

Paper presented to the
World Economic History Congress 2002 Beunos Aires.

Kees Mandemakers
International Institute of Social History (IISG),
Cruquiusweg 31, 1019 AT Amsterdam.
phone: 31 20 668 58 66
email: KMA@IISG.NL

- first draft, not to be quoted -

Higher general secondary education and social mobility in the Netherlands, 1880-1960.

1. Introduction

Meritocratization of the educational system is considered as one of the most important characteristics of the welfare state. Acquiring educational qualifications has more and more become a matter of individual qualities and less a matter of ascriptive characteristics of religious background or social environment. Education, rather than advantages of birth and wealth, has become the main gateway to future social status. (Bakker *et al* 1989, Blau and Duncan 1967, Karabel and Halsey 1977, Halsey *et al* 1980)

Moreover, it is quite clear that this meritocratization can not be distinguished from the growth of education as such (Van der Ploeg 1993). Since 1850 higher general secondary education (the former VHMO, until the Mammoth Law the HBS 3 or 5 year course and the gymnasium, comparable with the present VWO and HAVO) has been growing tremendously. Around 1850 not even 10 in 1000 boys aged 12-18 were enrolled in some form of higher general secondary education. In 1880 this number had increased to 25, in 1920 to 55 and in 1965 more than 150 boys of every 1000 followed this education. In 1920 and 1965 these numbers for girls were resp. 20 and 80. Twenty-five years later, in 1990, these numbers are 270 for boys and 300 for girls; which shows how girls have made up their leeway in this period.

Kaelble (1981, 1983) and Ringer (1979, 1980) demonstrated that there was a distinct similarity between the situation of secondary education around 1800 and the subsequent changes in various Western European countries. In the Netherlands there was also a large growth in the number of pupils (Mandemakers 1996). This paper will explore whether the meritocratization, which found its starting-point in the period between 1880 and 1920, has indeed resulted in upwards social mobility for the participants in the growing educational system.

More specifically, the paper concentrates on the analysis of two cohorts (1880 and 1920) of male pupils of secondary education. This collection of data is representative for the entire Netherlands and contains about 800 cases in each cohort. In my thesis research (Mandemakers 1996) I concentrated on the history of the secondary system and the question whether this meritocratization was countered again by an increasing influence of ascriptive factors on school achievements as such, or

whether there was a question of further meritocratization within the system itself. During this research also data on later occupational titles were collected (see Mandemakers 1992). In this paper I will use these data to enlarge the earlier developed educational attainment model into a status attainment model. The central question will be to what extent a successful schoolcareer influenced the occupational career and/or whether this was coupled with a decreasing influence of the parental environment.

2. *Dutch development*

After 1860 a network of senior general secondary schools (*Hogere Burger School*, in short *HBS*) was founded in the Netherlands. The already existing pre-university schools (Latin school) could not compete with the *HBS* and were reformed into the so-called gymnasiums for which to a great length the programme of the *HBS* was used as a model. These institutional reforms proved to be a solid base for the development of the *HBS* and the gymnasium and for other types which were established after the change of the century, like higher commercial schools (*HHS*, from 1923 on *HBS-A*) and lyceums (a combination of *HBS* and gymnasium): the number of pupils increased from 8000 in 1880 till 210.000 in 1965. In 1968 a new Education Act, the so-called Mammoth Act, ended the era of the *HBS* and all related types of schools with the exception of the gymnasium. This paper will analyse the development of this pre-university and senior general secondary education (*VHMO*, short for *Voorbereidend Hoger en Middelbaar Onderwijs*).

The growth of general secondary education in the period till 1900 esp. took place at the *HBS* (see Appendix A, table 1). Until 1910 these schools consisted of two types: a three year- course and a five year-course. *HBS* 3 y.c.-schools were located either in smaller cities which could not afford a five year-course *HBS* or in big cities as a cheaper version of *HBS*. After the three year-course one could continue one's studies at a *HBS* 5 y.c., which opportunity was used by about fifteen per cent of the pupils in both cohorts. In 1920 these transitions mainly concerned to those to the higher forms of the higher commercial schools (*HHS*). The *HBS* 3 y.c. proved to be a cheaper alternative; not only were school fees lower but there was also a higher share of pupils of lower income groups and middle class, 80 per cent of them came from families of self-employed artisans, small merchants, shopkeepers, civil servants and office clerks.

After 1912 the increase in the number of pupils at the *HBS* was accelerated, which was at least partly caused by the increase, since 1900, in free places and to the decrease in school fees after 1910. This decrease was the result of both the policy to make tuitions proportional to one's income and of the rising inflation between 1915 and 1920. By the way, this inflation and the growth of the number of pupils caused in her turn a drop in real educational costs per pupil. Another factor in the increase of the number of pupils was the creation of new types of school, like the already mentioned lyceums and higher commercial schools. Besides this there was the rise of the denominational sector; denominational secondary education had been subsidized for 80 per cent since 1904. After 1920 the state policy of proportional school fees was taken over by all municipalities. The denominational schools also related school fees to parental income, however, as the schools were not completely subsidized their average fees usually turned out to be higher.

Since about 1900 there was a number of schools which allowed pupils without taking entrance examinations. In 1920 it was laid down by law that pupils who were recommended by their headmasters did not need to sit for such an examination. This regulation together with the relatively low school fees caused an incline in the number of registrations, after Ringerwhich, however, the relative number of pupils which had to repeat classes increased too, especially in the second form of the *HBS*. After 1924 these numbers stabilized again at the former levels.

The increase in the number of pupils was temporarily stopped after a new law was enacted in 1923 which made it almost impossible to found new secondary schools. Particularly denominational education, with its many plans for starting new schools, was struck by this measure. When in the same period school fees were adapted to inflation rate, the combined effect of these measures resulted in a stagnation in the growth of the number of pupils. From 1930 on the number of pupils started rising again, mainly as a consequence of their decisions to stay longer at school, since there were hardly opportunities to get a job. This phenomenon did not occur during the shorter crisis of 1922-1923; at the commercial schools the number of pupils even declined because of lower expectations.

3. *Education and society*

Theses of Ringer and Kaelble

By comparing several European countries (1979: 1-31, 1980) and Kaelble (1981:239-244, 1983:170-194) found a similarities in the development of the relationship between secondary education and society since 1830. In terms of Ringer a distinction was made between an early industrial stage, a high industrial and a late industrial stage. The first stage ranges from 1800 til 1860 and was characterized by both Ringer and Kaelble with the lack of a strong relationship between the educational sector and the industrial and commercial needs of society.

The second period started around 1860-1870 and was characterized by the emerging of new educational modern types of schools in competition with the older classical ones. These new schools were related to the more sophisticated technology of industrial society. For this reason these new schools enjoyed, according to Ringer, a lower prestige compared with the older more classical oriented grammar schools. Kealble summarizes this period as one of competitive educational chances. Because of the growing importance of school degrees for entrance into industry and government bureaucracy more children desired to enter these schools. On the other hand capacity (of free or almost free places) did not meet the growing demand which turned out into a more severe competition to enter the secondary school system.

In the third period education became the most important channel for social mobility. This period of welfare chances (terminology of Kaelble) showed a further increase in the demand of academically educated youngsters. Other characteristics are a declining distinction between the classical and modern curriculum, the disappearance of the barrier between the primary and secondary system, the more active role of government policy and the enormous growth of the number of pupils.

Dutch secondary education compared

The comparison of Dutch *VHMO* with secondary education in France, Germany and England departed from the inductive-generalizing approaches of Ringer and Kaelble. For the purpose of a systematic analysis of school attendance an international *VHMO* was created containing rates of attendance that were mutually comparable on the basis of the Dutch school system (see Appendix A, table 1). When comparing these rates, it became clear that in the second half of the nineteenth century the Netherlands gained up on the other countries. The growth in the number of pupils at the HBS and gymnasiums till 1890 should also be seen as a compensation for the disappearing

French schools. Not until the period after 1890 and, in particular 1900, did the number of pupils really expand.¹

This expansion was, as Kaelble assumed, stimulated by the authorities and took place in connection with the industrialization process between 1895 and the beginning of the First World War. In first instance it was the central authority which was leading the way, both by instituting free places and by lowering school fees and, in connection with schoolreforms at the primary level and by pronouncing entry exams unnecessary. Around 1920 Dutch secondary education showed a superior attendance -rate, as a result of democratizing measures of state authorities in the field of school fees and entry examinations. The relative share of children passing a final examination scored even higher; between 1915 and 1930 Dutch 12 to 18- year-old boys acquired more secondary education certificates than in the big neighbouring countries. Because the superior position in the total number of children lasted a considerably shorter time, this indicated that survival rates in the Netherlands were higher in this period than in surrounding countries.

School fees proportionately related to income were introduced at the time of the transition between the period of *competitive chances of education* and the period of *chances of prosperity*, as such distinguished by Kaelble. The system of free places which had been introduced before 1910 was somewhat anticipating on this.

Social background

In general, one can state that the growth of the *VHMO*, as it took place between 1880 and 1920, implied a more open educational system. If one considers the composition of the cohorts, it becomes apparent that the relative part of traditionally *VHMO* occupational categories like the 'Learned class' en 'Higher civil servants' was much smaller in the *VHMO*-schools of 1920 than in 1880 (see Appendix A, table 2). Thus, educational growth as such can be considered as a form of democratization, which was promoted by government after 1910. In 1920 the relative share of the middle classes in the social composition of the total *VHMO* had increased from about sixty-four to

¹ Whether, for that matter, there had actually been a real backlog or whether this had partly been a formal question, depends on the importance one attaches to the education at the French schools in Holland which formally belonged to the primary system. If a Dutch backlog will have been the case, possible arrears could be pointed out in classical rather than in modern education.

seventy-one per cent. The enlargement of this social layer was connected with a decrease in the relative part of the self-employed in the private sector: the traditional middle class of farmers, shopkeepers, merchants and artisans in favour of the salaried service class, like office clerks, managers and salesmen which relative share rose from thirteen to thirty per cent. In this respect the *VHMO* reflected the changes in the professional structure. Whether the *VHMO* was at the forefront of these changes with in particular children from the new middle class attending school could not be justified, because the occupational censuses are not suitable for this kind of comparisons.

Kaelble's thesis that long before 1900 the majority of pupils originated from the lower middle class (office clerks, independent artisans and salesmen) was rejected (Kaelble 1983, 178-179). It absolutely did not apply for the cohort of 1880-'81 and for no more than half of the pupils from the mentioned professional groups in that of 1920. A favourable school fee regulation did not, by itself, suffice in attracting pupils from lower classes to the *VHMO*, at least not in the short term and not on a large scale. Of course, some other factors had an important part in this, like choice of previous schooling and, after 1920, the level of aspiration and the consequential choice of primary school and the recommendation of the headmaster.

4. *The status attainment model*

Introduction

The relations on an individual level between attained social status, school achievement and background variables like age at entry, family size, social prestige, family income, geographical origin, religious origin etc. were brought together in a status attainment model. This study, thus, joins in with a practice in educational sociology that has been developed since Blau and Duncan's landmark *The American Occupational Structure* (for more or less comparable historical studies, see Van Dijk & Mandemakers 1985, Harrigan 1981 and Lundgreen *et al*, 1988).

The dataset is based on a nationwide sample of two cohorts of pupils entering higher secondary schools in respectively the years 1880 or 1881 and 1920. Both cohorts were composed by way of a sample survey in the archives of the then existing *VHMO*-schools. It was possible to include 80 per cent of all schools which existed in 1880 and 70 per cent of schools existing in 1920. Each cohort consists of about 1750 male pupils. A stratified structure enabled the creation of samples sufficiently sized in order to make statistically significant statements even on sublevels of e.g. the type of school or the regional unity (Mandemakers 1992). However, in this paper only data from the so-called basic sample are used. Each consist of about 1000 pupils. Not all of them could be identified in the population register, which resulted in a loss of about 10 percent and no more than about 2/3 of the resulting pupils could be followed until old age (see table 3 in appendix A). Reasons for losing people were early deaths, emigration and incomplete archives of population registers (see table 4 and 5).

For the status attainment three models will be analyzed. The first one is a model excluding the (Roman Catholic) boarding schools, the second one includes these schools. This differentiation into two models has been made because in the second one only a few variables of social background could be measured (social status, religion and the age of school entrance). The Roman-catholic boarding schools

taught about 17 percent of the number of pupils in 1880, in 1920 this number had decreased to 11 percent. In the case of the non-boarding schools it was possible to get more background information and include situational variables, like region. For a part of the pupils of the non-boarding schools an extra variable could be included for the financial resources (of the parents), which was based on information from local tax registers. However, as these registers have not survived in all cities, this third model could be applied to only about 60 percent of the 1880/'81 cohort and 35 percent of the cohort 1920. The analysis of the models will be dealt with in two parts. The first considers the model up to including the end of the schoolcareer, the second one also deals with the social status at the beginning and the end of the occupational career. Before discussing the attainment models, firstly a short look will be given into the result of the mobility process.

Social mobility

Tables 6, 7 and 8 (see Appendix A) show the results of both the intergenerational and the intragenerational process. The position of the son (=pupil) has been measured four times: at an average of five, fifteen, twenty-five and forty years after leaving school. Eventually almost half of the pupils in both cohorts proved to be a social climber, a third showed no mobility and slightly over 20 percent proved to be a social skidder. At the start of the career, more than half of the 'respondents' had a lower social status than the father. This is not remarkable; before becoming a general, for example, one has to start at a lower rank with a lower status, and administrative directors e.g. often start as administrative employees. Given the on average high social status of the social background it is not strange for twenty percent of the pupils to fail remaining in the same social category as their fathers.

Tables 6 and 7 give more insight into the process of mobility. In these table all four positions are compared. In the period between the first and second career-points as well as in the period between the second and the third career-points the increasing and decreasing changes were the same. Between the third and fourth career-points, the social status of 82% of the pupils did not change any more. That both cohorts show an almost equal result in mobility is quite remarkable; in both cohorts 46 percents show an upward mobility and 31 percent remains immobile.

The big question, of course, is the effect of getting or not getting a school certificate within this model. This question is answered in two stages. Firstly we consider the effect of the social background variables on getting a school certificate and secondly the effects on later social status of both social background and results of the school career are analysed.

Explanation of school careers

The educational part of the status attainment model used for this study numbers four intermediary or dependent variables, namely the choice of school, non-promotion, school achievement after three years and passing final exams. The model was estimated for different populations by way of LISREL7. For a more elaborated discussion of the variables and for the outcomes of the estimation of the three models, see appendix B.

The social status of the profession of the father appeared to have a serious effect on the choice of school. Furthermore, also pupils who were lodgers, lived in the north or east and /or were relatively young at entry proved to have a higher chance of entering a relatively high type of school. In the subpopulation in which parental

income was known, the explained variance of school choice rose to twenty-one per cent in the cohort of 1880-'81 and nineteen per cent in that of 1920. However, for the explained variance of the variables on school achievement itself it made less difference, esp. if one compares diagram 1 with diagram 3.

Of the other independent variables, esp. age at entry had a direct effect on the dependent variables, with the exception of non-promotion. This last variable could hardly be explained; in the cohort of 1920 there was no significant explanation at all, in that of 1880-'81 only four per cent. Although the ultimate variables of educational attainment, succes after three years and final exams, show much better explained variances than non-promotion; this was rather a consequence of the (school) intermediary variables themselves than of the independent variables.

Of the independent variables, only age at entry had a stable effect on examination success: a higher age at entry reduced one's chances of obtaining a certificate. Because there was hardly any effect of age at entry on repeating chances, it is clear that that there is less connection between leaving a school without a certificate and previous schoolachievements or school ability than one may assume. Other independent variables like social status or income had no or hardly any effect on school achievement variables. The relatively small influence of the independent variables indicates the existence of a rather strong meritocratic culture within the *VHMO* where achievement was more important than origin. *This meritocratic culture was more apparent in the cohort of 1920 than in that of 1880-'81.*

Explanation of social status

Here we deal with the question to what extent a succesful schoolcareer has influenced the rank of the social status of the subsequent occupation of the pupil in relation to the influence of the parental environment. We start off with the analysis of the first diagram (without pupils on boarding schools). Here we notice an explained variance of 27 percent for social status 40 years after leaving school in the cohort of 1880-'81 and 33 percent in the cohort of 1920. This is quite a lot considering that these pupils originate from a part of the total population and more specifically even that part that concentrates in the four highest socials layers. Models for the total population with the complete range of education for the sixties and seventies on average reach an explained variance of between 40 and 50 percent (De Graaf 1987, Ganzeboom e.a. 1995).

The (FIRST) social status at the start of the occupational career is explained for relatively poorly and here we see a career-effect which is typical for this group of *VHMO*-pupils. Even the colonel's son had to start somewhere in the middle of the military hierarchy to become a colonel himself. This mechanism also works for the son of civil servant; he can not start his career as a directory-general of a ministry.

When looking at the effects, one notices that the effects of the background-variables in the 1920-cohort have slightly decreased or have remained the same, whereas the effects of school-variables have on balance proved to become more important. Besides this the effect of the FIRST social status on the LAST one has almost doubled. This indicates a more regular career pattern for the pupils from the 1920-cohort. On the basis of this first model can furthermore be concluded a) that a HBS or gymnasium certificate had a positive effect on the social status and the effect of this was higher in the 1920-cohort than in that of 1880, and b) that the direct and indirect influence of background variables has decreased in the period between both cohorts.

When considering the more limited model for the total population (including the boarding school pupils, see diagram 2), then we do not notice an essential difference with the preceding conclusions. It is in particular the smaller influence of the factor 'age' (direct and indirect) and the absence of a part of the background variables which account for the relatively low explained variance in the 1880-'81-cohort. This may indicate that the variance in the 'age of entrance' was less important for the subsequent social positions (and for passing exams). The factor religion proves to be only indirectly, by way of school career, to influence the ultimate result of the subsequent occupational position, and as these effects are small, this influence is only marginal.

In the third model the series of independent variables is extended with those for the income of the parents (financial RESOURCES). The 1880-'81-cohort gives a remarkably high explained variance for the subsequent social status. This is particularly accounted for by a doubling of the effect of the FIRST social status. This may indicate essential differences of this part of the cohort (with data on income) with the total results for 1880-'81, differences which did not attract attention in the earlier analysis of school achievements (further analysis will have to go into this). Explanations for the differences can also be found in a higher effect of social status (direct and indirect) of the father and a small but to be expected indirect effect of financial RESOURCES on the subsequent social status of the pupil (by way of the choice of SCHOOL). The 1920-cohort shows no essential differences in social mobility with the previous two models.

5. *Conclusions and discussion*

The expansion of pre-university and senior general secondary education resulted in an improvement of educational opportunities. In particular middle class pupils profited by these chances. Working class pupils still had a very limited chance of entering VHMO in 1920. Besides this, social background had a great effect on the choice of school type. Once a pupil had entered, family origin had only a little influence on school achievements in 1880 and hardly any in 1920. In both cohorts variables concerning the social background influence the subsequent social status. However, getting good results on examinations was already of importance in 1880. In the cohort of 1920 this importance of school achievements has increased at the expense of social background but also in favour of a higher explained variance. The occupational career has become more predictable. In this sense the VHMO radiated a real meritocratic culture which fits in with the libertarian ideal of equality.

Literature

- Bakker, B. F. M., J. Dronkers & G. W. Meijnen (red.), (1989). *Educational Opportunities in the Welfare State. Longitudinal Studies in Educational and Occupational Attainment in the Netherlands* (OOMO-SERIE). ITS, Nijmegen.
- Blau, P. M. & O. D. Duncan (1967). *The American Occupational Structure*. John Wiley and Sons, New York.
- Dijk, H. van & C. A. Mandemakers (1985). 'Secondary education and social mobility at the turn of the century', *History of education*, 14, 199-226.
- Ganzeboom, H. B. G., M. Kalmijn & J. L. Peschar (1995), 'Het Nederlandse stratificatie-patroon in internationaal perspectief', in: J. Dronkers & W. C. Ultee, *Verschuivende ongelijkheid in Nederland. Sociale gelaagdheid en mobiliteit*. Van Gorcum, Assen.
- Halsey, A. H., A. F. Heath & J. M. Ridge (1980). *Origins and Destinations. Family, Class, and Education in modern Britain*. Clarendon Press, Oxford.
- Harrigan, P. J., *Mobility, elites, and education in French society of the second empire* (Waterloo, Ontario 1980).
- Kaelble, H. (1981). 'Educational opportunities and government policies in Europe in the period of industrialization.' In: P. Flora & A.J. Heidenheimer (ed.) *The Development of Welfare States in Europe and America*, 239-268, New Brunswick.
- Kaelble, H. (1983). *Soziale Mobilität und Chancengleichheit im 19. und 20. Jahrhundert. Deutschland im internationalen Vergleich*. Göttingen.
- Karabel, J. & A. H. Halsey (1977). *Power and ideology in education*. Oxford University Press, New York.
- Lundgreen, P., M. Kraul & K. Ditt (1988). *Bildungschancen und soziale Mobilität in der städtischen Gesellschaft des 19. Jahrhunderts*. Vanderhoeck & Ruprecht, Göttingen.
- Mandemakers, K. (1992). 'Education and social mobility: organizing and storing a historical survey'. *Cahier VGI*, 5, 149-161.
- Mandemakers, C.A. (1996). *Gymnasiaal en middelbaar onderwijs. Ontwikkeling, structuur, sociale achtergrond en schoolprestaties, Nederland, ca. 1800 - 1968* (diss. Rotterdam).
- Ploeg, S. W. van der (1993). *The expansion of secondary and tertiary education in the Netherlands*. ITS, Nijmegen.
- Ringer, F. K. (1979). *Education and society in modern Europe*. Bloomington, London.
- Ringer, F. K. (1980). 'Bildung, Wirtschaft und Gesellschaft in Deutschland 1800-1960'. *Geschichte und Gesellschaft*, 6, 5-35.
- Tulder, J. J. M. van (1962). *De beroepsmobiliteit in Nederland van 1919 tot 1954. Een sociaal-statistische studie*. Stenfert Kroese, Leiden.

Appendix A TABLES

Table 1. Number of pupils at secondary schools in the Netherlands (VHMO), Germany and France, per 1000 12-18 years old, 1870-1930.

	1870	1880	1890	1900	1910 ^c	1920 ^c	1930 ^c
<i>Total 'VHMO'</i>							
Germany ^a	14,3	16,5	16,1	17,3	21,5 ^c	41,1	61,4 ^c
among which girls' schools						14,1	22,3
France ^{b,d}	18,2	19,2	20,9	23,8	26,7	31,1	58,7
among which girls' schools			0,7	1,6	3,8	5,0	9,4
Netherlands ^b	9,7	14,7	18,1	21,9	25,1	38,0	45,6
among which girls	-	1,7	2,4	3,7	5,8	10,9	14,0
<i>Netherlands per type of school</i>							
Gymnasium	2,5	5,1	7,0	7,1	6,3	7,4	9,5
Lyceum						1,4	8,3
HBS/HDS/MMS	7,2	9,6	11,1	14,8	18,8	20,4	27,8

a Till 1910 only Prussia.

b Including roman catholic minor seminaries.

c For France and Germany resp. 1911, 1921 en 1931.

d For France till 1900 resp. 1865, 1876, 1887 en 1898.

Source and explanation

Dutch figures are based on the *Onderwijsverslagen*, German end French figures on Ringer (1979: 272-279 and 316-329). For the way in which these figures are made comparable, see Mandemakers (1996: bijlage II).

Table 2. Relative distribution to social background, Dutch VHMO-cohorts 1880-'81 en 1920.

Social status	VHMO-cohort		Description of social class (classification by Van Tulder 1962)
	1880-'81	1920	
I	24,8	18,8	Professions and occupations with a university training, entrepreneurs of large enterprises, teachers at secondary schools, high civil servants
II	14,2	18,4	Higher salaried staff, managers of smaller enterprises, leading civil servants, high technical staff
III	42,8	32,8	High and middle old and new middle class, middle civil servants, clerks, smaller farmers, horticulturalists
IV	14,2	22,8	Lower old and new middle class, skilled labourers, peasants, lower clerks, lower civil servants
V+VI	2,1	6,5	Semi-skilled labourers, some low civil servants (working-class positions) (V); unskilled labourers, petty traders (VI)
Unknown	1,9	0,6	
<hr/>			
N	3328	6052	(weighted figures)
<hr/>			

Source: Mandemakers (1996: tabel 13.10); for social classification, see Van Tulder (1962:22). Unweighted figures counts resp. 927 (1880/'81) and 875 (1920), see further table 3.

Table 3 Summarized results of pupils followed during their careers, cohort 1880/'81 and 1920.

Cohort	Sample number	With identified parents	With occupational title father	Pupil with occupational title, after leaving school (in years)			
				5	10 to 20	20 to 30	31 or more
1880/'81	1037	927	905	780	762	674	595
1920	926	875	867	805	813	758	670

Note: The occupational title of the pupils was fixed in years after leaving school, whereas leaving school was estimated at having taken place five years after entrance. It was not possible to fix all occupational titles at the same point in time. Instead, the occupational lives were divided into four periods and by keeping a margin of five years an occupational title could be fixed in each period. In some cases the first period did not deliver first occupation, this explains the differences in the cohort of 1920 between the first and second period (following some sort of education was, however, not accepted as an occupational title). Only pupils with valid occupational titles of the father are included.

Table 4 Length of the period under observation and the reason for ending the observation, cohort 1880/81.

Reason ending observation	Length of the period in which pupil was followed through the archives					Total	
	Could not be followed	1 - 10 years	11 - 20 years	21 tot 30 years	31 or more years	N	%
Deceased	13	44	36	51	235	379	41,8
Retirement				2	335	337	37,2
Lost in population register	34	47	18	11	8	118	13,0
Emigration incl. colonies	10	34	7	8	12	71	7,9
Total	N	57	125	61	72	590	905
	%	6,3	13,8	6,7	8,0	65,2	100

Note: In case of return migration quite a lot of 'pupils' were followed through the population registers again.

Table 5 Length of the period under observation and the reason for ending the observation, cohort 1920.

Reason ending observation	Length of the period in which pupil was followed through the archives					Total	
	Could not be followed	1 - 10 years	11 - 20 years	21 tot 30 years	31 or more years	N	%
Deceased	4	26	44	28	229	331	38,2
Retirement				2	412	414	47,8
Lost in population register	10	21	13	4	1	49	5,6
Emigration incl. colonies	6	17	19	21	10	73	8,5
Total	N	20	64	76	55	652	867
	%	2,3	7,4	8,8	6,3	75,2	100

Note: In case of return migration quite a lot of 'pupils' were followed through the population registers again.

Table 6 Intergenerational mobility, occupational status of fathers compared with sons for different career points after leaving school, cohort 1880/'81 and 1920.

	First title		After 10 to 20 years		After 20 to 30 years		After 31 years or more/ Last title	
	1880/'81	1920	1880/'81	1920	1880/'81	1920	1880/'81	1920
Upwards	21.9	29.3	37.1	35.8	42.6	43.5	46.2	46.6
Immobile	24.2	27.5	31.4	32.6	32.2	30.7	31.9	30.3
Downwards	53.8	43.2	31.5	31.6	25.2	25.7	21.8	23.1
N	780	805	762	813	674	758	595	670

Table 7 Intragenerational mobility, occupational status sons compared for different career points, cohort 1880/'81.

	First / after ca. 15 years	First / after ca. 25 years	First /after ca. 40 years	After ca. 15 / 25 years	After ca. 15 / 40 years	After ca. 25 / 40 years
Upwards	38.5	50.0	53.2	19.1	28.3	11.9
Immobile	57.3	43.9	39.9	73.7	63.9	83.0
Downwards	4.2	6.1	6.9	7.2	7.8	5,2
N	738	652	577	649	562	581

Table 8 Intragenerational mobility, occupational status sons compared for different career points, cohort 1920.

	First / after ca. 15 years	First / after ca. 25 years	First /after ca. 40 years	After ca. 10 / 25 years	After ca. 10 / 40 years	After ca. 25 / 40 years
Upwards	26.1	43.2	47.3	25.7	32.9	11.7
Immobile	66.6	46.5	43.2	64.5	56.7	82.2
Downwards	7.3	10.3	9.4	9.8	10.4	6.1
N	800	747	659	752	665	669

Appendix B STATUS ATTAINMENT MODELS

Dependent and intermediary variables

LAST status stands for the social status of the research person derived from the occupational title 30 or more years after leaving school. Social status was measured on an ordinal scale derived from Van Tulder (1962); the classification exists of six social classes, class I is the lowest and class VI the highest; because of low cell frequencies class I and II were combined into one class, for an elaborate description, see table 2.

FIRST status stands for the social status of the research person derived from the first occupational title after leaving school. Social status was measured on an ordinal scale derived from Van Tulder (1962); the classification exists of six social classes, class I is the lowest and class VI the highest; because of low cell frequencies class I and II were combined into one class, for an elaborate description, see table 2.

DIPL5 stands for the certificate which gave entrance to university (for the HBS not all faculties). It could be taken after 5 (HBS) or 6 forms (gymnasium), achieving this final certificate was valued with 1 (non-achievement 0).

DIPL3, stands for an intermediate which equalize standards for all type of schools; the variable indicates whether or not a pupil went beyond the first three forms (valued 1) or not (valued 0).

NON-PROMOTION was valued 1 in case a pupil ever failed to go to the next higher form, a value of 0 in case he never failed to pass the yearly examinations.

Choice of SCHOOL. According to social background, occupational perspectives and curriculum an ordinal distinction was made in three basic types: Gymnasium, HBS 5 y.c. and HBS 3 year course, the resp. values were estimated by way of HOMALS.

Independent variables

Social STATUS was measured on an ordinal scale derived from Van Tulder (1962); the classification exists of six social classes, class I is the lowest and class VI the highest; because of low cell frequencies class I and II were combined into one class, for an elaborate description, see table 2.

Financial RESOURCES, were measured for about 60% of the cohort 1880-'81 and 40% of the cohort 1920. For this reason separate estimations of the educational attainment model were made. Sources were lists of local income taxes; the yearly incomes were divided into seven categories on interval level (0-1000, 1001-2000, 2001-3000, 3001-5000, 5001-10.000, 10.001- 25.000 and over 25.000 guilders).

AGE of entrance, in both cohorts a low age of entrance correlated positively with school achievements and stands in general for a straight-away presecondary curriculum (categories of 11 and younger, 12, 13, 14, 15 and older, actual values were estimated by HOMALS).

BOARDING, at the private roman catholic schools almost all pupils were resident in the cohort 1880-'81; esp. at the gymnasia quite a lot of pupils stayed at boarding houses. Boarding pupils scored 1, non resident pupils scored 0.

COUNTRYside pupils, esp. in the cohort 1920 quite a lot of pupils had to travel every day to the city in which the school was situated.

FIRST child, household composition was indicated by the rank of the pupil in the form of a dummy variable: first child (value 1) or not (value 0).

MIDDLE child, household composition was indicated by the rank of the pupil in the form of a dummy variable: first or last child (value 0) and otherwise (value 1).

RELIGION, pupils with a roman-catholic background scored 1, others scored 0.

SOUTHERN regions and Northern & Eastern region acts for the regional background: pupils in the southern regions of the Netherlands showed relative low school achievements. To count for this three regional variables were constructed with a dummy character: North & East, South and Middle and the West. Because of the dichotomous character of these variables only two had to be taken into the model

INHABITANTS of city stands for the number of inhabitants of the city of school residence (three categories, a value of '1' for cities of less than 25.000 inhabitants, a value of '3' for the large cities Amsterdam, The Hague and Rotterdam and a value of '2' for the cities inbetween).

Three crucial variables: social STATUS, AGE of entrance and choice of SCHOOL were optimally scaled by way of HOMALS, to obtain interval level. These optimal scaling was based on the scores of the intermediate variable: DIPL5 (see Mandemakers 1996, 302-304).

Note to diagram 1

Standardised regression coefficients and explained variances (R^2) are shown separated by a slash for respectively cohort 1880-'81 (n=741) and cohort 1920 (n=751). Only path coefficients with a T-value of over +/- 1.96 in one of both cohorts are included (n.s. = not significant). The (adjusted) goodness of fit measures for 1880-'81 .981 with a chi-square of 40.2 and 48 degrees of freedom (p=.782) and for 1920 .979 with a chi-square of 48.6 and 51 degrees of freedom (p=.569).

The variable INHABITANTS of the city of schoolresidence did not show any significant effects and was excluded from the model.

Note to diagram 2

Standardised regression coefficients and explained variances (R^2) are shown separated by a slash for respectively cohort 1880-'81 (n=894) and cohort 1920 (n=846). Only path coefficients with a T-value of over +/- 1.96 in one of both cohorts are included (n.s. = not significant). The (adjusted) goodness of fit measures for 1880-'81 .993 with a chi-square of 8.7 and 13 degrees of freedom (p=.798) and for 1920 .988 with a chi-square of 14.2 and 13 degrees of freedom (p=.362).

Note to diagram 3

Standardised regression coefficients and explained variances (R^2) are shown separated by a slash for respectively cohort 1880-'81 (n=417) and cohort 1920 (n=279). Only path coefficients with a T-value of over +/- 1.96 in one of both cohorts are included (n.s. = not significant). The (adjusted) goodness of fit measures for 1880-'81 .955 with a chi-square of 62.8 and 60 degrees of freedom (p=.376) and for 1920 .931 with a chi-square of 68.3 and 61 degrees of freedom (p=.243).

The independent variables MIDDLE child and INHABITANTS of the city of schoolresidence did not show any significant effects and were excluded from the model.

Diagram 1. Estimation of status attainment model Dutch pre-university and senior general secondary schools (VHMO), cohorts 1880-'81 and 1920, excluding Roman Catholic boarding schools.

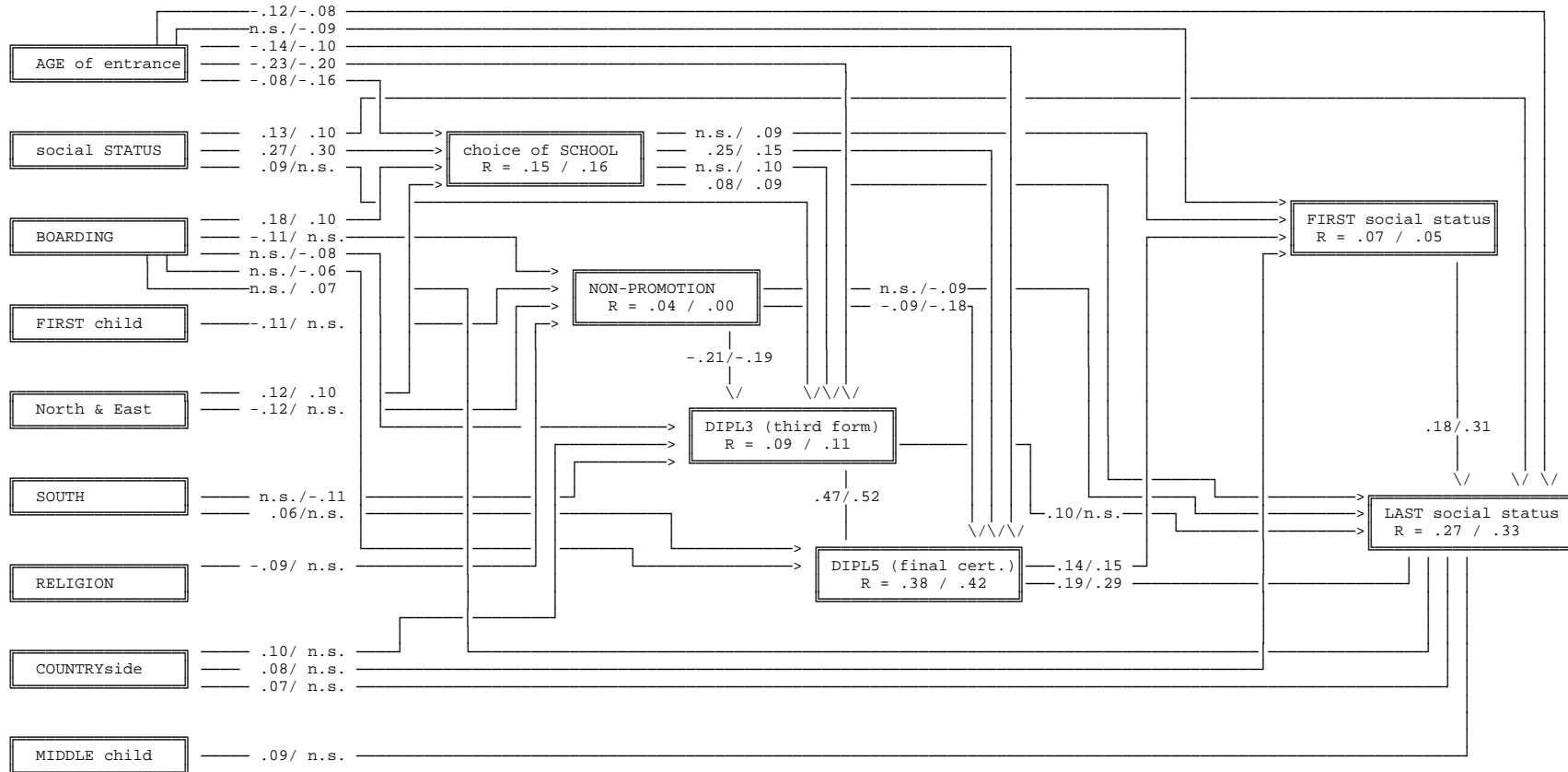


Diagram 2. Estimation of status attainment model Dutch pre-university and senior general secondary schools (VHMO), cohorts 1880 '81 and 1920.

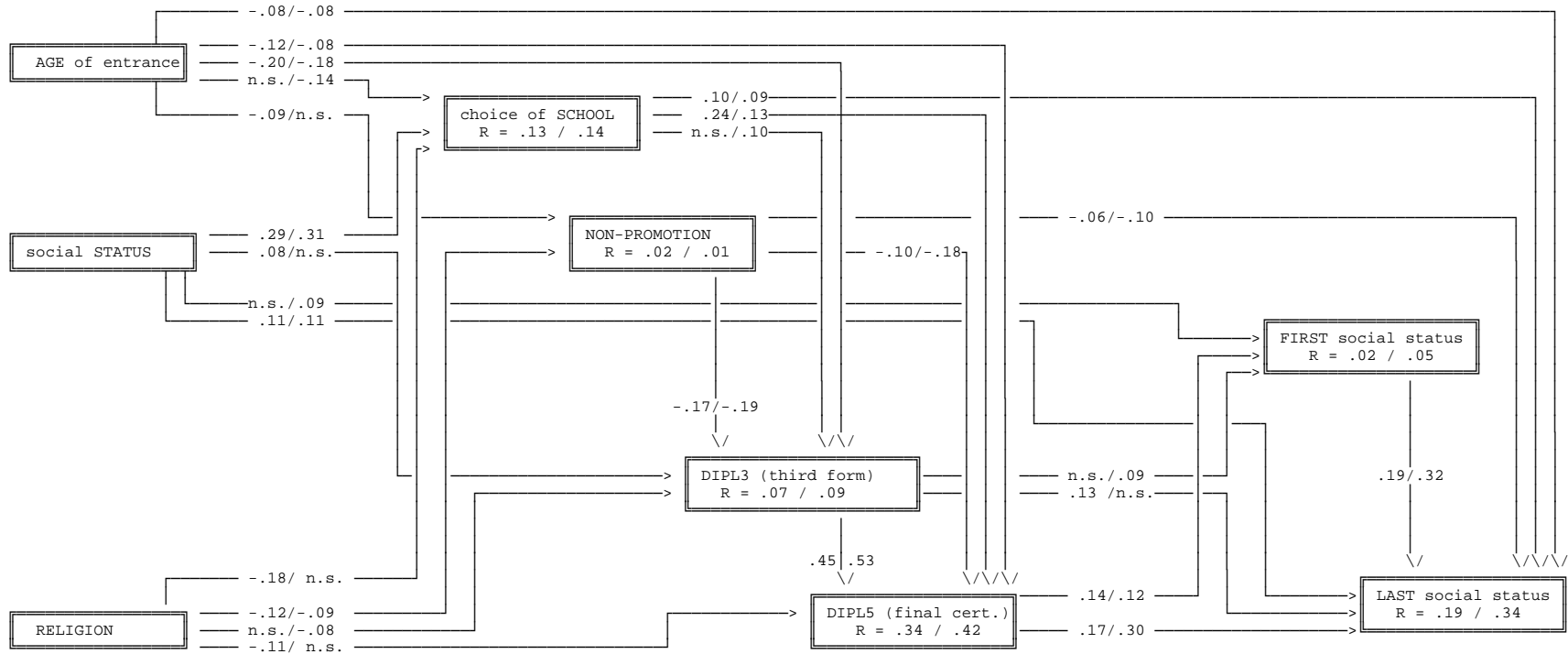


Diagram 3. Estimation of status attainment model Dutch pre-university and senior general secondary schools (VHMO), cohorts 1880-'81 and 1920, including the financial resources variables, excluding Roman Catholic boarding schools.

