Full Length Article

Older workers and working time

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ABSTRACT

Contrary to much of the established literature, this paper finds that though many older workers would prefer to reduce their working hours (the overemployed), there is a significant group who would like to work longer hours (the underemployed). And contrary to the assumption that the self-employed are more easily able than employees to select a desired combination of hours and the wage rate, this paper finds that older self-employed workers are more likely to wish to adjust their hours, both upward and downward than are employees. A new index of underemployment is used to show that for the UK, since the onset of the Great Recession, underemployment among older workers has been growing more rapidly than unemployment. Using longitudinal data from the UK Labour Force Survey, the paper investigates the effects of overemployment and underemployment on transitions from employment and self-employment into other labour market states. It confirms that overemployment is a significant predictor of retirement among employees while underemployed employees are less likely to retire.

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Introduction

Over the next 30 years, the EU working-age population will shrink by 1–1.5 million a year. The number of people aged 60 and over will increase by about 2 million a year. Based on historic retirement ages, this implies a significant increase in the old-age dependency ratio. In these circumstances, there is a need to ensure that the potential of older workers is fully realised. One approach is to extend working life: the prospects of increased life expectancy, along with the fiscal problems associated with the recent recession, have caused several countries to propose increases in statutory pension ages. Germany plans to increase the retirement age from 65 to 67 between 2012 and 2029. Japan is gradually increasing the age of retirement from 60 to 65. France plans an increase from 60 to 62 over the next 8 years. The UK proposes an increase from 65 to 66 in 2024 and to 68 in 2044, while the US proposes to increase its retirement age from 66 to 67.

Increasing the *statutory* retirement age provides an inducement, but no guarantee, that the *effective* age of retirement will increase. Working conditions for older workers will influence the effective age of retirement. One important aspect of working conditions is weekly hours of work, also known as working time. Not being able to realise their desired combination of working time and income may cause older workers to change their retirement date. Another possibility is that those out of equilibrium in respect of working time and income from employment opt instead for self-employment where it is commonly believed that they have greater control over working conditions.

The previous literature has focussed on cases where older workers feel that they are providing more hours than they would optimally choose. It has neglected the case where older workers wish to provide more hours than are currently on offer. In addition, the interaction between hours of work and self-employment has tended to be ignored, based on what we believe is the mistaken view that the self-employed always work their desired hours. The effects of these issues on retirement decisions have largely been neglected.

Our paper focusses on working time and the retirement decision and extends the previous literature in this area by accommodating the case where older workers are hours constrained in the sense of underemployment (working fewer hours than they desire), rather than overemployment (working more hours than they desire). It also argues that, contrary to the belief that the self-employed can always optimise their working time, older self-employed workers may be either underemployed or overemployed. We believe that there is strong empirical evidence to support this view. Our paper also uses data from the UK Labour Force Survey to derive a new index of the extent of underemployment/overemployment of older workers and provides estimates of the effects of overemployment and underemployment on the retirement decision. Finally it exploits the longitudinal structure of the Labour Force Survey to identify whether overemployment or underemployment are significant predictors of changes in labour market state for both employed and self-employed older workers.

The paper is structured as follows: in the next section, we review the relevant literature on older workers' labour market

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participation, focussing particularly on its interaction with hours of work and self-employment. Next, we describe our data and derive our index of net overemployment. The following section discusses our analysis of the effects of overemployment and underemployment on transitions between employment, self-employment and retirement. The final section concludes.

Literature review

In many developed countries, the experience of retirement is abrupt. Workers experience a cliff-edge effect in relation to their working time, which falls dramatically between their last week of employment and their first week of retirement. Most retirees would prefer to exert control over their retirement process, but this tends not to happen due to inertia in employment practices and the vagaries of pension regulations (Vickerstaff et al., 2004). The extensive variation in effective retirement ages between countries suggests that there may be substantial differences between countries both in employer practices and pension regulations. Eichhorst (2011) points out that Germany has successfully increased the employment of older workers in the last decade by removing incentives to early retirement, activation strategies, enhanced training for older workers and reducing subsidised part-time working. However, in many countries older workers are still more likely to be made redundant (Meadows, 2003), causing "involuntary" early-retirement. For older workers wishing to defer retirement and/or enhance their pension, one response to unemployment caused by redundancy may be "necessity" self-employment (Block and Koellinger, 2009), resulting in relatively low job-satisfaction. The "necessity" aspect of self-employment may result from age discrimination and employment protection legislation which make employers risk averse in hiring older workers (Adams, 2004; Lahey, 2006). Reality often falls short of the policy ideal of continuing mutually-beneficial engagement of older workers in the labour market.

One key aspects of this engagement is working time. It has been argued that older workers prefer shorter hours, and if these are not offered by their employer, then they may retire earlier than they might otherwise have done. It is worth noting that retirement is not necessarily an absorbing state. Kanabar (2012) finds that "unretirement" is relatively common in the UK and is driven by factors such as unexpected debt shocks, having a spouse in the workforce, being in good health and having a long-term financial planning horizon.

The role of working time disequilibria driving early retirement is highlighted by Charles and DeCicca (2007) and by Gielen (2009). Their work derives from a more general literature focussing on supply-side disequilibria (Moffitt, 1982; Naylor, 2003). The model against which they compare is one where workers, whose utility function depends solely on hours and the wage, can costlessly maximize utility by selecting between firms offering different combinations of wages and working time. Moffitt imagines a situation in which firms impose minimum hours constraints. One possible rationale could be limitations imposed by production technology. Those with desired hours above the constraint can attain their first-best outcome. Those with desired hours below the constraint then choose between participation and a sub-optimal hours-wage combination. Naylor argues that firms may have local market power which they use to push employees off their labour supply curve. Employees then select along a contract curve defined by the firm's iso-profit function and the worker's utility function. The key prediction is that, along this contract curve, workers provide more hours than they would optimally choose.

Charles and DeCicca develop a model using a simple Taylor series expansion of the difference between actual and desired (optimal) working time. Denote actual hours by h, desired hours by h^* and partial derivatives of the utility function by U_h etc. Then expanding around the optimal level of hours, we have

$$U(h) = U(h^*) + (h - h^*)U_h(h^*) + (h - h^*)^2 U_{hh}(h^*)$$
$$= U(h^*) - \kappa(h - h^*)^2 \tag{1}$$

since $U_h(h^*) = 0$ by definition. In relation to this paper, the interesting aspect of this argument is that it is *symmetric*. Reductions in utility occur due both to positive and to negative deviations of actual hours from their optimal value. Though Charles and DeCicca focus their empirical analysis on workers being constrained to provide more hours that they desire, Eq. (1) encompasses both the case of overemployment (desired hours less than actual hours) and that of underemployment (desired hours exceed actual hours). The case of underemployment is also consistent with Kanabar's finding of "unretirement". This effect occurs perhaps due to inadequate information about retirement: some retirees decide that some hours of work is preferable over zero hours.

Gielen utilises a traditional supply framework and argues that the disutility of work increases with age. Her analysis of overemployment among older workers is also driven by the imposition of minimum hours constraints by employers. Though these constraints are not explained, technological or organisational constraints and/or employer market power are possible rationales.

Gielen excludes the self-employed from her analysis, arguing that they are free to set their working hours. This would certainly follow from the standard labour supply model where workers derive utility solely from leisure and consumption (see e.g. Pencavel, 1986). However, a number of studies (e.g. Oswald and Blanchflower, 1998; Blanchflower, 2000; Hundley, 2001; Benz and Frey, 2008) suggest that the self-employed derive utility from the increased control they have over their working conditions compared to the employed. Self-employment is associated with greater independence and creativity than employment, neither of which features in the standard model. Using different terminology, Benz and Frey (2008) argue that self-employment provides "procedural" utility implying that for this group, their utility functions extend beyond outcomes – hours of leisure and wages – to include the processes and conditions of work.

Age, sex, education, and marital status are consistently strong predictors of self-employment (Fairlie and Meyer, 1996; Blanchflower, 2000; Lombard, 2001). It is also the case that the self-employed are more likely to be drawn from the tails of the income distribution. Åstebro et al. (2011) argue that this may reflect the self-employed being drawn from two populations, one of which is able to pursue novel opportunities, while the other enters self-employment due to unfavourable events or circumstances. The latter are the "necessity entrepreneurs" (Block and Koellinger, 2009) already discussed.

Why is this discussion relevant for older workers? There are two main reasons. First, it calls into question the standard model of labour supply as a description of the choices made by older self-employed workers. It also weakens the notion that the self-employed will always work the hours that are consistent with this model. Thus, even conditioning on their other characteristics, the employed and self-employed may choose to retire at different times since they derive different levels of procedural utility from their work. And among the self-employed, necessity entrepreneurs may find themselves demand-constrained: joint maximisation of procedural and outcome utility may result in deviations of actual from desired hours if the extended choice set is not continuous.

Second, older workers are not exempt from adverse or unexpected events. Kanabar (2012) highlights the effects of unexpected changes in wealth on "unretirement". Older workers are more likely to be made redundant (Taylor and Walker, 1998). We also know that