

The Future of Retirement in Sweden

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Transforming Retirement in Sweden

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Abstract

In 1998, Sweden transformed its Social Security system into a Notional Defined Contribution (NDC) plan financed on a pay-as-you-go basis paired with a second tier of funded individual accounts. The goal was to move toward a fiscally sustainable system tied to economic growth, with a clear link between contributions and benefits. This chapter discusses the evolution of the Swedish retirement system and the challenges confronted during the implementation of the reform. The analysis also offers an outlook for the future and discusses lessons for the US retirement system.

Transforming Retirement in Sweden

Annika Sundén

In 1998, the Swedish Parliament passed pension legislation that transformed Sweden's public pension scheme from a pay-as-you-go defined benefit plan to a Notional Defined Contribution Plan. In addition, that reform introduced a second-tier defined contribution individual accounts plan. The new pension system went into effect in 1999 and benefits were first paid in 2001. This reform fundamentally changed the provision of public pension benefits and redefined the benefit promise. Under the new system, government-provided benefits are closely linked to contributions and lifetime earnings determine benefits. The reform also recognized how increased life expectancy influences the system's financial stability, and so it built in an automatic benefit adjustment process that responds to changes in longevity. The new system also boosted individual responsibility due to the introduction of a funded individual-account component. The reform also had implications for the Swedish occupational (industry-based) employer schemes, and three of the four occupational plans changed their formats as a result.

In this chapter we discuss the transformation of the Swedish retirement income system and comment on how it may change the future of retirement. First we outline the reform, and compare it to the system in place prior to the reform. Next we explore the reform process, and then discuss future challenges. A final section offers some lessons for other countries.

The Pre-Reform Retirement System in Sweden

The retirement income system in Sweden has long involved two pillars: a public national pension that covered all individuals, and an occupational pension system that built on collective bargaining agreements between labor market players (akin to employer pensions in the US). The pre-reform public pension system provided a flat benefit (FP), introduced in

1913, intended to protect old-age income security, and a supplementary benefit (ATP) introduced in 1960 to provide earnings-related benefits.¹ The ATP benefit was based on a worker's 15 years of highest earnings; it also required 30 years of covered earnings for a full benefit; and it replaced 60 percent of earnings up to a ceiling. The ceiling was approximately 1½ times the average wage. People with no or very low ATP benefits received an additional benefit, the pension supplement. Together with the FP benefit, the pension supplement provided a minimum benefit level worth approximately 30 percent of the average wage. Earned pension rights, retiree benefits, and the income ceiling were all indexed to consumer prices. Benefits were taxed as regular income, although low-benefit retirees received an extra deduction. The normal retirement age was 65, but the benefit could be taken at age 60 with an actuarial adjustment or postponed until age 70. A partial retirement benefit allowed older workers to reduce the number of hours worked and receive a benefit that partially replaced lost earnings.

The FP and ATP benefits were financed primarily through payroll taxes levied on employers. Payroll taxes for the FP and ATP systems were 5.86 percent and 13 percent respectively in 1997, and the financing of the FP benefit was supplemented by general tax revenues. Although pension rights were earned only up to a ceiling, the payroll tax was levied on all earnings. The system was pay-as-you-go with partial funding. When the system was first introduced in 1960, the contribution rate was set so that the system would build up a surplus to act as a buffer against cyclical contribution changes and offset an expected decrease in private saving following the introduction of a universal earnings-related scheme. The surplus was invested in several so-called "buffer" funds (AP funds). At the time of the 1998 reform, assets in the buffer funds equaled approximately five years' worth of benefit payments. The majority of these reserves (85 percent) were invested in low-risk assets, mainly Swedish government and housing bonds.

Occupational plans in Sweden included four types of plans for national government workers; local government workers; white-collar workers, and blue-collar workers. All told, these covered most workers (90 percent) and pay benefits worth, on average, 10-15 percent of income. With the exception of the blue-collar worker plan, Swedish occupational pensions also replaced a portion of earnings above the public plan benefit ceiling. At the time of the public pension reform, all four occupational plans were of the defined benefit variety, and as a rule, benefits were determined by earnings during the 10-year period prior to retirement.

The Reform Process

In the early 1990s, projections showed that the system's buffer funds would be exhausted within 20-25 years, and contribution rates would have to be increased dramatically to continue to pay promised benefits. This was because under the old pay-as-you-go Swedish system, a generous benefit formula combined with slowing productivity growth produced large projected system deficits. Pension benefits as well as earned pension rights were indexed to prices rather than wages; the lack of a link between benefits and real wage growth meant that earned pension rights and benefits rose faster than wages and contributions in times of low or negative productivity growth. Indeed, the fact that the system targeted benefits to capped income, and the earnings cap tracked consumer prices, meant that over time, successively larger fractions of the population earned wages above the ceiling as real wages grew.

The system also exhibited other problems, including unsystematic and inequitable relationships between contributions and benefits. One reason was that contributions were paid on all earnings from age 16 until retirement, whereas benefits were based only on the highest 15 years of earnings. This formula thus redistributed income from people with long working lives and a flat lifecycle income (typically low-income workers), to those with

shorter work histories and rising earnings profiles (typically high-income workers). Finally, there was little incentive to delay retirement as a result of the benefit formula and the fact that contributions were levied on all earnings (Sundén 2000).

Reform Process. The reform process began in 1991 when Parliament appointed a committee to review the system and propose reform. The goal was a financially and politically sustainable system for the long run. Compared to financial problems predicted for the United States, the problem in Sweden was even more severe. Projections showed that, with a future real wage growth of 1.5 percent and unchanged contribution rates, the buffer funds would be exhausted sometime between 2010 and 2015. To maintain financial stability, contribution rates would have to rise from 18.86 percent to about 24 percent by 2015, and continue to rise thereafter. Indeed, the system was thought to be sustainable only with a real wage growth of 2 percent (Ministry of Health and Social Affairs 1994).

Broad political consensus was important and the policymakers faced strong pressures to find a compromise. A first government commission, in 1990, could not agree on a reform proposal but proposed keeping the system's framework unchanged while indexing system parameters to economic growth; it also recommended increasing the normal retirement age and the number of years required for a full pension. Shortly thereafter, Sweden entered a deep recession and pension reform became a top priority leading to the appointment of a parliamentary group representative of all seven parties then in the Parliament.² The gradualist changes suggested by the previous pension commission were rejected by this new group, which instead recommended a complete overhaul of the system.

The group ultimately agreed that the several key principles would govern the new pension system: benefits would be determined by contributions from lifetime earnings, indexation would be based on the growth of the contribution base; and benefits at retirement would incorporate changes in life expectancy (Palmer 2002). Overall, the outcome was a

compromise, in that it included both pay-as-you-go and defined contribution elements. A defined contribution plan was favored because it made it established a close link between contributions and benefits, and it also implied a contribution rate that would remain unchanged in the future. Since payroll taxes were high in Sweden, it was widely believed that future financial imbalances could not be resolved by additional increases in contribution rates.

The new system also included a small component of funded individual defined contribution (DC) accounts. Though the Social Democrats initially opposed these, the DC accounts were eventually adopted in exchange for keeping the scale of the public program unchanged. The conservatives had argued for a decreased role of the public scheme but they agreed on a contribution rate of 18.5 percent, if individual accounts were added to the system. Parliament finally passed the legislation in June 1998: the outcome was a Notional Defined Contribution Plan (NDC) which is a defined contribution plan financed on a pay-as-you-go basis, and the Premium Pension plan which is a funded individual account component.³

How Does the New Swedish Pension System Work?

In the new system, the total mandatory contribution rate is 18.5 percent of earnings. This is divided into two portions, with 16 percentage points credited to the notional account, and 2.5 to the Premium Pension. Contributions are split equally between employees and employers; employee contributions are limited by a ceiling, while the employer's share is levied on all earnings.⁴ Participants earn pension rights from labor income, benefits from unemployment insurance, and other social insurance programs, as well as from years spent at home taking care of children, time in military service, and in education.⁵ The system also provides a guaranteed basic benefit, to ensure a minimum standard of living in retirement. This guaranteed benefit is means-tested and offset by the income from the NDC component;

it is financed by general tax revenues; and it is conceptually separated from the earnings-related scheme.⁶ The guarantee is payable from age 65 and the benefit is worth approximately 35 percent of the average wage of a blue-collar worker. Currently, around 30 percent of retirees collect at least some pension income from the guarantee benefit. The benefit amount is indexed to prices, so real wage growth will over time reduce the import of this guarantee in total retirement income.

The NDC Component. The key concept in the new Swedish pension system is the NDC. Under this framework, contributions are recorded in each worker's individual record, and the resulting account values represent that individual's claims to future pension benefits. But contrary to a conventional funded DC scheme, annual contributions in the NDC plan are used to finance current pension benefit obligations as in any pay-as-you-go system. Hence, the individual accounts are "notional".

This individual account balance grows over time, by annual contributions and due to a rate of return credited to the account each year. To link earned pension rights to workers' earnings, the rate of return is set equal to national per capita real wage growth. It is interesting that formulating the rate of return on the individual accounts was a sticking point in the reform discussions. Initially, policymakers considered using the change in the total wage bill as the measure of the rate of return, to ensure the system's financial stability. However a competing reform goal was to ensure that earned pension rights and benefits followed the average wage growth among the working population, so that relative income growth would boost pension income irrespective of when people earned their pay during their lifetimes. It was felt that these goals were best achieved by using per capita wage growth. Accordingly, to ensure financial stability, policymakers added an "automatic stabilizer" mechanism that abandons wage indexation if the stability of the system is threatened (we describe this in more detail below).

Under the NDC, retirement ages are flexible: that is, benefits may be drawn as of age 61. At retirement, annual benefits are calculated by dividing the notional account balance by an annuity divisor. The divisor is determined by the cohort's age 65 life expectancy at retirement, and an imputed real rate of return of 1.6 percent (the expected long-term real growth rate of the economy assumed by the reformers). Since the annual pension benefit is equal to the net present value of benefits using a real interest rate of 1.6, the initial benefit at retirement is higher than if benefits were adjusted fully for economic growth each year (as long as growth rates exceed 1.6 percent). The rationale was to provide a relatively high initial benefit, rather than having an increasing benefit profile after retirement. The divisor is the same for men and women, which implies that a unisex mortality table is used. It is fixed at age 65 and no adjustments are made for cohort changes in life expectancy after age 65. Benefits are also adjusted each year for inflation. Since the initial benefit calculation already includes an implicit rate of return (1.6 percent), the post-retirement indexation takes this into account. For example, if real wage growth were 2 percent and consumer prices changed by 1 percent, benefits would be adjusted by 1.4 percent. On the other hand, if real wage growth fell below the norm, benefits would be adjusted by less than inflation. Over a worker's lifetime, this type of indexation produces the same result as regular wage indexation (Palmer 2002).⁷

Financial Stability. A key goal of the pension reform was to ensure that the system would be financially stable, even if the system faced adverse demographic and economic developments. On the other hand, the system is still a pay-as-you-go program; pension payments are financed by annual contributions. Increasing the contribution rate is not a viable option in the NDC framework, since higher payments automatically boost benefit promises. Therefore, the buffer funds and the introduction of an automatic balancing mechanism are crucial for the system's financial stability.

Buffer Funds. The buffer funds play an important role in the implementation of the new pension system. In the short term, these funds alleviate pressures on the general budget due to the reform. Several programs previously were financed through payroll taxes (the guarantee pension, disability pension, and survivor pension) are now financed through general tax revenues. In order to offset this change, revenue was transferred to the general budget from the buffer funds in 1999, 2000, and 2001. The amount was equal to a one-time transfer of about one-third of the balance in the funds.⁸ The remaining buffer funds are needed to cover projected deficits in benefit financing in the future, when the baby-boom generation starts to retire. Thus, although the pension reform created a pension system that is financially stable in the long run, the reform did not pay for all of the costs of baby boomer retirement.

Since these buffer funds are so important to the system's financial stability, the rules regarding their governance and investment have recently been reevaluated. Currently, fund management practices are similar to those in Canada (Pozzebon, *this volume*). In the past, the Swedish buffer funds have been criticized for sacrificing returns in order to achieve political goals, and in particular, subsidizing housing. Accordingly, the new investment rules require that investments be made using risk and return considerations; economically-targeted investments are disallowed. The guidelines also allow a larger share to be invested in equities than in the past (up to 70 percent of the portfolio) and international assets (up to 40 percent of the portfolio may be exposed to currency risk). Members of the investment boards are appointed by the government and selected on the basis of financial competence.

Automatic Balancing. Because the system is still a pay-as-you-go system it remains sensitive to demographic change. In particular, two features in the design of the system could introduce financial instability: the indexation of benefits to average wage growth rather than to the growth in the total wage bill, and the use of fixed divisors in annuity calculations. In

particular, pension rights and retiree benefits grow with per capita earnings, while contributions are linked to the total wage bill. This makes the system sensitive to shocks: for instance, a decline in the workforce would mean that average wages would grow faster than the total wage bill, so, in turn, benefit payments would grow faster than the contributions financing them.

Another reason why financial imbalances might occur has to do with how the annuity divisor in the NDC is calculated. Annuities are based on a cohort's longevity when it reaches age 65, rather than a projection of that cohort's life expectancy. Further, the divisors are fixed after that point, and not adjusted to take into account changes in *ex post* longevity. If a cohort's actual longevity is longer than anticipated, benefit payments to that the cohort will exceed their total contributions.

An automatic balancing mechanism was designed to deal with these two sources of financial instability without raising taxes. Thus if shortfalls are projected, per capita wage indexation will be reduced, to bring the system back in balance. The idea is that this mechanism will work automatically, so it does not require an explicit action by politicians. The hope was that protecting the pension system from discretionary changes would minimize the risk of manipulation for political gain.

Of course, this automatic balancing mechanism still requires that system financial stability measures can be calculated. Prior to the reform, the National Social Insurance Board traditionally undertook system projections to set contribution rates. The new pension system also specifies the financial information that must be reported, including a system income statement and balance sheet. A balance ratio relating the pension system's assets to its liabilities and summarizes its financial status must also be calculated annually. The balance ratio is defined as follows:

$$\text{Balance ratio} = (\text{Capitalized Value of Contributions} + \text{Buffer Funds}) / \text{Pension Liability}$$

System “assets” consist of the capitalized value of contributions and the current value of the buffer funds. 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 made.⁹ The current turnover duration is approximately 32 years (National Social Insurance Board 2004). The pension liability is thus the system’s current vested liability.¹⁰ 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. If the balance ratio exceeds one, the system has an accumulated surplus. Table 1 shows the financial balance of the NDC for the period 2001-2003.

Table 1 here

The automatic balance mechanism is intended to be activated as soon as the balance ratio falls below one; at that point, indexation of earned pension rights and current benefits will be lowered from average wage growth.¹¹ The indexation will be reduced by multiplying the change in average wage growth by the balance ratio. The reduced indexation will continue as long as the balance ratio is less than one. Currently, the automatic balance mechanism is intended to be applied only in the event of a system deficit. However, under certain economic and demographic conditions, the system might build up a permanent and substantial surplus. In that event, if the surplus becomes too large, the excess would be distributed to participants; not yet resolved is what might be too large.¹²

Transition. The transition to the new system is to take place over 16 years.¹³ The first cohort to participate in the system is the 1938 cohort; it is to receive one-fifth of its benefit from the new system, and four-fifths from the old system. Each succeeding cohort will then increase its participation in the new system by 1/20, so that those born in 1944 will receive

half of their benefit from the new and half from the old system.¹⁴ Workers born in 1954 or later will participate only in the new system, but not until 2040 will benefits be paid fully by the new system. In other words, soon after the baby boom generation has begun to retire in 2015, a large share of benefits will still be paid by the old system, even though new retirees will get most of their benefits under the new system.

The Individual Account – the Premium Pension. The new plan also requires that workers pay 2.5 percent of earnings to a mandatory funded individual account. These accounts are self-directed and participants may invest in domestic and international mutual funds. A new government agency, the Premium Pension Agency (PPM), has been established to administer the funded pillar and acts as a clearing-house. The clearing-house model was chosen to keep administrative costs down by drawing on economies of scale in administration.

Contributions are withheld by employers and submitted to the National Tax Authority. Swedish employers make monthly tax and contribution payments, but they report information on individual earnings on an annual basis. For this reason, individual pension rights cannot be established until each worker has filed his income taxes; these reports must then be consolidated with employer reports, and the process takes an average of 18 months. Until pension rights have been established, pension contributions are placed on an interim basis in a government bond fund at the National Debt Office; after individual rights are determined, participants decide how to invest their funds. Contributions are invested by the PPM in lump sums; fund companies only know the total investment of pension contributions, not the identity of each individual investor. The PPM keeps all individual account and fund share value records. Individuals are allowed to change funds on a daily basis, and all transactions are aggregated by the PPM which then transmits them as a net purchase or redemption to each fund.

The Funds. Policymakers decided to offer investors broad choice in the Premium Pension, so any fund company licensed to do business in Sweden is allowed to participate in the system. Fund companies seeking to participate must sign a contract with PPM that governs reporting requirements and fees. The fee schedule is two-part, involving a money management fee and a fixed administrative fee charged by the PPM. Fund managers charge the same fee for participants in the pension system as they do in the private saving market. Because the account administration is handled by the PPM, costs for fund managers would be anticipated to be lower; managers must rebate to the PPM a share of the fees, which PPM then passes on to participants. The rebate is set by a formula and determined by the level of the gross fees and the size of the fund; popular funds and high-fee funds have to pay a larger rebate.

In order to keep the number of funds manageable, each fund manager is allowed to register a maximum of 15 funds. At the time of the first investment elections in 2000, approximately 460 funds were registered with the PPM (see Table 2). Currently, more than 650 funds participate in the system. About two-thirds are equity funds, and six percent are lifecycle funds, (i.e. funds in which the asset allocation automatically changes as participants approach retirement). About a quarter of the funds invest mainly in Sweden. Almost 60 percent of the funds were established for the Premium Pension system. The average gross fund fees (before rebate) vary from 1.16 percent for the equity funds, to 0.47 percent for the funds that invest only in interest-earning assets. After the rebate, fund fee average 0.43 percent of assets. The fixed administrative fee charged by the PPM is 0.3 percent of assets, resulting in a total cost of 0.73 percent of assets for an average participant. These administrative costs are relatively high compared to, for example, the US Thrift Savings Plan (the individual account plan for federal employees): that has expense ratios of 0.1 percent of assets. On the other hand, fund costs in Sweden are considerably lower than those observed

in Latin American countries with individual accounts (Mitchell 1998). For example, net fees in Chile were 1.36 percent of assets in 1999 (James et al 2001).

Table 2 here

The government also established two additional funds one being a default fund for participants who did not choose a fund, and a second for participants who wanted to make an active choice but also wanted the government involved in the asset management. In initial discussions, reformers suggested that the default would be a low-risk fund mostly invested in interest-earning assets. But policymakers then worried that such a strategy would have a negative effect on the distribution of benefits, if low-income workers were more likely to take the default. Consequently, the default fund's investment strategy was reformulated to mirror the asset allocation of an average investor in the system.

Currently the default fund seeks to achieve a high long-run rate of return at an overall low risk level.¹⁵ That fund follows a fixed allocation of stocks and bonds, where equity holdings cannot exceed 90 percent of the total value and may not fall below 80 percent; of which a maximum of 75 percent may be invested in foreign stock. Other funds may invest 100 percent in equities, but the default must hold a minimum in interest-earning assets. Currently, the default fund holds 65 percent of its assets in international equities and 17 percent in Swedish equities; 60 percent of all assets are managed passively. The money management fee for the default fund is quite low: in 2003, the gross fee was 0.5 percent, and only 0.16 percent after the PPM rebate.

The government-managed fund is also required to incorporate environmental and ethical concerns in its investment decisions. Consequently, the government-managed fund may invest only in companies that follow international conventions (to which Sweden has agreed) on human rights, child labor, environment, and corruption. That fund invests in between 2,000 and 2,500 companies worldwide; when in 2001 the firms were screened the

review indicated that 30 companies violated the screen, which were then excluded from the portfolio.¹⁶ It should be noted that the policy only excludes companies that have violated international conventions, broken laws, or have admitted wrongdoing. No exclusions are to be made on basis of the goods that the company produces; for example, tobacco companies are allowed. Government fund managers do not have voting rights for their holdings.

Investment Behavior. Participants in the Premium Pension plan may choose up to five funds. A participant who makes an active investment choice may not invest any share of the portfolio in the default fund or shift the portfolio to the default at a later date.¹⁷ The first investment election for the Premium Pension occurred in 2000, and the objective was to induce as many participants as possible to make an active choice.¹⁸ Accordingly, the agency launched a large advertisement campaign and actively encouraged participants to select their own portfolios. Private fund managers also offered ad campaigns to attract investors. At that time, some two-thirds of participants made an active investment choice, selecting 3.4 funds on average (see Table 3). The bulk of the contributions were invested in equities: 74 percent of the portfolios for men and 69 percent of the portfolios for women were placed in equity funds. Of course, since lifecycle and balanced funds also include equities, the total share in equities is higher (Säve-Söderbergh 2003). Participants also exhibited “home bias” – almost half of the portfolios were invested in Swedish stocks.

Table 3 here

Women were somewhat more likely than men to make a choice, and as expected, high-income participants were more likely to take an active role than low-income participants. We caution that one cannot draw firm conclusions about the share of participants that actively thought about the investment decision from these results. This is because no action was needed to select the default fund, so one cannot separately identify

those that actively decided that they wanted to invest in the default fund, from those who defaulted into it through lack of taking action.

One surprise has been that the share of participants actively selecting their portfolio allocations has fallen considerably, among new system entrants. For instance, in 2004, only 9 percent of enrollees selected their own portfolios. One explanation might be that new entrants are mostly young workers entering the labor market and far from retirement. Nevertheless, in the first investment period during 2000, close to 60 percent of participants in the same age group selected a portfolio instead of defaulting (Cronqvist and Thaler 2003). One explanation might be that the Premium Pension received much less attention in more recent enrollment periods: advertising fell dramatically, as did private fund manager publicity efforts as compared to the initial election period. Another explanation is that the default fund performed better than the average portfolio. The initial investment selections in 2000 coincided with the peak of the run-up in the stock market, and following that, the stock market tumbled. Since the fall of 2000, the default fund returned -29.9 percent, while the average investor who actively chose funds lost 39.6 percent of his assets (Cronqvist and Thaler 2003).

Annuities. Benefits in the individual account component can be withdrawn from age 61 and annuitization is mandatory. The PPM is the sole provider of funded-system annuities, and participants can select between a fixed or variable annuity. The level of the annuity is based on standard insurance practices, and the PPM uses unisex life tables of persons in the age cohort from the year the calculation is made. The survivor benefit in the funded component is voluntary. If a survivor benefit is elected and the individual dies before retirement (during the accumulation phase), the survivor benefit pays a fixed amount for 5 years. If the individual dies after retirement, the survivor benefit will be paid as a lifelong annuity to the surviving spouse.

Following the pension reform, three of the four occupational schemes also introduced individual accounts to their workers. Contribution rates in these schemes vary between 2.5 and 4 percent, which means that most workers in Sweden now contribute between 5 and 6.5 percent of their earnings to individual accounts.

Information and Education

Since the reform completely changed the pension scheme, it was crucial to provide information to participants during the implementation period. The new system puts more of the risk and responsibility on individuals to plan for retirement, so in 1998 a broad information campaign was launched to educate participants about the new system. This campaign sent to participants a detailed brochure describing the new system, fielded numerous public service announcements on radio and television, and included discussions in newspapers and a website on the reforms. During the campaign, participants also received their first annual account statement for the pension scheme, the “orange envelope.” This orange envelope is sent out annually and includes account information as well as a projection of benefits for the NDC as well as the premium pension.

Following the initial campaign, the annual mailing remains the primary source of information to participants about the pension scheme. It not only provides information about expected benefits, but it also summarizes how the new pension system works and promotes the main message that lifetime earnings determine benefits. For the individual account component, the PPM also sends out annual information on fund choices, investment risk, and fees, and the agency has its own website where participants can review and manage their accounts.

To evaluate the success of information efforts and participant knowledge about the new pension system, the National Social Insurance Board has fielded an annual survey since

1999 (National Social Insurance Board 2003). The most recent survey showed that almost everyone – 93 percent of respondents – knew the public pension had been reformed. Furthermore, about two-thirds of participants say they read at least part of the orange envelope. Yet when respondents were asked to rate how they perceived their knowledge about the system, fewer than 40 percent indicated that they had a good understanding of the new system (Figure 1). About half reported that they had some understanding of the new system but they viewed their knowledge as poor. The share of participants who said that they did not understand the new system at all fell from about 30 percent in 1998, to 13 percent in 2003. Not surprisingly, older individuals were more likely than younger individuals to report that they had good knowledge of the system. Men viewed themselves as more knowledgeable than women, and formal education was positively correlated with system knowledge.

Figure 1 here

Challenges for the Future

One of the most important objectives of the Swedish pension reform was to design a pension system that would be financially stable over time, even when faced with adverse demographic and economic developments. The new system also seeks to provide increased work incentives and give participants a possibility to control some of their pension funds. Next we investigate whether the reform will achieve its goals, and assess the challenges for the future.

Financial stability. While the Swedish reform introduced several features to ensure financial stability, the system is still mainly pay-as-you-go, since pension payments are financed by annual contributions. Because the contribution rate in an NDC scheme is fixed by definition, the system's financial stability then relies on adjusting benefits. This means

that the system shifts the risk of financing benefits from future to current generations (Palmer 2002).

The automatic balancing mechanism adjusts benefits immediately, as soon as the system slips into financial imbalance. It is interesting that the mechanism does not distinguish between financial imbalances caused by temporary downturns, from more serious economic and demographic developments. Thus it is possible that the automatic balancing might be triggered unnecessarily; the benefit impact of such an event would be small, but it could have an impact on the system's political stability. In fact, when the automatic balancing mechanism was introduced, it was described as an "emergency brake" that would only be used rarely and only in situations when the system was in crisis. The result is that when automatic balancing occurs, it may be taken as a signal that the system is in crisis and that people's benefits are threatened. A better strategy might have been to characterize the automatic balancing mechanism as a regular component of the indexation of earned pension rights and benefits. In general, benefits will grow with average earnings but the return can vary the same way the rate of return on capital varies. Because automatic balancing is very likely to occur (the current balance ratio is 1.01), for the system's survival it will be important to change the image of the automatic balancing mechanism.

Benefits. In general, replacement rates will be lower in the new versus the old pension system. The shift from a defined benefit (DB) to a NDC plan makes it difficult to estimate expected benefits. In fact, only 38 percent of participants in 2003 knew that lifetime contributions determined benefits (National Insurance Board 2003). Participants also had poor knowledge regarding the benefit components, and they tended to overestimate the importance of the Premium Pension for the level of benefits. Benefits will also depend on the investment decisions in the premium pension and currently participants' portfolios are almost entirely invested in equities. The average investor today is 42 years old and hence relatively

far from retirement. On the other hand, unless participants reduce their equity holdings as they approach retirement, market volatility could have a negative effect on retirement benefits.¹⁹

Fairness and Redistribution. The new system creates a close link between contributions and benefits for many employees, but for those in the lower half of the wage distribution, this link is broken by the guarantee pension which is offset by the NDC benefit. For low-wage individuals, additional work does not necessarily increase pension benefits one-for-one. The choice of retirement age is also less flexible for retirees dependent on the guarantee pension, since that benefit is only payable from age 65. But a high guarantee pension was important to ensure income security for individuals with no or low earnings. The system also redistributes income from high earners by putting a ceiling on earnings used in determining benefits, while levying the employer payroll tax on full earnings.

The choice to index the system to the change in average wages supplemented by an automatic balancing mechanism has implications for the distribution of benefits between cohorts. The activation of the automatic balancing mechanism reduces the indexation of earned pension rights and current benefits by the same amount. Participants in the beginning of their careers have longer horizons to recoup the loss in benefits compared to retirees who have started to collect their benefits. The expected size of this type of redistribution has not yet been fully examined, but some cohorts are likely bear a larger share of the burden and may demand to be compensated.

Incentives to Work. The retirement age under the new pension is flexible and the increase in benefits from an additional year's work is actuarially fair, which was a design aimed at encouraging incentives to work. Evidence from the US support this view, since they suggest that a DC plan is likely to increase work among older individuals (Abraham and Houseman *this volume*). Furthermore, the Swedish system does not have an age limit for covered

earnings: that is, participants earn pension credits as long as they work. For example, a worker could start collecting benefits, and then return to work and continue earning pension credits. In practice, however, labor market legislation makes it difficult for workers to continue working past age 67; further employers are often unwilling to continue employing workers after age 65. In response to the pension reform, the age limit in labor legislation was increased to 67, but workers are still not covered by sickness and unemployment insurance after the age of 65.

Currently, most workers in Sweden exit the labor market much earlier than age 67 – the average retirement age is approximately 62 (National Social Insurance Board 2000). Several of the occupational schemes provide early retirement incentives, and disability insurance has been used in the past as a path to retirement (Palme and Svensson 1999). As health improves and life expectancies continues to rise, the relationship between the ages stipulated by the pension system and labor legislation may have to be revisited.

Investments Under the Premium Pension System. The individual account component of the Swedish reform was constructed to provide wide investment choice. While at first active involvement was encouraged, more recently the PPM has taken a more passive role and limited its communication to provide information about fund risks and fees. Its objective has been to improve public financial knowledge so that workers can make good investment decisions. The question is whether this strategy will be successful; the US experience has shows that investment decisions are complicated and participants are prone to make mistakes (Munnell and Sundén, 2004). Furthermore, participants are not necessarily better off by choosing their own portfolio from a wide selection of funds (Benartzi and Thaler 2002). Finally, participants who are dependent on the guarantee pension have incentives to follow risky investment strategies in order to try to maximize their Premium Pension benefit because

the level of the guarantee pension is determined by a participant's earnings-related benefit if the full contribution went to the NDC.

Members of Parliament and representatives from the PPM and the default fund have begun discussing the possibility of reducing the number of fund choices offered. It may be difficult to limit the number of funds given that the system had started out with broad choice. Another issue is whether maintaining such broad choice is cost efficient. The fixed administrative fee for the PPM is relatively high, at 0.3 percent of assets (compared to 0.05 percent of assets for the notional accounts), and the money management fee for the default fund is considerably lower than the majority of funds.

The experience with the Swedish Premium Pension makes clear the importance of the default fund. Currently, the fund's investment strategy requires that most of the portfolio is invested in equities. Representatives from the fund have expressed that this strategy needs to be modified and that lifecycle funds should be part of the default's portfolio. The rule that once participants have made an active choice, they cannot return to the default, also needs to be reviewed.

Information and Education. The new system is complicated and surveys of participants show that knowledge is limited about how the system function. A majority of participants is unaware of how benefits are determined, and the notion that the individual account component, Premium Pension, is more important for retirement income than the NDC benefit seems to be widespread. At the same time, participants also report that they need more information. But given the amount of information currently available, more information is probably not the solution. A challenge for the Nation Social Insurance Board is to consider alternative ways of communicating with participants.

Conclusions

The Swedish experience with pension reform provides some important lessons for other countries considering reforming their retirement income systems. One of the most interesting insights was that Swedish policymakers recognized pension systems are dynamic institutions and hence must adjust to changing demographic and economic circumstances. They also recognized that it may be politically difficult to make needed adjustments, or that governments may try to manipulate the pension system for political gain. They therefore sought to “tie politicians’ hands,” by introducing automatic adjustments that would help insulate the system from political risk and contribute to maintain its stability. Of course, the notional defined contribution approach implies that all such adjustments involve changes in benefits. Increasing contributions is not a viable option, because it also increases the benefit promise. If the system comes under financial pressure, this design feature could lead to substantial benefit cuts which in turn could threaten retirement income security. Furthermore, the adjustments of benefits in response to increasing life expectancy implies that individuals will have to work longer to reach a given replacement rate. It is always going to be difficult for some groups, such as those with physically demanding jobs, to extend their work life so these groups may end up with lower replacement rates than in a system that adjusted benefits as well as taxes. The Swedish system provides a minimum guaranteed benefit that is well above the poverty level why adjusting only benefits may be less of a problem than in countries with lower minimum benefits. For such countries, pension schemes in which adjustment take place both on the benefit and the contribution side may be preferable.

The introduction of funded individual accounts was one area of much disagreement in the reform process. In the end, a small funded pillar with very broad investment choice was introduced. Participants were encouraged to choose their own portfolios – in fact,

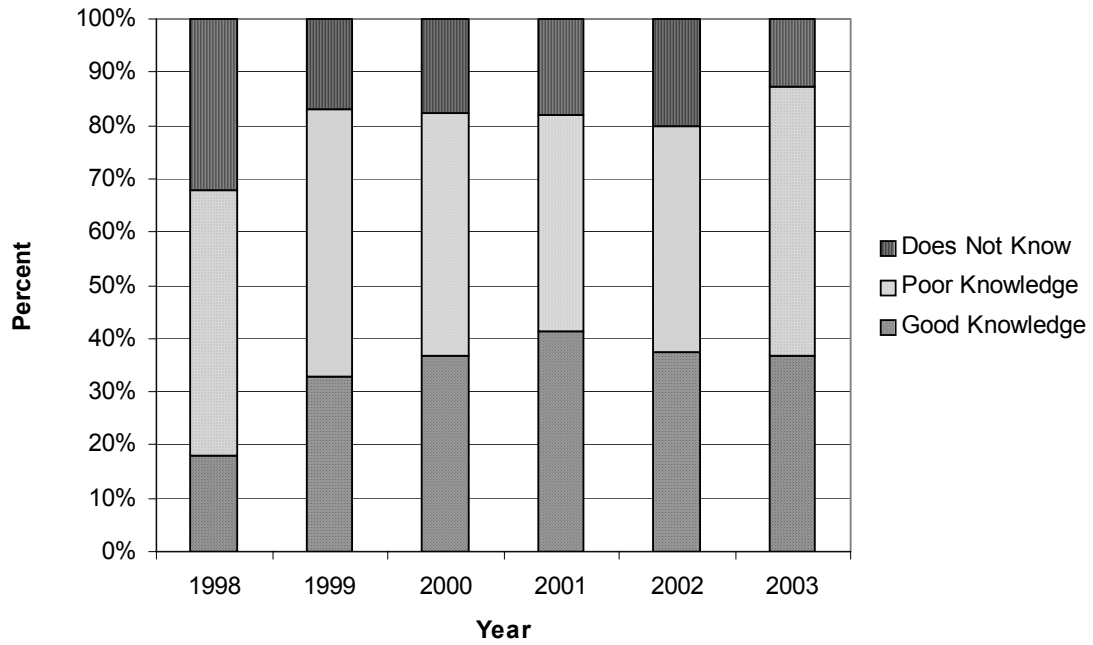
participants were given the impression that they gave up their opportunity to affect their pension benefits by investing in the default fund. However, the investment experiences during the first three years underscore the importance of a well-designed default fund. The sharp decrease after the initial elections in the share of workers making an active choice implies that the Swedish system may have too broad choice. Another topic of keen interest to countries considering the introduction of individual accounts is whether the clearing-house model will be cost-effective in the long run. Plan administration requires a well-developed infrastructure, and plan implementation has been more costly and complicated than anticipated. Finally, it is important to note that funds are not accessible before age 61, to ensure that they are not used for other purposes than retirement; further, annuitization is mandatory when the money is withdrawn.

Overall, the new pension system puts more responsibility on individuals to plan and prepare for retirement. The system is not perfect: it is complicated and the focus on contributions makes it difficult to predict benefits. Information and education are important components of the reform but the Swedish system could be made easier for participants. Finally, although the pension system is constructed to be financially stable, it does not solve the financial pressures associated with the retirement of the large baby boom generation. The transition to the new system was facilitated by the fact that Sweden had accumulated large reserves in the old system in order to meet this obligation.

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Figure 1. Self-Reported Knowledge about the Swedish Pension System

Source: National Social Insurance Board (2003)

Table 1. Assets and Liabilities NDC 2001 and 2002 (Billions of Swedish Crowns)

	2001	2002	2003
Contribution asset	5,085	5,293	5,465
Buffer Funds	56	488	577
Total Assets	5,650	5,780	6,042
Pension Liability	5,423	5,729	5,984
Assets – Liabilities	218	52	58
Balance Ratio	1.0419	1.0090	1.0097

Note: 1 USD = 7 Swedish Crowns

Source: National Social Insurance Board (2004)

Table 2. Distribution of Funds in the Individual Account System

Type of fund	Share (percent)	Average fund fee (percent)
Equity	68	1.16
Balanced equity and interest-earning	10	0.86
Lifecycle	6	0.61
Interest-earning	16	0.47

Source: Säve-Söderbergh (2003)

Table 3. Investment Allocation, Men and Women, 2000

	Men	Women
Average amount invested (Swedish crowns)	19,800	15,500
Number of funds elected	3.4	3.4
Average share of portfolio in:		
Equity funds	0.74	0.69
Balanced funds	0.07	0.09
Lifecycle funds	0.17	0.19
Interest-earning funds	0.02	0.03

Source: Säve-Söderbergh (2003)

Note: 1 USD = 7 Swedish Crowns

Endnotes

¹ The introduction of the public earnings-related scheme primarily affected blue-collar workers in the private sector, because white-collar workers and employees in the public sector were already covered by earnings-related benefits through their occupational schemes. The public earnings-related system was the “jewel in the crown” for the Social-Democratic party and its introduction was only won after one of the toughest political fights in modern Swedish history.

² The Working Group on Pensions was organized along rather unconventional lines for a Swedish commission. It was headed by the Minister for Health and Social Insurance and included high-ranking members of the parties represented in Parliament. However, membership was confined to the parliamentary political parties; no representatives of labor market organizations or retired peoples’ associations were included. Although the labor market parties were not included in the group, a “reference group” consisting of the unions was continuously briefed on the progress of the group.

³ Following the Swedish reform, several other countries have introduced NDC schemes including Italy, Poland and Latvia (Palmer 2002).

⁴ The ceiling is approximately 1½ times the average wage.

⁵ Credits for child rearing are earned until a child is four years old.

⁶ After the reform, the system for earnings-related benefits became a separate system – schemes such as disability insurance that had previously been a part of the pension system were transferred outside. The calculations of disability benefits were changed and linked closer to the scheme for sickness benefits.

⁷ Survivor benefits are provided for outside of the pension system and are temporary.

⁸ Currently the buffer funds amounts to about three times’ the annual benefit payments.

⁹ The inverse of the turnover duration is the discount rate of the flow of contributions.

¹⁰ The calculation of the balance ratio involves only current values and no projections are made for assets and liabilities. Traditional projections of the financial status of the pension system are presented in an appendix to the annual report.

¹¹ To smooth out the effects of temporary downturns, a three-year moving average is used in the calculation of the balance ratio.

¹² During 2004, a government inquiry is analyzed the issue. Their task was to examine the level of the balance ratio at which a distribution can be made without threatening the system's financial stability. Of course, it is not likely that a surplus distribution would occur any time soon; however the reason that the issue is being decided now is the goal of an autonomous system – future governments should not be tempted to use the buffer funds for other purposes than to pay pension benefits.

¹³ The transition period was originally 20 years but it was shortened because the reform was delayed.

¹⁴ Although individuals born in the late 1940s and early 1950s will get 50 percent or more of their pension benefits from the new system, many of their decisions about labor supply (these cohorts have had already been in the work force for 20 years or more) and savings were made under the old system. In part for this reason, the pension rights for the transition cohorts earned in the old system until 1994 are guaranteed in the event their benefits in the new system is lower.

¹⁵ The five-year return should be in the top quartile of the returns for all funds.

¹⁶ The effect on returns was very small. Simulations done by the fund indicates that the portfolio excluding the 30 companies had a rate of return that was 15 basis points lower than the full portfolio.

¹⁷ The reason for this rule was that the center-right parties wanted to limit the government's involvement in money management.

¹⁸ According to the original time table for the reform, the elections should have taken place in 1999 but were delayed due to implementation problems of the computer systems handling the administration.

¹⁹ The experience from 401(k) plans in the United States show that participants exhibit inertia and are not likely to rebalance their portfolios on their own as they age (Munnell and Sundén 2004).