Social Science & Medicine 151 (2016) 250–258

Contents lists available at ScienceDirect

Social Science & Medicine

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

# The effect of economic insecurity on mental health: Recent evidence from Australian panel data☆

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ARTICLE INFO

*Article history:*
Received 3 June 2015
Received in revised form
4 December 2015
Accepted 10 December 2015
Available online 4 January 2016

*Keywords:*
Economic insecurity
Mental health
Panel data

ABSTRACT

This paper estimates the impact of economic insecurity on the mental health of Australian adults. Taking microdata from the 2001–2011 HILDA panel survey, we develop a conceptually diverse set of insecurity measures and explore their relationships with the SF-36 mental health index. By using fixed effects models that control for unobservable heterogeneity we produce estimates that correct for endogeneity more thoroughly than previous works. Our results show that exposure to economic risks has small but consistently detrimental mental health effects. The main contribution of the paper however comes from the breadth of risks that are found to be harmful. Job insecurity, financial dissatisfaction, reductions and volatility in income, an inability to meet standard expenditures and a lack of access to emergency funds all adversely affect health. This suggests that the common element of economic insecurity (rather than idiosyncratic phenomena associated with any specific risk) is likely to be hazardous. Our preferred estimates indicate that a standard deviation shock to economic insecurity lowers an individual's mental health score by about 1.4 percentage points. If applied uniformly across the Australian population such a shock would increase the morbidity rate of mental disorders by about 1.7%.



## 1. Introduction

Since the widespread financial crisis in 2008 and subsequent global recession, *economic insecurity* has become a topic of increasing interest to social scientists. This concept refers to the anxiety felt by individuals when they are threatened by the prospect of severe economic losses, and emerging evidence suggests it is a major cause for concern. Survey data routinely shows that financial worries rank amongst the most troubling for households, and related problems have been associated with many social ills including familial breakup (Larson et al., 1994), depression (Meltzer et al., 2009; Tsutsumi et al., 2001), and suicide (Blakely et al., 2003; Hintikka et al., 1999). The importance of economic security has also been emphasized by Stiglitz et al. (2009) who argue that it should be considered as a part of measures of economic performance and social progress; and by the United Nations which declares economic security a universal human right (United Nations, 1948). Further, there is evidence that economic insecurity has been intensifying over recent years (Hacker et al., 2010), a trend which predates the crisis of 2008. Indeed in most developed countries measures of consumer confidence have been declining since the late 1990s, while studies by Hacker (2006), Osberg and Sharpe (2002), Sharpe and Osberg (2009) and Nichols and Rehm (2014) show that this downward trend has been matched by increases in household level economic risk.

This paper models the impact of economic insecurity upon the mental health of Australian adults. There are three primary objectives. The first is to generalize findings from the extant literature on risk exposure and health by showing that negative effects are not limited to one or two specific forms of risk, such as job insecurity or the threat of destitution. Rather there are mental health consequences associated with a wide variety of economic hazards, which

☆ This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaHCSIA or the Melbourne Institute. Nicholas Rohde, Kam Ki Tang and Lars Osberg are supported by ARC Discovery Project DP120100204.

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[1] Nicholas Rohde, Kam Ki Tang and Lars Osberg are supported by the ARC Discovery grant DP120100204. Any errors are the authors' responsibility.

http://dx.doi.org/10.1016/j.socscimed.2015.12.014
0277-9536/

suggests that the underlying prospect of monetary loss is likely to be an important contributing factor. Secondly the paper addresses a methodological limitation present in some of the previous research in related fields. As both economic insecurity and mental health are likely to be determined by time-invariant individual-specific factors such as genetics and personality; regular statistical estimates that ignore this source of heterogeneity may suffer serious biases. We correct this problem by employing fixed-effects panel data models which can control for these unobservable factors and hence produce better estimates of the underlying relationships. Lastly, the paper aims to quantify the effect that changes in economic insecurity would have on the mental health of the Australian population. By aggregating results over individuals, the paper simulates the effects of economy-wide shocks on the morbidity rates of psychological disorders.

## 2. Background

There exists an extensive body of empirical literature linking health status with certain forms of economic risk exposure. Although individuals face a wide variety of potential hazards, much of this research has focused on the effects of labor market insecurity. Early works by Sverke et al. (2002), De Witte (1999), Ferrie et al. (1998), McDonough (2000), Böckerman et al. (2011) and Cheng et al. (2005) (and many others) have shown that job insecurity is robustly linked to diminished health and wellbeing. More recent studies have expanded this thesis by (i) examining specific aspects of the insecurity/health nexus, and (ii) by employing sophisticated statistical techniques to disentangle causes from effects. Notable works include Green (2011) who links insecurity to broader issues such as happiness and re-employability; Slopen et al. (2012) who consider long-term health effects; and László et al. (2010) and Caroli and Goddard (2013) who examine consequences for heavily protected European workers. Further research by Luechinger et al. (2009) shows that job insecurity has broad societal effects while Landsbergis, Grzywacz and LaMontagne (2014) find that insecurity is a significant source of health inequality.

Despite this considerable volume of research, the mechanism underpinning these relationships remains poorly understood. This uncertainty occurs because job losses and other negative economic shocks are often multifaceted phenomena, combining economic (i.e. monetary) disturbances with other social determinants of stress. These social stressors are often hard to quantify, but may be more important than economic losses in their effects upon psychological health. For example an individual with an insecure job faces the potential for lost income, however they also risk a sense of humiliation associated with sacking (Fryer and Fagan, 2003), feelings of purposelessness due to unemployment (Kessler et al., 1989) and social isolation from former colleagues (Lim, 1996). Similarly mortgage foreclosure is known to deteriorate health (Cannuscio et al., 2012) which may be due to financial strain, or to coincidental factors such as the stress of home relocation (Raviv et al., 1990). As social/contextual stressors such as these frequently occur simultaneously alongside economic shocks, it is difficult to identify which are the true sources of mental strain. Indeed it is possible that the threat of economic loss is relatively benign for health, and that it is the confounding presence of these other factors that have driven the results found in the empirical literature.

Determining which components of economic risk exposure are harmful for mental health is important from an epidemiological point of view, and for the formulation of policy. If it is the prospect of economic hardship that is damaging, then threats to income or wealth will have widespread effects upon population health, as virtually all individuals will face some exposure to these types of risk. In this instance policies that protect against economic losses such as stronger labor market regulations and more extensive social safety nets could be expected to be beneficial. Conversely, if it is the social or non-monetary aspects of risk exposure that are damaging, this suggests a subtler and more complicated relationship between economic stability and health. Such a finding would require a reinterpretation of the risk/health literature and would imply that social insurance mechanisms may be ineffective in buttressing psychological wellbeing. In this case further research into the specific idiosyncratic causes would be needed such that health-orientated policies could be appropriately targeted.

The main goal of this paper is to determine the roles that the economic aspects of risk exposure play in determining health. This requires measuring economic insecurity, which has typically presented a challenge to social scientists as the contribution of economic risk to an individual's sense of stress is inherently unobservable. However the concept can be operationalized by measuring specific phenomena that are likely to be stressful and combining these indicators with the aim of inferring the resultant sense of anxiety. Economic insecurity is thus seen as a multidimensional concept that includes (alongside job insecurity) the risk of poverty (Bandyopadhyay and Cowell, 2007; Calvo and Dercon, 2005), income volatility (Barnes and Smith, 2009; Smith et al., 2009; Rohde et al., 2014), bankruptcy (Kalleberg, 2009), loss through family dissolution, crime or widowhood (Western et al., 2012; Osberg and Sharpe, 2002), wealth dynamics (Bossert & D'Ambrosio, 2013; D'Ambrosio and Rohde et al., 2014) and lack of access to insurance, in particular health insurance (Dominitz and Manksi, 1997; Bucks, 2011; Hacker, 2006; Hacker et al., 2010). At the aggregate level phenomena such as business cycles (Stuckler et al., 2009) and exposure to international competition (Scheve and Slaughter, 2004; Standing, 1997) are also relevant.

While this multifaceted approach cannot explicitly identify the aspects of risk exposure that damage mental health, it does provide scope for narrowing the field of candidate explanations. The economic, or *monetary* explanation predicts that all risks that have an individual or household-level financial element should have adverse health implications. Conversely the incidental, or *non-monetary* explanation predicts that only risks that also provoke negative social responses should be harmful. We may therefore gain an appreciation as to how important the economic aspects are by searching for consistency in effects across differing forms of risk exposure. If a large and diverse set of economic risks is found to exert negative impacts (especially if these impacts are of similar magnitudes) this would suggest that the common monetary element plays a fundamental role. However if only some economic risks are harmful, and if there is a large degree of variation in the way that health responds to differing risks, this would suggest that there were other risk-specific phenomena besides monetary risk that are more important. Of course there are limitations with such an approach as it is possible that both monetary and non-monetary factors could measurably influence health; that there are non-monetary effects associated with all hazards; or that individuals have differing sensitivities to alternative types of monetary risk. Nonetheless in the absence of quantitative data on the multitude of social dimensions of economic stress, such a method can take a step towards clarifying this important issue.

## 3. Methods

### 3.1. Data

This study uses Australian HILDA (Household Income and Labour Dynamics in Australia) panel data, which has followed almost 20,000 individuals annually from 2001 to 2011. This data set is unusually rich in questions on health outcomes (particularly