How to close the funding gap in Dutch pension plans?: Impact on generations

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By Niels Kortleve and Eduard Ponds*

Introduction

Pension plan sponsors in the Netherlands are facing their second funding challenge in the past decade, this one more severe than the first. Following the economic crash in 2008-2009, the funding levels of most plans fell below the 105-percent threshold set by the Dutch supervisor, De Nederlandsche Bank, which requires recovery of the minimum funding ratio within five years. It is not yet clear, however, how plans will make up the deficits – except from profiting from a recovery of financial markets – and how the burden of any necessary adjustments will be spread among workers and retirees. Although earlier in the decade most Dutch pension plans were restructured to include automatic reductions in benefit indexation if funding drops below given thresholds, that mechanism may not be enough to achieve recovery this time around. Policymakers now have to consider more substantial measures, including contribution increases and nominal benefit cuts, actions few anticipated would be necessary.

This *brief* proceeds as follows. The first section describes the evolution of Dutch pension funds over the past decade. The second section discusses the impact of the recent economic crisis on the pension funds. The third section examines the implications of various policy options for intergenerational risk sharing. The final section concludes that policymakers should consider improved plan design when making solvency adjustments.

Evolution of the Dutch Pension System

Originating in the 1950s, pension funds in the Netherlands were initially set up as traditional defined benefit (DB) plans, similar to those in the United States and the United Kingdom. Over the past quarter century, DB plans in those countries have largely been displaced by individual defined contribution (DC) plans, while most pension plans in the Netherlands maintained their DB structure. Within this structure, however, the Dutch funds have undergone significant change. In 2003, in the wake of the collapse in funding levels from the dot-com bust, the Dutch government imposed strict funding requirements and new accounting rules. In response, to improve risk management, most pension funds switched to 'hybrid' DB plans with conditional indexation, and some shifted even further to collective DC plans.[1]

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In DB plans with conditional indexation, benefits are calculated as in traditional DB plans except that indexation of pensions in payment and accrued benefits is conditional on the plan's funding status. This relationship is often ruled via a "policy ladder" under which the indexation has a one-to-one relationship to the funding level. Full indexation is given when the funding ratio is higher than a specified threshold, typically around 125 to 135 percent; no indexation is given when the ratio falls below a lower threshold, typically around 105 percent; and partial indexation is given when the ratio is in between these thresholds. A policy ladder may also include changes in contribution rates relative to the thresholds. While pension fund policymakers have the final say in determining benefits and contribution rates, the policy ladders were intended to provide specific guidance to steer fund sponsors through difficult periods.

In collective DC plans, contribution rates are fixed. Benefits are calculated as in traditional DB plans, but indexation and nominal benefits are linked to the plan's funding status. As a result, nominal accrued benefits, and even nominal pensions in payment, may be cut if the funding ratio falls below a certain level. Pensioners, therefore, face greater benefit risks under collective DC plans than they do under other arrangements. (See box below for a more detailed description of plan features.)

Stress Test: Economic Crisis of 2008-2009

Following the restructuring of most Dutch pension plans in the early 2000s, the average funding ratio slowly recovered (see Figure 1 on the next page). However, from 2007 onward, the funding ratio fell dramatically, from a high of 150 percent in mid-2007 to less than 90 percent in the first quarter of 2009. The drop resulted from the combined effect of the worldwide fall in stock prices and the fall in nominal interest rates, which drove up the (market) value of the plan's nominal liabilities. Economic conditions deteriorated in particular in the fall of 2008, raising concerns that the default indexation adjustments might not be enough to recover the minimum funding level required.

Key Characteristics of Dutch Pension Plans

The following are key features of the Netherlands' 600 pension plans (as of the end of 2008). The first four apply to both DB plans with conditional indexation and collective DC plans, while uniform benefit cuts apply only to collective DC plans.

- *Uniform accrual rate*: Employees build up for each year of service around 2 percent of their (pensionable) wage as new pension rights. For example, a career of 40 years gives a pension income of 80 percent of the average wage over the individual's career – on average, around 70 percent of final pay for most workers.

- *Uniform contribution rate*: All employees pay the same contribution, which is set yearly such that the annual contributions match the present value of new accrued liabilities by employees due to an additional year of service, plus buffer requirements and indexation goals.[2]

- *Uniform indexation rate*: The accrued benefits of all plan participants are indexed yearly in a uniform way. Usually the aim is to index with the wage growth rate of the industry or the company offering the pension fund. A number of pension funds differentiate in their indexation policy for employees (indexation linked to wages) and retirees (indexation linked to price inflation). The actual indexation rate is conditional on the financial position of the pension fund.

- *Uniform asset mix*: Pension fund wealth is held in one asset mix.

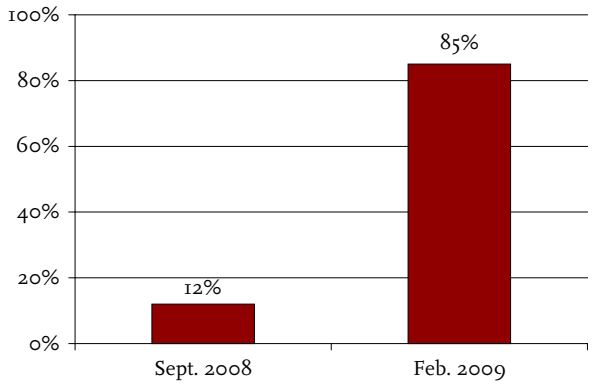
- *Uniform reduction in nominal benefits*: While DB plans have conditional indexation, the nominal level of benefits does not change. In contrast, in collective DC plans, nominal benefits – both accrued and in payment status – can be reduced if needed. Any such policy would likely be imposed as a uniform percentage reduction for all plan participants. This provision will most impact participants with the highest pension accrual: those about to retire and those recently retired.

Figure 1. Nominal Funding Ratio of a Typical Dutch Pension Plan, Q1 1999-Q2 2009

Source: Authors' calculations.

Figure 2 shows that in September 2008, only 12 percent of Dutch pension funds had funding ratios below the required 105-percent level. Just five months later, the share of plans falling below this standard had soared to 85 percent.

Figure 2. Pension Plans with Funding Ratios Below 105-Percent Threshold, Sept. '08-Feb. '09



Source: De Nederlandsche Bank (2009).

Closing the Funding Gap

When a pension fund falls below the 105-percent threshold, the Dutch supervisor requires it to close the gap within five years.[3] In response to underfunding, most Dutch pension funds will automatically suspend indexation, which will help Dutch plans on their path to recovery. In addition, the excess return earned above the nominal rate of interest used to discount liabilities will contribute to improved funding. However, given the severity of the problem, these stabilizing forces may not be enough – additional measures may be necessary to speed the recovery.

A number of policy options could help restore funding more quickly than just waiting for financial markets to recover. Table 1 lists three possible approaches; each would have different effects on intergenerational redistribution.[4] Under Option 1, the fund takes no additional actions beyond the automatic suspension of benefit indexation. Option 2 would take the additional step of increasing contribution rates by 2.5 percent. Option 3 would keep contribution rates the same but would, if necessary, cut nominal benefits of current retirees.

Table 1. Selected Policy Options for Restoring Pension Solvency

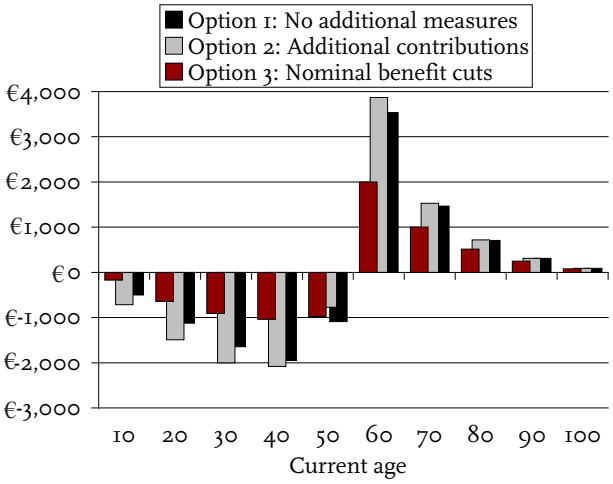
Option 1	No extra measures beyond automatic suspension of benefit indexation
Option 2	Additional worker contributions of 2.5 percent in case of underfunding
Option 3	Benefit cuts after three years in case of underfunding

Source: Authors' illustrations.

Using an Asset-Liability Management (ALM) framework, each option is measured against a common baseline: the pre-crash funding status at the start of 2008. All of the options begin at the end of 2008, when funding ratios were 95 percent. The options are evaluated over a 15-year period and, for purposes of the analysis, the fund is assumed to be closed at the end of the period with the wealth distributed among the participants in proportion to the value of their nominal benefits.[5] The value of participants' net wealth in the pension fund (benefits to be received minus contributions to be paid) provides insight on the impact of generational redistribution.

Figure 3 on the next page shows the generational effects of each option. A positive bar means that the generation benefits in the coming 15 years; a negative bar implies the opposite – that the generation, on balance, loses. The bars, taken as a whole, sum to zero because whatever one generation gains, the other loses. The figure shows that – given that the plan is

Figure 3. Intergenerational Redistribution of Selected Policy Options, 2010-2025, Euros Per Year Per Full-Time Equivalent



Note: The x-axis is cohorts with their age in 2008, and the y-axis is transfer from cohort (-) to cohort (+).
Source: Authors' calculations.

underfunded – the continuation of the fund with no additional measures (Option 1) is more beneficial for older participants than younger participants. While the older participants will share some pain through reduced indexation, they will continue to receive their full nominal benefits in the coming 15 years. If the fund recovers in the not-too-distant future, they will even get partial indexation. The working generations, however, will lose. They will pay more contributions than the value of new accrued benefits in the coming 15 years because the actual indexation falls behind full indexation. At the same time, part of the contributions of the active members will be used to pay out full nominal benefits to current and future retirees and to also possibly provide partial indexation for this group.

In Option 2, workers pay additional contributions – 2.5 percent of the pensionable wage[6] – for as long as the plan is underfunded. As Figure 2 shows, the redistribution from young to old increases compared with the default scenario of Option 1. For the younger members, the difference between the value of contributions and the value of accrued benefits further increases, since they have to pay extra contributions without receiving any additional benefits. For the older members, the recovery of the funding ratio is accelerated, so that on balance, more indexation is paid in the coming 15 years, which means they get higher benefits.

Option 3 allows for cuts in the accrued nominal benefits. This option is modeled like Option 1, but after three years, a cut in nominal benefits equals the size of the recovery gap at the end of the three-year period. The redistribution from young to old is reduced considerably, as the cut in nominal benefits shifts more of the recovery burden to the elderly.

Regardless of the path back to solvency, the importance of the generational distribution issue suggests that structural changes in the design of Dutch pension funds may be ripe for consideration. These changes could introduce age differentiation into benefit and investment policies. For example, plans could adopt an age-dependent indexation rule that would tie indexation for younger participants to the real rate of return on some specified asset mix, such as the pension fund asset portfolio. For older plan members, it would provide (almost) certain full indexation at all times. Another idea is to move away from a uniform asset mix by replacing the current structure with a two-fund model, one for younger participants and the other for older members. The fund targeting young plan members would have a high risk profile, while the fund for the elderly would have a low risk profile. Plan participants would move gradually from the first fund to the second. Further analysis and discussion of such options is needed, but they could offer a promising way forward.[7]

Conclusion

The financial crisis of 2008-09 has provided a stress test for the Dutch pension system. It appears that the more flexible defined benefit structure adopted by most plans earlier in the decade, which relies on indexation adjustments to restore solvency, may not be sufficient for the funds to recover fully. In response, policymakers should try to find approaches to compensate for the funding deficits in ways that best distribute risk among participating generations. In addition to the funding increases or nominal benefit cuts that may be needed in the wake of the crisis, policymakers should think more broadly about improving the design of pension funds going forward – through, for example, introducing age differentiation – to more effectively and fairly distribute risk by generations.

Endnotes

1 For more details, see Ponds and van Riel (2009).

2 There are some exceptions, especially for funds with lower indexation goals.

3 The requirement was changed during the recent financial crisis from three years to five years. In addition to this short-term target, pension funds have to restore funding to a solvency ratio of 125 percent (for an average fund) within 15 years.

4 Boeijen, et al. (2009).

5 For example, as the funding ratio at the end of 2008 was equal to 95 percent, immediate closing of the fund would imply that all participants get 95 eurocents for each euro in accrued nominal liabilities.

6 This amount is roughly equal to 2 percent of salary.

7 For more details on age differentiation policies, see Kortleve and Ponds (2009) and Molenaar, et al. (2008).

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