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The impact of intergenerational financial transfers on health and wellbeing outcomes: A longitudinal study

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ABSTRACT

This paper estimates the impacts of intergenerational financial transfers on the physical health, mental health and perceived financial security of Australian males and females. We distinguish between two key sources of intergenerational financial transfers – inheritances and *inter vivos* parental cash transfers. Taking nationally representative data from the 2001–2015 Household, Income and Labour Dynamics in Australia Survey, we develop a two-stage modelling strategy that controls for potential bias in reported health and wellbeing responses that arise due to unobserved heterogeneity. In the first stage, propensity score matching is applied to achieve matched treatment and control groups, where the former is comprised of intergenerational financial transfer beneficiaries while the latter is made up of non-beneficiaries with a matched set of characteristics to the beneficiaries. This is followed by the application of regression models that further control for unobservable heterogeneity, so that the coefficients on the intergenerational financial transfer predictors can be attributed to the effect of the transfers on health and wellbeing. We do not find systematic evidence of a causal link between receipt of intergenerational financial transfers and health and wellbeing outcomes. This applies to both inheritances and *inter vivos* parental cash transfers, and for both males and females.

1. Introduction

Economic strain is a significant life stress that is a cause of many poor health outcomes (Yilmazer et al., 2015; Rohde et al., 2016). Often, economic strain, or conversely economic security, can be proxied by income and wealth levels. However, there are important differences between income and wealth that may impact health outcomes differently. Wealth is a financial buffer, enabling those with higher wealth to maintain living standards during periods when income is low or when financial shocks occur. Accumulated wealth can also enhance social and economic status, for instance via providing access to a greater range of educational and job opportunities. Furthermore, through the transfer of wealth between generations, access to material goods and economic security is afforded to family members (Deere and Doss, 2006). Indeed, recent research, which compared the relative influence of income and wealth on health outcomes, have tended to find a stronger and more robust effect of wealth than of income on mental health (Kendall et al., 2017).

A likely important pathway through which wealth impacts on health and wellbeing is through intergenerational financial transfers. At an individual or household level, some people have few economic concerns, no matter what their personal income or level of debt, because they are able to access family wealth via inheritances or through *inter vivos* cash transfers from surviving parents. Intergenerational financial transfers may confer a significant advantage on those fortunate enough to be part of such a family (De Vaus and Qu, 1998; White and Wyn, 2004). At a national level, access to intergenerational wealth will become progressively important in an era of fiscal austerity as governments grapple with the economic implications of population ageing amidst budget deficits that threaten fiscal sustainability. These fiscal concerns have prompted policy responses that encourage higher levels of self-sufficiency among individuals and families (see for instance, Kendig and Lucas, 2013; Productivity Commission, 2013).

Despite the potentially significant impact of intergenerational financial transfers on health and wellbeing outcomes, to our knowledge, there exists only a handful of studies that have empirically examined this topic. Using the Panel Survey of Income Dynamics (PSID), Meer et al. (2003) and Carman (2013) examined the effects of inheritances on health in the United States (US). Both studies found that overall, the amount of inheritance received did not have any causal impact on

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health. Kim and Ruhm (2012) is another US study that examined how inheritances affect mortality rates, health status and health behaviours. The study restricted its sample to older adults using the Health and Retirement Survey (HRS), a survey of individuals aged 51 years and over. The study found that the receipt of an inheritance did not have significant impacts on health, though an improvement in quality of life was possible. Au and Johnston (2015) examined the impact of wealth on the weight of Australians using the Household, Income and Labour Dynamics in Australia (HILDA) Survey, by treating inheritances (and lottery wins) as exogenous wealth shocks. The study found that additional wealth is linked to an increase in weight in women and the effect is statistically significant.

Scodellaro et al. (2012), on the other hand, focused their analysis on another type of intergenerational financial transfer, that is, *inter vivos* parental cash transfers. They restricted their sample to younger people aged 25–49 years, using the 2005 French Generation and Gender survey, and found that the receipt of large parental cash transfers ($\geq$4000 euros) was independently and positively associated with good health. Smaller transfers were not related to better health outcomes.

The small selection of studies raises an important question. Could it be that different forms of intergenerational financial transfers – parental cash transfers and inheritances – have different impacts on health and wellbeing outcomes? While Scodellaro et al.'s (2012) analysis was restricted to parental cash transfers, Meer et al. (2003), Kim and Ruhm (2012) and Carman (2013) focused on inheritances. No existing study has undertaken robust empirical analysis that simultaneously compares the impacts of inheritances and parental cash transfers on health and wellbeing from a single data source and empirical framework.

Our paper adds to the small selection of studies on the links between intergenerational financial transfers by estimating and comparing the impacts of inheritances and *inter vivos* parental cash transfers on the physical health, mental health and the financial security perceptions of adult males and females. Various studies have shown that health and wellbeing outcomes vary across gender (Short et al., 2013). Gender differences in health are persistent, with females having higher rates of morbidity, but lower rates of mortality (Short et al., 2013). These differences are shaped by biological factors (Austad, 2006) as well as the social environment (Berkman and Kawachi, 2000; Courtenay, 2000). Hence, our modelling approach accounts for potential differences in health and wellbeing outcomes between males and females, and we further add to the literature by examining whether the impact of intergenerational financial transfers on health and wellbeing outcomes also differs between males and females.

2. Methods

2.1. Data

The analysis draws from the 2001–2015 HILDA survey, Australia's first nationally representative longitudinal dataset. It is uniquely suited for addressing the key research questions in this paper as it provides a comprehensive range of individual and household-level information relating to respondents' socio-demographic characteristics, along with their family, income, wealth, health and wellbeing outcomes. The first wave of HILDA interviews was conducted in 2001 on a sample of 13,969 Australian responding individual aged 15 years and over from 7682 households. These respondents were then re-interviewed annually, resulting in a rich collection of longitudinal data that track individuals' life course transitions and changes in their personal circumstances as they age. We pool the data from independent adults who are no longer living with their parents from all 15 waves together into a person-period dataset.

2.2. Key measures

We are primarily concerned with the impact of receiving intergenerational financial transfers on health and wellbeing outcomes. In the HILDA Survey, receipt of intergenerational financial transfers is identified by answers to questions on whether the respondent has received payments during the last financial year from (i) inheritances, and (ii) surviving parents. From these variables, we are able to identify whether each individual received an inheritance in the last financial year, and whether an individual received an *inter vivos* parental cash transfer (henceforth parental transfer) in the last financial year. Additionally, respondents who answered 'yes' to either of these sources were asked how much they received from the source in question.

The health and wellbeing outcomes are drawn from a continuum of health and wellbeing variables in the HILDA Survey ranging from general, physical, mental to financial. Data on all the outcome variables except financial wellbeing were derived from the HILDA Survey's SF-36 module. This module contains a rich set of questions from the SF-36 Survey, a multi-purpose, short-form survey featuring 36 questions on health and wellbeing. The outcomes include general health perceptions, vitality, physical functioning, bodily pain, social functioning and mental health. The values for each variable are transformed into a 0–100 index, with a higher index value representing a better health outcome (Ware and Gandek, 1994; Ware et al. 2000). Financial wellbeing is measured using a six-scale index reflecting an individual's perceived financial prosperity given current needs or financial responsibilities. The scale ranges from very poor (1), poor, just getting along, reasonably comfortable, very comfortable, to prosperous (6).

2.3. Stage 1: propensity score matching to established matched treatment and control groups

We apply a propensity score matching (PSM) approach to mimic a randomised control trial where selection into a treatment (in this case receipt of an intergenerational financial transfer) is randomly assigned between a treatment and control group that have comparable characteristics. Randomised control trials are common in the medical sciences where for instance, new drugs are received by a treatment group while patients in the control group are given a placebo, and patients in both groups are not told whether they are receiving the placebo or drug (see for instance, Petersen et al., 1989; Colhoun et al., 2004). The trial's randomised nature ensures that patients in both the treatment and control groups will not differ on either observable *or* unobservable characteristics that might influence the outcomes of the trial.

Following Khandker et al. (2009) and Imbens and Wooldridge (2009), we apply PSM to refine the sample to reduce observable heterogeneity in the initial conditions between the treatment and control groups. A core outcome of applying the PSM is that the treatment and control groups should exhibit parallel trends in health and wellbeing outcomes prior to the treatment to ensure that the initial health and wellbeing outcomes of the two groups are already comparable before treatment. Differences in post-treatment health and wellbeing outcomes between the control and treatment groups can therefore be attributed to the impact of the treatment (that is, receipt of intergenerational financial transfers) on individuals in the treatment group.

We are interested in four sets of intergenerational financial transfer beneficiaries in our analysis – female inheritance beneficiaries, male inheritance beneficiaries, female parental transfer beneficiaries and male parental transfer beneficiaries. We distinguish between transfer type *as well as* gender because the existing health and wellbeing literature has indicated that health and wellbeing outcomes can vary across gender. The key outcome of the first stage is therefore the formation of a matched control group of non-beneficiaries for each of the four treatment groups of beneficiaries, so that we achieve 4 sample sets for analysis:

- Set 1 – female inheritance beneficiaries and matched non-beneficiaries;
- Set 2 – male inheritance beneficiaries and matched non-