



ELSEVIER

Contents lists available at ScienceDirect

European Economic Review

journal homepage: www.elsevier.com/locate/eer

Variation in risk seeking behaviour following large losses: A natural experiment

Lionel Page^{a,*}, David A. Savage^{a,b}, Benno Torgler^{a,c}^a QUT, Australia^b Bond University, Australia^c EBS Universität, Germany

ARTICLE INFO

Article history:

Received 11 November 2013

Accepted 25 April 2014

Available online 2 June 2014

JEL classification:

D03

D81

C93

Keywords:

Decision under risk

Large losses

Natural experiment

ABSTRACT

This study explores people's risk taking behaviour after having suffered large real-world losses following a natural disaster. Using the margins of the 2011 Australian floods (Brisbane) as a natural experimental setting, we find that homeowners who were victims of the floods and face large losses in property values are 50% more likely to opt for a risky gamble – a scratch card giving a small chance of a large gain (\$500,000) – than for a sure amount of comparable value (\$10). This finding is consistent with prospect theory predictions regarding the adoption of a risk-seeking attitude after a loss.

© 2014 Elsevier B.V. All rights reserved.

A substantial amount of research has shown that risk attitudes vary across time. In finance, several dynamic asset pricing phenomena can be explained with time-varying risk aversion (Campbell and Cochrane, 1999; Verdellhan, 2010). Recent empirical evidence supports the existence of such variations in risk aversion when market conditions change (Guiso et al., n.d.; Smith and Whitelaw, 2010; Malmendier and Nagel, 2011). Moreover, a recent literature in neuroscience links market conditions to traders physiological reaction and the evolution of their risk preferences (Coates and Herbert, 2008; Kandasamy et al., 2014). In addition, inspired by prospect theory (Kahneman, 2002) a lot of interest has also been given to how risk attitudes change following gains and losses (Thaler and Johnson, 1990; Ackert et al., 2006; Post et al., 2008). Prospect theory predicts that individuals' risk attitudes may be reference-dependent, in that individuals are risk seeking when considering losses to a reference point and risk averse when considering gains. If the status quo acts as a reference point, prospect theory predicts that individuals will be risk seeking following losses and risk averse following gains.

Economists have developed many techniques to elicit risk attitudes in both laboratory and field experiments (see for instance Hey and Orme, 1994; Holt and Laury, 2002; Harrison et al., 2007; Abdellaoui et al., 2008; Harbaugh et al., 2010). The use of controlled experiments to study risk attitudes has however in-built constraints which have sometimes raised concerns relative to the external validity of their results. First, budget constraints usually mean that stakes are small, which makes it difficult to study the effect of variations of wealth on risk attitude. Rather, wealth effects are most often considered as noise in the analysis of experimental data (Andersen et al., 2011). Second, because of ethical constraints, it is almost

* Corresponding author.

E-mail address: lionel.page@qut.edu.au (L. Page).

impossible to induce real losses for experimental participants, so the experimental study of risky behaviour in the loss domain is more tentative than that when participants are faced with gains (Harrison and Rutstrom, 2008, pp. 111–115; Wakker, 2010, pp. 264–265).

In the present paper, we provide new evidence on the effect of recent changes in wealth on individual risk taking behaviour in a field setting. Specifically, we use the 2011 Australian floods (Brisbane) to investigate the effect of large losses. The a priori random limit of the flood serves as a strategy to study the effect of random wealth shocks within a population of homeowners with similar characteristics. To do so we compare the risk taking behaviour of homeowners who have just been affected by those floods versus those who were not affected. The proximity of the houses around the flood line ensures that homeowners have similar socio-demographics between affected and nonaffected, that their house values do not differ on average and that they faced similar long term flood risk (measured by ex-ante estimates of flood risk over periods of 5, 20, 50 and 100 years). Our methodology is close in spirit to a regression over discontinuity, although the equivalent of a treatment – the subjective perception of the loss incurred by the flood – is not directly observable.

Following the January 2011 floods, we sampled 220 residential homeowners in affected Brisbane areas and offered those selected the opportunity to choose between a fixed sum – \$10 – and a risky gamble, a lottery scratch card potentially worth \$500,000 (with a \$10 face value in retail shops). These participants, drawn from each side of the margin of the flood peak in 18 suburbs across the city, completed a raft of survey questions on the impact of the flood and their opinion of the reaction by national and local authorities. The survey was presented as a research survey from the Queensland University of Technology under the generic title “Flood study”. The \$10 and the lottery card were offered as a reward for participating the survey. Participants were asked about their beliefs about the value of their houses (before and after the flood) and whether they were insured against flood damage and their level of coverage. The survey also included a range of demographic and personal background questions on the homeowners and their families.

Our main finding is that individuals whose properties were directly affected by the flood waters were much more likely to accept a risky gamble – the scratch card – than their unaffected immediate neighbours. This outcome supports prospect theory predictions regarding the adoption of risk-seeking attitudes after a large wealth loss. By providing the first (quasi) experimental evidence on the change in risk attitudes induced by a large negative wealth shock, this paper contributes both to the research on empirical models of decision under risk (Starmer, 2000; Wakker, 2010) and to the growing literature studying the validity of these models in field settings (Dohmen et al., 2011; Harrison et al., 2010; Booth and Nolen, 2012; Sutter et al., 2013).

The remainder of the paper is as follows: Section 1 discusses the existing empirical evidence on the effects of losses on risk taking behaviour, Section 2 details the method and the data of our study, Section 3 presents the results and Section 4 concludes.

1. Empirical evidence on the effect of losses on risk taking behaviour

There is a large amount of experimental research on risk preferences (Hey and Orme, 1994; Holt and Laury, 2002; Harrison et al., 2007; Abdellaoui et al., 2008; Harrison and Rutstrom, 2008; Harbaugh et al., 2010). Laboratory experiments make it possible to test predictions from economic theories in a highly controlled environment. Unfortunately, this degree of control often comes at the cost of some possible concerns about the external validity of the results (Bardsley et al., 2009, Chap. 3). When studying how losses affect risk behaviour, laboratory experiments face at least two types of difficulties. First, budget constraints usually mean that stakes are small, which makes it difficult to study the effect of variations of wealth on risk attitude. Rather, wealth effects are most often considered as noise in the analysis of experimental data (Andersen et al., 2011). Second, because of ethical constraints, it is almost impossible to induce real losses for experimental participants, so the experimental study of risky behaviour in the loss domain is more tentative than that when participants are faced with gains (Harrison and Rutstrom, 2008, pp. 111–115; Wakker, 2010, pp. 264–265).¹

Hence, to date, experimental studies have mainly followed two types of strategies (see Harrison and Rutstrom, 2008). First, many have studied individual behaviour in the face of small losses following an initial gain (endowment). Such a strategy works if participants consider the endowment and the loss separately. In that case the framing may induce the feeling of a loss. However, given the short duration of most experiments, there is some uncertainty about whether this assumption holds.² Second, other studies have relied on hypothetical losses. The use of hypothetical losses raises a question of the validity of the preference(s) elicited. A lack of incentives, for example, may lead to a “hypothetical bias” (Harrison and Rutstrom, 2008, pp. 123–124). While several studies do not find such a bias (Bardsley et al., 2009; Noussair et al., 2014), Holt and Laury (2002) found that for large stakes participants get more risk averse when the stakes are real³ while they do not

¹ See Etchart-Vincent and L'Haridon (2011) for a rare case of an experimental study including the small possibility of real losses at the end of the experiment. It included the possibility to lose up to 20 euros during one of the session. The final risk of losses were however limited by the laboratory setting (at the end of the experiment 2 subjects out of 46 lost money, less than 5 euros each).

² Experimental research on risk attitudes has shown that recently earned money such as an endowment may lead to the taking on more risk, a phenomenon known as the “house money effect” (Thaler and Johnson, 1990). See Etchart-Vincent and L'Haridon (2011) for a presentation of the empirical evidence. One explanation is that the newly acquired sum has not yet been adopted as “personal property” but rather is considered a new gain that can be gambled without fear of loss.

³ A result confirmed by the research on risk attitude elicited from game shows (Andersen et al., 2008).

Download English Version:

<https://daneshyari.com/en/article/5066692>

Download Persian Version:

<https://daneshyari.com/article/5066692>

[Daneshyari.com](https://daneshyari.com)