

EXPANDED ABSTRACT

Influence of Part-Time Work on the Viability of the Spanish Pension System

The sustainability problems faced by the Spanish pension system, which are caused by the increase in the number of pensioners without a generational replacement, causes a growing imbalance between the income obtained from those who contribute and the expenses of those who receive a pension. This fact has been aggravated by the economic crisis, mainly due to the fall in income from contributions and the increase in expenses due to contributory benefits.

In this context, the increase in the unemployment rate and longevity tends, on the one hand, to reduce the number of contributors and, on the other hand, to increase the number of pensions, putting the cash balance at risk, that is, the relationship between revenue and expenditure of the system. Therefore, the analysis of the relationship of the pension system and changes in the labour market becomes essential. The increase in unemployment and part-time work are elements that should be considered in the pension system analysis. This produces an interesting issue from the social and economic point of view, and it is necessary to cope with the changes that have taken place in the labour market and on retirement pensions, which are the most relevant in Spain, in terms of number and amount.

The main objective is the study of the effect that unemployment and part-time work have on the financial viability of the Spanish pension system. The analysis is carried out following the reforms introduced in 2011 and 2013, and as from Law 1/2014 of 28 February, for the protection of part-time workers and other urgent measures in the economic and social order. The research is based on the Living Conditions Survey (ECV, 2011-2014) of the INE (National Institute of Statistics), which provides the transition probabilities between full-time employment, part-time employment, contributory unemployment and inactivity, which are the different work "type" careers observed.

First, we estimated the transition probabilities between employment states provided by ECV: Full-Time Employment (FT), Part-Time Employment (PT), Contributory Unemployment (U) and Inactivity (I), based on the stochastic model developed by Alonso and Rosado (2016).

Secondly, and in order to measure the sustainability of a pension system, the Internal Rate of Return (IRR) is used, as by following Devesa, Lejarraga and Vidal (2002), this method was chosen to analyse the financial equilibrium of the system through individuals "type" or representative contributors. The relationship between the IRR and the sustainability of a pay-as-you-go system derives from Samuelson's

(1958) proposition, who claims that a pay-as-you-go pension system is financially sustainable in the long-term if its IRR does not exceed the real growth rate of the average wage plus the growth rate of the contributing population or, what is the same, does not exceed the growth of the fiscal base of the system which, in the long-term, is equal to the real GDP growth rate

Considering the results, it can be seen how a 25 year-old individual in 2016, that enters the labour market this year, and retires at the legal age, obtains a IRR of 2.62%, in the case of maintaining Full-time Employment throughout his working life. The same individual in the case of maintaining Part-time Employment throughout his working life obtains a probable IRR of 3.35%, which is higher than the long-term Spanish economic growth projected by the European Commission (3%).

In the analysis of work careers according to the percentage of episodes of Full-time Employment, Part-Time Employment, Contributory Unemployment and Inactivity throughout a working life, it is observed that as the episodes of Part-time work, of Contributory Unemployment and of Inactivity increase throughout the working life of the analysed individual, the profitability provided by the system increases above the solvency limit. In the case of changing to Unemployment, the probable IRR increases to 3.25% for Full-Time Employment and up to 3.62%, in the case of changing to Part-time work. This shows the gap between the contributions made by social contributions throughout a working life and retirement pensions that will be received in the future.

In the case of work careers that start with Unemployment and change to Employment, the profitability provided by the system improves, while in the cases where there are Inactivity episodes throughout a working life, the probable IRR increases beyond the considered sustainability limit.

It should be mentioned that the results obtained for the probable IRR are valid for different “types” of possible work careers for a 25-year old individual in 2016, for whom the transition probabilities between employment states have been applied, which we assume will remain at these levels in the coming years.

In this sense, we are aware that this is a pessimistic view on the evolution of employment, since it is considered that the transition probabilities obtained during the economic crisis are maintained over time, so as the transition improves to Full-time Employment, IRR results and therefore, the viability of the system will improve, although predictably the desired financial balance will not be achieved. In spite of knowing this main research limitation, we understand that the model provides relevant results and conclusions in relation to the inclusion of part-time work and unemployment in the working lives of future pensioners.

From the results obtained, it can be concluded that as episodes of Part-Time Employment, Contributory Unemployment and Inactivity in the working lives of contributors increase, the unsustainability detected in the system increases. Due to the increase in part-time work experienced in the last

economic crisis years, and since the approval of Law 1/2014, a greater number of part-time workers will be covered by contributory retirement benefits because since this Law their conditions of access to retirement have been favoured. This fact causes a greater imbalance between the income from contributions and the pensions that will be received by workers, especially those that experience episodes of part-time work, of contributory unemployment and inactivity in their work careers.

It can be stated that future measures adopted to reduce the unemployment rate and increase full-time employment will affect the viability of the pension system directly and therefore individual decisions related to retirement.

An added value of this research is including the probabilities of transition between employment states, and also incorporating the part-time state. It was considered necessary to include it due to an increase of this employment relationship in the last years, as well as the management of its pensions since Law 1/2014.

KEYWORDS: Viability, Part-time work, Unemployment, Survey of Living Conditions, Internal Rate of Return, IRR.