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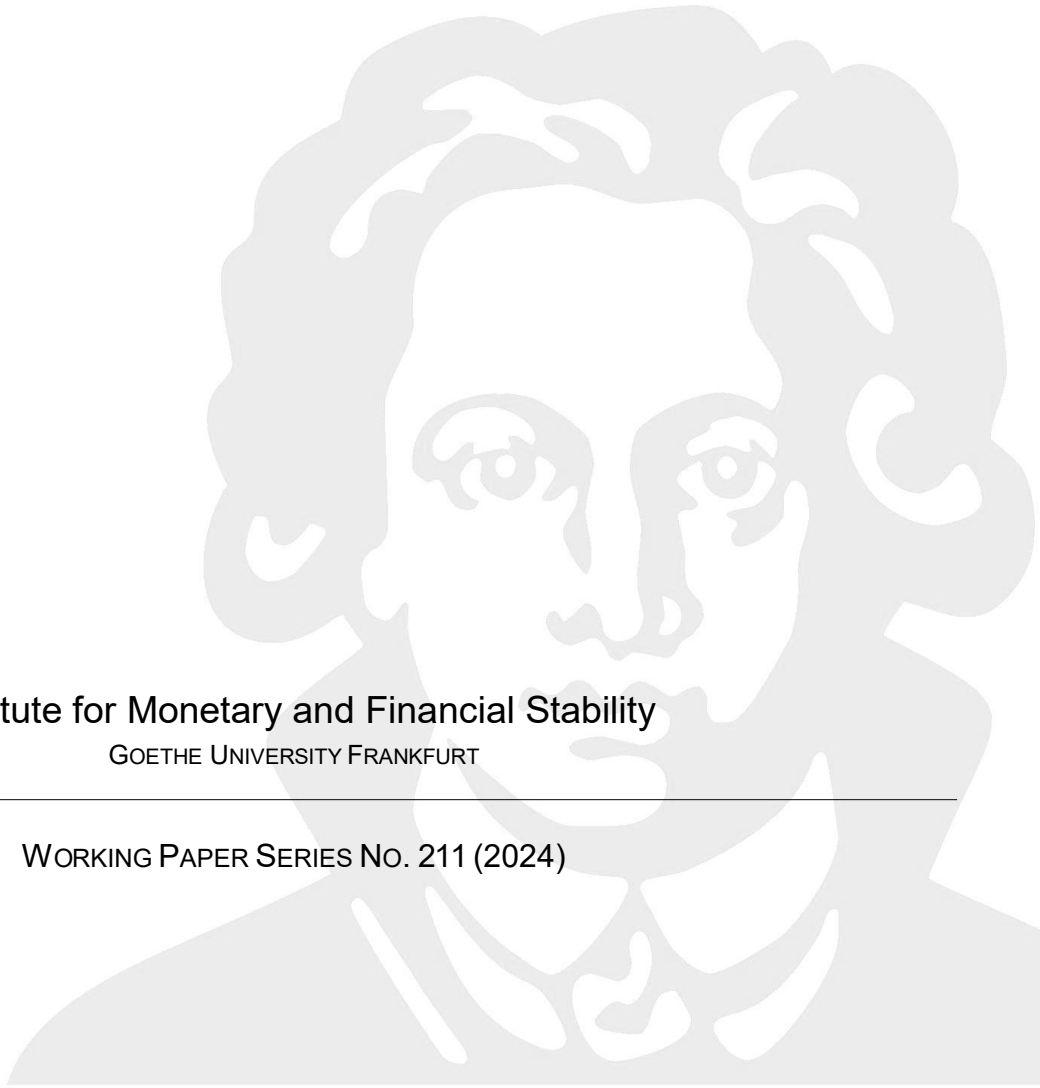
Wealth Accumulation:

The Role of Others



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Wealth Accumulation: The Role of Others

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Abstract

Findings from four recent projects on how neighbors, peers, financial advisors, and exogenous stressors affect wealth accumulation are presented. Having neighbors with college economics or business education promotes retirement saving. Greater local wealth inequality and mobility at the start of economic life motivate college graduates to take portfolio risks and achieve greater wealth, leaving others behind. Financial advice from unbiased professionals differs from peer advice in how it relates to advisor and advisee characteristics. Background stressors, such as crises, wars, and personal problems, occupy savers' minds. In an incentivized online experiment, background cognitive load consistently dampened consumption and promoted saving.

Keywords: Wealth accumulation, peer effects, household finance, retirement saving, wealth inequality, financial advice, cognitive load
JEL codes: G5, G11, E21

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Introduction

The importance of peer effects on individual behavior has been studied and extensively scrutinized, following the pioneering work of Manski (1993). Peer effects have recently been part of an active research agenda in the rapidly expanding area of household finance, surveyed in Gomes et al. 2021. This chapter presents findings from four recent projects in which I have been involved with different coauthors, on the effects of family members, neighbors, other peers, professional advisors, and external stressors on the financial behavior of households, as these relate to wealth accumulation and preparation for retirement.

The first project focused on what Manski 1993 called 'exogenous peer effects', namely those arising from characteristics of peers and not directly by their behavior. The characteristic under study was the financial literacy of neighbors with whom the individual interacts but has not chosen, a phenomenon that we call 'financial literacy externalities' (Haliassos et al. 2020). The second project turned to an analysis of the effects of being exposed to different levels of local wealth inequality at the start of one's career, on subsequent risk taking, wealth accumulation and achievement of a higher rank in the cohort-specific wealth distribution (Haliassos et al., 2023). The third project used a German sample of professional financial advisors and of lay people with at least basic understanding of financial matters, to compare the advice provided by both for exogenously given vignettes of potential investors (Rumpf et al., 2024). The idea was to compare the range of advice given by professional advisors and that of various types of peers, taking into account observable and unobservable advisor heterogeneity. While the three first projects examined information, knowledge, and inspiration likely to be provided by peers, the fourth project focused on the cognitive load imposed by others ('exogenous stressors'), and on whether and how this interfered with important household

financial decisions (Assenza et al., 2023). This load, which burdens and distracts households trying to make important choices, can arise in the context of aggregate crises, such as covid and war, or from personal factors, such as life events, stressful occupational environments, or persistent health issues. The study involved an online survey and experiment, and it was conducted with a sample representative of the French population.

The financial literacy of neighbors

Unlike most of the research on financial literacy, which examines the effects of own financial literacy on financial behavior, Haliassos et al. 2020 provided evidence that financially literate neighbors promoted one's own participation in retirement accounts and stockholding, over both the medium and longer runs. This occurred by conveying their knowledge of matters related to economics and business, provided that the recipient of information could understand it.

Yet, not surprisingly, such an undertaking faces many econometric and conceptual challenges. First, it tends to be difficult to secure household financial data that indicate the precise location of a household, as well as the relevant characteristics of its neighbors. In view of confidentiality concerns, the first variable that is typically dropped from household finance datasets is location, to prevent disclosure of the household's identity. Second, even if one can obtain such information, locational proximity does not establish an exogenous influence of neighbors on a household's behavior. The household may have chosen to live in that neighborhood because it shares common preferences or occupation with those neighbors. Even if the neighbors observably participated in retirement accounts or in stockholding, similar

portfolio behavior could reflect common preferences or common shocks to which neighboring households were exposed.

Further, existing research documents that people tend to talk to very few about their personal financial matters, even if they have a large social circle.[1] Confidentiality concerns do not allow researchers to eavesdrop on conversations and interactions between households and their neighbors, even when the most advanced data on networks of friends are provided from digital social networks. Therefore, an outstanding question is whether the interactions involve learning or mere imitation of the neighbors' portfolio. Fourth, better-educated people are better able to collect and process information, so it is not a priori clear that a business or economics education per se is what matters for such beneficial effects of neighbors versus the level of educational attainment. Finally, it is of interest whether location next to suitably educated neighbors suffices to generate financial literacy externalities, or it also requires the recipient households to be educated so they can process and apply the information obtained.

This project (Haliassos et al., 2020) solved many of these problems by drawing on an unusual natural experiment implemented in Sweden over the period 1987-1991, on the high quality of Swedish administrative data collected for purposes of taxing wealth during 1999-2007, and on the generally high level of detail and tracking that Swedish data policies allow. It is worth describing the key components of this data configuration, especially because of the immense obstacles currently placed on researchers by the difficulty of governments to distinguish between respecting confidentiality of personal data and making such data anonymously available to researchers.

The natural experiment originated in the policy of the Swedish government to allocate destitute refugees arriving to Sweden to specific apartments in the 277 participating

municipalities (out of a total of 284), that were randomly becoming available. This policy was introduced to counter the typical tendency of refugees to locate in big cities, contributing to congestion and associated problems. This is as close as one probably can get in a free society to random exogenous assignment of people to areas, where they are confronted with different configurations of peers.

There is good reason to believe that the process of placing refugees was random. The narratives of the allocation process indicate that, when placing refugees, the authorities were considering their education level, marital status, and the presence of neighbors speaking their language in the broader area. Importantly, as no interviews were conducted, researchers can control for these refugee characteristics, as well as for any other information available to the authorities. The narratives do indicate that refugees were asked to express preferences over areas. Yet, there is no indication that the authorities were allocating refugees according to their preferences. First, the self-allocation of refugees prior to implementation of the policy resulted in the problem that the policy was designed to resolve, namely excessive concentration in big cities. Second, the data allow researchers to track the location of refugees over the following 20 years and to observe how they ‘voted with their feet’. By 1999, about three-quarters of the refugees had been relocated from their original sites. Yet, such relocation took time, as destitute refugees had to set themselves up, get jobs, and accumulate the means to relocate. Refugees spent 5.4 years in their initially-assigned parishes, on average, and 8.7 years in the broader area of the initial municipality.

Focusing on destitute refugees helped us avoid endogenous sorting of refugees into areas with specific characteristics, but it left no hope of finding interesting household portfolio behavior at the time of the placement. If researchers are to understand any longer-term effects

of such initial placement on the tendency to save for retirement or to take financial risk, they need access to detailed portfolio data 10 to 20 years later, as well as the ability to link refugee placement data to portfolio holdings. Detailed portfolio data became available in Sweden between 1999 and 2007 due to the wealth tax policy during this period.[2] Sources of these data were not the individuals, but the financial and other relevant institutions. All taxable assets were covered, but so were debts written off for tax purposes. Data accuracy was carefully monitored by the tax authorities, and there were heavy penalties for misrepresentation and tax evasion. The availability and timing of such data allowed us to study the 'long shadow' of initial placement features on subsequent financial behavior.

The central finding of the study was that those who were placed in areas with higher shares of neighbors who had college education in business and economics were more likely to be participating in private retirement accounts and to be holding stocks 10 to 15 years later, and to continue to hold stocks 15 to 20 years later. Strikingly, these effects were evident only for those with at least a high school certificate. Indeed, this is what we would expect if such participation were not an act of pure imitation, but rather if it required the processing of information and knowledge received from neighbors.

It is worth considering whether these effects have arisen from exposure to the neighbors themselves or to other features of the neighborhood. After all, one would expect educated people who are also financially knowledgeable to be living in areas with adequate financial infrastructure, such as banks, insurance companies, and financial advisors, that caters to their interests and preferences.[3] For this reason, the study included specific controls for the electoral district in which the apartment of each refugee was located, incorporating all fixed factors present in that location and relevant for the two asset participation outcomes.

We found support for the idea that business and economics education of neighbors were important. Swedish data allowed us to consider the share of neighbors with quantitative education more generally, along with the share of college-educated. Econometric estimation using those shares found portfolio effects from the former category that were much smaller than those of business- or economics-educated neighbors, and no effects from neighbors with any type of college education. This is consistent with the idea that neighbors who conveyed relevant content were the most effective in influencing financial behavior.

While these findings pointed to transmission of information as relevant for risk taking and retirement outcomes, the study also found that the share of neighbors participating in the corresponding asset had smaller effects on the subsequent participation of refugees than that of knowledgeable neighbors when entered on its own. Moreover, the initial share of neighbors with business and economics education who *did not hold* the financial asset in question still had a significant effect, even when the share of holders was additionally included in the regression. Indeed, these sharper findings are consistent with the requirement of a high school certificate for the refugees and of the content of education for the neighbors: if imitation were the main mechanism driving the participation effect in private retirement accounts and in stockholding, refugees would not need to understand and process information, and neighbors would not need to convey their approach to retirement and financial risk taking.

Lacking social network data on interactions with peers, it remained to be determined whether the evidence was consistent with refugees interacting with their neighbors. We varied the factors affecting the probability of interaction with neighbors, to look for significant changes in the estimated magnitude of peer effects. We found that peer effects were operative in areas where Swedish neighbors were more positively predisposed to immigrants, and where there

was a critical mass of knowledgeable neighbors. Effects were also stronger for refugees who had children at the time of entry, and thus greater incentives and opportunities to interact with other parents through schools. All these findings are consistent with interactions producing these effects on retirement and financial risk taking.

While consistency across these results is encouraging for researchers, it is also a source of concern regarding the distributional implications of peer effects. Financial literacy externalities can generate a social multiplier when providing financial education only to some, yet we cannot rely heavily on such externalities to improve the financial behavior of all socioeconomic groups. The tendency of people to associate with others like them, termed homophily, means that members of low socioeconomic groups are both unlikely to interact with knowledgeable others and to interpret correctly the information received when they do.

Wealth inequality propagates financial risk taking

Differential participation in stocks, both in taxable and in retirement accounts, tends to produce divergence in wealth outcomes, as it gives access to different returns on wealth, and ultimately wealth concentration at the top of the distribution, where stockholding is significantly more prevalent. Research has shown that key to understanding the level and volatility of top wealth shares is the pattern of historical wealth returns. The wealthy not only have higher amounts to invest, but they also tend to have higher expected returns (Bach, et al., 2020) and to earn higher actual investment returns (Fagereng et al., 2020). This propagates wealth inequality by linking the current wealth level to the potential for higher future wealth. Haliassos et al. (2023) investigated whether people who were exposed to greater wealth inequality at the start of their career were also more likely to engage in financial risk taking and

end up with higher wealth levels later in life. They also investigated whether this applied to all or only to the more-educated among these people, thus contributing to further widening wealth inequality.

Conceptually, exposure to greater wealth inequality can provide to the more-educated a motivating signal about what is possible; to others, it can signal hopelessness of bridging the gap. Success of the former renders these perceptions self-fulfilling, raises their wealth and influences subsequent career launchers. The lack of a link between greater wealth inequality and subsequent wealth outcomes of the other households also confirms and reinforces an attitude of not responding to inequality through greater financial risk taking. As a result, the wealth and risk-taking gaps between the two groups widen, suggesting that a further propagation mechanism for wealth inequality may be at work.

To design a field experiment that isolates the role of early exposure to wealth inequality in shaping later household risk taking and wealth outcomes, we would like to allocate people at the start of their economic lives randomly to areas with different local wealth inequality and observe their wealth behavior and outcomes in the medium to longer run. This poses several obvious problems, and it suggests that the refugee sample from Sweden used in the previous study could also be of interest here.

Rather than challenging external validity, a refugee sample could be informative for this project, not only for circumventing locational endogeneity. The refugees were, by definition, at the start of their economic life in Sweden. The data allowed us to focus on those refugees who were starting off destitute, avoiding initial wealth heterogeneity. Unlike young people growing up in the country, who could be forming impressions about wealth inequality and the world around them at any point in their formative years, these refugees were faced with a novel

environment and had a clear incentive to form an impression of that environment at the time of arrival. Although the refugees came from different countries, we knew their country of origin and could control for cultural predispositions through home-country fixed effects, which were shown to be relevant for financial behavior by various authors (see, for example, the references on culture in the survey of Gomes et al., 2021). The data also include the refugees' education levels at entry and later, and the Swedish statistics are careful to correct for any lack of equivalence of educational levels in origin countries versus Sweden. Also, the Swedish wealth tax data, LINDA, provide a long list of household characteristics relevant for wealth and portfolio behavior at the time such behavior is observed. Further, researchers can control for common geographic factors, in the form of fixed attributes of the area of initial allocation and of key time-varying characteristics.

Our research concluded that college-educated people who were exposed to greater wealth inequality at their initial locations, measured as the share of total local household wealth owned by the top 10% of the local wealth distribution, were more likely to be successful ten to twenty years later in terms of having greater wealth, higher positions in the wealth distribution among people in their age cohort, and higher ratios of wealth to income. Importantly, these effects of initial wealth inequality at the time of entry were significant only for the college-educated placed in municipalities with above-median wealth mobility.[4] Strikingly, no significant effects of greater initial local wealth inequality were observed for the less-educated, even when upward wealth mobility among less-educated locals was considered.

The broad trends we discerned were visible in raw data and in the econometric model we employed. Figure 1 focuses on refugees in municipalities exhibiting above-median wealth mobility around the time of refugees' arrival (1986-1992). It splits each of the two education

subsamples by the level of local wealth concentration at the top 10% to which they were exposed upon arrival – above or below median – and it computes average wealth of these refugees for each year covered by the wealth tax data (1999-2007). The left panel shows a widening wealth gap, even among the college-educated, with those exposed to greater local wealth inequality reaching much higher wealth levels than the rest, on average. More striking for social polarization is the comparison to the wealth trajectories of the less-educated in the right panel, regardless of initial exposure to local wealth inequality.

Figure 1 here

A question arises as to how the college-educated ended up being wealthier when they were exposed to greater wealth inequality at the start of their economic lives. Our evidence indicates that the college-educated who were assigned to areas with greater local wealth inequality were systematically more likely to take risks, in the form of stockholding and homeownership, than those educated refugees facing less wealth inequality. One might expect that those in areas with greater local wealth inequality might be more likely to direct their efforts towards getting a better-paying and more secure job. Yet, we found no evidence that being faced with greater wealth inequality generated higher labor income or lower risk of being unemployed ten to fifteen years later. Initial local wealth inequality also had no significant impact on the choices of refugees regarding whether and how much to invest in human capital following their migration.

These findings are consistent with the interpretation that educated people perceived higher wealth inequality as an opportunity in environments that allowed upward mobility, and they were more likely to be successful in their risky financial and housing investments, ending up with more wealth. In further support of this hypothesis, we found that educated refugees

were more likely to react if they were placed in a small area, within which a larger share of their neighbors successfully moved upwards in the local wealth distribution around the time of immigration. Even though the refugees might not perceive their higher-income and higher education natives as a natural "peer group", their nearby presence might raise the levels of aspiration of the refugees, prompting them to take more risk to satisfy that aspiration. Higher inequality makes it more likely that one observes peers of high enough wealth to raise their aspiration level, and higher wealth mobility is a signal that such an aspiration level might be attainable, in part through greater risk taking. This mechanism would be consistent with status models (see Roussanov, 2010).[5]

One may wonder whether local wealth inequality simply proxies for some other aspect of the local environment, which in turn was responsible for the observed outcomes. Yet our study controlled for the municipalities' fixed characteristics across which wealth inequality was measured, as well as time-varying characteristics, such as mean wealth, mean income, and income inequality by municipality. Recall also, that significant effects of initial wealth inequality on future portfolio behavior and wealth outcomes were observed only in areas of high wealth mobility. Still, these great opportunities failed to mobilize the less-educated households, and instead only propelled the college-educated to higher levels of risk taking and ultimately of wealth. One might wonder whether mobility opportunities were tailored to the more-educated, explaining why the less-educated did not respond. Yet, the less-educated were not significantly influenced by initial wealth inequality, even in areas that provided them with high wealth mobility opportunities, as measured by the probability of transitioning to higher wealth strata. Finally, upon partition of the sample, we found that the effects were prominent not in the richer but in the poorer regions, suggesting that they are likely not due to automatic

career advancement mechanisms but to the high visibility of successes of others in those deprived regions.

These findings suggest that the institutional environment is unlikely to account for observed differences in mobilization and responses to initial wealth inequality. Perceptions of wealth inequality, of the ability to earn portfolio returns and become wealthier, as well as the degree of optimism regarding available asset returns and the nature of social interactions are more likely to be important.

Recent research on perception, cognition, and developmental and social psychology, focusing mostly on income (rather than wealth) inequality, has concluded that people receive and process inequality cues from their environments (Phillips et al., 2020; Suss, 2023). These can be social class cues from their peers, information from newspapers, and observation of the built environment. As Sweden is a very transparent society, in which local newspapers often report on the wealth of the richest locals, this is more accessible than in most countries. Nevertheless, the less-educated people may have faced greater difficulty accessing cues, as their peers were less likely to be informed and to have direct access to the Swedish language press. We also showed, using cross-municipality regressions, that variation in wealth inequality around the time of entry was explained by a small number of factors more likely observed by the better-educated.

Perhaps more fundamental than perceiving wealth inequality, though, may be the question of whether less-educated people can make effective use of risky assets to improve their position in the wealth distribution. For one thing, research has shown that people of low socioeconomic status (i.e., less-educated and low-income) tend to be more pessimistic about asset returns (Kuhnen and Miu, 2017; Das et al. 2019). It has also found that lower education is associated

with lower achieved asset returns (e.g., Girshina, 2019). The findings of Haliassos et al. (2020) suggested that the more-educated benefitted from the financial knowledge of their peers and ended up taking more financial risks, while the less-educated did not. The differential response may well be traceable to the different types of peers with which the two groups came in contact and the expectations they fostered, as well as the ability of the two groups to generate good wealth outcomes.

Although these first two research projects (Haliassos et al. 2020; 2023) found an education split with respect to outcomes, it does not necessarily follow that propagation of wealth inequality, differential use of retirement products and premium assets, or social polarization could be reduced simply by raising the minimum number of required school years. A growing body of research suggests that educational attainment and returns on wealth are joint outcomes of innate abilities to process information and to run finances (Fagereng et al., 2020; Barth et al., 2020). It may be more promising to explore a multi-pronged, A.I.D. approach: **A**lert the less-educated about return opportunities and wealth mobility prospects; **I**nform them on how to take advantage of higher-return assets without being destroyed by the risks; **D**esign simpler financial products with desirable properties even for less able investors. Empowering the less-educated in their financial decisions can contribute to democratizing finance, and it is less likely to be distortionary or raise political opposition compared to other options, such as wealth taxation. Instead of taking resources away from those who succeed, empowerment measures provide means to improve outcomes for those left behind.

Our peers as our advisors

While the researchers named above emphasized interactions with peers, they had to face the fact that no record of the content of these interactions was available. The next project sought to shed light on what peers recommend to others, and how this compares to what professional advisors would at best recommend, namely in the absence of reward structures that generate conflict of interest for them. The research in Rumpf et al. (2024) was conducted in Germany, a high-income country with a direct stock market participation rate of 15.4% and 20.6% participation in mutual funds.[6]

Professional advisors were presented with randomly-assigned vignettes of investors, and they provided their recommendations on the risky portfolio share for retirement saving. It was made clear to professional advisors that they would not receive any monetary compensation for their recommendations, let alone one that was linked to the recommended portfolio strategy. Instead, they anticipated receiving information that would be of interest to them in their practice, conditional on responding to the questions. The objective was to incentivize them to take the exercise seriously, but not to bias their advice in the usual way. The presentation of vignettes to advisors also overcomes endogenous matching of clients with financial advisors. Further, it avoids the pressures imposed on financial advisors of having to cater to clients' biases and prior experiences in their effort to win their business, as would be observed at first meetings of clients with their advisors, even when the clients are in reality 'mystery shoppers' employed by researchers.[7]

The study also employed a similar elicitation procedure for lay people 'taken from the street', subject to the requirements that they have basic knowledge and understanding of

financial matters. This sample restriction was intended to capture the type of advice that people might get by approaching peers who would have something useful to say on the subject.

The setup allowed a study of whether and how the elicited advice of professional and lay advisors systematically differed in relation to the characteristics of the investors, to the own characteristics of the advisors, and to having the status of professional advisor for given observable advisor characteristics. In all cases, the advice elicited referred to the recommended risky portfolio share in a retirement account. Beyond standard Tobit estimation incorporating the (0, 1) limit in portfolio shares, the study also employed Bayesian methods that allowed for observed and unobserved advisor heterogeneity, to illustrate the (estimated) distribution of advice that different types of investors received from unconflicted financial advisors and from suitably-chosen peer groups. The study illustrated what is possible to estimate, by considering heterogeneous advice from one's age and education peers, as would be implied by 'homophily' in forming peer groups; from older peers, proxying the advice from informed parents and other elders; and from younger peers, proxying for the advice obtained by older people from their informed children and their friends.

Controlling for advisor characteristics but not initially for recipient characteristics, we found that professional advisors tended to recommend a lower allocation to risky assets for retirement than lay advisors did. Older and more risk-tolerant advisors, as well as those expecting higher returns over a 10-year horizon, tended to recommend bigger risky exposures. Interestingly, controlling for their own characteristics, advisors' own portfolios positively influenced the advice they gave to others, encouraging their hypothetical clients to tilt portfolios in the same direction of riskiness.[8] In the initial set of regressions, there was still no way to

compare the extent of this bias across professionals and lay advisors, a key focus and novelty of our project.

We found that both lay and professional advisors tailored their advice to investor characteristics included in the vignettes, despite the absence of incentives to cater to specific investor preferences. They tended to recommend higher risk exposures for investors with higher income, wealth, or having lower debt. They did moderate their recommendation when the amount to be invested was larger. Advisors also recommended less risk for the more risk averse, for older individuals, and for people with little previous experience in the stock market, while they did not respond systematically to an investor's educational attainment or marital status. All in all, our study found that both professionals and lay advisors tended to adjust their recommendations in the direction implied by portfolio theory, even though their knowledge of such theory could not be presumed.

Expanding the analysis to include interaction terms between the status of professional advisor and the investor characteristics in the vignettes, the moderating effect of professional advice on the risky portfolio share was traced fully to differences in how professional advisors responded to investor characteristics and to their own, relative to the lay advisors. One might expect that professionals would be less responsive to their own characteristics when giving unbiased financial advice. Nonetheless, we showed that professional advisors were more responsive to their own risk tolerance levels and their own incomes, when recommending risky portfolio shares for others. Taking characteristics of advisees into account, professional advisors moderated their recommendations more with respect to investors' age and risk tolerance, compared to lay persons. This contrasted with their willingness to recommend higher risky shares for people with greater stock market experience, and it differed from lay advisors who

did not adjust their recommendations for those with considerable investor experience. While professional investors responded to several investor characteristics more than lay advisors did, this was not true of all characteristics. For example, professionals did not moderate their risk recommendations when faced with larger potential investment amounts, unlike lay advisors.

A further objective of the study was to describe the extent of heterogeneity in advice that specific potential investors might receive, since advisors, both professional and lay, might differ in ways not fully captured by the advisor characteristics observed in our survey. Using Bayesian methods to allow for unobserved advisor heterogeneity, we asked what posterior distributions characterized the recommendations of different advisor types, conditional on investor characteristics presented to them in the vignette, to estimate the range and distribution of advice given.[9] This exercise allowed us to choose investor types of most interest to consider, as well as advisor groups that individuals might approach. Of course, this exercise can be conducted for any investor and advisor groupings of interest to the researcher or policy maker, if these were defined in terms of the respective characteristics collected in our survey.

Our study considered a young low earner without a college education, a college-educated wealthy retiree, and a wealthy person in the latter half of their working life. The potential advisor types included a professional advisor, a peer with the same education and labor income, and further advisor options that depended on the investor's age: a more senior family member or peer (in the case of young investors); a somewhat younger peer who still worked; and a considerably younger family member or friend, who could be thought of as an offspring (in the case of older, retired investors).

Based on our findings, young low earners with little education were likely to get more conservative portfolio advice if they discussed financial matters with their peers versus with

older people. They were also likely to get the largest risky portfolio share recommendations if they elected to speak to financial advisors. This predicted tendency of financial advisors to exceed the risky portfolio share recommended by the two other peer groups was reversed for the case of a college-educated wealthy retiree. Professional advisors were likely to be the most conservative towards wealthy retirees, and such retirees were also likely to be getting more conservative advice from high-income young people than from own age-education peers. Finally, a wealthy person in the age range of 50 to 65 could expect to get more conservative advice from a randomly-chosen professional acting without conflict of interest than from a randomly-chosen peer in the same age-education group. Differences in the distribution of advice were small, though, for investors that declared they had a high risk tolerance.

The pattern of these results is intriguing, especially in the face of prior research on who tends to use professional financial advice. Starting with Hackethal et al. 2012, who considered clients of independent financial advisors and of a major bank in Germany, studies have concluded that the people more likely to be matched with a professional financial advisor are older, wealthier, and more experienced investors. When we combine the lessons from that literature with the finding of Rumpf et al. 2024, that professionals not facing conflict of interest recommended more limited risk exposure to college-educated groups above 50 years (versus their peers or their children), the implication is that the current pattern of financial advice, if anything, tends to discourage stockholding exposures. This idea is reinforced by the further finding, that professional advisors not subject to conflict of interest would tend to encourage young, lower-educated individuals to include stocks in their financial portfolio more than their peers and elders would advise.

Among other things, this evidence provides a novel argument for promoting access to financial advice for the young and those lacking experience with financial markets: the sources they would normally approach, namely family and friends, are less likely to encourage them to use stocks and take advantage of the wealth creation potential of the equity premium when investing for retirement. An important challenge in this context would be to persuade the young that talking to professional advisors would be worthwhile, even with small amounts of savings and making small contributions to retirement plans, while also convincing professionals that the long horizons of young investors can compensate for the small initial size of these accounts.

Others as a source of stress

While the projects highlighted above focused on the role of others as sources of information, inspiration, or advice, the final study presented in this chapter turned to an analysis of the effects on financial behavior arising from background stress imposed by others, that individuals cannot ignore or shake. Such stress can arise from a general crisis (e.g., a covid crisis, fiscal or financial crisis, war), but also from aspects of our daily lives (e.g., stressful work environments, problematic relationships, small children, health concerns). The common element of such stressors is that they are recurrently on our mind, taxing our ability to concentrate and perform other important tasks.

To this end, we conducted an online experiment among a representative sample of 1881 French respondents. The specific tasks which the experiment examined were consumption and saving choices in the presence of labor income risk and, in some treatments, of additional uncertainty regarding the occurrence and duration of a significant drop in income, such as what might arise from a furlough or from an unemployment spell. Specifically, the research question

we asked was: Does cognitive load, either alone or in conjunction with adverse labor market shocks, affect individuals' consumption and saving decisions, and if so, how?

There are good a priori reasons to think that interference with people's ability to concentrate and devote their full attention to making sound financial decisions could result in overspending and limited wealth accumulation, as they make sure to take care of their current needs and underestimate the future consequences of their actions. Even if such mistakes are not made by all, it seems likely that certain demographic groups will be particularly prone to such types of behavior, calling for special attention from policy makers. The overall findings of the study turned out to be the opposite. Assenza et al., 2024 found that, when confronted with cognitive load interfering with their consumption and saving decision making, people became more cautious, and this led them to underconsumption and higher savings than they would have undertaken without cognitive load, considering all their other characteristics. Moreover, this pattern was not confined to a few demographic groups, but was present more generally, with only minor exceptions.

The study involved a twenty-period consumption-saving problem in the presence of labor income risk. While the control (Group 1) was asked to make 19 choices (in the 20^{th}, subjects consumed all remaining wealth), three treatment groups were defined. Group 2 faced an additional probability of a 30% reduction in period income, imposed with unknown duration. This can be thought of as furlough or unemployment risk. As expected, members of this group moderated their consumption and raised their accumulated wealth given this increase in background income risk. The remaining two groups faced a cognitive load when trying to make their consumption/saving decisions. Group 3 faced the same labor income process as the control group, combined with the cognitive load, while Group 4 faced the labor income process of

Group 2, incorporating a furlough or unemployment probability with unknown duration, and the cognitive load.

The cognitive load was incorporated in the form of randomly appearing numbers to which the subjects had to respond within a short time, by pressing or not pressing the space bar. To make sure that subjects could not ignore this annoying task, they were told that they would be rewarded for correct answers, and their reward would be multiplicative across the cognitive load and the main (consumption/saving) task. Performance on the main task was also incentivized by instructing participants to keep as close as possible to optimal consumption behavior implied by an expected utility maximization model, reset every period to consider the realized level of available savings, and by continually providing feedback on how they were performing relative to a rational optimizer. Their payoff in the consumption task was linked to the maximized expected utility resulting from their consumption decision that period, assuming optimal behavior in the future. In other words, participants were told that they are being rewarded based on the best that could be achieved from that period on, because of their consumption/saving choice that period. This performance measure was illustrated diagrammatically before they were to make their next choice. To maintain undiminished attention throughout the experiment, subjects were told that, at the end of the task, two periods would be drawn at random, and they would be rewarded based on their performance in those two periods.[10]

Reassuringly, average behavior of all groups tended to get closer to optimal behavior predicted by the respective labor income model, as time elapsed and subjects became more familiar with the tasks at hand. Nevertheless, imposing the cognitive load did raise the deviation of average group consumption choices from optimal behavior, regardless of whether

furlough/unemployment risk was present. The ability of the respective rational model to describe heterogeneity in behavior within each group, as measured by the mean squared deviation of actual from optimal consumption, did not monotonically improve as the experiment progressed, but the cognitive load shifted penalty functions upward. Whether one uses the 'macro' (group average) measure of model proximity or the 'micro' (heterogenous behavior) measure, the cognitive load provoked substantial additional departures from optimal behavior implied by the respective labor income model.

Our econometric analysis shed light on the effects of each treatment on average consumption and financial assets chosen by each subject over the life of the experiment, as well as on subjects' ability to approximate the optimal behavior implied by the model. Controlling for a range of subject characteristics, that were elicited in the survey part, the systematic impact of the cognitive load was to lower average consumption choices and to raise the average level of financial assets held by the subjects. This meant that subjects' responses facing cognitive load were significantly farther from the rational model predictions compared to its absence. Moreover, the bulk of the effect came through a suboptimal level of consumption given the amount of available financial assets (a wrong 'policy rule for consumption' in dynamic programming jargon) rather than from subjects responding optimally to the level of financial assets that had resulted from previous decisions (a 'suboptimal evolution of the endogenous state').

The impact of cognitive load on those not facing increased furlough or unemployment risk was independent of observable subject characteristics, but the combination of furlough risk and cognitive load facing subjects was a more challenging task. We also found that college-educated subjects systematically performed better, in that they reduced their consumption less

and exhibited smaller deviations from the model, than the less-educated. Yet it was difficult to detect other characteristics moderating effects or departures from the model. In fact, one of the few factors that were found to matter, namely being patient, resulted systematically in even greater drops in consumption in response to the cognitive load, and in greater deviations from optimal behavior.

In a nutshell, our findings suggested that people became more cautious in their spending and saving when they were preoccupied, lowering their propensity to spend rather than creating significant household liquidity or solvency problems. Our results also imply that consumption models will capture behavior less well in the depths of a crisis, as people become more cautious with their resources and deviate from optimal behavior. Providing advice and support on how to relate their consumption spending to their resources better could therefore be part of an overall strategy to get the economy going again during times of economic downturns. Moreover, wide-reaching campaigns rather than targeting money to specific disadvantaged groups could be cost-effective. Analogously, if problems creating cognitive load are individual-specific (such as stressful life events or situations), people are likely to require coaching and advice, not in the direction of avoiding overspending but in the direction of adopting a reasonable consumption plan, given available resources and avoiding becoming over-cautious.

Conclusions

This chapter collects findings from four recent research projects, with three of them ongoing at the time of writing. Key takeaways can be summarized as follows. First, interacting with a larger proportion of neighbors with college-level economics or business education tends to promote retirement saving. Yet, the tendency of people to associate with others like them

means that low socioeconomic groups are unlikely to interact with knowledgeable others, and to interpret correctly the information they receive when they do. Second, college-educated people who are exposed to greater local wealth inequality, combined with wealth mobility, at the start of their economic life tend to take more asset risks later in life and thus achieve greater wealth, leaving the less-educated behind. Nevertheless, general education will likely be insufficient to solve such problems, while empowerment programs of the less-educated to improve their financial behavior may be more useful. Third, the current pattern of access to financial advice, under which the young and less experienced are also less likely to receive financial advice, tends to discourage stock market participation and reduce equity in retirement portfolios, because the peers of the young tend to be more conservative in their recommendations to them than professionals would have been. Professional advisors are more conservative towards the older and wealthier people that they do meet, compared to their peers. Finally, background stressors such as crises and wars, but also personal problems, occupy people's minds as they make saving decisions. In our incentivized online experiment, background stress consistently made people behave more cautiously with respect to their finances, in the sense that they reduced their consumption and ended up with larger financial balances. Also, there was not much evidence of heterogeneity across individual characteristics, so we conclude that aggregate crises may not require targeted policies to respond to these effects. Nevertheless, there is reason to support individuals who face person-specific circumstances preventing them from concentrating on important financial choices for their financial future.

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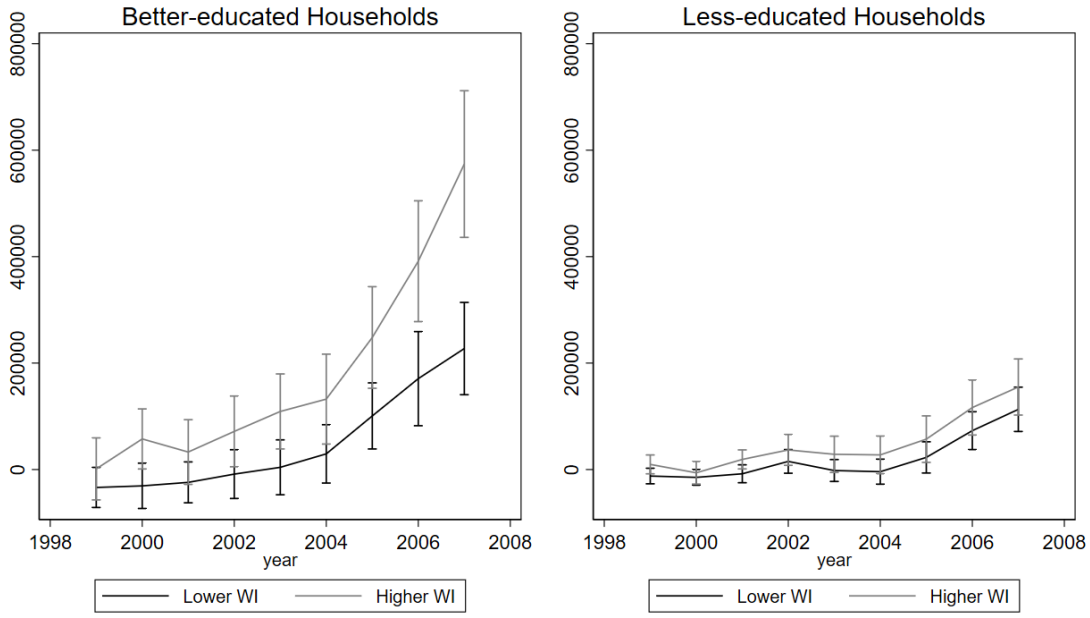

Figure 1. Exposure to Wealth Inequality in High-Mobility Regions

Note: The figure plots the evolution of mean household wealth of households in the respective education category who were exposed to above-median local wealth inequality ('higher WI') at the time of immigration (1987-1991) and of households exposed to below-median local wealth inequality ('lower WI'). Municipalities with above-median wealth mobility are considered. Wealth mobility is measured by the share of households in the municipality who moved from the bottom 90% of the wealth distribution to the top 10% of the wealth distribution between 1986 and 1992.

Endnotes

[1] Arrondel et al. 2022 found that French households discussed such matters with three to five people on average, while their social circle exceeded 50 on average.

[2] Unfortunately, Sweden stopped collecting such data following abolition of the wealth tax.

[3] In fact, if the refugees were not influenced by their neighbors directly but by features of their neighborhood, this would be an instance of what Manski 1993 called 'correlated effects' but they would not be attributable to interactions with peers.

[4] We defined municipalities with above-median wealth mobility as the municipalities where the locals who were not in the top 10 percent of the wealth distribution had an above-median probability of rising to that top wealth bracket over the five-year period for which the refugee allocation program lasted.

[5] In status models this comes through a jump in utility at the 'aspiration' level. I thank Nikolai Roussanov for this suggestion.

[6] This is above average in the Eurozone (10.9% and 12.9%, respectively), but lower than in the US, where direct stockholding rose from 15% to 19% between 2019 and 2022 and combined direct and indirect stock market participation rose from 53% to 58% (ECB, 2023; FRB, 2023).

[7] Evidence of such catering was found by Mullainathan et al 2012.

[8] This finding on the stated beliefs of professional financial advisors is consistent with prior research, such as Linnainmaa et al., 2021, who found considerable similarities of professional advisors' portfolios to those of their respective clients, and it supports their interpretation that this similarity reflected beliefs of professional advisors.

[9] Specifically, for a given client type, h, with household characteristics x_h, we compute predicted risky asset share recommendations, y_{ah}, for each adviser a of a given peer type. Predicted risky asset share recommendations are computed at each draw of the reaction function of advisor a, defined as the vector of coefficients $\beta_{a.}$ The results that are smaller than 0 and larger than 1 are censored to the respective portfolio share limits. All predicted values of risky share recommendations for a given peer type form the distribution of predicted risky asset share recommendations for client h with client characteristics x_h being discussed in the text.

[10] The maximum payoff in each period of life was 2.5 Euro, and the maximum performance payoff a participant could get was 5 Euro, based on the two randomly chosen periods for reward purposes.

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