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### Long-term income and deprivation-based poverty

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# PAPER

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**Long-term income and deprivation-based poverty  
A comparative study on the Dutch and German panel-data**

Ruud Muffels, Henk-Jan Dirven<sup>1</sup>

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**Long-term income and deprivation-based poverty**  
**A comparative study on the Dutch and German panel-data**

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*Keywords: poverty dynamics, deprivation, pensions, comparative panel-data*

**Abstract**

There is reason to believe that between the 1960s and the 1990s an U-shape pattern of income inequality occurred in almost all western industrialized economies. Since the mid 1980s inequality appears to increase at fairly high rates not only among the wage earners but also among the social security recipients and the aged. In this paper we examine the impact of the increasing inequality on the evolution of poverty and deprivation in Germany and the Netherlands for three generations of the elderly. Both countries show a divergent pattern in its pension system and its social policies for which reason a different evolution of poverty and deprivation for the elderly can be presumed. The paper deals with a comparative analysis of the dynamics of income poverty and subjective deprivation for the aged in the Netherlands and Germany using panel data from the late 1980s and early 1990s. The study examines the volatility and persistence of poverty and deprivation statuses of the elderly in both countries to investigate to what extent a market-conform pension system as the German system performs better in preventing persistent poverty compared to a mixed system of public minimum pensions and supplementary private pensions, as the Dutch system. The findings are contrary to what might be expected beforehand. There appears more stability and less mobility for the youngest and eldest generation of the elderly in the market-oriented pension system in Germany than in the mixed pension system of the Netherlands. Some explanations for this are presented in the paper.

## **1 Introduction and content of the paper**

The paper deals with a comparative analysis of the dynamics of income poverty and subjective deprivation in the Netherlands and Germany using panel data from the late 1980s and early 1990s. The focus is not so on the measurement of poverty per se but on the measurement of long-term poverty and long-term deprivation-poverty. The paper addresses two questions: (1) to what extent differ the incidence, distribution and evolution of income inequality and income poverty between both countries during the late 1980's, (2) to what extent correspond the findings on the dynamics of income poverty to the results on subjective deprivation-poverty. For answering the first question we compare the results using 5 waves of the Dutch and German socio-economic panel-data during the period 1985-1989. For the second, we restrict the analyses to the Dutch situation since we lack data on deprivation and its evolution for Germany. The latter analysis draws on the Dutch data-sets of 1985 to 1991. The analysis is oriented at the evolution of poverty among the elderly persons. Since the socio-economic position of the various generations of the aged is rather different, results will be presented for three age categories of the elderly, 55-65 years, 65-75 years and 75 years and over.

There is reason to believe that between the 1960s and the 1990s an U-shape pattern of income inequality occurred in almost all western industrialized economies. Since the mid 1980s inequality appears to increase at fairly high rates not only among the wage earners but also among the social security recipients and the aged. According to recent figures of the Dutch CBS, based on the income panel study (IPO), the income inequality (net disposable income) according to the Theil-coefficient increased between 1985 and 1991 with 2,1% a year and 13% over the entire period (CBS, 1994). Using the socio-economic panel data in both countries we found similar results; an average increase in inequality of net disposable income between 1985 and 1989 of 1.7% in the Netherlands and 2.1% in Germany. After 1991 income inequality seems to remain rather stable in the Netherlands, at least for the year 1992, but then rises again in 1993. Because the incomes of the aged are more concentrated in the lower income ranges and the share of the lower incomes decreased due to the rising inequality, the aged shared less in the real income growth in the late 1980s than the young. The anomaly must be attributed to the higher growth rate of earnings compared to benefits in conjunction with the low share of earnings and high share of benefits within the incomes of the elderly. The evidence for both countries also show that the three age groups differ considerably in terms of real income growth and for that reason presumably also in terms of poverty and deprivation statuses.

These patterns of rising inequality among wage earners and non-wage income earners which show up from the mid 1980s on are the result of two contrasting trends. The first trend is the rising inequality in the earnings distribution due to the recovery of the economy from the mid 1980s on up to the early 1990s, and the second the unequalizing impact of welfare state reforms in the Netherlands and Germany. In nearly all Western welfare states during the 1980s and early 1990s, governments pursued retrenchment policies and social security reforms which affected the real level and duration of benefits considerably. Together with the increase of earnings due to the economic growth it has led in all these countries to a widening of the gap between benefit-incomes and earnings. At the same time these reforms caused the share of wage-related benefits to fall in favour of the share of flat-rate benefits. Both trends have offsetting effects on poverty if poverty is defined in absolute terms. Increasing economic growth then leads to decreasing poverty whereas cuts in benefits probably induces a poverty rise. Both trends may strengthen each other when poverty is defined in relative terms. Economic growth may then lead to rising inequality between wage earners and beneficiaries as do retrenchment policies and social security reforms which will also likely result in rising inequality between wage earners and social security recipients and therefore in rising relative poverty. In the paper we will examine how these major trends in the two neighbouring societies work out empirically using socio-economic panel-data and applying various poverty standards.

#### *The pension systems in Germany and the Netherlands*

The pension systems in Germany and the Netherlands reflect the distinction between the selective insurance-based continental (Bismarckian) type of welfare system (Germany) and the universal need-based atlantic (Beveridgian) scheme which in the Netherlands is supplemented by a classical insurance-based occupational system. The German system represents the classical insurance-based pension system financed by payroll taxes (jointly paid by employer and employee) and guaranteeing a pension linked to the average wage income earned over the entire working life. Over time it appeared that the German system converges somewhat to the universal Atlantic system because coverage was extended to include not only workers but also the self-employed and people without an employment record (housewives). If the contribution record of an individual is insufficient to build up even a minimum pension s(he) may draw from the local social assistance agency to receive an additional benefit up to the level of the minimum social assistance benefit ('Sozial Hilfe'). The Dutch pension system is grounded on two pillars, the flat-rate statutory old-age pension scheme and the insurance-based occupational pension



scheme, both almost entirely financed by proportional payroll taxes. The second pillar, the occupational pension scheme, carried out by sectoral pension funds, guarantees for most of the insured a pension above the minimum up to a level of at least 70% of the final gross earnings.

The question which has to be addressed here is how retrenchment policies and social security reforms with respect to pension schemes did lead to a rise in inequality in the incomes of the elderly in Germany and the Netherlands in the late 1980s. The first answer is the widening of the gap between the level of earnings and the level of the lowest pensions. The rise in real earnings due to the economic growth together with the extension of pension rights for a growing number of people in the 1970s and 1980s implied an increase in the levels of occupational pensions, both in Germany and the Netherlands, particularly for the younger generations of the elderly. However, the growth of the lowest old-age pensions did not keep pace with the rise in average earnings due to these retrenchment policies which limited the linkage of benefits to wages. In the Netherlands the level of the statutory old-age benefit has from 1979 on (1980 excluded), until 1990, been frozen at the level of 1979. After 1989 the minimum old-age benefit became annually adjusted to the legal minimum wage level according to a so-called policy-oriented linkage mechanism for which reason the benefits stayed behind the minimum wage level to which it was linked formally. Between 1980 and 1995 the purchasing power of these basic statutory pensions therefore fell considerably over the entire period.

In Germany more or less similar developments took place. The pensions were up to 1979 linked to the index of gross-wages calculated over the last 3 years. Between 1979 and 1982 the linkage to the gross-wage index of the last three years was temporarily replaced by a linkage to the gross-wage index of the last year in order to relieve the budgetary problems of the major pension funds. In 1982 the linkage to the wages of the last three years was reestablished but almost immediately, at least temporarily, replaced by the new government-coalition headed by Bundeskanzler Kohl in 1983. The benefits were for 1983 frozen and not adjusted to the wage increases. In 1984 the linkage mechanism was again replaced by a mechanism which linked the pension benefits to the wages of the last year instead of the previous 3 years. Further retrenchments were in the 1980s taken by limiting the rights on a pension through a reduction in the accounting periods of contribution payments and a reduction in the building-up of pension rights during unemployment.

### *Hypotheses*

From this we can formulate several hypotheses about the performance of the German and Dutch pension system in preventing and relieving poverty:

- (1) Due to the economic growth during this period the income inequality among the various age groups of the elderly will presumably have increased but more so in Germany than in the Netherlands because the German pension system is more market-conform than the Dutch one. When a relative poverty line is used it can therefore be presumed that the increase in relative poverty in Germany exceeds that in the Netherlands.
- (2) The cuts in benefit levels by the German and Dutch governments in the 1980s resulted in a lower real income growth or even a real income loss for pensioners with a low or no occupational pension income. We therefore expect relative poverty to have increased as well. This holds particularly for the eldest generation having low or no occupational pensions and given that a relative income poverty line is used. The increase will likely be stronger in the Netherlands than in Germany while the benefit reductions were more significant in the former than in the latter country. Due to the freezing of the Dutch statutory old-age benefits and the linkage of the German pensions to the index of gross wages, the lowest German employee pensions are less affected by the pension reforms than in the Netherlands.
- (3) The average level of pensions for the eldest generation will presumably be lower in Germany because of the high share of elderly with no pension or a small occupational pension among this age group. This is due to the fact that Germany lacks a statutory or legal pension scheme operating as a safety net against poverty particularly for the eldest age group with less chances to have an occupational pension income. Because of these lower pensions of the eldest age category compared to younger generations we expect relative income poverty to be higher among the eldest age group in Germany than in the Netherlands.
- (4) The market conformity of the German system together with the absence of a need-based pension scheme acting as a safety-net for elderly with no additional occupational pension entitlements such as in the Dutch system will presumably also lead from a dynamic perspective to higher income mobility and lesser income stability in Germany compared to the Netherlands in this period.
- (5) The rising inequality among the elderly population is partly the result of increasing economic growth rates in the second half of the 1980s. The increase in economic

welfare led to rising pensions for pensioners with occupational pensions. Presumably, poverty rates for the elderly have shown to fall over this period when poverty standards are applied which are less relative and because of that less sensitive to annual income shocks such as the economic deprivation measures. They probably much more reflect the permanent consumption status and living standards of persons and households. This hypothesis with respect to the decline of deprivation can only be examined in the Dutch case since we lack data on deprivation for Germany. For identical reasons we may presume that income mobility is lower and poverty persistence higher when a deprivation standard is used because if deprivation reflects a more persistent state of low living standards the likelihood that the deprived will escape deprivation-poverty will be lower.

The paper focuses on the issue of poverty and deprivation in a longitudinal, comparative perspective. We particularly address the question whether poverty and deprivation are more *volatile* or *persistent* among the elderly than among the younger age cohorts and how this works out in both countries (cf. Walker, 1994).

## **2 Data, definitions, concepts and unit of analysis**

The data used in this paper are from the Dutch *Socio-Economic Panel (SEP)*, covering 6 years from 1985 to 1991 and from the *German Sozial-Ökonomisch Panel (SÖP)* stretching the period 1985 to 1989. Each wave of the German and Dutch panels consists of roughly 4,5 to 5 thousand households and 12 to 14 thousand persons. The definition of income used in the paper is net annual after-tax or disposable household income. Between 1985 and 1990 this income is calculated as the sum of 27 income components asked for in the questionnaire of the oral interview. The income concept used includes labour income, capital income, social security income (unemployment, disability, old-age, social assistance) and a limited number of private income transfers.

It should be clarified from the onset that in the Dutch panel from 1990 on the *income measurement* from the SEP-panel data has changed. Before 1990 the net monthly income currently receiving on the date of the interview was used. The annual net disposable household income has been calculated as the net monthly income multiplied by 12 and summed up with

the irregular income receipts. From 1990 on the income definition has changed into the gross annual income in the last calendar year. This means that the October 1991 wave contains information on the annual income of 1990. To allow for comparisons between the incomes over the entire period these gross incomes are transformed into net incomes by a gross-net algorithm incorporated in a micro-simulation model. However, because of this change in the definition and measurement of income between 1990 and 1991 data on income for 1991 are somewhat different from the ones before.

In the German panel the calendar-year annual income concept has been applied which is similar to the definition used in the Dutch panel for 1991 only. Hence, the comparison of the incomes between both countries for the years before 1991 is hindered because of the use of somewhat different income definitions.

The *unit of analysis* in this paper is the individual and not the household since family well-being changes considerably over time due to the occurrence of household formation events like divorce, (re)marriage, death of the partner or the birth of a child and labour market events, such as losing or acquiring a job, moving to a better or worse paid job, a reduction in working hours or a change in the labour contract. For the aged the number and type of events during old age will be different from those of the young. Typical for the aged are events like retirement of the head or the partner, death of the partner, moving in with the children or moving to an institution for residential care.

For conducting analyses at the individual level we assigned the household income to each adult and child in the household. This means that we consider the household as one undivided consumption unit sharing the household income equally. In reality, this does not necessarily be true: some households consist of relatively independent consumption units which only partially share their income with other units within the household. Since we lack information on the intra-household consumption patterns the paper follows the general assumption of equally shared welfare within the household ('joint welfare function').

### **3 Methodology: defining income-poverty and deprivation-poverty thresholds**

In previous work (Muffels, 1992, 1993; Muffels, Dirven, Fouarge, 1995) we have argued that there is no single method which is capable of encompassing and measuring all aspects and dimensions of poverty simultaneously. Each applied methodology has its own strength and weaknesses and reflects in a sense the subjective notions of experts on what a poverty-line should measure and how it should do this. The choice for a multiple set of poverty-standards prevents the academic researcher for making arbitrary and often normative choices for a particular method which can only give a partial view on poverty in society. From empirical research in a number of countries (Van den Bosch et al., 1993) it became evident that the various poverty line methodologies in terms of incidence and distribution of poverty produce very dissimilar results.

The Dutch panel allows us to use several poverty definitions whereas for the German panel data we lack the information needed to apply these standards. Therefore we can present comparative results only for the so-called European standard which is the half-median income as applied by the European Commission. To show how the results are affected by the use of different poverty standards we will also give the results for three other poverty-lines for the Netherlands.

The European standard is a statistical measure set at the level of 50% of the country-mean equivalent disposable household income (O'Higgins and Jenkins, 1989). This is not an official poverty line of the European Commission but one which has been used in various research projects commissioned by the EC (cf. Muffels, 1993). The equivalence scale proposed in a report for the OECD is used here for comparison of both panel-data sets (1 for head, 0,7 for the partner and 0,5 for a child). Since the outcomes prove to be sensitive for the choice of the equivalence scale another less steep scale proposed by Eurostat has been used (1, 0,5, 0,3). Furthermore, we applied two other standards on the Dutch data, a subjective standard, the Subjective Poverty Line (Kapteyn, Kooreman, Willemse, 1988) and a policy standard. The policy standard is the so-called 'Dutch Social Minimum Income (DSMI)' which by and large equals the amounts of the minimum benefits in the social security system, i.e. the social assistance benefits. For a description of these poverty lines we refer to some other papers (Muffels, 1993; Muffels, Dirven, Fouarge, 1995). Below, a brief description follows.

The *subjective standard (SPL)* has been applied by submitting a question to the respondent about the absolute minimum income he for his or her household needs to make ends meet, the so-called Minimum Income Question (MIQ). The level of the poverty line is determined as the average required minimum income level of those people for which the current household income is equal to the necessary minimum income. These people are assumed to be the experts who are best aware of what a household of their size and composition really needs to make ends meet. If the actual income is below this *intersubjectively* assessed minimum income level, which varies according to household size and reference group, the household is considered subjectively poor. The *Dutch social minimum income (DSMI)* threshold is calculated for each household in the sample. According to the social assistance scheme the amounts differ dependent on the family composition and the age of the household members. For each household we determine theoretically the level of the social assistance benefit the household would be entitled to if it had to apply for it. The current income is then compared with this calculated minimum benefit level to determine whether the household is in poverty or not.

#### *Deprivation-poverty*

All these poverty lines looks at poverty in terms of low income or low economic welfare. For that reason we have called these thresholds income-poverty lines. However, poverty is more than lack of income alone. Poverty is also associated with the enforced lack of non-monetary resources, such as good health, adequate housing, enough food, steady employment and a decent social life. Income is without doubt a necessary condition for having a decent life but income alone is not sufficient to guarantee this. For that reason the chosen set of poverty methods is extended with a subjective deprivation-index-method called the Subjective Deprivation poverty Line (SDL) which is developed by Muffels (1993). The deprivation-index method departs from an extended list of deprivation items submitted to the head of households in four waves of the Socio-Economic Panel survey, in October 1985, 1986, 1988 and 1991. The list of items is partly derived from the deprivation-scale of Townsend (1979) and Mack and Lansley (1985). The SDL-method is explained in more detail in section 6 and annex 1.

A deprivation-poverty standard could be calculated directly from the survey-data for 1985, 1986, 1988 and 1991. For the years in between, for which no information is available about deprivation (1987, 1989, 1990), we have tried to fit a logit-model to calculate the probability of being in deprivation-poverty. This is reported in annex 2.

#### 4 The evolution of income poverty for the elderly in the Netherlands and Germany

In this section information will be presented on the evolution of income poverty for the elderly in the late 1980s in the Netherlands and Germany. In Table 1, information on Germany and the Netherlands is presented using the European minimum income standard (EMI). In the lines below, information is presented for the Netherlands only but for two other poverty standards, the Dutch social minimum income (SMI) and the subjective poverty line (SPL). To examine poverty figures according to the European minimum income standard we applied two equivalence scales, the original OECD-scale which is a rather steep scale (EMI-OECD) and a modified, less steep scale which has been used by Eurostat in poverty-research (cf. Hagenaars, de Vos et al., 1993) and therefore referred to as EMI-Eurostat (compare Table 1).

**Table 1 The evolution of poverty for three generations of the elderly according to the European standard in Germany and the Netherlands and according to two other poverty standards for the Netherlands (SMI , SPL), [% poor]**

Age class	% poor by	1985	1986	1987	1988	1989	1990
55-64	EMI-Germany	3.1	3.1	4.9	2.1	5.1	n.a
	EMI-Netherlands	4.3	7.3	6.3	7.0	7.9	4.6
	EMI-Eurostat	4.4	7.1	6.7	7.2	8.3	5.5
	SMI	10.0	8.5	8.9	7.9	6.7	8.9
	SPL	18.1	21.0	18.6	18.7	15.7	15.9
65-74	EMI-Germany	1.2	1.1	0.5	1.3	1.1	n.a
	EMI-Netherlands	0.9	2.8	5.7	5.2	7.5	3.0
	EMI-Eurostat	1.8	3.3	7.1	5.8	8.1	3.3
	SMI	12.7	17.6	15.1	12.7	12.0	5.6
	SPL	24.7	23.4	30.3	39.4	22.8	19.4
75+	EMI-Germany	2.6	12.2	6.2	2.3	2.6	n.a
	EMI-Netherlands	1.9	3.3	5.9	4.4	5.5	4.5
	EMI-Eurostat	1.9	4.4	6.3	5.3	6.6	5.0
	SMI	11.4	13.3	16.6	18.5	15.5	10.4
	SPL	22.7	31.0	36.8	48.3	25.7	30.4
Total population	EMI-Germany	8.8	8.7	9.6	9.3	9.4	n.a
	EMI-Netherlands	6.0	7.2	8.0	7.5	9.2	7.1
	EMI-Eurostat	4.2	6.4	6.7	6.3	8.3	6.2
	SMI	6.4	6.4	6.7	6.1	5.4	6.7
	SPL	9.6	11.7	12.8	12.4	9.7	11.0

Note:

EMI-OECD=European Minimum Income, OECD-equivalence scale (1, 0.7, 0.5)  
 EMI-Eurostat=European Minimum Income, Eurostat-equivalence scale (1, 0.5, 0.3)  
 EMI-Germany=European Minimum Income, OECD-equivalence scale (1, 0.5, 0.3)  
 EMI-Netherlands=European Minimum Income, OECD-equivalence scale (1, 0.7, 0.5)  
 SMI= Social Minimum Income  
 SPL=Subjective Poverty Line

According to both versions of the European line the aged do better in the Netherlands and in Germany compared to the total population during the entire period. Contrary to what might be expected, the youngest generation of the elderly underwent the highest poverty risks at least in the Netherlands, whereas in Germany the eldest generation of the elderly experienced the highest risks except for the years 1985 and 1989. In both countries the middle age group of 65-75 years old were less likely poor than the youngest and eldest age group. The observed higher poverty rates for the eldest age group in Germany supports our third hypothesis on the effects of the absence of a legal safety net in Germany for the well above average poverty risks of this age group.

The results further show that particularly in the Netherlands the incidence of poverty among the elderly increased between 1985 and 1989 especially for the youngest and eldest age group. In Germany a much more stable pattern of poverty emerges where poverty among the elderly is much lower than in the Netherlands except for the eldest age group. This finding contrast to hypothesis 1 on the expected increase in relative poverty in the German pension system, but confirms hypothesis 2. According to this hypothesis Dutch policies to freeze the level of the basic pensions will have led to rising income inequality and relative poverty among the elderly. The better position of the younger elderly in Germany is probably associated with the fact that more elderly within the younger generations of the elderly in Germany will have build up a pension which prevents them from poverty whereas in the Netherlands more elderly are dependent on pensions from the State which offers no guarantee for staying out of relative poverty because of the Dutch policies to freeze benefits in the 1980s. On the other hand the absence of a publicly provided basic pension in Germany causes more elderly of the eldest generation running into related poverty than is the case in the Netherlands.

There is reason to believe that the lower poverty rates for the elderly compared to the population have to be attributed to the steepness of the equivalence scale (even the modified scale) which assigns high weights to the costs of children. Since elderly have few children, their income is overestimated. For that reason their poverty status appears more favourable than it in reality is. The results on the other poverty standards for the Netherlands prove this. These results are very different from the findings on the European lines. According to the Dutch policy standard (NMI) and the subjective standard it is shown clearly that poverty is more widespread among the aged than among the rest of the population. The eldest generation bears



the highest risks and the youngest the lowest. The poverty risks for the aged 65 years and over are twice to three times higher than for the non-elderly. The table also shows that between 1985 and 1988 the incidence of poverty in the Netherlands apparently increases but after 1988 declines again. The decline is strongest for the subjective poverty line and for the two eldest age groups. Note also the very high subjective poverty risks for the eldest generation in 1988. Almost half of the 75+ elderly consider their income in 1988 too low to make ends meet. After 1988 subjective poverty decreased gradually although in 1990 still 15% to 30% of the aged over 65 years were subjectively poor.

## **5 Income mobility and long-term poverty**

### *5.1 Measures for income mobility and poverty persistence*

In the next part the interest shifts to the issue of income mobility and poverty persistence among the elderly. The issue is raised whether poverty for the elderly compared to the total population is more volatile or persistent. To assess income mobility and poverty persistence three measures of income mobility are applied. The first measure is the *n-year income-to-needs ratio* which is a continuous measure for the ratio of the over *n* years of observation aggregated income to the over *n* years aggregated necessary minimum income. The level of the minimum income reflects the needs of the household to attain a minimum standard of living. Its level can be derived from the various poverty line definitions which were applied in the study. For that reason the 'income-to-needs ratio' differs according to the different 'needs' or poverty line definitions that were used. The ratio reflects the mean income position of individuals and households over time relative to the mean income level needed to attain the bottom poverty line. According to Sen (1983) the income-to-needs measure can be considered to reflect a relative measure for income deprivation. The second measure is the '*number of years in poverty*' during the observation period which presents a measure for the frequency of poverty statuses during a certain time period. A third measure proposed by Bane & Ellwood (1986) departs from a '*poverty spell*' approach where a spell is assumed to start after a transition has taken place from any other initial state in *t-1* to the state of interest at time *t*. The measure is based on the standard life-table approach. Income mobility is here defined in terms of the exit rate out of poverty, conditional on experiencing a poverty spell during 1 year, 2 years etc.. The survival rates after *n* years of experiencing a spell provide estimates for the persistence of poverty over time. Income mobility is therefore indicated by the cumulative exit rate which is equal to one minus

the survival rate.

According to all three indicators income mobility is defined in terms of movements across certain 'poverty' thresholds.

### *5.2 Results on the income mobility of the aged*

In Tables 2.1 to 2.3 the results on income mobility according to the three aforementioned mobility indicators for the Netherlands and Germany are given. Only the results for the European standard can be compared. For the Netherlands we will also give the results on the spell indicator for another two poverty lines, i.e. the policy standard (NMI) and the subjective poverty line (SPL).

In Table 2.1 three levels of the 'income-to-needs ratio' are distinguished: the household income is less than 75%, less than 100% or below 125% of the needs level. A first observation is that long-term poverty rates are low both in Germany and the Netherlands for the young as well as for the elderly. This shows the high income mobility in the Netherlands and Germany. Nevertheless, in Germany still more people below 55 years old are in long-term poverty over a 5-year period (5%) than in the Netherlands (3%). Extreme poverty indicated by the number of people having incomes more than 25% below the 5-year 'needs' threshold hardly exists in both countries, not among the young but remarkably also not among the elderly. The proportion of elderly in long-term poverty according to this mobility indicator is about zero percent in the Netherlands whereas in Germany it is still 3.5%. However, note the increase in the proportion of long-term poor if the threshold itself is assumed to be 25% higher. It appears that both, the youngest and the eldest generation experience long-term poverty. Whereas the proportion of non-elderly and elderly up to 75 years old below the 125% threshold is higher in the Netherlands, the proportion of elderly poor of 75 years and over is much higher in Germany, almost 20% against 5% in the Netherlands. These figures indicate that because of the high concentration of incomes just above the needs threshold the results are very sensitive for small increases in income.

**Table 2.1 Long-term poverty in Germany and the Netherlands according to the 'n-years income-to-needs ratio', European standard, 1985-1989**

	Germany			The Netherlands		
	≤ 75%	≤ 100%	≤ 125%	≤ 75%	≤ 100%	≤ 125%
≤ 54 years	0.4	5.3	11.8	0.3	2.3	15.3
55-64 years	0.0	0.2	3.4	0.3	0.9	8.2
65-74 years	0.0	0.1	1.7	0.0	0.6	3.2
≥ 75 years	0.0	3.5	19.7	0.0	0.0	4.9

The next table shows that the picture holds if the analysis shifts to the 'n-years-in-poverty' indicator. Again, the results indicate the higher income mobility among the non-elderly in the Netherlands compared to Germany and the lower mobility among the eldest generation of the elderly. Note that in Germany the proportion of people at least once poor in a 5-years period is higher for most age groups, particularly for the non-elderly, compared to the single year figure. Almost 22% of the non-elderly experience poverty at least once in this period whereas only 3 to 7% of the elderly between 55 and 75 years old belong to this category and 9% of the elderly above 75 years. Particularly in Germany the elderly of 75 years and older are more prone to poverty at least once in the 5-year period.

**Table 2.2. Long-term poverty in Germany and the Netherlands according to the 'n-years in poverty indicator', European standard, 1985-1989**

	Germany					The Netherlands				
	≥ 1	≥ 2	≥ 3	≥ 4	≥ 5	≥ 1	≥ 2	≥ 3	≥ 4	≥ 5
54 years	21.6	10.5	6.1	3.6	1.5	20.5	7.9	3.7	2.4	0.4
55-64 years	7.2	2.0	0.9	0.1	0.1	18.2	5.5	2.7	1.5	0.0
65-74 years	2.6	1.3	0.7	0.0	0.00	11.5	3.1	1.4	1.1	0.0
≥ 75 years	8.8	7.8	1.5	0.9	0.9	14.9	3.2	0.7	0.7	0.0

In Table 2.3 below evidence is presented on the persistence of poverty in both countries using the 'spells-of-poverty'-indicator. The results should be considered with caution because of the small numbers involved. However, from Table 2.3 it is clear that most spells tend to end in the first two years after a spell beginning but sooner in the Netherlands than in Germany. The spell duration is longer in Germany than in the Netherlands corroborating the earlier results showing that income stability is higher and income mobility is lower in Germany particularly among the non-elderly but also among the elderly generations.

Across the generations the findings suggest that the within-country income mobility among the elderly, particularly the generations below 75, is higher than among the non-elderly.

**Table 2.3 Long-term poverty in Germany and the Netherlands according to the 'spells-of-poverty indicator', European standard, 1985-1989 (\* < 10 cases)**

Cumulative survival rate	Germany			The Netherlands		
	After 1 year	After 2 years	After 3 years	After 1 year	After 2 years	After 3 years
≤ 54 years	83.4	43.8	36.6	49.5	37.3	28.1
55-64 years	83.8	30.3	13.9*	46.9	34.3	0.0*
65-74 years	95.7*	95.7*	-	41.8	41.8*	41.8*
≥75 years	100.0*	94.4*	-	25.2	25.2*	0.0*

Contrary to what might be expected according to hypothesis 4, poverty mobility is lower and poverty stability is higher in the market-oriented German system particularly among the eldest generation. The eldest generation apparently has little chances to escape from poverty in Germany given the absence of a need-based statutory pension system. Because of the non-existence of a safety-net in the pension system the eldest generation have incomes farther below the poverty line than in the Netherlands for which reason only large increases in income will induce poverty exit. However, the likelihood of large income increases among this age category is expectedly quite low.

#### *Comparing the results across poverty lines*

The next table shows how sensitive the findings are for the use of different poverty standards.

The figures are for the Netherlands only for reasons of lack of data in Germany.

**Table 3 Long-term poverty according to the 'spells-of-poverty' indicator and three poverty-lines, figures for the Netherlands only (SEP, 1985-1990)**

<i>spells-of-poverty (survival rate after spell of n-years)</i>	<i>after 1 year</i>	<i>after 2 years</i>	<i>after 3 years</i>	<i>after 4 years</i>
<i>European standard (EMI)</i>	37.0%	32.8%	22.8%	0.0%
55-64	30.2%	12.0%	0.0%	0.0%
65-74	32.5%	10.5%	0.0%	0.0%
75+	46.3%	28.2%	12.3%	12.3%
Total population				
<i>Policy standard (NMI)</i>				
55-64	24.4%	15.0%	2.7%	0.0%
65-74	25.8%	11.3%	0.0%	0.0%
75+	26.8%	8.0%	0.0%	0.0%
Total population	28.7%	13.9%	2.5%	0.0%
<i>Subjective standard (SPL)</i>				
55-64	53.1%	34.8%	29.3%	26.6%
65-74	50.4%	29.1%	12.5%	12.5%
75+	54.3%	38.2%	22.1%	22.1%
Total population	56.3%	39.2%	26.1%	23.4%

From Table 3 it can be learned that using the 'poverty spell' indicator, the cumulative survival rate of poverty is smaller, and hence the exit rate higher, according to the policy standard (social minimum) than according to the European standard for all spell durations. The survival rate is however higher, and the exit rate lower, in the case of the subjective poverty-line. Hence, the high income mobility we saw from the earlier figures in Germany and the Netherlands must be stressed if a policy standard is used and relaxed somewhat if a subjective standard is used. But even in the case of the subjective standard income mobility is high particularly in the first 2 years after a spell beginning. The highest estimates of persistent poverty are observed for the youngest and the eldest age group of which 27% and 23% respectively, remained subjectively poor even after a stay of 4 years in subjective poverty.

## 6 The evolution of deprivation-poverty among the elderly between 1985-1991

### 6.1 The evolution of deprivation-poverty by age class

In this section the issue is raised whether the use of a less relative poverty-line such as the economic deprivation poverty-line will alter the conclusions with regard to the evolution of poverty and will show that increasing levels of welfare and economic prosperity in this period will likely lead poverty rates to decline (cf. hypothesis 5). Information on the evolution of deprivation-poverty will be given using the so-called subjective deprivation-poverty line (Muffels, 1993; see Annex 1). In the waves of 1985, 1986, 1988 and 1991 questions were submitted to the respondents about their living conditions. Although the number and wording of some questions changed between the various years for about 20 items the questioning across the years were similar. These 20 items then were used to construct a deprivation index (cf. annex 1).

In Table 4 the evolution of deprivation-poverty between 1985 and 1991 is given by age group. Table 4 shows that except for 1985 the highest deprivation-poverty risks are observed for the youngest and the oldest age categories whereas the generation of 65 to 74 years bears average risks on deprivation poverty. The figures also show that between 1985 and 1991 the deprivation poverty risks declined for all age groups but particularly for the age group 50 to 64 years old.

**Table 4 The evolution of deprivation poverty by age class (SDL), 1985-1991**

	1985	1986	1988	1991
16-24 years	10.8	11.6	9.7	6.8
25-49 years	9.0	8.7	7.8	5.1
50-64 years	18.5	14.4	11.0	7.7
65-74 years	11.8	8.8	9.3	6.3
75 year <sup>3</sup>	9.2	17.1	21.5	11.3
Total population	10.8	10.4	9.4	6.1

The results seem to confirm what was stated in the fifth hypothesis that poverty rates likely decline in a period of economic prosperity given that poverty lines are used which are not entirely relative. Support for this was found in the data since the proportion of people deprived

of items gradually declines with about 10% on average each year. However, a further look at the data shows that the decline in deprivation-poverty goes back to another factor. It appears that the average level of consumption welfare remains rather stable over the five year period but that the poverty-line itself declined in this period. People seem to become less demanding in terms of what is considered to be a minimum living standard in a growing economy with improving economic perspectives. Although current welfare remained rather stable it was judged better probably because a future improvement of the living standard was expected.

### *6.2 Persistence of deprivation-poverty*

In the last section of this paper we deal with the issue whether a deprivation-poverty line will show less income mobility and more poverty persistence among the elderly compared to income-poverty lines. If this appears true it is very likely that the former conclusion with respect to the greater stability in the German pension system holds a fortiori when poverty is not defined in terms of income but in terms of living conditions or living standards.

Before the data could be used for this purpose we had to impute deprivation-poverty scores for those years where we lack information on, 1987 and 1989. The imputation procedure is explained in more detail in Annex 2. The procedure was to estimate logit models for each of the years where we had information on by regressing deprivation-poverty to a vector of background variables and a lagged deprivation-poverty status variable. Background variables were variables like the number of children, the head's age, the marital status, the head's education level and the housing situation. The parameter estimates were then used to determine the likelihood of being in deprivation-poverty for the lacking years. From the regressions it appears that about 92% of all people were rightly classified in the years we had information on and 8% were not. It emerges that about two-third of the observed poverty rates were predicted by the logit models. In Table 5 we present the observed and predicted scores.

**Table 5 Observed and predicted levels of subjective deprivation poverty in the Netherlands, 1985-1991**

	1985	1986	1987	1988	1989	1990/91
Observed	14.0	13.2	[12.5] <sup>2</sup>	11.6	[9.3] <sup>2</sup>	8.9
Predicted	9.5 <sup>1</sup>	8.8	7.7	6.7	5.7	4.8

<sup>1</sup> Based on a model where the deprivation-poverty status variable of 1986 has been included in the model

<sup>2</sup> Estimated proportion of people in deprivation-poverty

The estimated proportion of people in deprivation-poverty for the years 1987 and 1989 is based on the average ratio of predicted and observed poverty for the years we had information on. The outcome strongly suggest that in the late 1980s deprivation-poverty is gradually declining in the Netherlands providing evidence for the last hypothesis about the impact of economic growth. The predicted deprivation-poverty status can then be used to calculate the various measures of income mobility and poverty persistence<sup>2</sup>. In Table 6 the results on the persistence of deprivation-poverty is given.

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<sup>2</sup> Since we only have information about the deprivation-poverty status of individuals and households and not on the perceived welfare assigned to the current living standard (consumption welfare) we were not able to calculate the first measure of poverty persistence which looks at the average level of consumption welfare over a period of 6 years and whether this average is below the deprivation-poverty line.



**Table 6 The persistence of subjective deprivation poverty in the Netherlands by age group according to the Subjective Deprivation Poverty Line (SDL), 1985-1990/1991**

The number of years in subjective deprivation poverty	≥1 year	≥2 years	≥ 3 years	≥ 4 years	≥ 5 years	6 years
≤ 54 years	7.1	4.8	2.7	1.8	1.0	0.3
55-64 years	13.4	8.5	5.9	3.1	2.0	1.2
65-74 years	6.6	3.7	0.8	0.0	0.0	0.0
≥ 75 years	11.4	7.2	5.1	3.9	0.8	0.0
Total population	7.8	4.8	2.7	1.8	1.0	0.4
Cumulative percentage surviving	after 1 years	after 2 years	after 3 years	after 4 years	Beginnings	Censored
≤ 54 years	48.4	29.5	29.5	29.5	272	128
55-64 years	33.0	0.0	0.0	0.0	43	16
65-74 years	49.9	29.8	0.0	0.0	38	19
≥ 75 years	49.1	28.4	28.4	0.0	39	13
Total population	47.8	27.2	27.2	27.2		

The results show that in general the stability of deprivation-poverty is higher than was found using the income-poverty lines, except for the subjective poverty line which shows highest stability. Particularly, the stability of poverty positions for the youngest and the eldest age group which were already more stable according to the income poverty standards appears higher compared to the middle age group. However, the results clearly indicate that the income mobility among the elderly and even among the eldest age category is still higher than among the rest of the population. Expectedly, the stability of poverty positions according to the deprivation-standard would have been higher in Germany than in the Netherlands given that we had data about Germany over the same period. The conclusion drawn before that income positions are more stable in Germany holds therefore even more for the stability of living standards.

In terms of income but even in terms of living standards these results may relax the general assumption that the elderly are more prone to poverty persistence than younger age groups. Also for the elderly there are various gateways to escape from poverty although they are to some extent different from those of the young. Poverty exit appears related to the occurrence of life events like retirement, changes in living arrangements (moving in with the children or

children moving in), changes in work patterns, changes in asset holdings (transform capital into cash income) and moving to care institutions. It is probably for this reason that the impact of a more market-conform pension system in Germany on inequality is relatively small since factors like employment or retirement opportunities, patterns of living arrangements and general social policies are probably more deciding for the differences in income mobility and poverty persistence between both countries.

## **7 Summary and conclusions**

In this paper we compare the income, poverty and deprivation situation of three generations of the elderly aged 55 years and older in Germany and the Netherlands. Several indicators for measuring poverty, poverty persistence and poverty mobility have been applied to look how sensitive the results are for differences in methodologies. In particular the paper addresses the question whether poverty is more volatile or more persistent among elderly than among the younger generations and whether there are striking differences between the two countries. We test some hypothesis about the effects of economic growth and pension policies in both countries on the evolution of relative poverty, income mobility and poverty persistence. We particularly address the question whether the more market-conform pension system in Germany (private pensions) leads to more poverty and a higher income mobility than the mixed system in the Netherlands with publicly provided basic pensions and supplementary private (occupational) pensions.

The figures on income poverty show for both countries that according to the European poverty line the elderly (55+) have lower risks on poverty than the younger generations, but this may well be an artefact of the European poverty standard itself. The European standard seems to overestimates the incomes of single persons and elder households because of the presumed high costs for children. If we apply other standards such as the policy based poverty standard (social minimum income) or the subjective poverty line poverty risks appear much higher for the elderly (two to three-times higher) than for the younger generations.

We also found that the poverty risks for the eldest age group are much higher in Germany than in the Netherlands, which confirms our hypothesis on the perceived impact of the absence of a statutory basic pension in Germany on poverty. For the presumed higher effect on the

evolution of inequality and poverty of the market-conform pension system in Germany over time we found no evidence. In contrast to that we concluded that the more publicly oriented pension system in the Netherlands created more inequality and poverty among the elderly in this period than the market-conform pension system in Germany. This was particularly due to its policies to freeze the lowest benefits during the 1980s whereas in Germany the pension benefits remained in nearly all years linked to the index of gross wages. On the other hand it emerged that the absence of a statutory basic pension scheme in Germany resulted in much more poverty among the eldest generation than appeared the case in the Netherlands with a basic pension scheme.

With respect to income mobility and poverty persistence the findings show that income mobility is high in Germany as well as in the Netherlands but more so in the latter than in the former country. Poverty persistence is much higher in Germany particularly among the youngest and eldest age group. The duration of stays in poverty is longer in Germany especially for these age groups. In the Netherlands spells tend to end earlier. Hence, contrary to what was expected poverty mobility is lower and poverty stability is higher in the market- oriented German pension system. Because of the non-existence of a safety-net in the pension system the eldest generation have incomes farther below the poverty line for which reason only large increases in income will lead to poverty exit (see also Duncan, et al., 1993). The results seem to be sensitive to the use of different poverty standards. If we use a policy standard (social minimum income) it appears that the exit rate is in the Netherlands even higher than according to the European standard but lower if we use the subjective poverty line. But even if a subjective poverty line is used income mobility is quite high in the Netherlands. Highest estimates for persistent poverty are then again observed for the youngest and eldest age groups. About 25% of these groups remained subjectively poor even after a stay of four years in subjective poverty.

In the last section of the paper the hypothesis was examined whether the use of a less relative poverty line than the ones presented earlier would alter the results. For that reason it was assumed that the use of a subjective deprivation standard reflecting not only the income situation of the individual but also the living conditions on other domains of life (health education, employment, housing situation, social participation) will show that poverty is declining in this period because of the increase in economic welfare. For identical reasons it was expected that income mobility is lower and poverty persistence higher when a deprivation standard is used

which is less sensitive to annual income shocks. If deprivation indeed reflects a more persistent state of low living standards the likelihood that the deprived will escape poverty will be lower and hence poverty persistence higher. Firstly, the results show that deprivation-poverty declined strongly with 10% on average a year. However, remarkably enough, the reason was not so much the rise in welfare which remained fairly constant while people in the reference group experienced the same welfare rise but the lower demands in terms of the welfare level that was considered to be the absolute minimum. Although current welfare levels not changed much people seem to be less demanding while they expect to share in the future improvement of the economic welfare.

The stability of deprivation-poverty appears higher than holds for most of the income poverty lines except for the subjective standard. Particularly the stability of poverty positions for the youngest and the eldest age group appears higher. For that reason it is expected that the stability of deprivation-poverty for these age groups will be higher as well in Germany indicating again that poverty persistence is more apparent in Germany than in the Netherlands not only in terms of income but also in terms of living standards. Contrary to what was expected beforehand the impact of the market-conform German pension system on inequality and poverty appears small probably through the impact of more deciding factors like the design of social policies, the existence of generous retirement gateways, the employment opportunities and the patterns of living arrangements.

A judgement of the German and Dutch pension system in terms of its performance to reduce (persistent) poverty among the elderly is hard to make since it depends on what should be preferred: a highly mobile pension system with relative many elderly people prone to transient poverty (the Netherlands) or a somewhat less mobile system with less aged persons in transient poverty but more elderly running into persistent poverty (Germany). The existence of a statutory minimum pension system such as in the Netherlands is important to prevent low income elderly to become persistently poor whereas on the other hand a matured universal private pension system covering a great part of the population and guaranteeing sufficient earnings-related pensions as in Germany prevents people from moving into poverty at the time they reach retirement or pension age.

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## **Annex 1 The definition of a deprivation-index and the calculation of a deprivation poverty line.**

Deprivation is defined as lacking goods or things from a large list of items representing the average life-style in community, a so-called deprivation-index (cf. Townsend, 1979), which the households finds absolutely necessary to have or do. Then a score on the deprivation index is determined for every head of household in the sample<sup>3</sup>. It is defined as the weighted sum of the deprivation score on each consumption item out of a large set of items or indicators of the actual living conditions of people in society (the list of items is given in below). The weights are determined for necessities and non-necessities distinguishly. These weights are equal to the proportion of people in the reference group of the respondent having or lacking the good. The more common the possession of a good is in the reference group of the household the higher subjective deprivation is if the household lacks such a good (keeping up with the Joneses). On the other hand the less common a good is in the reference group the higher subjective welfare is if one possesses the good (status goods).

In the next step, the SDS-index is converted into a deprivation poverty line (SDL) by submitting the following question to the respondents. This question is called the *life resources evaluation question*, which is asked directly after the battery of questions on the actual living conditions (the list of deprivation items).

*'If you consider the way in which your household lives at the moment, would you consider your household as poor, or in fact as rich, or as somewhere in between? You may answer by giving a score to your situation. A score of 1 means that you consider your household as being very poor, a score of 10 means that you consider your household as being very rich'.*

Then, a regression model is estimated in which the scores on the life resources

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<sup>3</sup> A score of 1 is assigned to each item which the individual is deprived of and a score of -1 to each item which s(he) possesses.

evaluation question, ranging from 1 to 10, are assumed to be determined by a set of variables indicating the consumption welfare (the reverse of the score on the deprivation index), the level of economic resources and the financial situation. In the final step the deprivation poverty line is then determined as the average consumption welfare level of those households who rate their current life conditions with the school mark 5.5. The 5.5 mark represents the presumed minimum utility level below which a person or household is considered to be living in poverty. The households for which actual consumption welfare is evaluated with 5.5 are supposed to be the experts which are best aware of the minimum needs of the household. As with a school mark in The Netherlands it is assumed that a score of 5.5 indicates the dividing line between a 'satisfactory' and an 'unsatisfactory' score, in this case as regards the evaluation of one's current living conditions.

From the estimation of the regression model, the evaluation of life resources in terms of assigning a school mark between 1 and 10 to the actual living conditions, seems to be strongly influenced by the score on the deprivation index, by the marital status of the head, by reference group factors and by financial stress factors. Given the individual scores on these variables for each household and making use of the parameter estimates of the regression model (estimated on the whole sample), the SDL poverty-line can be calculated for every household in the sample.

The results, given below in Table A.1.1, show that the judgement about the own living conditions is better when the level of the consumption-welfare is higher, the share of households in the reference group possessing goods is higher, the share of people in the reference group lacking non-necessities is higher and when the household income is higher.



**Table A.1.1 Estimation results (GLS) for the joined data sets of 1988 and 1991**

Intercept	-3,62
Consumption welfare	1,00
Share of households in the reference group having necessities	0,15
Share of households in the reference group having non-necessities	0,48
Share of non-necessities in all the items people lack	0,01
Net disposable household income	0,03
Negative disposable income	0,30
65 years or older	0,07
Divorced	-0,10
Unmarried	-0,02
Household can save	0,10
Household expect the income to improve in the near future	0,02
F	211,96
p	<0,0001
N	8240
R <sup>2</sup>	0,221
R <sup>2</sup> -adjusted	0,220

Further, it appeared that self-employed people having negative (fiscal) incomes have a more positive judgement about their living standards than others in society and the same holds for the elderly (above 65 years old). Divorced and unmarried heads of households have a more negative judgement about their living standards than married or widowed people. The judgement is more positive if one can save or expect a clear improvement of the living standard in the nearby future.

Finally, in Table A1.2 the percentages of deprived households for each of the items on the common list of the four years are given.

**Table A1.2 Percentages deprived households, 1985-1991**

ITEM		1985	1986	1988	1991
1	Membership of a social or cultural association (sport club, social club, music group)	8,9	8,9	6,7	5,0
2	A telephone	2,3	2,0	1,2	1,0
3	Live in a well-maintained area	6,5	6,0	5,0	5,9
4	Live in a well-maintained house	7,3	7,3	6,1	6,0
5	Paying mortgage or rent without problems	4,3	2,8	2,3	1,4
6	Paying the gas, water or electricity bill without problems	2,6	1,9	1,4	0,8
7	Having regular contacts with family, friends and acquaintances	3,4	3,0	2,9	2,1
8	A good health	13,9	11,8	11,5	13,4
9	Enough bedrooms to give each of your children of 10 years and older of different sex one's own bedroom	7,6	7,4	6,0	3,9
10	A refrigerator	0,5	0,6	0,7	1,0
11	A home free of damp	10,7	9,2	10,0	7,7
12	An own WC (not shared with other households)	0,6	0,7	1,0	0,5
13	A meal with meat, poultry or fish every two days	2,8	2,7	2,0	1,5
14	A washing machine	3,5	3,0	3,3	3,8
15	Going out for the evening once every fortnight (without the children)	14,1	13,8	10,9	8,9
16	A car	4,7	4,7	3,3	3,7
17	Regularly buying new clothes	14,0	12,2	10,2	6,7
18	At least one week's annual holiday away from home (not visit to family)	18,3	16,4	14,2	11,2
19	Having family, friends or acquaintance for diner at least once a month	4,6	4,6	3,6	2,7
20	Leisure goods like sports wear or a bicycle for the children	6,6	6,1	4,4	2,4

## Annex 2. Imputation of missing observations on deprivation-poverty by means of logit estimation

As was explained in the paper logit models were estimated in which the deprivation-poverty status variable (taking on the value 0 or 1) was regressed against some background variables which were assumed to be good predictors of deprivation poverty. These variables are listed in Table A.2.1 below. The pseudo  $R^2$  appears to be quite high. Note the significant negative effect of the variable year, which reflects the continuously declining deprivation-poverty rates. Note also the effect of the lagged deprivation-poverty status variable indicating the stability of deprivation-poverty statuses. The results show that about 92% of all observations is rightly classified, but misclassification apparently occurs particularly among the deprivation-poor for which reason the predicted poverty-rate is on average only two-third of the observed poverty rate.

**Table A.2.1 Results from a logistic regression of a number of background characteristics on deprivation-poverty status, 1986, 1988, 1991 (N=7,894)**

	B	s.e. (B)	exp (B)
Head's age cohort			
- 16-24 years	-.948	.290	.387
- 25-49 years	-.057	.142	.945
- 50-64 years	.234	.125	1.264
- 65-74 years	-.096	.176	.908
- 75 years or older	.867	-	2.380
Head's marital status			
- married	-.653	.096	.520
- divorced	.999	.101	2.716
- widow(er)	-.327	.124	.721
- unmarried	-.019	-	.981
Number of children living in the household			
- 0	-.597	.138	.551
- 1	-.102	.137	.904
- 2	-.081	.144	.922
- 3	-.077	.205	.926
- 4 or more	.857	-	2.356
Head's educational level			
- primary education	.437	.117	1.548
- secondary: first stage	-.026	.120	.975
- secondary: second stage	-.278	.114	.757
- non-university higher education	-.079	.169	.924
- university	-.054	-	.947
Number of income recipients in the household			
- 1	-.262	.120	.769
- 2	-.227	.119	.797
- 3 or more	.489	-	1.631

Main source of income in the household			
- labour income	-.858	.210	.424
- pension	-.620	.269	.538
- unemployment benefit	.146	.229	1.158
- sickness or disability payment	.409	.221	1.505
- social assistance	.364	.249	1.439
- student grant	-.078	.317	.925
- alimony	.162	.590	1.176
- missing value	.475	-	1.608
Head's annual property income in Dutch guilders			
- 0	1.187	1.204	3.278
- 1 - 499	.597	1.208	1.816
- 500 - 999	-.315	1.251	.730
- 1,000 - 4,999	.233	1.223	1.263
- ≥ 5,000	1.037	1.232	2.821
- missing value	-2.739	-	.065
Housing situation			
- rented house	.332	4.686	1.393
- subtenancy	1.497	4.695	4.470
- owner occupied house	-.145	4.686	.865
- free house	-.064	4.697	.938
- missing value	-1.620	-	.198
Disposable household income (ln)	-1.168	.110	.311
Year	-.123	.025	.884
Previous subjective deprivation poverty			
- non-deprived	-.901	.052	.406
- deprived	.901	-	2.462
Intercept	10.266	4.974	
Pseudo R <sup>2</sup>	41.1%		
Correctly classified	92.0%		

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