



# Does raising the early retirement age increase employment of older workers? ☆



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## ABSTRACT

Two pension reforms in Austria increased the early retirement age (ERA) from 60 to 62 for men and from 55 to 58.25 for women. We find that raising the ERA increased employment by 9.75 percentage points among affected men and by 11 percentage points among affected women. The reforms had large spillover effects on the unemployment insurance program but negligible effects on disability insurance claims. Specifically, unemployment increased by 12.5 percentage points among men and by 11.8 percentage points among women. The employment response was largest among high-wage and healthy workers, while low-wage and less healthy workers either continued to retire early via disability benefits or bridged the gap to the ERA via unemployment benefits. Taking spillover effects and additional tax revenues into account, we find that for a typical birth-year cohort a one year increase in the ERA resulted in a reduction of net government expenditures of 107 million euros for men and of 122 million euros for women.

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## 1. Introduction

Aging populations put enormous pressures on public pension systems.<sup>3</sup> These financial pressures are further enhanced by low and decreasing labor force participation rates of older individuals.

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<sup>3</sup> Between 1970 and 2010 the average life expectancy at age 65 in OECD countries increased by roughly 4 years for men and 5 years for women. Over the same period the average retirement age has declined by almost one year. Forecasts suggest that there will be a further increase in life expectancy of around 3 years between 2010 and 2050. The OECD projects that these forces will increase pension expenditures from 9.2% of GDP in 2007 to 12.7% of GDP in 2060 (OECD, 2011).

As a consequence, many countries are considering (or have already implemented) pension reforms that cut retirement benefits and/or increase the statutory retirement age.<sup>4</sup>

Policy reforms that increase the statutory retirement age are difficult to implement for two main reasons. A first objection holds that increasing the statutory retirement age is not an effective policy instrument because the employment opportunities of older workers are weak. Increasing the retirement age is therefore unlikely to increase employment of older workers. Instead, it will increase unemployment-benefit and disability-benefit payrolls. Second, increasing the statutory retirement age is unfair because it mainly restricts the opportunity set of workers with the weakest labor market position while not restricting unaffected workers whose labor market conditions are more favorable. Put differently, the less healthy workers in low-paid jobs (with the highest incentive to retire) are hurt while the retirement age is less binding for workers in good health in well-paid jobs.

In this paper we shed new light on these controversial issues by exploiting policy variation from two pension reforms in Austria. These reforms implemented an increase in the early retirement age (ERA) by

<sup>4</sup> For a summary of the reforms implemented in the 1990s see Schwarz and Demircig-Kunt (1999). More recent reforms in industrialized countries are discussed in Gruber and Wise (2007).

2 years for men and 5 years for women.<sup>5</sup> The increase in the ERA was phased in gradually starting in the year 2001 and will end in 2017. This paper restricts attention to the early part of this policy change. Between the years 2001 and 2010, the ERA was increased from age 60 to 62 for men and from age 55 to 58.25 for women.

Our study has three main objectives. *First*, we study to which extent the increase in the ERA turned out to be an effective tool to increase employment of older workers. A series of previous studies on the relationship between social security provisions and retirement have documented a sharp increase in labor market exits at the age of first eligibility for retirement benefits (Gruber and Wise, 2007). Given this empirical regularity, an increase in the ERA is likely to be effective in delaying labor market exit and increasing employment of older workers.

A *second* main objective of our analysis is to investigate the importance of spillover effects of the ERA increase into other social insurance programs, in particular, unemployment insurance (UI) and disability insurance (DI). For instance, previous studies have found that UI and/or DI payrolls are often used as a gateway to early retirement. In many countries, enrollment in these programs has increased substantially in recent years and they have become an important channel by which workers drop permanently out of the work force.<sup>6</sup> Understanding how a rise in the ERA affects inflow into other programs is also important to assess the consequences for government expenditures.

A *third* main objective of our analysis is therefore to explore the fiscal consequences (i.e. net reduction of government expenditures) of the increase in the ERA. More precisely, we estimate the impact of the ERA reforms on retirement benefit payments, social security contributions and income taxes as well as changes in UI and DI benefit payments. Since the increase in ERA may affect labor market behavior already prior to reaching the ERA as well as above the ERA, it is important to account for these effects to correctly estimate the fiscal consequences.

We think that understanding the consequences of the pension reforms in Austria is of general interest. The institutional features of the Austrian old-age social security, while differing in the details, share many features in other countries. In many public pension systems there is both an ERA and a NRA. Moreover, many countries allow older workers to permanently retire through UI and DI, often providing preferential treatment for older workers. We therefore think that evaluating the Austrian pension reforms will contribute to a better understanding of pension reforms in other contexts. In addition, we can exploit the Austrian social security administration database (ASSD) which covers the universe of all private sector workers. The ASSD not only reports the complete employment- and earnings-history of these workers, it also provides information about the take-up of other welfare benefits (such as UI and DI benefits). Hence, we can study not only the labor market consequence but also the fiscal implications of the ERA increase in a clean way.

To identify the effect of the ERA on the labor market behavior of older workers, we exploit the gradual phasing-in of the ERA increase, implying that quarter-of-birth is key for determining the age of first eligibility for retirement benefits. As the ASSD reports individuals' birth month, we can precisely determine each individual's ERA and hence estimate the effects of the ERA increase by comparing the labor market behavior of younger birth cohorts to older birth cohorts who were not affected by the rise in the ERA.

Our empirical analysis yields the following results. *First*, we find that the increase in the ERA had a positive but relatively modest employment effect. Our estimates indicate that increasing the ERA by one year increases employment during that year by 9.75 percentage points

among men and 11 percentage points among women. These estimates reflect the short run employment effects of the ERA increase. The longer-term effects of this policy change may differ given that younger birth cohorts who know further in advance that their ERA will be higher may start to smooth their consumption earlier on. This would likely reduce the employment response of the ERA increase in the long-run.

*Second*, a closer look on the take-up of welfare benefits shows that increasing the ERA causes a substantial increase in registered unemployment; 12.51 percentage points among men and 11.77 percentage points among women. The increase in the percentage of people on disability benefits is comparably small in magnitude. We also find that behavioral responses vary considerably across workers. The employment response is largest among healthy, high-wage workers while low-wage workers in poor health either retire through the DI program or bridge the gap to the new ERA by drawing on unemployment benefits.

*Finally*, we explore the fiscal consequences of the ERA reforms. Increasing the ERA reduces retirement benefit payments and raises income and payroll tax revenues, thus reducing the government's financial burden. However, the savings in government expenditures are partially offset by additional expenditures in the UI and DI programs due to spillover effects. We estimate that, for a typical birth-year cohort, increasing the ERA by one year generates a net reduction in government expenditures of 107 million euros for men and 122 million euros for women. This calculation takes into account that behavioral responses may not only occur during the year when the individual reaches the ERA, but also during the years before and after.

Our paper is related to an extensive literature studying how changes in benefit generosity affect the timing of retirement (Burtless, 1986; Krueger and Pischke, 1992; Börsch-Supan and Schnabel, 1998; Coile and Gruber, 2007; Liebman et al., 2009; Manoli and Weber, 2010). Those studies typically find that changes in retirement benefits can have significant impacts on the timing of retirement. In contrast, there is little work on how a rise in the retirement age affects labor force participation.

Furthermore, earlier studies have relied on out-of-sample predictions to estimate the labor supply response to changes in the ERA and NRA and typically find that raising the retirement age leads to a sizeable increase in labor force participation of older workers (Rust and Phelan, 1997; Panis et al., 2002; Gruber and Wise, 2004). More recently, Mastrobuoni (2009) exploits a policy change in the U.S. that increased the NRA from 65 to 67 and raised the penalty for claiming retirement benefits before the NRA. He concludes that an increase in the NRA by 2 months delays effective retirement by around 1 month. This estimate is much larger than the effect suggested by the previous simulation studies, possibly because the out-of-sample projections omit factors that are important for the timing of retirement such as social custom or liquidity constraints.

Our paper estimates the labor supply response of an increase in the ERA as opposed to the NRA. This distinction is important for two reasons. *First*, an increase in the ERA forces individuals to claim retirement benefits later (or seek benefits from other sources) while an increase in the NRA is equivalent to a reduction in benefits. *Second*, the documented peak in the age distribution at retirement is typically more pronounced at the ERA as opposed to the NRA (Gruber and Wise, 1999). Therefore, a rise in the ERA is likely to be a more effective measure to increase labor force participation among older workers as opposed to a rise in the NRA.

This paper also builds on a growing literature that explores how changes in the generosity of one social insurance program affects enrollment in other programs. Most of these studies focus on spillover effects of changes in DI programs (Autor and Duggan, 2003; Karlström et al., 2008; Borghans et al., 2010; Staubli, 2011) or UI programs (Lammers et al., 2013; Inderbitzin et al., 2013). The most closely related paper is by Duggan et al. (2007) who study the same policy change as Mastrobuoni (2009) and find that the increased penalty for claiming retirement benefits before the NRA led to more DI enrollment prior to

<sup>5</sup> Like in many other countries, Austrian retirement rules feature two statutory retirement ages: an ERA and a normal retirement age (NRA). While individuals can claim retirement benefits at a reduced rate upon reaching the ERA, they will only qualify for full retirement benefits at the NRA. The Austrian pension reforms left the NRA unchanged at age 65 for males and age 60 for females.

<sup>6</sup> For a review, see Autor and Duggan (2006) and Wise (2012).

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