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SHARING RISK: THE NETHERLANDS' NEW APPROACH TO PENSIONS

BY EDUARD H.M. PONDS AND BART VAN RIEL*

Introduction

In response to the perfect storm of falling stock returns and interest rates that hit pension funds in 2000, many companies in the United States and the United Kingdom have shifted from defined benefit (DB) to defined contribution (DC) schemes. In contrast, Dutch pension plans have mainly preserved their defined benefit character in recent years, although they have switched from “final-pay” to “average-wage” schemes. The average-wage plans may be better viewed as hybrid DB-DC schemes. They are like DB plans in that accrued pension rights are based on an employee’s wages and years of service, and contribution rates can be raised in response to a funding shortfall. They are like DC plans in that the annual indexation factor, which is applied to both the accrued rights of active workers and the benefits of retired workers, is tied to the fund’s financial status and, therefore, investment returns. As a result, these hybrid plans have two mechanisms — contribution rates and indexation — to control solvency risk, effectively minimizing the risk of under-funding.

Overview of the Dutch Pension System

As in most developed countries, the Dutch pension system has three pillars. The first is the public pension scheme, which offers a basic flat-rate pension to

all retirees that is financed on a pay-as-you-go basis. The second pillar — which is the focus of this *brief* — is the employer-based supplementary scheme, which provides retirees with earnings-related income and covers 90 percent of the labor force. The third pillar is personal savings.

The Netherlands’ supplementary pension system mainly consists of funded DB plans. Benefits are determined by years of service and a reference wage, which can be final pay or the average wage over the years of service. The benefit formula takes into account the retirement benefits from the public scheme. In the postwar period, the plans primarily were structured as final-pay plans. Many pension funds aimed at a total benefit — including the public pension — of 70 percent of the final wage. This maximum will usually be reached after 40 years of service, as the typical accrual rate is 1.75 percent. In recent years, many pension funds have switched from final-pay plans to average-wage plans.

In an average-wage plan, individuals accrue pension rights annually based on the salary earned in each year of their working life (rather than the final year, as in a final-pay plan). Earnings are usually re-valued upwards (or indexed) each year to take account of inflation or wage growth. The accrual rate is 2 percent or even higher, because a total pension equal to 80 percent of the average wage generally corresponds to 70 percent of final pay. After retirement, benefits are mostly inflation-indexed or wage-indexed.

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An important feature of an average-wage plan is that the level of indexation in any given year depends on the financial position of the pension fund.

By law, pension promises made to employees must be funded. Furthermore, the assets of DB plans have to be held within a separate trust, usually organized as a pension fund. The Netherlands has three types of pension funds: 1) industry; 2) company; and 3) occupational. The *industry pension fund* is organized for a specific branch of industry (e.g., construction, health care) and participation is mandatory for all firms in the branch. A company can opt out only if it establishes a *company pension fund* that offers a better plan to its employees than the industry plan. For both company and industry funds, participation by workers is generally mandatory and governed by collective labor agreements. An *occupational pension fund* is organized for a specific group of professionals, like physicians.

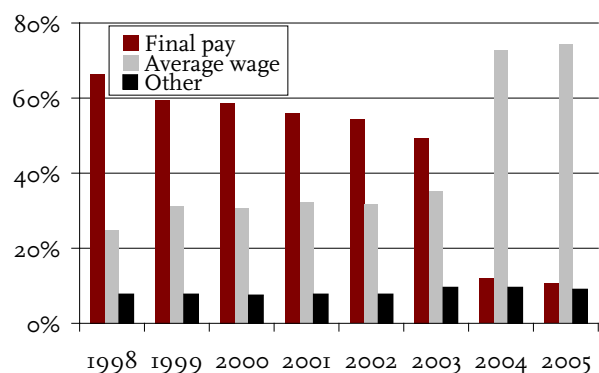
Industry funds hold two-thirds of the system's total assets of 637 billion euros (end of 2005); and they cover almost 85 percent of plan participants (see Figure 1).¹ Company pension funds encompass 30 percent of the remaining assets and 15 percent of the plan participants. The few occupational pension funds are mostly very small.

At the beginning of this century, pension funds in the Netherlands, as elsewhere, were hit by a perfect storm, characterized by a fall in assets due to a sharp decline in equity markets and an increase in liabilities due to a drop in interest rates to historic low levels.² As a result, the funding ratios fell sharply. In addition, at this time Dutch pension plans adopted a new

accounting method using “fair-value” principles that has had the effect of making underfunding problems more visible. In reaction to the sharp drop in pension funding, the Dutch government imposed strict new funding requirements in 2002.

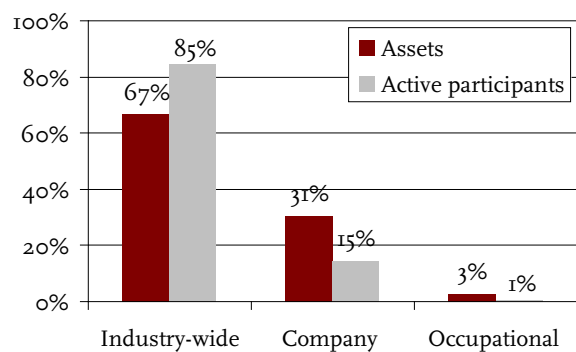
As shown in Figure 2, the predominant reaction by Dutch pension funds after 2001 was to switch from DB-final-pay plans to DB-average-wage plans. Between 1998 and 2005, the share of all active participants covered by average-wage plans jumped from one-quarter to three-quarters. In contrast, while DC plans also grew during this period, they only covered 6 percent of active participants in 2005. This trend contrasts with the experience in the United States and the United Kingdom, where the perfect storm accelerated the switch from DB to DC plans.³

FIGURE 2. PERCENT OF ACTIVE PARTICIPANTS IN DEFINED BENEFIT PLANS BY TYPE, 1998-2005



Source: Dutch Central Bank (2006).

FIGURE 1. PENSION FUNDS IN THE NETHERLANDS BY ASSETS AND ACTIVE PARTICIPANTS, 2005



Source: Dutch Central Bank (2006).

Hybrid Character of Today's Dutch Pension Funds

Official statistics classify average-wage funds as DB schemes. However, a typical characteristic of these schemes is that indexation of *all* accrued liabilities is dependent on the solvency position of the pension fund through a so-called “policy ladder.” A policy ladder explicitly relates the contribution and indexation policies to the financial position of the pension fund.⁴

For example — in the case of indexation policy — if the fund is below its solvency target in a given year,

the indexation rate for that year will be less than the growth rate of the relevant index. For example, say that wages grow by 4 percent. The indexation factor might be set at only three-quarters of the wage growth rate (i.e., 3 percent rather than 4 percent). In this case, retirees would see their benefits rise by 3 percent. And active workers would see their wages adjusted by 3 percent for the purposes of calculating their earned pension rights for that year. On the other hand, when pension plans are well funded, this process can work in reverse — the pension fund can “over-index” to catch up for prior years in which workers received less than full indexation.⁵

In contrast, under a traditional DB plan, accrued liabilities are always fully indexed for wage growth, and the contribution rate is adjusted to absorb a funding surplus or shortfall. At the other end of the continuum is what may be called a collective DC plan, wherein the contribution rate is fixed and only the indexation rate is adjusted. Reflecting their hybrid nature, most Dutch pension funds are somewhere in between these two approaches. According to agreed upon rules, fund managers can adjust both the indexation rate and contribution rate simultaneously to absorb a surplus or shortfall.

The practice of solvency-contingent indexation implies that the final pension result will be partly dependent on investment returns. The current typical average-wage scheme can therefore better be described as a hybrid DB-DC plan, keeping a midway position between a traditional DB plan — with flexible contributions and well-defined indexed pensions — and a DC plan — with uncertain benefits and well-defined contributions.

Effect of Pension Plan Design on Risk

Pension-plan design determines how risk is allocated among stakeholders. An Asset-Liability Management framework can be used to compare the allocation of risk among the plan members in a typical average-wage plan to both a traditional DB plan and a collective DC plan. This framework relies on stylized examples of each plan and uses an economic model to study how the plans fare under a wide variety of outcomes for key variables, such as asset returns and inflation.⁶ The analysis summarized here assumes

TABLE I. RISK CHARACTERISTICS BY PLAN TYPE, 2006-2025

Type of plan	Average annual change in contribution rate	Probability of	
		Less than 80% cumulative indexation	Under-funding
	2006-2025	End of 2025	
Traditional DB	3.2%	0%	11%
Collective DC	0	15	5
Current hybrid	2.6	9	2

Source: Authors' calculations based on Hoevenaars and Ponds (2007).

that the asset mix is the same for the three variants, so the total risk to be distributed is also the same. But the variants differ in the way in which risk is allocated among the stakeholders. Table I summarizes how the three plan types compare under three different risk measures over a projection period of 2006-2025.

The first measure is the average annual change in the contribution rate (column 1). The results show that a traditional DB plan would typically require contribution rate increases of 3.2 percent per year to maintain its funding status compared to 2.6 percent per year for the hybrid plan. (The collective DC plan maintains a fixed contribution rate). The second measure is the cumulative deviation from full indexation (column 2). Here, the collective DC plan has the greatest risk, with a 15 percent chance that indexation would be less than 80 percent of full indexation compared to 9 percent in the hybrid plan. (The traditional DB plan always provides full indexation). The third measure is the probability of nominal under-funding (column 3). In this case, the traditional DB plan has the highest risk, with an 11 percent chance of nominal under-funding at the end of the period.

This analysis clarifies the various trade-offs in pension-plan design. Full indexation in the traditional DB plan comes at the cost of both a higher risk of under-funding and a more volatile contribution rate. The fixed contribution rate in a collective DC plan comes mainly at the cost of high indexation risk.⁷ The current hybrid plan takes a midway position, with some volatility in both the contribution rate and the level of indexation. What is gained in the hybrid plan is less chance of under-funding compared to either a traditional DB plan or a collective DC plan.

Reason for the Switch in Dutch Pension Funds

Traditionally, risk management by Dutch pension funds in the postwar period was done primarily by adjustments in the contribution rate. As noted, the current hybrid plan structure uses adjustments in both contributions and indexation, which seems to reflect a compromise between the various stakeholders. The question is how this switch occurred and why the Dutch experience is so different from that of the United States and the United Kingdom.

Constraints on Higher Contribution Rates

After 2000, awareness grew that risk management through contribution rates exclusively was no longer appropriate. First, most Dutch pension funds have a relatively high and rising ratio of pensioners to workers. As a result, the ratio of liabilities to total wages is expected to rise from about 2.5 today to 4.5 in 2030. This sharp increase will severely undermine the effectiveness of the contribution rate as a steering instrument. To improve the funding ratio by 1 percent would require an additional contribution of 4.5 percent in the future, instead of the 2.5 percent in the present.

For employers, it was important to address this declining effectiveness of the contribution rate and to spread risks more evenly over participants and sponsors. But this issue was also a concern for unions. Unions in the Netherlands have to strike an internal compromise between the interests of younger workers and the interests of older workers and pensioners (who often retain their union membership). In most cases, moreover, union representatives on pension boards are often closely involved in wage negotiations. This involvement explains why unions have been willing to spread risks more broadly between active members and pensioners. An exclusive reliance on contribution rates to absorb risks would run the risk of alienating younger workers and put a heavy burden on wage negotiations, as employers would try to shift pension costs to workers.

Constraints on Lower Indexation of Benefits

In most final-wage pension plans, indexation of pension benefits was, at least on paper, dependent

on the solvency position of the pension fund. Thus, in principle, pension funds could have invoked this possibility and shifted investment risk to pensioners. Given the maturity of most funds, such a shift would have presented an effective instrument for restoring solvency. However, this approach would have been difficult as the conditional indexation of pension benefits had been poorly communicated to participants. Moreover, the clauses had been seldom invoked, as the financial situation of most funds was healthy or was considered to be so under the old actuarial framework for valuing pension liabilities. As a consequence, strong resistance from pensioners might have been expected. Pensioners might have felt that they were the victim of contribution holidays in the roaring 1990s, and they threatened to go to court in case pension funds decided to shift the risk only to them. A way out was to broaden solvency-contingent indexation to all liabilities — including accrued rights of active members. Technically, this implied a switch from final-wage plans to solvency-contingent average-wage plans.

Contrast with the US and UK Response

Dutch pension funds are independent financial institutions with their own governance and administrative structure separate from that of the employers.⁸ Therefore, they argue that risk-sharing is spread more broadly, that the funds and not employers are responsible for correcting situations of under-funding. Their status as a separate trust gives pension funds a significant degree of operational autonomy that is not always present in the Anglo-Saxon trust model.⁹

Employers and unions are equally represented on Dutch pension fund boards. Thus, in contrast to the Anglo-Saxon DB plans, Dutch employers are less able to dominate and direct pension fund management and policy, and therefore must compromise more with unions. The other side of the coin, however, is that they also are not regarded as exclusively responsible for correcting situations related to under-funding and risk-bearing. This contrast is accentuated by the dominance in the Netherlands of industry pension funds, which are rare in the Anglo-Saxon world. Individual DC elements in pension plans are virtually absent within industry pension funds, and risk-sharing is still predominantly done collectively.

This difference in the government and regulation of pension funds goes a long way toward explaining why the United States and the United Kingdom

have witnessed a stronger shift to individual DC schemes (where employers have shifted risks to their employees), while in the Netherlands risk-sharing is both collective and spread more evenly among various stakeholders. Additionally, the role of unions as agents of social solidarity has remained important in the Netherlands. This situation contrasts sharply with that in the United States, where the demise of DB plans seems to be related to the decline of unionism.

The unions' concern for social solidarity is broadly supported in Dutch society. A shift to individual pension provision, as in the United Kingdom and the United States, is not on the Dutch political agenda. Surveys show that most people prefer collective risk-sharing over individual DC plans with greater investor autonomy, and that there is a high degree of household confidence in the current pension scheme.¹⁰ The willingness to share risk collectively and to accept its possible distributional consequences presupposes a certain degree of societal trust. Indeed, studies show a relatively high degree of social trust in the Netherlands and relatively low levels in the United States and United Kingdom, which are characterized by a more conservative political culture.¹¹

Conclusion

The hybrid pension plans that have evolved in the Netherlands offer a promising way to balance risk between employers, active workers, and retirees. Going forward, the current hybrid schemes will likely evolve towards collective DC pension plans. This shift may also be accompanied by more flexibility in risk exposure for younger and older members. Such flexibility would allow younger members to bear more risk in exchange for the prospect of higher returns and older members to bear less risk in exchange for more certainty in the indexation of their benefits. In any case, unlike in the Anglo-Saxon countries, collective risk-sharing will remain an important element in Dutch pension funds.

Endnotes

- 1 Among these are two giant funds: the pension fund for civil servants (APB) and the pension fund for health care employees (PGGM). Together, these funds cover almost 30 percent of all active members and 40 percent of total assets under management.
- 2 Boeri, et al. (2006).
- 3 Munnell (2006).
- 4 See Ponds and van Riel (2007) for a more detailed description of the policy ladder mechanism.
- 5 When assets fall short of the value of nominal liabilities, there is no indexation at all. When the value of the assets is between the nominal and real liabilities, indexation will be partial proportionally to the overfunding above nominal liabilities. When assets are in excess of real liabilities, catch-up indexation of previously missed indexation will be given.
- 6 See Ponds and van Riel (2007) for further details.
- 7 A similar exercise, described in detail in Ponds and van Riel (2006), shows that indexation risks increase in an individual DC plan, such as the 401(k) plan that is widely used in the United States. Moreover, in contrast to the plans in Table 1, an individual DC plan does not cover longevity risks.
- 8 Laboul and Yermo (2006).
- 9 Laboul and Yermo (2006).
- 10 Van Rooij, Kool, and Prast (2007).
- 11 Dekker and van den Broek (2005).

References

- Boeri, Tito, A. Lans Bovenberg, Benoît Coeuré, and Andrew W. Roberts. 2006. *Dealing with the New Giants: Rethinking the Role of Pension Funds*. CEPR Geneva Reports on the World Economy.
- Crouch, Colin. 1993. *Industrial Relations and European State Traditions*. Oxford: Oxford University Press.
- Dutch Central Bank. 2006. Available at: <http://www.dnb.nl/dnb/home?lang=en>.
- Hoevenaars, Roy P.M.M. and Eduard H.M. Ponds. 2007. "Valuation of Intergenerational Transfers in Funded Collective Pension Schemes." Working Paper 2006-Do19. Tilburg, The Netherlands: Netspar.
- Laboul, André and Juan Yermo. 2006. "Regulatory Principles and Regulation," in Gordon L. Clark, Alicia H. Munnell and J. Michael Orszag (eds.), *Oxford Handbook of Pensions and Retirement Income*. Oxford: Oxford University Press.
- Munnell, Alicia H. 2006. "Employer-Sponsored Plans: The Shift from Defined Benefit to Defined Contribution," in Gordon L. Clark, Alicia H. Munnell and J. Michael Orszag (eds.), *Oxford Handbook of Pensions and Retirement Income*. Oxford: Oxford University Press.
- Ponds, Eduard and Bart van Riel. 2007. "The Recent Evolution of Pension Funds in the Netherlands: The Trend to Hybrid DB-DC Plans and Beyond." Working Paper 2007-9. Chestnut Hill, MA: Center for Retirement Research at Boston College.
- van Rooij, Maarten, Clemens Kool and Henriette Prast. 2007. "Risk-Return Preferences in the Pension Domain: Are People Able to Choose?" *Journal of Public Economics* 91: 701-722.

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