European Economic Review 79 (2015) 37–58

Contents lists available at ScienceDirect

European Economic Review

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

Equilibrium unemployment and retirement

Jean-Olivier Hairault [a,*,1,2], François Langot [b], André Zylberberg [c]

[a] PSE, University of Paris 1 and IZA, France
[b] University of Maine (GAINS-TEPP, IRA), PSE, Banque de France and IZA, France
[c] University of Paris 1, CNRS, France

ARTICLE INFO

Article history:
Received 27 July 2014
Accepted 8 July 2015
Available online 23 July 2015

JEL classification:
J22
J26
H55

Keywords:
Search
Matching
Retirement
Social Security

ABSTRACT

We first propose some new empirical evidence on the fact that the labor market conditions matter for the retirement decision at the individual level: we investigate whether unemployed workers retire before employed workers, other things being equal. Our main objective in this paper is then to propose an equilibrium unemployment approach to retirement decisions that allows us to derive the positive and normative features of retirement decisions when search and matching frictions are considered. Two main conclusions emerge: the retirement decision of unemployed workers depends on the labor-market frictions whereas that of employed workers does not; the existence of search externalities makes the retirement age of unemployed workers intrinsically suboptimal. Considering Social Security policy issues, we show that the complete elimination of the implicit tax on continued activity is not necessarily welfare-optimizing in a second best world where the labor market equilibrium suffers from distortions.

1. Introduction

Labor market conditions as a determinant of retirement decisions have been surprisingly overlooked. Much of the existing literature on retirement has focused on the effect of health conditions and Social Security provisions (Gustman and Steinmeier, 2002; French, 2005). In general, the labor market status has been ignored until now. One notable exception is the recent empirical analysis of Coile and Levine (2006) who have empirically shown that changes in the unemployment rate affect the average retirement age and that the magnitude of this effect can be considered as comparable to that associated with realistic changes in financial incentives to retire. Their paper echoes well-known empirical facts on the intrinsic difficulty of older displaced workers in finding a new job, and thus their propensity to retire earlier (Diamond and Hausman, 1984; Chan et al., 2001). The recent great recession with the subsequent huge increase in unemployment has led to a decline in the average retirement age (Coile and Levine, 2006). As this surge in older worker unemployment can be considered to some extent as exogenous from worker decisions, due to involuntary lay-offs, being unemployed per se, and not as the result of the higher disutility of working or of bad health, can be viewed as being responsible for earlier retirement.

First, we propose some new empirical evidence on the fact that the labor market conditions matters for the retirement decision at the individual level independently of other individual characteristics: we investigate whether unemployed workers retire before employed workers, other things being equal. We use HRS (Health and Retirement Survey) dataset in

* Correspondence to: University of Paris 1, MSE, 106 bld de l'Hopital, 75013 Paris.
E-mail address: joh@univ-paris1.fr (J.-O. Hairault).
[1] Tel.: +33 1 41 17 82 10.
[2] Financial support through from Cepremap is gratefully acknowledged.

http://dx.doi.org/10.1016/j.euroecorev.2015.07.002
0014-2921/

order to have a very detailed information on health and socio-economic variables. We then study the impact of searching at some wave on the probability of retiring by next wave by estimating probit equations. It appears that looking for a job (compared to working) increases the probability of retiring by 17%.

Our main objective in this paper is then to propose an equilibrium unemployment approach to retirement decisions that allows us to derive the positive and normative features of retirement decisions when search and matching frictions are considered. This theoretical framework allows us to investigate the interaction between the unemployment search and retirement. Firstly, it provides an explanation for the empirical results revealed by Coile and Levine (2006, 2007) and ours. It emphasizes the crucial role of labor market frictions. Secondly, once equilibrium unemployment theory is adopted to analyze retirement decisions, Social Security policies have to be amended to cope with search frictions. This paper is the first contribution that shows how labor market frictions affect retirement decisions and Social Security policies. Surprisingly enough, the positive and normative features of retirement decisions when search and matching frictions are considered have not yet been addressed. Our paper aims to fill this gap.

The equilibrium unemployment theory with endogenous retirement naturally leads to the conclusion that unemployed workers choose to retire earlier than employed workers as the consequence of labor-market frictions. The intuition is straightforward: as far as there exist search frictions on the labor market, the value of being employed is always higher than that of being unemployed. Unemployed workers therefore choose to retire earlier because their welfare prospects on the labor market are lower than those of employed workers. The existence of search frictions is enough to generate this retirement (age) gap,[3] which in turn helps to explain why a higher unemployment rate in a recession may decrease the average retirement age in the population.

But equilibrium unemployment and retirement theory is able to deliver more insightful implications for the understandings of the labor market conditions on retirement. The key insight is that the retirement decision of unemployed workers depends on the labor market tightness whereas that of employed workers does not. Once unemployed workers choose to retire, the wages of still-employed workers are not indexed on the labor market tightness, as their threat point is the retirement opportunity. Conversely, the retirement decision for unemployed workers relies on the labor market tightness because the latter determines the expected employment value. The lower the tightness, the sooner the retirement age for unemployed people, relative to that of employed workers. The retirement gap between unemployed and employed workers is then determined by the magnitude of the search frictions.[4]

Moreover, this fundamental asymmetry between unemployed and employed workers creates another channel for the influence of business cycles on the average retirement age. Business cycle shocks, typically productivity shocks in our framework, modify the retirement decision in a different way according to the labor market status. A decline in productivity leads to decreasing the retirement age of the unemployed workers more than that of the employed workers, leading to an increase in the gap between the retirement ages. As there is more unemployment during recessions, these two channels interact to give theoretical grounds for the recent empirical evidence shown by Coile and Levine (2011): that the recent recession with the subsequent huge increase in unemployment has led to a decline in the average retirement age.

An important implication of our theory is that the unemployed workers' retirement decision is subject to the potential inefficiencies the labor market equilibrium generates in a search-friction environment, whereas the retirement decision of employed workers is free of these inefficiencies. The existence of search externalities makes the retirement age of unemployed workers suboptimal, except when the Hosios condition holds. The retirement of unemployed individuals can happen either too soon or too late, for a given retirement age of employed workers, depending on the number of vacancies that are created by firms at the equilibrium. On the other hand, as the retirement decision of employed workers is independent of the labor market tightness, their decision is not distorted by the search externalities.

Our equilibrium unemployment and retirement theory has also important implications for Social Security issues. This leads us to propose pension adjustments specific to workers, according to their labor market status. Actuarially fair pension adjustments are no longer optimal when search externalities distort the labor–market equilibrium. The marginal actuarial fairness is no longer a necessary condition to ensure the social optimality of retirement decisions, except at the retirement age for the employed workers. Unfair pension adjustments should be used to correct for the existence of unemployment benefits or distortive bargaining powers and then to restore the first best allocation.

Our paper is the first contribution that addresses the issue of the retirement decision with matching frictions in a life-cycle environment. It clearly extends the analysis of Hairault et al. (2010) led by a partial equilibrium job search model. It also enriches Bhattacharya et al. (2004) who provide some normative analysis of retirement policy in an equilibrium search framework, but without distinguishing between employed and unemployed workers at retirement. We share with Garibaldi and Wasmer (2005) the same emphasis on the search frictions for the participation decision of the unemployed workers. But whereas they consider a stochastic framework arising from shocks on home productivity, we adopt a deterministic overlapping generation model where the participation decision coincides with the retirement decision. We focus on the importance of the labor market frictions for retirement and Social Security issues. We then extend to endogenous retirement decisions the analysis led by Chéron et al. (2013) in a life-cycle matching model. We depart from this latter paper by focusing on the retirement specificity of the unemployed workers relative to employed workers in an otherwise efficient age-directed search process. This is why the Hosios condition ensures the

[3] Taking into account human capital losses during the unemployment spell would reinforce the decline in the re-employment prospects and the decision to retire early.

[4] This result is derived in the age-directed search framework. In the robustness analysis, we show that it is always a characteristic of a non-directed search equilibrium with ex-post Nash bargaining.