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Social Security Reform with a focus on the Netherlands

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It is a great honor to be invited to give the Tinbergen Lecture. Given Tinbergen's strong interest and contributions to issues of both economic growth and the personal distribution of income, it is appropriate for me to talk about social security reform, a subject that matters greatly for both growth and income distribution. In addition, overall, research on social security shows the basic hallmarks of Tinbergen's approach – rigorous theoretical analyses, careful empirical work and great policy relevance.

The coming retirement of the baby-boom generation has generated projections of financial difficulty for retirement income systems around the world. Different countries have moved different distances in preparing for this event. In addition, there are two issues that should arise when social security reform is addressed. One is the ability of the systems to continue to adapt after the baby-boomers have all retired - for some systems, the financial difficulties do not end with the financing of retirement for the baby-boomers. Second is the pattern of labor market incentives incorporated in the currently legislated systems. The former is an issue because the trend to longer lives is expected to continue for a long time. The latter is an issue since many countries have systems with poor labor market incentives.

[1] I have benefited from comments by Olivier Blanchard, Lans Bovenberg, Tom Davidoff, Klaas de Vos, Frank Den Butter, Pieter Gautier, Egbert Jongen, Arie Kapteyn, Pierre Koning, Jim Poterba, Peter Stein, Peter Temin, Coen Teulings, Harry van Dalen, Charles Wijnker and from reading some of the literature available in English and listed in the references. For my views on additional issues in social security reform, see my web page: web.mit.edu/pdiamond/www.

Today, I want to focus on these two additional issues since people are well aware of the financial pressures from the coming retirement of the baby-boomers and of the value of early adjustments to anticipate this event. Indeed, the Netherlands has taken several steps in preparation and has a system with considerable reliance on funded private pensions, making the fertility-driven aging here process less of a problem than in most other countries. But it is important to recognize that a steady level of funding is not, by itself, a sufficient response to aging that is driven by improving mortality. I want to start by discussing possible responses to such increased longevity. Then, I will turn to issues of labor market incentives.

Increased longevity

To set up the issue of increased longevity, let us consider what a worker without social security would do upon learning that life expectancy would be longer, either for the worker or the worker's spouse. Such information is likely to come with changing expectations of being able and willing to work at advanced ages, but I will ignore that at first. Upon learning that you are likely to live longer, the previous combination of consumption before retirement, consumption after retirement and retirement age is no longer financially feasible. That is, the previous length of career is no longer sufficient to finance the previously planned lifetime consumption package. A sensible response would use all three available margins. Working somewhat longer is sensibly part of the package. So too is consuming somewhat less both before and after retirement. Consuming less before retirement is an increase in savings or contributions to a pension plan. Consuming less after retirement is having a lower monthly benefit for a worker relying on a pension for retirement income.

We need to examine how a pension system should adapt to the same arrival of information for a population relying primarily on the pension system for its retirement income. For a decrease in consumption before retirement there should be an increase in contributions. For a decrease in consumption after retirement there should be a decrease in monthly benefits for any given retirement age. To have workers choose longer careers

in order to have higher benefits, a system needs good incentives to work longer. Only then will workers partially offset the decline in retirement benefits by working longer. Thus a good financial incentive to more work, including an increase in future benefits as a consequence of working longer, is a critical part of enabling workers to adapt to changing circumstances. Any improved ability of workers to earn at advanced ages would further strengthen the importance of significant incentives for continued work.

I have described this for a given cohort of workers who receive new information. We can use this as the basis for considering how retirement income systems should vary across cohorts when later cohorts are expected to live longer than earlier ones. In addition to living longer, later cohorts are likely to be wealthier than earlier ones. That is, we expect technological progress to continue raising wages and we expect technological progress and rising incomes to contribute to continuing declines in mortality rates. Since we expect a population receiving more income to take more leisure, this increased wealth will tend to offset the impact on retirement ages of an increased ability to earn. Historically the wealth effect has dominated the improvements in mortality and health and there has been a long-term trend to earlier retirements. This has been further encouraged at some times by social security systems, although the trend to earlier retirements is not restricted to times of increasing generosity of social security. I do not know which element, wealth or health, will dominate the trend in the future. While it is useful to predict the trend to have a sense of system costs, this prediction becomes less important when systems accommodate different retirement choices without large financial impacts. This will be the case when adjustments of benefits for the age of retirement are close to actuarially fair. Moreover, good labor market incentives are important since there will be different changes in wealth and ability to work for different workers.

Increased longevity puts pressure on retirement systems that try to maintain monthly benefits, whether they are funded or unfunded. Indeed, in present discounted value terms, the increased cost of financing monthly benefits for longer retirements is the same in both types of systems. What may be different is the timing of responses, as funded

systems that try to stay fully funded will be pressed to respond more in the early years after a realization of improved mortality. Earlier responses allow later responses to be smaller when solving a given financial problem.[2]

I will review how the retirement income systems in four different countries are legislated to adapt to increasing longevity (assuming no further changes in legislation and no trend in interest rates) – Chile, Italy, Sweden, and the US. Chile has a mandatory defined contribution, or DC, pension system. That is, Chilean workers are mandated to make deposits in accounts held by mutual funds, with their retirement benefits financed by the accumulations in their own accounts, although there is also a guaranteed minimum benefit. Neither the mandatory savings rate nor the age at which benefits can be claimed is legislated to change. That is, none of the response to improved mortality rates is legislated to happen in mandatory contributions. Because it is a DC system, longer life expectancy for a worker who is purchasing an annuity would result in lower monthly benefits for any given age at purchase. A worker choosing to work longer can claim benefits nonetheless. Or the worker can wait to get higher benefits from both additional savings and later annuitization, since annuities are cheaper for older workers. So the response of the Chilean system depends not only on the work decision but also on the separate decision of whether to start benefits. (A similar analysis holds for workers who do not annuitize, but use monthly withdrawals, thereby running the risk of outliving their retirement savings.) Thus, individuals can work longer and start benefits later to offset some of the decline in monthly benefits from longer life expectancy. For a worker who does this, all of the additional contributions and all of the savings from delayed benefits accrue to the worker. In a DC system such as in Chile, there will be little or no pressure on the legislature to increase the mandatory savings rate. Thus, this part of the response to improved mortality rates is likely to be absent. For many workers there will not be a voluntary savings response either. Without a savings response, the Chilean system is

[2] A contrast between funded defined benefit systems and funded defined contribution systems is that the response to maintaining monthly benefits over longer lives is naturally spread over more cohorts with the former. This would be particularly an issue if there were a scientific breakthrough that significantly increased life expectancy suddenly. Some workers nearing retirement would have little time to adapt in a DC system.

likely to see a drop in replacement rates as we look across cohorts towards ones who live longer. This does not seem to me to be optimal.

Italy and Sweden have recently legislated defined benefit systems with a similar approach. Both have adopted what are called Notional Defined Contribution systems, which I will refer to by the acronym NDC. This is part of the Swedish system and a very distant replacement for the Italian system. An NDC system is similar to a DC system in that benefits are based on the entire history of contributions. It differs from a DC system in that are these contributions are accumulated using a legislated notional return rather than actual returns on actual investments. The growth rate of average or total wages or GDP is the kind of notional return that makes sense for an NDC system, since it relates benefit claims to the central source of revenue – wages. As with a DC system, an NDC system needs to convert its notional accumulation into a monthly benefit. Both countries follow the DC approach of basing benefits on life expectancy and interest rates. However both deviate from what would be private insurance company practice. In Italy, the adjustments for life expectancy need to be approved by parliament, rather than being automatic. In Sweden, the calculation is based on actual mortality experience in the previous five years, rather than a projection of future mortality for the people receiving the benefit.[3] In addition to adjusting benefits for cohort mortality at the first age of benefit eligibility, an NDC system, like a DC system, adjusts benefits for the age at which a worker begins receiving benefits. Thus, as in Chile, Sweden is likely to have little pressure on the political system to raise taxes in response to longer lives, and individual workers can increase benefits significantly by working longer and delaying the start of benefits.

The US social security system is a partially-funded defined benefit (or DB) system. The partial funding of an otherwise pay-as-you-go system serves two purposes. One is to

[3] This approach in Sweden makes benefits larger than they would otherwise be, using some of the accumulation of actual assets in the system to finance these higher benefits. But the approach gives a larger fraction of the increased benefits to cohorts retiring in the near future rather than those retiring in the distant future compared with increasing all benefits by the same percentage. This peculiarity of the Swedish design is a consequence of some subtle interactions in effects.

smooth the financing of benefits, increasing net revenues while the funding is built up in order to have less financial need once there is a fund that is earning a return. Secondly, by having a fund, there is a decrease in the tendency to lower benefits in light of short-run government revenue shortfalls. Given the difficulty of the elderly to adapt to real income cuts, pension systems should be adjusted slowly and with considerable lead time and separation from short-term budget needs is a plus.[4] In 1983 legislation, the US Congress lowered future benefits in anticipation of longer life expectancies. It did this by increasing what is called the Normal Retirement Age (referred to as the NRA) from age 65 to eventually be 67. Congress did not change the age at which benefits could first be claimed, which remains 62. But, by raising the NRA, Congress lowered the benefits that would be paid for any given age at retirement. This does not have the same structure as would follow from actuarial calculations, since a larger percentage cut in benefits happens for workers retiring earlier. For those between 62 and the NRA, additional work implies a delay in the start of benefits. Thus there are higher benefits for two reasons – an adjustment for the delayed start of benefits and often higher lifetime average earnings (when earnings are high enough to count as part of the best 35 years in a worker's history of indexed earnings). For those between the NRA and 70, it is possible to claim benefits while working and so lose the increase in benefits from a later start. Benefits start by age 70 for everyone, precluding further increases as a consequence of further delay in starting benefits. As a DB system, increases in life expectancy, beyond what is accommodated by the legislated increases in the NRA, result in financial pressures on the system. Thus, unlike the DC and NDC systems, this DB system has pressure to increase taxes in order to preserve funding for longer lives. Like the other systems, additional work does raise benefits significantly, at least for some ages.

[4] The AOW benefits here in the Netherlands are indexed to the statutory minimum wage, which, in turn, is indexed to contractual wages. But the link between the minimum wage and the contractual wage was suspended during most of the 80's, thereby reducing AOW pensions below what was previously legislated. Instead, at some times, the benefits were frozen in nominal terms or increased in line with prices instead of wages. A fund could have permitted some benefit increase at a time when it was decided to freeze the minimum wage for employment reasons or short-term budget difficulties. Moreover, a fund is likely to affect political decisions. Recently, partial funding has been started, with a fund that is not meant to be tapped before 2020.

So, we have seen that both automatic adjustments and legislated anticipation of longer lives are two ways to adapt to the trend of improving mortality. In Chile and Sweden, all of the mandatory adaptation is on the side of lower benefits. In Italy, this issue stays on the legislative agenda by needing approval for the lowering of benefits for longer expected lives. In the US, the already legislated decreases in benefits are not sufficient to keep the system in balance, so the tension between lower future benefits and greater revenues remains part of the reform debate. Indeed, in their statements that partially address the social security issue, the two candidates for US President have taken very different stands. Governor Bush has stated that the payroll tax rate should not increase. Moreover, the large income tax cut he has proposed would prevent his following the line taken by Vice-President Gore, to transfer general revenues to social security, as was also proposed by the Clinton administration. It is also the case that Governor Bush is proposing to seek a higher expected return on assets (together with higher risk) by proposing individual accounts, which would include diversified portfolios. Vice-President Gore is opposed to individual accounts and has not followed the earlier stance of the Clinton administration that part of the social security trust fund should be invested in stocks and corporate bonds.

It seems to me to be sensible to allow some investment in stocks by a centralized trust fund that is earmarked for retirement benefits. In this way the fund would expect a higher return while taking on some more risk. This could be done with a restriction to index funds and with fiduciary responsibilities for the trustees overseeing such investment in order to keep investment decisions as far from political interference as possible. Indeed, several countries, including Canada and Switzerland, are pursuing this opportunity currently.[5] And it seems to me that a diversified portfolio would be good for the fund being built here to support future AOW benefits.[6] A portfolio completely in government bonds does not optimize the risk-return tradeoff.[7] That is, given the use of

[5] The pension fund for civil servants here (ABP) already invests in stocks.
[6] AOW is an acronym for Algemene Ouderdomswet. In 1999, these benefits are financed by a contribution rate of 17.9% on earnings up to 21,897 Euros. No tax is levied on incomes below 3,995 Euros.
[7] On portfolio choice for an earmarked government fund, see Diamond and Geanakoplos, 1999

the fund to permit benefits to be higher in the future than without such a fund, a fund with a higher expected return but more variation in return can result in varying levels of benefits that makes the risk-return tradeoff favorable. The AOW can spread the risk widely over cohorts. Moreover, many Dutch workers have no personal investment in stocks and little private pension exposure to stocks (because their pension is not large after the adjustment for the AOW) and would therefore not be taking on too much risk correlated with existing pension risks. It may be the case that a change in portfolio would have a good effect on the politics of the rest of the budget and on the cost of financing the existing debt (because of increased liquidity of a dwindling supply of bonds), but I am not in a position to evaluate these arguments.

Here in the Netherlands, the public AOW system provides benefits to people over age 65 based on years in residence and independent of work status. And there is very wide coverage by private pension arrangements. These mostly provide retirement benefits at age 65 and many of them have early retirement options as well. Neither the public AOW system, nor the private DB systems (which are the overwhelming number of private systems) have automatic adjustments of benefits for cohort life expectancy as far as I know (although I have not explored the full range of private arrangements). Thus, one issue that should be part of the discussion today is how the systems should adapt to increased life expectancies out in the future. While this could be left for later parliaments and later collective bargaining, there are asymmetries in these processes – it is easier to raise benefits than to lower them, and easier to lower benefits in the distant future than in the near future. This suggests that it might be useful to legislate now some future decreases in benefits to partially but not fully offset the expected cost of longer lives (and this might be considered as part of labor bargaining).

A tentative step in this direction has been taken for the AOW by the decision to limit the earmarked tax financing of the benefit (which is not paid by the elderly), thereby requiring future use of general revenues. Since the elderly do not pay the earmarked tax for AOW benefits and do pay income taxes on both benefits and other income, a higher income tax, rather than a further increase in the earmarked tax, does lower net income for

the elderly relative to younger workers. As another comparison, having a higher income tax to finance AOW benefits, rather than a cut in benefits, is also a decrease in net-of-tax AOW benefits, although much smaller since there is also a tax increase on the nonelderly. Among the elderly, it is not clear how this indirect approach to a net-of-tax benefit decrease compares with a (smaller) direct benefit decrease. To do a comparison one needs to select a marginal change in income taxation that is the political outcome for comparison purposes, and future income tax changes are not predictable. A further complication is that the net-of-tax AOW benefit is indexed to the net-of-tax minimum wage. Thus a change in income taxation may result in a change in the AOW benefit as well. Distributionally, reliance on general revenues is likely to be more progressive. And it is always a concern that reliance on general revenues can inject too much short-run budgetary concern into what should be a slowly evolving long-run system.

Retirement Incentives

I turn now from the long-term trend of improved mortality rates to the issue of labor market incentives. Good labor market incentives matter at any time, but they can also make adaptation to improved mortality smoother. At present in the Netherlands, the public system includes the AOW benefits, paid to everyone over age 65, and unemployment and disability benefits, for which eligibility ends at age 65, along with the obligation to pay taxes (contributions) to support these programs. The private pensions, which are mandatory in some sectors and uniform across firms in each such sector, provide benefits (generally) after age 65 although many plans have early retirement benefits as well.[8] I want to consider what economic theory has to say about retirement incentives.

Workers vary in many ways – in life expectancy, in job opportunities, in enjoyment or dislike of work, in degree of difficulty in continuing work, and in wealth and benefits for financing retirement. Thus, different workers should be retiring at different ages. A good

[8] Reaching age 65 is a legal reason for discharge, in contrast with strong job protections at younger ages.

system needs to have flexibility in retirement ages with sensible incentives. Such flexibility requires that there should not be too large an implicit tax on continued work, a tax that is present if a delay in taking up retirement benefits is not adequately offset by increased benefits after the delay.

In addition, the incentive to continued work can come in any mix of higher income before retirement and increased future benefits after retirement. Since some workers are consuming all of what they currently receive and doing no saving, the division of financial incentives between current pay and future benefits is important. On the one hand it is important to have part of the incentive be higher future benefits since many workers would otherwise consume too much of their available income early and so have too little consumption later in life. This is particularly an issue for widows who make up the bulk of the longest-lived.[9] It is worth remembering that private coverage of surviving spouses is not universal among private pension plans.[10] Indeed, the introduction of choice between higher worker benefits and survivor benefits in private pensions may cause future difficulties here, particularly for widows.[11] In the US, analysis of longitudinal data shows that on average women have a significant drop in their standard of living when they become widows.[12] I am not aware of any similar studies here. But even if there is no problem now, one may develop if survivor benefits are not chosen by enough workers. Experience in the US suggests that the fraction of men selecting joint

[9] In considering how much joint-life annuitization there should be, there are several factors to consider. A survivor needs more than one-half of what the couple had to preserve the same standard of living. Indeed the AOW gives a survivor 70 percent of what the couple received in benefits. Second, if husband and wife have different private pension benefits, without joint annuitization, one of them would have an even larger drop in living standard, on being the survivor, than if they both had the same benefits. It remains the case that women, on average, have much lower private pension benefits than men. This is likely to continue to be true even though labor force participation by women is rising.

[10] Also, not all workers are covered by private pensions. In 1999, 91 percent of Dutch employees between 25 and 65 were covered by pension plans on current work. Because of labor mobility and unemployment, some of these will not end up with significant pensions, while some of the uncovered 9 percent will. Thus, at retirement, there is a noticeable fraction that will be relying exclusively on public programs.

[11] One can have mandatory surviving spouse protection without cross-subsidies to single-earner couples.

[12] See Holden and Zick, 1998.

life annuities is very sensitive to the way in which the choice is posed to them (opt-in or opt-out). This issue should be closely monitored.

It is also the case that ideally not all of the incentive should be in future benefits. Since some workers may undervalue future benefits, it is useful to provide part of the incentive to work in current net-of-tax pay. In sum, it is best to have some implicit taxation of continued work, to help finance higher benefits for those retiring earlier, who are on average poorer; but not so much taxation as to be a poor choice in the tradeoff between labor market incentives and both insurance and redistribution.

Any system with a range of ages with retirement options is usefully supplemented with both unemployment and disability benefits.[13] There is no point in an incentive for work for those who really can not find a suitable job or really can not work at one. The problem is that it is impossible to measure either disability or unemployment with perfect accuracy. This is true even if one were trying to measure carefully, rather than deliberately using easy access to benefits as a (not really) hidden form of early retirement benefits, as has been the case here. In choosing the level of benefits and the degree of intensity of screening for eligibility for the unemployment and disability programs, it is necessary to recognize that there are two types of errors. Some workers who ideally should be working will end up with benefits, while others who should receive benefits will end up being denied. Thus one needs to balance these concerns and temper the generosity of the system compared to would be appropriate if there were no errors. And an early retirement option can be a backup for people who do not qualify for benefits, but perhaps should.

From the perspective of economic theory, with the movement away from excessively high implicit taxes on retirement,[14] the incentives in the combination of public and private systems here will be very good but does not seem fully optimal. For those not covered by private pensions, retirement benefits start at age 65, whether retired or not.

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[13] On the relationship between disability and early retirement systems, see Diamond and Sheshinski, 1995.

There is no early-retirement option except through unemployment or disability and no option for larger benefits for workers whose benefits start later (although such a provision was proposed when the system was initiated).

I have not looked in detail at either the unemployment or disability systems here. But, I gather that continuing to tighten the standards for benefits on both systems is seen as a good direction of further movement in light of the very high prevalence of benefit receipt. In the context of such tightening, there is a possible political as well as economic gain from considering early access to AOW benefits. Without recommending such access, let us consider how it might work. To avoid severe incentive problems early access must be accompanied by reduced benefits. The reduction should be close to being actuarially fair, although a little more generous than fair would be appropriate since the recipients are likely to have below average incomes. Limiting access to those who do not have a private pension would make such a system work better since those with such plans can arrange for early retirement through the plan (through bridge benefits) and the plans should not have the opportunity to use a supplementary early retirement benefit to take advantage of early AOW benefits when that is financially advantageous. Also, access should be limited to those with a substantial recent labor market attachment.[15] A further complication comes from the presence of social assistance for those over 65, which would offset the decline in benefits for some workers who would take AOW benefits early if that were available. This could be offset in the rules for social assistance if that were viewed as desirable. Such a change would complicate administration and be a major change in the perspective on guaranteed minimal incomes. I do not know enough to judge whether such a change would be good, but it seems worth considering, particularly if it helps in legislating a package that significantly tightens eligibility for unemployment and disability benefits. In contrast with this complexity and ambiguity, it seems good to have the option of larger benefits if they start later than age 65.

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[14] On implicit taxes see Kapteyn and de Vos, 1999.

[15] If there is elimination of the AOW supplement for a nonworking spouse younger than 65, there might be a case for earlier access for such spouses to smooth consumption before and after the younger spouse reaches 65.

Private Pensions

Private pensions here in the Netherlands come in a variety of institutional structures and benefit structures. But, whether sector-wide systems or systems for single large corporations, overwhelmingly they are DB plans, and roughly three-quarters have benefits based on final pay, adjusted for AOW benefits. Final pay is sometimes that of the last year and sometimes a somewhat longer period. As a general proposition, I consider final pay DB pensions to be a poor design for an economy. Some aspects of the Dutch economy make this less of a problem here than in other countries, particularly the compression of earnings compared with many other countries and the use of sector-wide pension systems. I still think it would be better to have some form of wage-indexed career average for DB pensions, a change that can be done without any decrease in average pensions, provided the benefit formula is changed at the same time as the base for pensions. In considering such a change it is also worth noting that the labor market here is evolving in the direction of more decentralized economic calculations.

There are two questions to ask about final pay DB pensions – are they fair to workers and do they have good labor market incentives? On fairness, comparing final pay pensions with career-average pensions, final-pay pensions give larger benefits to those who have higher pay at the end of their career relative to career-long pay.[16] In most countries it is the higher paid who have the steeper age-earnings profiles and so benefit the most from this backloading in benefit determination. Indeed those who rise more in the pay-rankings of jobs are those who have higher relative final pay. In terms of fairness, this compounds the other distributional fact of DB pensions – that they are worth more to the longer-lived. While women tend to live longer than men, it is also the case that higher-paid male workers tend to live longer than lower-paid male workers. I am not opposed to this effect of DB pensions since those who live longer have greater financial needs, ceteris paribus, but this effect needs to be kept in mind when evaluating final-pay pension benefits.

Final-pay pensions involve two problems in labor market incentives. One involves retirement decisions. Because of pension reliance on final pay, a worker would find it prohibitively expensive to accept a lower-paid job and stay with his employer beyond pension-eligibility age. Thus, retirement is over-encouraged relative to continued but decreased work under the same pension plan. Sometimes private arrangement of a consultant contract can get around this. But these are done only for important continuations of employment, possibly passing up many small efficiency gains. Depending on the adjustment of benefits for a later start, some plans may have high implicit taxes on work past age 65. It is true that a worker can change employers and so continue working past age 65 while receiving benefits from the first employer. But it does not seem to make good sense to require a change in employers to avoid a large penalty from a delayed start of benefits.

Second, some labor mobility across firms that do not share a common pension plan can also be thwarted since the backloading of pensions can make the move across different plans a potentially expensive hurdle for a change in employers. When workers switch pension plans, they might collect pensions from both old and new employers or they might collect a single pension, with the old employer transferring both assets and the pension liability to the new employer. The role of final pay in pension determination complicates the use of either method. In particular it can be difficult to determine the asset transfer between employers to cover the pension liability in a way that generates the right incentives for efficient labor mobility. Basing the transfer on accrued rights rather than projected rights does not produce efficiency. Because of the compulsory nature of shared sector-wide pensions here, this is less of a problem than when more pension systems are company-specific, although there are still some issues within a sector as well.[17] But still, at a time when economists are increasingly recognizing the value of

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[16] It is worth noting that career-average DB and NDC pensions that use wage or GDP growth to calculate average earnings or to accumulate contributions put more weight on later years than do DC systems, provided wage growth is less than the interest rate.

[17] A plan must be alert to limit pension increases for workers who get large pay increases in the years that affect pensions.

flexible labor markets, backloaded DB pensions can be a hindrance to flexible labor markets.

Concluding remarks

There is a great deal to admire in the arrangement of public and private pensions that has developed here in the Netherlands. In addition to laying out a general approach to thinking about pensions, I have made two concrete proposals – that the AOW fund hold a diversified portfolio and that workers have the option of delaying the start of AOW benefits in order to receive larger benefits for themselves and surviving spouses. And I have identified three issues for evaluation and monitoring: whether widow benefits from private pensions might become too small in the future, whether final-pay pensions should be modified to indexed career-average pensions, and whether there should be some automatic adjustments for cohort life expectancy in both public and private pensions.

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