Permanent wage cost subsidies for older workers. An effective tool for employment retention and postponing early retirement?

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\textbf{A B S T R A C T}

This paper examines the effects of a permanent wage cost subsidy in Belgium on employment retention, working time and hourly wage of older men. To estimate these effects we propose a semi-parametric weighted difference-in-differences estimator that accounts for endogenous stratification in the sampling from a population of men born between 1941 and 1950. We find small positive short-run impacts on working time and larger ones on the retention rate in employment, but only for employees at high risk of early retirement. The wage is not affected.

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1. Introduction

The decreasing share of the working population induced by the ageing of the population and the longer life expectancy will be one of the major threats to economic growth and the Welfare State in the developed world in the coming decades. Partly in reaction to this threat, the European Union (EU) agreed in June 2010 on the “Europe 2020” strategy. One of the major targets is to raise the employment rate from 69% in 2010 to 75% by 2020, and this, in particular, through a greater involvement of older workers in the workforce (European Commission, 2010). Belgium has one of the lowest employment rates of older workers in the EU. In 2016 the employment rate among the population aged between 55 and 64 attained only 45% (55% in EU28). Nevertheless, much progress has been made. Since 2000 the Belgian Federal government has implemented a series of policies to encourage the labour market participation of the elderly (Dejemeppe et al., 2015) and the employment rate among older workers has increased in this period by 20 percentage points (Eurostat, 2015). The question is to what extent this positive evolution has been driven by the policies put in place, and if so, which interventions have been the most effective. This paper contributes to a better understanding of this question by evaluating the impact on employment and wages of a wage cost subsidy targeted at older workers. Other countries have introduced similar wage subsidy schemes, widening thereby the scope of interest for our findings.\footnote{Examples in OECD countries are: Austria, Denmark, Finland, France, Germany, the U.S., the Netherlands, Sweden and the United Kingdom. A description of such measures introduced in the OECD countries is provided in Tables OC.1-OC.3 of the Online Appendix C.}

In Belgium, from the second quarter of 2002 onwards, the private sector employers’ Social Security contributions (SSC) were permanently reduced by €400/quarter for employees older than 58 and working 80% rate.\footnote{We are grateful for discussions with and comments of Lorenzo Cappellari, Muriel Dejemeppe, Michael Lechner, Marco Leonardi, Peter Mueser, William Parienté, Matteo Picchio, Yannick Thuy, Bruno Van der Linden, Vincent Vandenberghe, two anonymous reviewers and Conny Wunsch, editor in charge, and the participants at the EALE conference in Lubjiana (09/2014) and at AIEL conference in Pisa (09/2014). We acknowledge financial support for this research project from the programme “Society and Future” of Belgian Science Policy (contract n° TA/00/044) and from the special Research Fund of Ghent University for providing a scholarship to Andrea Albanese (code 01SF3612). We thank the Crossroads Bank for Social Security for the delivery of the data (report nr. 12/080 of the Sectoral Commission of Social Security and Health, department “Social Security”).}

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of a full-time schedule or more. For part-time employees working between 33% and 80% of a full-time schedule, the subsidy was proportionally reduced. Employees working less than the lower threshold were not eligible. The average subsidy was worth 4% of the median wage cost, including all payroll taxes and reached a maximum intensity of 14% for someone working 80% of a full-time schedule at the legal minimum wage. The policy is still in place and its coverage has even been extended in 2004 and 2007. The cost of the programme is substantial. In 2004 expenditures on the payroll subsidy represented 0.034% of the GDP and between 2004 and 2011 in total about 1.3 billion euros of payroll reductions were spent.

It is well known that in a competitive labour market wage subsidies can raise employment only if both labour supply and demand are sufficiently elastic (e.g. Katz, 1996). We are not aware, however, of any study that estimates the elasticity of labour demand for older workers, while the evidence on the labour supply of older workers is mixed. Hence, based on this literature it is difficult to predict the employment effects of wage cost subsidies targeted at older workers. Another strand of the literature aims at directly estimating the effects of in-work benefits (employee-side wage subsidies) and employer’s SSC reductions on employment. However, only a few studies focus on older workers. Ammermüller et al. (2006) and Brussig et al. (2006) estimate the effect of an in-work benefit in Germany based on a difference-in-differences (DiD) strategy. They find a positive, but not significant, effect on employment. Boockmann et al. (2012) study the effects of hiring subsidy on older workers in Germany using a similar estimation strategy in duration analysis. Women in East-Germany are the only group for whom significantly positive employment effects are found. This is arguably due to a longer subsidy duration and to the lower pressure on wages in this high unemployment region. The study that is most related to ours is that of Huttunen et al. (2013). They estimate by a triple DiD the impact of a temporary five-year reduction of payroll taxes in Finland for low-wage full-time employees aged over 54. Despite the precision of their estimates, they find small and statistically insignificant employment effects at both the extensive and the intensive margin, and no robust effects on wages. Only for the group aged over 58 some significantly positive effects on the intensive margin are reported. This could be related to the eligibility to the part-time retirement scheme of this age group, increasing the elasticity of supply at the intensive margin.

Our contribution to the literature is threefold. First, we are not aware of any study that evaluates the effects of a permanent wage cost subsidy targeted at older workers, irrespectively of the wage level. Second, this payroll tax reduction is of particular interest, because it targets a population that is at the margin of leaving the labour force through early retirement (from age 58 onwards in Belgium) and for which the potential for job retention is, hence, higher than at other ages. Third, most of the literature evaluating the impact of early retirement schemes is focused on supply side incentives (see e.g. Burtless, 1986; Krueger and Pischke, 1992; Gruber and Wise, 2007; Liebman et al., 2009; Staubli and Zweimüller, 2013). Our study is more related to the scarce literature focusing on labour demand. Hakola and Uusitalo (2005) show that a reform which charged part of the early retirement expenses to the employer decreased exit to early retirement in Finland. Frimmel et al. (2015) recently provide evidence that the effective retirement age of workers in Austria decreases as the pay-productivity gap increases. This paper adds to the evidence that the demand side matters when there is a pay-productivity gap for older workers. We find that the payroll tax reduction enhances the retention rate for employees working in sectors at high risk of mostly demand-induced early retirement.

The data used for estimation were sampled from merged administrative registers of the diverse Social Security institutions and of the National register containing all Belgian inhabitants. These data are exceptionally rich in that they contain detailed information on labour market histories and the amount of SSC paid since 1998, and on private sector employment from as early as 1957. Since privacy protection legislation forbids using population data, the analysis relies on an endogenous sample of 153,373 men aged between 52 and 61 in 2002, the year that the subsidy was introduced. Identification of the treatment effects is based on a semiparametric conditional difference-in-differences (CDiD) estimator (Heckman et al., 1997) which contrasts the outcomes of groups of individuals within fixed age ranges above and below the eligibility threshold of the payroll reduction before and after the reform.

Our findings can be summarized as follows. The study cannot credibly identify the impact of the subsidy on the employment rate, because the placebo tests of the DiD estimator fail for this outcome. It therefore restricts the outcome of the analysis to the retention rate in employment. The subsidy is found to have large and significant positive effect on this retention rate, but only for workers at high risk of early retirement (i.e. on employees working in sectors where early retirement around age 58 is widely used). Decreasing labour costs for this group by 10% increases the retention rate in employment by about the same proportion, implying a wage cost elasticity of employment close to one. We do not find evidence of any substitution effect that would decrease the employment of workers slightly younger than 58. However, this could be the consequence of a counteracting anticipation effect induced by the fact that these younger workers become eligible for the subsidy as they grow older than 58. At the intensive margin, the subsidy scheme significantly increases working time for all workers and not only for workers at high risk of early retirement. However, the wage cost elasticity of employment at the intensive margin is only 0.17. Finally, the impact of the wage cost reduction on the hourly gross wage (excluding employer’s SSC) is small and not statistically different from zero.

The paper is structured as follows. Sections 2 and 3 summarize, respectively, the institutional setting and some theoretical predictions of the effects of the wage cost subsidy targeted on older workers. The sampling scheme and data are described in Section 4. Section 5 presents the identification strategy and the estimation method. In Section 6 we present the empirical findings and a cost benefit analysis. The last section concludes.

2. The institutional setting in the period around the reform in 2002

2.1. The policy

In 2002 the Belgian federal government permanently reduced the employers’ SSC by €400 per quarter for private sector employees aged 58 or more. This can be seen among the first attempts in Belgium to increase the employment rate of older workers. Figure 1 displays how the subsidy increases with working time. No subsidy is awarded for individuals working less than 33% of a full-time. Between 33% and 80% of a full-time, it increases at a rate that is 1.25 times the share of working time relative to a full-time. Hence, at 33% the value of the subsidy is €165 (0.33x1.25x400 = 165) and it attains the maximum of €400 when working at least 80% (0.80x1.25x400 = 400). The average subsidy amounts to about 4% of the median wage cost, including all payroll taxes. As the subsidy is lump-sum, this share is higher for low wage workers. It

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2 In 2004 the age requirement was lowered to 57 and in 2007 the subsidy amount was increased, awarding a reduction already from age 50 (i.e. €50/quarter for each year above 49) if the worker has a quarterly remuneration lower than €12,000.

3 See Online Appendix B for a brief review of this literature.

4 We also performed a separate analysis on women. However, the identifying assumptions for the DiD were rejected. We therefore do not report these findings, but they are available upon request.

5 A temporary hiring subsidy for workers aged 45 or more pre-existed. In 2002 this policy was relabelled “ACTIVA”, but the main features of the scheme remained unaffected. The minor changes induced by this reform affected the treated and the control groups of our analysis in the same way.
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