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Macroeconomic experiences and risk taking of euro area households

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ABSTRACT

This paper studies to what extent the experiences of households shape their willingness to take financial risks. It starts by extending the U.S. evidence of Malmendier and Nagel (2011) to euro area households, and shows that experienced stock market returns matter in a statistically significant and economically substantial fashion: better experiences make households more willing to take financial risk and increase their stock market participation, even if euro area households seem to be discounting the past more quickly than those in the United States. Subsequently, the paper moves on to show that there are additional effects stemming from the experience of stock market crashes – which are different from those of stock market booms. Crashes stay in household's memory and lower stock market participation, whereas booms raise participation, but their effect eventually fades out. Furthermore, households in countries that witnessed a particularly severe 2008 stock market crash give substantially more weight to the most recent experience, suggesting that in these countries an even more pronounced under-investment in the stock market should be expected in the years to come.

1. Introduction

There is ample evidence that the willingness of economic agents to take financial risks has decreased in the course of the global financial crisis. Such a pattern has been found for financial markets (Bekaert and Hoerova, 2014), banks (Bassett et al., 2014) and households (Guiso et al., 2013). It can therefore be assumed that the willingness to take financial risks varies over time, and depends on the experiences that economic agents have undergone.

Beyond the immediate reaction to adverse events, a recent paper by Malmendier and Nagel (2011) has shown that U.S. households' risk taking is furthermore affected by their experiences over longer time spans: households that have experienced higher real stock market returns over their lifetime tend to be more willing to take financial risks, have a higher propensity to hold stocks and hold larger amounts of stocks; while more distant experiences are relatively less important than more recent ones, their impact remains noticeable for some decades. Their findings also suggest that young individuals are particularly affected by more recent events.

More broadly, several papers have documented that personal experiences shape economic behavior, in a variety of ways. Having experienced higher inflation, for instance, tends to lower happiness (Blanchflower, 2007), increase inflation expectations (Lombardelli and Saleheen, 2003; Malmendier and Nagel, 2016) and inflation aversion (Ehrmann and Tzamourani, 2012). Having grown up during recessionary times matters for preferences: as Alesina and Giuliano (2011) and Giuliano and Spilimbergo (2014) demonstrate, such individuals are more likely to believe that success in life depends more on luck than on effort, and

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therefore have a more favorable attitude toward redistributional policies. Beyond these macroeconomic factors, experiences of financial market performance also shape agents' behavior: Kaustia and Knüpfer (2008) show that investors are more likely to subscribe to initial public offerings (IPO) on the stock market if their previous IPO investments have performed relatively well, Koudijs and Voth (2014) find that having been exposed to a substantial risk of losing money in a lending transaction makes investors lend with higher haircuts, and Choi et al. (2009) suggest that investors over-extrapolate from their personal experience when they make their savings decisions.

The current paper adds to the existing literature in two ways. First, it extends Malmendier and Nagel's (2011) evidence along a geographical dimension by testing it for the case of Europe. Second, it probes further into what type of experiences might be relevant by not only looking at average experienced returns, but by distinguishing the effects of stock market crashes and booms.

The paper employs a novel data set on household finances, the Eurosystem Household Finance and Consumption Survey (HFCS), which provides information on households' willingness to take financial risks and on participation in financial markets in a harmonized fashion for several countries in the euro area. Our data cover more than 58,000 households in Austria, Belgium, Finland, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Spain and Portugal, i.e. in eleven different countries of the euro area.

The households in our sample have widely different experiences of stock markets. Within countries, it typically holds that the younger have experienced lower stock market returns than the older. At the same time, the experiences differ substantially across countries, with the young in some countries having experienced higher returns than the old in some other countries. This substantial cross-country variation allows us to identify experience effects separately from age effects.

Our estimates of the effects of lifetime experiences on the willingness to take financial risks and stockholdings among euro area households are in line with those identified in Malmendier and Nagel (2011).[1] They are statistically significant and economically substantial. To give just a few examples, households at the 90th percentile of the distribution of experienced stock returns are 8% points more likely to report that they are willing to take financial risks than households at the 10th percentile of the distribution. Their propensity to participate in the stock market is 12% points higher.

While these estimates match those for the United States qualitatively, our evidence suggests that the effect of experienced stock market returns is less persistent in Europe. Still, also in Europe experiences matter for the willingness to take financial risks and stock market participation for several years.

Subsequently, the paper focuses on stock market crashes (during which nominal stock market returns decline by more than 20% in a given year). The more crashes a household has experienced, the less willing it is to take financial risks and the less likely it is to be invested in stocks. Households at the 90th percentile of the distribution of experienced crashes are 5% points less likely to take financial risks than households at the 10th percentile, and 8% points less likely to participate in the stock market. When we contrast this with the experience of equally-sized stock market booms, we find that the memories of booms fade away, while those of crashes persist longer and continue to affect household behavior.

These findings have important implications. It is a well-known fact that households are generally underinvested in the stock market, a phenomenon that has been dubbed the “stockholding puzzle” (Haliassos and Bertaut, 1995; Campbell, 2006). The puzzle is particularly pronounced in Europe, where household stock market participation is even lower than in the United States. This is especially problematic given that households have been made more and more responsible for their own finances after retirement (van Rooij et al., 2011). The findings in the current paper imply that stock market participation will likely be further depressed due to the recent experience of the 2008 stock market crash, suggesting an even more pronounced underinvestment of European households in the stock market in times to come.

The paper proceeds as follows. Section 2 provides more detail on the underlying data and the econometric methodologies that we employ. Section 3 reports the main findings regarding the effect of individuals' stock market experiences on the willingness to take financial risks and stock market participation, and provides the results of several robustness tests. Section 4 expands the evidence by focusing on the consequences of extreme events. Section 5 concludes.

2. Data and methodology

2.1. Data

In order to conduct our analysis we combine household-level data from the HFCS and historical data for stock returns. The HFCS provides ex-ante comparable data for 15 euro area countries.[2] Since we could not obtain sufficiently long historical data for the stock market performance of Cyprus, Malta, Slovakia and Slovenia, we discard them from the analysis. The data covers more than 58,000 households in 11 euro area countries, namely Austria, Belgium, Finland, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Spain and Portugal.

The HFCS contains information regarding socio-demographics, assets, liabilities, income and consumption for a sample of households that is representative both at the national and the euro area level. Missing observations for all variables necessary to construct wealth and income aggregates are multiply imputed – which we will take into account when assessing the statistical

[1] We compare our coefficients with those of Malmendier and Nagel (2011), but we cannot assess whether the differences are statistically significant since we cannot access all the data used in their paper (obtained from the Inter-university Consortium for Political and Social Research at the University of Michigan).

[2] For more details on the survey, see http://www.ecb.europa.eu/home/html/researcher_hfcn.en.html (URL last accessed August 12, 2016). The results from the first wave are described in detail in Household Finance and Consumption Network (2013a), and the most relevant methodological features of the survey are discussed in Household Finance and Consumption Network (2013b).