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*University of Amsterdam*



**AMSTERDAM INSTITUTE FOR  
ADVANCED LABOUR STUDIES**

**POPULATION AGEING IN THE NETHERLANDS:  
DEMOGRAPHIC AND FINANCIAL ARGUMENTS FOR A  
BALANCED APPROACH**

AIAS Working Paper 07-48

**Wiemer Salverda, Amsterdam Institute for Advanced Labour Studies**



**Acknowledgement:**

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It updates a Dutch-language version published as W. Salverda (2006), Vergrijzing in Nederland: argumenten voor een betere balans in het debat, Tijdschrift voor Arbeidsvraagstukken, Volume 22 nr 2, 126-139. Comments and suggestions by the editors and referees are gratefully acknowledged.

January 2007

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## **ABSTRACT**

Dutch policy makers recently set the public debate on ageing alight by enforcing drastic cuts in early retirement opportunities; increasing taxation of the aged and augmenting retirement age are also considered.

The prime argument is to diminish a burden on public finances far in future. This paper argues that this argument ignores, first, that on a cohort basis ageing is a very limited problem and, therefore, also the financing of future occupational pensions based on capital funding. Second, data taken from the Income Panel Survey show that the financing of the basic pay-as-you-go state pension AOW over the coming decades is not a major problem that could not be solved by the future increase in employment participation which may plausibly be expected.

Because of its strong focus on public finance Dutch policymaking also ignores important inequalities in the ageing process as well as important cost disadvantages of private pension funding in comparison with collective schemes – two aspects which, by contrast, are central to the UK pension debate. The first inequality concerns the risk of increased poverty among retired women that may result from the changes made in the occupational pension system and occur because of low lifetime earnings from the massive part-time employment; the phenomenon should be discussed and prevented. Second, the life expectancy of the low educated is significantly shorter than that of the better educated. In the case of a uniform pension age this induces the risk of a transfer of pension savings from the former to the latter, from the less to the better paid; this should be accounted for when discussing augmenting the pension age.



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## I INTRODUCTION

Today's inhabitants of the Netherlands live an average of 79 years, which is over 30 years longer than a century ago. The share of people aged 65 and over in the population currently amounts to 14%, compared to 6% then; according to forecasts this figure will be 24% by about 2040. In the light of these demographic projections, there has been much speculation in public debate and government policy about major economic repercussions. A smaller segment of the population will be productive and older people will receive a larger share of the income while at the same time generating much higher costs, especially related to health care. This has prompted a raft of far-reaching policy measures and studies aimed at reviewing pension schemes, combating early retirement and privatising health care, to be followed probably by a raising of the official retirement age.

In this paper I will question the seriousness of this demographic trend and its financial implications, with demographics and older people's incomes central to my argument. I will omit issues like healthcare costs because I share the conviction that the increasing cost of care has more to do with the end of life itself than with the later age at which this occurs (compare e.g. Seshamani, 2004). Actually, if additional life expectancy is spent in reasonable health, the cost increase will be postponed with growing life expectancy. Central to my argument are people aged 65 and over, who form the hard core of the ageing population. Older employees, 50 to 64 years old, and their potential exit from the workforce before the age of 65, constitute a topic which would deserve separate treatment but in the Netherlands their employment behaviour has already changed much to the better over the last decade and more than in most other countries (see OECD, 2005, Figure 2.4). I will look at first-order effects only – that is, the effects of the changing population structure that accompany population ageing, assuming that individual behaviour remains unchanged. I will demonstrate that these effects will be limited, thereby rendering any study of second-order effects, aimed at changes in that behaviour, unnecessary for the time being. De Vries (2006) as well as Verbon (2006) also do not view the future increase in public expenditure in relation to ageing as one of disastrous proportions and challenge the need to adopt draconian measures at this time. Large model-based studies, such as the report on population ageing from the Netherlands Bureau for Economic Policy Analysis (CPB) (Van Ewijk *et al.*, 2006) are indispensable for identifying second-order effects but the false impression that we are able to predict the future decades in advance. The report forecasts a budget deficit of 3 to 3.5% of GDP in 2040, which is 34 years from now. Note that it was the same CPB that was 3.5% out in its projections for the 2002 budget deficit, which forecast was made in April 2001 – only eight months in advance.

My findings point out that the official view of the government and its advisors and various political parties exaggerates the socio-economic problem and constrains the debate in such a way that important aspects of population ageing and the way it is funded are overlooked – at the risk of a kind of tunnel vision. My key argument is that the issue of the country's ageing population in the decades ahead – demographically and therefore financially – is viewed insufficiently from a cohort perspective. Approached on this basis, we find that the future problem is of modest proportions. The cohort approach takes into account precautions that people take for their old age when they are still young – with its very impressive occupational pension savings, the Netherlands is virtually unique in this respect. In addition I argue that there are significant disparities in ageing between different social groups and that important transaction cost are associated with different types of financial provisions for old age. Both factors can have major socio-economic repercussions and can lead to unintended transfers but – quite mistakenly – do not feature in the Dutch debate on ageing.

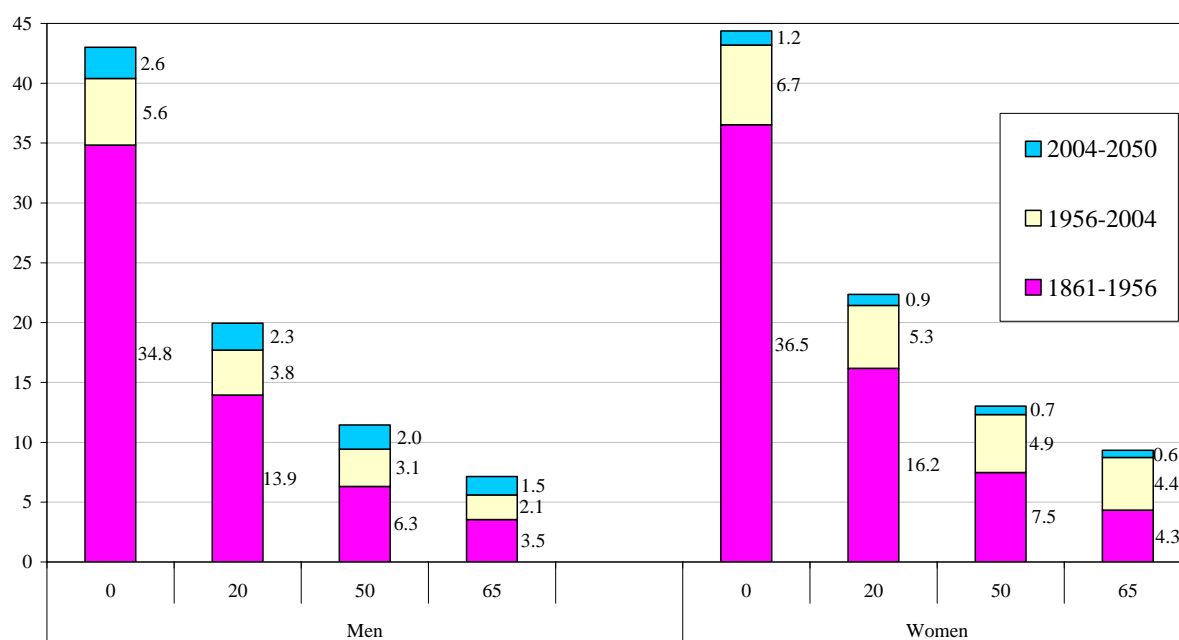
I will look first at demographic trends from a cohort perspective in Section 2 and then at funding for old age in Section 3, before focusing on inequalities in both in Section 4. The paper ends with conclusions and comments on policy.

## 2 LIFE EXPECTANCY AND DEMOGRAPHIC PRESSURE: COHORT VERSUS CALENDAR POPULATION

Although we cannot deny that large demographic shifts are taking place, it is nevertheless possible to put them in perspective in order to better assess their economic impact. With regard to the extent of population ageing, it is significant that the increase in life expectancy is much smaller at a later age, especially at 65, than at birth. A cohort approach shows this clearly, leading us to conclude that the anticipated growth in the old-age dependency ratio is modest.

The life expectancy of 79 years mentioned at the start needs to be qualified. It represents the average number of years that a newborn from 2006 can expect to live, not how long the country's current 16 million inhabitants may expect to live on average. Life expectancy at birth has increased largely as a result of falling child mortality rates, with a growing number of people first reaching adulthood and then the age of 65. While the latter group does on average live somewhat longer than those of similar age did in the past, this increase is extremely small in comparison to the gains made at birth. People are *older* when they die, but not necessarily *old*. This distinction plays a surprisingly minor role in the Dutch debate on ageing. And absent altogether from the debate is the fact that the Netherlands is trailing behind internationally in terms of life expectancy. Whereas in 1960 Dutch men and women still held first place among the 15 EU countries in terms of life expectancy, Dutch men have since fallen to fifth place and women to eleventh (Garssen, 2005, Figure 1). Eurostat expects to see the Netherlands *below* the average of EU including the new member states in 2050 (EPC, 2006, 28).

**Figure I Increasing\* life expectancy (years) on calendar basis according to sex, age and period, 1861-2050**



\*) Later years as compared to the situation of 1861-65

Source: estimated from Statistics Netherlands (CBS)/Statline Historical survival tables and current forecast 2004–2050.

Figure I shows the growth in life expectancy at different ages from the start of statistics-keeping in the period 1861-65 until 2050, which is as far ahead as official projections currently extend. These are sample sections of the population per calendar year for four different ages (0, 20, 50 and 65) and hence different birth years. We see that the enormous gain of more than 40 years, which corresponds to the total height of the column at birth, 0 years, is already halved by the age of 20, and gradually drops further to 7 years (for men) or 9 (for women) at 65 years – that is only one fifth of the gain at birth.

The tripartite division of the columns also shows trends over three subperiods: before the introduction of the public old-age pension (AOW) in the period 1956-1960, from then until the present (2004) and from now until 2050. Because the greatest gain at birth – 35 of the 40 years – was made during the first subperiod, it was already behind us when the pension was introduced. Later there are only 8 additional years (5.6 + 2.6 and 6.7 + 1.2 for men and women respectively) until 2050. In later periods the growth at older ages is relatively more significant, particularly for the oldest women, but it remains slight in terms of absolute number of years. Men aged 65 have gained only 2.1 years since the AOW was introduced. Conspicuously, the future growth for women – the upper part of the columns – works out lower than for men for all four ages. It should be noticed that a larger share of the figure than may at first appear is based on projections rather than actual

outcomes. At present, we can only be certain about the outcomes up until the last generation, born around 1920, which has almost died out.

**Table I Life expectancy (years) based on calendar and cohort according to sex and age**

	Calendar				Cohort				Total growth			
	Oldest	AOW	Now	Last	Oldest	AOW	Now	Last	Ca- lender	Co- hort	Difference	
	1861- 1865	1956- 1957	2001- 2005	2046- 2050	1861- 1865	1891- 1895	1936- 1940	1981- 1985			mths	%
Men												
0	36	71	76	79	36	44	66	73	43	36	-6.6	-15
20	60	74	77	80	62	68	74	77	20	15	-5.3	-26
50	69	76	78	81	73	73	76	80	11	7.7	-3.8	-33
65	76	79	81	83	78	79	81	83	7.1	5.2	-1.9	-27
Women												
0	38	75	81	83	38	47	68	80	44	41	-3.1	-7
20	61	77	81	83	63	69	77	81	22	18	-4.2	-19
50	71	78	83	84	74	75	82	84	13	10	-3.2	-24
65	76	81	84	86	78	81	84	86	9.3	7.4	-1.9	-21

Source: see Figure 1.

The calendar data relate to different birth cohorts. The 0-year-olds are born in 2046-50, 2001-05, 1956-60 or 1861-65 respectively and the 65-year-olds in the years 1981-85, 1936-40, 1891-95 and even 1796-1800. The total gain of 7.1 years for 65-year-old men is based on a comparison between people born at the height of the French Revolution and those who are now aged about 25 and who will turn 65 in 2046-50. Table I shows the difference in life expectancy between this calendar population and the newborn cohorts who have reached the age of 65 since 1861. These cohorts relate to exactly the same historical period of 120 years. The gain of 5.2 years for men aged 65 relates to those born in 1981-85 compared to 1861-65.

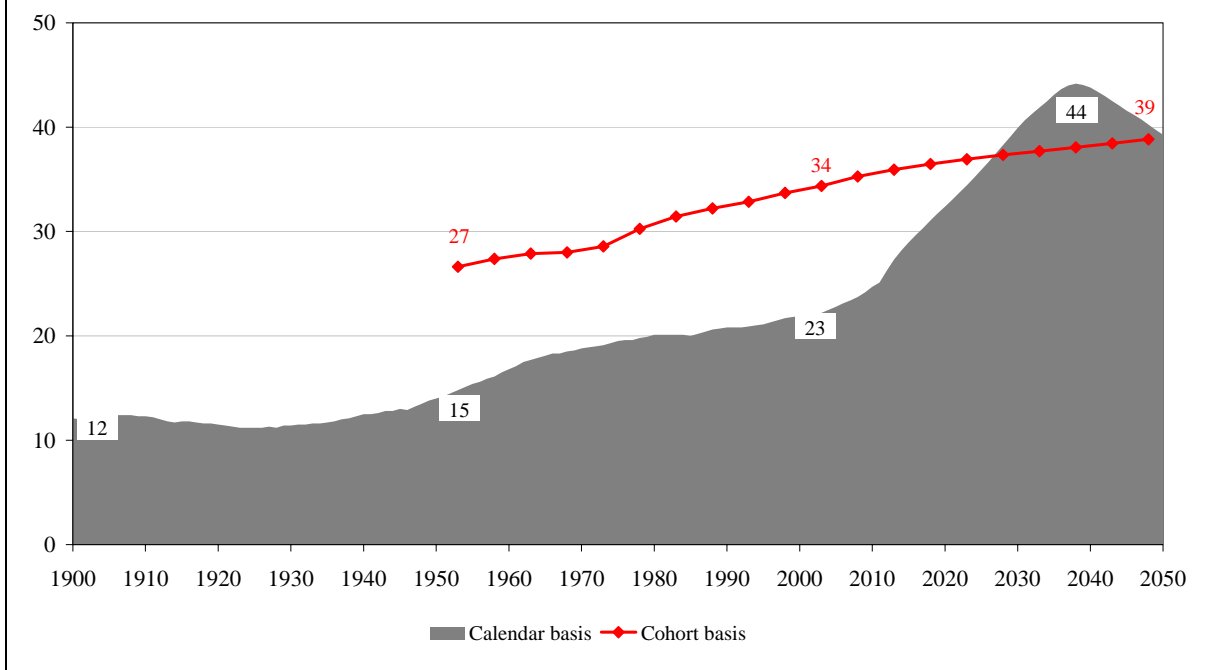
#### *Old-age dependency*

The old age dependency ratio (OADR) is defined here as the ratio of people aged 65 and over to those aged 20 to 64, who represent the potential labour force. The calendar-OADR is the relationship between these numbers for different people living at the same moment, whereas the

cohort-OADR is the relationship between the cumulative number of years that the same people all born in the same year live on average beyond the age of 65 compared to the previous 45-year period between the ages of 20 and 65. This cohort-OADR is estimated on the basis of the remaining life expectancy at 20 and at 65 years of age multiplied by the chances at birth of reaching that age. For the future, it is assumed that the chances of survival for 20-year-olds will remain constant and increase for 65-year-olds every five years by 0.5% for men and 0.25% for women respectively. The cohort-OADR best reflects increasing individual life expectancy (see also Turner, 2004, 127).

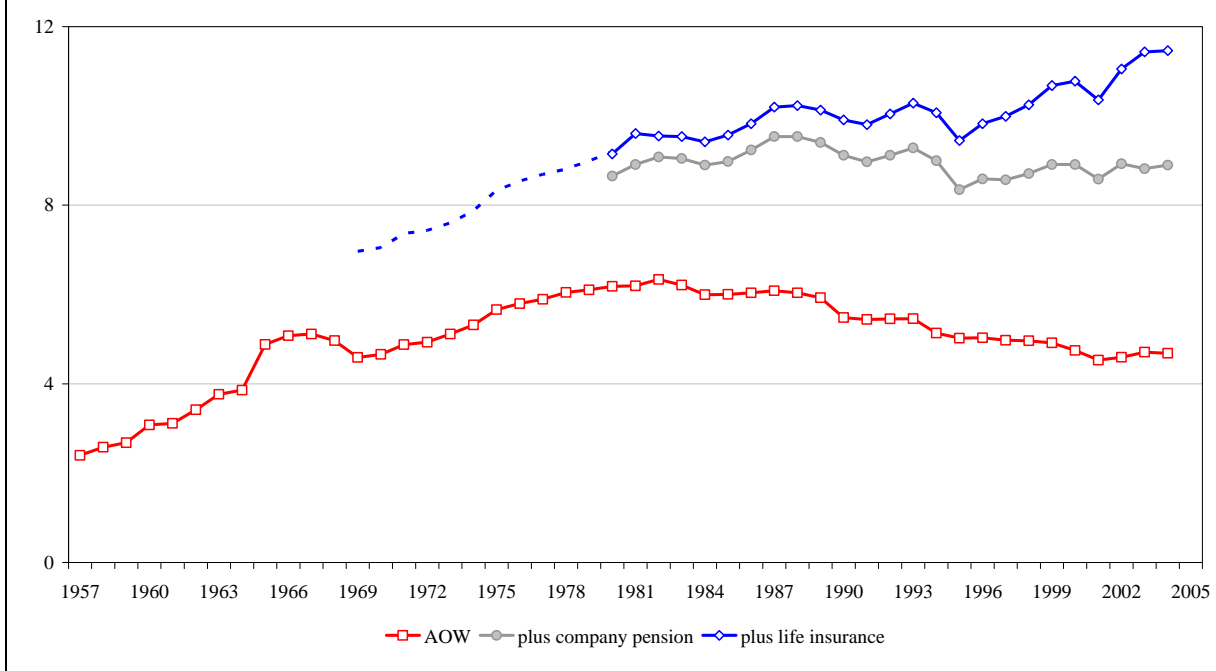
Figure 2 shows the OADR value using both approaches. The calendar-OADR (the grey area) has risen gradually over a long period, almost doubling over the last century from 12 to 23%. For the years ahead, a dramatic acceleration is projected toward a peak of 44% by 2040. By contrast, the line in the figure gives the cohort-OADR according to birth year. Compared with the calendar-based ratio (15%), it is already high at 27% for those born in 1951-55 (first available data) and who will begin to retire in 2015; the cohort-OADR value for birth year 1973 (people who will turn 65 in 2038) is 29%, only a little higher. For those born today, this value is 34%. The remaining increase up to 39% extends to the cohort that will make its entry into the world in 2050 and that will not be turning 65 until 2115. Therefore, on a cohort basis, population ageing in the coming decades is very minor compared to the calendar approach. We shall now see how critical this difference is when it comes to funding the ageing population.

**Figure 2 Old-age dependency ratio (65+ as % of 20-64-year-olds) on calendar and cohort basis, 1900-2050**



Source: see Figure 1

**Figure 3 Pension payments as % of GDP, 1957-2004**



Source: calculated from CBS, National Accounts and CPB, Macro-economic forecast (MEV) 1999 Table A.12 (dotted line).





### 3 COHORT EFFECTS ON OLD-AGE REVENUE AND FUNDING

Figure 3 presents a tentative outline of developments in AOW expenditure since the pension was introduced in 1957 and of occupational pensions and private life insurances, based on CPB data since 1969 and more definitively on CBS data since 1980. In 1957 AOW expenditures began at around 2.5% of GDP and grew to 6.3% in the early eighties, followed by a period of stagnation and then a drop to 4.7% in 2004. The decline occurred because the AOW level, like many other social benefits and the minimum wage, lagged strongly behind other wages and incomes. Occupational pensions have shown a clearly rising trend which – after 1980 – has more or less compensated for the decline in the AOW, while private life insurances have risen from 1995 onwards. On balance, total pension payments have increased from around 7% in about 1970 to over 11% today: rises of 4.2% for occupational pensions and 2.6% for life insurances on top of the AOW. The calendar-OADR value went up from 19% to 23% over the same period. The income position of older people has improved but the implicit level – 11% financial share as against 23% demographic share – is less than half of the general average (if children are excluded from the calculation).

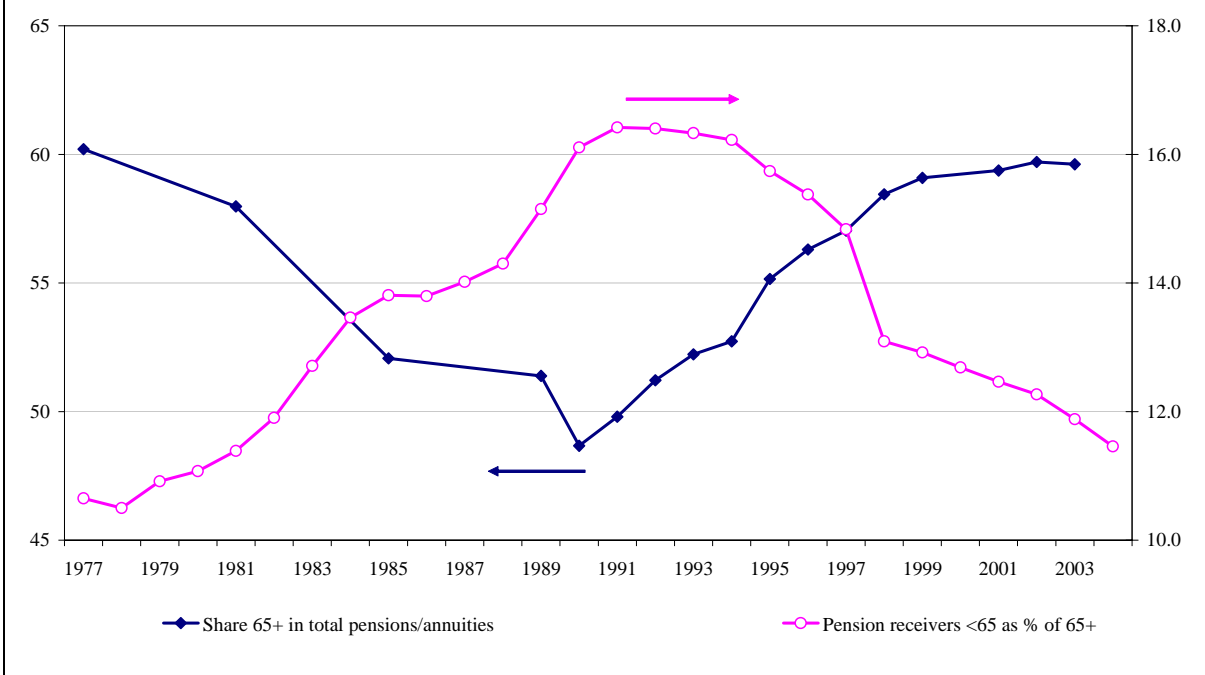
The recent CPB study on population ageing anticipates that in 2040 the AOW will amount to 8.8% of GDP and occupational pensions to 8.7%; life insurances are not mentioned although they too are important for government finances (Van Ewijk *et al.*, 2006, 85). This means that the share of old-age expenditures in GDP will almost double. However, the relative income position on the basis of the calendar-OADR will remain fairly constant – 18% as opposed to 43%.

The above illustrates financial developments for the AOW and occupational pensions in the way they are usually shown as a percentage of GDP, but we have to ask ourselves whether this in fact presents the right picture. Firstly, GDP is not the most adequate basis on which funding should be measured. AOW contributions are levied on individual income from work and enterprise, while occupational-pension contributions are levied on wages, both of which have declined in relation to GDP. Whereas the AOW contribution was still levied on 47% of GDP in 1980, this was only 22% in 2004 following the Van Oort and Zalm/Vermeend tax reviews of 1990 and 2001 respectively – the contribution rate rose in inverse proportion. The wage share from which pension contributions are paid also declined in the same period, from 58 to 51%, but this matters less as wages are precisely what such contributions aim to cover. Secondly, GDP does not permit much detail, either in terms of age of the income receiver or type of income. Older people may have incomes other than just their pension. In addition, pensions do not go exclusively to people over the age of 65. Annuities can be enjoyed at any age provided that the relevant fiscal savings regulations are complied with. Nor are occupational pensions the exclusive preserve of people aged 65 and over thanks to early pensions, job-related early retirement or survivor's pensions.

---

*I Which is what I also did for the OECD (2005).*

**Figure 4 Share of people aged 65 and over in national occupational pension and annuity income and proportion of pension recipients <65 years in relation to 65+, 1977- 2004**



Source: 1977-1999 own calculations based on IPO data and 2001-2003 Statline (level adapted by 1999 ratios) and CPB, MEV2006 Table A.7 and CBS population statistics.

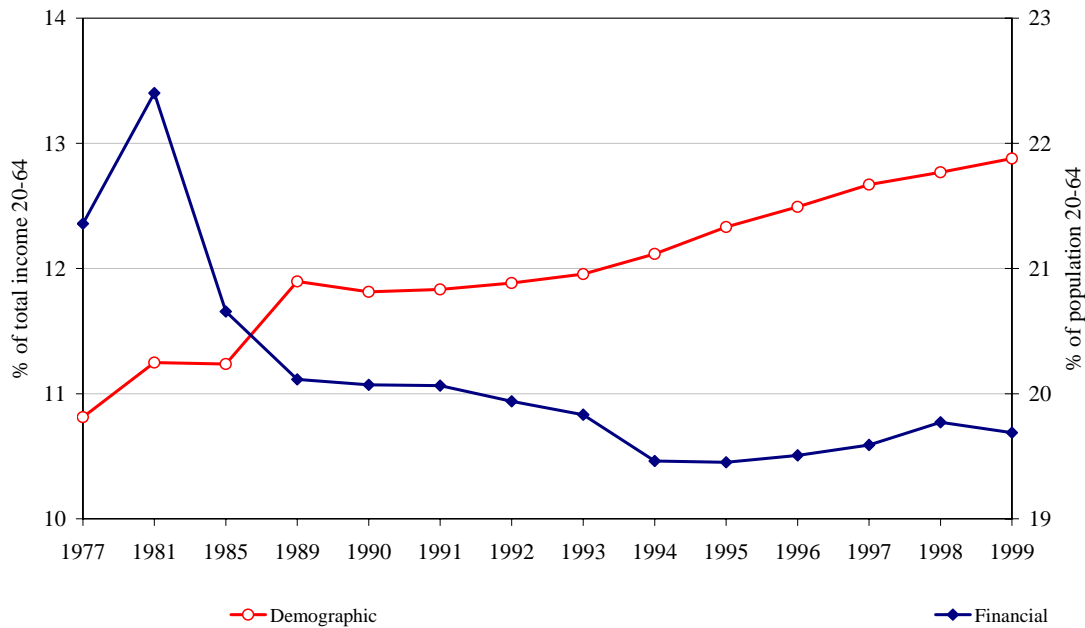
Direct income data from the Income panel survey (IPO) of Statistics Netherlands can address these problems. While the AOW goes exclusively to people aged 65 and over, occupational pensions and annuities do not. Figure 4 shows the share of the aged in the national total of pension and annuity receipts according to the IPO. The figure dropped to a low of 47% in 1990, only to climb back to its original level of 60% now. This picture is consistent with the fluctuation from 10.5 up to 16.5% and down again to 11.5% in the numbers in early retirement relative to the persons aged 65 and over which is also shown in Figure 42. Finally, the contribution of other forms of income for older people (from enterprise or work, interest, dividends and benefits such as rent subsidies, child allowances and social security) is not insignificant, despite having fallen considerably from 18 to 11% (not shown).

The IPO data also offer direct insights into the financial OADR – that is, the ratio of total relevant incomes of those aged 65+ to the total relevant incomes of those aged 20-64. This can again be defined on a calendar and a cohort basis. Occupational pensions and life-insurance payments are made on the basis of savings out of older people’s previous personal contributions and therefore relate to the cohort-OADR. Figure 5 shows the financial calendar-OADR and the corresponding demographic OADR, both calendar-based. After a decrease, the former fluctuates at around 11%,

2 Total number of people with early or survivor’s pension taken as a percentage of the population aged 55 to 64 years.

while the latter rises slowly to 23%. The number of older income earners rises but because their average income lags behind at the same time, there is only a small change in the aggregate ratio. The outcome contradicts that older people would have become richer in relative terms.

**Figure 5 Financial OADR\* (left axis) and demographic OADR (right axis), 1977-1999**



\*) AOW received by 65+ as % of total income of 20-64-year-olds; those who received the AOW abroad are not included, in contrast to Figure 3.

Source: own calculations from CBS, income panel survey (Atkinson and Salverda, 2005, explain the nature of the data).

The IPO data can also provide insight into the different income components. At approximately 55%, the contribution of the AOW to total 65+ income is significantly larger than the 40% calculated above on a GDP basis – in actual fact, the difference is even greater because income components other than pensions are included here in total income as well. The AOW contribution is no longer falling but remains almost unchanged. Although occupational pensions and annuities once again make up a growing share, their significance in quantitative terms is considerably less – one third, as against 60% calculated on a GDP basis. Strikingly enough, occupational pensions and AOW together do not amount to 70% of previous earnings, something which is confirmed by data provided to the author by ABP and PGCM, the two largest pension funds in the Netherlands (and very large by international standards as well). In 2004, newly retired people had an average pension accrual of 25

to 27 years, with only 10 to 20% of them coming close to the 40 years needed for a full accrual of 70%. Regrettably, we know of no systematic statistical data on pension accrual.<sup>3</sup>

So what does the future now hold for the incomes of those aged 65 and over and the funding required? When it comes to average individual incomes, we can only make assumptions – for example, that the present ratios will continue unchanged, which in effect means that incomes for those aged 65 and over, and particularly the AOW, will simply share in the fortunes of the economy. Thus increases in productivity are implicitly taken into account and can therefore not be considered separately as a source of future funding, as Jacobs (2006) correctly points out. Because of marked differences in funding for the two, I will discuss the public pension and occupational pensions separately. The AOW is generated by the calendar population on the basis of pay-as-you-go, while occupational pensions are paid for by the cohort population on the basis of capital funding out of pension savings. Expectations are that social-security payments to people aged 65 and over will also increase as a consequence of the growing insufficiency of AOW coverage, especially for immigrants who have lived in the Netherlands for less than the required 50 years. As the total effect is negligible<sup>4</sup> and people may receive the missing amount as social assistance instead, I will not take this into account.

### **3.1 PUBLIC OLD-AGE PENSION (AOW)**

There has been considerable discussion about the future scale of the AOW, but it is commonly assumed that its share of GDP will rise sharply, give or take a percentage point or two. The CPB currently puts it at almost 9%, while the Social Insurance Bank (SVB) is forecasting 7% (Van Eekelen and Olieman, 2001). As already mentioned, GDP in itself does not fund the AOW – it is better to directly tie the funding requirement to the income of 20-64-year-olds.

Forecasts have as much value as population projections or assumptions about income have. Table 2 presents a rough estimate based on the IPO data, which combines today's income levels with projected ratios for 2038, when the value of the demographic calendar-OADR will reach its peak. The increase in the number of joint AOW households has been taken into account. An interesting feature of population forecasts as we have seen is that men rather than women will account for much of the additional life expectancy. Perhaps unexpectedly, this means that more women than is currently the case will be sharing a household with a man – a trend that we have been observing for some time now (Kroniek, 2005). These women will then be entitled to only half the AOW for married people, and not to the 70% for single people.

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<sup>3</sup> It implies that international comparisons that put Dutch pensions at 70%, risk to be misleading.

<sup>4</sup> At the end of 2004 persons aged 65 had an average accrual of about 47 out of maximum 50 years (Verschuren, 2006, Figure 1)

The assumption is that the amount exceeding the current AOW aggregate level is drawn entirely from taxes, which are paid for also by those aged 65 and over proportionate to their income. That amounts to a difference of approximately 1.5 percentage points in the financial OADR. Of course the uncertainty about population forecasts discussed above continues to make itself fully felt here; however, the impact on the OADR has been shown to be limited as the forecast variation affects all ages. Added to this is the uncertainty about economic developments which by definition are omitted here in order to focus as much as possible on the first-order effects of population ageing itself<sup>5</sup>.

**Table 2 Extrapolation to 2038 of AOW funding\* from the income of 20-64-year-olds**

	old age pensioners (x1000)			total	contri- butions € mln	% of income 20-64
	cohabiting men	women	not cohabiting			
1985	523	397	800	1,769	6,523	8.5
1999	686	534	933	2,152	17,536	8.1
2004 share	77.6%	44.9%				
increase in share (1985-2004)	1 percentage point/5 years	2 percentage points/5 years				
2038	1,552	1,292	1,203	4,047	29,357	12.7
*) Excluding AOW received abroad						

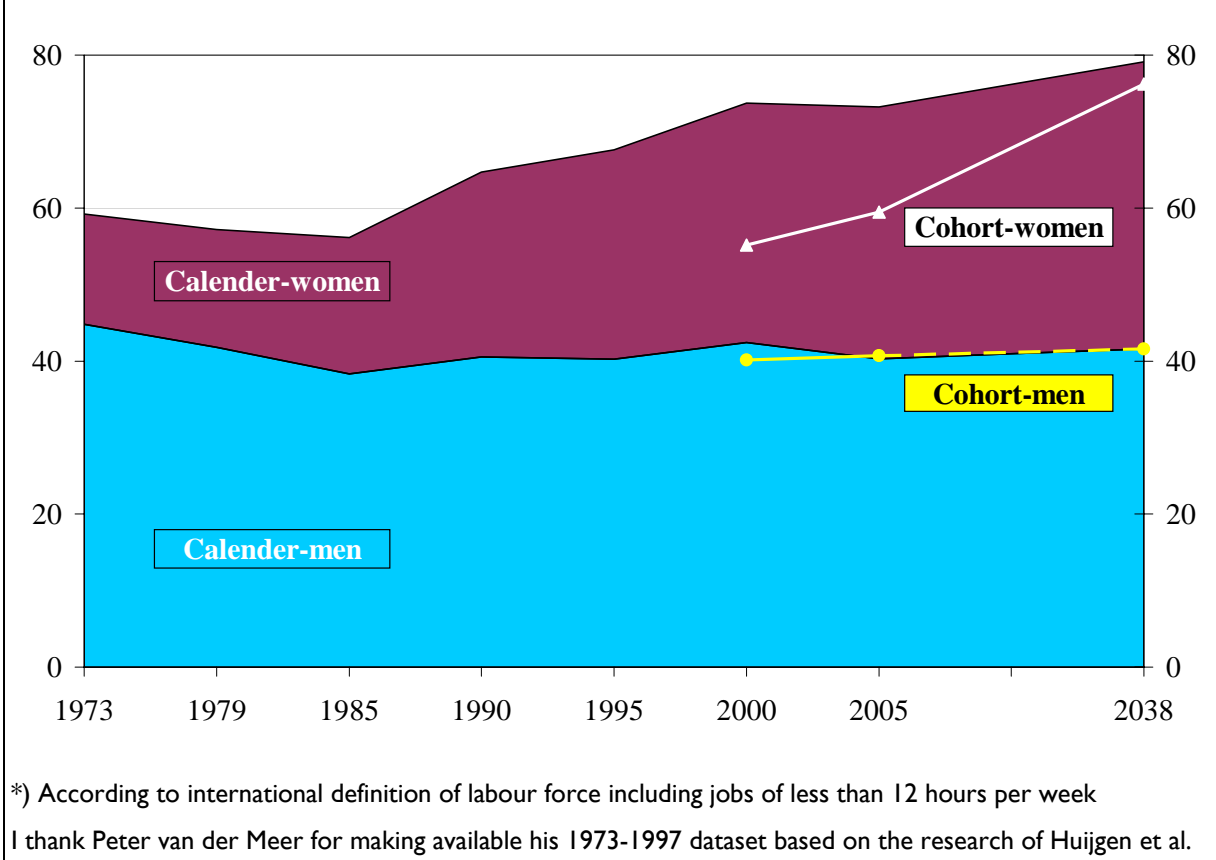
Sources: amounts according to CBS/IPO, 1985-1999 figures according to Kroniek ratios, 2038 total according to current CBS population forecast, average incomes and tax payments according to IPO.

The calculations show that the present 8% relationship to the aggregate income of 20-64-year-olds will rise by over 4.5 percentage points to 12.7%. Although considerable, for various reasons this increase does not appear insurmountable. Firstly, as we shall see later, during the recent pension crisis the premium rate levied on gross average earnings rose by a larger percentage (7%) in the space of only a few years. The increase does not therefore appear unmanageable, especially as in this case the consequence of the drop in demand of recent years will not eventuate because the revenue leads directly to AOW payments, which are basically received and spent within the Netherlands, and not to (pension) savings which are largely invested abroad<sup>6</sup>.

<sup>5</sup> Van Eekelen and Olieman (2003) discuss "bull" and "bear" scenarios in which the AOW can vary as a percentage of GDP from 6% to 8% at its highest point.

<sup>6</sup> CPB (2006, 10) notes that European countries with a pay-as-you-go system experienced less fall in demand in recent years than the Netherlands due to the increase in premium rates for the capital-funded pension system

**Figure 6 Employment rate\* for calendar years and cohorts retiring 1973-2038  
Persons aged 20-64 by gender**



Source: Author's calculation from Peter van der Meer's Huijgen dataset 1973-1985, OECD LFS 1990-2000 and CBS/Statline 2005.

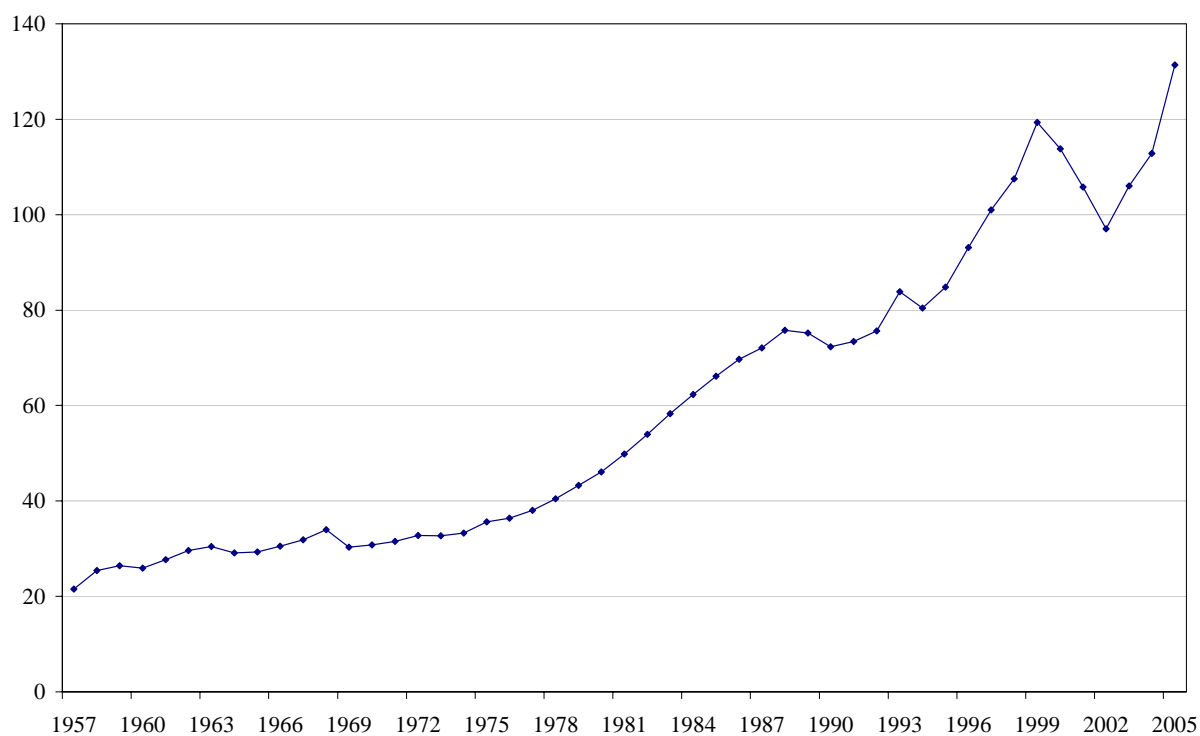
Nor does the extra funding seem impossible financially for the young in the sense of a compensating additional employment participation of those younger than 65. A 4.5% increase in the required contributions means a 3.3 percentage-points higher employment level, given that current incomes are based on an employment rate of 73%. This increase would cover the additional costs while the 20-64-year-old group would retain its existing net income. In order to keep the burden on income for the under-65-year-olds unchanged at 8.1% – and thus to grant the younger group a proportionate increase in real income – a 12 to 13% increase in participation would be required, to an employment rate of up to 82.5%. This is somewhat over 80%, the target rate of government policy. An increase in average hours worked of no more than 3% could make up for the gap. Figure 6 illustrates the feasibility of such a level without the need for much policy effort. It follows from an extrapolation to the future of the changes in employment participation of 5-year cohorts of men and women as they have occurred since the early 1970s. Cohort and calendar-based participation of men is virtually identical, while for women most of the gap will disappear as cohort-participation will grow quickly when present high-participation cohorts age.

Nevertheless, we are justified in also looking at the cost side of AOW expenditure. It has been suggested that expenditure can be reduced by gradually pushing up the retirement age to 67, with the argument that life expectancy is on the increase. Of course, such raising of the retirement age only makes sense if it leads to two years more of work participation and less of income from social security. Van Eekelen and Olieman (2003) argue that pushing back the retirement age to 67 will lead to greater expenditure on disability. Van Ewijk *et al.* (2006, 126) seem to confirm this in practice. For the two additional years, they predict the same low employment participation rate as at 64 years of age (10 to 11%); the non-work income of 65 and 66-year-olds will therefore continue to be essential.

### **3.2 OCCUPATIONAL PENSIONS AND PRIVATE ANNUITIES**

An increasingly important share of older people's income derives from occupational pensions and private annuities. In accordance with these pension and annuity schemes, prior to old age, pension contributions are deposited into capital funds using actuarial guidelines. The pension or annuity is paid from the profits from invested savings. These revenues comprise real incomes on the one hand, for example from interest on loans issued or rent, and (potential) appreciation on the other, for example from shares. During the same post-1957 period in which the AOW flourished, an impressive pension system was built up in this country (Figure 7). To a large extent the baby-boom generation simultaneously funded the previous generation's old-age provision via the AOW and its own provision via occupational pension accrual.



**Figure 7 Pension funds balance, % of GDP, 1957–2005**

Source: CBS/Statline, *Statistics institutional investors*

At the end of 2005 the book value of the pension funds corresponded to 130% of GDP. The Netherlands ranks first in the world in this respect, together with Switzerland and Iceland. Provisions for old age in many European countries are largely funded by pay-as-you-go systems. This contrasts with the Anglo-Saxon countries where capital funding is the rule, but even there the savings accumulated in capital funds are only half the size of what is found for the top-ranking countries. Pay-as-you-go funding is not in itself a disadvantage; in a demographic steady state it can even be more economical because it is much simpler – and hence cheaper – to administer and it is not susceptible to fluctuating interest rates and share returns. The advantage of capital funding, however, is that it can also benefit from revenue from investments abroad, where the demographic situation may be more favourable. In addition to pay-as-you-go or capital funding, private savings (and debt) are also important, but they are more difficult to measure and compare internationally. Van Aggelen et al. (2006) state that countries like Italy have huge savings tied up in house ownership, partly for the purpose of old age, and they also take debt – such as the high mortgage debt in the Netherlands – into consideration, alongside pension savings. It should be noticed that the magnitude of the pension funds is a mixed blessing because any erosion quickly becomes of considerable magnitude in relation to the national economy. This was illustrated by the recent Dutch experience after the dotcom bubble burst when aggregate pension savings fell by 20% of GDP. Any adjustments

of pension funding and its rules should therefore be processed with utmost caution, more so than has happened with very strong enforced savings in the Netherlands in recent years as Beunders (2006) observes.

Pension funding occurs through contribution deposits and returns on capital holdings, together making up almost 10% of GDP. As pointed out above, the return derives from realised investment income and (non-realised) appreciation. Between 1980 and the second half of the nineties, the role of returns grew and that of deposits decreased. That situation changed radically following the collapse of the stock market when the internet hype came to an end, which of course affected the non-realised value. Since then contribution payments have more than doubled over a short period, from 2.4% of GDP in 2000 to 5.6% in 2004. As a percentage of gross average earnings (including employer-paid benefits and taxes), they rose from 4% in 1997-1999 to 11% in 2004, an increase of 7 percentage points.

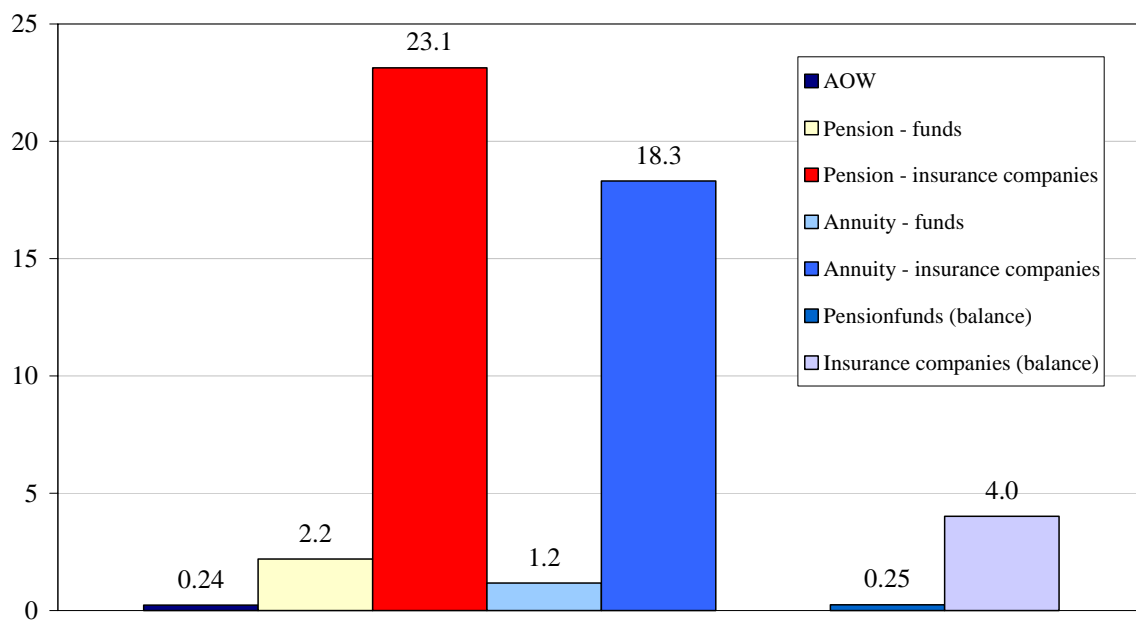
Pension capital provides for income in old age on the basis of cohorts and cohort savings. As we have seen cohort ageing is far less rapid, with the cohort that will be retiring in 2040 only 2 percentage points up from the current 27%. All the same, this difference has to be compensated for. This can be done by working more in the event of unchanged pension contributions or, alternatively, through additional pension savings. Both are acceptable options and should be open for discussion. At the same time, we have established that although the share of occupational pensions in older people's incomes may be on the increase, it should not be overestimated. There is simply no question of large numbers of people attaining 70% of their previous earnings, whether this be their final salary or average salary. Thus the financial outlook for the occupational-pension system presents few problems on demographic grounds; it does so only because of the negative impact of new regulations for managing and organising the system, particularly with regard to the actuarial valuation of property and obligations which are an important aspect of Ewijk (2006) and supervision by the acting pension-fund authority, the Dutch central bank..

#### *Costs of pension provisions*

Market forces are an important policy principle, also for pensions – as implemented for example in the *levensloopregeling* (life-course savings scheme) that was introduced by the government in 2006 to replace early retirement plans. This scheme allows employees to save income for a period off and pension funds are prohibited from providing this service. This has been decided on the basis of ideological principles without taking costs and hence economic efficiency into account. Costs are very important for the net long-term returns on pension deposits in a capital funding system. In a pay-as-you-go system, their significance is comparatively small; there is after all no capital to be managed and individual entitlements are simple to administer. The UK's Turner Commission

devotes an entire chapter to costs and partly for this reason argues for a national pension savings scheme. Their costing target is 0.3% of the built-up value. However, this dimension of costs and administrative structure is altogether absent from Dutch policy-making; it may reflect complacency as a result of the high pension savings in international comparison.

**Figure 8 Administration costs of occupational pension\*, % of deposits, payments and capital income, 2004**



\*) Administration costs and exploitation surplus

Source: calculated from CBS/Statline, National Accounts

Figure 8 shows the administration costs for the three types of pension provision and for two types of providers – funds and private insurance companies. The Turner Commission measures the costs as a percentage of the balance of pension funds – the 0.25% of the Dutch funds then compares favourably in international terms and is also mentioned by Turner. That measure is seen indicated to the right of the figure and is 16 times lower for pension funds than for the private insurance companies. A better measure, however, is to relate costs to the three types of administrative activity that pensions entail: acquiring and registering participants, administering pension payments and realising capital revenues. Costs on this basis are indicated on the left-hand side of the figure. The advantage is that this measure also allows a comparison with the pay-as-you-go system, which after all does not have a balance and no capital management costs. The AOW is by far the cheapest. The administration of both occupational pensions and annuities by private insurance companies is, however, exorbitantly expensive – 10 times more than for pension funds. Therefore it seems logical that the greater the demographic OADR value is, the smaller the role of private providers should

be. The argument of a level playing field between profit en not-for-profit providers is a dangerous one unless it has as its objective the benchmarking of private costs to the funds' best practice. A cost reduction from 4% to 1% of the balance for the portion (33%) of the total balance of Dutch pension savings that is managed by private insurance companies, can in principle fully offset the negative effect on pension savings valuation of the assumption of a reduced actuarial interest rate from 4 to 3%, for the next 100 years, which is of central importance to Van Ewijk (2006).



## 4 INEQUALITIES IN AGEING: SEX AND EDUCATION

To properly assess the ways in which population ageing is being addressed, as reflected for example in the standard, fully uniform retirement age (or the plan to gradually push this up) and the recent abolition of early retirement facilities before the age of 65, it is important to examine demographic differences among the population. A uniform approach can lead to unequal treatment, with on balance a transfer occurring from one group to the other, from the ones with a shorter life to those living longer.

Almost by definition, demographic data on life expectancy distinguish according to sex. Figure 1 and Table 1 revealed important disparities between men and women which – since 1861, but above all from the 1960s onwards – have grown to a 4.7 years longer life expectancy for women today. The effects on the OADR value are considerable. Other than the future trailing growth in female life expectancy suggests, the female share will rise from 52% for the first birth cohort in Figure 2 to 61% for the cohort that retires by 2050.

This reinforces an important potential problem that lurks in the political determination of viewing each man or woman as an independent individual. As far back as the Pension agreement of December 1997, the Labour Foundation (national employer and union confederations) and the government agreed on cutting back the survivor's pension given to dependant relatives upon the decease of a pensioner or an employee still actively building up pension entitlements. The major pension fund, ABP, interpreted this two years ago as a halving of the survivor's pension as a percentage of the original pension. The argument is that women should be economically independent and should take care of their own pension contributions. However, it should be said that the income over which this is calculated for women is generally small as it is mostly based on part-time work. In 2004 40% of adult 7 female employees, as opposed to 6% of adult men, earned less per annum than the amount corresponding to the individual AOW. Pension savings *can* (and will) be built up on a part-time income, but even if the 70% mark would be attained, the accompanying pension incomes will amount to very little for households following the death of a partner on a full pension. Most people are unaware of the unmistakable threat of future poverty among surviving women.

**Table 3 Life expectancy\* (years) at different ages by educational attainment\*\*, 1995/99**

	Men					Women				
	Low	Lower secondary	Higher secondary	High	High minus Low	Low	Lower secondary	Higher secondary	High	High minus Low
<i>Total life expectancy, at:</i>										
0 years	73.1	76.0	76.0	78.0	4.9	79.5	82.0	82.1	82.1	2.6
20 years	73.6	76.5	76.5	78.5	4.9	79.9	82.4	82.5	82.5	2.6
50 years	74.3	77.1	77.0	78.9	4.6	80.3	82.7	82.9	82.8	2.5
65 years	76.1	78.4	78.3	79.8	3.7	81.4	83.5	83.6	83.5	2.1
<i>Healthy life expectancy, at:</i>										
0 years	52.9	60.6	63.2	68.7	15.8	54.2	63.2	64.5	68.2	14.0
20 years	55.5	62.7	65.1	70.5	15.0	56.4	65.1	66.5	70.0	13.6
50 years	63.6	67.4	68.7	73.0	9.4	65.4	70.9	71.3	74.0	8.6
65 years	71.3	72.9	73.4	76.3	5.0	72.4	75.7	76.2	77.4	5.0

\*) Calculated from CBS Cause of death statistics, GLOBE, LASA, MORGEN, ERGO, POLS, health and work

\*\*\*) Educational attainment: low: no education or only primary education; lower secondary: LBO (vocational education) and MAVO (general education), higher secondary: HAVO (general education), VWO (pre-university education) and MBO (vocational education), high: HBO (professional education) and WO (university education).

Source: Van Hertem et al. (2002), Tables 1 and 3–6; I wish to thank the authors for making available the data on 50-year-olds.

A second aspect of inequality that tends to be overlooked in Dutch ageing policies is diverging life expectancies for different socio-economic groups, which again is a key feature of the British pension debate (Turner, 2005, 47)<sup>8</sup>. Unfortunately, few data are available on this, but the data we do have reveal marked disparities. TNO research (Van Hertem et al., 2002) has operationalised socio-economic status on the basis of on educational attainment. In theory, the use of occupational status and income is preferable but educational attainment is easier to identify; it is also more stable for an individual and hence easier to track over time than occupation or income.

Table 3 outlines the differences for the Netherlands. At birth the life expectancy of men with little education is five years less than for highly educated men. The situation is similar for women, although the differences are somewhat smaller – possibly in part because women in the low-educated category form a larger group more similar to better educated women relative to men. The differences change little with age, but most of all for those with little education after the age of 50.

<sup>8</sup> Very recently this was discovered by Bovenberg (et al., 2006) of Tilburg University, who is central to the Dutch early-retirement and pension debate.

What is significant are the disparities in life expectancy in good health – that is, the years in which people perceive themselves as healthy. At birth, men with the lowest educational attainment cannot expect *on average* to live more than 53 years in good health, much less than the retirement age of 65; the most highly educated men, at 69 years, have almost an additional 16 years. For women, the differences between high and low educational attainment are not much smaller in this respect. At 20 years, the start of working life, the differences are not much smaller but they then drop sharply at 50 and 65 years. Evidently, the effects materialise at a later age. It would appear that the less-well educated with a lower healthy life expectancy fall away at an earlier age than those who are highly educated. It implies that those with little education run a greater risk on balance of paying contributions to the AOW and occupational pensions over a long period without themselves being able to enjoy the benefits.

Unfortunately, these are calendar-based data, as cohort data are unavailable. Nevertheless, the changes according to age can be a useful indicator. The low healthy-life expectancy of the less educated helps us understand the recent opposition of the trade unions to a uniform pension age, as expressed by the recent abolition of early retirement, and the proposals to push up the retirement age for AOW. Health arguments should not be omitted from this discussion. Turner also proposes raising the retirement age in the British pension system but only with provisions for such disparities.





## 5 CONCLUSIONS AND POLICY IMPLICATIONS

The purpose of this paper has been to identify the impact of first-order effects of population ageing on funding for retirement, leaving out other costs such as those of health care, which would plausibly also be incurred without population ageing. The finding is that, although not minor, the effects are not insurmountable. The dangers associated with an ageing population are being exaggerated in a debate which focuses exclusively on their implications for the government budget, as is done by the recent CPB study (Van Ewijk, 2006). As a result, other problems are also being completely overlooked, resulting in a lack of balance in the public debate and policy making.

Demographic change was examined in two ways: on the basis of calendar years and of birth cohorts. There are huge differences between the forecasts related to population ageing that these two approaches produce. On a calendar basis, the old-age dependency ratio doubles to 44 percent at its highest point, in 2040. On a cohort basis, the ratio has been high for quite some time and will rise only slowly in the coming decades; the cohort that will retire at the age of 65 towards 2040 will be at 29% as against 27% now. It is cohort development that best reflects individual life expectancy, which has increased sharply at birth in the past 150 years but much less so at 65 years of age. It is conspicuous – and the first sign of imbalance in the debate – that the fact that the Netherlands is lagging behind other countries in terms of life expectancy, now and in the future, is not viewed with disquiet. It may be because this lagging trend helps explain why the dependency ratio in the Netherlands is expected to increase at a lesser rate than in most other countries.

An equally conspicuous point of imbalance is that the Dutch political debate on population ageing pays paid no attention to the major socio-economic disparities in (healthy) life expectancy, which lie at the heart of the British pension debate. As a consequence, some groups are making contributions to the basic public pension AOW and occupational pension savings schemes for long years but derive little benefit themselves given the high standard pension age – 65 years, if not 67 in the future. A more equitable solution would be to allow people to retire after a certain number of working years instead of at a standard age. It is of course imperative that we combat the underlying health differences but as long as these exist, they need to be taken into account. It is also important to recognise that women in particular will make up a significantly increasing share of the dependency in the decades to come. However, the downward revision of the surviving dependant's pension, with women's economic independence as its rationale, threatens to place them in an untenable situation; even with complete pension accrual, their pension entitlement will be small because of the high frequency of part-time work and insufficient to replace the absence of a partner's pension based on full-time income. Staving off this future poverty is deserving of greater attention and the low degree of cohort ageing allows scope for this.

The calendar/cohort distinction is critical when it comes to determining the financial implications of population ageing. The AOW puts pressure on the (younger) calendar population through a pay-as-you-go system, while occupational pensions are financed by the participants themselves on a cohort basis through capital funding. Problems of the latter are not primarily demographic but rather politico-economic in nature. Cohort ageing is slight, and on the obligation side, the requirements regarding future pension outgoings based on demographically sound projections are apparent. On the revenue side, there were large negative returns on investments in 2000-2002 after the dotcom bubble burst, but that was fully offset within a few years as a result of market recovery and higher contributions (notably with falling demand in the domestic economy as a result). Now, however, the anticipated returns are coming under pressure from changing accounting rules and a pessimistic assessment of future interest-rate levels and share returns. The implications of this discussion are enormous, but talks are being held by only a small group in the absence of any real political debate. Benchmarking private providers to the best practice of the funds would fully offset the consequences of 3% actuarial interest instead of 4%. But the administration costs of occupational and private pensions is another major and highly relevant factor that is being overlooked in ageing policies. Neglected in the Netherlands, this issue is central to the British pension debate. Minor differences in costs have huge consequences because of their long-term effects on individual pension build-up over 30 or 40 years. In this country, the costs of private administration – responsible for one third of occupational pensions – are a factor 10 to 16 times higher than those related to the administration by collective pension funds. The *levensloopregeling* (life-course scheme), newly introduced after the abolition of early retirement, can only be administered privately and is threatening to lead the way in runaway administration costs if people take full advantage of the continuous opportunities it offers to change the amounts and purpose of their investments and the choice of bank. Free choice is no free lunch, and these implications are not being given the necessary attention.

By contrast, the calendar population funds the AOW in the form of a pay-as-you-go system, which means that the costs will increase significantly as the population ages. The usual discussion, in terms of GDP, hampers a proper assessment of the income effects. Using age-based income data from the CBS Income panel survey IPO, we find that the role of the AOW is greater for the income of older people while that of occupational pensions is smaller (but still growing). A simple exercise applying the figures for the year 2038 to the current situation (thus with unchanged distribution of any economic growth) shows that the 20-64-year-old group will have to contribute 12.7% instead of 8.1% of its income in order to maintain the current AOW level. That is in itself a surmountable burden – no greater than the recent occupational pension contribution increases of 7% in a few years' time. The 20-64 age group can compensate by a small 3.5% increase in work participation and maintain the same real income.

This seems a feasible increase that can be realised without much policy effort. Employment levels for 20-64-year-olds have risen sharply in the past 30 years, from 59 to 73%. On the basis of cohort behaviour, throughout the recent recession, we can expect it to continue climbing to 79% in around 2040. Women were entirely responsible for the past increase and will be largely responsible for this future growth.

Letting go of government funding as the basic principle in the ageing debate can have an illuminating effect and can restore the balance.



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# AIAS

AIAS is a young interdisciplinary institute, established in 1998, aiming to become the leading expert centre in the Netherlands for research on industrial relations, organisation of work, wage formation and labour market inequalities.

As a network organisation, AIAS brings together high-level expertise at the University of Amsterdam from five disciplines:

- Law
- Economics
- Sociology
- Psychology
- Health and safety studies

AIAS provides both teaching and research. On the teaching side it offers a Masters in Advanced Labour Studies/Human Resources and special courses in co-operation with other organizations such as the National Trade Union Museum and the Netherlands Institute of International Relations 'Clingendael'. The teaching is in Dutch but AIAS is currently developing a MPhil in Organisation and Management Studies and a European Scientific Master programme in Labour Studies in co-operation with sister institutes from other countries.

AIAS has an extensive research program (2000-2004) building on the research performed by its member scholars. Current research themes effectively include:

- The impact of the Euro on wage formation, social policy and industrial relations
- Transitional labour markets and the flexibility and security trade-off in social and labour market regulation
- The prospects and policies of 'overcoming marginalisation' in employment
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- Female agency and collective bargaining outcomes
- The projects of the **LoWER** network.



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