

tit: Proceedings
Conference Transformation Processes
in Eastern Europe
Part II. Social Stratification
March 6 and 7, 1997

1/1018

Nederlandse Organisatie voor Wetenschappelijk
Onderzoek

Tellex (070) 3832841
E-mail ESR@NWO.NL

From Ascription to Achievement: the Status Attainment Process in Hungary from 1910 to 1991

Ruud Luijkx
Péter Róbert
Paul M. de Graaf
Harry B.G. Ganzeboom *

Introduction

One of the central research questions that can be addressed by the classic status attainment model (Blauf and Duncan 1967) is the shift from ascription to achievement over time. In this paper, we will explore this change for Hungary. We will focus on the effects of the two main determinants of occupational position: formal education of the respondent (achievement) and father's occupational position (ascription). We expect both the achievement and ascription effect to develop over time. This may be the consequence of historical and political processes, such as the rapid development of Hungarian society in respect of modernization and industrialization - this started at the beginning of this century and accelerated in the last four decades - and specific events that occurred in the country during this century. Thus, we need not to have job history information from more than one or two generations to get a comprehensive view on the changes in the status attainment process in Hungary. Besides developments over historic time (that also can be labeled as inter-cohort change), we will also take into account the development of ascription and achievement effects over the life course or intra-cohort change (aging effect).

We will answer the question how the attainment of a first job (labor market entry) is explained by ascription and achievement factors. We will also address the question of how occupational change during the career is a function of ascription and achievement. Therefore, we will also analyze job moves in upward and downward direction. Following modernization theory, we expect a trend from ascription (father's occupation or family background) as the predominant factor predicting the occupational position of individuals to achievement (educational qualifications) as the principal factor.

Hungary is unique in the world by the presence of voluminous representative life-history data that were collected over a period of twenty years (1973-1993). Four surveys containing complete life history data were conducted in Hungary in this period: the mobility surveys of KSH (the Hungarian Central Statistical Office) in 1973, 1983, and 1992 (Andorka 1973; Kulcsár and Harcsa 1983 and 1992); and the survey "Social Stratification in Eastern Europe after 1989" by Szélenyi and Treiman (1993). We used these life-history surveys to construct a combined file of about 100,000 cases that, among other things, can be used to analyze the status attainment process in a dynamic way.

* An earlier version of this paper was presented at the 2nd Conference of the European Sociological Association in Budapest, August 30-September 2, 1995 (Working Group on Social Mobility). We acknowledge the Hungarian Central Statistical Office and Iván Szélenyi and Donald J. Treiman for providing the data used in this paper and we want to thank Erzsébet Bukodi for her assistance in preparing the data for the analysis. This research was made possible by an NWO-OTKA grant for the project "Occupational Career Mobility in Hungary in Historical and Cross-National Perspective" (NWO, no. 048.011.007).

In the following sections, we will first give an overview of the relevant theoretical positions on the development of ascription and achievement over time and age. After that, we will highlight previous research on social change and labor market processes in Hungary. Then, we will give a historical overview of Hungarian economic and political developments, leading to the hypotheses. The data and methods will be presented in the next section. The paper will end with a presentation of the analysis and conclusions.

The Trend from Ascription to Achievement over Historical Time and Over the Individual Life Course: Reinforcing and Suppressing Effects

According to Treiman's industrialization thesis (Treiman 1970), ascription is weaker and achievement is stronger in economically more developed societies than in less developed societies. Treiman and Yip (1989) carried out a comparative (re)analysis of data from 21 countries. Their results confirmed the industrialization thesis: the effect of father's occupational status on respondent's occupational status turned out to be lower in the more industrialized societies, while the effect of educational attainment on occupational status was stronger in the more industrialized countries. Also achievement (education) was a much more important predictor than ascription (father's occupation) in most countries.

The analysis of Treiman and Yip is a cross-country comparison. It is also possible to examine temporal changes in the status attainment process within societies. On the basis of Treiman's industrialization thesis, we may expect ascription to become weaker and achievement stronger as a country develops. An example of such an analysis is Blau and Duncan's cohort comparison (Blau and Duncan 1967) analyzing ascription and achievement effects with regard to first and current job. An alternative way to perform a cohort analysis is to analyze repeated survey data (DiPrete and Grusky 1990; De Graaf and Luijckx 1993). This design makes it possible to follow the same cohorts (but not individuals) through their career. The outcome provides information about the general career development of birth cohorts. However, an analysis of individual career processes cannot be done with this design. When complete life histories are available, it is possible to use an event history approach to status attainment research. One way to proceed is to decompose the occupational career into job episodes (Petersen 1988). By analyzing these career transitions, we can discover how ascription and achievement affect job moves in different periods. In addition to these period effects due to economic and social developments in a society, one has to take into account the effect of advancing age during the life course. Both the ascription and achievement effects on career transitions can be expected to decline with age. The basis of this prediction is that proven abilities as well as various kinds of capital collected during the life course replace educational credentials and ascriptive features of family background. This has been demonstrated by cohort analysis in the work of Blau and Duncan (1967).

It is important to note that the ascription effect decreases both over historic time and with advancing age; these effects are mutually reinforcing. However, the achievement effect increases over historic time and decreases with age; these effects are mutually suppressing. When analyzing life history data, it is important to disentangle the period and age effects, because the gross effect of both social background and educational attainment on occupational attainment may be the outcome of very divergent processes. These range from unequal educational opportunities, via entrance on the labor market, to processes on the labor market during the occupational career.

Findings on Social Change and Labor Market Processes in Hungary

There have been quite a few contributions to the study of intergenerational occupational mobility based on Hungarian data. Yet, the topic of career mobility has been largely neglected in Hungary. There is only a brief chapter on career mobility in the large monograph on social mobility in Hungary by Rudolf Andorka (1982). He has analyzed the 1973 social mobility data of the Central Statistical Office (Andorka 1973). Although complete occupational trajectories are available in the 1973 data, he focuses on the sequence father's occupation - first occupation - present (last) occupation. He presents combinations of these three variables and displays subsets of the large three-dimensional table. The observed inflow and outflow mobility rates are discussed separately. Andorka's monograph includes another chapter (also published in English: Andorka 1983) with a detailed cohort analysis of the 1973 data. The large data set was divided into five-year birth cohorts; Ferge's socio-occupational groups were used as occupational categories (Ferge 1979). Andorka shows percentage distributions of occupational groups for each cohort at age 20, 30, 40, 50, and 60 (truncated at the age the cohort had reached in 1973), as well as the distribution of their fathers' occupation when the respondent was between 14 and 18 years old. These detailed tables were presented separately for males and females and according to father's occupation in order to display the cohort and aging effects.

Based on his cohort analysis, Andorka emphasizes four important features of the Hungarian mobility pattern:

1. The mobility from agriculture to non-agriculture: the decline of the agriculture sector.
2. The mobility from manual labor into non-manual labor: the growth of the non-manual sector.
3. The strong decline of the category of self-employed artisans, merchants, and farmers and their mobility into other classes.
4. The increase of labor force participation for women from cohort to cohort.

Another comprehensive paper focuses on intergenerational mobility, using data from nine surveys in Hungary between 1930 and 1989 (Ganzeboom, Luijckx, and Róbert 1991). This paper concludes that the Hungarian mobility regime has gradually opened up over time. Although the inheritance of self-employed positions has increased during the socialist period, there is no other sign of any reversal of the general trend towards increasing openness.

Social mobility generated by the - (too) rapid and politically enforced - industrialization process in Hungary after the communist takeover in 1949 has been both inter- and intra-generational. About 50% of the managers and professionals came from industrial and agricultural working-class backgrounds. Especially in the fifties, many of these managers and professionals started their career as a manual or agricultural worker. This applies more to managers than to professionals.

For industrial workers, 35-40% came from an agricultural working-class background. Indeed, many of them started out as agricultural workers. This is more the case for semi-skilled and unskilled workers than for the skilled manual workers (Andorka 1982).

The fact that mobile people experienced both inter- and intra-generational mobility might be one reason why less research was done on career mobility. It might also explain why Hungarian mobility research was mainly focussed on intergenerational mobility.

The relatively small importance of intragenerational mobility was also underlined by Simkus (1981). Analyzing the same 1973 data set, Simkus focused on the relationship between father's occupation, son's first occupation, and son's present (last) occupation. He concludes

that intergenerational inheritance declines particularly for the farming and the higher-status non-manual occupations. This occurs especially between father's occupation and first occupation. However, intragenerational mobility between first and present (last) occupation made only a small contribution to this process.

Wong and Hauser (1992) found that the general association between fathers' occupation and sons' or daughters' first occupational position has decreased between birth cohorts 1914/18 and 1959/63. However, they found that the rate of decline has decreased for the youngest cohorts. Wong and Hauser used first occupation as a proxy for occupational destination. Thus, they did not consider what happened to the observed cohorts during their occupational career.

In comparative perspective and on socialist grounds, using data from 1972 and 1973, Andorka and Zagorski (1980) found larger intragenerational mobility for Hungary than for Poland. The most striking difference between the two countries is for the farmer and agricultural laborer categories. This can be explained by the fact that Hungary, but not Poland, had an agricultural collectivization process. In both countries, much lower intragenerational mobility was found for industrial workers.

Kolosi, Peschar, and Róbert (1985), comparing the status attainment regimes of Hungary and the Netherlands, found educational attainment to be a better predictor of occupational status in Hungary than in the Netherlands. Social background was relatively more important in the Netherlands. This confirms Simkus' (1982) results, namely that the effect of education on occupation is stronger in socialist countries than in capitalist societies; and social background is less related to occupational position in socialist countries than in Western societies. However, the Dutch-Hungarian comparison shows that the difference between the two countries becomes smaller for younger cohorts and has almost disappeared for the youngest cohort.

One of the few labor market analyses from the state socialist period is a study by Róbert and Sik (1989) on the labor market career of state employees entering the labor force between 1950 and 1970. The data covered the employment history of these people and came from their workbook kept by the Personnel Departments of their company. The analysis focused on the "gaps" during the employment history. Theoretically, "gaps" can be caused by demographic reasons (e.g., maternity leave), human capital investment (e.g., interruption of the career for attending day-time education), informal economy (e.g., leaving the state sector in order to work in the "second economy" even if only for seasonal occasions), or unemployment. Despite of the almost total lack of unemployment at that time in Hungary, the authors found that "gaps" are a typical element of careers: only 15% of the investigated population had an occupational career without any kind of interruption.

The first systematic research on labor market processes and job histories in Hungary were carried out in the framework of Eurocareers project, which is an international comparative program, partly financed by the European Science Foundation and coordinated by K.U. Mayer. As an outcome of this project two papers can be mentioned based on the 1983 data set of the Hungarian Central Statistical Office. The paper by Róbert, de Graaf, and Luijkx (1993) focuses on the middle class formation in Hungary: the move into and out of the service class and petty bourgeoisie. It was found that the effects of state redistribution and anti-bourgeois economic policy started to disappear slightly from the Hungarian social structure and inequality system in the early 1980s, thus before the system change of 1990. The other paper is by de Graaf, Luijkx, and Róbert (1993) focusing on the family background influence of career mobility in Hungary and the Netherlands. This analysis found support for the hypotheses derived from modernization and industrialization process: a decline of ascription in

educational and occupational status attainment for both countries. The effect of father's status is also decreasing over cohorts during the occupational career.

Hypotheses on the Trends in Ascription and Achievement with Respect to Historical Periods and the Life Course in Hungary

In this paper, we will separate period and age effects. In order to show how period and age relate to each other, we define seven birth cohorts and we show in Table 1 for historically important years the age for these birth cohorts. The basis of the cohort definition was that those belonging to the oldest cohort should be at "working age" (at least 25 years old) at the first selected time point (1933: the end of the Great Depression); and that the youngest cohort (born 1959-68) should be at least 25 years old or older at the time of the last time point (1990: first free elections since 1949).

The process of industrialization and capitalist development in Hungary started in the beginning of this century. Because of the Trianon Peace Treaty in 1920, Hungary lost a large part of its territory. This caused a break in industrial, commercial, and transport connections and, consequently, the development of Hungary stagnated. The economic problems were increased by the Great Depression in the beginning of 1930s (Berend and Ránki 1974). In this period, about 50% of the labor force still worked in agriculture (Andorka 1990). This means, that the cohorts entering the labor market in the interbellum faced severe difficulties in the beginning of their work career.

Table 1A. The age range for birth cohorts of Hungarian men in selected historical years

Birth cohort	Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
1899-1908		25-24	34-43	37-46	41-50	48-57	54-63				
1909-1918		15-24	24-33	27-36	31-40	38-47	44-53	50-59	55-64		
1919-1928			14-23	17-26	21-30	28-37	34-43	40-49	45-54	55-64	
1929-1938					11-20	18-27	24-33	30-39	35-44	45-54	52-61
1939-1948							14-23	20-29	25-34	35-44	42-51
1949-1958								10-19	15-24	25-34	32-41
1959-1968									15-24	22-31	

Table 1B. Historical events in Hungary

Year	Historical events
1933	End of the Great Depression
1941	Hungary enters the World War
1945	End of the World War
1949	Communist takeover: Stalinism starts
1956	Revolution
1962	End of nationalization program in agriculture, the basics of state-socialism are settled
1968	New economic reform starts
1973	Approximate mid-point of the "Golden-age" of Kádár-era, survey year
1983	Start of increase of debt per capita and economic problems; survey-year
1990	Year of free elections

At the end of World War II, the Hungarian economy was in ruins. The post-war reconstruction was quite rapid and a radical land reform was carried out in 1945. Although the democratic political development was broken in 1949, this did not interrupt the process of industrialization (only the land reform was turned into an agricultural collectivization action). Rapid industrialization and economic growth at the expense of the agricultural sector and people's living standard can characterize the 1950s. In the same period, the nationalization of mines, banks, manufactural, and other enterprises took place. As a consequence of this nationalization and of the agricultural collectivization procedure, the self-employed classes basically disappeared. Beside these industrial developments, the strong educational expansion was another typical feature of this decade. However, educational enrollment was politically influenced by a numerus clausus rule against the offspring of the former ruling class: bourgeois families, landowners, also professionals (Simkus and Andorka 1982). An "unfavorable" social origin (labeled by the ideology of that era as *osztályidege* = "coming from a class stranger family") might have resulted in a longer educational career, higher participation in special educational forms (evening and corresponding courses), a combination of work and school, temporarily downward mobility at the beginning of the career (a manual employment position) followed by a "return" to a higher non-manual position later during the life course.

Both industrialization and educational expansion influenced the ascription and achievement effects on status attainment. We expect the direct effect of ascriptive assets to decrease for this period due to politically forced mobility. We also expect an increase in the effect of achievement due to educational expansion caused by establishing a planned economy in which needs for better skilled manpower and their "skilling procedure" was settled according to detailed one-year (later five-year) plans.

So, this period has brought upward moves from agriculture to industrial jobs and from manual to non-manual jobs; and downward moves from self-employment to employee position and - for "class strangers" - from non-manual to manual jobs.

Although the revolution of 1956 was an important political event, it did not substantially affect the main economic tendencies and the centralized planned economy model: the program for collectivization of agriculture stayed on the agenda and was eventually finished in 1961 (Fazekas 1976). Though the era of the Kádár-regime started after 1956, "the long fifties" (as the decade of Stalinism is called by Hungarian historians) ended with the political amnesty for the prisoners of the 1956 revolution in the mid 1960s. This also implicates that the political event of the 1956 revolution probably did not influence the effects of ascription and achievement on status attainment.

In 1968, the start of the New Economic Mechanism was declared. Since the strategy of the planned economy of the fifties (the establishment of new firms, the mobilization of the manpower in agriculture and of the female labor force) resulted in cost-insensitive production and poor quality of goods, this economic policy could not be continued: the complete socialist system needed a reform. After 1968, Hungary became more liberalized: the numerus clausus rules were abolished and political discrimination diminished strongly; market elements were introduced in the economy in order to replace the planning system with market relations; the autonomy of the management of enterprises increased. From this time economists start to speak about "plan bargaining" instead of central planning system in Hungary (Bauer 1978; Kornai 1980).

The economic reforms turned out to be successful and gave a new but relatively short rise to the Hungarian economy. The 1970s are called the "golden age" of Kádárism. The living standard of the Hungarian population became the highest among the state-socialist societies,

although according to indicators of economic development, the German Democratic Republic and Czechoslovakia were at a higher level. The contradiction between these two facts can be explained by the large financial credits and bonuses Hungary got from the Western countries in the 1970s to support the economic reforms. A large part of this money was used to maintain and increase people's living standard, legitimating in this way the power of the communist party. A second reason was the coming into existence of a "second economy," which was one of the main features and consequences of the New Economic Mechanism. The "second economy" provided special labor market activities and extra earning possibilities for the majority of the households (Gábor 1979 and 1984; Galasi and Sziráczy 1985), estimated as much as 76% for the 1980s (Kolosi 1988). Although a large proportion of Hungarian families derived income from the "second economy," a system for income redistribution not controlled by the state, the economic outcome of these "second economy" activities was not observed and counted by official statistics.

This period has brought economic and political consolidation for the Hungarian political system. We might expect that this results in more career transitions for this period compared to the previous period in which labor market participation was stronger influenced by the planned economy system. As a consequence of more open and democratic circumstances, we may also expect a further increase of the effect of achievement (educational credentials) on status attainment. This hypothesis is supported by results of Ganzeboom, de Graaf, and Róbert (1990) showing that education is the main channel of status transmission under socialism in Hungary.

At the beginning of the 1980s, debt per capita became higher and higher, this was the period of the first debt crisis in Hungary. The economic growth has also slowed down. The communist party had to make unpopular decisions like the increase of prices, which resulted in a raise of inflation. From the mid-1980s, political opposition became more active and found more support among the Hungarian population, which was only satisfied with the socialist system (the "goulash-communism") as long as this implied an increase of living standard.

By the end of 1980s, the communists completely lost their legitimization. But the political scene was so liberal that it was the Communist Party that made the decision to introduce a multiparty system and started negotiations with the opposition. This process led to free elections in 1990 and to the establishment of a parliamentary multiparty system. While previously, the political system has been thought of as being unchangeable and the economy as reformable, now it became clear that it was easier to reform the political system and more difficult to change to a Western-type market economy. The typical features of this transformation are economic disruption, fall of GDP, high inflation rate, and increasing unemployment. On the other hand, the privatization process has established a new situation in the society. Within 4 years, the proportion of self-employed has increased from three to ten percent of the labor force and the percentage of employees working in the private sector went up to 40%. These figures may indicate an increase of labor market mobility, especially considering that people can now return from the "parking orbits" where they had to stay under the decades of socialism (Szelényi 1988).

These events have probably influenced the career mobility of older and younger cohorts in a different way. Since the cleavage between losers and winners of the transformation is quite strong, the question on the influence of ascription versus achievement factors is highly relevant. Assumptions for older and younger cohorts may vary. For older people, achievements (educational credentials as well as cultural and network capital) are likely assets that are more useful. For younger people who are at the beginning of their career, however, ascriptive factors may be of higher importance. Unfortunately, we can only observe a few

years of the post-communist period in Hungary. Thus the very recent trends cannot be analyzed in detail.

Summarizing the preceding, we will test the following hypotheses:

1. Ascription affects status attainment stronger for older than for younger birth cohorts. We expect a decrease of the effect of father's occupation on status attainment between 1910 and 1991 as a consequence of an ongoing modernization. More specifically, an acceleration of the decrease is predicted for the period of communist orthodoxy (the "long fifties") as a consequence of political measures and we expect a slight increase in the ascription effect for the late eighties as a consequence of deteriorating labor market circumstances. These predictions hold for labor market entry and for career transitions.
2. Achievement affects status attainment stronger for younger birth cohorts than for older birth cohorts. We expect an increase in the effect of education on status attainment between 1910 and 1991. The prediction is that the development of the achievement effect is more or less the mirror image of the development of the ascription effect: as a consequence of the economic policies of the "long fifties," we expect the achievement effect to be relatively higher in this period and we expect these effects to stabilize/slightly decrease afterwards, especially in the late eighties as a consequence of a stagnating labor market. Again, these predictions hold for labor market entry and for career transitions.
3. We expect ascription (father's occupation) to affect career transitions stronger in the beginning of the occupational career, because ascription characteristics become less important when people get older.
4. We expect education to have an increasing effect on career transitions in the beginning of the career: education becomes more important to facilitate upward moves (prevent downward moves). After age 35-40, this effect will decrease.

Data

In this paper, we analyze a pooled data set from four surveys. Three of them were collected by KSH (the Hungarian Central Statistical Office) and distributed by the Social Research Information Center (TÁRKI): *the Social Mobility and Life History Survey* from 1973, 1983, and 1992 (Andorka 1973, Kulcsár and Harcsa 1983 and 1992). The fourth one is taken from the international comparative project *Social Stratification in Eastern Europe after 1989* (principal investigators Donald J. Treiman and Iván Szelenyi 1993). The method of data collection was oral interviewing by standardized questionnaires. The total numbers of cases are 40426, 32301, 29006, and 4977, respectively. For the Central Statistical Office Surveys, the samples were stratified probability household samples; the sample drawing was based on households (flats) and the survey strategy was to interview all individuals who were 14 years old or older in the household at the time of survey. The 1993 survey is based on a stratified probability sample of individuals and it is representative for the Hungarian population over 18. Of the samples, we will only analyze males older than 12 when analyzing entry into first job (labor market entry), and males between 25 and 60 when analyzing career transitions.

We have complete information on the occupational career of the respondents. For the *Social Mobility and Life History Surveys*, this information is on a year-to-year basis, whereas in the *Social Stratification in Eastern Europe after 1989 Survey*, the information is administered on a monthly basis. All occupations were coded in (detailed) Hungarian FEOR or in ISCO and recoded into ISEI (International Socio-Economic Index) as constructed by Ganzeboom, De Graaf, and Treiman (1992).

Also full information on the respondent's educational career is available. In order to use this information, when analyzing career transitions, we computed the respondent's educational level at the beginning of each job period. We recoded the Hungarian educational classification into the number of years of schooling.

Father's occupational position was measured retrospectively at age 14 of the respondent. Father's occupation was also recoded into ISEI.

Research Design

Descriptive analysis

In this part of the analysis, we present:

1. The average level of education, respondent's occupation and father's occupation for distinct birth cohorts at specific historical years.
2. The correlations between father's occupation and respondent's occupation and between respondent's education and occupation for distinct birth cohorts at specific historical years.
3. The average level of education, respondent's occupation, and father's occupation at labor market entry.

Trend in status attainment at labor market entry

First, we will estimate the trend in labor market entry using the following models:

- (1) $Isei = b_0 + b_1 Year + b_2 Year^2 + e$
- (2) $Isei = b_0 + b_1 Year + b_2 Year^2 + b_3 Fisei + b_4 Educ + e$
- (3) $Isei = b_0 + b_1 Year + b_2 Year^2 + b_3 Fisei + b_4 Educ + b_5 Fisei * Year + b_6 Fisei * Year^2 + b_7 Educ * Year + b_8 Educ * Year^2 + e$

where:

Year is year of labor market entry (1900=0);
 Fisei is ISEI-score of father's occupation;
 Educ is number of years of schooling;
 Isei is ISEI-score of respondent's occupation.

Model 1 estimates the linear and quadratic development of occupational status over time; Model 2 assumes constant effects of ascription (Fisei) and achievement (Educ) over time; and Model 3 allows for linear and quadratic developments in the ascription and achievement effects over time. We will estimate these models using OLS regression.

Second, we use a kind of multi-level approach to attain the same goal by first estimating for each labor market entry year the following equation (see also Rijken and Ganzeboom 1995):

$$Isei = b_0 + b_{fis} Fisei + b_{edu} Educ + e$$

Then, we will regress the coefficients b_{fis} and b_{edu} on Year and Year², estimating the linear and curvilinear trend in the ascription and achievement effects in the following way (regressions are weighted by 1/se of b_{fis} and b_{edu} , respectively):

$$b_{fis} = b_0 + b_1 Year + b_2 Year^2 + e$$

$$b_{edu} = b_0 + b_1 Year + b_2 Year^2 + e$$

Event history analysis of career transitions

We will analyze career transitions in upward and downward direction using a discrete time event history model (Allison, 1984):

- (1) $\text{Logit}(\text{event}) = b_0 + b_1 \text{Year} + b_2 \text{Year}^2 + b_3 \text{Age} + b_4 \text{Age}^2 + e$
 (2) $\text{Logit}(\text{event}) = b_0 + b_1 \text{Year} + b_2 \text{Year}^2 + b_3 \text{Age} + b_4 \text{Age}^2 + b_5 \text{Fisei} + b_6 \text{Educ} + b_7 \text{Iseilast} + e$
 (3) $\text{Logit}(\text{event}) = b_0 + b_1 \text{Year} + b_2 \text{Year}^2 + b_3 \text{Age} + b_4 \text{Age}^2 + b_5 \text{Fisei} + b_6 \text{Educ} + b_7 \text{Iseilast} + b_8 \text{Fisei} * \text{Year} + b_9 \text{Fisei} * \text{Year}^2 + b_{10} \text{Fisei} * \text{Age} + b_{11} \text{Fisei} * \text{Age}^2 + b_{12} \text{Educ} * \text{Year} + b_{13} \text{Educ} * \text{Year}^2 + b_{14} \text{Educ} * \text{Age} + b_{15} \text{Educ} * \text{Age}^2 + e$

where:

- event upward move, upward move with at least 5 points ISEI; downward move, downward move with at least 5 points ISEI;
 Year is year of labor market entry (1900=0);
 Age is age in years;
 Fisei is ISEI-score of father's occupation;
 Educ is number of years of schooling;
 Iseilast is last occupational status (ceiling effect);
 Isei is ISEI-score of respondent's occupation.
 The models are estimated using logistic regression on the person-period file.

Analysis

The average level of education, respondent's occupation and father's occupation for distinct birth cohorts at specific historical years.

We expect an increase of both educational and occupational attainment over time. Both period and age (life course) effects have an impact in the same direction, i.e., educational and occupational attainment is assumed to increase from the earlier periods to the later ones, as well as from younger age to older age. For displaying these results, we use the cohorts and historical dates as presented in Table 1. The results confirm the expectations: looking at the figures row by row (aging effect for the cohorts) or column by column (period effects for the historical dates) an increasing trend is indicated.

For educational attainment (see Table 2), the average level is 8.21 for the oldest cohort in 1933, while the average for the youngest cohort in 1990 is 10.56. The increase by age is smaller (in the rows) because educational level does not really grow after a certain age. Still, the figures indicate a somewhat marked increase for the cohort 1919-1928 between 1949 and 1973 and for the cohort 1929-1938 between 1956 and 1983. This is probably an effect of the evening and corresponding education which played a strong role in the educational system of that time. And the mentioned cohorts were at an appropriate age to benefit from the opportunity offered by the socialist educational system (Kolosi and Róbert 1985). The period effects are stronger (in the columns) indicating that younger cohorts have on average higher educational levels. These results confirm previous studies on educational transition in Hungary (Simkus and Andorka 1982; Róbert 1991).

Table 2. Average level of education for birth cohorts of Hungarian men in historical years

Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
<i>Birth cohort</i>										
1899-1908	8.21	8.22	8.22	8.22	8.23	8.25	8.16			
1909-1918		8.37	8.42	8.43	8.45	8.48	8.49	8.64		
1919-1928			8.48	8.55	8.70	8.77	8.86	8.91	9.16	
1929-1938					8.93	8.97	9.09	9.15	9.31	9.32
1939-1948							9.47	9.86	10.20	10.26
1949-1958									10.38	10.48
1959-1968										10.56

Data based on pooled data file 1973-1993

Table 3. Average occupational level (ISEI) for birth cohorts of Hungarian men in historical years

Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
<i>Birth cohort</i>										
1899-1908	29.75	31.44	32.20	31.84	31.44	29.16	29.46			
1909-1918		32.08	33.51	32.77	33.00	31.85	32.03	33.40		
1919-1928			33.85	32.18	34.16	34.03	34.58	34.80	34.46	
1929-1938					33.71	33.94	34.83	35.28	35.17	35.90
1939-1948							35.81	36.80	37.11	37.38
1949-1958									35.73	35.98
1959-1968										35.78

Data based on pooled data file 1973-1993

Table 4. Average occupational level of father's (ISEI) for birth cohorts of Hungarian men in historical years

Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
<i>Birth cohort</i>										
1899-1908	28.14	28.13	28.13	28.13	28.13	28.42	27.09			
1909-1918		28.80	28.77	28.77	28.77	28.77	28.77	28.67		
1919-1928			28.30	28.36	28.54	28.54	28.54	28.54	27.93	
1929-1938					29.16	28.90	29.01	29.01	28.13	28.11
1939-1948							30.97	31.77	30.54	30.47
1949-1958									32.44	32.24
1959-1968										34.11

Data based on pooled data file 1973-1993

For occupational attainment (see Table 3), the changes in the average socio-economic score display the same picture as for education. The average is 29.75 for the oldest cohort in 1933 and is 35.78 for the youngest cohort in 1990. The aging effect seems to be stronger after 1949 for the cohorts born 1919-1928 and onwards. This indicates that structural changes like industrialization in the society can yield more intra-cohort change (speed up the aging effect). The period effects are more marked between 1956 and 1973, when more structural changes have taken place in the Hungarian economy. For 1983 and 1990 this process started to decline and we even find a break in the linear trend for the cohorts born in 1949-1958 and 1959-1968.

For father's occupational attainment (see Table 4), figures cannot display any real aging effects, because we only have one piece of information on father's occupation (referring to respondent's age at 14). However, the period effects show that - like for the respondents - the same structural increase can be observed for the fathers, too. This is much more present after 1968 when the fathers already include those benefited from the industrialization and modernization processes after World War II. The average score of father's socio-economic index is almost identical for the oldest cohort in 1933 and the youngest cohort in 1962 (28.14 and 28.90), but the increasing trend is present for the later historical dates and the average score is 34.11 for the youngest cohort in 1990.

The correlations between father's occupation and respondent's occupation and between respondent's education and occupation for distinct birth cohorts at specific historical years

The picture is more complex when analyzing the trends in the correlations. In line with the already mentioned argument, we expect different period and age effects here. The correlation between occupational attainment and social background as well as educational credentials is expected to decrease when people get older. Then, in accordance with the industrialization hypothesis, the correlation between respondent's and father's occupation should be lower for the younger birth cohorts compared to the older ones, while the correlation between occupation and education is expected to be higher for the younger birth cohorts than the older ones. The results are more or less in line with the expectations.

Table 5. Zero order correlations between father's occupation (ISEI) and respondent's occupation (ISEI) for birth cohorts of Hungarian men in historical years

Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
<i>Birth cohort</i>										
1899-1908	.5832	.5287	.4861	.4818	.4854	.5178	.5714			
1909-1918		.5179	.4795	.4962	.4679	.4532	.4607	.4405		
1919-1928			.4226	.4498	.4022	.3843	.3883	.3958	.3722	
1929-1938					.3504	.3397	.3376	.3377	.3033	.3676
1939-1948							.4255	.4296	.3986	.3729
1949-1958									.3622	.3493
1959-1968										.3986

Data based on pooled data file 1973-1993

Table 6. Zero order correlations between respondent's education and respondent's occupation (ISEI) for birth cohorts of Hungarian men in historical years

Year	1933	1941	1945	1949	1956	1962	1968	1973	1983	1990
<i>Birth Cohort</i>										
1899-1908	.6723	.6548	.6395	.6409	.6327	.6516	.5899			
1909-1918		.6201	.5902	.6277	.6207	.6182	.6427	.6314		
1919-1928			.4826	.5467	.5784	.5923	.6055	.6171	.7013	
1929-1938					.6439	.7023	.7112	.7131	.7292	.7485
1939-1948							.7358	.7512	.7288	.6948
1949-1958									.6963	.6622
1959-1968										.6469

Data based on pooled data file 1973-1993

The expected decreasing trend for the correlation between father's and respondent's occupation is present for most historical dates in cohort perspective (see Table 5). The highest coefficient (.58), we get for the oldest cohort in 1933, while we have much lower figures (varying between .3 and .4) for 1983 and 1990. This indicates a gradual opening of the Hungarian society as presented previously by Ganzeboom, Luijkx, and Róbert (1991). It is important to note that this process started already between the two World Wars and not only after 1949.

For the aging effect, we find an unexpected trend for the correlation between education and occupation in the case of the birth cohorts 1919-1928 and 1929-1938: the correlation coefficients are higher for later years than for earlier ones (see Table 6). This can be a consequence of the fact that educational credentials became more important for status attainment under socialism in Hungary (cf. Róbert 1984; Ganzeboom, de Graaf, and Róbert 1990).

The other expected trend, an increase of the correlation between education and occupation, appears first for the youngest cohorts in 1956 and 1962. It is present for 1968 and 1973 in complete cohort perspective. This finding seems to be realistic because the industrialization process has predominantly taken place for these periods and cohorts. However, we do not see this tendency for 1983 and especially for 1990. For 1990, we find a decreasing trend in this respect. Moreover, the trend for the correlation between father's and respondent's occupation seems to break in 1990 as well (.35 and .40 for the birth cohorts 1949-1958 and 1959-1968). We will return to this point, when we present the causal models for status attainment.

The average level of education, respondent's occupation, and father's occupation at labor market entry

The average level of education at labor market entry is displayed in Figure 1. It was quite low until 1930 and started to increase thereafter. There was a strong increasing trend between 1930 and 1980 but it became less steep later. At the end of the eighties and in the beginning of the nineties, we even observe a small decline in the average educational level. The same pattern can be found for the occupational position at labor market entry (Figure 2). The increasing trend started in the mid-thirties and finished in the eighties. Then the increase in the trend stopped when the economic situation began to deteriorate. For the social origin (father's occupation) the same increasing tendency can be seen (see Figure 3).

Trend in status attainment at labor market entry

In this section, we present the analysis of the trend in ascription and achievement with regard to the entry in first job. Our two predictor variables are father's occupation (ascription) and respondent's education (achievement). Since we estimate the effect of achievement and ascription on the first occupational position, we only consider the period (historical) effects. We observe and analyze an extreme long period (1910-1991) and report changes in the effect of ascription and achievement on first job for more than eight decades.

Figure 1. Average level of education (with trend) at labor market entry for Hungarian men between 1910 and 1991

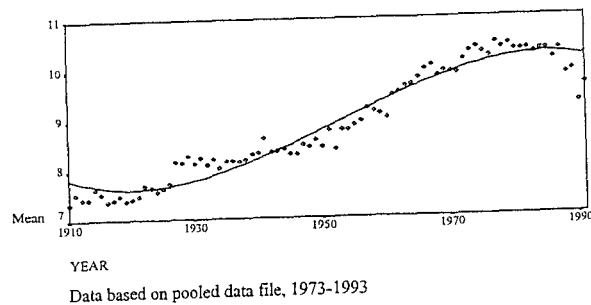


Figure 2. Average occupational level (ISEI) (with trend) at labor market entry for Hungarian men between 1910 and 1991

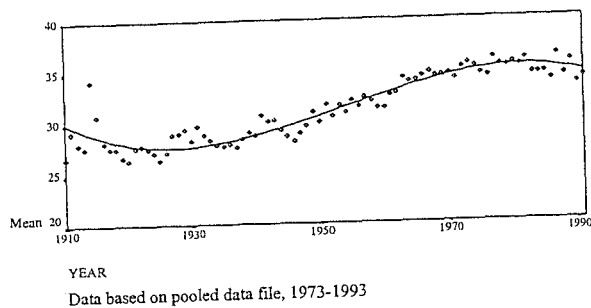


Figure 3. Average level of father's occupation (ISEI) (with trend) at labor market entry for Hungarian men between 1910 and 1991

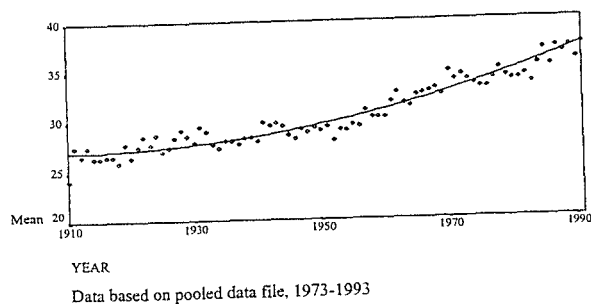
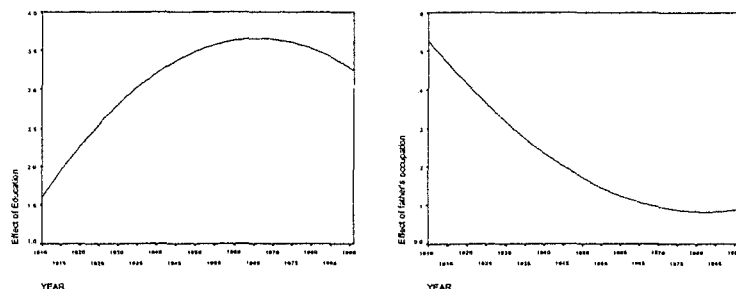


Table 7. OLS regression estimates for the impact of father's occupation and education on respondent's entry into labor force (first occupation) for Hungarian men between 1910 and 1991 (Metric coefficients, standard errors in parentheses)

	Model 1	Model 2	Model 3
Year	.052** (.017)	-.040** (.012)	-.353*** (.051)
Year ²	.00084*** (.00017)	-.00005 (.00011)	.00305*** (.00048)
Father's Occupation		.148*** (.004)	.658*** (.029)
Education		3.42*** (.021)	.788*** (.170)
<i>Father's occupation</i>			
* Year		-.014*** (.001)	
* Year ²		.000085*** (.00001)	
<i>Education</i>			
* Year		.087*** (.006)	
* Year ²		-.00066*** (.00001)	
Constant	26.08***	-1.60***	5.36***
Expl. Var. (R Square)	.042	.508	.517

Data based on pooled data file 1973-1993; Significance: *** $p < .001$ ** $p < .01$ * $p < .05$

In Table 7, the results of the analysis are presented. Model 1 shows an increase in the level of first job over time. The trend is slightly curvilinear, the increase is accelerating a bit over time. In Model 2, we add the ascription and achievement effect and we find positive effects of education and father's occupation on first job. In Model 3, we include the interaction terms of father's occupation and education with Year and Year² to estimate possible curvilinear trends in the ascription and achievement effects. In accordance with the hypothesis, the effect of education on first occupation increases over time and the effect of father's occupation goes down. Both trends are curvilinear, as shown by the significant effect of the interaction with the quadratic term for year, thus the trends reverse at the end. The effects are depicted in the following figures:



These figures clearly corroborate the hypotheses. Ascription indeed affects status attainment at labor market entry stronger for older birth cohorts than for younger birth cohorts. We see that the effect decreases from about .5 to about .1 in 80 years. This clearly shows the massive decline in the importance of ascription. The picture for the achievement effect is a bit more complicated. The effects are going up strongly until the 1970s and then are going down a bit.

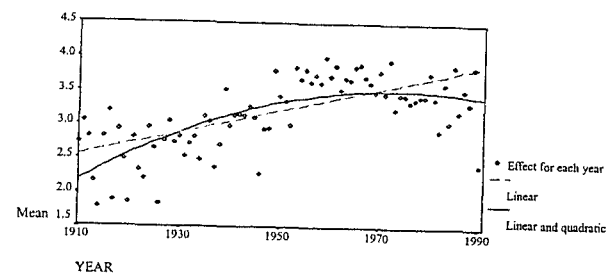
As pointed out in the *Research design* section, we will also estimate the trend in ascription and achievement effects on first job by using a multilevel approach. As mentioned, we first estimate the effect of father's occupation and that of respondent's education on respondent's occupation for every year between 1910 and 1991. In a second step, we regress the unstandardized regression coefficients (weighted by the reciprocal of their standard error) on Year and Year² giving us a curvilinear trend for these effects. The parameter estimates are presented in Table 8. The linear and curvilinear trends are presented in the Figures 4 and 5. The results are in line with the regression analysis on the individual level.

Table 8. (Second level) OLS regression estimates on (first level) regression coefficients for entry in first job of Hungarian men between 1910 and 1991

	Explanation of the regression coefficient of education on first job		Explanation of the regression coefficient of father's occupation on first job	
Intercept	2.383 (.126)	1.342 (.236)	.459 (.021)	.620 (.039)
Year	.017 (.002)	.064 (.010)	-.005 (.00036)	-.012 (.0016)
Year ²		-.00045 (.00009)		.000071 (.000015)
adj. R ²	41.7	55.1	71.5	77.5
Durbin Watson statistic	1.31	1.76	.98	1.22

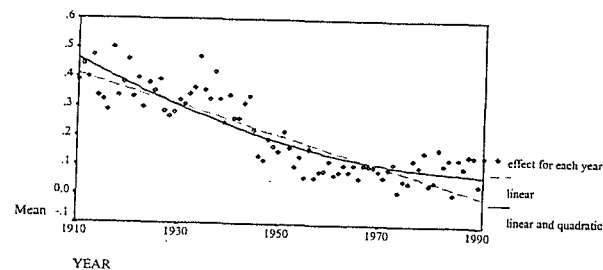
Data based on pooled data file 1973-1993 (weighted by reciprocal standard error of first level coefficients; all coefficients are significant at $p < .001$)

Figure 4. Effect of education on occupation (ISEI) at labor market entry for Hungarian men between 1910 and 1991



Data based on pooled data file, 1973-1993

Figure 5. Effect of father's occupation (ISEI) on respondent's occupation (ISEI) at labor market entry for Hungarian men between 1910 and 1991



Data based on pooled data file, 1973-1993

Event history analysis of career transitions

For the upward and downward career transitions, we analyze respondents between age 25 and 60 only. So this analysis will be restricted to the period 1920-1991. In total, we have 713641 person-year observations. This is the number of valid observations of occupational positions between 1920 and 1991 of persons in the age range 25-60. As said earlier, we distinguish four kinds of events:

1. Any upward move (18130 events).
2. Upward moves with more than five status points (13229 events).
3. Any downward move (16368 events).
4. Downward moves with more than five status points (11560 events).

For each of these four kinds of moves, we estimate three models. In the first model, the moves are only explained by curvilinear period and age effects; in the second model we add the ascription and achievement variable together with the last occupation as a control for a ceiling effect: the higher the occupation is, the lower is the chance for an upward move and also the lower the occupation is the higher is the chance for a downward move.

Table 9. Logistic regression estimates on the odds of upward mobility for Hungarian men between 1920 and 1991 (Metric coefficients, standard errors in parentheses)

	Upward moves (any)			Upward moves (more than 5 points)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Age	-.0339*** (.0076)	-.0131 (.0077)	-.0025 (.0281)	-.0324*** (.0089)	-.0089 (.0090)	.0284 (.0321)
Age ²	-.000160 (.000098)	-.000415*** (.000099)	-.000507 (.000358)	-.000176 (.000115)	-.000466*** (.000116)	-.000839* (.000409)
Year	.0706*** (.0038)	.0855 (.0038)	.1672*** (.0138)	.0748*** (.0944)	.0921*** (.0045)	.1383*** (.0159)
Year ²	-.000661*** (.000032)	-.000804*** (.000032)	-.001601*** (.000114)	-.000727*** (.000037)	-.000896*** (.000038)	-.001431*** (.000133)
Occupation (ceiling effect)		-.0638*** (.0009)	-.0639*** (.0009)		-.0739*** (.0011)	-.0742*** (.0011)
Education		.2086*** (.0041)	.1032 (.0820)		.2510*** (.0047)	-.0146 (.0937)
Father's occupation		.0096*** (.0007)	.1065*** (.0164)		.0108*** (.0008)	.1352*** (.0187)
Education * Age			.005872 (.003463)			.004349 (.003965)
* Age ²			-.00007494 (.00004451)			-.00006096 (.00005109)
* Year			-.002288 (.001734)			.004109* (.002003)
* Year ²			.00003358* (.00001392)			-.00001571 (.00001617)
Father's occupation * Age			-.002227** (.000709)			-.002635** (.000822)
* Age ²			.00002708** (.00000920)			.003206** (.001067)
* Year			-.001790*** (.000336)			-.002471*** (.000384)
* Year ²			.00001411*** (.000272)			-.0001970*** (.00000314)
Constant	-3.8716***	-4.7866***	-6.8713**	-4.2311***	-5.3740***	-6.9041**
chi square	3847.911	9652.588	9782.955	3115.711	8848.402	8970.847
df	4	7	15	4	7	15

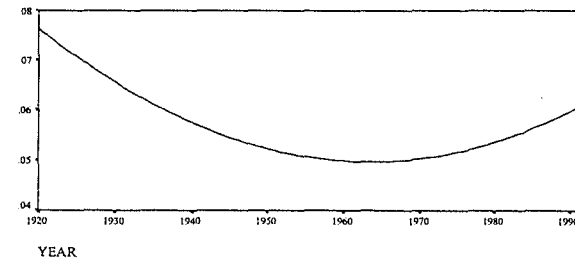
Data based on pooled data file 1973-1993; Significance: *** p < .001 ** p < .01 * p < .05

The parameter estimates for the models for upward mobility are presented in Table 9. The main findings for upward moves are:

1. Considering only the period and age effects (Model 1), we find a negative linear effect for age: the odds for upward moves decline with age. For period, we find a curvilinear trend in the shape of an inverted U-curve, indicating that there was an increase until the mid-1950s when the odds for upward mobility were the highest and then the chance for status gains started to decline again.
2. When controlling for the period and age effects (Model 2), we find significant positive effects for education and father's occupation indicating that both a higher educational level and a higher social origin increases the upward move. The effect of last occupation is negative as expected: being already in a higher position makes the chance less for further upward mobility.
3. By adding the interaction terms of father's occupation and education with period and age (Model 3), we can evaluate the hypotheses about the development of ascription and achievement effects on upward moves over time and age. The estimates indicate significant changes for the effect of both education and father's occupation with respect to time. In accordance with the hypotheses, the impact of education is increasing over time, achievement is getting increasingly important for upward mobility (see Figure 7). The trend for ascription is going down first, as expected, but it is going up later (see Figure 6). Father's occupation affects upward mobility between 1920 and 1968, but the trend reverses thereafter and the impact of ascription starts to increase again after 1968.

The change for the effect of achievement and ascription on upward mobility is less marked over age. The interaction term of education and age displays an inverted U-shape (see Figure 9), the effect of education increases up to the age of 35-40 and decreases thereafter but the estimates are not significant. The interaction of father's occupation and age is significant but changes are very moderate (see Figure 8).

Figure 6. Effect of social origin on upward move for Hungarian men between 1920 and 1991



Data based on pooled data file, 1973-1993

Figure 7. Effect on education on upward move for Hungarian men between 1920 and 1991

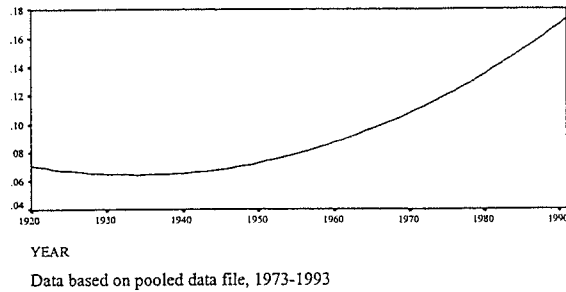


Figure 8. Effect of social origin on upward move for Hungarian men between 25 and 60

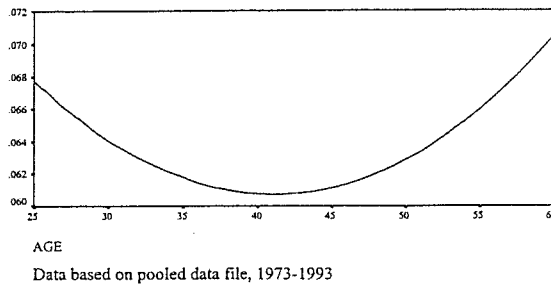


Figure 9. Effect on education on upward move for Hungarian men between 25 and 60

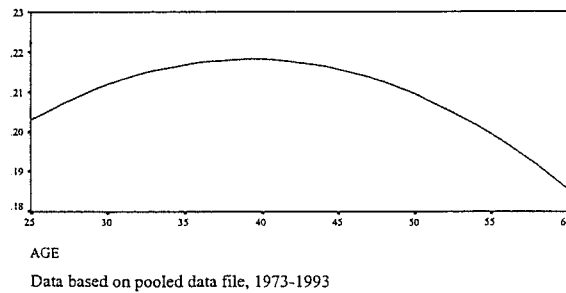


Table 10. Logistic regression estimates on the odds of downward mobility for Hungarian men between 1920 and 1991 (Metric coefficients, standard errors in parentheses)

	Downward moves (any)			Downward moves (more than 5 points)		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Age	-.0752*** (.0074)	-.0971*** (.0074)	-.1660*** (.0282)	-.0718*** (.0087)	-.1008*** (.0087)	-.1803*** (.0324)
Age ²	.000638*** (.000092)	.000876*** (.000093)	.002147*** (.000354)	.000686*** (.000107)	.001008*** (.000108)	.002522*** (.000405)
Year	.0841*** (.0042)	.0683*** (.0042)	.3380*** (.0136)	.0855*** (.0049)	.0641*** (.0049)	.3557*** (.0157)
Year ²	-.000774*** (.000034)	-.000628*** (.000035)	-.002948*** (.000113)	-.0834*** (.0041)	-.000645*** (.000041)	-.003208*** (.000132)
Occupation (ceiling effect)		.0401*** (.0006)	.0406*** (.0006)	.0510*** (.0007)	.0514*** (.0007)	
Education		-.1395*** (.0041)	.6914*** (.0768)	-.1616*** (.0047)	.7498*** (.0866)	
Father's occupation		-.0083*** (.0007)	-.0458** (.0167)	-.0103*** (.0009)	-.0665*** (.0193)	
Education * Age			.005371 (.003319)		.005385 (.003775)	
* Age ²			-.00009962* (.00004193)		-.00010973* (.00004751)	
* Year			-.030504*** (.001563)		-.00033681*** (.00001750)	
* Year ²			.00024753*** (.00001272)		.00027953*** (.00001434)	
Father's occupation * Age			.000919 (.000701)		.001324 (.000813)	
* Age ²			-.00001621 (.00000886)		-.00002202* (.00001023)	
* Year			.000344 (.000348)		.000768 (.000401)	
* Year ²			.00000098 (.00000282)		-.00000235 (.00000327)	
Constant	-3.9607***	-3.0711***	-9.6604**	-4.3614***	-3.3342***	-10.2763***
chi square	1760.002	5531.572	6189.464	1319.286	6148.43	6930.62
df	4	7	15	4	7	15

Data based on pooled data file 1973-1993; Significance: *** p < .001 ** p < .01 * p < .05

The findings on downward mobility are as follows (see Table 10):

1. Considering again only period and age effects (Model 1), the period effect displays an inverted U-shape in the case of downward moves, indicating that the chance for status loss increased up to the mid-1950s and then started to decline. As for upward mobility, the age effect reveals a decreasing trend, which was steeper until the age of 45-50, but then it became less steep. As getting older between 25 and 45, the odds for downward mobility become less and less. After the age of 45-50, the chance for downward mobility continues to decline but not so much as for the younger people.
2. Controlling for period and age effects, the effect of both education and father's occupation is significantly negative (Model 2). This result is obvious, the higher the educational level and the better the social origin, the smaller the chance for downward mobility during the life course. The impact of last occupation is positive, the lower the present position the smaller the odds for a downward move.
3. By adding the interaction terms of father's occupation and education with period and age (Model 3), we can evaluate the hypotheses about the development of ascription and achievement effects on downward moves over time and age. The results indicate that the effect of education on the chance of status loss has changed significantly between 1920 and 1991 (see Figure 11) but there is no significant change for father's occupation over time (see Figure 10). In the case of education, the results display a U-curve for both downward moves: the education effect is going down between 1920 and 1960-1965, during this period lower education had less and less impact on downward mobility. However, after the mid-1960s, the effect of education started to increase on the chance of becoming downwardly mobile. Lower educational level influences again more and more the odds of downward move. This can be a consequence of the fact that the general level of education has increased in Hungary for the 1970s and 1980s and those who failed to reach the appropriate level had a higher and higher risk for a status loss.

For changes over age the picture is quite clear and confirms the hypotheses. Results display a declining trend for both education (see Figure 13) and father's occupation on status loss (see Figure 12). This means, that as one is getting older the educational level and the social origin influences the chance of downward mobility less and less. All of these trends are curvilinear, the declining tendency is slight between 25 and 35 and it becomes steeper thereafter.

Figure 10. Effect of social origin on downward move for Hungarian men between 1920 and 1991

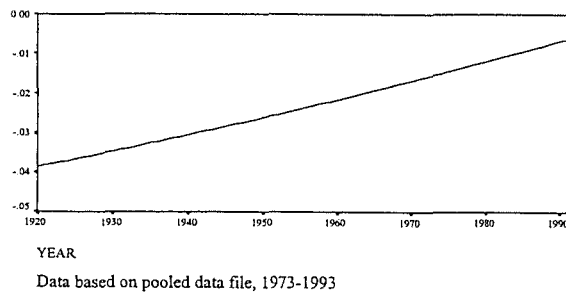


Figure 11. Effect of education on downward move for Hungarian men between 1920 and 1991

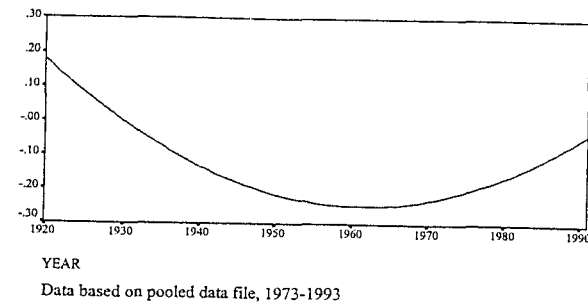


Figure 12. Effect of social origin on downward move for Hungarian men between 25 and 60

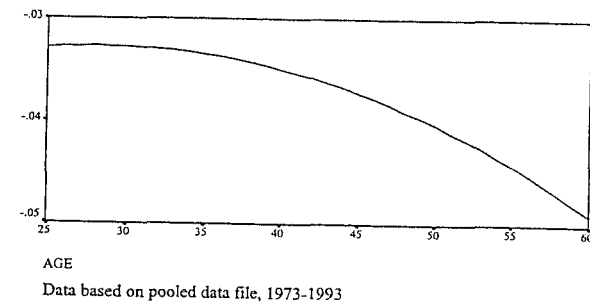
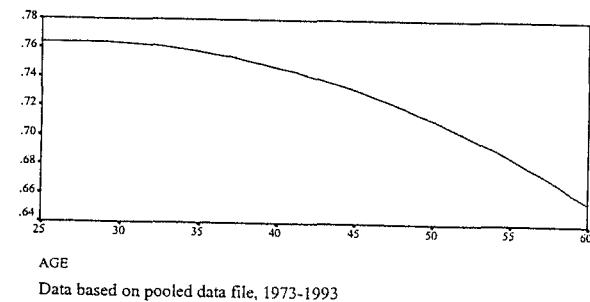


Figure 13. Effect of education on downward move for Hungarian men between 25 and 60



All in all, the event history analysis provided results being more or less in line with the hypotheses. For the unconditioned effects, changes over time bring an increase in the chance of becoming mobile between 1920 and 1960, but a decrease thereafter; getting older yields a general decline: older people have less chance for mobility; upward mobility is affected by education and father's occupation positively; downward mobility is affected by the same variables negatively. For trends in ascription and achievement, the results are in accordance with the industrialization hypothesis for upward mobility: the influence of achievement increases, that of ascription decreases over time. For downward mobility the change of the impact of education displays a U-curve, while there is no significant change for the effect of father's occupation over time. The interactions with age usually indicate a declining trend for both education and father's occupation, the impact of both achievement and ascription on mobility decreases as people get older.

Conclusion

The goal of the presented research was to study the status attainment process in Hungary during the last eight decades. Using data from four large-scale nation-wide representative surveys, we analyzed the job histories of about 40,000 men between 1910 and 1991. We focused on the effect of two main determinants of the status attainment process: achievement and ascription measured by respondent's educational level and father's occupation. Our main question was how the influence of these two variables on status attainment varies over historical time and over the life course. The main hypothesis of this research was grounded on the industrialization theory assuming that the impact of achievement becomes larger and that of ascription becomes smaller over time. The other hypothesis was based on life-course theory assuming that both educational credentials and ascriptive features of social origin are replaced by other abilities and capitals collected and accumulated during the life course.

We approached the research problem in three steps. First, we calculated the changes in the educational level, occupational attainment, and social origin over time, as well as the zero-order correlations between education and occupation just as between father's occupation and respondent's occupation for selected historical years by birth cohorts. Second, we applied a multilevel research design to analyze the changes of the effect of achievement and ascription on entry into labor market and then we repeated this analysis for the individual level on the pooled file. Third, we estimated logistic regression models on status gains and status losses during the career. We analyzed the unconditioned effect of time and age, that of education and father's occupation, as well as the changes in the impact of achievement and ascription over time and age on upward and downward mobility.

Both descriptive statistics and the estimates from the causal models on upward and downward mobility confirm the hypothesis of age effects. As expected, the influence of education and that of father's occupation decline over age.

Our results basically confirm the industrialization hypothesis, but we need to elaborate the findings in some respect. We found, as expected, an increasing trend for achievement and a decreasing trend for ascription. However, in both trends we found a reversal. Both trends reversed to some extent after the mid-1980s. Considering the economic situation in Hungary for the second part of the 1980s, when the country's economic performance started to decline and especially for the period after 1990 when the increase of GDP turned even negative, we cannot consider our findings a falsification of the theory. On the contrary, these results provide even more support for the industrialization hypothesis, namely given the fact that the

industrialization and modernization process starts to slow down in a society, as it happened to Hungary during the last decade, achievement begins to decline and ascription begins to increase.

The basic feature of our research design was to look for trends in changes for status attainment and we focused on both linear and curvilinear trends. It is a fundamental result that we find trends in the development of the Hungarian society with respect to social mobility within the investigated period. In most of the cases, the test of curvilinearity turned out to be significant. It should be emphasized at which historical points we found changes in these trends. One could assume that 1945 or 1949 were the turning points. However, this is not the case. These dates do not seem to be very crucial for trend reversals in status attainment. The end of the 1960s looks like more important for the developments in the Hungarian society and the 1980s seem to be the other notable period. Neither the Communist take-over after the World War II nor the recent system change do seem to influence so much the trends for status attainment as the economic reforms introduced in 1968 or the decline of economic performance in the 1980s.

We expect these trend reversals to be temporary because the Hungarian economy will grow again in the near future and the pace of industrialization and modernization will again increase. It is unfortunate that the data sets from 1992 and 1993 do not give enough information to analyze the most recent developments in Hungarian society. We have to wait for new data to update our findings.

References

- Allison, P.D. (1984), *Event history analysis: regression for longitudinal event data*. Beverly Hills: Sage.
- Andorka, R. (1973), *Hungarian Social Mobility and Life History Survey 1973*. [MRDF] Budapest: Central Statistical Office [producer]. English translation edition Budapest: TÁRKI [distributor].
- Andorka, R. (1982), *A társadalmi mobilitás változásai Magyarországon*. (Changes in Intergenerational Mobility in Hungary.) Budapest: Gondolat.
- Andorka, R. (1983), Age, cohort and historical factors influencing inter- and intragenerational social mobility of men and women in Hungary. In: D.J. Treiman and R.V. Robinson (eds.), *Research In Social Stratification and Mobility 2*. Greenwich: JAI Press Inc.
- Andorka, R. (1990), Half a century of trends in social mobility in Hungary. In: J. Peschar (ed.), *Social Reproduction in Eastern and Western Europe*. Groningen: University of Groningen.
- Andorka, R. and K. Zagorski (1980), *Socio-occupational mobility in Hungary and Poland*. Warsaw: Institute of Philosophy and Sociology of the Polish Academy of Sciences.
- Bauer, T. (1978), Investment cycles in planned economies. In: *Acta Oeconomica* 21, pp. 243-260.
- Berend, I.T. and G. Ránki (1974), *Hungary: a century of economic development*. New York: Barnes and Noble.
- Blau, P.M. and O.D. Duncan (1967), *The American Occupational Structure*. New York: Wiley.

- Graaf, P.M. de and R. Luijkx (1993), Trends in status attainment in the Netherlands; from ascription to achievement. In: H.A. Becker and P. Hermkens (eds.), *Solidarity of Generations. Demographic, economic and social change, and its consequences*. Amsterdam: Thesis Publishers.
- Graaf, P.M. de, R. Luijkx and P. Róbert (1993), Family background and career mobility: status attainment over the life-course in Hungary and the Netherlands. Paper presented at the semi-annual meeting of ISA RC 28, Trondheim, Norway, May 20-22.
- DiPrete, T.A. and D.B. Grusky (1990), Structure and trend in the process of stratification for American men and women. In: *American Journal of Sociology* 96, pp. 107-143.
- Fazekas, B. (1976), *A mezőgazdasági termelőszövetkezeti mozgalom Magyarországon*. (The agricultural cooperative movement in Hungary.) Budapest: Kossuth.
- Ferge, Z. (1979), *A Society in the Making. Hungarian Social and Societal Policy 1945-75*. Harmondsworth: Penguin.
- Gábor, R.I. (1979), The second (secondary) economy. In: *Acta Oeconomica* 22, pp. 291-311.
- Gábor, R.I. (1984), The second economy in socialism: General lessons from the Hungarian experience. In: L. Feige (ed.), *The Unobserved Economy*. Oxford: Oxford University Press.
- Galasi, P. and G. Sziráczy (eds.) (1985), *Labour Market and Second Economy In Hungary*. Frankfurt: Campus Verlag.
- Ganzeboom, H.B.G., P.M. de Graaf and P. Róbert (1990), Reproduction Theory on Socialist Ground: Intergenerational Transmission of Inequalities in Hungary. In: A.L. Kalleberg (ed.), *Research in Social Stratification and Mobility* 9. Greenwich: JAI Press Inc.
- Ganzeboom, H.B.G., P.M. de Graaf and D. Treiman [in collaboration with Jan de Leeuw] (1992), A standard international socio-economic index of occupational status. In: *Social science research* 21, pp. 1-56.
- Ganzeboom, H.B.G., R. Luijkx and P. Róbert (1991), Trends in intergenerational occupational mobility in Hungary between 1930 and 1989. Department of Sociology, Tilburg University, Working Paper Series 58.
- Kolosi, T. (1988), Stratification and Social Structure in Hungary. In: W.R. Scott and J. Blake (eds.), *Annual Review of Sociology* 14, pp. 405-419.
- Kolosi, T., J. Peschar and P. Róbert (1985), On reduction of social reproduction. A Hungarian-Netherlands Comparison on the Changing Effects of Social Origin and Education on the Occupational Position. In: M. Kaiser, R. Nuthmann and H. Stegmann (eds.), *Berufliche Verbleibsforschung in der Diskussion*. Materialband 2. Nuremberg: IAB.
- Kolosi, T. and P. Róbert (1985), Die Rolle des Abend- und Fernstudiums bei der gesellschaftlichen Mobilität. In: M. Kaiser, R. Nuthmann and H. Stegmann (eds.), *Berufliche Verbleibsforschung in der Diskussion*. Materialband 2. Nuremberg: IAB.
- Kornai, J. (1980), *Economics of Shortage*. Amsterdam: North-Holland.
- Kulcsár, R. and I. Harcsa (1983), *Hungarian Social Mobility and Life History Survey 1983*. [MRDF] Budapest: Central Statistical Office [producer]. English translation edition Madison: WI: Center for Demography and Ecology, University of Wisconsin [distributor].
- Kulcsár, R. and I. Harcsa (1992), *Hungarian Social Mobility and Life History Survey 1992*. [MRDF] Budapest: Central Statistical Office [producer]. English translation edition Budapest: TÁRKI [distributor].
- Petersen, T. (1988), Analyzing change over time in a continuous dependent variable: specification and estimation of continuous state space hazard rate models. In: C.C. Clogg (ed.), *Sociological Methodology* 18.
- Rijken, S. and H.B.G. Ganzeboom (1995), Occupational status, attainment in first jobs in market and socialist contexts: evidence from 1991 Social Justice Data using a pooled time-series design. Manuscript.
- Róbert, P. (1984), A multidimensional approach to social mobility. In: T. Kolosi and R. Andorka (eds.), *Stratification and Inequality*. Budapest: Hungarian Sociological Association.
- Róbert, P. (1991), Educational transition in Hungary from the post-war period to the end of the 1980s. In: *European Sociological Review* 7, pp. 213-236.
- Róbert, P., P.M. de Graaf and R. Luijkx (1993), Career Mobility in Socialist Societies: The Case of Hungary. Paper presented at the Research Conference on "European Society or European Societies? Life Courses and Social Inequalities," Schloss Ringberg, (Bavaria) Germany, November 22-26.
- Róbert, P. and E. Sik (1989), "Gaps" in the labour market. In: T.D. Horváth and G. Sziráczy (eds.), *Flexibility and rigidity in the labour market in Hungary*. Geneva: ILO International Institute for Labour Studies, Research Series 90.
- Simkus, A. (1981), Historical changes in occupational inheritance under socialism: Hungary 1930-1973. In: D.J. Treiman and R.V. Robinson (eds.), *Research In Social Stratification and Mobility* 1. Greenwich: JAI Press Inc.
- Simkus, A. (1982), Comparative Stratification and Mobility. In: J.M. Ammer and R.S. Marsh (eds.), *Comparative Sociological Research in the 1960s and 1970s*. Leyden: Brill.
- Simkus, A. and R. Andorka (1982), Inequalities in Education in Hungary 1923-1973. In: *American Sociological Review* 47, pp. 740-751.
- Szelényi, I. (1988), *Socialist Entrepreneurs. Embourgeoisement in Rural Hungary*. Madison: The University of Wisconsin Press.
- Szelényi, I. and D.J. Treiman (1993), *Social Stratification in Eastern Europe after 1989. General Population Survey*. [MRDF] Los Angeles: UCLA, Department of Sociology [producer and distributor].
- Treiman, D.J. (1970), Industrialization and social stratification. In: E.O. Laumann (ed.), *Social Stratification, Research and Theory for the 1970s*. Indianapolis: Bobbs-Merill.
- Treiman, D.J. and K.-B. Yip (1989), Educational and occupational attainment in 21 countries. In: M.L. Kohn (ed.), *Cross-national research in sociology*. Newbury Park: Sage.
- Wong, R.S.-K. and R.M. Hauser (1992), Trends in occupational mobility in Hungary under socialism. In: *Social science research* 21, pp. 419-444.