1. Introduction

Poverty, or more broadly, economic disadvantage, is multifaceted. A critical component to overcoming or preventing a state of poverty involves having sufficient resources to cover necessities such as housing, food, health, and wellbeing. For most households, these resources are funded by earnings through employment. The ability to maintain employment and to earn a sufficient income to cover one's necessities reflects skills, needs of employers, macroeconomic conditions, and other socio/demographic/cultural issues affecting one's household and the community in which one resides. An individual has, at best, only partial control over many of these factors. For example, in 2020, no one anticipated the drastic and immediate closure of businesses and schools because of the effects of the COVID-19 pandemic. The pandemic led to job losses, increased child care needs when day care centres and schools closed, and other issues that affected economic and social wellbeing. Based on a UK study, Crossley et al. (2021) show that those individuals at the bottom end of the income distribution were hurt the most in terms of reductions in earnings and job losses.

Inchauste et al. (2012) document changes in labour earnings in a sample of 16 countries where poverty rates decreased substantially during the 2000s. In ten of these countries, more than half of the reduction in poverty was explained by increases in earnings. In another four countries, 40 percent of poverty reduction was explained by changes to earnings. In addition to changes in labour income, characteristics such as education and work experience also contributed to poverty reduction. Inchauste et al. (2012) demonstrate, however, that labour earnings continue to be the main asset of the poor and a key factor for moving out of poverty.[2]

Dutta et al. (2011) highlight that to address poverty the focus should be on how to remove or eliminate potential vulnerabilities that can lead to bad outcomes. How might we differentiate between poverty and vulnerability? Chaudhuri (2003) defines the three critical terms that will assist policy-makers when assessing how best to eliminate economic disadvantage: poverty, vulnerability and risk. *Poverty* represents '... an *ex-post* measure of a household's well-being (or lack thereof)' (p. 2). Poverty thus captures the current measurement of deprivation or lack of resources or capabilities to meet current needs. *Vulnerability* can be '... broadly construed as an *ex-ante* measure of well-being ...' (p. 2) capturing information on the prospects of a household. *Risk* captures '... the fact that future well-being is uncertain' (p. 3). Uncertainties can capture unexpected events that affect a community or country, such as a bushfire or a pandemic, as well as events that affect a particular household, such as an illness or accident.

As pointed out by Chaudhuri (2003), a household's vulnerability to poverty at any point depends on the evolution of livelihood prospects and wellbeing. And this in turn will depend on income volatility due to macroeconomic and other shocks, behavioural reactions to such shocks, and a set of complex dynamic interlinkages that relate to individual, household, and community factors. As documented elsewhere, there can be long-term, or scarring, effects from just a single year of not working. Von Wachter et al. (2009) demonstrate that, in the United States, workers separating from a stable job after a mass layoff can experience an earnings loss of more than 30 percent and the recovery from such a loss can take more than 15 years. Guvenen et al. (2017) extend these findings by including, in their study, workers who voluntarily separate from their jobs for more than a year. They find longer lasting financial effects from such a separation.

This report focuses on a critical feature that can be used to identify vulnerability, namely, negative shocks to labour earnings. Utilising an extensive dataset that captures a representative 10 percent sample of Australian tax filers from the 1990s to the present, we not only capture major changes in labour earnings, but also explore the depth of these changes for the tax filer and the time it takes to recover from an observed shock.[3] A negative earnings shock in and of itself may not lead to poverty. But this shock increases a risk of vulnerability that can lead to housing and food insecurity, along with several other socio-economic issues that can become the driver that leads one into poverty. As illustrated by Cassidy et al. (2020), the average duration of unemployment ranges from 30 to more than 50 weeks. Based on an analysis using HILDA data, those considered to be long-term unemployed are more likely to report food, housing, and financial insecurity relative to those who are fully employed.

2 As highlighted by Stephens Jr (2001), although labour income is a critical factor in understanding vulnerability, there is not, in most cases, a dollar-for-dollar reduction in consumption and expenses with a reduction in earnings.

3 Using data on US earners, Pruitt and Turner (2020) illustrate that, regardless of household composition, earnings shocks lead to reduced consumption. Moreover, the repercussions from earnings shocks can be greater for single households than for couple households because in a couple household typically only one earner experiences a shock.

By better understanding the vulnerability created from a decline in earnings, we can better address the risk of entering a state of poverty associated with not recovering from the shock. As illustrated through the COVID-19 pandemic, Brewer and Tasseva (2021) highlight that policy responses to the impact of the pandemic on household incomes affected households differently. They simulate the effects of a job retention scheme, a universal basic income, and automatic stabilisers in the existing UK tax and benefit system. They demonstrate the importance of introducing specific benefits over relying on the existing system. They also illustrate different winners and losers from the various options for supporting earnings shocks. While Brewer and Tasseva focus on a particular emergency affecting an entire country, COVID-19, their work highlights the importance of testing and exploring a range of policies designed to address an earnings shock to better understand the implications of these policies for reducing poverty and disadvantage.

This report explores a series of economic and socio-demographic indicators to better understand the extent to which Australians have experienced negative earnings shocks and to better assess which subpopulations experience more or deeper negative earnings shocks. We explore the following.

1. The relationship between macroeconomic periods of growth or contraction and earnings (Chapter 3). Given the period of our data, we can explore the following periods as defined by Garnaut (2021) and others: recession (1990–1992); productivity boom (1993–2001); resources boom (2002–2008); global financial crisis and recovery (2009–2012); and the 'dog days' (2013–2017). Much like other countries, we will demonstrate that the greatest volatility in earnings is experienced by those at the lowest end of the earnings percentile. Moreover, the degree of volatility depends on the state of residence and the economic period.
2. The extent to which Australians experience negative earnings shocks and the persistence of these shocks for males and females separately (Chapters 4 and 5). In Chapters 6 and 7, we explore differences across pre-shock earnings levels and across age groups. Our analysis illustrates that deeper and more persistent negative shocks are experienced by females, by those with lower pre-shock incomes (those at the bottom 25th percentile of the income distribution), and those aged under 35.
3. In Chapter 8 we explore the role of place, based on living in an urban or rural area, as well as based on measures of community level poverty rates. We observe almost no differences across our place measures for both the share of tax filers experiencing a shock and for the time to recover from a shock.
4. Finally, in Chapter 9, we explore the role of education, family status and the reporting of a disability on the likelihood of observing a shock and/or the time to recovery from a shock. We document that the likelihood of experiencing shock across males and females varies based on family type. Females with newborn children are more likely to experience an earnings shock than males with a newborn child. This observation likely contributes to the differences observed in experiencing a shock and recovery from the shock between males and females. We also document that individuals with a university degree are less likely to experience a shock than those without a university degree. We also observe that those with a health condition likely to affect one's ability to work also have a greater likelihood of experiencing a shock than those without a health condition.

In previous *Breaking Down Barriers* reports (Payne and Samarage, 2020; Vera-Toscano and Wilkins, 2022) we explored disadvantage through the lens of total household income, constructed from reported personal incomes of all household members aged 15 and over, using both census and HILDA Survey data. The reports based on census data highlight the high degree of variability in income-based poverty rates at a community level. The reports also document that many households experience fluctuating income over time and that, for many families, this leads to a cycling into and out of poverty. Using five-year data snapshots from the census and annual data from the HILDA Survey we document a range of fluctuations in poverty for many households.

This current report uses tax records data to dig deeper into the understanding of income fluctuation by studying fluctuations in annual earnings over the 27 years from 1990–91 to 2016–17. The insights from this report highlight the importance of understanding the complexities behind an individual experiencing a sharp decline in earnings from one year to the next. Our analysis highlights that when an individual experiences a shock, it likely takes many years before that individual reports earnings reflecting pre-shock earnings. By better understanding the factors that lead to a shock in the first place, be they global events like a pandemic or something that happens at a household level, we can better structure practices and policies to support recovery and reduce the risk of moving into a state of poverty or economic disadvantage.