for exit
Financial concern due to COVID-19	-0.002**	-0.008***
Health concern due to COVID-19	0.001	0.004
Age	-0.001	-0.002***
Male	0.021***	-0.075***
Secondary education	0.002	-0.080***
Tertiary education	0.023***	-0.080***
Household size	0.005***	-0.002
Log of household income	0.042***	-0.028***
Has liquidity	0.110***	-0.207***
High tolerance for financial risk	0.018***	0.013
High financial literacy	0.004	0.015***
Observations	17,016	5,391

Entry: 1 if owns in period t, but not in period t-1

Exit: 1 if exit in period t, but owns in period to t-1

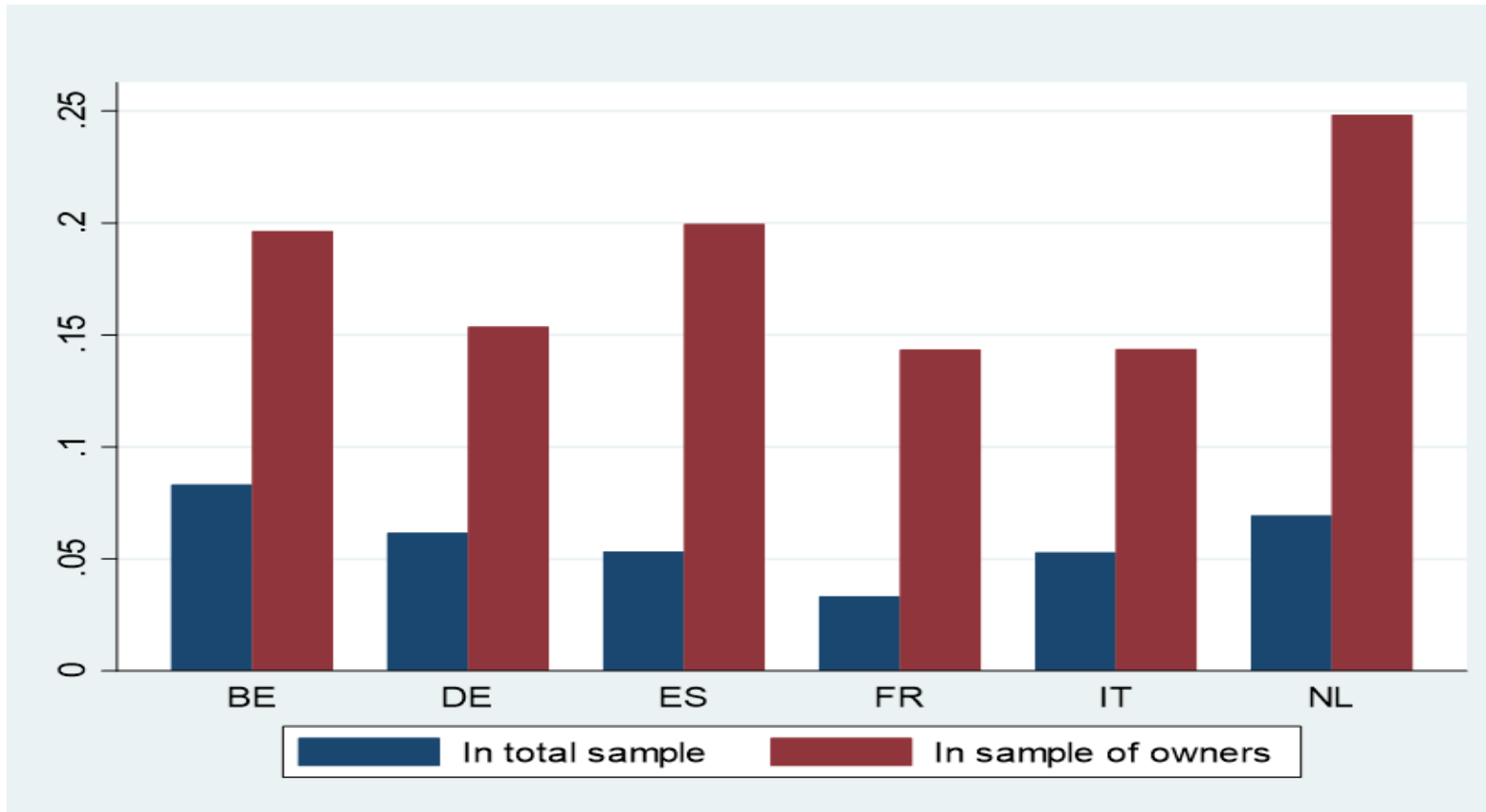
Income, education, financial literacy predict higher entry rates, and lower exit rates

Regressions control for country dummies.

Similar results for broader definition of stockholding.

Regressions include country dummies

First-time stockownership during Covid-19



Our report has a special focus on new stockholders.

First time ownership in 2020-21 is around 5% in total sample .

But as a fraction of owners only, first-time stockholding is substantial (about 20% in Spain, Belgium, Netherlands)

First time ownership during Covid-19. Who are the new entrants?

	Marginal effects from probit
Financial concern due to COVID-19	0.004
Health concern due to COVID-19	0.001
Age	-0.006
Male	-0.006
Secondary education	-0.042**
Tertiary education	-0.034*
Household size	0.001
Log of household income	-0.041***
Has liquidity	-0.013
High tolerance for financial risk	-0.024
High financial literacy	-0.067***
Observations	4,367

Regressions include country dummies

New entrants: 1 if entry in stock market in 2020-21, 0 if first time entry before pandemic.

Interesting result: correlation is opposite with overall entry rates.

Those who entered the first time in 2020-21 have relatively low education, low income and low financial literacy, relative to previous entrants.

Effects significant also in terms of size.

Overall, less sophisticated investors entered the stock market.

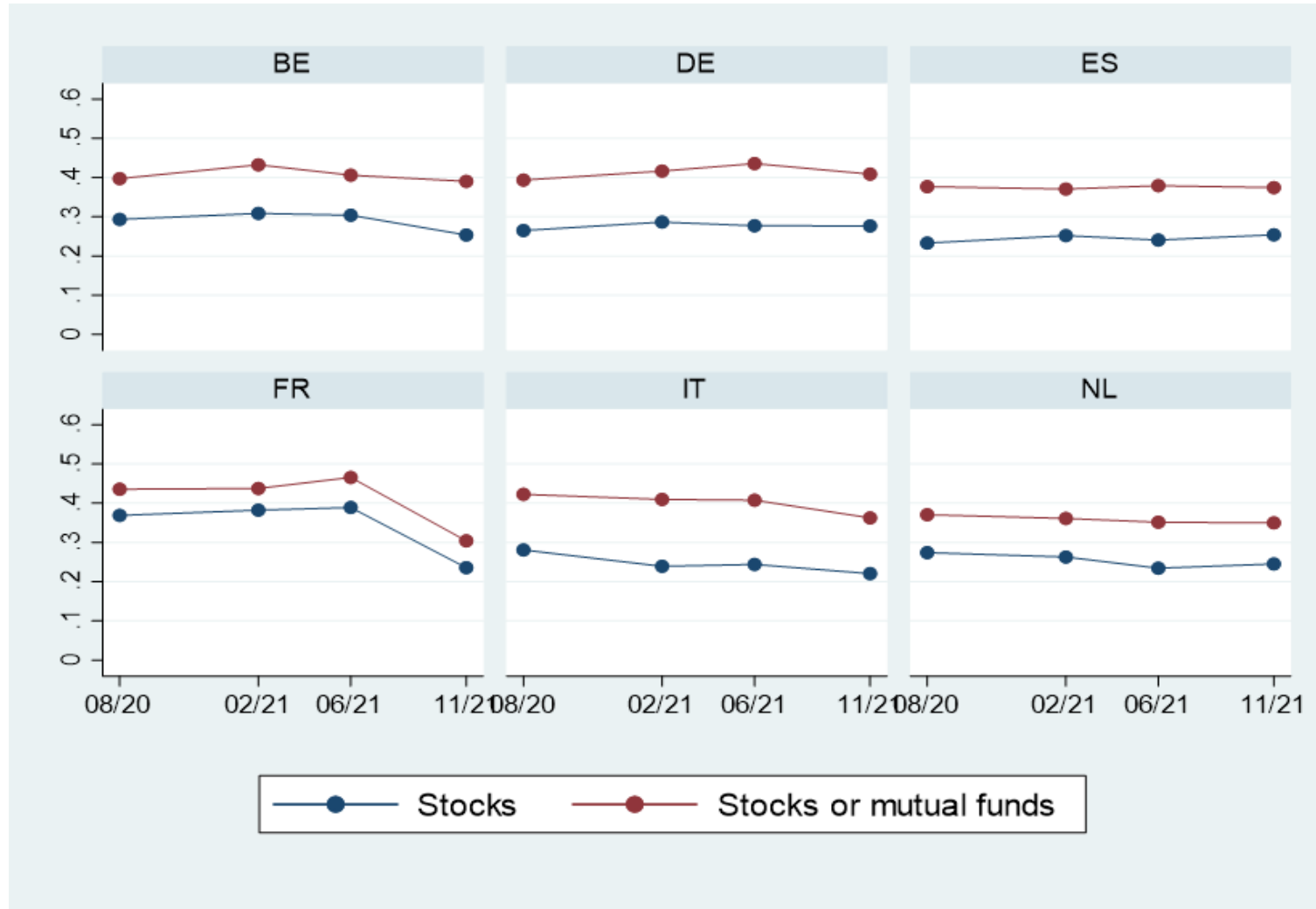
Summary of results on participation

- Financial fear due to Covid has a significant negative effect on participation
- No corresponding effect for health-related fear due to Covid
- Typical associations of participation with education, gender, risk attitudes, resources, financial literacy, and liquidity – same holds for entry and exit into the stock market
- First time investors during the pandemic:
 - Worse demographic characteristics among stockowners – more recent owners are likely to have jumped in during the pandemic being less well equipped, both informationally and financially
 - Better characteristic than average in the population

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4. RCT on participation and assets shares

Conditional risky financial asset share



Two definitions: narrow and broad

Asset shares, conditional on participation, are rather flat during our sample period.

More on the relation between propensity to invest in risky assets and wealth in our RCT experiment .

Determinants of the share invested in stocks

	Marginal effectst
Financial concern due to COVID-19	-0.001***
Health concern due to COVID-19	0.000
Age	0.000***
Male	0.022***
Secondary education	0.006
Tertiary education	0.020***
Household size	0.002**
Log of household income	0.026***
Has liquidity	0.032***
High tolerance for financial risk	0.003
High financial literacy	0.019***
Observations	35,895

Marginal effects are computed conditional on participation.

Negative effect of financial concerns for Covid (but small). No effect of health concerns.

Positive associations of asset share with education, gender, resources, financial literacy and liquidity.

Regressions control for country dummies.

Similar effects for the broader definition of risky asset share.

Regressions include country dummies

Summary Part I

- Overall, stable participation rates during the pandemic.
- Significant entry and exit into the stock market during the pandemic.
- Those who enter the market during the pandemic are typically less educated and less wealthy compared to average stockowners and to first-time entrants in previous periods.
- **Ceteris paribus**, financial fear due to Covid reduces risky asset holdings (both participation and risky asset shares).
- Interesting to check how participation and asset shares vary across the wealth distribution and by the level of financial concern due to Covid-19. For this, we designed **an RCT in a special module of the CES.**