

THE LINK BETWEEN ACTIVE AGING AND RETIREMENT AGE

Mihai Robert PAȘNICU

Brown University, US

E-mail: mihai_pasnicu@brown.edu

Abstract

The paper aims to shed light on the policies and consequences of the current retirement age in Romania. The retirement age has been repeatedly incremented in Romania in the last couple of years in order to try to compensate for the fact that the country has a low general employment rate, only 30% of the population, while having 20% of the total population aged 65+. By using an econometric model we will first prove the existence of an optimal retirement age that might vary for each and every one of us, after which we will explore different possibilities of exploiting this information in order to improve the current retirement programs. Mainly, we will look at the possible solution of eliminating the mandatory retirement age in certain work sectors through a comparison analysis.

Keywords: *retirement age, econometric model, active aging, policies*

JEL Classification: J₂₁, J₂₆, J₃₂

Introduction

As we all know, nothing good comes alone in economics. Due to the improvement of living conditions, life expectancy has been going up. This has triggered side effects regarding the retirement plans and, combined with our aged population, resulted in a relatively big difference between the available and the required funds to honour the pensions. Thus, pension reforms have been in the centre of the Romanian elections being a delicate yet important issue.

The general answer to this problem was incrementing the retirement age, which although apparently is the obvious solution, does present some problems. By choosing this approach, we are keeping the population more and more in employment. On the other hand, old people are known to be a vulnerable group on the labour market, already facing one of the highest unemployment rates, along with the youth. Moreover, during the crisis, employment dropped by more than 4% in the 60+ sectors, being the first to be dismissed, while the average was around 2%. Once fired, being that the productivity of worker is normally distributed and starts dropping after the 40-44 years mark, aged people are having problems finding a new employer.

Other alternatives for compensating this imbalance include but are not limited to smaller pensions or a substantial increase of contributors. Federal Labour Minister Ursula von der Leyen (Germany) deemed the last two as being

“unreasonable” due to the fact that these strategies are not long term sustainable nor are they necessarily improving the life conditions of the populations as a whole. As we can see, “The search for retirement age formula” is common issue amongst the European countries. Sweden has reported that in order to keep the same standards of living they would have to extend the working life by 10 years (65-75) while France is announcing the official retirement age to be 67 for the future.

Theoretical Background

In order to look at the utility a person derives from income in the form of wage, as well as the utility derived from pension we will use the model from Tito Boeri and Jan van Ours (2008). For this, we will assume that retirement is irreversible and that there is a constant discount factor δ . Now, we denote by t the year in which the person receives his first income, by r the year in which the respective receives pension and by Y_i the annual earnings in the year i . Being that people appreciate money differently during employment and retirement, we will have U_w and U_r the utility functions for wage and pension respectively. Moreover, in order to prove the existence of an optimal retirement age we will write the value of retirement at a particular year r evaluated in year calendar t as two components related to the two specific periods. Therefore in the first case we will have:

$$\begin{aligned} NPV_{1,t}(r) &= U_w(Y_t) + \delta U_w(Y_{t+1}) + \delta^2 U_w(Y_{t+2}) + \dots + \delta^{r-t-1} U_w(Y_{r-1}) \\ &= \sum_{i=t}^{r-1} \delta^{i-t} U_w(Y_i) \end{aligned}$$

Secondly, from year r onward till death, denoted by T (age), the person will receive pension benefits defined by $B_i(r)$. Having this in mind, we can write as follows:

$$\begin{aligned} NPV_{2,t}(r) &= \delta^{r-t} U_r(B_r(r)) + \delta^{r-t+1} U_r(B_{r+1}(r)) + \dots + \delta^{T-t} U_r(B_T(r)) \\ &= \sum_{i=r}^T \delta^{i-t} U_r(B_i(r)) \end{aligned}$$

Now, we can write the final formula

$$NPV_t(r) = \sum_{i=t}^{r-1} \delta^{i-t} U_w(Y_i) + \sum_{i=r}^T \delta^{i-t} U_r(B_i(r))$$

We can see that by postponing retirement we are increasing the length of the first period while reducing the length of the second. Pension goes up with years of

service so postponing retirement increases income over the remaining period. On the other hand, people will have less time to derive utility from the higher pension, thus decreasing the value of retirement. Obviously, the first effect tends to be higher in the start, but as time goes, second starts to dominate, due to the pension being a strictly increasing function. Therefore, we can conclude that there exists an age r^* such that it maximizes the total utility a person receives from t to T .

Evolution of the phenomena

The retirement age has been rising three months per year since 2006 getting from 63 to 65. Although being effective it was never a long term strategy rather just a measure to keep the country afloat and keep the difference at a reasonable magnitude. Unfortunately, this was not the only action taken in order to restore balance; the indexation level of pensions was reduced in 2010 in order to further soften the effect on the standards of living. Looking at the next graphs, we have the evolution of the retirement age and life expectancy from 2006 to 2013 and on the right side we have a comparative analysis between the population structure in 2013 and 2012.

Figure 1

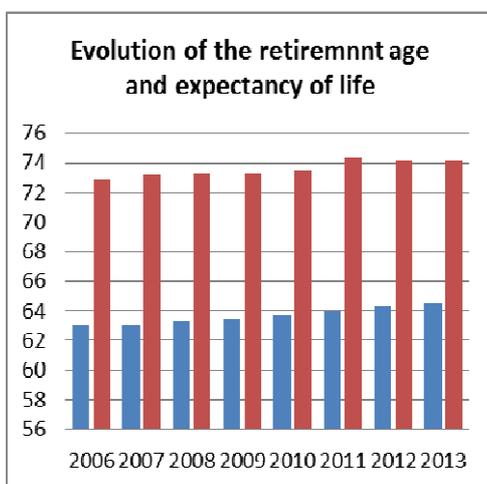
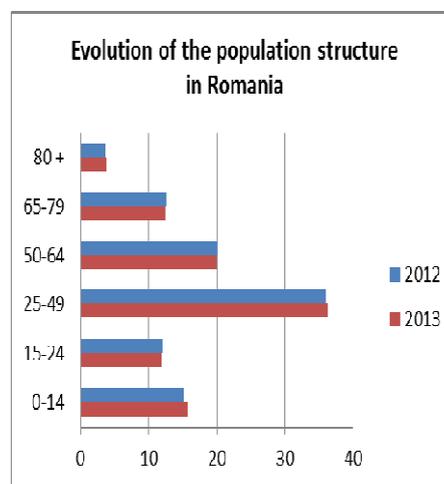


Figure 2



Source: processing authors based on Eurostat database, Trading Economics

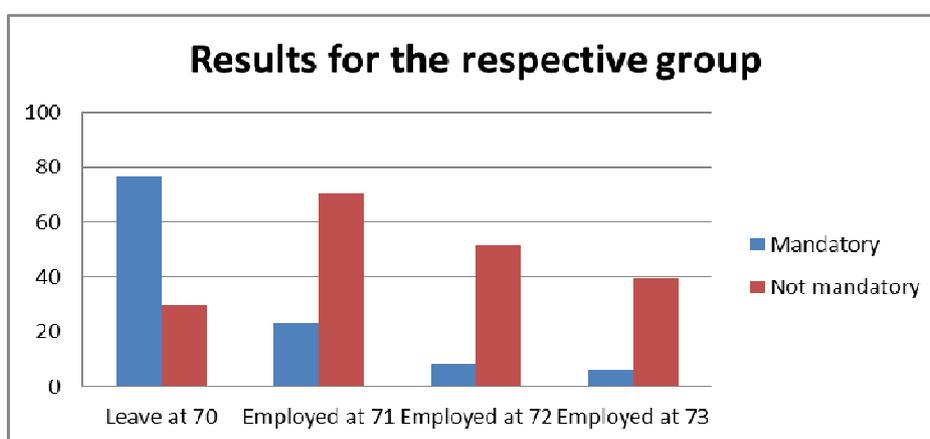
Although, retirement age has risen along with life expectation there are a few problems regarding this strategy. First of all, the productivity decays after a certain age, in Romania it is around 40 years old, being normally distributed. Having this in mind, the employer can't pay the respective, or imposed, wage to an aged worker and therefore might result in unemployment. Furthermore, some wages do increase with experience in the respective work place, resulting in a bigger discrepancy between productivity and revenue. Secondly, the risk of death increases exponentially with age so the ability of people being able to work at 65 years old cannot be automatically assumed.

On the other hand, suppose that we disregard the above mentioned possible issues, Romania's age structure is extremely unbalanced. The pyramid graph shows a big concentration between 25 and 49 years old. In 2010 it was said that retirement age will reach 65 (for men) by 2030, but it had reached 65 in 2015. Therefore, we can just ask ourselves what will happen when those people will reach retirement age, in approximately 15 to 20 years. Looking at the population distribution, Romania might be forced to consider the same alternative as Sweden and increase the retirement age to 75 which would be not only hard to apply but theoretically incorrect since the life expectancy in Romania is 70.3 for men and 77.8 for women.

US approach towards this problem

One possible solution might come from the US system, where at least for some occupations the mandatory retirement age was removed. The next graph represents the results obtained by Orley Ashenfelter and David Card after following regular faculty members aged 50 or older from the mid-1980s. The database was made for faculty or college positions that offered defined – contribution pensions. The results were pretty impressive and brought an air of hope.

Figure 3



Source: processing authors based on data from Orley Ashenfelter and David Card study

It seems that the removal of the mandatory retirement age did not affect the employment rates until 70, which was the previous retirement age, but had a positive effect afterwards. Previously, less than 10% were working at ages 72 and 73, where we know have almost 40% employment at those two years, in this sample. It was recorded that people with higher salaries or lower pensions were likely to retire later. Making use of theoretical model, we can say that r^* for most people in the US is higher than the former retirement age (70) being that they continued working. Moreover, the claim that people with higher wage or lower

pension tend to retire later is not only of common sense but also confirms our model such that $\delta^{r-t-1}U_w(Y_{r-1}) \geq \delta^{r-t}U_r(B_r(r))$, in other words, the person will work until the early benefit for pension will be greater than the one from wage.

Comparative analysis on the main reasons of retirement

Being that the results were so encouraging, this might be a future solution that might help reduce the gap. On the other hand, out of Romania's total population for retirement, only 18% of them would have wished to stay in employment compared to almost 70% in the US and 40% in the EU. Although still a considerable amount, it is not as impressive as the results from Orley Ashenfelter and David Card's study.

Figure 4

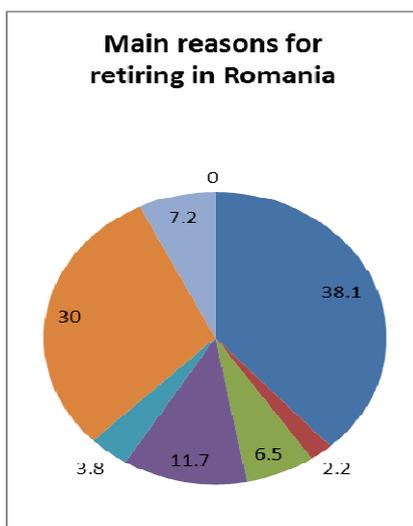
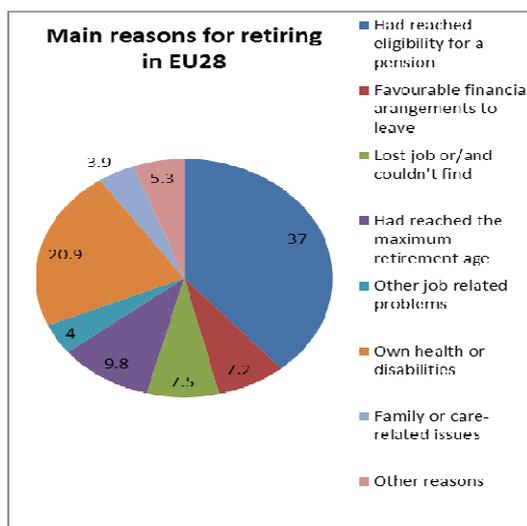


Figure 5



Source: processing authors based on Eurostat database

We will try to analyse and see if we can encourage the Romanian population to continue employment. Above, we have the main reasons for which people choose to retire, and receive pensions, instead of continue working for Romania and European Union 28. We can see that Romania rises way up the EU28 average when talking about general health and disabilities. The difference from 30% to 20.9% denotes a weak health system, as well as emphasizes the need of improvement in the health conditions at the work place. Therefore, due to the precarious health, disabilities or uncertainty regarding the security of their future health, the population tends to quit their job and focus more on their personal issues. Another sector that stands out, almost doubling the numbers of the European Union is the family and care-related one. Although a small percentage, it is well known that the support care in Romania is yet to be fully developed in order to compete with its European neighbours.

One important sector which does not show that big in the above charts is the “Had reached eligibility for a pension”. This category puts forward the active – aging concept that has been in the centre of Europe in the last couple of years. The results speak for themselves: in Sweden we have 19.3%, Germany 13.1%, UK 20.2% while in Bulgaria we have 80.1%. This statistic mainly illustrates the mentality of the people, suggesting that some persons believe that high age implies complete detachment from the labour market, which in theory is the complete opposite of active aging. By focusing on programs that encourage this concept, people will raise their awareness and search for programs that offer them the balance that they require between personal and work life, further inspiring them to find new paths through the labour market instead of stepping down.

Conclusions

The rise of life expectancy is one of the great benefices of technological and structural evolution but it does bring with it certain issues which we have to face. As the life average goes up, the amount required to pay the pensions goes up and we eventually reach a mismatch between the available and the required funds. This has become a European matter which has been largely been dealt with by increasing the retirement age. It has definitely kept the difference at reasonable levels, but as many people consider it is not a sustainable solution. Moreover, looking at Romania’s unbalance population structure we can expect the gap to grow a lot more. Therefore, we need to look for another solution.

One possible approach might be following the US model. This implies removing the retirement age, at least in some sectors, but put a minimum amount of years of contribution in order to be eligible for pension. In this case, people who started working earlier will be able to retire earlier, if they decide so, while taking advantage of r^* the optimal retirement age for each of us which might be well above the mandatory retirement age. While everything looks nice on paper, and the results recorded in the US are impressive, this strategy does inquire some conditions.

First of all, Romania should focus on improving the general health of the population and decrease their concerns about their medical future, thus encouraging them to remain more in employment instead of immediately retiring. In other words, using our model, some people might fear they won’t be able to take full advantage of the second half, the retirement benefits, and thus choose it as soon as possible.

Secondly, the mentality the people ought to be changed, by encouraging the active aging concept pushing aged people to make use of their gathered experience. Last, Romania should improve the support care in order to assure people that by dedicating more time for work, their personal life won’t go down having the support of the system.

The above mentioned are just general directions that might help increase the percentage of people that would be willing to work after they reach the retirement age. We are currently sitting at 18% compared to US’s 70%, data obtained from

their experiment, so we definitely can't expect the same results but we do have the space to improve as long as we realize our weak points. A similar thorough study in Romania, in the hypothesis of mandatory age being removed, will be done in order to assert the real numbers and see exactly where we are standing.

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