

# HOW WILL SWEDEN'S NEW PENSION SYSTEM WORK?

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## Executive Summary

In 1998, the Swedish parliament passed pension legislation that transformed Sweden's Social Security system to a Notional Defined Contribution (NDC) plan — that is, a defined contribution plan financed on a pay-as-you-go basis. In addition, the legislature established a second tier of funded benefits. This *issue in brief* describes the evolution of the new Swedish pension system and discusses its implications for other countries considering pension reform.

## The Need for Reform

The old Swedish Social Security system provided a flat-rate benefit to ensure income security in old age and a supplementary old-age pension to provide an earnings-related pension. The old Social Security system had several problems:

- *Sensitive to changes in economic growth.* The flat-rate and earnings-related pension benefits, as well as the earned pension rights, were indexed to follow prices rather than wages. Therefore, in times of rapid economic growth the relative value of pension benefits declined. On the other hand, in times of negative growth, pension rights and benefits rose faster than contributions.
- *Principle of compensation for loss of income had eroded.* Indexation to prices also meant that in times of real wage growth successively larger proportions of the population earned the maximum pension benefit. At some point, the earnings-related pension would have become a flat-rate benefit.
- *Unsystematic and inequitable distribution of contributions and benefits.* Contributions were paid on all earnings during a worker's lifetime, while benefits were only based on the 15 years with highest earnings. This policy redistributed income from those with long

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### INSIDE

EXECUTIVE SUMMARY .....	1
INTRODUCTION .....	4
THE SOCIAL SECURITY SYSTEM .....	4
THE NEED FOR REFORM .....	5
THE NEW PENSION SYSTEM .....	7
WILL THE REFORM ACHIEVE ITS GOALS? ...	12
CONCLUSION .....	13
REFERENCES .....	15
TABLE 1: INDEXATION OF PENSION BENEFITS AFTER RETIREMENT .....	9
TABLE 2: PERCENT OF PENSION BENEFIT RECEIVED FROM NEW SYSTEM .....	11
FIGURE 1: OFFSET BETWEEN INCOME PENSION AND GUARANTEE PENSION .....	11

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working lives and flat life-cycle income (typically low-income workers) to those with shorter work histories and rising earnings (typically high-income workers).

- *Labor market distortions.* The benefit formula implied that reducing labor force participation did not necessarily translate into lower pension benefits.

## The New Pension System

The reform process began in 1991 when Parliament appointed a group to propose how to reform the current pension system. It was important that the proposal have broad political support so that the new system would be insulated against future changes. Because of the need for consensus, the group faced strong pressures to find a compromise. The proposal was presented in 1994 and passed “in principle” by Parliament. Between 1994 and the spring of 1998, a “working group” was assigned to work on the details of the reform and write the proposal into law.

The objective for the pension reformers was to design a fiscally sustainable pension system tied to economic growth with a clear link between contributions and benefits. The reformers wanted a system in which the contribution rate could remain unchanged in the long run. It was also important that the system continue to be a public, mandatory system. The new pension system is a defined contribution system financed primarily on a pay-as-you-go basis but with a funded component.

Under the new system, the *income pension* will replace the current earnings-related pension. The income pension will be a defined contribution scheme with a contribution rate of 18.5 percent: 16 percent of earnings will be credited to a “notional” account and the remaining 2.5 percent will be contributed to an individual account. The retirement age will be flexible; benefits can be

paid out starting at age 61, and at retirement the account balance will be converted to an annuity. Benefits will be indexed to life expectancy for successive cohorts of retirees. For individuals with no or low pensions, the pension system will provide a *guarantee pension*. Unlike the current flat-rate benefit, the guarantee pension will be means-tested and offset by the income pension.

## Will the Reform Achieve Its Goals?

*Financial Stability.* The long-term financial stability in the system is ensured by linking earned pension rights to economic growth and by linking benefits to life expectancy. However, the system is still a pay-as-you-go system; the government has to cover its pension liability through annual contributions. This makes the system sensitive to changes in the relative size of cohorts. Increasing the contribution rate is not a viable option in the NDC framework since it automatically increases benefit promises proportionately. This differs from the United States’ situation where benefits go up less than proportionately because of the progressive benefit formula.

*Fairness and Redistribution.* The notional defined contribution system creates a clear link between contributions and benefits. In contrast to the old system, benefits in the new pension system are determined by lifetime contributions. However, for workers in the lower half of the wage distribution, the link between contributions and benefits is blurred because of the offset between the income pension and the guarantee pension.

Redistribution is an important goal in Sweden’s pension policy. The guarantee pension ensures income security for individuals with no or low incomes. At the same time, the system redistributes income from high earners by putting a ceiling on earnings used in determining benefits but levying the employer payroll tax on full earnings.

## Conclusion

The design of the Swedish pension is new and, following Sweden, several other countries have adopted similar systems. Is the NDC plan a model to follow?

*Transition.* The new pension system is tied to economic growth, making it financially stable in the long run. However, it does not solve the financial pressures associated with the retirement of the large baby boom generation since the system is still financed on a pay-as-you-go basis. The transition to the new pension system is made possible by the fact that Sweden has accumulated large reserves in order to meet pension obligations for the baby boom generation.

*Benefits.* Pension benefits in the NDC plan are determined by how much is contributed over the lifetime. The focus on contributions makes the benefit side less transparent in the new pension system. Benefits are indexed to life expectancy and as individuals live longer, annual benefits will be lower for a given retirement age. This means that individuals will have to work longer and save more on their own to provide for retirement.

*Information and Education.* Overall, the new system puts more responsibility on individuals to plan and prepare for retirement. Information and education therefore become important components of the system.

*Funded Component.* The new system includes a funded pillar in which individuals can direct their own investments. Since the funded pillar is small, it will be crucial for the system to be efficient and administrative costs to be low. A new government agency, the Premium Pension Agency, will administer the funded pillar. The agency's operation and costs will provide important lessons on the possibility of introducing a funded pillar of this size.

## Introduction

On June 8, 1998 the Swedish Parliament passed pension legislation that transformed Sweden's Social Security system to a Notional Defined Contribution (NDC) plan—that is, a defined contribution plan financed on a pay-as-you-go (PAYG) basis. In addition, the legislature established a second tier of funded benefits. The new pension system went into effect in 1999 with the first benefit payments scheduled in 2001. During a transition period, benefits will be paid both from the old and the new systems.

As in many other countries, reform discussions were motivated by the aging of the population. The Swedish system was also sensitive to economic growth. The reform process began in 1991 when Parliament appointed a group to propose how to reform the current pension system. It was important that the proposal have broad political support so that the new system would be insulated against future changes, and, because of the need for consensus, the group faced strong pressures to find a compromise. The proposal was presented in 1994 and passed “in principle” by Parliament. Between 1994 and the spring of 1998, a “working group” was assigned to work on the details of the reform and write the proposal into law.

This *issue in brief* describes the evolution of the new Swedish pension system. The first section outlines the old pension system and discusses the need for a reform. The next section describes the reform process and a discussion of the features of the new pension system follows. The paper concludes with a discussion of the implications of Sweden's reform for other countries considering pension reform.

## The Social Security System

The retirement income system in Sweden consists of two parts: public national pensions (Social Security) that cover all individuals, and pensions that build on contractual agreements between the labor market organizations (negotiated or occupational pensions) similar to private pensions in the United States.<sup>1</sup> Social Security is a public scheme that covers all Swedish residents. The old Social Security system provided a flat benefit (introduced in 1913) to ensure income security in old age and a supplementary old-age pension (introduced in 1960) to provide an earnings-related pension.<sup>2</sup> Separately from the Social Security system, municipalities provide a means-tested supplementary housing allowance. The following discussion focuses on the public Social Security program.

### Benefits

The flat benefit (FP) was intended to provide basic support during retirement, while the supplementary old-age pension benefit (ATP) was designed to replace lost income. The ATP benefit is based on an individual's 15 years of highest earnings, requires 30 years of labor force participation for a full pension, and replaces 60 percent of earnings up to a ceiling. Individuals with no or very low ATP received an additional benefit, the pension supplement, which was about 50 percent of the FP benefit.

Benefits, as well as wages on which pension rights were computed, were indexed for inflation. Benefits are taxed as regular income, although individuals with low pension income used to receive an extra deduction. The normal retirement age was 65, but, with an actuarial adjustment, benefits could be postponed until age 70 or withdrawn early from age 60. Partial retirement

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<sup>1</sup> There are four main negotiated plans: for national government workers; for local government workers; for salaried (white-collar) workers in the private sector; and for hourly-wage (blue-collar) workers in the private sector. Generally they replace 10-15 percent of income in addition to the public pensions, but most of these plans also have provisions to cover income above the Social Security ceiling. The negotiated pensions are financed through payroll taxes and, in the case of the plans for government workers, through general tax revenues.

<sup>2</sup> Prior to 1960, local and state employees had been covered by earnings-related pensions, but there was no universal coverage.

allowed workers to reduce the number of hours worked and receive pension benefits in place of lost earnings. In addition to Social Security, most working individuals are covered by negotiated pensions, based on collective bargaining contracts between employers and employees.

### Financing

The FP and ATP benefits were financed primarily through payroll taxes levied on the employer. The payroll taxes for the FP and ATP systems were 5.86 percent and 13 percent respectively in 1997 (National Social Insurance Board 1999).<sup>3</sup> The financing for the FP benefit was supplemented by general tax revenues. Although pension rights are earned only up to a ceiling, the payroll tax was levied on the full income. The ATP system is basically a pay-as-you-go system but with some partial funding. When the ATP pension was established in 1960, the level of contributions was set higher than the rate needed to cover benefit payments in order to: (1) act as a buffer against cyclical shifts in contributions; and (2) offset the expected decrease in private saving following the introduction of the ATP system. The surplus in the ATP system is held in reserve in the National Pension Funds (AP funds).<sup>4</sup> Currently, reserves are about 40 percent of GDP; equivalent to approximately five times annual ATP payments.

The major part of these reserves (85 percent) is invested in low-risk assets, mainly government bonds and housing bonds. The nominal rate of return on these assets was 6.7 percent in 1997. The remainder of the reserves (15 percent) is invested in equities through funds established especially for this purpose in 1974. Investments are mainly in domestic equities; foreign investments cannot exceed 10 percent of the assets. The overall rate of return on all funds was 9 percent in 1997 (Ministry of Finance 1998).

## The Need for Reform

The old Social Security system had several problems:

- *Sensitive to changes in economic growth.* The pension benefits as well as the earned pension rights were indexed to follow prices rather than wages. The absence of a link between benefits and real wage growth of the working population made the system sensitive to economic growth. In times of rapid economic growth, the relative value of pension benefits declined. On the other hand, in times of low or negative productivity growth, the relative value of benefits increased since earned pension rights and benefits rose faster than wages and contributions.
- *Principle of compensation for loss of income had eroded.* Only income up to a ceiling counts toward pension rights. Since the ceiling was indexed to follow consumer prices, real wage growth meant that successively larger proportions of the population earned wages above the ceiling. This meant that at some point, the ATP system would have become a flat-rate benefit and no longer a source for income replacement. Government estimates show that at two-percent real growth, approximately 50 percent of all men and 20 percent of all women would have had incomes above the ceiling in 2020 (Ministry of Health and Social Affairs 1994).
- *Unsystematic and inequitable distribution of contributions and benefits.* The connection between contributions and benefits was weak. Contributions were paid on all earnings during the lifetime, while benefits were only based on the 15 years with highest earnings. This type of formula redistributes income from those with long working lives and flat life-cycle income (typically low-income workers) to those with shorter work histories and rising earnings (typically high-income workers).

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<sup>3</sup> In 1998, the levy of the payroll tax was changed in preparation for the new pension system so that the tax is now levied equally on employers and employees.

<sup>4</sup> Currently there are six AP funds, each with its own investment board.

- *Labor market distortions.* The contribution to the basic pension was a pure tax since the benefit was paid irrespective of labor force participation. Since the ATP benefit was based on only 15 years of earnings, the ATP contribution was a mix between tax and actual contribution. This meant that reducing labor force participation did not necessarily translate into lower pension benefits.
- *Weak incentives to save.* The PAYG system may reduce national saving, although this is an empirical question. Studies for Sweden (Ståhlberg 1988) suggest that the pension system has had a negative effect on the savings rate, even though the system is partially funded.<sup>5</sup>

### The Reform Process

The government appointed a commission (The Pension Commission) in 1984 to study the Social Security system. The Commission worked for the rest of the decade, concluding that the Swedish pension system was bound to run into serious financial difficulties around 2020. The Commission presented its report in late 1990 making some proposals on how to reform the system. The Commission suggested keeping the framework of the system unchanged, but introducing indexation tied to economic growth rather than prices. The proposal also called for an increase in the retirement age and longer labor force attachment for a full pension (The Pension Commission 1990).<sup>6</sup>

In the elections in the fall of 1991, the Social-Democratic government was defeated and replaced by a four-party non-Socialist government. Pension reform became a high priority, and the new government appointed a parliamentary group with representatives of all seven parties then in the Parliament. The group, which was headed by the Minister of Social Policy, was organized along rather unconventional lines for a Swedish public

review body. Membership was confined to the parliamentary political parties; no representatives of labor market organizations or retired peoples' associations were included.<sup>7</sup> The group used the original Pension Commission's report as a starting point and employed experts and academics as well as the National Social Insurance Board, the Ministry of Health and Social Affairs, and the Ministry of Finance to examine the issues.

The group considered several alternatives. One suggestion was to make changes along the lines proposed by the original Pension Commission. This suggestion was rejected because it would have been only a temporary fix implying continued uncertainty about the system—it was deemed important to have a pension system that was considered robust and stable to political risk. Another alternative was to introduce a fully-funded system, but the tax increase required to build up such a system was viewed as too large.<sup>8</sup> The group also discussed whether the system should be privatized, a proposal supported by the Conservatives, but the Social-Democrats strongly argued to keep the system public. Because an important goal of the reform process was to present a proposal for reform that all parties could support, the group faced strong pressures to find a compromise that had broad support. The non-Socialist parties were also under pressure to avoid an argument over the design of the pension system that could threaten the stability of the government (Karlsson 1998).

The Pension Group presented its reform proposal to Parliament in June 1994. The new system would remain pay-as-you-go but it would be based on contributions rather than benefits. It would continue to be a public system but also include a small private individual account component. The reform proposal was supported by the four non-Socialist government parties and the Social-Democratic opposition, comprising almost 90 percent of the Parliament.<sup>9</sup>

<sup>5</sup> This result differs from some empirical studies. For an overview, see for example Engen and Gale (1997).

<sup>6</sup> The Commission suggested that benefits should be based on the 20 years with highest earnings and that 40 years should be required for a full benefit.

<sup>7</sup> Although the labor market parties were not included in the group, a "reference group" consisting of the different unions was continuously briefed on the progress of the group.

<sup>8</sup> To cover current pension liabilities, a fund would need to be approximately three times GDP, and the institutional investors in charge of the fund would be very powerful.

<sup>9</sup> Two smaller parties, the Left Party and the New Liberals, did not support the proposal. The Social-Democrats regained power in the fall of 1994.

Parliament passed the proposal “in principle” and appointed a “working group” to examine unresolved issues and write the reform into law. This group consisted of the five parties that were behind the reform. Not only did many difficult issues need to be resolved, but also, during 1995, the reform proposal was met with serious opposition within the Social-Democratic party as many of the labor unions were against the proposal.<sup>10</sup> The Social-Democratic party did not agree to support the pension reform until 1997, which delayed the work on implementation. Although the new system originally was scheduled to go into effect in 1997, the Working Group did not present the final reports until the spring of 1998, and Parliament did not pass the legislation until June 8, 1998. Because some remaining issues had not been resolved, the Working Group continued through 1999.

## The New Pension System

The objective for the pension reformers was to design a fiscally sustainable pension system tied to economic growth with a clear link between contributions and benefits. The reformers wanted a system in which the contribution rate could remain unchanged in the long run. It was also important that the system continue to be a public, mandatory system. The new pension system is a defined contribution system financed primarily on a pay-as-you-go basis but with a funded component (Ministry of Health and Social Affairs 1994; Palmer 1998; Scherman 1999; Ståhlberg 1995).

The *income pension* will replace the current earnings-related pension, ATP. The income pension will be a defined contribution scheme with a contribution rate of 18.5 percent (levied equally on employers and employees—the employee part will only be levied on income up to the ceiling while the employer part will be levied on the full income): 16 percent of earnings will be credited to a “notional” account and the remaining 2.5 percent will be contributed to an individual account.<sup>11</sup> An individual will earn pension rights from labor income as well as from income from transfers, such as unemployment insurance and disability insurance. In addition, individuals will earn pension rights for years spent in the military service and at home caring for small children. Hence, the lifetime earnings profile will determine benefits. The retirement age will be flexible; benefits can be paid starting at age 61, and at retirement the account balance will be converted to an annuity.

For individuals with no or low pensions, the pension system will provide a *guarantee pension*. The guarantee pension replaces the current FP benefit and pension supplement. Unlike the FP benefit, the guarantee pension will be means-tested and offset by the income pension. It will be payable only from age 65. The guarantee pension will be funded completely from general tax revenues.

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<sup>10</sup> In terms of the substantive issues, one of the biggest hurdles was how to compensate workers for the increase in payroll taxes. In the new system, the payroll tax was to be divided equally between employers and employees, implying an increase for employees.

<sup>11</sup> The notional account is a virtual account in which the workers' contributions are recorded. Each year the account balance is increased by contributions and the rate of return.

## The Notional Defined Contribution Plan *Contributions and Rate of Return on Accounts.*

Although the main part of the pension system will continue to be a PAYG system, it was important that contributions to the system determine the level of benefits. In order to achieve this goal, each individual has a notional defined contribution account to which 16 percent of earnings up to a ceiling are credited. The account balance grows with annual “contributions” and the rate of return on the account. In order to link earned pension rights to wage growth of the active population, the rate of return is tied to per capita wage growth through an index, the *income index*.<sup>12</sup>

The goals were to ensure that earned pension rights followed the growth in average wages for the active population, and that individuals’ relative income had the same effect on their pension income irrespective of when they earned it during their lifetime.<sup>13</sup> It was deemed that these goals were best achieved by using per capita wage growth rather than total wage growth as a measure of the rate of return (Ministry of Health and Social Affairs 1998). One disadvantage with an index based on wage growth per capita, however, is that when the workforce decreases, benefits and pension rights will grow faster than the contribution base from which benefits are paid.

In order to deal with this possible instability, the policymakers built a “brake” into the indexation of the system. The “brake” allows the indexation to be abandoned if the size of the implicit pension debt exceeds a critical value. The critical value is the sum of the maximum pension debt (the implicit debt calculated using an index based on total wage growth) and the balance of the AP funds (Ministry of Health and Social Affairs 1999).<sup>14</sup>

The administrative costs for the NDC will be deducted from each individual’s account balance.<sup>15</sup> Account balances for individuals who die before retirement age will be distributed among the individuals in the given cohort. The account balance will be adjusted on an annual basis for each cohort.

### *Computation of Benefits at Retirement.*

Retirement benefits in the new pension system can be withdrawn any time after age 61. At retirement, the balance in the notional account will be converted to an annuity by dividing the balance by a “division” number. This number is determined by average life expectancy at retirement for a given cohort and an imputed real rate of return of 1.6 percent, which is both the projected long-run rate of return and the expected real growth rate of the economy. Since the annual pension benefit is equal to the net present value of benefits using a real interest rate of 1.6 percent, the initial pension benefit at retirement is higher than if benefits were adjusted for economic growth each year. The annuity is equal for men and women. No adjustments will be made to benefits for changes in life expectancy after age 65 even if the life expectancy is adjusted up or down.<sup>16</sup>

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<sup>12</sup> Two measures of wage growth were considered: (1) total wage growth; and (2) per capita wage growth.

<sup>13</sup> In order to smooth the effects of the business cycle, wage growth is computed as a moving average over three years.

<sup>14</sup> By the same token, if the system accumulates surpluses that are “too large,” the excess surplus will be distributed among the participants.

<sup>15</sup> Deduction of administrative costs will be phased into the system since the first generations participate both in the old and

the new system. Starting in 2021, 100 percent of administrative costs will be deducted. Administrative costs will be estimated by the National Social Insurance Board and will be shown on the annual statement sent to participants. Currently, administrative costs for the Social Security system are less than 1 percent of annual contributions.

<sup>16</sup> If an individual retires before age 65, a preliminary division number is used; the final division number is determined for each cohort for the year the cohort turns 65.



Post-retirement benefits will be adjusted each year for inflation. Since the initial benefit calculation already includes an implicit rate of return of 1.6 percent, the pension benefit will be price indexed plus/minus the deviation from this growth norm. Table 1 provides an example of the indexation of post-retirement benefits. If real wage growth in the economy is equal to 1.6 percent, pension benefits will be adjusted by the full price increase (column 1). However, if growth falls below the norm, pensioners will not be compensated fully for price increases (column 2).

**Table 1:** Indexation of Pension Benefits after Retirement

Wage Growth:	Equal to Norm (1)	Less than Norm (2)	Greater than Norm (3)
Real wage growth	1.6%	0.5%	2.5%
Deviation from 1.6 percent growth norm	0.0	-1.1	0.9
Inflation	2.0%	2.0%	2.0%
Pension benefits changed by	2.0%	0.9%	2.9%

## The Funded Component

In addition to the NDC, 2.5 percent of earnings will be contributed to a funded individual account. The accounts are self-directed and the participants can invest in domestic as well as international funds. A new government agency, the Premium Pension Agency (PPM), will administer the funded pillar and will also be the sole provider of annuities within the funded system. However, the PPM will draw on the resources and administrative structures already in place at other government agencies.

The policymakers decided a new agency was needed since the funded pillar would include a broad range of new activities that would have been difficult to undertake within the realm of the National Insurance Board. In addition, a central agency could keep administrative costs of the funded pillar down by drawing on economies of scale in administration, such as collecting contributions, recordkeeping, and providing information to participants. Experience with individual accounts indicates that administrative costs can be very high, in particular when participants have broad investment choices.<sup>17</sup>

Contributions to the funded pillar will be collected by the National Tax Authority. In preparation for the new pension system, this agency has been collecting contributions since 1995; currently, contributions total approximately 50 billion crowns (\$6.25 billion) and are projected to exceed 500 billion (\$65.5 billion) in 2020 (Premium Pension Agency 1999). The funds are invested in low-risk government bonds until individual pension rights have been established. Individual pension rights are established when employer and employee tax statements have been consolidated, which takes an average of 18 months.<sup>18</sup> When this consolidation occurs, participants will select how to invest their account balances. An individual will be able to invest in up to five domestic or international funds that are registered to do business in Sweden.<sup>19</sup> Funds that wish to participate must sign a contract with the PPM. The contract governs the fee structure for the fund, reporting requirements, and the information that the fund has to provide to participants.

<sup>17</sup> For example, in Chile administrative expenses were 15.6 percent of contributions in 1997 (Mitchell 1998).

<sup>18</sup> Currently, employers pay Social Security contributions on the aggregate wage sum on a monthly basis. It is not possible to separate what a given individual has contributed until tax forms have been filed.

<sup>19</sup> The first investment elections were scheduled to take place in 1999. However, the implementation of the administrative systems at the PPM has been delayed. The implementation was more complex than anticipated, and the original timeframe could not be kept.

The fee schedule is complex. Funds will charge the same fees for participants in the pension system as in private markets. But since most of the administration of the accounts is undertaken by the PPM, the actual cost for the fund managers should be lower than in the private markets. Therefore, funds have to rebate the PPM a share of the fees, and the PPM then passes on the savings to participants. The size of the rebate is set by a formula and is determined by the fees the fund charges and the size of the fund; popular funds and high-cost funds have to pay a larger rebate. The rebate is then distributed among workers. The main part of the total rebate will be distributed to participants based on the fees for the funds that the participants have chosen. The remaining part of the rebate will be divided equally among all participants. A result of the fee structure is that high-fee funds will pay relatively more in rebates than what their customers will receive in return. The fee structure creates an incentive for workers to participate in low-fee funds, and for high-fee funds not to participate in the system. In addition to management fees, an asset-based annual fee will be levied on participants for the administration of the funded pillar.

For individuals who do not make a choice, an additional AP fund will serve as a default option. The investment allocation for the default option is still being discussed but will be weighted toward low-risk investments. As an alternative choice to private funds, a government fund will be established. Workers are allowed to change funds at any time but must bear the cost of the switch, which is estimated to be about 75 crowns (\$10).

The contributions will be invested by the PPM in lump sums; hence the fund companies will only know the total investment of pension contributions, not who the individual investors are. The PPM will keep all account records and is also responsible for distributing year-end account statements. At retirement, any time after age 61, the account balance will be converted to either a fixed or variable annuity with survivor options using standard insurance practices. The PPM will be the sole provider of annuities.

### The Guarantee Pension

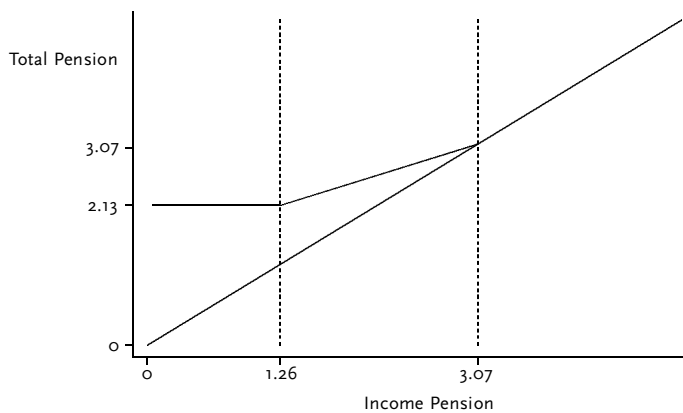
The guarantee pension is a means-tested benefit, payable at age 65. The guarantee pension is offset by the income pension an individual collects; at low levels of income pension, the offset is one-for-one and then declines. Figure 1 illustrates how the guarantee pension is determined (the amounts refer to a single individual). The pension benefit is expressed in base amounts, a reference amount that is used for all social insurance programs to establish benefits, pension rights, etc.<sup>20</sup> Individuals with an income pension of 1.26 base amounts or less—equivalent to approximately 20 percent of the average wage—receive the base guarantee pension of 2.13 base amounts (about one-third of the average wage). Married individuals receive 1.9 base amounts. If the income pension is between 1.26 base amounts and 3.07 base amounts (45 percent of the average wage), the worker receives the earned income pension plus a share of the guarantee pension. Because the guarantee pension is quite generous, estimates show that approximately 40 percent of retirees will collect at least some pension income from the guarantee benefit (Ministry of Health and Social Affairs 1994).

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<sup>20</sup> The base amount is adjusted annually for price increases. In 1999, the base amount was 36,400 crowns (about \$4,550).

The purpose of the guarantee pension is to ensure income security in old age. However, the design of the guarantee pension distorts the link between contributions and benefits under the NDC. For individuals with very low income, contributions are a pure tax since the basic guarantee is paid out irrespective of work effort. For individuals receiving part of their benefit from the income pension and part from the guarantee pension, an increase in work effort will not increase the benefit one-for-one (see Figure 1). Women are most likely to be affected by this provision, since women on average earn less than men and often work part-time. Unlike the income pension, the guarantee pension will be indexed to prices. This implies that real wage growth will reduce the share of the guarantee in total pension income over time.

Figure 1: Offset Between Income Pension and Guarantee Pension (in Base Amounts)



### Transition

The new system became effective in 1999 with the first benefit payments scheduled in 2001. The transition to the new system will be implemented over 16 years (originally the transition period was 20 years, but was shortened as the reform was delayed). The first group to participate in the new pension system is the cohort born in 1938, and individuals born in 1954 or later will participate in the new system only. Table 2 shows how the new system will be phased in.

Table 2: Percent of Pension Benefit Received from New System

Birth Year	Benefits from new system
Before 1938	receive full benefit from old system
1938	20 percent
1947	50 percent
1953	95 percent
1954 and later	100 percent

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 generations have already been in the workforce for 20 years or more) and savings have been made under the old system. In part for this reason, the pension rights for the transition generations earned in the old system until 1994 are guaranteed in the event their benefits under the new system are lower. It is not until around the year 2040 that benefits will be paid completely from the new system.

In 2015, soon after the baby boom generation has begun to retire, even though new retirees will get most of their benefits under the new system, a large share of benefits will still be paid from the old system. Also, financial pressures will remain because of the relative size of the baby boom generation, and there are projected deficits in the new pension system. In order to cover these deficits, the buffer funds play a crucial role.

## The Role of the Buffer Funds in the New Pension System

The amounts accumulated in the buffer funds (the AP funds) play an important role in the implementation of the new pension system. In the short term, the funds will alleviate pressures on the general budget from the reform. In the long term, the buffer funds are needed to cover expected deficits in the financing of benefits when the large baby boom generation starts to retire in 2010.

The transition to the new pension system puts an increased burden on the general budget. Several programs (the guarantee pension, disability pension, and survivor pension) that previously were financed through payroll taxes will now be financed through general tax revenues. In addition, the cost for pension rights earned during military service and child care years will be financed from general tax revenues. In order to offset this burden, funds will be transferred from the AP funds to the general budget in 1999, 2000, and 2001. The amount is equal to a one-time transfer of about one-third of the balance in the funds (258 billion crowns).<sup>21</sup>

Given the importance of the buffer funds for the stability of the system, the governance and investment rules for the AP funds have been reevaluated.<sup>22</sup> The AP funds have, in the past, been criticized for sacrificing returns in order to achieve political goals, in particular subsidizing housing. Beginning in 2001, investment guidelines require that investments be made on risk and return considerations only. The new investment rules will also allow a larger share to be invested in equities and international assets.<sup>23</sup> The members of the investment boards are appointed by the government and selected on the basis of financial competence.<sup>24</sup>

## Will the Reform Achieve Its Goals?

One of the most important objectives of the pension reform was to design a pension system that would be financially stable over time, even when faced with the most adverse demographic and economic developments. Furthermore, the system should be fair in its treatment of individuals with different earnings histories but also provide income security in old age. The pension reformers wanted to design a system in which contributions determined benefits. This would argue for a defined contribution plan. At the same time, it was decided that the system should remain pay-as-you-go in order to avoid a major tax increase. The result is an innovative hybrid, the notional defined contribution plan. Will the NDC, as it is implemented in Sweden, achieve its goals?

### Financial Stability

The long-term financial stability of the system is ensured by linking earned pension rights and indexation to economic growth. Furthermore, the calculation of benefits is indexed to life expectancy. However, the system is still a pay-as-you-go system; the government has to cover its pension liability through annual contributions. This makes the system sensitive to cyclical demographics and changes in the fertility rate. Sweden has accumulated buffer funds to cover projected deficits, but if these prove inadequate, Sweden may have to issue debt. Increasing the contribution rate is not a viable option in the NDC framework since it automatically increases benefit promises. In designing an NDC, it is therefore important that the contribution rate is set to ensure financial stability in the long run. Simulations done for Sweden show that the system will be stable in the long run at the set contribution rate of 18.5 percent (Palmer 1998).

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<sup>21</sup> An additional transfer in 2005 has been approved if needed; however, the total transfer cannot exceed 350 billion crowns (as a one-time transfer).

<sup>22</sup> In the new organization, Funds 1-5 will be reorganized into four funds of equal size. Fund 6 will remain. Each fund has its own investment board.

<sup>23</sup> At least 30 percent of each fund has to be invested in interest-earning assets. Each fund can own no more than 2 percent of the total value of the companies listed on the Stockholm Stock Exchange and no more than 10 percent of a given company. No more than 40 percent of the assets can be exposed to currency risk.

<sup>24</sup> The newly elected chairman of one of the AP funds resigned after he was criticized for not having sufficient qualifications.

A potential source of fiscal instability in the design is the fact that the rate of return on pension rights is tied to per capita wage growth rather than total wage growth. An automatic adjustment, the “brake,” will be applied to the rate of return and indexation if the financial stability of the system is threatened. This feature protects the financing but may expose the system to a higher degree of political risk (Disney 1998).

### Fairness and Redistribution

The notional defined contribution system creates a clear link between contributions and benefits. In contrast to the ATP system, benefits in the new pension system are determined by lifetime contributions. At retirement, the income pension is neutral to the choice of work and leisure—the increase in benefits from an additional year’s work is actuarially fair. However, for workers in the lower half of the wage distribution, the link between contributions and benefits is blurred because of the offset between the income pension and the guarantee pension. For these individuals, additional work does not necessarily increase pension benefits one-for-one. The choice of retirement age is also less flexible for the group dependent on the guarantee, since it is only payable from age 65.

Redistribution is an important goal in Sweden’s pension policy, and the desire to create a clear link between benefits and contributions has been combined with the redistribution goals. The guarantee pension ensures income security for individuals with no or low incomes. However, some of the contributions for individuals who receive both the guarantee and the income pension are a pure tax. The system also redistributes income from high earners by putting a ceiling on earnings used in determining benefits but levying the employer payroll tax on full earnings. Overall, the new pension system creates a more systematic and equitable distribution of contributions and benefits.

## Conclusion

The Swedish experience with pension reform provides some important lessons. The reform process took almost a decade—reaching consensus was sometimes difficult. The design, the notional defined contribution plan, is new and, following Sweden, several other countries have adopted similar systems. Is the NDC plan a model to follow?

### Transition

One of the main reasons for reform was the sensitivity of the old pension system to economic growth. The new pension system is tied to economic growth, making it financially stable in the long run. However, it does not solve the financial pressures associated with the retirement of the large baby boom generation since the system is still financed on a pay-as-you-go basis. The transition to the new pension system is made possible by the fact that Sweden has accumulated large reserves in order to meet pension obligations for the baby boom generation.

### Benefits

Pension benefits in the NDC plan are determined by how much is contributed over the individual’s lifetime. The focus on contributions makes the benefit side less transparent in the new pension system. In the old system, the benefit formula clearly indicated the replacement rate, and it was relatively easy for workers to estimate expected benefits at retirement. This estimation is much more difficult in the new system. Furthermore, benefits are indexed to life expectancy and, as individuals live longer, annual benefits will be lower for a given retirement age. This means that individuals have to work longer and save more on their own to provide for retirement. Part of the benefits (although a small part) is also directly dependent on investment choices that individuals make.

## Information and Education

Overall, the new system puts more responsibility on individuals to plan and prepare for retirement. Information and education therefore become crucial components of the system. In order to inform and educate the population about the new pension system, the National Social Insurance Board launched a large information campaign during 1999. All citizens received information materials in the mail with an annual statement of expected pension benefits. A survey by the National Social Insurance Board indicates that a majority of households had read the information materials but that only one-third of households had some knowledge about the new pension system and very few households had detailed knowledge (von Zweigbergk 1999). This result may not be surprising since the new Social Security system has just started. The challenge will be to increase knowledge of the new pension system over the next few years.<sup>25</sup> Additional information campaigns will follow in 2000 and 2001, and, as part of the system, participants will receive annual statements of their account balance both in the notional account and the funded account.

For the funded component, additional information on fund choices, investment risk, and fees will be provided. Since the investment choice has been delayed until the fall of 2000, it is unclear how well workers will understand this component and how they will invest. The Swedish experience will provide lessons about investment behavior and the role of financial education in self-directed plans.

## Funded Component

The new system includes a funded pillar in which individuals can direct their own investments. Since the funded pillar is small, it will be crucial for the system to be efficient and administrative costs to be low. The operation and costs of the Premium Pension Agency will provide important lessons on the possibility of introducing a funded pillar of this size. However, the proposed fee structure is complex, which suggests that the most likely funds to participate will be bond funds, large-cap funds, and index funds. In this case, a more efficient and less costly way to organize the accounts could have been to implement a centralized system with a limited set of investment options.<sup>26</sup>

Finally, an important issue in implementing a system like Sweden's, is to what extent workers will understand the difference between the NDC (the virtual account) and the funded account (Diamond 1999). Workers pay into both of the accounts and may not be able to differentiate between the two. In particular, if the rate of return is higher in the funded account than in the NDC account, there could be political pressures to increase the size of the funded component.

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<sup>25</sup> Experience from the United States with employer-provided pensions indicates that workers in general have little knowledge about their pension plans even after participating for several years (Mitchell 1988, Starr-McCluer and Sundén 1999, Gustman and Steinmeier 1999).

<sup>26</sup> An example of this type of system is the Thrift Savings Plan (TSP) in the United States, a defined contribution plan for federal government employees with more than 2 million participants. The TSP currently has three investment options, and the fund managers were selected in a competitive bidding process. The cost of investment management is very low, about 1 basis point, and the overall administrative cost is about \$20 per participant per year.

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CENTER FOR  
RETIREMENT  
RESEARCH  
AT BOSTON COLLEGE

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#### About the Center

The Center for Retirement Research at Boston College, part of a consortium that includes a parallel center at the University of Michigan, was established through a 5-year \$5.25 million grant from the Social Security Administration. The goals of the Center are to promote research on retirement issues, to transmit new findings to the policy community and the public, to help train new scholars, and to broaden access to valuable data sources. Through these initiatives, the Center hopes to forge a strong link between the academic and policy communities around an issue of critical importance to the nation's future.

#### Affiliated Institutions

Boston University School of Management  
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The Brookings Institution  
National Academy of Social Insurance  
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