



## The effect of unpaid caregiving intensity on labour force participation: Results from a multinomial endogenous treatment model



Ha Trong Nguyen<sup>a,\*</sup>, Luke Brian Connelly<sup>a,b</sup>

<sup>a</sup>The University of Queensland, Centre of National Research on Disability and Rehabilitation Medicine (CONROD), Australia

<sup>b</sup>The University of Queensland, Australian Centre for Economic Research on Health (ACERH), School of Economics and UQ Centre for Clinical Research (UQCCR), Australia

### ARTICLE INFO

#### Article history:

Available online 13 November 2013

#### Keywords:

Australia  
Informal care  
Labour force participation  
Instrumental variables  
Multinomial endogenous treatment

### ABSTRACT

It is well acknowledged that the intensity of caregiving affects the labour force participation of caregivers. The literature so far has not, however, been able to control effectively for the endogeneity of caregiving intensity. This paper contributes by dealing with the endogeneity of unpaid caregiving intensity when examining its impact on the labour force participation of caregivers. We distinguish between care provided to people who cohabit with the care recipient and care provided to recipients who reside elsewhere, as well as between primary and secondary caring roles. We address the endogeneity of selection in various care intensity roles via an instrumental variables approach, using the health status of potential care recipients as instruments. Data from wave 8 of the Household Income and Labour Dynamics in Australia survey which was undertaken in 2008 are used. We focus on a sample of 7845 working age males and females. Ruling out the endogeneity of any caregiving intensity role, we find that caregiving has a significant deterrent effect on caregivers' employment. This deterrent effect however is concentrated among those who identify as the main caregiver and the result appears to be the same irrespective of gender. Providing care as the main caregiver reduces the probability of employment by approximately 12 percentage points for both males and females, regardless of whether or not the caregivers cohabit with the care recipients. By contrast, we find no statistically significant impact of providing care as a secondary caregiver on the employment probabilities of either males or females. These results are germane to the development of policies that may affect informal caregiving and, thereby, the labour force decisions of carers.

© 2013 Elsevier Ltd. All rights reserved.

### Introduction

Unpaid care plays an important role in the welfare of sick, disabled and elderly people. The Organisation for Economic Co-operation and Development (OECD) estimates that on average around 70–90% of those who provide care are family members (Fujisawa & Colombo, 2009) and in Australia about 80% of caregivers in 2010 were family members (Colombo, Llena-Nozal, Mercier, & Tjadens, 2011). The role of unpaid care in the economy is expected to rise due to the aging of the population. At the same time, declining fertility rates, increases in the labour force participation rates of women and changes in child migration patterns may also decrease the supply of unpaid care. If these trends result in an excess demand for informal care, policy-makers may respond

either by encouraging a greater supply of informal care, increasing the supply of paid care, or by doing both of these things. Either way, the casual impact of informal caregiving on employment activities must be well understood to appreciate the related policy trade-offs.

Problems of reverse causality and unobserved individual heterogeneity are two of the major impediments to drawing causal inferences of the effect of informal caregiving on the probability of labour force participation (LFP). Specifically, caregivers may choose to exit the workforce in response to the care needs of loved ones (Nocera & Zweifel, 1997; Sloan, Picone, & Hoerger, 1997; Stern, 1995). It is also likely that some of the unobserved characteristics of potential carers affect both the caregiving and work choices simultaneously (e.g., individuals with poor labour market opportunities may also be more likely to become caregivers than individuals with better labour market prospects). For the latter reason, the true impediment of caregiving on labour market activities is generally lower than it first appears when one accounts for endogenous caregiving. Yet there are also other unobserved factors that could lead to the effect of caregiving on LFP to be underestimated when endogeneity is ignored. For instance, it is

\* Corresponding author. Centre of National Research on Disability and Rehabilitation Medicine, The University of Queensland, Ground Floor, Edith Cavell Building, Royal Brisbane and Women's Hospital, Herston, QLD 4029, Australia. Fax: +61 73346 4603.

E-mail addresses: [h.nguyen21@uq.edu.au](mailto:h.nguyen21@uq.edu.au), [ngtrongha@yahoo.com](mailto:ngtrongha@yahoo.com) (H.T. Nguyen).

likely that individuals with a strong work ethic are also more likely both to provide care and work.

A sizeable extant literature attempts to estimate the causal relationship between caregiving and labour market outcomes. The literature thus far has employed both panel data and instrumental variables (IV) methods in order to address the endogeneity of caregiving. Panel data approaches take advantage of the fact that repeated observations enable one to control for fixed individual characteristics, thus enabling one to estimate the effect of a change in caregiving status on changes in labour market outcomes in the same year. This approach however does not account for the likelihood of reverse causality because it requires that individuals do not change their caregiving status for reasons that are related to their labour market outcomes. In practice, this assumption may not hold because there is some evidence suggesting that individuals with poorer labour market prospects are more likely to provide care (Carmichael, Charles, & Hulme, 2010; Michaud, Heitmueller, & Nazarov, 2010). For that reason, in the absence of a “natural experiment” design, some studies have used an IV approach to enable a causal interpretation of the effect of caregiving on labour market outcomes.

The IV approach demands the availability of at least one variable that is strongly correlated with caregiving choices but that does not affect the labour market outcomes other than through its effect on caregiving choices. The instruments that have been used to date include the health status of co-resident family members or indicators of the health states of elderly parents. As these instruments are closely related to the demand for care by elderly parents and other household residents, the literature so far has been able to effectively control for the endogeneity of caring for either parents or other residents, but not both.

This paper uses a set of instruments previously used in this literature (the health status of residents and that of non-co-residing parents) as instruments for the caregiving equations. This set of instruments affects unpaid care provision to all individuals, not just parents or other residents as studied in the foregoing literature. This paper therefore contributes to the existing literature by applying an IV method to examine the casual impact of informal care provided to all types of care recipients. Our contribution is significant because elderly parents only represent approximately 36% of all care recipients in OECD countries (Colombo et al., 2011) and approximately a half of the care recipients in our Australian sample. Similarly, (non-parent) residents account for about 53% of the care recipients in our sample.

This paper also builds on previous evidence that shows the effect of caregiving on work tends to be stronger for intensive caregivers (Carmichael & Charles, 2003a, 2003b; Ettner, 1995; Heitmueller, 2007; Lilly, Laporte, & Coyte, 2010) by addressing the possible endogeneity of selection into the various caregiving roles. We distinguish between care provided to people who cohabit or are resident elsewhere, and between primary and secondary caring roles.

Using the data from the Household Income and Labour Dynamics in Australia (HILDA) survey, we find that caregiving is a significant impediment to LFP for both males and females. The impact however is concentrated among main caregivers and is of a similar magnitude for both females and males.

The rest of the paper is structured as follows. Section 2 provides an overview of existing literature. Section 3 describes the data and sample. The empirical model and econometric methodology are introduced in Section 4. Empirical results and robustness checks are discussed in Sections 5 and 6. Section 7 concludes.

## Background

The literature on the relationship between unpaid caregiving and work is quite rich. Most studies have found evidence of a

negative correlation between unpaid care and employment (Bolin, Lindgren, & Lundborg, 2008b; Emanuele, 2012; Ettner, 1995; Heitmueller, 2007; Johnson & Sasso, 2006; Lilly et al., 2010; Michaud et al., 2010; Spiess & Schneider, 2003). The existing literature has also uncovered significant heterogeneity of the effect of unpaid caregiving: specifically, the impact of caregiving on LFP appears to be stronger for intensive caregivers (Carmichael & Charles, 1998, 2003b; Casado-Marín, García-Gómez, & López-Nicolás, 2011; Crespo, 2006; Lilly et al., 2010) or residential caregivers (Carmichael & Charles, 2003b; Heitmueller, 2007).

These studies use a variety of techniques to address the endogeneity of caregiving including simultaneous equations (Wolf & Soldo, 1994), panel data methods (Casado-Marín et al., 2011; Emanuele, 2012; Heitmueller, 2007; Leigh, 2010; Meng, 2013; Michaud et al., 2010; Van Houtven, Coe, & Skira, 2013) and instrumental variable approaches (Bolin et al., 2008b; Crespo, 2006; Emanuele, 2012; Ettner, 1995, 1996; Heitmueller, 2007; Pezzin & Schone, 1999; Stern, 1995; Van Houtven et al., 2013; Watts, 2010).

Most studies that examine the impact of caregiving intensity classify the intensity of caregiving by using a dummy variable with an arbitrary threshold of the number of hours spent on caregiving (e.g., 10 h or 20 h per week). However, there is no consensus on a caregiving intensity threshold beyond which participation in the labour market is made difficult. Some recent studies find that males and females may have different measures of caregiving intensity (King & Pickard, 2013; Lilly et al., 2010) and that simple measures of care intensity as defined by self-identification as a main care provider are much more informative (Carmichael & Charles, 2003b; Lilly et al., 2010). Building on this evidence, we classify care intensity by identifying whether or not the caregiver is a main caregiver providing care for a recipient in or outside the caregiver's own home. The study by Carmichael and Charles (2003b) is the only one of which we are aware that uses the same measures of care intensity as ours. Unfortunately, this study together with two other studies that distinguish between caring for residents and non-residents (Heitmueller, 2007) or between main/secondary roles (Lilly et al., 2010) could not effectively deal with possible endogeneity of caregiving due to either a complete lack of instruments (Carmichael & Charles, 2003b; Lilly et al., 2010) or the weakness of the instruments available (Heitmueller, 2007). In our study, the availability of instruments allows us to deal with the likely endogeneity of all types of care intensity as defined above.

Two Australian studies have addressed the potential endogeneity of informal caregiving in Australia however neither analyses caregiving intensity measures as detailed as ours (Leigh, 2010; Watts, 2010). Leigh (2010) used panel data fixed-effects regressions and found that providing care reduces the LFP probability by between 4 and 6 percentage points. Unfortunately, Leigh used early waves of HILDA data (Waves 1–7) when no direct definition of unpaid caring was available. By contrast, Watts (2010) uses an IV method to address the possible endogeneity of caregiving. Due to lack of instruments for non-resident caregiving, he is able to deal with possible endogeneity of resident caregiving only. Using the 2003 ABS Survey of Disability, Ageing and Carers, he finds that providing care to residents leads to a reduction of 12 and 7 percentage points in LFP for females and males, respectively.

## Data and sample

### Data

The current study utilizes the Household Income and Labour Dynamics in Australia (HILDA) survey, a nationally representative household-based panel survey which began in 2001. There are

Download English Version:

<https://daneshyari.com/en/article/7336222>

Download Persian Version:

<https://daneshyari.com/article/7336222>

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