ARTICLE IN PRESS
JID: JEBO [m3Gsc;January 28, 2018;4:59]

Journal of Economic Behavior and Organization 000 (2018) 1–18

Contents lists available at ScienceDirect

Journal of Economic Behavior and Organization

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

Gradual retirement, financial incentives, and labour supply of older workers: Evidence from a stated preference analysis

Ahmed Elsayed[a,b], Andries de Grip[a,b,c], Didier Fouarge[a,b,c], Raymond Montizaan[a,b,c,*]

[a] IZA, Bonn, Germany, Schaumburg-Lippe-Straße 5-9, Bonn, 53113, Germany
[b] ROA, Maastricht University: PO-box 616, Tongersestraat 53, Maastricht, MD 6200, Netherlands
[c] Netspar, PO-box 90153, Tilburg, LE 5000, Netherlands

A R T I C L E I N F O

Article history:
Received 10 March 2017
Revised 16 August 2017
Accepted 15 January 2018
Available online xxx

JEL Classifications:
J14
J26

Keywords:
Gradual retirement
Labour supply
Financial incentives
Stated preferences experiment

A B S T R A C T

Using data from a stated preferences experiment in the Netherlands, we find that replacing full-time pension schemes with schemes that offer gradual retirement opportunities induce workers to retire one year later on average. Total lifetime labour supply, however, decreases by 3.4 months, because the positive effect of delayed retirement on labour supply is cancelled out by a reduction in working hours in the years before full retirement. The impact of gradual retirement schemes is, however, heterogeneous across groups of workers. Workers in bad health who gain access to gradual retirement postpone their retirement by 1.7 months more than workers in good health. This suggests that introduction of gradual retirement alleviates, to a certain extent, the health-related burden that employees in poor health may experience in carrying out their work. Nevertheless, introduction of gradual retirement reduces the total labour supply of both groups of workers. Financial incentives, either in terms of changing pension income or the price of leisure, also affect expected retirement age, but the impact of these financial incentives does not differ with the possibility of gradual retirement. Finally, we find that gradual retirement is not a preferred option among workers, as the large majority prefers full retirement.

1. Introduction

As a result of population ageing and declining fertility, many industrialised countries with ‘pay-as-you-go’ pension systems face a steady decrease in the ratio of contributing workers to inactive retirees who draw from these schemes. These underfunded systems will become financially unsustainable unless either the labour supply of older workers or productivity increases rapidly enough to compensate for the negative demographics. Most industrialised countries have therefore begun to implement major pension reforms aimed at increasing the labour supply of older workers to decrease the old-age dependency ratio. These reforms include, among others, decreases in the generosity of pension benefits and increases in the eligibility age for early and statutory retirement (Gruber and Wise, 1998; Duval, 2005; Mastrobuoni, 2009; Hanel, 2010; Kangas et al., 2010; Börsch-Supan, 2012; Staubli and Zweimüller, 2013). In addition, in several countries, gradual re-

* Corresponding author at: ROA / Maastricht University, PO-box 616, Tongersestraat 53, MD 6200, Maastricht, The Netherlands.
E-mail address: r.montizaan@maastrichtuniversity.nl (R. Montizaan).

https://doi.org/10.1016/j.jebo.2018.01.012
0167-2681/

Please cite this article as: A. Elsayed et al., Gradual retirement, financial incentives, and labour supply of older workers: Evidence from a stated preference analysis, Journal of Economic Behavior and Organization (2018), https://doi.org/10.1016/j.jebo.2018.01.012

tirement schemes have been introduced, whereby workers do not end their career abruptly but rather in a stepwise fashion (Reday-Mulvey, 2000; Hutchens, 2010; Warren, 2015).[1]

Existing literature stresses that introduction of gradual retirement schemes can have major benefits both at the micro and macro levels (Kantarci and Van Soest 2008). At the micro level, gradual retirement schemes could improve lifetime utility, as they introduce the possibility of avoiding a pension shock following an abrupt transition from full-time work to full-time retirement, and extend the choice set for older workers (Reday-Mulvey and Delsen 1996; Reday-Mulvey 2000). Gradual retirement could reduce the burden of work, and thereby reduce work-related stress and increase employee morale, enabling workers to keep working beyond an age at which they would otherwise have fully retired (Kantarci and Van Soest 2008).[2] At the macro level, gradual retirement schemes may increase actual retirement age by facilitating work after the effective retirement age, thereby restraining early withdrawal from the labour market, provided that introduction of such schemes is accompanied by a pension structure with the right financial incentives. This would enhance the financial sustainability of current pension schemes. Gradual retirement could, however, also lead to a reduction in total labour supply when workers engage in early part-time retirement, where they would otherwise have chosen to continue to work on a full-time basis. The total effect on labour supply, and thus the sustainability of pension systems, therefore depends on which of these two effects is larger, making the net effect of the introduction of gradual retirement schemes on total labour supply ambiguous. This raises the question to what extent introduction of gradual retirement opportunities actually stimulates workers to continue working, and to what extent it can be expected to increase their total labour supply. Another question is whether the effects differ with the financial incentives provided by the pension system to postpone retirement, the burden of work, and workers' health.

This paper uses a stated preference approach to study the impact of a gradual retirement scheme on expected retirement age and total labour supply of Dutch public sector workers. We further investigate whether the effects differ with the financial incentives provided by the pension system, and explore heterogeneity in the impact of the introduction of gradual retirement opportunities on retirement preferences of workers with different personal and job characteristics. Our stated preference approach consists of six vignettes in which respondents get hypothetical (but realistic) retirement scenarios that either involve gradual or full retirement and that vary in terms of financial incentives (either in terms of changing the price of leisure or in terms of changing pension income). Respondents are asked to indicate at what age they would retire, and are subsequently asked to compare and rank the preferred choices they made when confronted with the different scenarios.

The main reason we use a stated rather than revealed preferences approach is that we want to estimate preferences for pension plans which do not yet exist or to which many workers so far do not have access. Previous empirical studies that focused on actual retirement decisions suggest that introduction of gradual retirement schemes may lead to postponement of retirement and are inconclusive about the impact on labour supply (e.g., Gustman and Steinmeier 2004; Gielen 2009; Machado and Portela 2012). Since these studies focused on actual retirement decisions, however, they did not identify all retirement options available to older workers, because the options that are not chosen cannot be observed, or because it is not clear which options workers would have chosen if they had the opportunity to choose (Kantarci and Van Soest 2008, 2013). The latter point is particularly relevant for studies on the impact of gradual retirement plans, since it is often unclear whether employers offer such plans, and if they do, which trajectory of earnings and pension incomes the plan includes. This is because gradual retirement arrangements are often based on informal agreements negotiated between an employee and the employer (Hutchens 2010). Moreover, it can be the case that employers who offer gradual retirement plans have other barriers that prevent workers from participating in these plans. Employers are often reluctant to promote gradual retirement due to higher fixed costs involved with part-time work, the adaptation to teamwork because of sharing of jobs and the risks of losing job-related skills caused by the reduction of working time (Hurd 1996). The use of revealed preferences therefore likely leads to an underestimation of the true labour supply effect of introducing gradual retirement. Our stated preferences approach circumvents this type of problem.

A further advantage of our stated preferences approach is that the included vignettes ensure that the choice alternatives are known to the researcher, and that the variation in choices is sufficiently large and, by construction, exogenous to preferences and actual pension entitlements. Because of this exogenous variation, the estimated effects are likely to be causal. This is also the reason why vignette studies are widely used in marketing research (e.g., Louviere et al., 2000), and transportation and environmental science (Hensher 1997). Vignette studies are also rapidly gaining ground in economics (see, e.g., Barsky et al. 1997; Revelt and Train 1998; Van Soest et al. 2007; Kantarci and Van Soest 2008; Braga et al., 2009; Benjamin et al., 2014; Van Soest and Vonkova 2014). Several studies have systematically examined the extent to which the

[1] Gradual retirement schemes were first adopted over the past two decades in combination with early retirement programs, and were only later introduced as an alternative instrument to reduce early withdrawal from the labour market. Sweden was one of the first to adopt a gradual scheme in 1976. In Denmark, a reform in 1987 aimed to promote gradual retirement by replacing the system of full early retirement with a part-time work regime. In Finland, a partial retirement scheme was introduced for wage earners aged 60 or older in the late 1980s. This was extended in the 1990s to workers aged 56 or older and was further stimulated by additional incentives (e.g., tax cuts for firms). Germany, Austria, France, Belgium, and the Netherlands now also offer the option to enter gradual or partial retirement before or after the standard retirement age. Outside Europe, gradual retirement schemes have also been introduced. For example, the Australian government stimulated gradual retirement transitions by introducing 'transition to retirement' pensions in 2005, which allow older workers to reduce their working hours and access part of their superannuation savings in the form of a pension to supplement their labour income (Warren, 2015).

[2] Allen et al. (2003) show that, for tenured faculty at the University of North Carolina, the odds of entering phased retirement are indeed strongly and inversely related to employee performance.

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