The Impact of Life Experiences on Risk Taking

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1. Introduction

Risk taking is a ubiquitous but, at the same time, controversial phenomenon in human life. In the popular mind – as The Economist noted some years ago[1] – it is associated with gamblers, skydivers, and bankers. At the same time, it is hardly deniable that risk-taking behavior plays a key role, e.g., in generating business success or failure, the amount and nature of innovation, and economic growth. The willingness to take risks affects important economic and non-economic decisions, including migration, occupational sorting, health-related behaviors, and educational choices (*Hetschko & Preuss*, in this issue), as well as being associated with the probability of being self-employed and of investing in stocks and even whole countries' total factor productivity (Dohmen et al., 2011; Falk et al., 2018; Schildberg-Horisch, 2018).

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[1] "Risk Off. Why Some People Are More Cautious with their Finances than Others", The Economist, Jan 25th, 2014.

Research on the theme has convincingly shown that risk-taking behavior differs greatly across individuals, across countries, across domains, and over time (Dohmen et al., 2011; Mata et al., 2016; Fisher & Yao, 2017; Falk et al., 2018), so that understanding its determinants is one of the key challenges for current research in Economic Psychology. Age, gender, and cognitive ability turn out to be significantly associated with risk preferences in various studies, including the recent paper by Falk et al. (2018) providing global evidence on economic preferences. While we know from twin studies that a sizeable part of variation in risk taking is genetically determined (Cesarini et al., 2010), an extensive and burgeoning body of research reveals that factors associated with the social environment play an extremely important role. Recent work interestingly documents that even gender differences in risk taking are malleable as they have a strong environmental component (Liu & Zuo, 2019).

Whereas traditional life-cycle models in economics assume that risk preferences are time invariant, a growing body of empirical research challenges this view by showing that risk taking by the same individuals varies substantially over their life-cycle (Defoe et al., 2015; Mata et al., 2011; 2016) as well as in response to major shocks (*Banks et al.*, in this issue; Guiso et al., 2018; Schildberg-Horisch, 2018).

In the last years, a recent but fast-growing stream of research has been focusing on the effects of *life experiences* on risk-taking behavior, by using a variety of empirical methods. Natural disasters, wars, bereavements, recessions, and other events that become part of individual histories of those who experience them, have been shown to be associated with variation in risk taking across individuals, even several decades after their occurrence (Malmendier & Nagel, 2011; Bucciol & Zarri, 2015; Bernile et al., 2017; Guiso et al., 2018). This special issue includes six contributions that help to shed light on the underlying economic and psychological channels explaining the connection between life experiences and risk taking. The next section summarizes these contributions; the introduction concludes presenting avenues for future research.

2. Contributions

Two of the six contributions in this special issue (*Dalton et al.*; *Abatayo & Lynham*) involved workers living in developing countries. *Dalton et al.* conducted a lab-in-the-field experiment with owners of small retail businesses in Vietnam and, by means of the priming methodology, estimate the causal impact of exposure to scenarios that trigger financial worries on risk taking. While, as the authors note, prior work has shown that material deprivation can affect various aspects of the decision-making process, the specific psychological channels through which major negative income shocks impact risk taking remain unclear. Their lab-in-the-field experiment run with entrepreneurs in a developing country provides evidence that is consistent with previous results from lab experiments, shedding light on the role of financial worries in mediating the effect of material deprivation on risk taking. In particular, their findings indicate that, in line with recent lab-based work on risk taking under stress, small-scale entrepreneurs exogenously exposed to financial worries report higher levels of stress and are *less risk averse* than those assigned to a placebo treatment. The documented effect is stronger for smaller shops and for entrepreneurs who are less exposed to large income shocks in their everyday business. *Abatayo & Lynham* conducted an artefactual field experiment with fishers on a remote island in the Philippines and examine the impact of Typhoon Bopha on individual preferences. The typhoon destroyed coral reefs and reduced populations of fish, weakening food security. Comparing individuals from communities that were directly hit by the typhoon with those that were not, they show that those affected by the typhoon are *less risk averse*. Next, they provide clear evidence that females affected by the typhoon are more risk-loving than females unaffected by the typhoon.

The other four papers exploit longitudinal household survey data from European countries. Two studies rely on the Socio-Economic Panel (SOEP), representative of the German population, which provides a behaviorally validated self-assessed measure of risk attitude (*Hetschko & Preuss*; *Gorlitz*

& Tamm). The paper by *Hetschko & Preuss* shows that risk aversion increases after passing through a relevant personal experience such as losing work. Relying on data that, unlike prior studies, include exogenously triggered job losses due to plant closure, the authors examine the causal link between job loss and willingness to take risks and shed light on the mechanisms driving this relationship. Their results suggest that while neither immediate income loss nor other non-monetary mechanisms (such as changes of emotional states or parallel life events) seem to mediate the detected effect, risk aversion turns out to be sensitive to lower future income expectations (also on the eve of job loss) and higher uncertainty about future incomes. Next, the paper documents that individuals gradually return to their initial level of risk aversion, as they regain employment stability. In their work, *Gorlitz & Tamm* examine how risk attitudes change when individuals experience the major life event of becoming a parent. They find that risk aversion significantly increases for both mothers and fathers around the time of first childbirth. This increase already starts manifesting itself as early as two years before they become parents, it is largest shortly after childbirth and disappears after several years. The study also documents that risky labor market behavior remains unaffected by parenthood, suggesting that the detected changes in risk attitudes do not spill over to less risky behavior of parents.

The remaining two papers (*Banks et al.*; *Bellucci et al.*) use data from the Survey on Health, Ageing and Retirement (SHARE), which aims to be representative of the population aged 50 and over in several European countries. In both cases, the focus is on financial risk attitude. The study by *Banks et al.* shows that considering major life events is important with regard to an independently relevant research question such as the relationship between risk attitude and ageing. Prior research detected a clear pattern over the life cycle, showing that older individuals are less willing to take risks in different domains (Dohmen et al., 2011; Mata et al., 2016; Falk et al., 2018). The authors offer evidence that in all countries older individuals report lower willingness to take financial risks and that health changes and other life events (such as retirement, widowhood and marital change) play a key role in accounting for the relationship between risk attitude and age in

the financial domain. Therefore, as the authors note in their conclusions, their findings regarding the interplays between ageing, risk taking and health shocks have relevant policy implications: since the increase in life expectancy we observe in developed countries occurs together with a greater incidence of health problems, policy makers should pay attention to the fact that average risk aversion is likely to increase among influential segments of the population and that, in turn, this will likely increase pressure towards policies aimed at providing new and stronger forms of social protection. Based on the same data merged with data on conflict events, the study by *Bellucci et al*. offers evidence that exposure to World War 2 during childhood is negatively associated with financial risk taking, measured as the holding of risky financial assets, and positively linked to the probability of having life insurance in later life. The authors show that high and low intensity of war exposure have comparable long-term effects. The paper also indicates that living through the experience of war in childhood increases sensitivity to financial uncertainty. Enhanced uncertainty appears to be the most likely mechanism underlying the association between war exposure and financial risk taking.

3. Concluding remarks

The six papers included in this special issue consider a variety of risk taking domains (general or financial), types of life event (exposure to natural disasters or world war, financial hardship, health shocks or changes in family size) and target population (individuals from representative samples in developed countries or specific types of workers in developing ones). From a technical point of view, the six papers show a variety of data types (from experiments or surveys) and elicitation mechanisms of risk taking (incentive-based, self-assessed, or revealed from observed behavior). The heterogeneity in the methodology we observe in this special issue originates from the relative novelty of the research field connecting risk taking and life events, as well as the well-known evidence that risk taking changes by domain, country, and other characteristics (e.g.,

Dohmen et al., 2011; Falk et al., 2018). In line with prior related work, although there is general evidence of relevant connections between risk taking and life events, the direction of this relationship changes depending on the specific analysis. In particular, the papers included in this special issue indicate that, in the developing countries under study, risk taking increases with negative income shocks (*Dalton et al.*) and natural disasters with severe economic consequences (*Abatayo & Lynham*), whereas, in the developed countries considered by the remaining four studies, it falls with unemployment spells (*Hetschko & Preuss*), exposure to war (*Bellucci et al.*), parenthood (*Gorlitz & Tamm*), and health shocks (*Banks et al*.). The works examining the long-term effect of life events (*Gorlitz & Tamm*; *Hetschko & Preuss*) suggest that changes in risk taking are not permanent, and they disappear as uncertainty vanishes or individuals adapt themselves to the new scenario. However, life events occurred during childhood may still have consequences throughout the lifespan (*Bellucci et al*.).

We believe that this special issue of the *Journal of Economic Psychology* provides us with novel and relevant insights on the impact of life experiences on risk taking, that, in our view, stimulate new relevant research questions to be further addressed by future research. In future research on the theme, it will be key to accurately identify the mechanisms that drive changes in risk taking resulting from life experiences. In line with recent work, the papers published in this issue show that the effects of negative shocks can change risk taking in different directions, but presently our ability to predict which effects should be anticipated under particular circumstances is limited. Even when experience shifts risk taking in one direction, a number of candidate mechanisms can be identified. For example, some increases in risky behavior as a result of negative shocks may reflect people trying to recover losses (as suggested by *Abatayo & Lynham*) – just as gamblers vary their risk taking in the immediate wake of wins and losses (e.g. Xu & Harvey, 2014). However, information about others' experienced losses can also increase risk taking in the absence of any personal losses (Newell et al., 2016). Some mechanisms may explain what are otherwise counterintuitive effects – for example work on reactions to the effects of positive shocks in lottery

winners has shown that those who win more on the lottery smoke more and engage in more social drinking (Apouey & Clark, 2015), but this increase in indubitably risky behaviors is plausibly due to relaxed liquidity constraints rather than a change in risk attitudes per se.

One promising avenue of psychological research is work on *decisions from experience*. While many psychological studies of human decisions have relied on the convenient method of describing risky situations, studies on *decisions from experience* indicate that learning about risks through direct experience of choice outcomes in particular environments prompts quite different decisions to those arising from learning about the same findings from description (Barron & Erev, 2003). Kahneman & Tversky (1979) noted that, when making description-based decisions, people behave 'as if' they *over*weight small probabilities; however, with decisions based on experience, rare events tend to have *less* impact than their objective likelihood of occurrence would warrant (Hertwig et al., 2004). A number of psychological mechanisms have been identified to account for this (Hertwig & Erev, 2009) which a recent meta-analytic review has summarized evidence for – the largest of which was reliance on small samples of experience and the associated sampling error (Wulff et al., 2018). For improbable events, the chances are that most people mostly experience their non-occurrence, thereby generating less concern than these risks deserve (Newell et al., 2016). Nonetheless the difference between decisions from description and experience persists when sampling error is basically eliminated (e.g. Barron & Ursino, 2013; Camilleri & Newell 2011) indicating other determinants. Di Guida et al. (2012) have shown that, although decisions from experience result in underweighting of rare events across cultures, the impact of limiting feedback to outcomes resulting from chosen (and not foregone) options has predictable culturally specific influence on risk aversion: with this experience east Asians exhibit less risk aversion than people from western culture.

Experiences vary in an enormous number of ways – not just in terms of their valence and intensity – but qualitatively in ways that may alter how people think and feel about their future. For example, the choice to purchase a convertible or a four-wheel-drive is apparently highly dependent

on the weather at the time of purchase in a way that is inconsistent with classical utility theory (Busse et al., 2015). Psychological ideas about human cognition and emotion – including such things as the characteristic constraints of the human imagination – as well as an appreciation of the sometimes subtle and often complex influence of economic factors, will both be needed to fully analyze the impact of life experiences on risk taking.

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