Early Retirement and the Labour Market for the Older Workers: The Case of Sweden

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April 4, 2017

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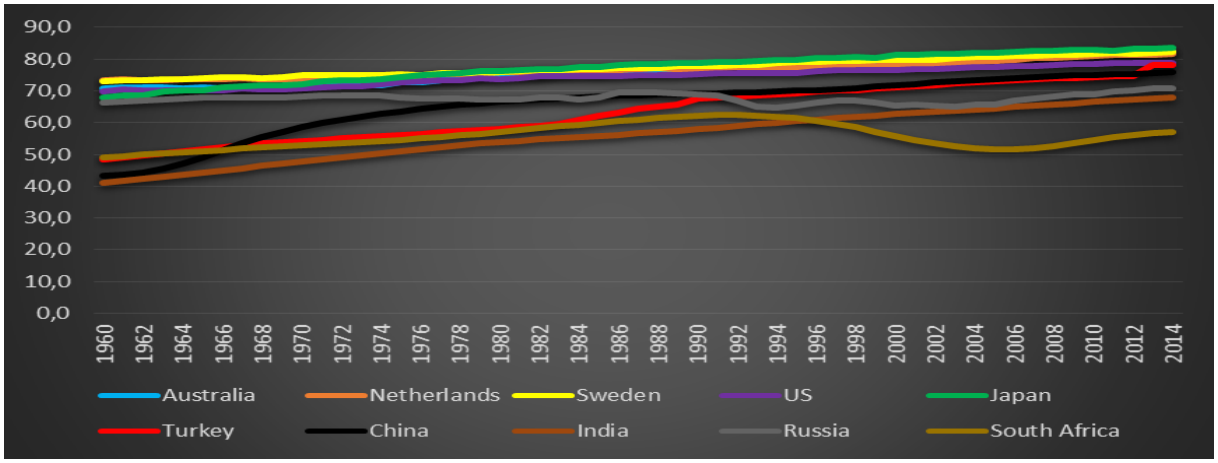
1 Introduction

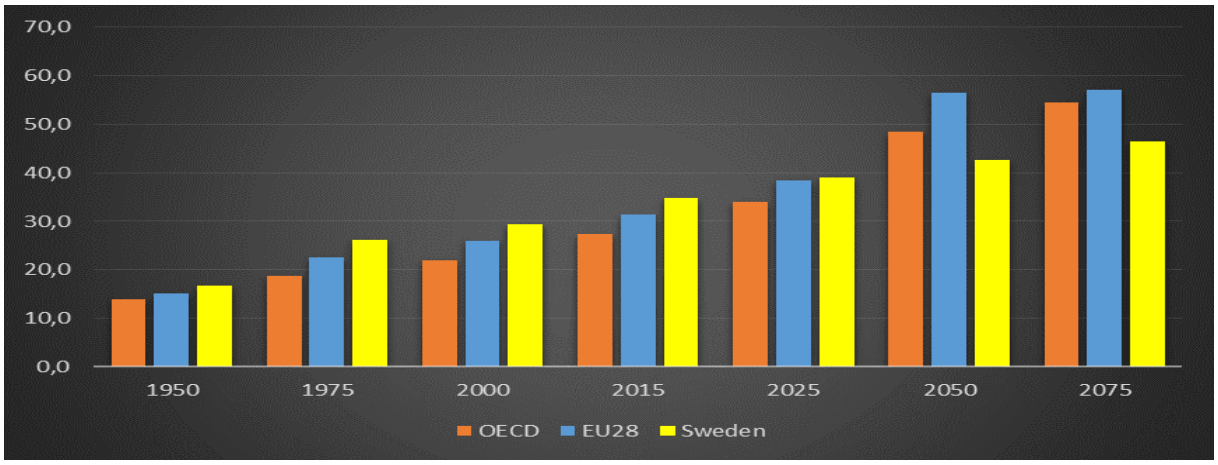
In this essay, I am going to discuss the relation between the early retirement and the labour market for the older workers. This constitutes a quite heated topic for policy-makers, especially for the developed economies, due to the changing demographics. Over the years, medical technology has developed rapidly which led health and living conditions to improve substantially. In their turn, these developments supported the considerable improvement of life expectancy and in the same time the increase of longevity and ultimately, ageing of societies. It is apparent that the changing demographics will affect fundamentally labour market's structure because less and less young workers will enter the labour market. Tables 1 and 2 give a clear picture how the demographics evolved over the time. Thus, policy-makers have to face one major problem which is the large influxes of workers in retirement.

Figure 1: Life expectancy, Total population at birth, 1960-2014



Source: OECD

Figure 2: Demographic old-age dependency ratios- Historical and projected values, 1950-2075



Source: OECD

Extensive retirement might be plausible according to the pension system of each country, and the opportunities they provide. It is clear that labour market and the decision for work are inextricable connected with the pension system. This connection is significant because if governments seek to increase labour participation among older workers then it might be more efficient to reform the pension system rather than intervening with incentives on the labour market. Furthermore, due to ageing, reform of pension system has become a necessity to preserve sustainability. In particular, pay-as-you-go (PAYG, henceforth) defined benefit (DB, henceforth) will face financial strains because ageing makes less young workers to cover the pension benefits of current retirees. This constitutes a potential hazard which could lead pension systems to collapse. Hence, it is profound that the labour market for older workers has to be examined through the spectrum of the pension system and the reforms that should be made on various institutions that related to pension system.

For the purpose of examining the specific subject, I explicitly focus on Sweden because she faced by largely the same demographic challenges as the other OECD countries, Sweden opted in 1992/94 for a radical reform of its national old-age pension system. Most of the legislation on the new system was passed in 1998-2003. These reforms make Sweden a role model for other countries with similar problems because she managed to strengthen the financial stability of its pension system and in the same time to make older worker to increase their participation and delay their retirement.

2 Policy Relevance and the case of Sweden

Initially, I have to shed light why Sweden constitutes a role model from which other countries can learn and adopt similar approaches for this kind of policy issues. Reforms of the pension system not only have economic character but also is a matter of political choice which might entail a tremendous political cost. In particular, the transformation of the Swedish pension system from a PAYG defined-benefit to a non-funded Defined-Contribution (DC, henceforth), so called Notional Defined Contribution (NDC, henceforth) was a major political achievement (Settergren, 2003). Due to the fact that the collaboration of five political parties succeeded in abolishing a very popular social insurance programme that had proved unsustainable. NDC schemes have been introduced in Italy (1995), Latvia (1996, Kyrgyzstan (1997), Poland (1999) and Mongolia (2000).

Nevertheless, a reform in order to be regarded as successful has to last over the years. In the case of Sweden can be proved through a variety of resources. Namely, Allianz's reports and Mercer index classify highly the Swedish pension system [1]. In addition, the *Orange Reports* which are the Annual Report of the Swedish Pension System provides evidence that the objective of financial stability have been attained (Settergren, 2003). Table 1 shows contemporary *Orange Reports* illustrates that the pension system produces capital surpluses and it is sustainable with relatively lower assets, in terms of GDP, comparing to other countries[2]. All in all, it is profound the significant relevance of the specific political issue. Pension system is a fundamental aspect of the economy because it strongly correlated with labour market. On the other hand, it is a matter of political choice that has to be approached prudently, deprived of any populist pressures which might lead to detrimental results for the economy and society as a whole.

[1] See Figures 1 and 2 of Appendix

[2] See Figure 3 of Appendix

Table 1: Annual Report of the Swedish Pension System

Six-Year Review
millions of SEK

	2010	2011	2012	2013	2014	2015
Fund insurance	409,640	394,468	472,437	603,540	761,156	841,332
Traditional insurance	4,953	8,870	10,868	12,907	18,091	20,784
In temporary management	28,652	30,191	31,455	32,039	32,899	34,260
Insurance assets	**443,245**	**433,529**	**514,760**	**648,486**	**812,146**	**896,376**
Pension liability	441,576	431,144	511,522	643,889	805,187	889,386
Net income/loss for the year	1,249	1,018	1,052	1,684	2,491	1,003

Source: Swedish Pensions Agency

3 Theory

After describing how the pension scheme constitutes a political issue, I should establish the link how reforms/ changes in the pension system can affect the labour market and more specifically, the choice of older worker to enter retirement. French and Jones (2012) analyse the reasons that public pension programs quite intuitively. These three reasons are:

1. *Substitution effects*: By definition, public pension programs are funded by taxes on labour. In addition, if a system is not actuarial fair then it generates high implicit tax rates on labour income. Thus, both taxes motivate individuals to work less, especially the old workers because they reduce disposable income and pension wealth due to the negative benefits accrued after the Normal Retirement Age (NRA, henceforth).

2. *Wealth effects*: Public pension schemes have an insurance character which implies to co-ordination of both intra- and intergenerational redistribution of wealth. This is happening because the majority of the public schemes are PAYG DB schemes in which current working young finance the current retirement benefits of the elders. This denotes that in PAYG public schemes, households perceive their pension wealth as standard because they provide a minimum guaranteed level of pension. However, changes in contribution rates will be either detrimental or beneficial for a few generations and this might have a significant impact on the choice of individuals for work.

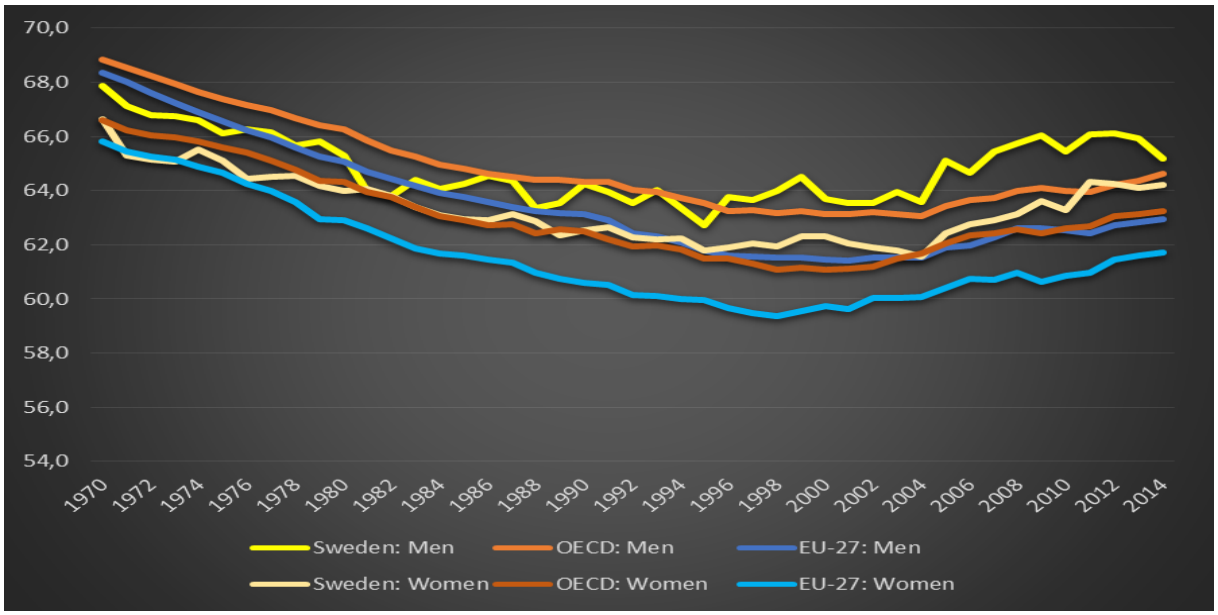
3. *Liquidity effects*: In the majority of the pension systems the public pension provision tend to be illiquid. In other words, individuals can use them strictly when they enter retirement. In this spirit households, specifically those with low income, are able to finance their retirement only when pension benefits become available. Hence, public pensions could perceived like private savings and this could lead people to delay their retirement up to the point they will have accumulated sufficient pension provision to secure a life standard during retirement phase.

   Except of the afore-mentioned effects, the extant literature have identified two more effects which are related with the human capital theory and social norms. Namely, those reasons are:

4. *Human capital effects*: As earlier as individuals retire from the labour market this has detrimental effects on their human capital (Montizaan, Corvers and de Grip, 2009). Moreover, the retirement of experienced old workers may be deleterious also for firms due to the fact that experienced workers have accumulated specific human capital. Market specific human capital is very useful because it bolsters the performance and the reliability of workers. On the other hand, firms have the tendency to lay off old worker because there is a gap between their real wage and productivity. Even though their productivity is low, firms can use old worker to train the younger ones because they hold the accumulated specific human capital which takes time for young workers to develop it from scratch.

5. *Social norms effect* (Olofsson, 2001): The decision for retirement can be affected by the existing social norms within a society. Pension system and institutions have the ability to affect and change the social norms through the retirement options that provide. A good proxy to examine the perception about the NRA, is the *effective retirement age* (ERA, henceforth)which usually differs by the statutory NRA. For instance, a continuous falling ERA signals potential changes in the behaviour of older worker towards retirement and the attitude of employers towards ageing workers. Figure 4 demonstrates how the ERA evolved from 1970 to 2014 in Sweden, OECD (average of 34 countries) and EU-27 (average of 27 European countries)[3].

Figure 4: Average effective age of retirement



Source: OECD

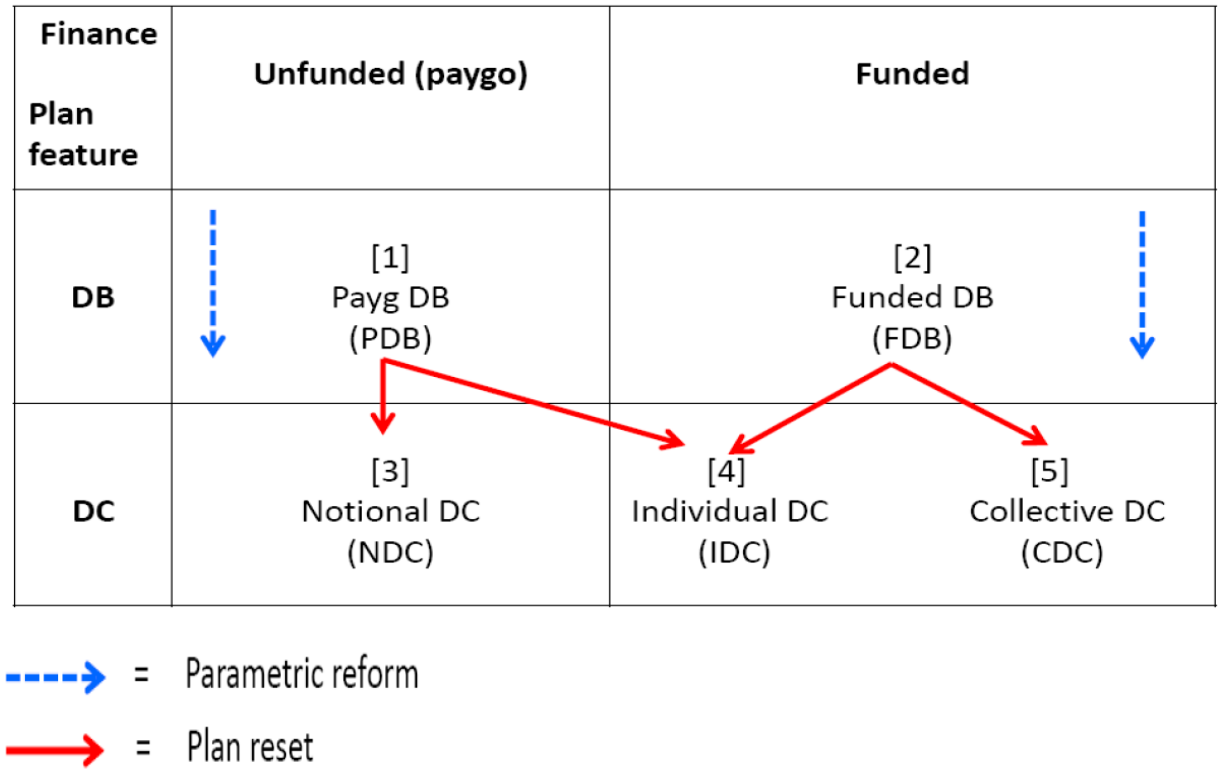
Taking into consideration all the potential effects that the public pension system induces, to sum up the theoretical literature on optimal retirement examines retirement decision through the perspective of *optional value*. Optional value is defined as the difference of the expected present value of continuing working and the expected present value of retiring. When *optional values* is

[3]See Figures 4 & 5 of Appendix for the differences in NRA and ERA of OECD countries for 2014

positive then individuals have the incentive to postpone their retirement. Whereas, by the time the corresponding value becomes negative then workers should retire.

The specific policy issue is relevant with another part of the literature. Namely, this part of the literature is the one that studies the sustainability of pensions systems and the potential reforms. Table 2 provides a clear view of the available reforms for pension schemes. This part of the economic literature became popular when the ageing increased substantially and started to destabilize the budget of the PAYG DB pension schemes. By the time the demographic patterns changed, economists started to research considerably on potential reforms and the transition from PAYG schemes to either notional or collective (or even individual) defined contribution schemes. The research on the specific topic is substantial because the reforms in pension system should be prudent because they have to take into account the unique characteristics country's labour market and in the same time they might benefit a few generation over others, so called intergenerational redistribution.

Table 2: Prototypes of nation-wide regulated pension schemes



Source: Author's replication

4 Sweden's Pension System & Stylized Facts

For the case of Sweden and the stylized facts which characterize her I focus mainly on two papers of Olofsson (2001) and Glans (2008). Figures 5 and 6 depict the stylised facts of the Swedish popu-

lation since 1960 with predictions up to 2060[4]. Life expectancy increased rapidly for both men and women since 1960 while elders' dependency ratio remains around and above 30% of active population. Other papers from authors like Settergen (2003) who explains in depth the implemented reforms and how the Swedish Notional Defined Contribution scheme functions while McGillivray (2005) discuss thoroughly the advantages of NDC public pension scheme and finally he concentrates to the successful Swedish reforms. However both papers are missing the connection of pension system with the labour market.

Figure 5: Age dependency ratio 1960-2015 and forecast 2016-2060

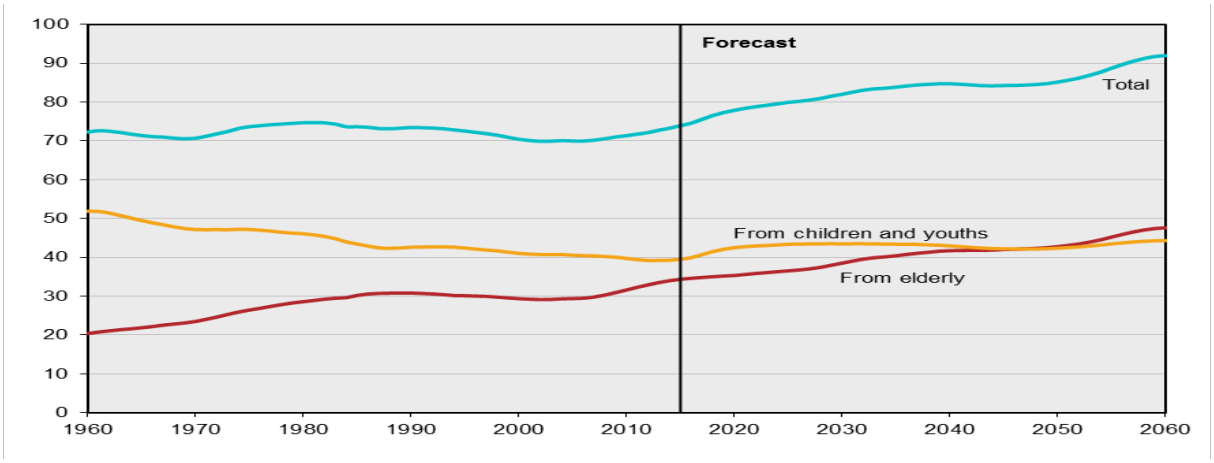
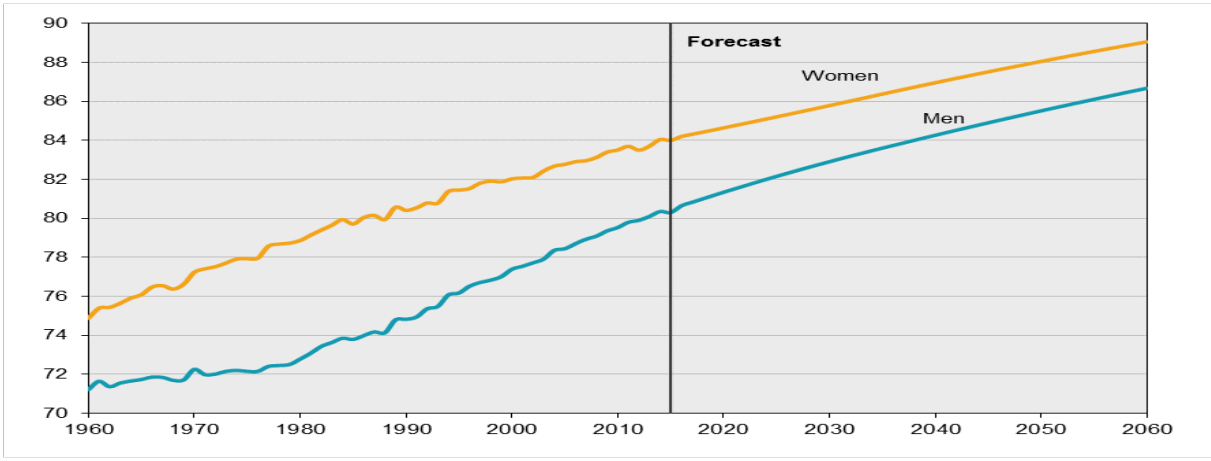


Figure 6: Life expectancy by sex 1960-2015 and forecast 2016-2060



Source: Statistics Sweden

Olofsson's paper assess the demographics that triggered the reforms in the Swedish pension system while Glans (2008) finds that the elderly Swedish workers who belong to cohorts affected by

[4]Figure 6 of Appendix presents the composition of Swedish population by age for the years 1960, 2015 and predictions for 2060

the pension reform, delayed their retirement. Later within Box 1 discussion, I use another paper from the Hallberg, Johansson and Josephson (2014) because they find that early retirement had a positive impact on the health of military personnel in Sweden. In addition they claim that their method establishes a valid causal effect in contrast to previous cross-sectional studies. Apart from their interesting method, the authors enlist a few arguments that might be regarded erroneous from the extant literature. This might also apply to their discussion about implications of early retirement on government's budget.

4.1 An Overview of the Swedish Pension System

The Swedish pension system is a mixture of three pillars (Olofsson, 2001). The first and basic pillar is consisted of public pension system which is tax-financed. The second is an *earnings related* secondary public pension system. The third block is the occupational pension system where we can add the private industry pension industry for individual insurance.

4.2 The former pension plan

The previous public pension plan was introduced in 1960. It was consisted of a guaranteed DB pension (*folkpension*) and the public pension supplement (ATP, *allmantillaggspension*). The whole plan is referred in the relevant literature as ATP. I will do the same in this essay. Public pensions were calculated based on the average of the highest 15 years of earnings and in order to one be entitled for a full pension, he/ she had at least 30 years of active contributions. Individuals with three years or less of earnings did not qualify at all for a public pension (Glans, 2008). For workers with less years of active pension contributions than the required, their pension was decreased proportionally, according to the following factor:

$$\frac{Years\ Worked}{Years\ Required}$$

Apparently the only way that individuals could augment their ATP pension, was to keep working under the condition that their real annual compensation surpassed the average of the top 15 years of earnings. There were only two economic incentives that could affect the decision for retirement. For the case of early retirement there was a withdrawal penalty of 0.5 percent per month, on the pension provisions, before the age of 65 while there was a credit of 0.7 percent for every month the withdrawal was delayed after the age of 65. However, it was relatively easy for the workers to retire early. At the age of 61 they had the right to withdraw their occupational pension provisions and finance their early retirement up to the age of 65. Thus, by exploiting initially the occupational pension and after the age of 65 the ATP pension provisions, were in position to finance their early retirement and in the same time to circumvent the penalty.

4.3 Implementation of the new system and transition to a NDC scheme

The new radical reforms[5] started to be implemented at the beginning 1998. As I mentioned before, system's transformation was supported by a broad coalition of political parties, including Conservative, Liberal, Centre and Social Democratic parties. The Green and the Left Parties did not bolster the pension reform.

[5]See Figure 7 of Appendix for the analytical time-line of the pension reforms

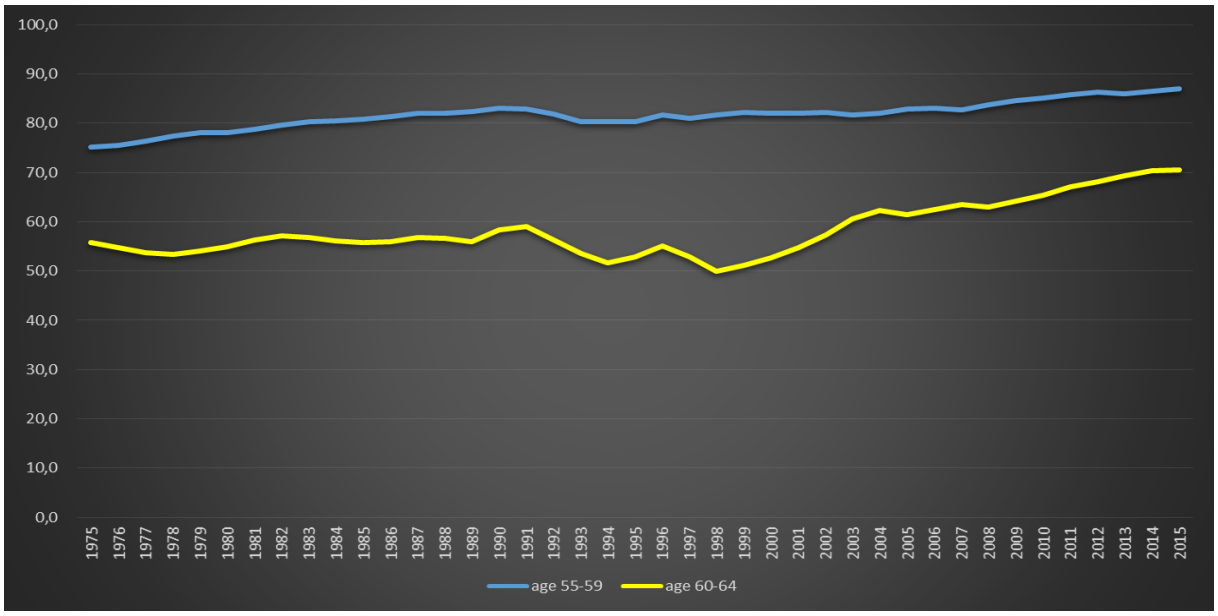
In the new pension system 16 percent of the annual income is credited to notional individual accounts while 2.5 percent of total earnings are paid into fully funded premium pension accounts. Therefore, the total contribution rates equals to 18.5%. In terms of actuarial fairness, delayed retirement increases the pension by declining the expected benefit period (Glans, 2008). Moreover, pensions are computed taking into consideration the expected survival of one's birth cohort. In other words, the new system applies a lifetime approach to the accumulation of pension entitlements and effectively increases the retirement age as longevity augments.

If there is a deficit in the system then the pensions are adjusted automatically. This is called *automatic balancing* which implies that indexation of both notional capital and pensions is based on growth in average income (Settergren, 2003). With this design, liabilities and assets normally change by the same amount; in other words, the net income is more or less equal to zero (ORANGE REPORT, 2016). To be precise, income indexation of benefits replaced price indexation in 2002. The new rules came into force since 2003 and the cohorts born in 1954 and later gain their pension fully form the new system. For the cohorts born between 1938 and 1953 there was a transition period where individuals received their pension as a mixture of both old and new system.

4.4 Criticism on the old system and benefits of the new

In the early 90's, in particular during the economic crisis of 1991-1993 when older work force participation declined considerably (Olofsson, 2001), the pension system as a whole was fiscally unsustainable and deemed to collapse. Figure 7 depicts the participation rates in the labour market since 1975. The decline of participation rates are prominent particularly for workers aged 60-64. In addition, the previous system was not actuarial fair. Namely, the economic incentives were provided to continue working were rather low, especially for older workers who were eligible for other benefits such disability and unemployment insurance benefits (Glans, 2008). On the other hand, the new system was praised because it: 1) reduced the prevalence of defined benefit (DB) pensions; 2) strengthened the link between life time earnings and pension benefits and 3) expanded the roles of individual pension fund account and private insurance industry. These three aspects resulted to improved solvency and increased participation among older worker as can be seen in Figure 7 after 1998.

Figure 7: Labour force participation rate of older workers, total, Sweden



Source: OECD

4.5 Disability insurance reforms

It is worth mentioning that other reforms[6] took place during this period. This is important because except from normal retirement there are other channels towards retirement for older workers such as unemployment and disability insurance benefits. In this subsection, I am going to discuss only about the disability insurance because the unemployment insurance reforms were scant.

Changes in public disability insurance were significant, especially for the private sector blue collar (i.e. manual labour) workers who inclined to use the path of disability insurance towards early retirement. Since 1970 till 1997, it was plausible workers near retirement age to receive disability benefits partly for labour market reasons. Between the years 1972 to 1991 individuals were eligible to take the corresponding benefits solely based on labour market reasons, even in the case the worker was in a good health condition. After the reforms, the eligibility for disability insurance became more strict and it became accessible only for medical reasons.

4.6 Glans (2008) findings

Glans (2008) in his research argues that the the transition to a NDC public pension system has made work more rewarding and workers have the incentive to extend their working careers beyond 30 years of work experience due to the earnings-related pension scheme. In particular, the results show, after controlling for education, lagged income and demographic factors, the cohorts born after 1940 are less likely to retire between the age 60 to 64 (Figure 7). Interestingly, the retirement hazard declined mainly in the public sector rather than the private sector. This may be happened because many occupational pension schemes in the private sector remained defined benefit while the corresponding plans for public servants switched to defined contribution.

[6]See Table 1 of Appendix for the Analytical time-table of disability insurance reforms

5 Box Section

Box 1: Papers discussion-Literature Review

In this discussion, I start from the papers that are most relevant with Glan's paper because they study the relation of economic incentives and reforms with the retirement decision of the older workers. Namely, French and Jones (2011) motivation is that many countries were obliged to reform their public pension schemes in order to encourage labour supply of elderly workers and perpetuate their fiscal solvency. Interestingly, in their paper examine labour supply and public pension from a life cycle perspective. Their findings suggest that the labour earnings should be taxed at different rates over the life cycle. In other words, in order to motivate older workers to delay their retirement, the income earned when old should be taxed at a lower rate than the income earned when young. Another interesting aspect of the specific paper is that analyses tax reform from the spectrum of labour supply elasticity and not from the conventional perspective of reducing the generosity of the public pension and penalties of working further the NRA. Staubli and Zweimuller (2013) study how the reforms of increasing the ERA, which implemented in Austria affected the labour supply of both men and women older workers. They find that augmenting ERA raises the employment of both men and women elderly workers, however there are considerable spillovers towards early retirement via unemployment insurance program. At last, they underline that an increase in the ERA is indeed cost effective and reduces the stains on government's budget.

The following set of papers focus on alternatives links of early retirement incentives. Montizaan, Corvers and de Grip (2009) by conducting natural experiment in the Dutch public sector find that an exogenous shock to pension rights leads to postponement of retirement and by its turn, it has a positive impact only on the participation rate of employees who work for large companies. Fitzpatrick and Lovenheim (2013) use a revolutionary method which isolates the exogenous effect of the early retirement and they find, for the State of Illinois, that the large-scale early retirement programs do not have detrimental effect on students' performance. Hallberg, Johansson and Josephson (2014) exploit a targeted early retirement offer which was given to army employees 55 years of age and older. The age of 60 was the NRA prior the offer. They find that the early retirement offer has positive effects on individuals' health by using inpatient care data and controlling for mortality rates. Additionally, the authors show that the specific reform declined labour market participation in ages 55-59 and augmented early retirement, in overall. Finally, they argue that an increase of mandatory retirement age will not be cost effective. The positive income effect on central budget will be offset due to the deleterious side-effects on individuals' health which should be covered by the government with additional healthcare expenses.

6 Policy Recommendations

The radical reforms that implemented in Sweden's public pension system, indeed improved its sustainability and increased participation among the elderly workers (Figure 7). However, when I decomposed diligently the statistical evidence for the older workers in Sweden, I was able to detect

a few reasons why Sweden requires further reforms and active interventions in order to motivate additionally the older worker to participate in labour market and in the same time to reduce further the strains on her budget.

My first recommendation is related with the implementation of Active Labour Market Policies (ALMPs, henceforth). The evidence to bolster my recommendation are provided in the the following two figures. Figure 8 shows that the unemployment rates for older workers has diminished sharply during the reform period (1998-2003) and they were keep decreasing until 2008. However, since 2008 those rates have raised and until 2015 remained stable around 6%. This means that except of increased participation the reforms created another available channel which led towards unemployment. I have to recognise that the specific increase occurred during the global financial crisis and European Debt crisis, although the experienced recession for 2008-2009 and after rebounded quite rapidly[7]. In addition, Figure 9 illustrates that a considerable part of the unemployed older workers, around 35% for men and 30% for women in Sweden, are long-term unemployed[8]. Unfortunately, values for the years 2005 and 2006 are missing. Therefore, Swedish government should support elder workers with ALMPs, such as job search counselling, training or even subsidies to employers, in order to augment further their participation.

My second policy recommendation is related with the disability and unemployment insurance benefits. I am focusing on those two benefits because traditionally they constitute, not only for Sweden, two potential channels towards early retirement. Old workers may be eligible for disability insurance benefits because their health has deteriorated over their working career. Regarding the unemployment insurance benefits, old workers is more likely to be eligible due to their long work history. Therefore, the generosity of the corresponding benefits should be examined in order to assess whether they offer additional incentives for early retirement. For the purpose of examining that, I extract data from Eurostat. Figure 10 replicates the data I extracted. It is apparent that the disability insurance expenses have an increasing trend while the unemployment expenditures since 2000 remained stable. For the unemployment benefits there is no need to provide any specific recommendation however, for there is such need. As I mentioned, various reforms took place in disability benefits but from Figure 10 they seem to be inefficient because they did not manage to curtail excess spending. This is a sign that the channel of disability insurance constitute a path towards early retirement. Hence, the Swedish government should reduce the generosity of those benefits and increase screening in order to boost further the participation of older workers.

Finally, my last recommendation is inspired by the employment protection legislation (EPL, henceforth) index of OECD. This index depicts the strictness of employment protection for regular contracts (i.e. individual and collective dismissals). Figure 11 presents that Sweden has a stricter protection that the average protection in the countries of OECD. This means that her labour market lacks flexibility. This level of protection might make firms reluctant to lay-off or hire old workers because the dismissal cost may be quite high. Thus, the Swedish government should introduce reforms to increase the flexibility of the labour market in order to lessen dismissal costs and motivate firms to hire old workers without legislation limitations.

[7] See Figure 8 of Appendix

[8] Long-term unemployment is defined as being unemployed for more than 1 year

Figure 8: Unemployment rate for workers aged 55-59 & 60-64, Sweden

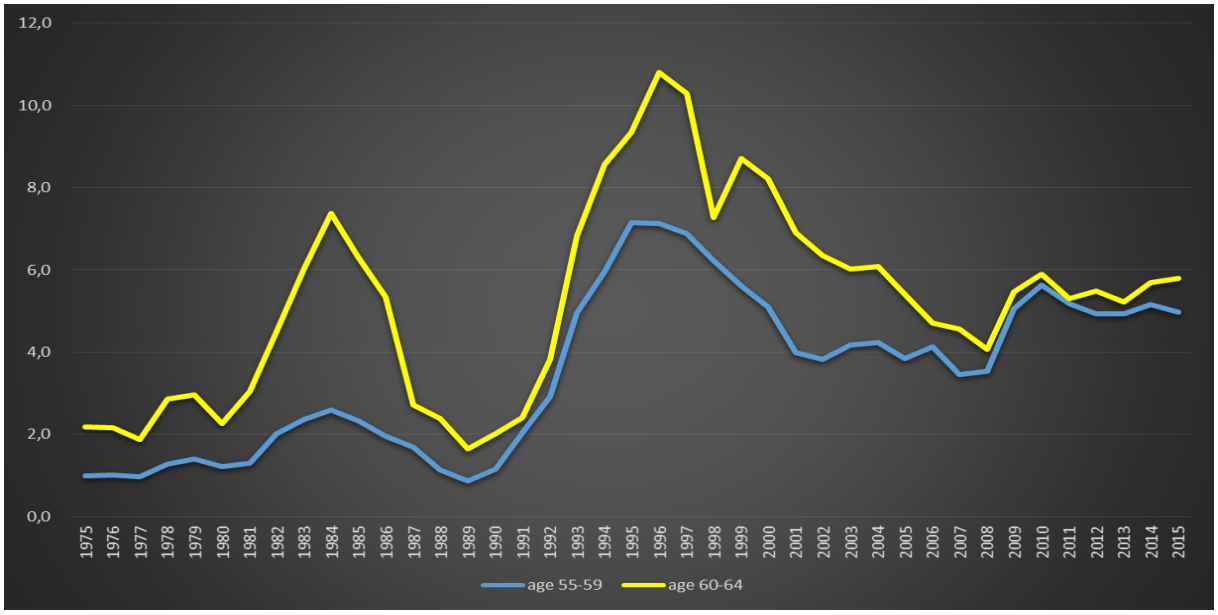
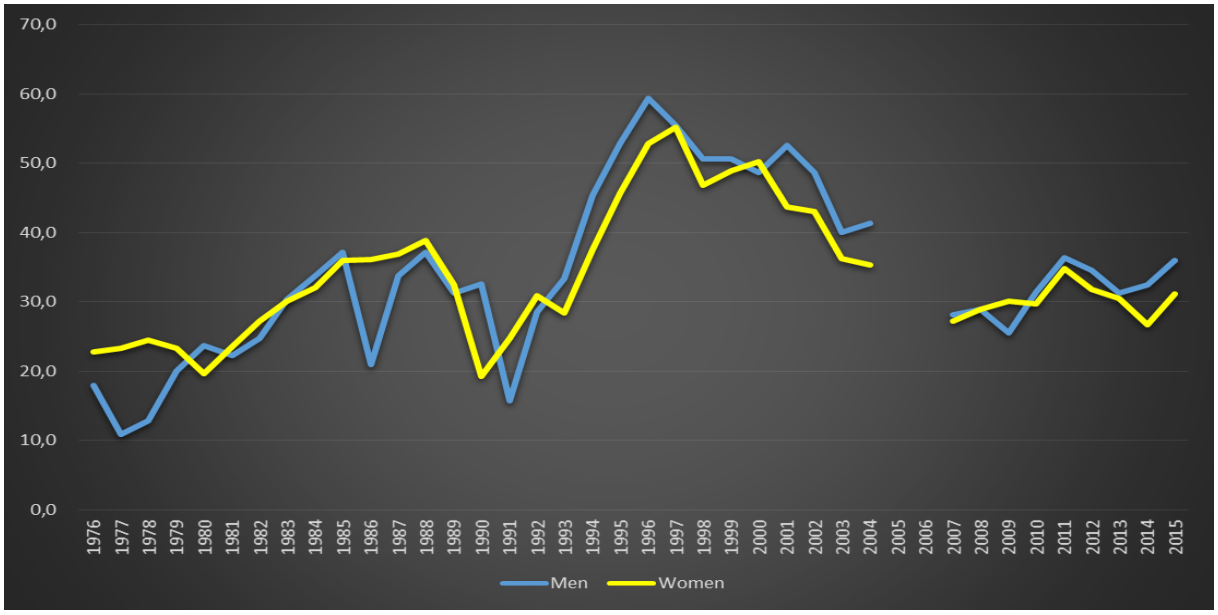
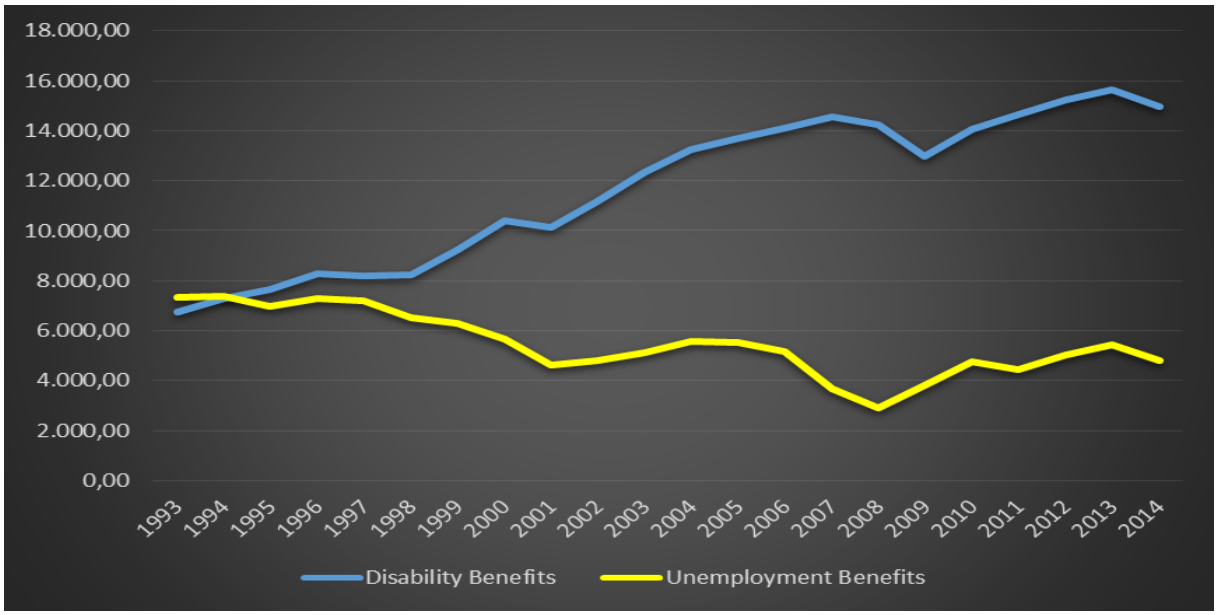


Figure 9: Percentage of long-term unemployed male and female workers, aged 55+, Sweden



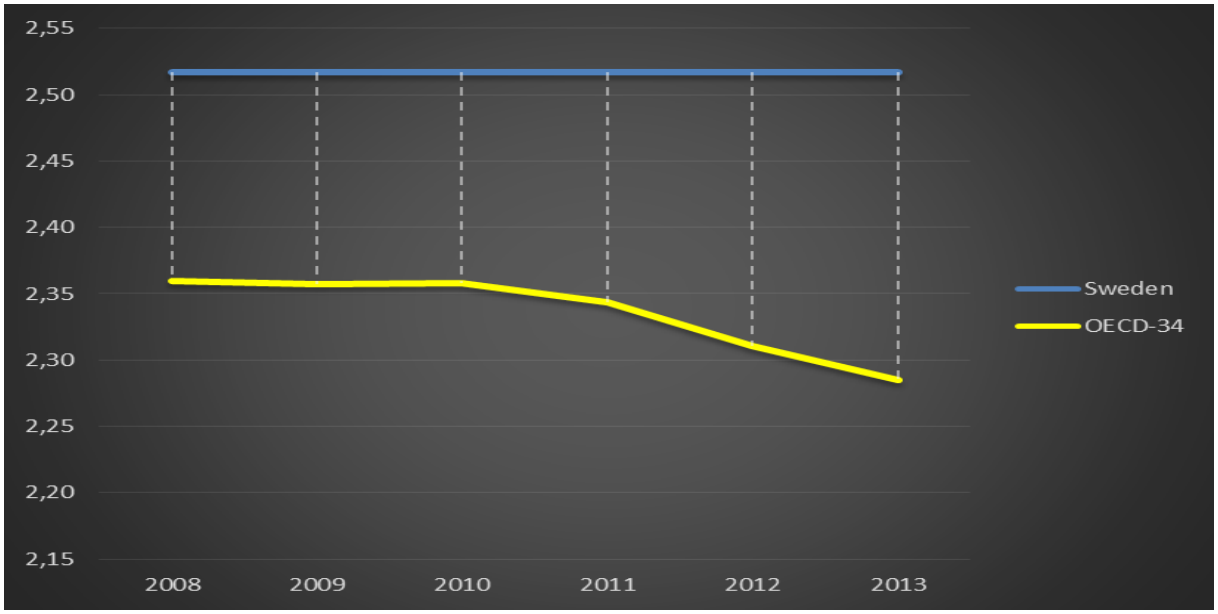
Source: OECD

Figure 10: Total Disability and Unemployment insurance expenses, in million Euro, 1993-2014



Source: Eurostat

Figure 11: Employment Protection Legislation (EPL) index



Source: OECD

7 Conclusions

In this essay, I tried to prove the inextricable link between the pension system and the decision of older workers to retire early. Furthermore, I examined the necessity of reforming the pension system

with the current demographic patterns in order to secure fiscal stability. A notable example of such important policy reform is Sweden and that is the reason why I explicitly focus my discussion on this country from both theoretical and empirical perspective.

Moreover, I expand my analysis by decomposing the data more prudently and I found that the reforms in the public pension plan were effective, in terms of old workers' labour participation but up to a specific point. In particular, through the unemployment rates of the corresponding workers, the level of total disability benefits paid and the EPL index I was able to identify a few sector where the Swedish government has to improve her performance if she seeks to boost further the participation of elder workers. Very briefly, my proposal is that early retirement schemes have to be abolished because the public pension schemes face the hazard of collapsing, given the demographic patterns. But in the same time, in order to augment older workers' participation, the pension system's structure and other channels that lead to early retirement must be reformed. At last, employment protection legislation is a significant factor that should not be ignored.

8 References

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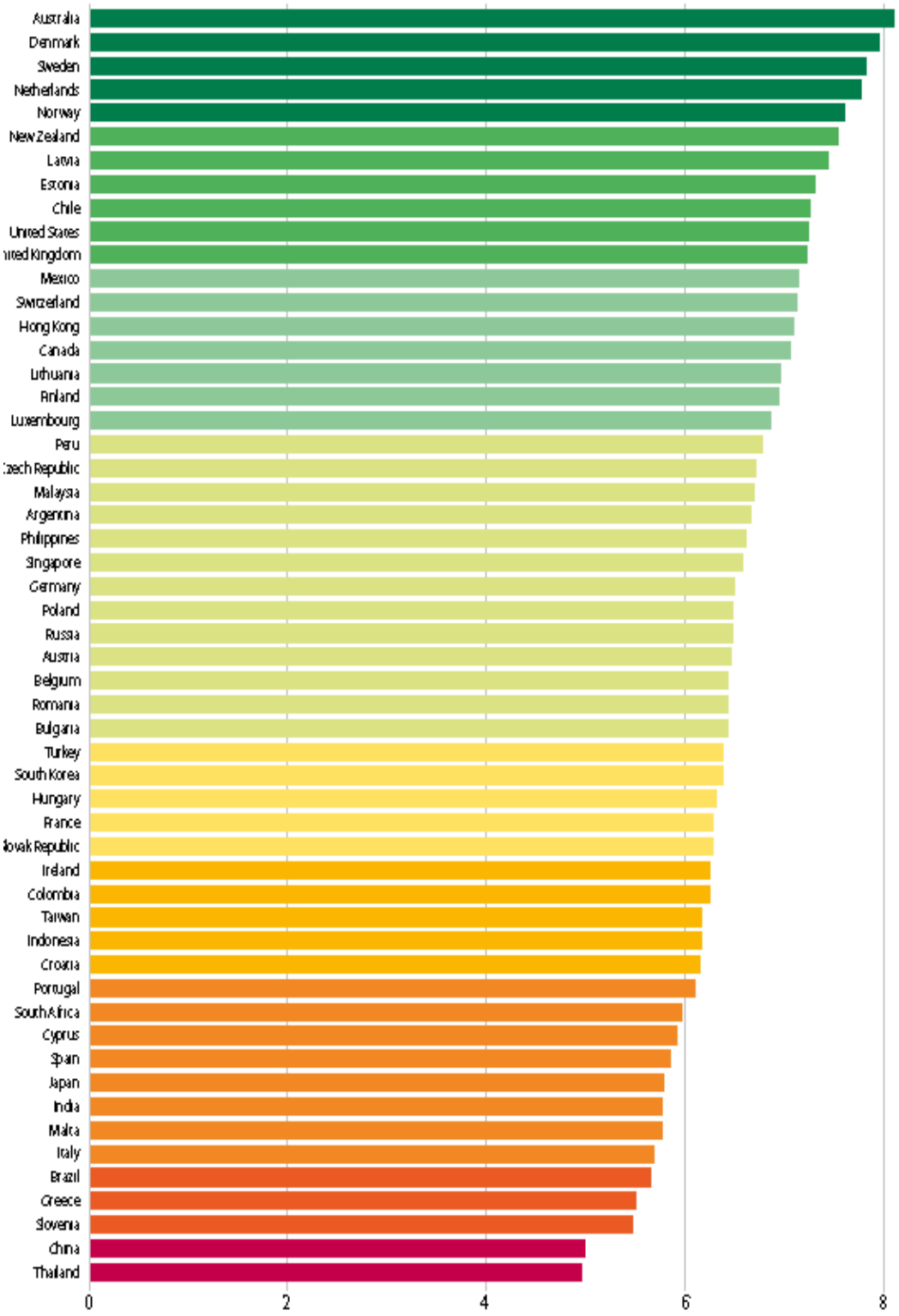
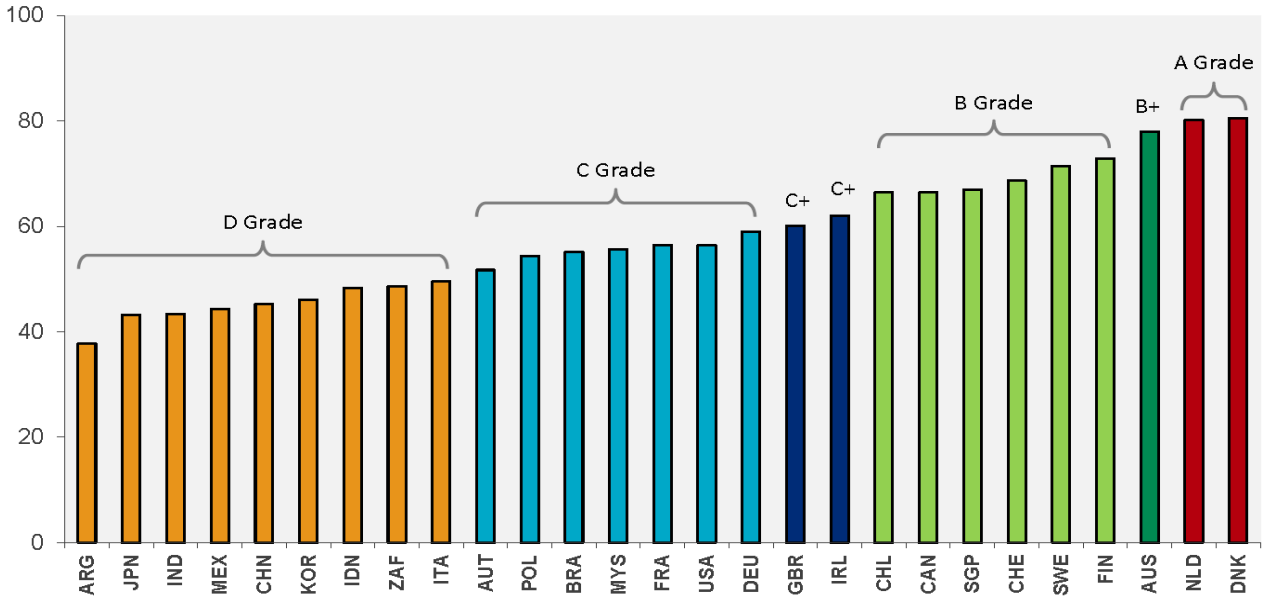
9 Appendix

Figure 1: Allianz's Pension Sustainability Index



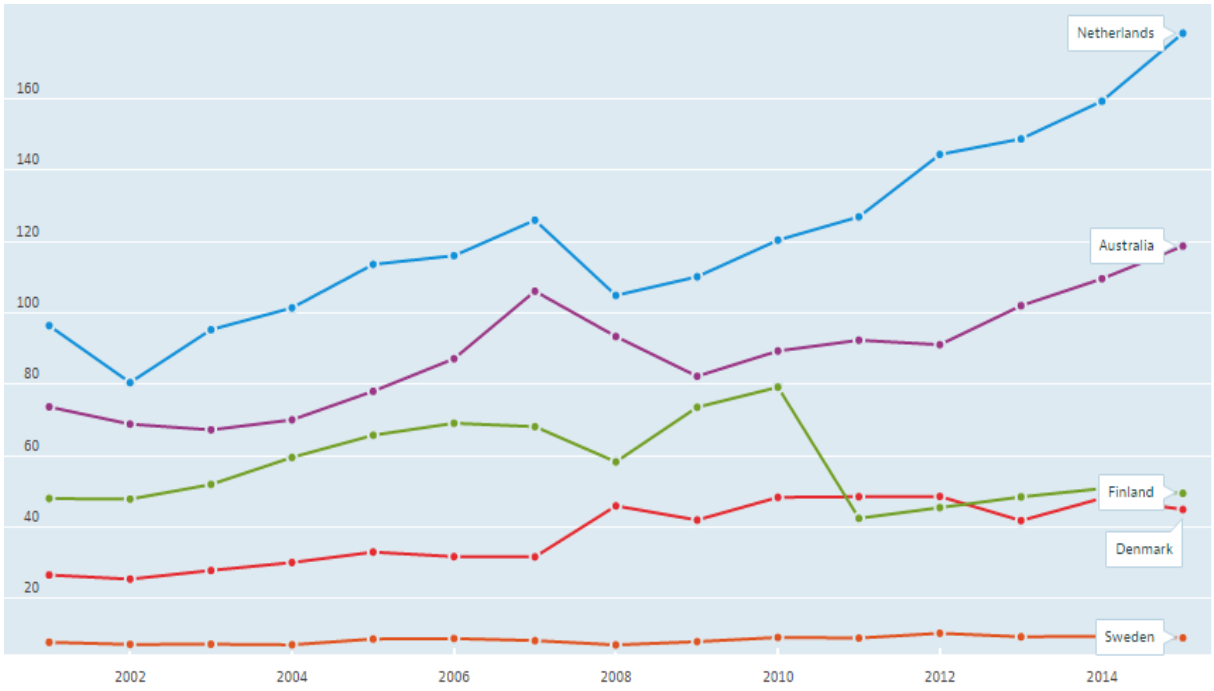
Source: Allianz

Figure 2: Melbourne Mercer Global Pension Index



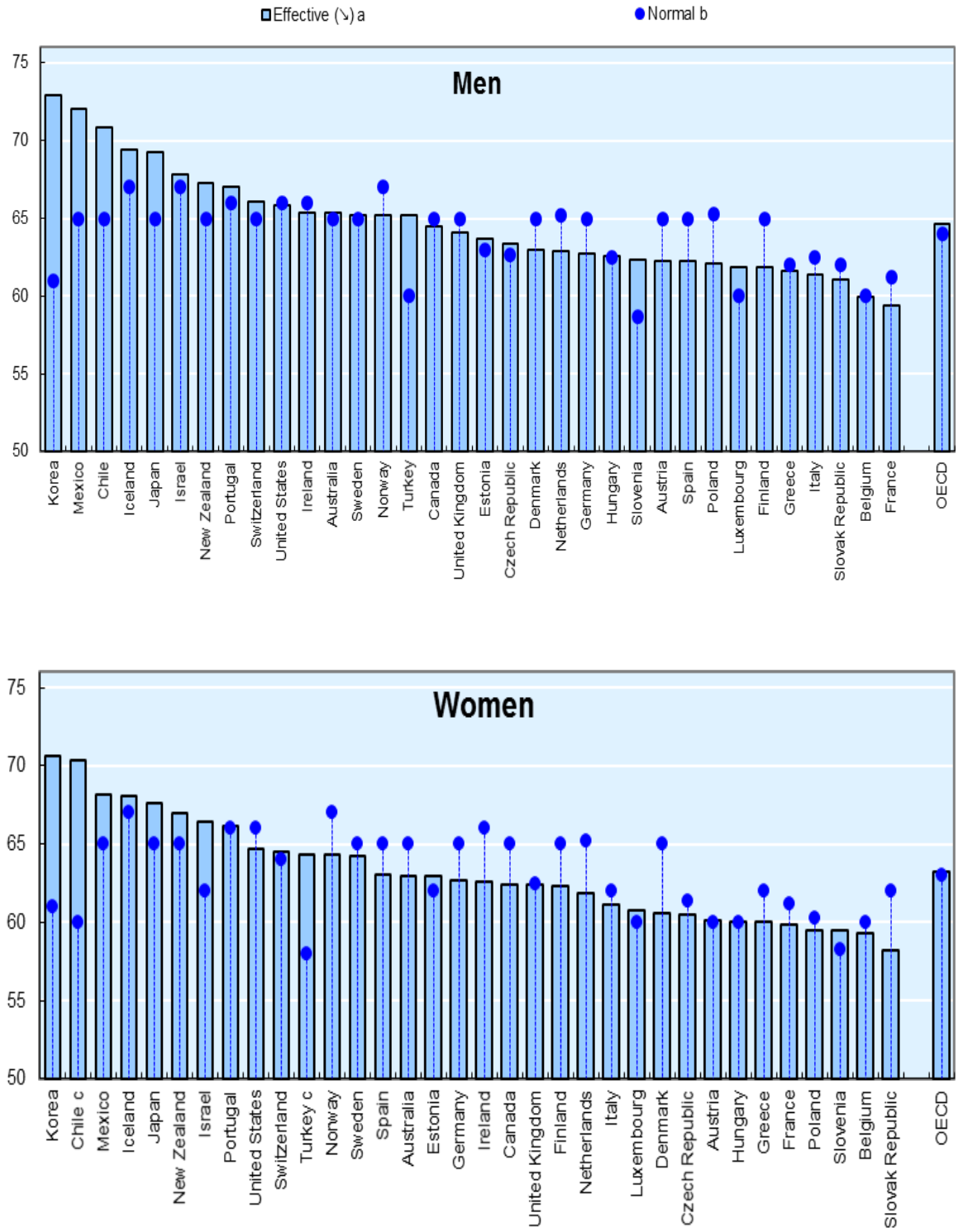
Source: Australian Center for Financial Studies

Figure 3: Pension funds' assets, Total as % of GDP, 2000 2015



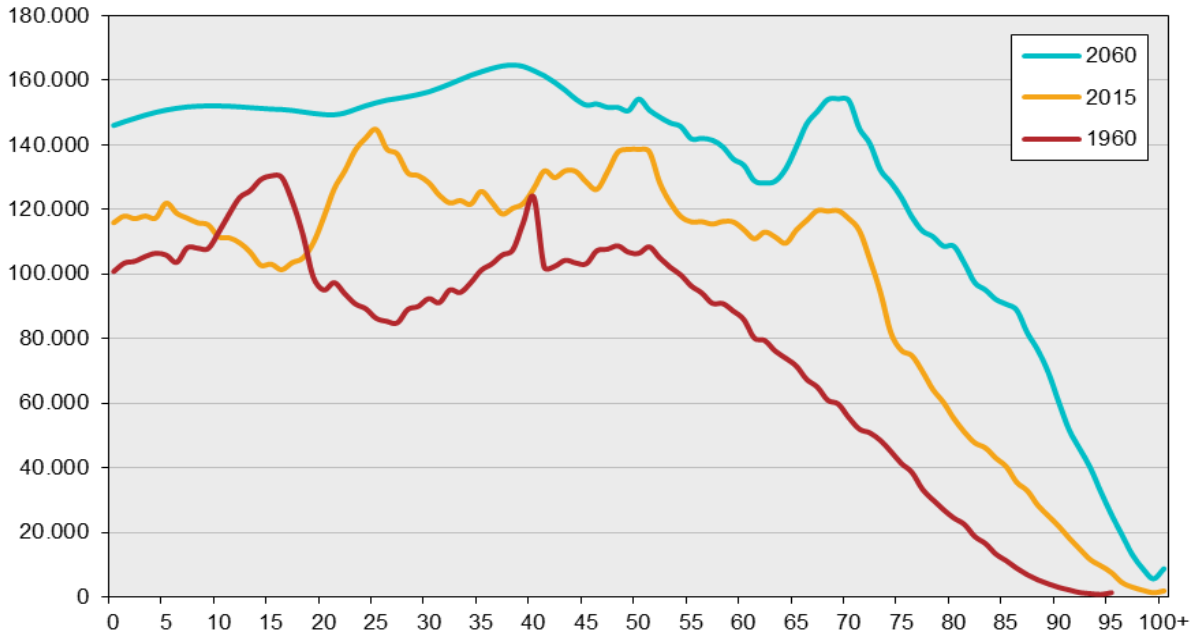
Source: OECD

Figures 4 & 5: Average effective age of retirement versus the normal retirement age, 2014



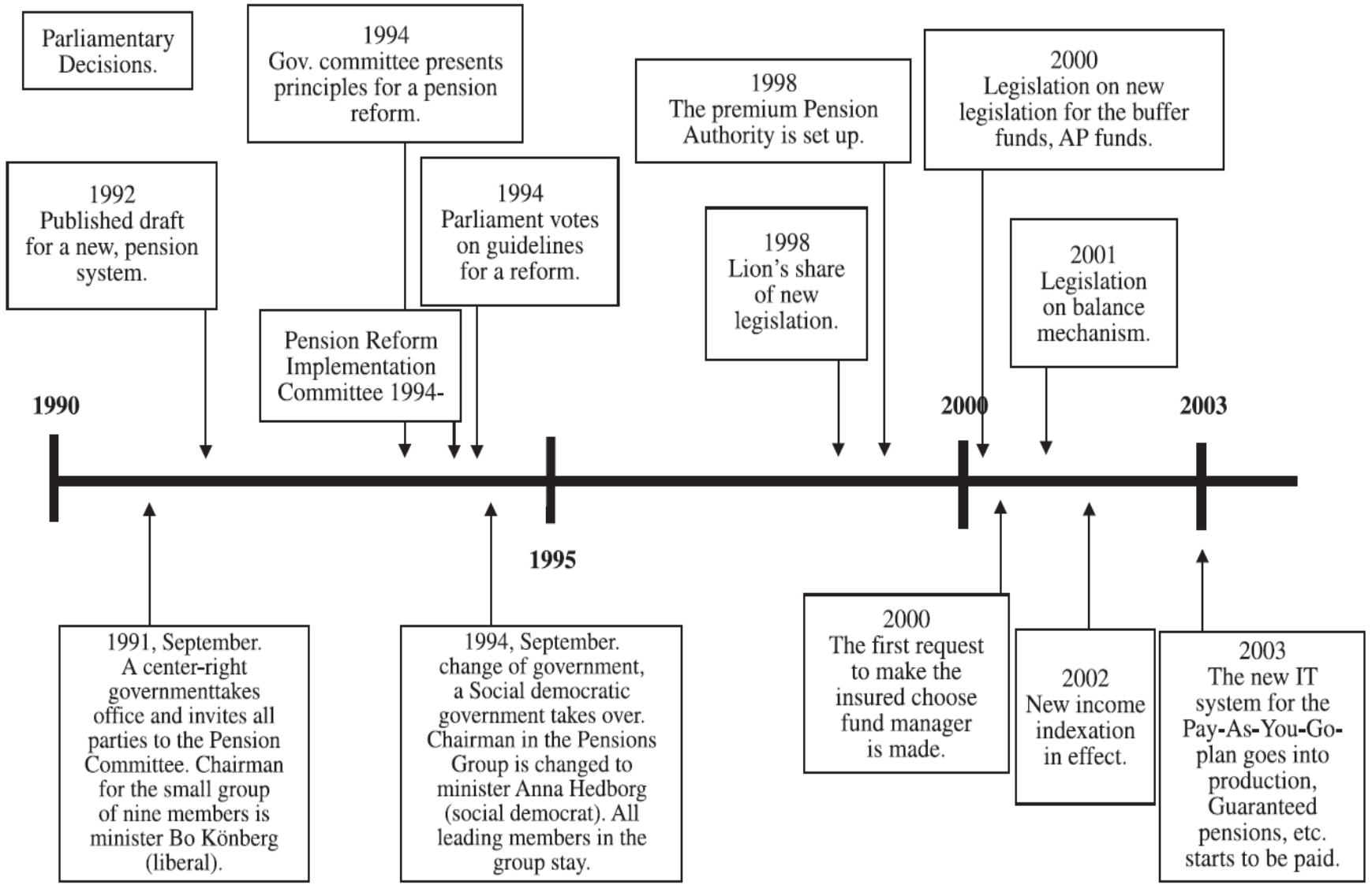
Source: OECD

Figure 6: Population by age 1960, 2015 and forecasts 2060



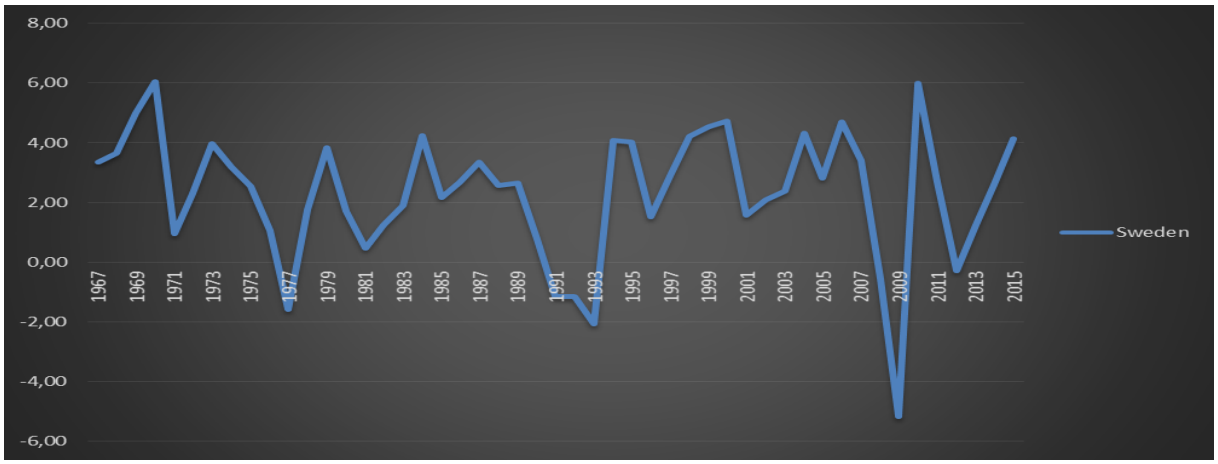
Source: Statistics Sweden

Figure 7: Analytical time-line of Swedish pension reforms



Source: Settergren (2003)

Figure 8: GDP growth (annual %), 1967-2015



Source: World Bank

Table 1: Analytical time-table of disability insurance reforms

Year	Change
1991	Benefits due solely to labour market reasons no longer applied, medical reasons also required.
1993	New scale for the degree of benefits (a quarter, half, three quarters instead of half, two thirds). Benefits reduced by 2 percent.
1995	Periodic review of eligibility instead of permanent eligibility once granted.
1997	Eligibility on medical grounds only.
1999	Slightly more lenient benefit rules, close to full disability rather than complete disability.
2003	Separate rules for those over 29 years of age. Temporary sickness benefits requiring acceptance of any proposed rehabilitation treatment.

Source: Glans (2008)