CAUSAL MODELS FOR THE INTERGENERATIONAL TRANSMISSION OF SOCIAL INEQUALITY IN THE NETHERLANDS IN 1958 AND 1977 *

H.B.G. Ganzeboom **

This article provides an analysis of status attainment in the Netherlands in 1958 and 1977, using a causal model approach. The direct and indirect pathes between father's and son's occupational prestige have decreased over time, but other predictions from meritocracy theory fail. In particular, it cannot be shown that education has become more important in the process of attainment of higher occupational prestige and higher incomes. In addition, the decrease of the direct effect of father's prestige on son's prestige has to be attributed to the virtual disappearance of highly ascriptive occupational groups of self-employed and farmers from the occupational structure.

1. INTRODUCTION

The transmission of social inequality between generations is one of the main concerns in the field of social stratification. The thesis that forms the background (in either a positive or negative way) of many analyses is that of meritocracy: the idea that in modern societies the selection for high-ranked positions is increasingly shaped by achievement standards and less by family background. One expects a development towards more equal opportunities for persons from different family backgrounds and a growing importance of education (investment in and selection of talent) in the determination of outcome-dimensions as

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- (**) Harry B.G. Ganzeboom (Department for Sociological Theory and Hethodology, Heidelberglaan 2, 3508 TC Utrecht, The Netherlands) presently works on a project on "Culture Consumption in the Netherlands between 1955 and 1980" financed by the Netherlands Organisation for the Advancement of Pure Research ZWO (50.202).

income and occupational prestige. This meritocracy or modernisation thesis has been the main thrust behind the functionalist theory of social inequality and a considerable body of empirical work (Blau & Duncan-1967; Jencks-1972). It has been opposed by conflict theorists (Collins-1972, 1979) who hold that the importance of family has not declined at all, but has at most chosen the channel of education to reproduce the initial inequality in the next generation. More specifically, meritocracy theory leads to the following hypotheses on status attainment:

- a. The direct effect of family background on education will become lower over time.
- b. The direct effect of family background on occupational attainment wil become lower over time.
- c. The direct effect of education on occupational attainment will become stronger over time.
- d. The direct effect of family background on income will decrease and

the direct effect of education on income will increase over time. Note that the hypotheses do not imply logically that the total effect of family background on attained occupation will decrease. Since no magnitudes of changes are specified, it is entirely possible that the growing effect of education on occupation compensates for the diminishment of the influence of family background on education and occupation.

Compared to international standards, there have been relatively few investigations on the transmission of intergenerational inequality in the Netherlands. However, among the ISA-sponsored studies in the fifties on occupational mobility, there was one, rather outstanding contribution from the Netherlands: Van Tulder (1962). This author collected data from a random sample survey of about 2500 men and coded their and their father's occupation on a previously constructed prestige scale (Van Heek & Vercruijsse-1958). Van Tulder did not use the detailed scores on occupational prestige, but recoded his data into six categories, that were homogeneous with respect to prestige, but rather heterogeneous with respect to other aspects of occupational position. Van Tulder's procedure merged manual and non-manual occupations, farm and non-farm occupations and made divisions within the categories of farmers and that of self-employed. Unfortunately the data (that were collected in 1954) were lost. Everything that is left of the Van Tulder study are the published tables and a rather detailed instruction on the recodings of occupations to prestige categories.

This information was used by Ganzeboom & De Graaf (1983) to construct an identical table for data of 1977. They made comparisons between tables with loglinear models. Their main conclusion was that the Dutch society displayed considerably more openness in 1977 than in 1954. This conclusion was matched by the results of the investigation by Ultee & Sixma (1983) on marriage patterns, who also found a loosening of status ties in Dutch society over the last decades.

The analyses of Ganzeboom & De Graaf (1983) had to be restricted to occupational mobility tables, because Van Tulder, nor other sources provided any information on other dimensions of social status. In general it can be said that, whereas older Dutch studies kept up with the first, seminal generation of mobility studies (Centers, Glass, Svalastoga, Lipset & Zetterberg, Miller), they were only conspicuous in their absence in the second generation of mobility studies, that is since the appearance of Blau & Duncan's (1967) path analytic study. Apart from Dronkers' & De Jong's (1978) replication of the Jencks' (1972) study, nation-wide status attainment models have not been published. However, the work of Dronkers c.s. on school careers of children (cfr. Dronkers-1983) has immediate implications for the analysis of social opportunities. These studies of educational attainment of children generally do not show a substantial weakening over time between family background and educational attainment of young children.

In this paper I will study the pattern of social inequality in 1958 and 1977 with regard to education, occupational prestige and income distribution. I will use path analysis as the method of comparison. Since we are dealing with a problem with five variables and have in 1958 only 480 cases at our disposal, this few-parameter technique seems to be more apt than loglinear analysis.

The 1958 data are drawn from a health survey (Gadourek-1963), in which accidently data on occupations of fathers and interviewees (only men are analysed in this paper) were collected. These data have never been analysed before within a framework of stratification research. The occupations in this survey have been classified rather crudely, but hold apart important distinctions as those between farm and non-farm and manual and non-manual, that are blurred in the Van Tulder codings. Unfortunately, Gadourek did not include father's education in his questionnaire. However, he included education and household income for the interviewee.

The 1977 data I have used are taken from a Quality of Life Survey of the Central Bureau of Statistics. The data belong to the main sources on inequality in the Netherlands in recent years. They have been used for stratification analysis by Ganzeboom & De Graaf (1983), Ultee & Sixma (1983) and others.

2. THE DATA

Gadourek (1963) collected his data on occupations of fathers and sons in a health survey in 1958. The study, one of the earliest sociological surveys with a national sample in the Netherlands, is known for the high quality of its data. These data are freely admissible via the Steinmetz Archive and have been used for several studies on social change (Gadourek-1982, SCP-1978). Though the occupational scores for the primary respondents have been used in Gadourek's original analysis, the information on their fathers has never been analysed before. The original questionnaires have disappeared, but Mr. Gadourek was so kind to give me a copy of his original codebook.

To obtain a fair comparison between status attainment models for the two years, it is necessary to match the 1958 and the 1977 codings. For the 1958 data the codings of occupations comprise 27 occupational categories. Occupations refer to former occupation if a person is not in the labour force (mostly retired). Some occupational groups have no or

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few incumbants (among male respondents). The 1977 data are coded in the 1971 four-digit Census Occupational Coding (CBS-1971). I have matched these two variables by recoding them into the Ultee-Sixma (Sixma & Ultee-1983) prestige scale. Table-1 provides detailed information on the categories, the frequencies and the mean prestige scores of these categories in the 1958 data.

The matching of the other variables was more straightforward. Age has been matched in six cohorts according to Gadourek's original scoring. Education is matched as closely as possible, regarding both the length of training and the content of the curriculum. Acknowledging the heavy restructuring of the Dutch school system that took place since the fifties and the rather vague descriptions of some of Gadoureks categories, it should be noted that this matching can only be partly succesfull. With respect to income, no effort is made to match the two files in absolute values: the 1977 categories have been devised to approximate the relative sample income-distribution in 1958 as closely as possible. It should be noted that the percentage of married women active in the labour force has risen from about 7% to 20% in the meantime.

Table-2 gives detailed information on the categories of the variables and their respective frequencies in the two years. For matter of convenience the distributions of prestige scores have been subdivided into six groups.

3. THE ANALYSIS

Table-2 shows the distribution of the five variables under study and the changes that have taken place between the two years. The means and standard deviations of these distributions are worthwile to reflect on.

The age distributions of the two samples do not show pertinent differences. The educational distributions reflect the large shift that has taken place in Dutch society (as well as in others) in the last decades. Educations have been quantified according to their category number. In this metric mean education has grown 49%. The form of the distribution has changed from a very much right skewed one into a more symmetric one. Mean occupational prestige of fathers and sons has grown slightly, but not very much. The income distribution shows a considerable difference (2.1) of logged means, of which about half is simply attributable to monetary inflation. The inequality of incomes has declined somewhat over time. This can be seen from the declining standard deviations. We must remember that we may be comparing incomparables here. The household income is a sum of personal incomes. Since the percentage of married women working in the labor force has grown between the fifties and the seventies, household income is only in a loosely defined way a identical variable in the two surveys. However, other sources (Pen & Tinbergen-1977) have documented a substantial decline of income inequality as well.

Regression techniques like path analysis build on the assumption that the relations between variables are linear. I have tested for nonand curvilinearity in these data with several strategies. Results (not reproduced) suggest that the occupational categories of self-employed and farmers do not fit nicely into the linearity assumptions.

Table-3a gives means, standard deviations and correlations of the five variables in 1958 and 1977, as well as unstandardized regressions. Figure-4 shows the standardized regressions in the form of path-models.

The importance of the distinction between standardised and unstandardised regression coefficients should be stressed. While standardised coefficients estimate the relation between variables scaled in the same metric (units standard deviation), unstandardised coefficients report on the relation between variables in the original metric. Since standardisation is done within a sample, standardised coefficients cannot be compared between samples. On the other hand, unstandardised coefficient of differently scaled variables can be compared between samples but not within a sample; therefore the relative importance of their effects cannot be assessed without standardisation.

All this holds, if it is assumed that the variables are measured in the same metric in both samples. If on the other hand one is to argue that it is meaningless to compare units between samples, it is better to compare only standardised coefficients. Theoretically, an obvious interpretation of standardised coefficients in stratification research is that they indicate relative status positions. In the sequel, we will evaluate both sets of coefficients.

3.1. OCCUPATIONAL MOBILITY

The first thing to look at in table-3a is the information on occupational mobility to see whether the conclusion of Ganzeboom & De Graaf (1983) on the growing openness of Dutch society holds. Indeed, the bivariate correlation coefficient reduces considerably between the two years: .45 (1958) to .34 (1977). In this respect the conclusion of Ganzeboom & De Graaf (1983) is confirmed.¹ The unstandardised regression coefficient gives the same result: .47 in 1958 and .38 in 1977.

3.2. THE DETERMINATION OF EDUCATIONAL ATTAINMENT

Meritocracy theory leads to the expectation that the effect of family background on education will decline over time. At first impression this is not confirmed by the empirical evidence in table-3a. The unstandardised effect of the father's occupational prestige on education has even grown somewhat. In addition, the differences between age groups in educational attainment has been more than doubled. This reflects the rise of general educational attainment between cohorts and stresses the importance of age as a determinant in status attainment processes. However, the relation between fathers occupation and educational attainment looks somewhat different, if assessed by the standardised coefficients:

1958/1977

.37 / .32 (bivariate correlation) .20 / .22 (unstandardised effect) .36 / .30 (standardised effect)

A unit of father's occupational prestige gains as much units education in 1977 as in 1958. But a unit of education was not a unit any more in 1977, since the standard deviation of educational attainment had grown nearly 25%. Therefore the effect of parental background on relative educational attainment has become somewhat smaller in 1977, even if the absolute gains for sons from higher status families have remained the same in absolute terms. Therefore, the first prediction from meritocracy theory is confirmed.

3.2. THE DETERMINATION OF OCCUPATIONAL PRESTIGE

The second pair of equations in table 3.a shows that the direct effects and father's occupational prestige have clearly declined over time and this goes for unstandardised (.29/.18) as well as standardised (.29/.17) coefficients. This result confirms the second hypothesis from meritocracy theory. Acknowledging the fact that the lowering of the indirect effect of father's occupation on son's occupation via son's education is not substantial (either in standardised or unstandardised effects), this phenomenon is most important for understanding the openness of the Dutch mobility regime.

The second pair of equaltion also shows that the unstandardised effect of education on occupational prestige has remained the same over time. This part of the model also looks different, if evaluated by standardised coefficients.

1958/1977

.56 / .57 (bivariate correlation)
.87 / .81 (unstandardised effect)
.47 / .59 (standardised effect)

While the unstandardised effect has become somewhat lower, the standardised effect has grown substantially! A unit of educational attainment in 1977 was rewarded with about the same prestige as in 1958 unless it is assumed that not absolute, but relative units are important. Therefore, the third prediction from meriticracy theory can only conditionally be confirmed.

3.4. THE DETERMINATION OF INCOME

The influences of education and occupation in 1958 and 1977 are of about the same magnitude, while the effect of fathers occupation is not significant. The effect of education on income did not increase over time, but decreased slightly, both in absolute (.11/.08) and standardised (.27/.24) values. The fourth prediction from meritocracy theory cannot be confirmed.

3.5. TAKING FARMERS AND SELF-EMPLOYED OUT OF THE ANALYSIS

It may be assumed that the declining total effect of father's occupational prestige is not a result of growing achievement standards, but is produced by changing magnitude of occupational groups. This maybe another example of the confusion of marginal effects. Since the categories with the greatest immobility effects (farmers; small proprietors) have declined considerably, there are fewer observations on the diagonal (that is: near the regression line) in 1977 than in 1958. In standardising this loosens the relation between the two variables and this is expressed in the decline of the correlation coefficient.

We can test this hypothesis by taking the declining groups (farmers and self-employed) out of the analysis (table-3b). This leaves the relation between father's occupation and son's occupation unchanged: standardised (.42/.33) as well as unstandardised (.43/.36) the relation decreases. Other parts of the picture look considerably different. First, the direct effect of father's occupation on son's occupation is about the same in 1958 and 1977, both in absolute (.17/.16) and standardised (.17/.15) values. This shows that the decrease of ascribed status attainment is due to the diminishment of a few highly ascriptive occupational groups. Secondly, the evidence that father's occupation has a slightly smaller effect on son's education in 1977 is clearer now: .24 versus .22 (n.s.) in absolute values, but .42/.31 in standardised values. However, the third conclusion, on the growing importance of education to gain occupational prestige, is now no longer supported by the evidence. Without farmers and self-emloyed, this effect decreases between periods: 1.11/.85 (p<.05) in absolute values and .61/.56 in standardised values. In conclusion: the model without farmers and selfemployed shows that the increasing mobility is largely due to the disappearance of these groups and for another part to the smaller effect of father's occupation on educational attainment.

4. CONCLUSION

In this analysis I have found mixed and somewhat confusing evidence with respect to the meritocracy thesis. Although the replication of the Ganzeboom & De Graaf result shows that their conclusion on the growing openness of Dutch society (lower association between father's and son's occupation) is confirmed, the other evidence is inconclusive. A substantial growth of the importance of education for attaining higher occupations and incomes could not be observed. On the other hand, the effect of family background on education has decreased over time, if both variables are measured in standardised values. The clearest result of the analysis is that the decreased total effect of father's occupation on sons's occupation is due to a smaller direct effect. Additional analysis showed that this decrease of the direct effect is largely due to the disappearance of some highly ascriptive occupational groups (farmers and self-employed) and no general growth of achievement standards is observed.

In conclusion it may be said that the case for the meritocracy thesis is still not strong at all. Family background remains as an important direct and indirect cause of attaining social position.

NOTE

(1) The reader might wonder what the relation is between the Van Tulder table for 1954 and the Gadourek table for 1958. Unfortunately, it is not possible to assess this relation directly. The codings Gadourek used are too crude to be recodable into the Van Tulder levels of prestige. Preliminary loglinear analyses, in which both tables for the fifties are compared with the same occupational data for 1977 (but differently recoded) lead to the impression that the degree of association between origins and destinations is higher in the 1954 table than in a table constructed from the 1958 file.

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Table-1:	Occupational	distributions	of	respondents,	The	Netherlands,
	Men 21-70, 1	958				

term deal area				
Des	cription (1958 codebook)	N	US	
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1.	Proprietors, general managers,	15	85	2.
	clerical supervisors			
2.	Professionals: phycisians,	5	83	
	pharmacists, jurists etc.			
22.	Captains of seaships	1	75	
24.	Captains of vessels	2	75	
3.	Teachers, clergy	13	69	
26.	Army officers	1	66	
28.	Police officers	0	66	
4.	Clerical workers: bank-employees	32	57	
	personnel specialists	4-1		
19.	Nurses, social workers, family nurses	0	59	
7.	Self-employed store-keepers	72	54	
	or artisans			
27.	Army, low rank	6	50	
29.	Policemen, low rank	3	50	
6.	Salesmen, real estate or assurance	15	48	
	agents			
9.	Supervisors of non-clerical personnel	40	48	6
21.	Supervisors of clerical personnel	9	48	
10.	Middle- and lower grade technicians	14	48	
11.	Clerical workers	13	37	
5.	Self-Employed Fishermen and Farmers	52	35	
23.	Personnel Sea-Ships, low rank	0	30	
25.	Personnel Vessels, low rank	0	30	
16.	Agricultural Workers	10	26	
12.	Skilled Labourer, Industry	39	23	
14.	Skilled Labourer, n.e.c.	84	23	
8.	Shop Hands	7	22	
13.	Unskilled Labourer, n.e.c.	31	15	
15.	Unskilled Labourer, n.e.c.	38	15	
18.	Service Workers	2	14	
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US: Occupational prestige according to Ultee-Sixma Scale (Sixma & Ultee-1983)



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Variables	N	N M		CORRELATIONS				
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EDUCATION	470	1 82	1.05	- 14	37	1.00		•
PRESTICE	476	39.8	19.2	.08	.45	. 56	1.00	
LN(INCOME)	442	1.54	.441	.06	. 27	.44	.47	1.0
1977								
AGE	1580	42.5	13.5	1.0				
FATHER'S PRESTIGE	1469	40.4	17.9	06	1.0			
EDUCATION	1567	2.72	1.30	28	. 32	1.0		
PRESTIGE	1580	44.9	19.4	05	. 34	. 57	1.0	
LN(INCOME)	1528	3.25	.413	09	.24	.46	.51	1.0
Regressions								
1958								
any section wat								
	EDU	CATION		PRESTIC	E/10		LN(INC	OME)
	Е	(SE)	в (SE)		B	(SE)
AGE/10	09	9 (.036	5)	.239 (.()55)		.025 (.014)
FATHER'S PRESTIGE/10	. 19	9 (.02	5)	.292 (.	040)		.011 (.021)
EDUCATION			- /	.868 (.	074)		.112 (.010)
PRESTIGE/10							.067 (.012)
CONSTANT	1.46	1.467 (.188)		.264 (.306)			.918 (.078)
	~~~~~				,			
R =	.39	)		.64			.52	
1977								×.
	EDH	CATTON		PRESTO	F/10		NUTNO	OME
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PRESTICE/10				*OTT (*)	(22)		.076 (	.006)
CONSTANT	2.98	1 (.12	9)	.438 (.	198)	2	.737 (	.042)
R =	.41			-60			.55	

Table-3a: Causal models for intergenerational social inequality in 1958 and 1977, The Netherlands, Men 21-70

Note: All regression computed with pairwise deletion of missing values Note: INCOME refers to household incomes

Table-36: Causal mo and 1977, self-emple	dels to The Ne byed	r inte therla	nds, N	ration len 21-	al s -70,	wit	il ined hout f	qualit armer	y in 1958 s and
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1977 AGE FATHER'S PRESTIGE	1370	41.9	13.5	1.	.0	1.0			
EDUCATION PRESTICE LN(INCOME)	1357 1370 1332	2.81 46.3 3.24	1.31 19.9 .411	2 ( (	26 04 )8	.33 .33 .26	1.0 .58 .49	1.0 .54	1.0
Regressions 1958									
graphing con data	EDUC. B	ATION (SE	)	PREST B	rige (S	/10 E)		LN(IN B	COME) (SE)
AGE/10 FATHER'S PRESTIGE/10 EDUCATION PRESTIGE/10 CONSTANT	06 .24	3 (.04 3 (.02 5 (.22	3) 8) 2)	.257 .172 1.111	(.0) (.0) (.0)	61) 45) 79) 33)		.030 .011 .090 .078 .914	(.015) (.011) (.014) (.014) (.082)
R ==	.41	-		.70				.58	(*****/
1977									
	EDU B	CATION (SE	)	PREST B	TIGE (S	/10 E)		LN(IN B	COME) (SE)
AGE/10 FATHER'S PRESTIGE/10 EDUCATION PRESTIGE/10 CONSTANT	23 .22 2.88	7 (.03 3 (.01 8 (.13	5) 8) 8)	• 167 • 165 • 852	(.0 (.0 (.0	35) 26) 38)	2	.002 .013 .080 .078	(.007) (.006) (.009) (.006) (.045)
R =	.41	-		.61		,		.59	

Note: All regression computed with pairwise deletion of missing values Note: INCOME refers to household incomes

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