Where did pandemic savings go? Uneven accumulation and spending patterns

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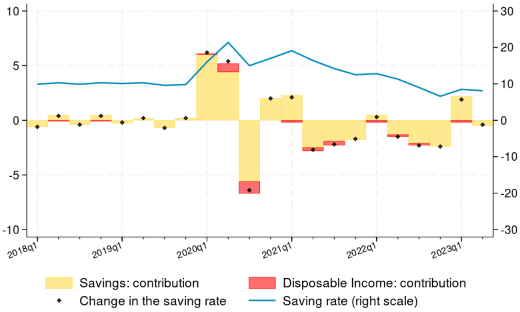
18th South-Eastern European Economic Research Workshop

Tirana, 19-20th November 2024

Outline

Consumption and Savings

Following the outbreak of Covid-19, household saving rate spiked worldwide (above 20% in Italy). It remained significantly above pre-pandemic levels until the spring of 2022 and then started decreasing, to get below 2019 values in early-2023.



Research questions

- Estimate the evolution of excess savings during and after the pandemic, exploiting the relationship between the flow of savings and financial assets
- Decompose excess savings (excess financial assets) by:
  - Financial instruments
  - Household quantiles across the net wealth distribution
- Assess the heterogeneous impact of high inflation on financial wealth
- Gauge a glimpse of the expected evolution of consumption and savings

Selected Literature

Excess savings: amount and distribution

- Aladangady et al. (2022); Abdelrahman and Oliveira (2023); Battistini, Di Nino, and Gareis (2023); de Soyres, Moore, and Ortiz (2023); Infante, Lilla, and Vercelli (2023); Blanchet and Martinze-Toledano (2023)

Effect of the 2021-22 energy shock on household assets and consumption

- Pallotti et al. (2023); Mendoza (2023); Fang, Liu, and Roussanov (2022); Neville et al. (2021); Infante et al. (2023).

Effect of excess savings on consumption

- Aladangady et al. (2022); Dossche et al. (2022); Battistini, Di Nino, and Gareis (2023); Auclert, Rognlie, and Straub (2023).

Data

- National and Financial Accounts
- Distributional Wealth Accounts (DWA) for Italy. The DWA provide distributional information on household wealth since 2010 by combining the Household Finance Consumption Surveys data with national accounts
- Conjunctural Survey of Italian Households (CSIH). Pilot survey conducted by Banca d'Italia in the summer of 2023, interviewing a sub-sample of about 2,000 Italian Households that participated in the Survey on Household Income and Wealth (SHIW) for 2022

Road map

- Excess savings: realized flow of savings - counterfactual, i.e. savings flows compatible with saving rate at its average value in 2015-2019. ▸ Counterfactual
- Quantification of excess savings:
  1. Estimate total excess assets by exploiting historical regularities with savings and assuming a counterfactual path. We find: i) assets accumulation up until mid-2022; ii) stock of excess assets still above 100 bln in 2023Q2 (2.2% of total assets). ▸ Correlations ▸ Estimates ▸ Excess financial assets
  2. Decompose excess assets by financial instruments: accumulation of deposits in the early phase and then re-direction towards debt securities. ▸ Method ▸ Graph
  3. Excess savings across the net wealth distribution: although less affluent household managed to save, they hold a limited amount of assets, concentrated in deposits. ▸ Method ▸ Graph
  4. Assess the impact of inflation: real financial wealth is now below pre-pandemic values for most households (up to the 70th percentile). ▸ Method ▸ Graph

The Conjunctural Survey

- Between June and July 2022 the Bank of Italy conducted the first edition of the Conjunctural Survey of Italian Households (CSIH; pilot). In the summer of 2023 the second edition of the survey was conducted, interviewing a sub-sample of 1,924 Italian Households that participated in the SHIW in 2022.
- The Survey is representative of the Italian population. The system of sample weights was calibrated to the information provided by Istat on: gender, age group, geographical area, degree of education and employment status of the Italian population aged 18 and over.
- Qualitative questions: making ends meet, consumption and spending expectations, past and expected saving, etc.
- Quantitative questions: age, household size, inflation expectations, etc.

Savings Spending Other

Determinants of the use of savings

	Other financial instr.	Maintenance	Repay debt	Other	No saving to use
	(1)	(2)	(3)	(4)	(5)
Making ends meet: without difficulty	0.465**	-0.203	-0.892***	-0.260	-1.717***
	(0.216)	(0.224)	(0.231)	(0.238)	(0.205)
Income increase	-0.158	0.097	0.245	0.135	-0.272
	(0.217)	(0.238)	(0.249)	(0.238)	(0.265)
High School	0.556	0.405	-0.176	-0.258	-0.531**
	(0.378)	(0.277)	(0.285)	(0.229)	(0.236)
Higher education: college and beyond	1.076***	0.652**	-0.138	-0.827***	-0.802***
	(0.397)	(0.310)	(0.351)	(0.294)	(0.280)
Constant	-3.777**	-2.620*	-3.325**	-0.199	0.359
	(1.538)	(1.548)	(1.299)	(1.229)	(1.197)
Observations	1,924	1,924	1,924	1,924	1,924

Notes: Multinomial probit model. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Reference category are deposits. Reference category for making ends meet is with some difficulty, great difficulty or difficulty. Other controls include age, sex, occupational status.

- More affluent households are more likely to say that they would invest their accumulated savings in other financial instruments rather than keep them in deposits

Determinants of no saving to use

	(1)	(2)	(3)	(4)	(5)
High School	-0.165***	-0.159***	-0.126***	-0.131***	-0.097***
	(0.023)	(0.023)	(0.021)	(0.021)	(0.021)
Higher education: college and beyond	-0.290***	-0.278***	-0.190***	-0.194***	-0.125***
	(0.033)	(0.033)	(0.030)	(0.030)	(0.031)
Income increase		-0.083***	-0.055**	-0.049**	-0.041*
		(0.024)	(0.022)	(0.022)	(0.021)
Saved in the past			-0.341***	-0.328***	-0.228***
			(0.019)	(0.019)	(0.021)
Decrease in financial activity				0.070***	0.045**
				(0.019)	(0.019)
With great difficulty or difficulty					0.198***
					(0.024)
Quite easily					-0.096***
					(0.025)
Easily or very Easily					-0.061**
					(0.030)
Constant	0.564***	0.586***	0.695***	0.686***	0.543***
	(0.106)	(0.106)	(0.098)	(0.098)	(0.095)
Observations	1,924	1,924	1,924	1,924	1,924
R-squared	0.152	0.157	0.283	0.288	0.334

Notes: Linear models. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Reference category for making ends meet is with some difficulty. Other controls include age, sex, occupational status.

- Households whose income has increased or have saved in the past are less likely to report having no accumulated savings; those who have reduced financial activities or are less affluent are more likely to report having no residual assets.

Determinants of the increase in spending

	All	All	All	Easily or very Easily	Quite easily and with some difficulty	With great difficulty or difficulty
	(1)	(2)	(3)	(4)	(5)	(6)
Expected increase saving	-0.057**	-0.031	-0.011	0.220***	-0.021	-0.098
	(0.027)	(0.024)	(0.024)	(0.059)	(0.032)	(0.081)
Other financial instruments		-0.111***	-0.114***	-0.117**	-0.045	0.196
		(0.040)	(0.040)	(0.053)	(0.059)	(0.139)
Maintainance		0.067*	0.058	0.076	0.047	0.254**
		(0.039)	(0.038)	(0.066)	(0.051)	(0.099)
Repay debt		0.022	-0.003	-0.235	-0.050	0.079
		(0.042)	(0.042)	(0.150)	(0.060)	(0.082)
Other		-0.050	-0.040	-0.047	-0.035	0.021
		(0.031)	(0.030)	(0.063)	(0.040)	(0.072)
No saving to use		0.041	0.026	0.177	-0.004	0.114**
		(0.031)	(0.030)	(0.148)	(0.047)	(0.058)
Income increase	0.055**	0.055**	0.067***	0.094**	0.080**	0.031
	(0.025)	(0.025)	(0.025)	(0.046)	(0.035)	(0.055)
Saved in the past	0.004					
	(0.027)					
Decrease in financial activity			0.136***	0.113*	0.207***	0.091**
			(0.022)	(0.058)	(0.034)	(0.039)
Constant	0.498***	0.468***	0.457***	1.283***	1.063***	-0.308
	(0.113)	(0.115)	(0.114)	(0.349)	(0.174)	(0.198)
Observations	1,924	1,924	1,924	591	886	447
R-squared	0.040	0.051	0.069	0.141	0.100	0.150

Notes: Linear models. Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1. Other controls include age, sex, education, occupational status.

- Households signal that they are unable to save and spend more at the same time. Those who have saved in the past expect also to do so in the future.
- Heterogeneous effect of the pandemic across households. Puzzling results for no saving to use.

Determinants of the increase in quantities (poor households)

	Non Durable	Durable	Leisure	Bills
	(1)	(2)	(3)	(4)
Expected increase saving	-0.118	-0.011	-0.148	-0.133
	(0.099)	(0.095)	(0.096)	(0.099)
Decrease in financial activity	0.123**	-0.018	0.021	0.048
	(0.048)	(0.045)	(0.046)	(0.048)
Other financial instruments	-0.336**	-0.218	-0.270	-0.468***
	(0.170)	(0.162)	(0.165)	(0.170)
Maintenance	-0.145	-0.117	-0.060	-0.251**
	(0.121)	(0.116)	(0.118)	(0.121)
Repay debt	-0.114	-0.159*	-0.296***	-0.240**
	(0.100)	(0.096)	(0.098)	(0.101)
Other	-0.390***	-0.434***	-0.410***	-0.562***
	(0.088)	(0.084)	(0.085)	(0.088)
No saving to use	-0.075	-0.110	-0.105	-0.182**
	(0.071)	(0.067)	(0.069)	(0.071)
Income increase	0.037	-0.026	0.068	0.046
	(0.067)	(0.064)	(0.066)	(0.068)
Constant	0.373	0.090	0.036	0.579**
	(0.242)	(0.231)	(0.235)	(0.242)
Observations	447	447	447	447
R-squared	0.131	0.120	0.122	0.142

Notes: Linear models. Standard errors in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. Other controls include age, sex, education, occupational status.

- Not having savings to use is detrimental for the quantities purchased of bills, which account for a relevant share of the consumption basket of less affluent households.

Discussion: macro evidence

1. The excess assets accumulated during the pandemic were distributed unevenly across the net wealth distribution
   - Lion's share held by relatively affluent families
   - Portfolio composition: tilted towards less liquid investments for better-off families
2. Higher inflation has had a hefty bearing on financial assets: real financial assets are back to pre-pandemic levels for most households
   - Because more affluent households invest mostly in assets less exposed to inflation, their financial wealth has not been eroded by rising prices

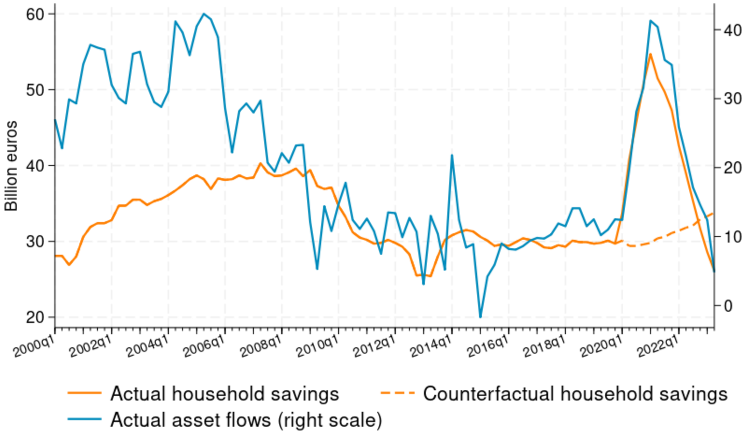
Discussion: micro evidence

Can excess savings stimulate consumption?

1. Asset drawdown by *low-income* households is likely to have been already depleted and offer limited support to consumption expansion:
   - Modest amount of excess savings accumulated by these households during the pandemic.
   - Real financial wealth well-below to pre-pandemic levels.
2. Excess savings is still owned by *better-off households*, with limited support to consumption:
   - real value of their financial wealth is only marginally impacted by the surge in inflation
   - affluent families declare their willingness to both spend more and save more in the future, signalling they don't need to decumulate their savings to sustain consumption.

THANKS FOR YOUR ATTENTION

Italian households' savings and financial activities



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Correlations between households' savings and flows of financial activities

	Households' savings					
	2000-2019			2000-2023		
	t-1	*t*	*t+1*	*t-1*	*t*	*t+1*
Total financial assets	0.49	0.55	0.59	0.58	0.61	0.59
Cash	0.56	0.55	0.51	0.66	0.68	0.65
Deposits	0.35	0.40	0.49	0.52	0.60	0.67
Debt securities	0.46	0.50	0.53	0.18	0.16	0.19
Investment fund shares	-0.62	-0.64	-0.64	-0.17	-0.16	-0.20
Life insurance and annuity entitlements	-0.06	-0.03	-0.01	0.01	0.04	0.01
Financial business wealth and listed shares	0.18	0.12	0.07	-0.03	0.01	0.01

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Estimate the relationship between financial and saving flows

$$assets\_flows_t = \beta savings_t + \gamma liabilities_t + \varepsilon_t$$

	(1)	(2)	(3)	(4)	(5)	(6)
Savings (t)	0.294***	2.512***	0.298***	2.538***	2.207**	2.103**
	[0.045]	[0.839]	[0.046]	[0.842]	[0.875]	[0.901]
Savings (t-1)		-2.212***		-2.233***	-0.100	0.068
		[0.836]		[0.838]	[1.390]	[1.432]
Savings (t-2)					-1.797**	-1.858**
					[0.861]	[0.873]
Liabilities (t)	-1.257***	-1.226***	-1.675**	-1.699***	-1.55**	-1.436**
	[0.144]	[0.140]	[0.651]	[0.626]	[0.618]	[0.657]
Liabilities (t-1)			0.431	0.486	0.370	-0.092
			[0.651]	[0.623]	[0.619]	[1.064]
Liabilities (t-2)						0.358
						[0.668]
Observations	81	80	80	80	79	79
Adjusted R-squared	0.58	0.61	0.58	0.62	0.63	0.65

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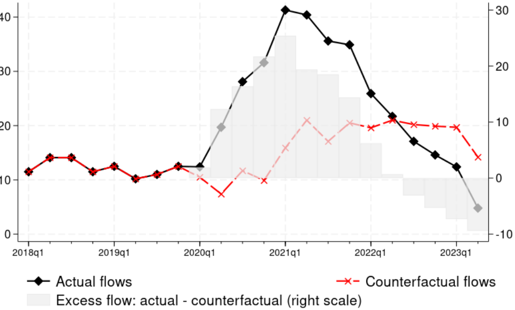
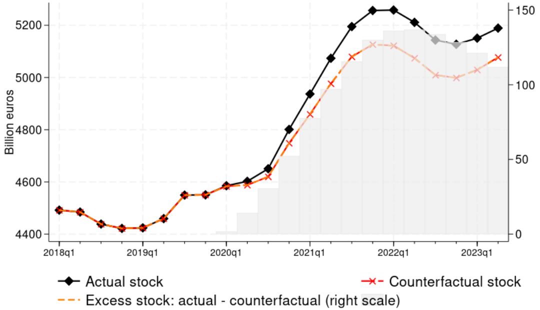
Estimates of *excess* financial assets



(a) *Flows*



(b) *Stock*

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Excess assets by financial instrument

- Use Financial Accounts to decompose $\hat{a}_t$ (excess assets) by $K = 5$ asset classes (those considered in the DWA): i) deposits, ii) debt securities, iii) investment fund shares, iv) life insurance and annuity entitlements and v) financial business wealth and listed shares.
- Assume that the allocation of excess savings mirrors that of realized financial flows: i) separately consider positive and negative flows (a^+ and a^-) and within each of them assume that the allocation of excess financial flows is the same as the actual one; ii) the ratio of gross and net financial flows is the same for actual and excess flows.

$$\omega^+_{kt} = \frac{a_{kt}}{a^+_t} = \frac{\hat{a}_{kt}}{\hat{a}^+_t} \quad \forall \quad k = 1, \dots, K \tag{1}$$

$$\omega^-_{kt} = \frac{a_{kt}}{a^-_t} = \frac{\hat{a}_{kt}}{\hat{a}^-_t} \quad \forall \quad k = 1, \dots, K \tag{2}$$

$$\lambda = \frac{a^+_t + |a^-_t|}{|a_t|} = \frac{\hat{a}^+_t + |\hat{a}^-_t|}{|\hat{a}_t|} \tag{3}$$

where $\sum_{k=1}^{K} \omega^+_{kt} = \sum_{k=1}^{K} \omega^-_{kt} = 1$.

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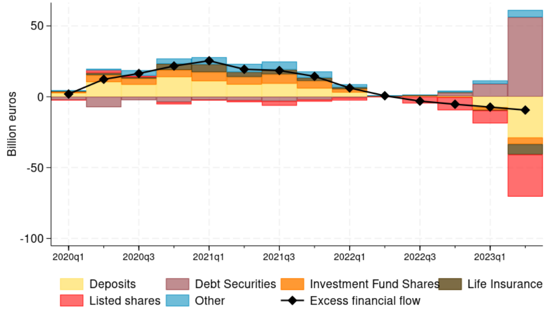
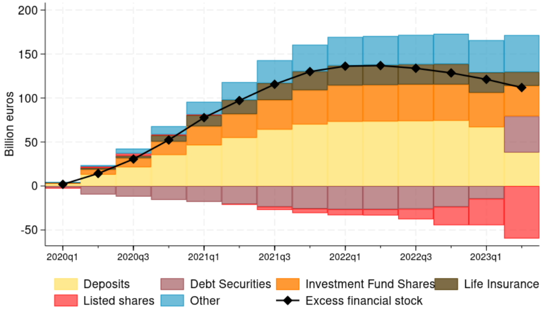
Excess assets by financial instrument



(a) *Flow*



(b) *Stock*

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Excess assets across the net wealth distribution

- Exploit the DWA, which provide information on the distribution of assets across the household net wealth distribution.
- Obtain flows by subtracting the price effect, which we assume to be common to all households holding the same assets.
- For each financial instrument assume that households of type j contributed to the accumulation (or draw-down) of excess financial flows in the same way as in DWA:

$$\omega^j_{kt} = \frac{a^j_{kt}}{a_{kt}} = \frac{\hat{a}^j_{kt}}{\hat{a}_{kt}} \tag{4}$$

- In this way we find excess financial flows for each asset and each class of households, $\hat{a}^j_{kt}$. By aggregating by financial instrument we obtain a decomposition of excess financial flows across the household distribution: $\hat{a}^j_t = \sum_{k=1}^{K} \hat{a}^j_{kt}$.

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The impact of inflation on financial wealth

- Following Infante et al. (2023), we classify financial assets as highly exposed to inflation or not exposed. Like them, we include in the first category deposits and debt securities, which have a fixed reimbursement value. The other financial instruments are instead classified in the second group because their value is set by the market taking into account inflation developments.
- Then we use the consumption deflator to obtain the evolution of deposits and debt securities in real terms.

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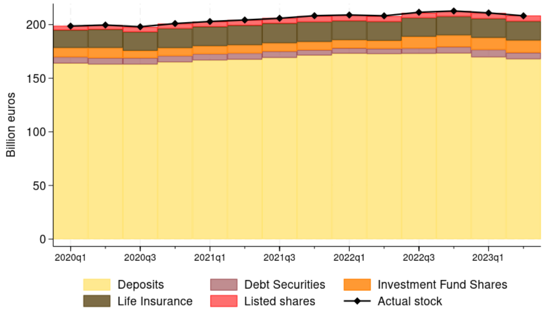
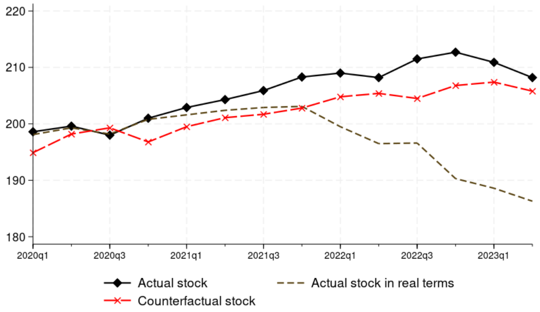
Financial assets across the net wealth distribution: bottom 50th percentiles





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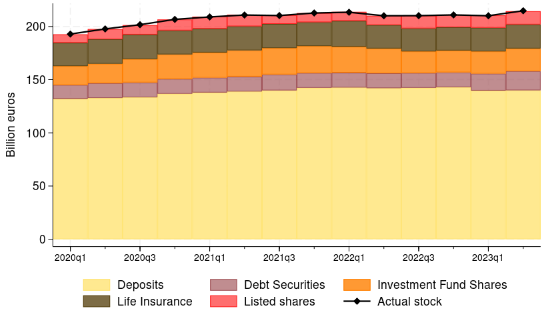
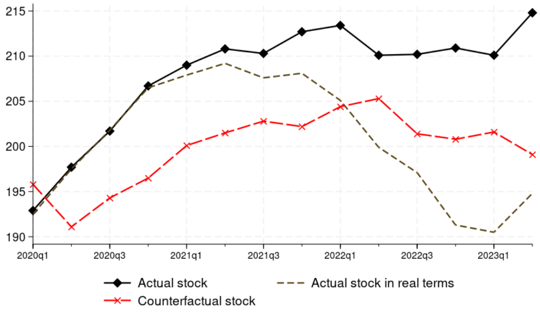
Financial assets across the net wealth distribution: 50th-70th percentiles





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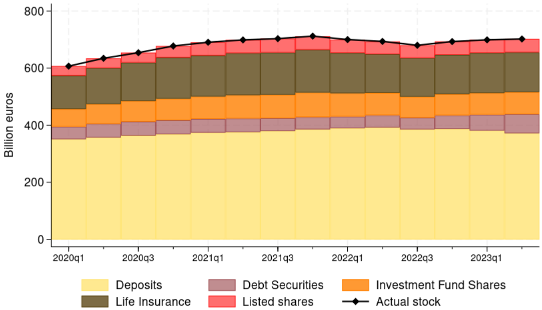
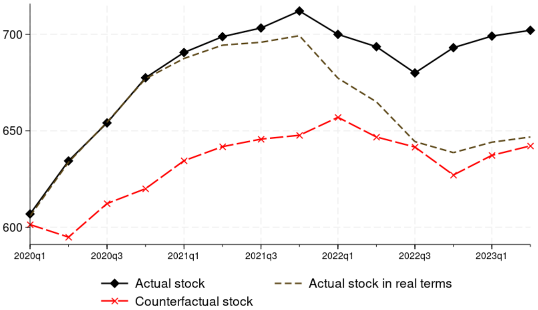
Financial assets across the net wealth distribution: 70th-90th percentiles





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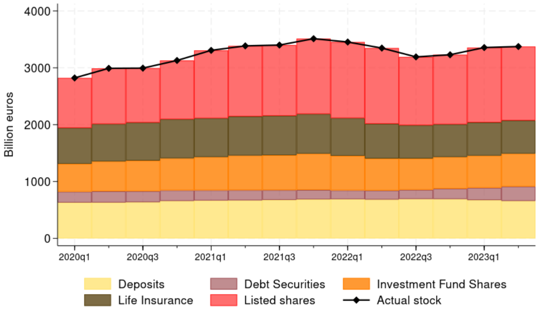
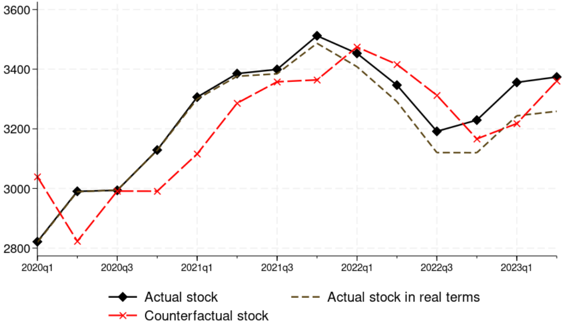
Financial assets across the net wealth distribution: top 10%





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Saving in CSIH

Assessment of past saving in 2023 Please consider all of the sources of income for your household that you have told me about during this interview (employment income, rent, income from capital, etc.). Could you tell me whether from January 2023 to July 2023 your household: 1.spent less than the entire income and succeed in saving; 2.spent the entire income and did not to manage to save anything; 3.spent more than the entire income, drawing on savings or borrowing. Saved in the past is a dummy variable equal to 1 for those replying 1 to the question.

Expected savings Please consider all of the sources of income for your household that you have told me about during this interview (employment income, rent, income from capital, etc.). Do you expect in the next 12 coming month to: 1.spent less than the entire income and succeed in saving; 2.spent the entire income and did not to manage to save anything; 3.spent more than the entire income, drawing on savings or borrowing. Expected increase in saving is a dummy variable equal to 1 for those replying 1 to the question.

Use of savings In the next twelve months, how do you plan to use any savings accumulated in the last years? Two options available, in order of importance. Possible answers are: keep in bank and/or postal deposits; invest in other financial instruments; use for the purchase or renovation of a property; use to repay debt (e.g. mortgage or consumer credit); other uses; no accumulated savings to use.

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Spending and consumption in CSIH

Expected spending Over the next 12 months, how do you expect your your family' overall spending in euros to vary compared to the last 12 months? Decrease, the same, increase.

Expected consumption Now think only about the quantities purchased (and not about the expenditure in euros), how you expect them to vary over the next 12 months compared to the last 12 months, in the following categories?

	(i)	(ii)	(iii)
1. Non durable goods (food, clothing and footwear, etc.)			
2. Durable goods (such as vehicles and appliances)			
3. Bills (water, electricity and gas)			
4. Leisure (hotel and restaurants, travels)			

Possible answers are (i) decrease, (ii) the same, (iii) increase.

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Other variables in CSIH

Capacity to meet monthly expenses in 2022 Is your household's income sufficient to see you through to the end of the month? With: great difficulty, difficulty, some difficulty, easily enough, easily, very easily

Change in financial activities Consider all the financial assets your family holds, how has their value changed from the end of 2022 to June 2023? Include cash, checking accounts, deposits savings, shares, bonds, government bonds, mutual funds, life insurance1, pension funds and crypto-assets and also consider the variations due to any changes in the composition of your household. Increased, remained unchanged, decreased.

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