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By Annika Sundén*

Introduction

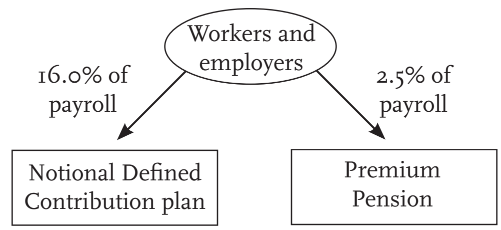
The steep drop in financial markets in 2008 coupled with the ongoing economic recession pose immediate challenges for some public pension systems, particularly those that rely partly on equity investments. In the case of Sweden, the crisis provides an initial 'stress test' for a major pension system reform implemented earlier this decade. The new system created by the reform was designed to be fiscally sustainable by including automatic adjustment mechanisms to maintain balance in response to short-term economic and financial fluctuations and long-term demographic changes. Last fall's plummeting stock market produced a decline in Sweden's pension reserve funds and triggered a first-time automatic reduction in the pension indexation scheduled to occur in 2010. In response, policymakers decided to spread out the required adjustment over a longer period.

This *brief* is organized as follows. The first section describes how the Swedish pension system is designed to maintain fiscal stability. The second section documents trends in the system's financial status. The third section explores the potential impact of the economic crisis on pension benefits under the system's original rules. The fourth section describes the policy response. The final section concludes that even automatic adjustments may produce offsetting political considerations.

Structure of the System

The Swedish pension system, which has a total contribution rate of 18.5 percent, has two components. The first, and major, component is a pay-as-you-go Notional Defined Contribution (NDC) plan, which receives 16 percentage points of contributions. The second component is an individual account, the Premium Pension, which receives the remaining 2.5 percentage points (see Figure 1).

Figure 1. Swedish Pension System



Source: Author's illustration.

Several characteristics contribute to the financial stability of the NDC plan. Benefits are linked to lifetime contributions; the account balance grows with annual contributions and the rate of return on the account. The rate of return on NDC accounts is set equal to per-capita real wage growth to link earned

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pension rights to earnings of the working population. At retirement, the account balance is converted to an annuity by an annuity divisor that automatically ties benefits to changes in life expectancy. In addition, the system has a balancing mechanism that adjusts NDC benefits if the plan's financial position deteriorates.

Financial stability in the NDC is measured by the balance ratio, which relates the system's assets to its liabilities (see Figure 2). System assets consist of the capitalized value of contributions and the current value of the system's reserve, or "buffer funds."[1] Pension liabilities are the system's current vested liabilities. Contribution assets and pension liabilities are calculated using a three-year moving average, while the buffer funds are valued on December 31 of the year for which the balance ratio is calculated.

Figure 2. Balance Ratio (BR) for Sweden's NDC Pension Plan

$$\frac{\text{Buffer funds + Contribution assets}}{\text{Pension liabilities}} = \text{Balance ratio (BR)}$$

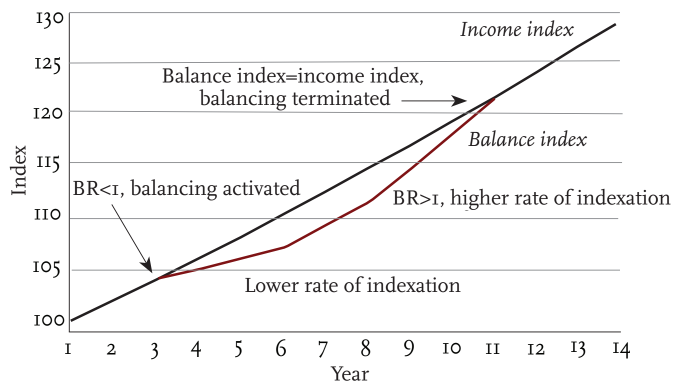
Source: Author's illustration.

A balance ratio of one means that the NDC system is in financial balance (i.e., assets and liabilities are equal). When the balance ratio is below one, the system is in imbalance and liabilities exceed assets.

In the short run, employment growth is the most important factor for stability, as it directly affects the system's annual contributions and thereby system assets. But the performance of the stock market also matters, since about 60 percent of the buffer funds is invested in equities. In the long run, demographic factors, such as life expectancy, matter the most.

When financial instability occurs, the balancing mechanism is activated automatically (to avoid depending on political decisions to restore financial balance). Balance is restored by reducing per-capita wage indexation of earned pension rights for current workers and reducing the indexation of benefits for current retirees. The reduced indexation continues until the system has regained financial balance. Any surpluses that occur after balancing are used to increase indexation until the value of pension credits and benefits are restored, as illustrated in Figure 3. So the intention is to temporarily adjust benefits in response to short-term fluctuations in the economy, while keeping benefits stable over the long run.

Figure 3. Illustration of How Balancing Mechanism Works



Source: Author's illustration.

Financial Stability 2002-2008

Table 1 on the next page shows the development of the system for the period 2002-2008. The balance ratio was close to 1.0 through 2007. In 2008, the balance ratio fell – for the first time – below 1.0. The main reason for the large deficit was the sharp decrease in equity prices during the fall of 2008. The buffer funds experienced a negative return of 21.3 percent.[2]

Automatic Adjustments

The economic crisis affects both components of the Swedish system, the NDC and the Premium Pension, but the main impact will be felt by current retirees, through changes in the indexation of their NDC benefits.[3]

Indexation of NDC pension benefits occurs on January 1 each year. Benefits are adjusted by the change in average wage growth minus a growth norm of 1.6 percent.[4] A deficit in the system affects indexation with a lag, so the financial crisis will not affect NDC benefits until 2010. The balance ratio for 2008 was calculated in the spring of 2009, approved by the government in the fall of 2009, and will be applied to indexation in January 2010. Thus, the adjustment of pension benefits in 2009 is not affected by the financial crisis, and benefits have increased by 4.5 percent.

Under the original rules, the 2008 balance ratio was 0.9672, which means that indexation in 2010 would have been reduced by 0.0328 (1 – 0.9672),

Table 1. Financial Status of Sweden's NDC Plan, 2002-2008, Billions of Swedish Crowns

	2002	2003	2004	2005	2006	2007	2008
Buffer funds	488	577	646	796	858	898	707
Contribution assets	5,301	5,465	5,607	5,712	5,945	6,116	6,477
Total assets	5,789	6,042	6,253	6,490	6,803	7,014	7,184
Pension liabilities	5,729	5,984	6,244	6,461	6,703	6,996	7,428
Balance ratio	1.0105	1.0097	1.0014	1.0044	1.0149	1.0026	0.9672

Source: Swedish Social Insurance Agency (2008).

or 3.3 percent. Average wage growth has been very slow due to the recession, so even before balancing is applied, benefits were scheduled to decrease by 1.3 percent. Balancing reduces this level further so that the net effect on benefits would have been a decline of 4.6 percent (see top panel of Table 2).

Due to the recession following the financial crisis, employment in Sweden is projected to decrease during 2009 and 2010, putting further pressure on the pension system. Originally, the projected 2009 balance ratio of 0.9655 would have resulted in a further decrease in the indexation of benefits in 2011 of 3.5 percent; because the outlook for wage growth has improved somewhat, the net effect on benefits would have been a reduction of 1.7 percent. With current projections, indexation would turn positive again in 2012.

Balancing clearly has a significant affect on the NDC benefit. Beneficiaries without income-related benefits or with low NDC benefits can qualify for the minimum guarantee benefit. Approximately 43 percent of Sweden's retirees have some guarantee benefit. When the NDC benefit is reduced, guarantee benefits will increase for beneficiaries with both benefits. Thus, the net effect on total benefits will be less for this group.

Policy Response

Given the large effect of the economic crisis on the NDC plan, policymakers have begun to respond. The balance ratio was published in March 2009 and, almost immediately, the five political parties that stand behind the pension reform – known as the Pension Group – started to discuss whether to propose smoothing the adjustment of pension benefits (+4.5 in 2009 and -4.6 in 2010). In particular, the group discussed if it was reasonable that the stock market crash should affect NDC benefits so much. The Pension Group suggested that, instead of using the market value of the buffer funds, a three-year average should be used to value the funds. As a result, the deficit would be spread out over time with a smaller decrease in 2010 but a larger decrease in 2011 and 2012 (see bottom panel of Table 2).

During the official review of the proposed change, several agencies remarked that using a three-year average to value the buffer funds means that the balance ratio will be a less accurate measure of the system's financial stability. Moreover, the effect on reducing the variation in benefits is limited and a temporary downturn in the stock market will continue affecting

Table 2. Projected NDC Pension Benefits, 2009-2012

	2009	2010	2011	2012
Original rules				
Balance ratio (t-2)	1.0026	0.9672	0.9655	0.9860
Indexation without balancing	4.5%	-1.3 %	1.8 %	2.2%
Balancing	-	-3.3 %	-3.5 %	-1.4%
Net effect on pension benefits	-	-4.6 %	-1.7 %	0.8%
New rules; three-year average of the buffer funds				
Balance ratio	-	0.9826	0.9553	0.9743
Net effect on pension benefits	-	-3.0 %	-2.8 %	-0.5%

Source: Swedish Social Insurance Agency (2009).

benefits even after it has ended. However, the government, with the support of the Pension Group, decided to go forward with the change. Parliament passed the legislation in October 2009.

Conclusion

The economic crisis has provided a stress test for Sweden's new pension system. As designed, the automatic adjustments are kicking in to maintain financial balance in the system, with NDC pension benefits scheduled to decline by about 3 percent in 2010 and 2011 – a result that reflects recent policy changes. The policy changes moderate the effect on system stability following the sharp stock market decline by using a three-year average to value the buffer funds, a change that spreads out the required adjustment over a somewhat longer period.

Endnotes

1 The capitalized value of contributions is equal to the pension benefits that the annual contributions could finance in the long run. It is derived by multiplying annual contributions by the turnover duration, which is the expected average time between when a contribution is made to the system and when the benefit payment based on that contribution is expected to be made. The current turnover duration is approximately 31.7 years.

2 Another factor affecting the outcome is that the contribution assets increased more slowly than pension liabilities because of shorter turnover duration.

3 The bulk of the funded Premium Pension accounts are invested in equities and thus affected by the stock market crash. In contrast to the NDC, accounts will be affected in 2009. The rate of return in 2009 was -34.5 percent. However, benefit payments from the Premium Pension are still modest (on average 150 SEK per month compared with a typical NDC benefit of 12,000 SEK per month) so the effect on current beneficiaries will be small.

4 The growth norm is deducted since it is included in the annuity divisor; the initial benefit at retirement is thus higher than if benefits were adjusted fully for economic growth each year.

References

Swedish Social Insurance Agency. 2008. *Orange Report – Annual Report of the Swedish Pension System*. Stockholm, Sweden.

Swedish Social Insurance Agency. 2009. "Projections of Social Insurance Benefits" (August). Stockholm, Sweden.

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