Optimal unemployment insurance for older workers[☆],[☆☆]

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ABSTRACT

This paper studies the optimal unemployment insurance for older workers in a repeated principal–agent model, where the search intensity of risk-averse workers (the agents) is not observed by the risk-neutral insurance agency (the principal). When unemployment benefits are the only available tool, the insurance agency is not able to induce older workers to search for a job. This is because of the short time-horizon of workers close to retirement. We propose to introduce a pension tax dependent on the length of the unemployment spell. We show that this device performs better than a wage tax after re-employment. First, it makes jobs more attractive, as they are free of tax. Second, because re-employment will be short-lived, a pension tax is a more powerful incentive than a wage tax, and provides more substantial fiscal gains to the agency. Finally, a pension tax allows those workers near retirement who still do not exercise job search to smooth their consumption during their unemployment spell, as if they could borrow against their future pension.

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1. Introduction

In many European countries, unemployment-insurance requirements are less stringent for older workers (see OECD (2006) for more details on all of these programs). In some countries (Belgium, Finland, France, Germany and the United Kingdom), older people on unemployment benefits are exempt from the general eligibility requirement of having to look for work after a certain age; this was also previously the case in Austria and the Netherlands. In other countries (Ireland, Sweden), the job-search requirements for older unemployment benefit recipients are non-zero, but still less demanding than those for the younger unemployed. This leads to the "unemployment tunnel", *i.e.* the early exit from the labor market. Because older workers are allowed to remain on unemployment benefits until they reach the official retirement age, unemployment benefits are often considered as early retirement or pre-retirement schemes (Gruber and Wise (1998)).

This paper analyzes the economic rationale behind this policy. The design of an optimal insurance is analyzed using a dynamic principal–agent framework, where the search intensity of risk-averse workers (the agents) is not observable by the risk-neutral insurance agency (the principal). Incentives to return to employment must be provided to unemployed workers in order to cope with the standard moral hazard problem. Since the seminal work of Shavell and Weiss (1979), it has been recognized that optimal unemployment benefits should be such that the replacement ratio falls with unemployment duration. Closer to retirement, we firstly show that the optimal insurance contract boils down to a simple constant-benefit scheme: the unemployment insurance agency chooses not to encourage job search by older workers. In this sense, the search exemption for older workers and early retirement schemes can be viewed as optimal.[1]

[1] Cremer et al. (2004) follow a different route to reach the same conclusion: early retirement is one ingredient of an optimally-designed redistributive policy in a world with asymmetric information.

As such, this paper secondly suggests the introduction of other instruments to affect the trade-off between insurance and incentives at the end of working life. Hopenhayn and Nicolini (1997) have already proposed a tax on the wage the worker receives when she finds a job, which should be increasing in the duration of unemployment spell. This wage tax provides a smoother consumption profile, while retaining some job-search incentives. Instead, faced with the short horizon of older workers once re-employed, we propose that the unemployment insurance agency takes advantage of the retirement period to tax pensions at a rate dependent on the length of the unemployment spell. Our analysis provides a basis for the integration of the unemployment and retirement schemes, allowing the agency to increase older workers' welfare. This is reminiscent of the unified insurance system proposed by Stiglitz and Yun (2005).[2]

The originality of our paper is the analysis of the characteristics of optimal unemployment insurance for older workers. Young and old workers are intrinsically characterized by their different expected time horizons on the labor market. To the extent that there are search frictions on the labor market, the return to jobs is determined by their expected duration: a short horizon reduces search effort and thus the job-finding probability.[3] The unemployment-insurance agency is then faced with intrinsically low search intensity by older workers, which will be zero for seniors who are close enough to retirement: intuitively, the unemployed who are one period away from retirement certainly will not search as this activity is costly but has zero return. Zero search may even occur in earlier periods, depending on the horizon prior to retirement necessary to recoup search costs.[4]

We here extend the dynamic moral hazard model of Hopenhayn and Nicolini (1997) by introducing a definitive exit from the labor market, i.e. retirement. Unemployed workers face a given probability of retiring, which is interpreted as a measure of their distance to retirement. Those with a higher probability of retiring correspond to older workers, while workers with a lower retirement probability are younger. We thus identify the optimal unemployment insurance for workers of different ages by looking at their different probabilities of retirement. It should be emphasized that agents do not age in our model, since the probability of exiting the labor market is independent of the time spent there. This allows us to compute easily the optimal contracts for any value of this probability. Taking into account agents' aging in addition to unemployment duration would add unnecessary complexity. Our simple theoretical framework captures, we believe, the essence of the retirement horizon effect on optimal unemployment benefits.

We show that in this framework there is a specific optimal design for the unemployment insurance of older workers. First, their closeness to retirement implies a sharply decreasing unemployment-benefit profile in order to induce job search. Second, this policy is inefficient for unemployed people who are close enough to retirement. A sharply decreasing profile would imply high unemployment benefits at the beginning of the unemployment spell in order to compensate for providing less insurance (less consumption smoothing). The cost of this profile would be too high for the unemployment-insurance agency, which then prefers to provide these soon-to-be retired unemployed with flat unemployment benefits, even though this means that they carry out no search. The agency then does not succeed in reconciling the insurance and incentive objectives, making

search exemption optimal for these older workers when only unemployment benefits are used as a policy tool.

It is for this reason that imposing a tax on the future job, as in Hopenhayn and Nicolini (1997), could be of particular interest for older workers. This tax could both make the profile of unemployment benefits flatter while retaining job-search incentives via the rising profile of the wage tax with unemployment duration. This then allows the principal to return some inactive unemployed older workers to work. However, faced with the short duration of re-employment, we show that a policy making the retirement pension depend on unemployment duration allows a better mix between incentives and insurance to be attained, at least for workers close to retirement.

First, the pension tax provides greater incentives as the value of re-employment is free of tax. Second, because re-employment will be short-lived, a pension-tax is a more powerful incentive than a wage-tax, and provides more substantial fiscal gains to the agency. In contrast, the wage tax is more efficient than the pension tax for younger workers with higher search intensity and more heavily-discounted future pension taxes. Overall, the closer to retirement, the more efficient the pension tax is relative to the wage tax. Finally, even in the special case where search intensity is zero near retirement, perfect risk-sharing across unemployment and retirement is allowed thanks to the pension tax: workers can borrow against their future pension to smooth consumption during an unemployment spell. Overall, the effect of the pension tax works via two different channels: search incentives on the one hand and consumption smoothing on the other. When providing incentives becomes inefficient near retirement, some transfers from retirement to unemployment spells remain optimal in order to smooth consumption.

For a calibration based on workers aged over 50 in the French labor market, we propose a quantitative evaluation of the pension tax contract, especially relative to the wage tax contract. We show that the former allows unemployed workers to attain a smoother consumption profile, but also to search for a new job, whereas the proximity to retirement renders the other policies inefficient. This policy yields savings of about 35% of the existing unemployment insurance cost for unemployed workers 5 years prior to retirement. A tax on re-employment wages reduces the total cost of unemployed older workers by 31%. This contrasts sharply with a decreasing unemployment insurance (UI) policy, which only lowers this cost by 3%. Introducing a tax on pensions is then particularly useful in reconciling incentives and insurance for older workers near retirement when search is dramatically reduced by the short horizon on the labor market. This considerable reduction in total costs works mainly via search incentives rather than consumption smoothing. In this sense, our proposal is more along the lines of Hopenhayn and Nicolini (1997) than Stiglitz and Yun (2005).

Assuming that the unemployment agency can tax both wages after re-employment and pensions does not bring about any substantial additional efficiency as the two taxes are substitutes: the wage tax is no longer efficient with a very short horizon, whereas the pension tax is inefficient at longer horizons.

For the sake of simplicity, it should be emphasized that we omit financial asset accumulation, although it is known that the optimal contract is quite sensitive to this assumption.[5] Our no saving assumption could be even less likely for older workers, who hold more financial assets than younger workers on average due to voluntary saving toward retirement. In that case, some borrowing against these future retirement funds might be possible. This reduces the interest of a pension tax close to retirement when only smoothing consumption matters, but also further from retirement, when search incentives still matter. In the latter case, dissaving throughout the

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[2] Stiglitz and Yun (2005) propose, in a very different framework, that unemployed workers should be able to borrow against future pensions. In the case of incomplete financial markets, this provides both insurance and effective incentives for all unemployed workers. There is nothing particular about older workers in their analysis.

[3] This horizon effect has already received empirical support (Hairault et al. (2010)) and a theoretical foundation from job-search theory (Seater, 1977; Ljungqvist and Sargent, 2008 and Hairault et al., 2010).

[4] This intrinsic feature of the oldest workers endogenously results as the corner solution of the optimal search problem, given that the search probability function we consider in this paper does not satisfy the Inada conditions.

[5] Shimer and Werning (2008) have recently shown that an insurance schedule that falls with unemployment duration performs worse than a flat rate in an economy where saving is allowed.