

# Two technical choices with critical implications

Issues in Scandinavian pension reform

*Axel West Pedersen*

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# Preface

This NOVA working paper is a revised version of a paper that has previously been presented at the ISA RC19 conference: «Welfare state restructuring: processes and social outcomes» held in Paris, September 2.–4. 2004 and at «Nasjonal fagkonferanse i statsvitenskap» held at Hurdalsjøen, January 5.–7. 2005.

The paper offers a comparative evaluation of the proposal for reform of the Norwegian old age pension system put forward by the Pension Commission in January 2004 with the Swedish pension reform that took effect in 1999. While the Swedish pension reform is a historical reality, the Norwegian pension reform process is still underway and hence a «moving target». The paper bases its description and evaluation of the pending Norwegian reform on the report from the Pension Commission and on the white paper presented by the Bondevik Government in December 2004. Since then – in May 2005 – a broad coalition in the Norwegian Parliament has concluded an agreement on the coming pension reform that signals important deviations from the original proposal – particularly with respect to the distributive profile and incentive structure.

I have received valuable comments to this paper from several persons. In particular I am indebted to Joakim Palme, Ole Settergren and Ann-Charlotte Ståhlberg for constructive criticism that among other things saved me from making some serious mistakes in the description of the Swedish pension system. I should of course hasten to add that they carry no responsibility for any remaining errors.

*Oslo, September 2005*

Axel West Pedersen



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# 1 Introduction

In the welfare state literature of the 1980s and 1990s, the national pension systems of Sweden and Norway were celebrated as examples of a unique Scandinavian model in which the provision of relatively generous flat-rate benefits to all elderly residents was combined with a second tier of earnings-related benefits. It was often claimed that this type of dual system is able to deliver a higher degree of risk-sharing and income equality in retirement than alternative models of pension provision – be it the Bismarckian social insurance systems of Continental Europe or systems concentrated on the provision of flat-rate or means-tested benefits found in the Netherlands, Denmark and some Anglo-Saxon countries (Myles [1984] 1989, Esping-Andersen and Korpi 1987, Stephens 1995, Korpi and Palme 1998).<sup>1</sup>

However, during the last decade looming demographic and economic pressures have put pension reform on the political agenda also in the Scandinavian countries. Sweden has recently carried out an extensive reform of its national pension system, and a similar reform appears to be underway in Norway. Although the Swedish pension reform is rightly renowned for political leadership and technical entrepreneurship, the question must be asked whether it has produced an economically sustainable version of the Scandinavian model, or if it rather means a farewell to a distinctive and socially attractive Scandinavian approach to retirement provision. The fact that it preserves a large role for public provision and relies heavily on pay-as-you-go financing cannot be taken as sufficient proof of intrinsic continuity.

The purpose of this paper is to offer a comparative evaluation of the Swedish and the (still pending) Norwegian reforms. In particular I shall take a critical look at what initially seems to be two rather innocent technical aspects of both reforms:

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<sup>1</sup> For an agnostic attempt to re-evaluate these claims see Pedersen (1999).

- a) *The move from a traditional «defined-benefit» formula to the so-called Notional Defined-Contribution (NDC) formula. The NDC-formula is the key innovation of Swedish pension reform. Although contributions are used to finance current benefits (pay-as-you-go financing), each year's contributions are credited a notional account, and the accumulated deposits are finally turned into an annuity upon retirement.*
- b) *The replacement of the universal basic pension with a targeted minimum pension guarantee.*

On the one hand it can be argued that the move to the NDC formula is indeed of a technical or, if you like, pedagogical nature, and I shall make a similar point for the changes made to the organization of minimum protection. The same benefit profile that is produced by the reformed systems could have been achieved by a more parametric reform – i.e. by sticking to the traditional defined-benefit formula and preserving a universal basic pension.

On the other hand I shall insist that these two technical changes do nevertheless have serious implications. The NDC formula requires that all the demographic and economic risks associated with pay-as-you-go financing are placed on the benefit side of the system and hence on present and future pensioners. The replacement of a universal basic pension with a targeted minimum pension guarantee will tend to reduce the scope of intra-cohort redistribution and, in addition, weaken labor market incentives in the lower end of the earnings distribution.

We need criteria to determine what constitutes significant versus trivial changes in national pension systems. The Swedish and Norwegian reforms must clearly be classified as «structural» as opposed to «parametric» despite the fact that they do not imply a dramatic change in the balance between public and private institutions. But even a structural reform might be faithful to intrinsic aspects of the previous system, and a reform that only involves the adjustment of system parameters could very well entail fundamental change.

Here I primarily focus attention on two dimensions: do the reforms significantly change the way the pension systems affects the distribution of lifetime income within each generation, and do they imply a significant reallocation of costs and risks between generations and life-

phases? The normative predisposition is that contemporary concerns for horizontal equity, labor market incentives and long-term economic sustainability, should be pursued with a view to preserve what I consider to be core objectives of the Scandinavian pension model: the achievement of significant vertical redistribution of lifetime income within each generation, and a balanced sharing of economic and demographic risks between workers and pensioners.

I shall argue that while the Swedish pension reform represents a convincing solution to the problem of securing long-term economic sustainability, it does so at the expense of both intra-cohort redistribution and intergenerational risk sharing. The pending Norwegian reform is less extreme on both these dimensions, but the Norwegian attempt to create a «softer» version of the Swedish prototype raises problems and ambiguities of its own.

The paper is organized as follows. In section 2, I describe the main structure and evolution of the old pension systems and present the case that has been made for reform in the two countries. In sections 3 and 4 I depart from the specificities of the country cases to discuss the two critical aspects of the Swedish reform model; the transition from a defined benefit to a defined contribution formula and the replacement of the universal basic pension with a targeted minimum pension guarantee. In section 5, I compare how this model has been differently parameterized and implemented in the new Swedish pension system and the Norwegian reform proposal, before the paper is summarized and concluded in the final section.



## 2 The old systems and the case for reform

The Swedish and Norwegian pension systems have their historical roots in the Scandinavian/Anglo-Saxon tradition for redistributive minimum protection in old age. During the 1930s the quality of minimum protection for the elderly was significantly improved in both countries<sup>2</sup>, and although old age benefits were subject to means-testing, only a minority of the eligible population were in practice excluded from receiving benefits. In the early post-war period means-testing of old age pensions was completely abolished in both countries (1946 in Sweden and 1957 in Norway), and a truly universal, flat-rate income transfer (a «people's pension») to all residents above the age of 67 (70 in Norway) was introduced.

These reforms were immediately followed (or even partly preceded) by a debate on the possible introduction of a second tier of earnings-related pensions that could serve as a functional alternative to an expansion of the existing decentralised system of occupational pensions for white collar workers and other privileged segments of the workforce.

### **The introduction of a two-tier benefit structure**

The debate started first in Sweden where blue-collar unions and their peak-organisation (LO) pressed for a legislated «superannuation» reform. This vision eventually gained full support from an initially somewhat reluctant Social Democratic Party, while it was strongly opposed by the Swedish Employers Association and the non-socialist parties. The issue turned into a fierce political battle involving two national elections and a referendum before the Social Democratic proposal was passed in Parliament by the closest possible margin in 1959 (see Heclø 1974 and Molin 1965).

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<sup>2</sup> Norway got its first nationally legislated old age pension scheme as late as in 1936.

The ATP-system promised to replace 60 percent of earnings above a lower threshold – the so-called «base amount» which was fixed at a level roughly equal to the basic pension for a single pensioner – and below an upper ceiling set at 7.5 times the base amount. The right to a full ATP-benefit required 30 years in gainful employment and benefits were calculated on the basis of income in the 15 «best» years. While the flat-rate first tier was financed partly out of general taxation, the ATP system was organized outside the general state budget and financed entirely by employer pay-roll taxes. Partial pre-funding and the accumulation of a large pension fund under public control during the period of maturation was a central and – at least in the debates preceding the reform – highly controversial aspect of the reform.

In Norway the reform process started somewhat later and without the same degree of political polarisation. Both the Norwegian Trade Union Confederation and the Labour Party were initially in favour of pursuing the quest for earnings-related pensions in centralized wage agreements as opposed to legislation. However, in 1963 the Labour Party finally committed itself to introducing a general, legislated super-annuation scheme on top of the existing flat-rate universal pension, and the reform was carried through Parliament in 1966 by the non-socialist government that came into power in 1965 (Pedersen 1990).

The design of the Norwegian National Insurance System mimicked central technical aspects of the Swedish reform but with more modest benefit parameters in the earnings-related second tier. The second tier replaced 45 percent of earnings between the lower threshold equal to the basic pension for a single pensioner (the base amount) and an upper threshold set at 8 times the base amount. The right to full benefits was made conditional on 40 years of contribution, and benefits were to be calculated on the basis of the 20 «best years». Unlike the Swedish ATP-scheme, the Norwegian National Insurance System was from the beginning characterised by a rather unclear structure of financing. The financing of the universal first tier and the earnings-related second tier was joined and based on a combination of pay-roll taxes and employee contributions. However, after a few years the financing of the pension system was joined with the financing of sickness insurance and public health care, and initial ambitions to build up a buffer-fund were

abandoned in favour of full-fledged pay-as-you-go financing, with the pension system being fully integrated in the general state budget.

Indexation rules is the only aspect where the Norwegian system was arguably more ambitious than the Swedish. In both systems accrued pension rights and the key benefit parameters are measured and indexed in terms of the base amount. In the Swedish system the base amount was indexed automatically with prices and prices only. The Norwegian legislation operated with a more ambitious goal stating that that the indexation of the base amount should also reflect improvements in real wages. However, in stead of an automatic indexing procedure, it was left to the Norwegian Parliament to make discrete (and hence politically informed) decisions on the size of yearly increments to the base amount – after a round of quasi-negotiations with relevant interest groups. Historically the indexing of the base amount in Norway has struck a compromise between price compensation and full wage compensation.

## **Piecemeal modifications**

The benefit plans of the two systems have undergone some very important although mainly incremental changes since the 1960s. Around 1970 a third benefit component – the so-called «special pension supplement» – was introduced in both countries.<sup>3</sup> These supplements are tested against benefits from the earnings-related part of the system with a 100 percent taper, and they function as a sort of guaranteed minimum increment to the universal basic pension for individuals with no or low earnings-related pension rights (see figure 1 below).

When first introduced, the special pension supplements were modest in size relative to the universal basic pension, but during the 1970s and 1980s the benefit level was gradually raised, and eventually they have come to constitute a significant part of the minimum protection provided by the two systems. In Norway the special pension supplement today amounts to almost 80 percent of the universal

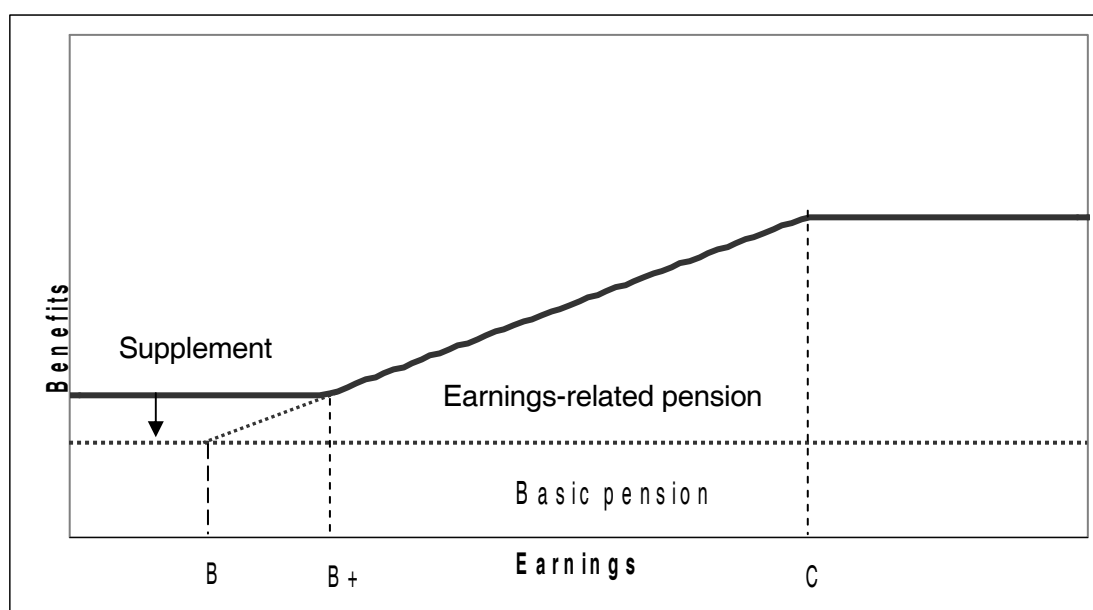
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<sup>3</sup> Here Norway was actually the pioneer, introducing the special supplement already in 1969 – only two years after the establishment of the earnings-related second tier.

pension granted to a single pensioner, and in Sweden the corresponding figure had reached almost 50 percent by the early 1990s. The gradual expansion of the special pension supplement has been used as a relatively cheap way to uphold or (particularly in Norway) to improve the level of minimum protection in old age, but it has changed the overall benefit profile and the incentive structure of the system by truncating the earnings-related second tier from below.

A stylized representation of common features of the current benefit structure and benefit profile of the two systems is shown in figure 1, where «B» represent the base amount and «C» the ceiling for calculating earnings-related benefits. The graph illustrates a point that I shall return to below: The benefit profile of a pension system where minimum protection is partially provided by this kind of targeted benefit supplement, is exactly equivalent to a system where a similar level of minimum protection is provided by a universal flat-rate benefit, but where the minimum threshold for participation in the earnings-related second tier has been moved higher up on the earnings scale (marked by point B+ in the graph).

*Figure 1: Benefit structure and benefit profile of the Swedish/Norwegian pre-reform pension systems. Stylized representation.*



The graph does not represent the true benefit parameters of any of the two countries. While the earnings-related second tier is clearly more generous in Sweden, the level of minimum protection has grown to be significantly higher in Norway. However, it must also be taken into consideration that housing allowances play a very significant role in the provision of minimum protection for old age pensioners in Sweden, while a similar scheme is much more modest and has a far lower take-up in Norway (see NOSOSCO 2003). In both countries, housing allowances are subject to classical means-testing against any taxable income above a certain threshold and against financial assets held by the household.

### **Concerns for financial sustainability**

The long-term affordability of the respective pension systems has been a growing concern among political elites since the early 1980s, and the aim of securing financial sustainability in the face of population ageing is undoubtedly the main motivation behind contemporary reform processes. This is so even if the current level of public pension expenditure does not appear to be prohibitively high in an international perspective. By the year 2000 public expenditure on old age pensions amounted to 9.2 percent of GDP in Sweden and a modest 4.5 percent of GDP in Norway (NOU 2004:1). The Swedish expenditure level is somewhat higher than the OECD average (7.4 percent), but it is still substantially lower than in some of the high-spending European countries like Germany, France, Italy and Spain. Current public expenditures on old age pensions in Norway is surprisingly low when measured against the total size of the economy, and about on par with notorious low-spenders like UK and the US.

In the early 1990s it was shown that the long term financial sustainability of the Swedish pension system depended critically on future economic growth rates of the Swedish economy. It was estimated that in the case of zero economic growth, the contribution rate necessary to finance current expenditure on old age pensions would have to be raised from the current level of about 18 percent of the payroll to 30 percent by the year 2030 (Palmer 2002:185). Precisely in a situation with zero productivity growth, such a dramatic rise in

contribution rates appears prohibitive. If, on the other hand, real wages were to grow at a constant rate of 3 percent per year or more, it was projected that pension expenditures in the year 2030 could be financed without any rise in pay-roll tax rates.

When these estimates were presented to policy makers and the general public, Sweden was in the midst of a deep economic recession, and the sustained zero growth scenario appeared to be less unrealistic than a stable 3-percent-per-annum growth scenario. The partial pre-funding that had been achieved during the build-up of the ATP-system would not be of much help either. It was projected that the buffer fund that went up to about 40 percent of GDP in the early 1990s would be entirely depleted before the year 2020 (Palmer 2002). The crux of the matter is, however, that while economic growth could be expected to alleviate the financial burden of the old Swedish pension system, it would do so because of the reliance on strict price indexation. With growth in real wages, the value of the flat rate universal pension and the special pension supplement would decline in relative terms, and an increasing fraction of Swedish wage earners break through the social security ceiling. In other words: the old Swedish system was financially sustainable under conditions of rapid economic growth thanks to the fact that the benefit structure was unstable under such a scenario.<sup>4</sup>

In the absence of a substantive pension reform, Norway is expected to move from being a low spender to one of the top spenders in the OECD-area. In addition to the purely demographic factors, expenditures are expected to grow as a result of continued maturation of the earnings-related second tier. The maturation period has been prolonged as a result of growing female labour force participation since the 1970s. The influx of women into the labour market has so far provided more shoulders to carry the costs of current pension expenditures, but when these economically active cohorts eventually retire they can claim much higher benefits than previous generations of female pensioners. According to a recent official projection, public expenditure on old age pensions is expected to increase its share of GDP by more

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<sup>4</sup> Particularly for individuals in the lower and higher segments of the earnings distribution replacement rates would decline, while individuals in the middle of the earnings distribution would be more modestly affected.

than 300 percent over the coming five decades to reach 14.8 percent of GDP in the year 2050. This projection is not very sensitive to alternative assumption about economic growth, since it is assumed that the base amount from now on will be fully indexed in line with the growth in average wages (NOU 2004:1).

The increase in the financial burden will not necessarily be as dramatic as indicated by the expenditure figures, however. Thanks to booming oil revenues, Norway has since the mid 1990s run huge surpluses on the state budget that have been transferred to the so-called «State Petroleum Fund» and invested in international capital markets.<sup>5</sup> The continued build-up of this fund over the next decades is expected to help smooth out the financial burden associated with population ageing. Although no formal link has so far been established between the State Petroleum Fund and the National Insurance System, it can be seen to provide a partial pre-funding of future pension liabilities. This is why the financing of the existing pension system by the year 2050 is estimated to «only» require an increase in the overall tax load of about 5 percentage points.

It is open to debate whether a tax hike of this magnitude over the coming 50 years is completely intolerable. Arguably, the main problem is the huge uncertainty that exists about this estimate and the risk it imposes on future public finances. In addition to the usual demographic and economic risks, the estimate is highly sensitive to assumptions about the size of remaining gas and oil reserves on the Norwegian continental shelf and fluctuations in the price of oil and in returns on the financial assets held by the State Petroleum Fund. As the present system is constructed, all the demographic and financial risks fall on the state budget and (secondarily) on future tax-payers. Even in «moderately-bad-case» scenarios there is a real danger that the growth in pension expenditures could crowd out desirable expenditure on core welfare state activities like care for the elderly, health care, and education.

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<sup>5</sup> The total assets held in this fund are expected to exceed the size of the current GDP within the next few years.

## Equity and labour market incentives

In addition to questions about financial sustainability, the critique against the «old» pension systems also involves issues of fairness and micro-economic efficiency. The link between lifetime contributions and retirement benefits is rather weak due the fact that full earnings-related benefits are obtained after a fixed number of years in gainful employment (30 years in Sweden and 40 years in Norway) and benefits are calculated on the basis of average earnings over a number of «best» years (15 in Sweden and 20 in Norway). These rules favour individuals with short labour market careers and a fluctuating or rising earnings-profile, at the expense of individuals with long labour market careers and a stable earnings profile – effects that do not appear to have a strong ethical foundation. They have in both countries been defended with reference to the fact that they favour the typical female employment trajectory and thereby help to compensate women for taking the lion share of unpaid domestic and care work, but – precisely for this reason – they can also be blamed for providing incentives to maintain traditional gender roles.

A very powerful argument against these aspects of the old systems is that they have perverse implication for the distribution of lifetime income between social classes. Studies of Swedish micro data demonstrated that the 30 and 15 year rules systematically favoured white collar workers – whose labour market careers are typically short and marked by a rising earnings profile –, and that the redistribution achieved by the ATP-system was on the whole regressive rather than progressive with respect to social class. In fact the regressive effect of the ATP-system was found to be so strong as to closely match the progressive redistribution achieved by the universal basic pension, and hence it was concluded that the entire Swedish pension system was more or less neutral in terms of income redistribution between social classes (Ståhlberg 2000).<sup>6</sup>

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<sup>6</sup> It should be noted, however, that this conclusion hinges on the incorporation of class-related differences in life-expectancy. Since «the rich» are expected to live longer and receive old age benefits for a longer period than «the poor», the benefit profile needs to be strongly progressive in order to achieve actuarial fairness in this sense. In fact, this is one of the powerful arguments to be made in favour of maintaining a consistently progressive benefit profile (see Myles 2002:158).

In Norway, also the minimum benefit «trap» created by the special pension supplement has been a source of popular discontent and critique against the existing system. It implies that the link between contributions and benefits is completely broken in the lower part of the earnings distribution, and that many (typically female) pensioners with a considerable work and contribution history end up receiving minimum benefits only. In the year 2000 about 55 percent of all female old age pensioners received the minimum benefit only, and even among the new cohort of females entering retirement that year this applied to a good 40 percent (Koren 2001). In Sweden, these figures were much lower due to the combined effect of the lower minimum benefits and the more generous and more mature earnings-related second tier (NOSOSCO 2003). Nevertheless, the «marginal effects» created by the withdrawal of the special pension supplement and targeted housing allowances was pointed out as a motivation for reform also in Sweden (see SOU 1994:20:99-105).

In both countries it has been a general concern that the old systems do not sufficiently reward and stimulate participation in gainful employment and in particular that incentives to continue to work until and beyond the normal retirement age (65 years in Sweden and 67 years in Norway) are insufficient in view of demographic shifts including an expected increase in longevity over the coming decades.

## **The chronology of reform**

While concerns about the future viability of existing pension systems grew during the 1980s, it was not until the early 1990s that they in Sweden were turned into a broad political consensus about the need for radical reform. The process leading up to the Swedish pension reform took off when the non-socialist Government in 1991 appointed a Parliamentary committee to summarize and conclude on a comprehensive evaluation of the existing system. This committee issued a preliminary statement of principles in 1992 (Pensionsarbetsgruppen 1992), and a full-fledged reform proposal was passed by the Swedish Parliament in 1994. The proposal was supported by a broad coalition that only excluded the left-wing “Vänsterpartiet”. It took another four years before the detailed legislation was passed by Parliament and the

new system took effect from January 1. 1999 (see Palme (ed.) 2001, Lundberg 2003 and Anderson and Meyer 2003 for studies of the political process behind the Swedish pension reform).

In Norway a smaller parametric reform was carried out in the early 1990s whereby the replacement parameter of the earnings-related second tier was reduced from 45 to 42 percent, and the social security ceiling was lowered. The subsequent and far more radical Swedish pension reform did not seem to attract much political attention until the Labour Government in 2001 appointed a Pension Commission with representatives from each of the political parties in addition to independent experts. In the final report issued in January 2004, a broad majority of the Commission has joined to recommend a Swedish style reform proposal, and the present non-socialist government has followed up by presenting Parliament with a White Paper along these lines in December 2004.

### 3 Contribution defined accrual of pension rights

The key invention of the Swedish pension reform is to combine a defined contribution formula for the accrual of pension rights with pay-as-you go financing in the so-called Notional Defined Contribution (NDC) model.<sup>7</sup> The idea is to mimic a funded defined contribution (FDC) scheme, where a certain fraction of yearly earnings are transferred to an individual savings account and where the total accumulated savings including investment returns are used to buy a life annuity upon retirement. In the NDC-model, the accrual of pension rights is similarly defined by the yearly contributions paid by each individual over the entire economically active life phase. Although current contributions are in fact used to finance benefits received by the current generation of retirees, the contributions are credited a notional account, and the accumulated «deposits» are finally turned into an annuity upon retirement. This of course contrasts with the traditional defined benefit (DB) approach, where the accrual of pension rights is defined independently of contributions – typically in terms of promises about a certain replacement rate.

The NDC-framework guarantees a direct correspondence between each individual's contributions to the system and what he/she can expect to get out in terms of the retirement benefits. All redistribution between individuals is effectively ruled out except for the provision of insurance against longevity, and the accumulated pension wealth will be directly proportional to life-time earnings (below a possible contribution ceiling). It is possible to combine this model with measures to cater for individuals who do not participate in the labour market for specific, politically sanctioned reasons – like for instance disability or caring for small children. In these cases, the accrual of pension rights is

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<sup>7</sup> Models of this kind have previously been discussed in the academic literature. In the 1960s the American economist James Buchanan sketched a blueprint for pension reform that has strong affinities to the Swedish model.

secured by the payment of contributions that are financed out of the general state budget so as to avoid internal redistribution within the NDC-scheme itself.

The NDC-approach has gained international reputation as an innovative «third way» alternative to parametric cuts in existing social insurance systems and more radical strategies of privatization like the so-called «multi-pillar» approach that was advocated by the World Bank in a famous report from 1994 (World Bank 1994). The Italian pension reform of 1995 and later pension reforms in Latvia, Poland, Kyrgyzstan and Mongolia all contain an NDC-pillar of Swedish inspiration and a pending reform in Russia appears to go in the same direction (Williamson 2004). The NDC-scheme is in all these cases combined with some form of minimum protection, and in some (like in Sweden and Poland) also with an obligatory FDC pillar (Williamson 2004).

Proponents of the NDC model argue that it improves transparency and accountability in comparison with the traditional DB formula. Due to the strong and visible link between contributions and benefits, it is expected that contributions will be perceived as a form of forced savings, and not as a tax (Pensionsarbetsgruppen 1992:73). This in turn is assumed to have a positive impact on labour supply and contribute to the fairness and legitimacy of the pension system (Persson 1991, Palmer 2000 and Williamson 2004). At the same time, the NDC-model avoids the double payment problem associated with the transition from a mature pay-as-you-go financed pension system to a fully funded system, and it avoids the transaction costs, uncertainty and inequality that is likely to follow from an individualized FDC-system, where the participants are fully exposed to the risks and fluctuations of the capital market. A major attraction of the NDC model is that it entails a clear institutional demarcation between the main objectives of a public pension system: forced saving and income smoothing over the life cycle for each individual and redistribution of life-income between individuals (Eriksen and Palmer 2004). It can therefore be seen to facilitate a welcome «rationalization» of the rather complex and opaque redistributive mechanisms that are often built into traditional social insurance schemes (Myles 2002).

In the international debate, the NDC model has also been met with strong criticism. Proponents of a more radical privatization strategy have argued that it does not solve the real economic challenges and that it cannot guarantee a pension system in financial and generational balance (Disney 1999 and Valdés-Prieto 2000). Others fear that the implied rationalisation of redistributive mechanisms will remove those aspects of the traditional social insurance systems that work to the advantage of women in general and low-wage segments in particular (Castel and Fox 2001, Williamson 2004).

A common theme in critique that has been raised from different ideological positions, is that the NDC-model does not distinguish itself fundamentally from the more traditional DB approach. The strong link between contributions and benefits and the «rationalization» of redistributive mechanisms could very well be achieved within the DB framework (Cichon 1999, Disney 1999, Barr 2002). Further it has been pointed out that the NDC-model does not automatically and by itself solve the financial problems that face existing national pension systems. A transition to the NDC-framework will only help to reduce the financial pressures, if one chooses parameters (contribution rates, indexing rules and so forth) that result in lower average benefits to future pensioners than would have been payable under the existing DB systems.

So, why not just remove undesirable redistributive mechanisms and implement other parametric cuts in existing DB schemes in order to bring down future expenditure to a financially tolerable level? The answer could be that parametric cuts tend to have visible negative effects for large and clearly identified segments of the population and that they therefore are extremely difficult to carry through the political system (Myles and Pierson 2001). The NDC-model, by contrast, appears to offer something new with a system for accumulating pension rights that is not directly comparable to pension rights earned under the existing DB scheme. It has therefore been suggested that an important attraction of NDC as a pension reform strategy is that it makes it difficult for opposition forces and for the general public to estimate the resulting cuts in future pension rights and to identify specific groups as either winners or losers (Disney 1999, McGillivray 2003, Williamson 2004). Since transparency is often pointed out as one of the key virtues

of the NDC-model, this «Machiavellian» interpretation is somewhat paradoxical and not particularly flattering.

An important feature of the NDC-model, and a major attraction for policy makers, is that it makes it logical to let future pensioner cohorts carry the full costs of increases in longevity. When the accrual of pension rights takes the form of an accumulated notional saving that is transformed into an annuity when reaching retirement, it is logical to let this transformation be based on an up-to-date estimate of remaining life-expectancy.<sup>8</sup> This eliminates a very important source of growth in future pension expenditures and one of the main sources of uncertainty about the size of the financial burden, while leaving the longevity risk to be carried by each pensioner cohort. Another logical extension of the model is to introduce a flexible retirement age with full actuarial deductions and premiums. This will remove the incentives to early retirement that are built into many existing pension systems, and make sure that each individual carries the full costs of his/her choice of retirement age. Similar mechanisms could be incorporated into a DB plan, but they would not to the same extent present themselves as logical extensions of the system itself.

However, even with these two important features in place, there is no guarantee that an NDC-scheme will be robust against all relevant economic and demographic risks and automatically secure a perfect balance between current contributions and current expenditure. Without additional measures, a continuous decrease in mortality rates among the aged (in particular if concentrated among the more well-off segments) and declining fertility and labour market participation could easily trigger a serious financial imbalance. This point has been made very clearly by Cichon (1999:93):

(...) it is often claimed that the NDC systems are also automatically in financial equilibrium. This can only be true if beneficiaries (i.e. the pensioners) bear the full risk of demographic change (increasing longevity and decreasing fertility) as well as adverse economic developments (as expressed in lower wages and contracting levels of employment).

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<sup>8</sup> Another logical implication would be to operate with formulas that reflect differences in life-expectancy between male and female pensioners, but all NDC-schemes that have so far been established use a sex-neutral calculation.

It is a logical implication of the NDC-formula that any financial imbalances must be solved by making the necessary adjustments on the benefit side of the system.<sup>9</sup> The alternative option – to raise the contribution rate – is ruled out as a means to regain financial balance because it would automatically lead to an increase in future pension obligations and therefore a further aggravation of any long-term imbalance (Pedersen, Hatland and Øverbye 2001). While a pension system based on the DB formula can be made virtually equivalent to a system based on the NDC-formula and vice-versa, a very fundamental difference is that the latter requires that all economic and demographic risks associated with a pay-as-you-go pension system are placed exclusively with future pensioners and in the retirement life-phase.

Additional mechanisms of expenditure adjustment are needed to guarantee the long term balance of the NDC model. One alternative, that goes a long way in this direction, is to let accrued pension rights and running pension benefits be indexed in line with the total wage sum and therefore in line with developments in the contribution base. This path has been followed in the Italian and Latvian NDC-schemes (Kruse 2000, Williamson 2004). The implication is that pension rights and retirement benefits will decline relative to average wages in periods where the labour force shrinks, and grow in periods where the labour force is expanding.

In the Swedish reform this type of indexing formula was rejected in favour of what has been perceived to be a more «socially favourable» indexation with average wages, and the long-term financial stability therefore had to be secured in a different way – by the so-called Automatic Balancing mechanism to be described below. And as we shall see, in Norway this problematic has been sidestepped by simply renouncing the ideal that the reformed pension system should be in financial balance.

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<sup>9</sup> This basic point was clearly recognized by the founding fathers of the Swedish reform: «The contribution rate that is decided when the reform is enacted must apply also in the long term. The level of contributions must be kept constant and possible changes in insured risks are to be compensated on the benefit side» (Proposition 1993/94:250 p. 57, Quoted after Tegle 2004. 88; my translation)



## 4 Targeted minimum protection

The second crucial feature of the Swedish pension reform is to let the universal basic pension be replaced with a targeted minimum pension guarantee that is financed separately from general state budget. This move is logically independent of the transition to a NDC formula for the income related part of the pension system, and particularly in a Scandinavian context with the long-standing tradition for universal basic pensions, it deserves critical attention.

All the countries that have so far introduced an NDC scheme have combined it with some kind of minimum protection. The level of minimum protection and the way it is integrated with the NDC-pillar is decisive for the distributive profile of the entire system. Most have implemented targeted schemes – either in the form of general means-testing or as in Sweden in the form of a minimum guarantee that is only tested against benefits from the public pension system – while in Kyrgyzstan minimum protection is provided in the form of a universal basic pension (Williamson 2004).

As we have seen, a kind of minimum guarantee had over time become a significant part of the «old» Swedish and Norwegian systems. But in the reformed systems this development is taken to the extreme by completely removing the universal basic pension in favour of a minimum benefit guarantee. Apparently, in the preparation of the Swedish reform this move did not figure among the most politically controversial issues (Lundberg 2002), and it has been rather well received in the international debate. John Myles has observed that a number of countries with a tradition for universal benefits currently appear to move in the direction of some form of targeting, and he goes on to recommend the minimum benefit guarantee as an attractive approach to realize the goal of keeping all old age pensioners out of relative income poverty (Myles 2002:162 and 2003:266). In a similar vein Robert Holzmann of the World Bank has recently, while recommending the NDC-model as a blueprint for pension reform in Europe,

emphasised the need to improve the quality of minimum protection, presumably in some form of targeted benefits (Holzmann 2004).<sup>10</sup>

The main attraction of a minimum guarantee is of course that it can achieve the same level of minimum protection as a universal benefit for a much lower expenditure, particularly if the rate of withdrawal is set at the maximum 100 percent. At the same time a minimum pension guarantee avoids many of the problematic aspects of traditional means-testing. The benefits can be paid out automatically without requiring recipients to apply and without an intrusive collection of information from those who do apply. Since it is only tested against public pensions, the benefit guarantee does not constitute a negative incentive against private and voluntary efforts to save for retirement.

Nevertheless there are some important caveats of the minimum guarantee approach that tend to be overlooked in current debates. The test against earnings-related benefits implies that the link between contributions and benefits is radically broken for individuals whose lifetime earnings are insufficient to bring them out of the taper interval. The higher the level of minimum protection provided, the larger will be the fraction of the population that can expect to end up as receivers of minimum benefits and to have no real effect of contributions paid during the economically active life-phase. In other words, a targeted benefit guarantee will interfere with one of the core objectives of the NDC-approach: to improve the contribution-benefit link and, consequently, labour market incentives. While traditional income testing typically operates with a significant 'free amount', in order to make sure that only the more well-off segments are affected, and with a relatively mild rate of withdrawal, so that marginal effects are kept low, the withdrawal of a minimum guarantee strikes at the very bottom of the earnings distribution creating an absolute benefit trap.

The problem can be relieved by making the taper less severe than the extreme 100 percent known from the existing special pension supplements in Sweden and Norway. But while this will allow individuals in

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<sup>10</sup> Note, however, that the World Bank in the famous report from 1994 went quite far in the direction of recommending that minimum protection should be provided in the form of a Scandinavian style universal basic pension (World Bank 1994:240).

the bottom of the earnings distribution to keep some of their earnings-related benefits, their de facto marginal returns on contributions paid to the system will still be lower than the normal marginal returns<sup>11</sup>, and a larger fraction of the population will be affected. A milder taper will of course also make the provision of minimum protection more expensive. If the taper is made so mild as to affect the entire earnings-distribution, the system becomes exactly equivalent to a system combining a universal benefit with an earnings-related second tier in which the rate of accrual is reduced in proportion to the taper.

The design and costs of minimum protection cannot be seen in isolation from the design and costs of the earnings-related part of the system. When an earnings-related second tier builds on top of a universal benefit floor, a lower accrual rate will be needed to reach a certain replacement rate for the typical wage earner, and the higher expenditure on minimum protection in the universal model can therefore be compensated by lowering the pension accrual rate in the second tier. What really matters – both in terms of (re-) distribution and incentive structure - is the compound benefit profile.

In figure 2 two stylized pension systems are compared; one with a minimum pension guarantee and one with a universal basic pension. They provide the same level of minimum benefits, and the parameters of the earnings-related part of the two systems have been chosen to suggest that average benefits and total expenditures are roughly equivalent.<sup>12</sup>

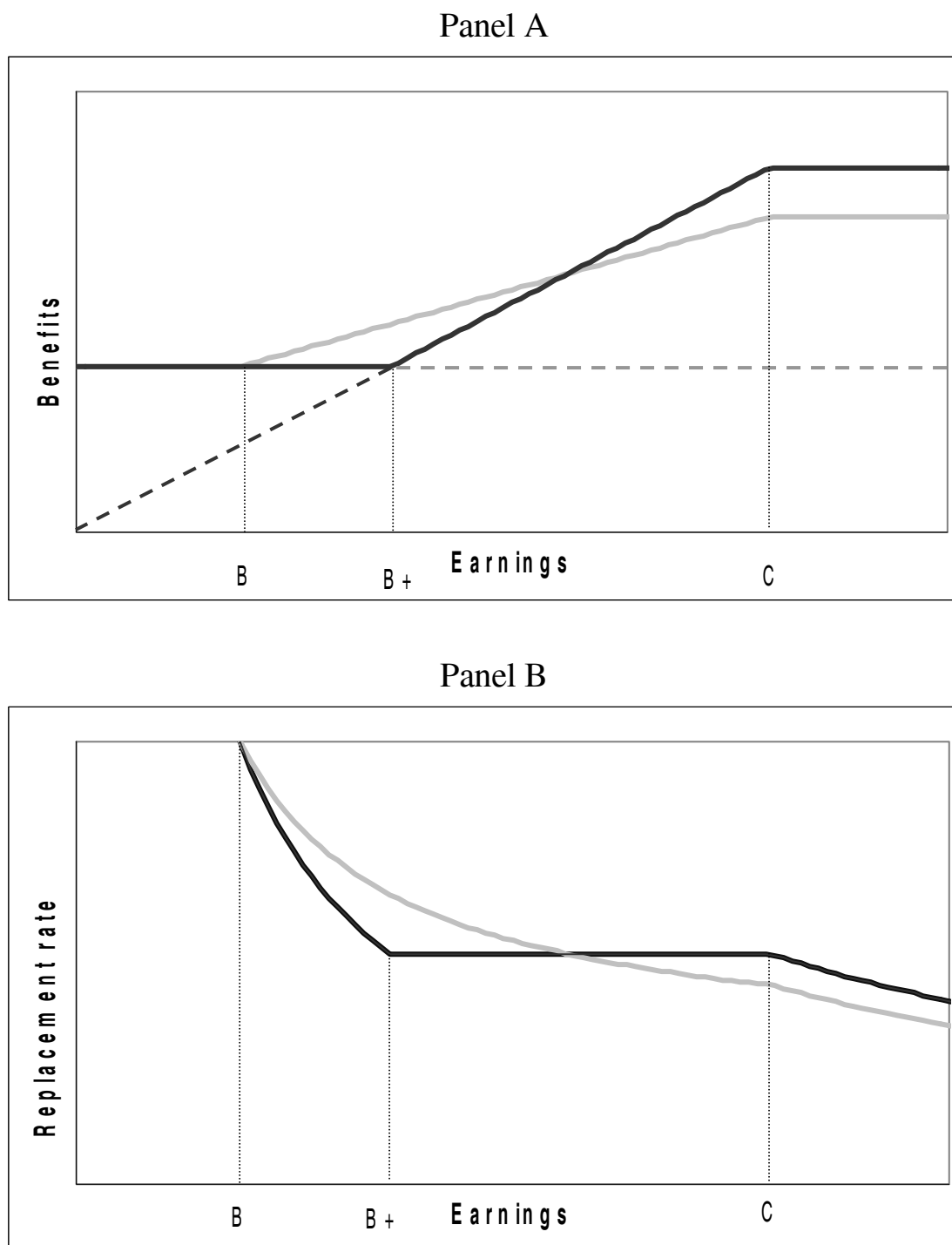
In the minimum guarantee model the payment of contributions and the accrual of earnings-related benefits starts from the very first EURO. However, the 100 percent taper of the minimum pension guarantee implies that the accrual of earnings-related benefits does not have any practical consequences before earnings exceed point B+, and all contributions paid on earnings below the point B+ are in effect a tax.

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<sup>11</sup> Knox and Cornish (1999) have suggested a set of criteria for an equitable pension system one of which is that the marginal returns on pension contributions should be at least as high for low income earners as for high income earners. This criterion will generally be violated in systems with a targeted minimum pension guarantee.

<sup>12</sup> Of course a precise calibration of parameters to achieve expenditure neutrality will depend on the shape of the earnings distribution.

Figure 2: Benefit profile (panel A) and replacement rate profile (panel B) of two stylized pension systems: a universal benefit model (grey lines) and a guaranteed benefit model (black lines)



It is a general characteristic of systems combining earnings-related benefits with a minimum guarantee that the point on the income scale where the effective accrual of pension rights starts (and where the replacement profile becomes strictly proportional) is constrained and

determined jointly by the level of the minimum guarantee and the accrual rate of earnings-related benefits. When minimum protection is alternatively provided by a universal basic pension, the kick-in point for the accrual of earnings-related benefits can be independently decided to achieve a more or less progressive benefit profile. In the version of the universal model shown here, the accrual of earnings-related benefits starts at an earnings level equal to the basic pension (marked by the point B in the graphs) – precisely as in the original version of the Swedish and Norwegian two-tier systems.

Note a characteristic difference in the corresponding replacement profiles shown in the bottom panel of figure 2. Both models secure extremely high replacement rates for individuals with very low pre-retirement earnings, but in the minimum guarantee model, replacement rates drop very fast to become completely proportional from the point where the taper interval ends. In the universal model, by contrast, the compensation level declines over the entire earnings scale. This is typical of pension systems with a universal benefit floor. The relative significance of the flat-rate benefit declines steadily with increasing life-time earnings, and this will ensure that the overall compensation profile is progressive across the entire earnings distribution. This holds unless the kick-in point for the accrual of earnings-related benefits is moved so far to the right (point B+) that the compound profile – with an associated increase in the slope of earning-related second tier – becomes identical with the guarantee benefit model. If, on the other hand, the kick-in point of the earnings-related second tier is moved further to the left – for instance to start at the first EURO earned - the compound benefit profile would become even more progressive than shown here. Point B seems a logical place to start, however, since individuals earning less than B will already be secured a replacement rate in excess of 100 percent.<sup>13</sup>

The substitution of a universal basic pension with a minimum pension guarantee is not as innocent as it might seem – even if the level of minimum protection is preserved. It is incompatible with the

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<sup>13</sup> A high implicit marginal tax-rate on earnings below point B can be avoided by letting the earnings-related second tier be separately financed by contributions on earnings in the range between point B and C (the contribution/benefit ceiling).

preservation of a generally progressive benefit profile, as it restricts vertical redistribution to the lower part of the earnings distribution. Furthermore, the test against earnings-related benefits is an implicit tax on small lifetime earnings that will tend to weaken work incentives for those affected. Particularly in its most extreme version with a 100 percent taper, it can be seen to violate the principle of horizontal equity and intuitions about fairness, since individuals with significant lifetime contributions will end up with the same benefit as individuals who have made no contributions what-so-ever. If the cultivation of reciprocity through a strong and transparent link between contributions and benefits is such an important concern, how can it be justified to allow for a radical violation of this principle for individuals in the lower part of the earnings distribution?

## 5 Implementation and choice of parameters

I shall now turn to a more detailed comparison of the implementation and parameterization of the Swedish and (still pending) Norwegian pension reforms. The Norwegian copy deviates from the Swedish blueprint in a number of ways, from trivial details to fairly crucial features (see table 1, for a schematic overview).

*Table 1: Comparative summary of core features and parameters of the two reforms*

	<b>The Reformed Swedish System</b>	<b>The Norwegian Reform Proposal</b>
Main components	NDC+FDC+minimum pension guarantee	NDC+minimum pension guarantee
Contribution rate	16% (NDC)+2.5% (FDC)	17.5% (NDC)
Contribution ceiling	317 000 SEK (=30 000 EURO-PPP)	455 000 NOK (=42 000 EURO-PPP)
Indexation of accrued NDC-rights	Wage index*	Wage index
Flexible retirement age	61-	62-
Indexation of NDC-benefits after retirement	Wage index*-1.6 %	Average of wage and price index
Relation between the NDC scheme and the state budget	Autonomous	Integrated
Hard budget-line on pension expenditures	Yes, with automatic implementation*	Vague guidelines without automatic implementation
Level of minimum pension guarantee	85 000 SEK (=8 000 EURO-PPP)	102 000 NOK (9 400 EURO-PPP)
Taper of minimum guarantee against NDC-benefits	Initially 100%, then 48%	Initially 100%, then 60%
Indexation of minimum pension guarantee	Price index	Wage index adjusted for increases in longevity
Implementation time frame: cohorts fully (partly) affected by the new system	1954+(1938-53)	1965+(1951-64)

\* In case of financial deficit both accrued pension rights and running benefits will automatically be under-indexed until financial balance is restored.

The new Swedish pension system consists of three main components. The NDC-scheme is the dominant backbone of the system but it is flanked with a smaller FDC-pillar in addition to the minimum pension guarantee. Out of a total contribution rate of 18.5, 2.5 percentage points are directed towards the FDC-pillar, that is administered by a government body but allowing the individual participants a relatively unrestricted investment choice (Turner 2004). Upon retirement accumulated assets must be transformed into an annuity, the price of which is calculated on the basis of unisex mortality tables. Developments in the international capital markets over the last couple of years have taken a heavy toll on the contributions made in the initial years, and administrative costs have been higher than originally expected (Tegle 2004). This might help explain why the Norwegian Pension Commission has decided not to include an FDC-pillar in its proposal for reform (NOU 2004:1).

### **Details of the NDC pillar**

The contribution rate is fixed at 16 percent in the new Swedish system. Slightly more than half of the total contribution is paid by employers while the rest is paid by the individual. A ceiling on individual contributions and pension accrual is fixed at 7.5 base amounts – i.e. at the same level as in the old system –, corresponding to appr. 30 000 EURO-PPP. Employer contributions are collected by the same rate also for earnings above this ceiling, but these «excess» contributions are channelled to the general state budget, and they are therefore probably best seen as a particular form of taxation that is unrelated to the pension system.

The Norwegian Pension Commission was initially quite reluctant to commit itself to an NDC formula. In a preliminary report issued in 2002 (Pensjonskommissjonen 2002), a proposal was sketched based on lifetime accrual of pension rights within a DB framework. Also in the final report issued in January 2004, much of the presentation and analysis is done in a DB framework with a yearly pension accrual rate of 1.25 percent (corresponding to a 50 percent replacement rate after 40 years of participation in gainful employment). However, it is made clear in a key section of the report (NOU 2004:1, p 138 ff.) that the commission majority has decided in favour of a contribution defined

formula, and it is suggested that contributions to the NDC system should be fixed at 17.5 percent of gross wages up to a ceiling at 8 times the base amount - corresponding to approximately 42 000 EURO-PPP. Contributions are to be paid partly by employers and partly by the individual, and it is suggested to follow the Swedish example by collecting a tax that is equivalent to the employer's rate of contribution on earnings above the ceiling.

In both countries the abolition of the 15 (20) best year rule of the old systems has been compensated by the introduction of rather generous contribution credits for taking time to care for small children, and contributions are to be credited for people in receipt of various social insurance benefits. In Sweden also students and people doing obligatory military service receive pension credits, while similar arrangement for these particular groups has not been suggested by the Norwegian Pension Commission.

Accrued pension rights (i.e. the deposits on the notional accounts) are in both countries to be indexed with the development in average wages (in Sweden, however, this principle will be suspended in case of an activation of the automatic balancing mechanism – see below). Also the contribution ceiling will be indexed with average wages, and hence the historical tendency for the ceiling to decline relative to the earnings distribution has been removed in the new systems.

Both the reformed systems operate with a flexible retirement age (from the age of 61 in Sweden and 62 in Norway) with full actuarial adjustments. The transformation of accumulated NDC-wealth to a retirement annuity is adjusted to up-to-date calculations of remaining life-expectancy based on observed mortality rates. In Sweden a rather complicated twist has been made to the annuity calculation and to the indexation of benefits after retirement. While indexation of retirement benefits with average wages is adopted as the basic norm, an expected real growth rate of 1.6 percent is frontloaded in the calculation of the retirement annuity, in return for a subsequent under-indexation with 1.6 percent. The point of the exercise is to change the patterning of benefit streams over the retirement phase to make replacement rate higher in the early retirement years. In Norway it is suggested that the indexation of retirement benefits should follow an average of the growth in wages

and prices. In periods with growth in real wages, retirement benefits will fall behind the development in average wages, but pensioners will be partly protected against a possible decline in real wages. Also here the projected under-indexation of retirement benefits is supposed to be frontloaded in order to raise benefit levels in the initial retirement phase.

## **The minimum pension guarantee**

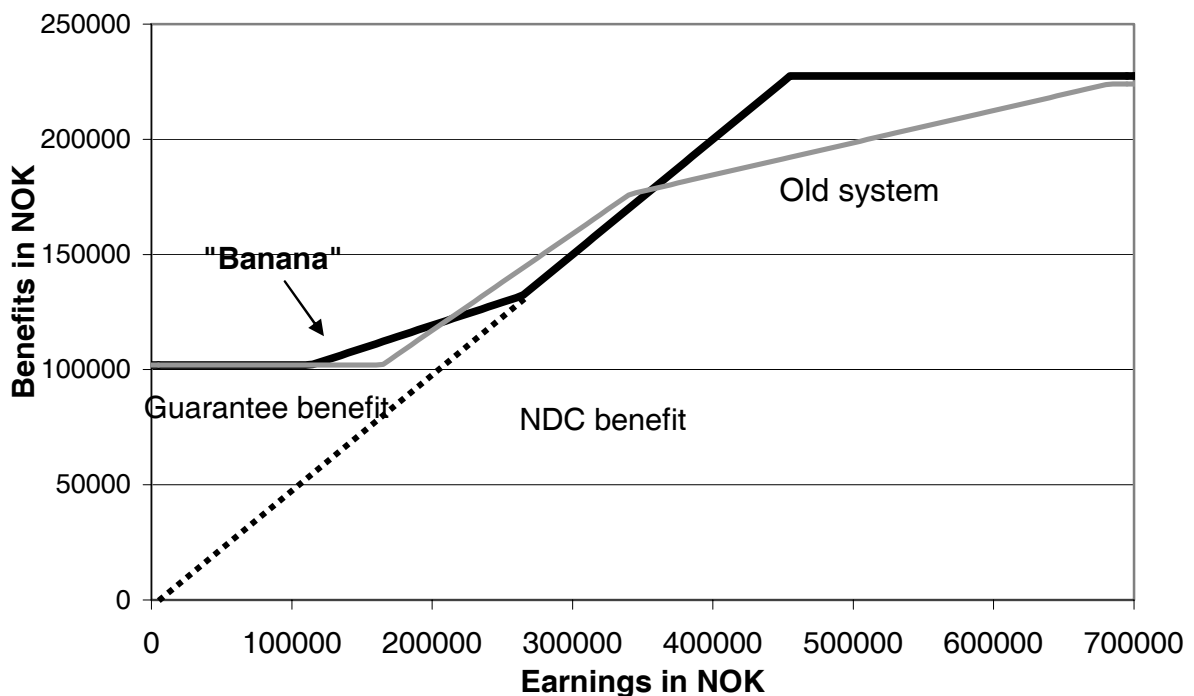
The first crucial point where the Swedish and Norwegian reforms diverge is in the design of the minimum pension guarantee. In both countries, the level of minimum protection provided by the old system has been taken as the point of departure for fixing the level of the new minimum pension guarantee. This implies that the guarantee will be fixed at a somewhat higher level in the reformed Norwegian system as compared to the Swedish system (appr. 9 400 EURO-PPP as compared to appr. 8 000 EURO-PPP for a single pensioner in 2004). The minimum guarantee is payable from an age corresponding to the normal retirement age in the respective old systems (65 years in Sweden and 67 years in Norway).

As discussed in section 4 above, the integration of a relatively generous minimum guarantee with the earnings-related part of the system raises difficult dilemmas. In the Swedish 1994 reform proposal, the design of the minimum pension guarantee was discussed in relation to three basic concerns: a) ensure that the distributive profile of the reformed system should not deviate too much from the old system (reduce compensation levels for lower earnings, b) guarantee that all pensioners would have at least some effect of accrued NDC-pensions, and c) limit the share of the population whose marginal pension accrual was affected by the withdrawal of the benefit guarantee (SOU 1994:20:214). While the two first of these concerns would require that the rate of withdrawal should be mild and always lower than 100 percent, the third concern calls for a rapid withdrawal. In the final legislation of 1998 it was decided to combine an initial 100 percent rate of withdrawal with a taper of 48 percent for earnings-related benefits in excess of a certain threshold. This solution has been dubbed the «banana». It ensures that all except a small minority in the very lower

part of the earnings-distribution will have some effect of contributions paid into the NDC and FDC-schemes, and it ensures that the combined benefit profile is progressive over a larger part of earnings-distribution. The downside is, however, that a very substantial share of the Swedish population – given the present levels of earnings – can expect to be affected by the 48 percent taper and, hence, to have their effective marginal pension accrual seriously curtailed (Scherman 2001).

In the Norwegian reform proposal a similar solution has been adopted, but with a tougher «banana»-taper of 60 percent. By selecting a tougher rate of withdrawal the Norwegian reformers have avoided that the taper interval stretches too far up the earnings distribution (a 48 percent taper would have brought it well beyond the median earnings for both males and females). The resulting combined benefit profile of the Norwegian reform is shown in figure 3.

*Figure 3. The relationship between earnings and retirement benefits for a single pensioner with stable earnings over a 40 year labour market career. 2004. The Norwegian reform proposal and the “old system”( marked with the grey line).*



However, the crux of the Swedish solution to the dilemmas associated with a targeted minimum benefit guarantee lies in the choice of

indexation rules. While all parameters and pension rights accrued in the NDC-scheme are to be indexed with the development in average wages, the minimum benefit guarantee is only to be indexed with prices. The minimum benefits guarantee is programmed to be gradually marginalized in line with future growth in real wages, and the system will converge towards full proportionality. The potential problem of negative incentive effects associated with the minimum benefit guarantee, has been removed by sending a clear message that the guarantee is likely to become very poor in relative terms. With a steady growth in real wages of 2 percent per year, it will take 35 years before the level of the minimum pension guarantee is reduced to 50 percent of its present relative value. It can be objected that a future decline in the relative generosity of the minimum pension guarantee is likely to be compensated by means-tested housing allowances and social assistance benefits, or alternatively that the system does not prevent future politicians to make discrete decisions about raising the minimum guarantee in line with general improvements in living standards.<sup>14</sup> However, neither of these prospects would seem to honour concerns for transparency and accountability and issues related to negative incentives, incomplete take-up etc. would come back with full force.

In Norway the Pension Commission has taken for granted that the level of minimum protection offered by the reformed system must be maintained also in relative terms. The minimum guarantee is to be indexed with average wages and modified in line with future increases in longevity in order to match the development in accumulated NDC-rights. This implies that the benefit profile and the associated incentive structure indicated in figure 3 will be a permanent feature of the reformed system. In order to escape the 60 percent taper as a single pensioner you need lifetime earnings in excess of 10.6 million NOK, and a substantial fraction of future Norwegian pensioners will not meet that criteria. For the 1970 cohort it has been projected that the median life-time earnings (including credits for child-rearing, disability years,

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<sup>14</sup> This latter option is alluded to in SOU 1994:20: «Those demands for increasing benefit levels that might arise during period of real economic growth, should be left to be handled in the political process» (page 218, my translation).

etc.) will amount to approximately 11.6 million NOK for women and 14.1 million NOK for men.<sup>15</sup>

An important characteristic of the Swedish pension reform is the speed of implementation. Only cohorts born in 1937 and earlier will remain fully in the old system, while cohorts born in 1951 and later will be fully covered by the new system. The pension rights of the intermediate cohorts will be calculated as a weighted average of benefits due under the old and the new system with the weight given to the new system increasing on a sliding scale from the oldest to the youngest cohorts. A similar approach is to be used in the Norwegian reform. Cohorts born before 1951 will remain entirely in the old system while cohorts born in 1965 and later will be fully transferred to the new system.

## **Implications for the future benefit distribution**

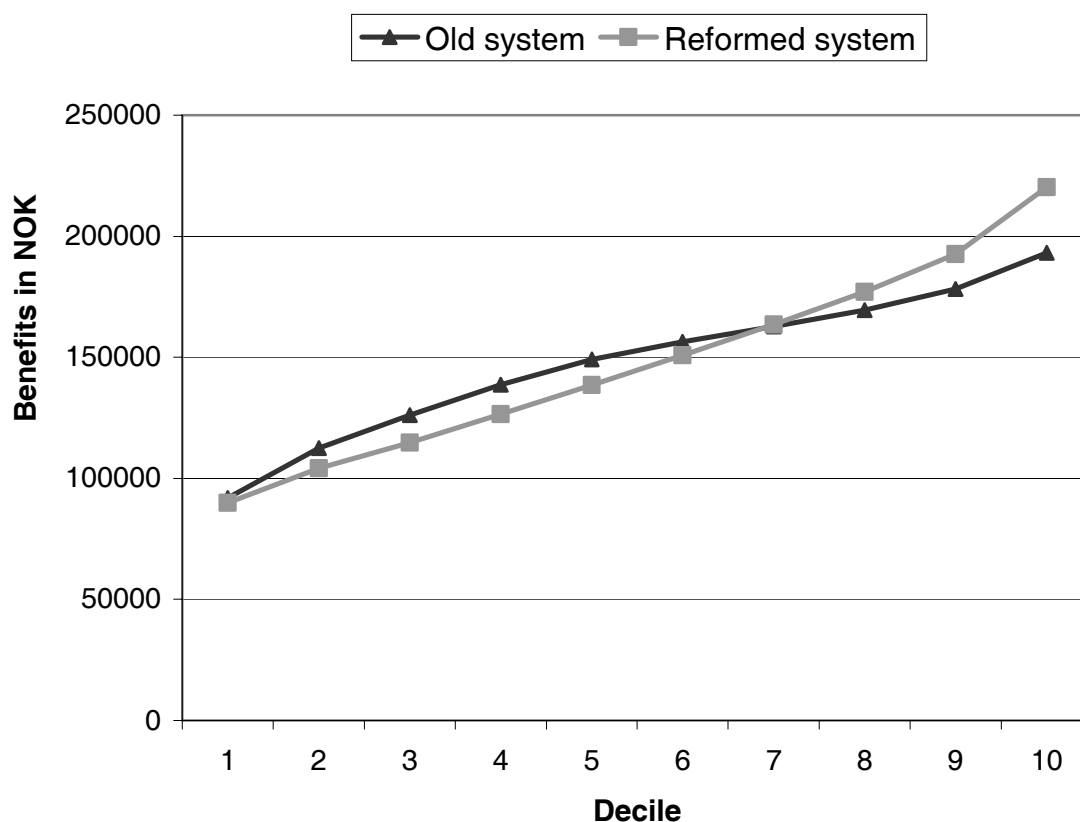
In its final report the Norwegian Pension Commission has made various attempts to throw light on the consequences of the reform for the future distribution of retirement benefits. These attempts rely on the DB version of the reform, the existence of which makes it easier to estimate future benefits and to compare with projected benefits under the current DB-system. On behalf of the Commission, Statistics Norway has produced projections of the benefit distribution in the year 2050 under the existing and the reformed systems, based on a dynamic micro-simulation model of the Norwegian population.

Main results from these projections are summarized in figure 4 and table 2 (see also NOU 2004:1, table 7.7). Figure 4 shows the average benefits accruing to each decile under the existing and the reformed systems. In order to focus exclusively on a comparison of the distributive profile, the reformed system has been calibrated to produce the exact same level of expenditure as the existing system (i.e. the expected proportional cut backs in future benefit levels due to the introduction of the longevity factor and the modified indexation of running benefits have not been taken fully into account).

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<sup>15</sup> Unpublished calculations carried out by the Norwegian National Insurance Administration.

Figure 4: The projected distribution of old age pension benefits under the old Norwegian system and the proposed reform. Mean benefits across deciles: prognosis for the year 2050.



Source: adapted from NOU 2004:1, table 7.7.

One can see that despite the high level of minimum protection offered and despite the introduction of the «banana» that extends the redistributive element beyond the very bottom of the earnings distribution, the distribution of old age benefits will be markedly more unequal under the reformed system as compared to the existing system. This is brought out more systematically in table 2 showing the corresponding Gini-coefficients for the population of male and female pensioners, respectively. Table 2 also shows that the gender gap in average benefits will grow as a result of the pending reform (despite the introduction of more generous contribution credits for caring for small children), but this latter effect is rather modest.

*Table 2: Inequality in the distribution of old age pension benefits among male and female pensioners and the gender gap in average benefits: prognosis for the year 2050.*

	<b>Gini-coefficient</b>		<b>Gender gap (male/female)</b>
	Men	Women	
Present system	0.10	0.12	1.11
Reformed system	0.15	0.14	1.16

*Source: Statistics Norway (MOSART) and own calculations.*

Similar calculations are lacking for Sweden, but there is no reason to believe that the results would differ significantly in a favourable direction, particularly not if account is taken of an expected gradual marginalization of the minimum benefit guarantee.

## **The financial structure of the reformed systems**

The NDC-scheme of the new Swedish pension system is self-financing and autonomous from the general state budget. When the scheme was established, it took over pension liabilities from the old ATP system as well as a part of the remaining ATP buffer fund. Current contributions that are permanently fixed at 16 percent of the wage bill must from now on – together with returns and capital from the buffer fund – be sufficient to cover the total pension liabilities of the system. In order to guarantee the long-term financial stability of the system it has been necessary to introduce a complementary mechanism – the so-called «*Automatic Balancing*» that was put into force from 2002. The mechanism is quite complicated but the main features can be briefly described: Every year the financial status of the system is summarized in terms of a «balance figure». The balance figure is calculated by complicated mathematical formulas, where an expression for the total assets of the system (the size of the buffer fund and the stock value of current contribution streams) is divided by an expression for total pension liabilities (see Riksförsäkringsverket 2000 and Settergren 2001). If the balance figure – due to an unfavourable development in demographic or economic variables – starts to show values below unity, the indexation of accrued pension rights and current retirement benefits will automatically be curtailed until the system – sooner or later - comes

back into balance. If the system after a period of under-indexation should start to show a surplus, the indexation of pension rights will be over-compensated, but only until they are back on track with average wages. While current and future pensioners must carry the full costs of a long-term deficit, it has not yet been decided who shall reap the benefits if the system should head for a long-term financial surplus (Settergren 2001).

The Norwegian pension reformers have chosen not to incorporate this very crucial aspect of the Swedish reform and thereby avoid what would seem to be a logical implication of the NDC-model. The Norwegian NDC-system is to be fully integrated in the general state budget, rather than autonomous and self-financing. Although the Commission suggested to redefine part of the existing pay-roll tax and social insurance contributions to form a 17.5 percent pension contribution, the revenues were not be earmarked for the pension system and not required to cover expenditures. In stead the Commission suggested that the implicit funding strategy, where yearly surpluses on the state budget are transferred to the Petroleum Fund, should be continued, and the fund be renamed as the State Pension Fund. There will be no mechanisms linking fluctuation in the size and returns of this fund to the development in pension expenditure – for instance through the indexing of pension rights and current pension benefits. In stead the Commission proposes the introduction of a new set of supplementary fiscal policy guidelines concerning the ratio between the size of the State Pension Fund and total pension liabilities, but without suggesting any specific measures to be implemented if the guidelines are broken (NOU 2004:1).

The Government has in its White Paper taken this deviation from the standard NDC-model one step further, by renouncing the idea to rearrange existing payroll taxes and social security contributions in order to formally specify a pension contribution that matches the pension wealth accrual rate of 17.5 percent of annual earnings (Stortingsmelding 12 (2004–05): 84-86). In other words: the individual's contributions to the system will remain undefined, and therefore we are dealing with a hybrid model that defies classification under the NDC-label.

## 6 Summary and conclusion

The Swedish pension reform is an innovative and radical attempt to revise the Scandinavian pension model and adjust it to the challenges of population ageing. But while it is clearly successful in its pursuit of long-term financial sustainability, the reform sacrifices core values that are generally associated with the Scandinavian model of pension provision – the achievement of a balanced sharing of risks between workers and pensioners and a substantial vertical redistribution of lifetime income. I have in this paper discussed two technical aspects of the Swedish reform that I believe to have facilitated the break with basic distributive concerns: the move from a DB to a NDC-formula and the replacement of the universal basic pension with a minimum pension guarantee.

The NDC-formula requires that all the relevant economic and demographic risks of a pay-as-you-go system are transferred to the benefit side and, hence, carried by current and future pensioners. In Swedish reform this has been clearly recognized and the necessary mechanisms have been implemented in the form of the Automatic Balancing. This guarantees that the economically active population will never be required to raise the contributions to the NDC system from the current 16 percent; and since the NDC system is financially autonomous, it will not be a potential drain on the general state budget. The question is however whether the NDC-model is politically sustainable under adverse economic and demographic conditions. Will future politicians in Sweden be able to live with a sustained activation of the Automatic Balancing producing a growing gap in living standards between old age pensioners and the economically active population?

The new Swedish pension system realizes the principle for distributing risks in a pay-as-you go pension system that Richard Musgrave (1981) has called the «Fixed Contribution Rate» (FCR) in contrast to the «Fixed Replacement Rate» (FRR) principle of the classical social insurance scheme. Musgrave shows that these are radically opposed versions of the generational contract: FRR requires that all demographic risks are carried by economically active population,

while FCR leave them on pensioners. He argues that neither is likely to be politically sustainable under adverse demographic conditions, and suggest the principle of «Fixed Relative Positions» (FRP) as an attractive third alternative. The FRP principle entails a perfect sharing of all economic and demographic risks between workers and pensioners, and it can be obtained in an autonomous social insurance scheme where contributions rates are constantly adjusted to match current expenditure while accrued pension rights and benefits are indexed with developments in (gross) wages net of pension contributions (a practical realisation of this principle was achieved in the German pension system after 1992 reform, see Schmähl 1999). It could alternatively be obtained by letting the pension system be financed by general taxation with mechanisms to ensure that tax-rates on workers and pensioners are adjusted proportionally to meet changes in pension expenditure.

John Myles (2002) has made a strong case for the FRP principle as a guide to deal with the contemporary challenge of population ageing, but he also suggests that it might be justified to apply it to some risks only (like fertility and labour force participation rates) while letting other risks – particularly the longevity risk – be carried exclusively by pensioners (see also Schokkaert and Van Parijs 2003 and comments by Myles 2003 and Oksanen 2003).

The Norwegian version could be seen to follow this recommendation in so far as it entails a rather complex allocation of demographic and financial risks. The longevity risk and the risk for a continued decline in effective retirement ages are to be carried by future pensioners, while the remaining demographic and economic risks are left to be carried by the state budget. Rather than transparent risk-sharing between workers and pensioners, this solution entails an opaque transfer of risks to the general state budget. This seems particularly problematic considering the rigid rules for the accrual and indexation of pension rights in the reformed system. There is a real danger that the pension system will demand a growing share of total tax revenues and thereby crowd out other desirable expenditure, particularly in scenarios with a shrinking labour force and failing returns from the petroleum assets. In addition this hybrid version of the «NDC»-model would

appear to suffer from a serious pedagogical deficit. When the accrual of pension rights takes the form of proportional deposits on notional accounts, it seems all the more logical to clarify «who-pays-what» by ensuring that the deposits correspond to the payment of earmarked contributions.

The second key aspect of the two reforms, the replacement of the universal basic pension with a targeted minimum benefit guarantee, restricts vertical redistribution to affect only the lower part of the income distribution and aiming at poverty prevention only. This can be presented as a logical extension of a general attempt to shed out redistributive elements in the systems that do not have a strong ethical foundation. In its most extreme form – with a 100 percent taper – it establishes a minimum income guarantee, while minimizing expenditure and interference with an otherwise proportional pension system. If one believes that it is both ethically and instrumentally important to strengthen the link between contributions and benefits this seems (at least at first glance) to be a very attractive solution.

However, the achievement of full proportionality between contributions and benefits over main parts of the earnings distribution can only be achieved by a more or less complete violation of this principle in the lower part of the earnings scale. The provision of a generous minimum guarantee will inevitably produce tax wedges and interfere with the contribution-benefit link. The question is: how shall the implicit marginal tax-load be distributed across the earnings distribution? Shall it be concentrated in the bottom end by a 100 percent taper or spread out over larger segments with a milder rate of withdrawal? The logical endpoint of this continuum is a situation where the taper is set to zero; i.e. a system with a universal benefit floor. The crux of the universal approach to minimum protection in old age is that it spreads the marginal tax load associated with the provision of an effective benefit floor on all wage earners or – if financed out of general taxation – on all tax-payers.

An efficiency argument could be advanced in favour of the minimum guarantee approach: concentrating high marginal tax rates in the lower part of the earnings distribution helps to minimize the share of the working population that is directly affected for a given level of

minimum protection. On the other hand it is a well established empirical fact that individuals in the lower part of the earnings distribution tend to be the most sensitive to high marginal tax rates (Røed and Strøm 2002) and, hence, even concerns for the maximisation of labour supply could in the final analysis point in the direction of a more universal and more generally redistributive system of minimum protection.

In the Norwegian reform proposal the design of the minimum benefit guarantee represents a rather murky compromise. The «banana» taper secures that redistribution will affect a significant part of the lower earnings-distribution, and it is at the same time accepted that the contribution-benefit link is permanently weakened for a considerable minority of the population. The Swedish solution appears at first sight to do the same, but at closer inspection it turns out to avoid the intricate dilemma between redistribution and work incentives by abandoning the goal of maintaining a high level of minimum protection in the long run.

The final conclusion is then that neither of the two reforms stand out as convincing attempts to adjust the Scandinavian pension model to the economic and demographic realities of the 21. Century. While the Swedish prototype sacrifices crucial distributive objectives, the «softer» Norwegian version is inconsistent and fails to secure economic sustainability.

# Sammendrag

Notatet inneholder en sammenlignende drøfting av Pensjonskommissionens forslag til reform av folketrygden og den svenske pensjonsreformen som trådte i kraft i 1999. Pensjonskommissionens forslag er sterkt inspirert av det nye svenske pensjonssystemet. Den svenske pensjonsreformen har internasjonalt fått stor oppmerksomhet som modell for å løse de demografiske og økonomiske utfordringene som de offentlige pensjonssystemene står overfor. Kjernen i den svenske reformmodellen består av to elementer: a) overgangen til et innskuddsbestemt prinsipp for opptjening av pensjon og b) avviklingen av den universelle grunnpensjonen til fordel for en målrettet garantipensjon. Det argumenteres for at det første elementet fører til en omdefinering av generasjonskontrakten slik at de demografiske og økonomiske risikoer i tilknytning til pensjonssystemet legges ensidig på de fremtidige pensjonistene, mens det andre elementet innebærer en vesentlig svekkelse av den omfordeling av livsløpsinntekt innen hver generasjon som hittil har vært innebygget i de skandinaviske pensjonssystemer. I det nye svenske pensjonssystemet er disse elementene gjennomført med konsekvens mens det norske reformforslaget er mindre radikalt og samtidig mindre konsistent både når det gjelder den innebygde generasjonskontrakten og mekanismene for inntektsomfordeling innad i hver generasjon.



# References

Anderson, Karen M. and Meyer, Traute. 2003. Social Democracy, unions and pension politics in Germany and Sweden. *Journal of Public Policy*. 23(1): 23-54.

Barr, Nicholas. 2002. Reforming Pensions: Myths, Truths and Policy Choices. *International Social Security Review*. 55 (2):3-36.

Castel, Paulette and Fox, Louise. 2001. «Gender dimensions of pension reform in the former Soviet Union». In Holzmann, Robert and Stiglitz, Joseph E. (ed): *New ideas about social security*. Washington DC: World Bank.

Cichon, Michael. 1999. «Notional defined-contribution schemes: Old wine in new bottles?» *International Social Security Review*. 52 (4):87-105.

Disney, Richard. 1999. «Notional accounts as a pension reform strategy: An evaluation.» Pension reform primer. No.1. Washington DC: World Bank.

Eriksen, Tor og Palmer, Edward. 2004. «Swedish pension reform: comments and reflections.» In Øverbye, Einar and Kemp, Peter A. (ed.). *Pensions: challenges and reforms. International studies on social security, volume 9*. Aldershot: Ashgate.

Heclo, Hugh. 1974. *Modern social policies in Britain and Sweden*. New Haven: Yale University Press.

Holzmann, Robert. 2004. Toward a reformed and coordinated pension system in Europe: Rationale and potential structure. Unpublished paper. Washington DC: World Bank.

Knox, David and Cornish, Roselyn. 1999. «The development of some characteristics for equitable national retirement income systems». *International Social Security Review*. 52:25-45.

Koren, Charlotte (2001) *Minstepensjon og minstepensjonister*. Report 19/91. Oslo: NOVA.

Kruse, Agneta. 2000. *Pension Reforms; Effects on Intergenerational Risk-Sharing and Redistribution*. Paper presented at the EISS conference in Gothenburg 6-10. September 2000.

Lundberg, Urban. 2003. *Juvelen i kronan. Socialdemokraterna och den allmänna pensionen*. Stockholm: Hjalmarson og Högberg.

- McGillivray, Warren R. 2003. «Ten years of public pension reform.» In Takayama, Noriuku (ed.) *Taste of Pie: Searching for Better Pension Provisions in Developed Countries*. Tokyo: Maruzen.
- Molin, Björn. 1965. *Tjänstepensionsfrågan: En studie i Svensk partipolitik*. Göteborg: Akademiförlaget.
- Musgrave, Richard A. 1981. «A reappraisal of financing social security». In Skidmore, Felicity (ed.) *Social security financing*. Cambridge Mass.: MIT Press.
- Myles, John. 1989. *Old age in the welfare state. The political economy of public pensions*. Lawrence: University Press of Kansas.
- Myles, John 2002. «A new social contract for the elderly?» In Gösta Esping-Andersen et al. (eds.). *Why we need a new welfare state*. Oxford: Oxford University Press.
- Myles, John. 2003. «What justice requires: pension reform in ageing societies». *Journal of European Social Policy*. 13: 264-2268
- Myles, John and Pierson, Paul. 2001. «The comparative political economy of pension reform». In Pierson, Paul (ed.). *The new politics of the Welfare State*. Oxford: Oxford University Press.
- NOSOSCO. 2001. *Social Protection in the Nordic Countries 1999. Scope, expenditure, and financing*. Copenhagen: Nordic Social Statistical Committee.
- NOSOSCO. 2003. *Social Protection in the Nordic Countries 2001. Scope, expenditure, and financing*. Copenhagen: Nordic Social Statistical Committee.
- NOU 2004:1 'Modernisert folketrygd. Bærekraftig pensjon for framtida'. Oslo: Norges Offentlige Utredninger.
- Oksanen, Heikki. 2003. «The debate on pensions: more rigour required in the middle field». *Journal of European Social Policy*. 13: 269-272.
- Palme, Joakim (ed.). *Hur ble den stora kompromissen möjlig? Politiken bakom den svenska pensionsreformen*. Stockholm: Pensionsforum.
- Palmer, Edward. 2000. «The Swedish pension reform model: Framework and issues.» WB Social Protection Working Paper no. 0012. Washington DC: World Bank.
- Palmer, Edward. 2002. «Swedish pension reform: How did it evolve, and what does it mean for the future?». In Feldstein, Martin og Siebert, Horst (eds.). *Social security pension reform in Europe*. Chicago: Chicago University Press.

Pedersen, Axel West (1990) *Fagbevegelsen og folketrygden. LOs målsetninger, strategi og innflytelse i pensjonspolitikken 1945-1966*. Fafo-report no. 110. Oslo: Fafo.

Pedersen, Axel West. 1999. *The taming of inequality in retirement: A comparative study of pension policy outcomes*. Fafo-report no. 317. Oslo: Fafo.

Pedersen, Axel West; Hatland, Aksel og Øverbye, Einar. 2001. «Svarteperspill eller spleiselag? Fordelingen av risiko i folketrygden, det svenske pensjonssystemet og private pensjoner». *Tidsskrift for Velferdsforskning* 4(3): 153-168.

Pensionsarbetsgruppen 2002. «Et reformerat pensjonssystem – Bakgrund, principer och skiss». Socialdepartementet Ds 1992:89. Stockholm: Allmänna Förlaget.

Pensjonskommissjonen 2002. Foreløpig rapport fra Pensjonskommissjonen 4. september 2002. 'Mål, prinsipper og veivalg for pensjonssystemet'.

Persson, Mats. 1991. «Vad är det för fel på ATP-systemet?» *Ekonomisk Debatt* 19:205-218.

Riksforsäkringsverket. 2000. *Automatisk balansering av ålderspensions-systemet – redovisning av regeringens beräkningsuppdrag*. Analyserar 2000:1. Stockholm: Riksforsäkringsverket.

Røed, Knut and Strøm, Steinar. 2002. «Progressive taxes and the labour market: Is the trade-off between equality and efficiency inevitable?» *Journal of Economic Surveys*. 16:77-111.

Scherman, Karl Gustav. 2001. *Den nya pensionen. En reform med stora problem*. Stockholm: Sveriges Pensionärsförbund

Schmähl, Winfried. 1999. «Pension reforms in Germany». In Müller, Katharina et al (eds.) *Transformation of Social Security: Pensions in Central-Eastern Europe*. Heidelberg: Physica-Verlag

Schokkaert, Erik and Van Parijs, Philippe. 2003. «Social justice and the reform of Europe's pension systems». *Journal of European Social Policy*. 13: 245-263.

Settergren, Ole. 2001. «The automatic balance mechanism of the Swedish pension system – a non technical introduction». I *Wirtschaftspolitische Blätter*, nr. 4/2001.

SOU 1994:20 'Reformerat pensionssystem'. Socialdepartementet. Stockholm: Allmänna Förlaget.

Stephens, John D. 1995. «Preserving the social democratic welfare state». *Nordic Journal of Political Economy* 22:143-162.

Stortingsmelding 12 (2004-05): Pensjonsreform – trygghet for pensjonene. Oslo: Finansdepartementet.

Ståhlberg, Ann-Charlotte.1990. «Life cycle income redistribution of the public sector: Inter and intragenerational effects». In Persson, Inga (ed.): *Generating equality in the welfare state. The Swedish experience*. Oslo: Universitetsforlaget.

Tegle, Stig. 2004. «Det nya svenska pensionssystemet: Århundredets pensionsreform?». *Økonomisk Forum* no. 1 2004:23-30.

Turner, John. 2004. «Individual accounts: Lessons from Sweden». *International Social Security Review*. 57(1):65-84.

Williamson, John B. 2004. Assessing the pension reform potential of notional defined contribution pillar. *International Social Security Review*. 57(1):47-64.