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OCCUPATIONAL CLASS STRUCTURE: THEORETICAL AND METHODOLOGICAL PROBLEMS*

Introduction: The research goals

The last major change in statistical and sociological classifications applied in Hungary took place in the late 1960s. Then, a shift occurred from the so-called "two classes-one stratum" model used since 1949 to a stratification model which was labeled, and generally known for decades as work-type groups. This shift in statistical and sociological research can be associated with the political and economic transformation which started in the 1960s and resulted in a unique variant of state socialism based on a combination of market elements and planned economy.

According to sociological and political analyses, it was the twenty-year-long process of liberalization which eventually led to the peaceful political changes in 1990 in Hungary. The transformation of the political scene was followed by the transformation of the economy which, in turn, led to changes in the social structure. This process calls for a reconsideration of the stratification schema in Hungary which was used in statistical analyses as well as in sociological research for over two decades. The main questions are the following: (1) To what extent have the categories of the work-type groups retained their validity under the changed economic and social circumstances? (2) To what extent is the measurement of these categories reliable under the changed economic and social circumstances? (3) To what extent do these categories meet the criteria of an international comparison, and of the increasingly uniform European statistical systems?

Since sociological and statistical research considers the investigation of consequences of political and economic changes as one of its main priorities, the formerly used occupational categories cannot be simply discarded because they are needed for time series analyses. The research program proposed here, however, has been designed to show the need for the parallel introduction of a new, alternative classification which is more suited to statistical records and social research.

The main purpose of this study is to lay the foundations for a research in which the currently used work-type groups are compared to 1. other class and stratification schemas being elaborated for observation, description and analysis of capitalist market economies; 2. a new alternative categorization labeled occupational class structure, based on Hungarian data. Research on this topic throughout the world suggests that the definition of social status is both an empirical research task and a theoretical position in various debates in sociology. These debates relate to a choice among a Marxist or Weberian interpretation of social status or another third conceptual framework, as well as to a choice among measurements which can be of nominal character (classes, strata, status groups, work-type groups) or of gradual character (prestige, socio-economic index).

Accordingly, this study will cover theoretical and methodological issues in subsequent sections. In the first section, the neo-Marxist, neo-Weberian and post-industrial approaches to

social structure are discussed, followed by an overview of approaches to the operationalization and measurement of social position in terms of class and stratification schemas as well as of grading and scoring. In the second section, the main milestones of social classifications and measurements are summarized for Hungary. In the third section, the main criteria of occupational class structure are reviewed in the light of the research program.

Theoretical and methodological approaches

The history of investigating social structure is full of theoretical debates and empirical attempts. The conceptual frameworks used by social scientists refer to class structure, stratification model, socio-economic status or simply occupational groups. The use of these concepts covers sometimes differing theoretical positions, sometimes only practical decisions on empirical measurements. In the following the alternatives in the major theoretical trends on social class and stratification as well as the paradigmatically different approaches to operationalization and measurement techniques are reviewed.

Neo-Marxist, neo-Weberian and post-industrial approaches

E. O. Wright's work is outstanding among the studies written from a neo-Marxist perspective. Wright offers a theoretical application of Marx's class concept to the modern capitalist society and also operationalizes the theoretical framework elaborating a system with several classes instead of the original two-class model (Wright 1979; 1980). In fact, Wright borrows his concept from Ossowski (Ossowski 1963: 151-152; Wright 1979: chapter 1). In his original class model, Wright separated three classes, bourgeoisie and proletariat for capitalist mode of production and petty bourgeoisie for simple commodity production. In addition, the model contains three further classes having contradictory locations within class relations. These are the managers and supervisors between bourgeoisie and proletariat; small employers between bourgeoisie and petty bourgeoisie; and the so-called semi-autonomous wage-earners between proletariat and petty bourgeoisie. Later Wright constructed a class schema with 12 classes based on assets in the means of production, control of organizational assets and skill assets (Wright 1985).

To illustrate the neo-Weberian approach, Anthony Giddens (1973) who develops the concept of structuration of class relationships can be quoted. His key notion is market capacity based on three main factors, ownership of property in means of production, possession of educational and technical qualifications, and possession of manual labor-power. While Giddens' work is mainly theoretical, the neo-Weberian operationalization and measurement of class structure can be primarily linked to John Goldthorpe and his colleagues (Goldthorpe 1980; 1987; Erikson, Goldthorpe and Portocarero 1979; Erikson and Goldthorpe 1992). The class schema proposed by them is called EGP classification and contains 11 classes in its most detailed form.

The EGP class schema was designed to distinguish positions which differ in terms of labor market position, the position in the production units and employment relations. Origins of this approach can be found in Lockwood's (1958) book. Lockwood speaks of two main elements of class position, work situation and market situation, and emphasizes the relation to

managers as a factor that creates characteristic differences between workers and employees. I intend to devote a bit more space to this issue.

The EGP schema distinguishes three major class situations: employers, self-employed workers without employees, and employees. Employees naturally represent the largest group of earners within the three class positions. Emphasis is placed on employment relations which can be a service relation or a work contract or a relation between the two. According to Goldthorpe (1982) one can speak of a service relation if the employer requires not simply the employee's labor, but rather his special knowledge and skills, i.e. employees' market capacity. A service relation is a kind of employment relation where the employees' responsibility and loyalty towards the employer are vital. To ensure this, the employer provides greater autonomy and independence in work, flexible work hours, greater job security, a system of fringe benefits, the possibility and promise of professional advancement and career as well as other promotional advantages. In contrast, a work contract does not offer decision-making possibilities, independence, autonomy or flexible work hours to the employees. This contract specifies a well-circumscribed amount and type of work being strictly controlled and compensated by a strictly defined amount of wage. Obviously, the content of work cannot be independent of the employment relation insofar as the service relation creates a class of people living from salaries (the so-called salariat) which includes managers and professionals, while in the case of work contracts we can speak of a class of wage-earners, i.e. workers among whom we can draw further distinctions according to qualification or whether they work in the agricultural or non-agricultural sector. The difference between service relation and work contract crosscuts the traditional difference between manual and non-manual work. In the case of clerical jobs or workers of the service sector we can speak of an intermediate link between the two types of employment relations. Erikson and Goldthorpe emphasize that the basis for assignment to a specific class is not the individual occupation but the nature of the employment relation.

Criticizing the EGP schema, Pahl (1993) has pointed out that class structure cannot be simply identified by the combination of occupational categories and employment qualities but it should have a sound theoretical basis. In fact, Goldthorpe clarified his (neo-Weberian) theoretical position in a paper written together with Marshall. Accordingly: (1) they do not analyze class conflicts from a historical perspective which would lead to social changes; (2) their analysis is not based on the theory of class exploitation; (3) they do not claim that similar locations within the class structure automatically create similar class-based consciousness or class-based action; (4) they do not assume that collective or individual political actions are expressions of structurally organized class relations or class interests (Goldthorpe and Marshall 1992). Breen and Rottman (1995a) offer further base for defining the concept of class: it is a set of structural positions and social connections within the market. An important element is that class positions are 'empty places' which exist independently of the individuals who occupy them. The role of theory in class analysis is to clarify why classes are 'responsible' for those consequences which are considered as the corollary of class position. One question is how different class positions lead to different levels of rewards, the other is how different rewards result in the social consequences of class positions.

Moving beyond a neo-Marxist or neo-Weberian approach, Esping-Anderson (1993) proposes an entirely different conceptual framework for the examination of class relations in post-industrial or, in his words, post-Fordist societies. He considers Wright's and Goldthorpe's class schemas to be highly similar, and instead of the factors suggested by them, he emphasizes the role of institutions in the process of class formation like mass education, the

welfare state, modern corporatism, or collective bargaining. In post-industrial societies, class relations are not influenced by industrialization, technical developments or economic growth but rather by how these elements are institutionally filtered. This is important because earlier theories posited strong convergent effects on the ground that industrialization and technological changes create similar structures in different societies. Esping-Anderson, however, assumes divergent effects since institutions mentioned above tend to differ strongly in different societies.

Another new element of post-Fordist class approach is that earlier class schemas were essentially constructed to describe the distribution of male labor force whereas post-industrial labor markets with an increasingly dominating service sector tend to become female labor markets to a large extent. Women's entry into employment and their professional career is linked to the service character of the society and the traditional division of labor formerly dominated by men is modified to the same extent as the institutions of the welfare state operate as service providers.

Beside traditional stratification elements, organizational elements of the labor market and of employers play a strong role in the analysis of 'post-Fordist' employment relations. In a recent study, Crompton, Gallie and Purcell (1996) have written about the importance of technical development, especially the spread of computers which 'deskilled' simple white-collar work, 'upgraded' blue-collar work and blurred the formerly characteristic divide between the two categories. In another study, Gallie (1996) also underlines that white-collar and blue-collar workers have moved closer to each other as a result of modern technology. Blue-collar workers now have greater control over their own work, while this control has declined for white-collar workers. Company managers tend to include blue-collar workers in decision-making to a greater extent than earlier and thus they differ less from low-level white-collar workers in this respect. Job security shows a decreasing tendency for white-collar workers since they have lost their earlier advantage compared to blue-collar workers. Income differences between skilled workers and low-level white-collar workers are also insignificant. However, certain differences between the two categories still exist. On the one hand, skill requirements are higher for white-collar workers than for blue-collar workers. When Gallie speaks of skills he distinguishes three elements, formal qualification, special work training and experience. The advantages held by white-collar workers are primarily reflected in formal education. On the other hand, white-collar work offers better possibilities for promotion and advancement than blue-collar work.

German sociology provides important lessons for this research program, too. About fifteen years ago Pappi (1979) raised similar problems when he reviewed the differing classifications used in censuses, state statistics and opinion polls. He regarded the varying sample sizes as being the main reason of the differences, i.e. statistical surveys were based on a sample of 50,000 while opinion polls were based on samples of 2,000. Practically in Pappi's view, the main goal was not to create a theory of social structure but a research tool (Pappi 1979: 11), and the standard demography by the Zentrum für Umfragen, Methoden und Analysen (ZUMA) served as basis for that. ZUMA made efforts to harmonize the applied background variables with the measurements carried out by state statistics. Occupation was questioned in a detailed manner and was coded by a multi-digit code used by the statistical office. This allowed several categorizations.

The German occupational classifications consider the employment relations for non-manual occupations, making a distinction between the category of Beamte and Angestellte. The

former is a state employee (civil servant), the latter can be either state-employed or employee in the private sector (*Angestellte in öffentlichem Dienst, Angestellte in Privatwirtschaft*). As far as manual worker categories, they are subdivided into unskilled, semi-skilled and skilled workers, as well as two types of foremen. Those in these occupations are mostly paid hourly wages. A close category is the supervisor (*Werkmeister*) which is an employee status with a monthly salary. Workers in non-productive sectors, such as postmen and shop assistants are also assigned to the civil servant and employee category. The self-employed are further differentiated according to the number of employees or the size of cultivated land, resulting in a classification (*berufliche Stellung*) with over thirty categories (Handl, Mayer and Müller 1977: 111, 207; Mayer 1979: 106-107). This schema obviously has less detailed variants but its concept, the strict distinction drawn between the public and the private sector and the assignment of workers in the service sector to white-collar employees has much in common with Goldthorpe's and Esping-Anderson's approach.

German studies on social stratification and class structure generally reach beyond a simple observation of occupational position. Social inequalities appear as differences in various spheres of life (*Disparität der Lebensbereiche*) as features of 'late capitalist societies'. E.g. Berger's heuristic model of class formation is based on the presence of institutional power relations, economic relations like modernization, technical development, demographic changes, and cultural relations like values and norms (Berger 1987). Another perspective in German sociology relates to the individualization of social inequalities (Beck 1983). The concept is that the hierarchical-vertical structure of social stratification is replaced by horizontal differentiation. In their monograph, Bolte and Hradil conclude that German society no longer has classes, statuses, financially determined life-chances, instead these are replaced by milieu-specific life-styles and individualized career regimes (Bolte and Hradil 1984: 359). Social positions and milieus (*soziale Lagen und Milieus*) which replace class and stratification relations in the study of social inequalities are most strongly represented by Hradil's (1983, 1987) books. According to his opinion, class models cannot fulfill their explanatory function and stratification models cannot fulfill their describing function (Hradil 1987: 7). Hradil's model differs fundamentally from all earlier approaches described above; he even challenges the notion that occupation and work are intrinsically important in terms of social position.

The German studies on social stratification published in the 1980s deal with the 'occupationalization' (*Verberuflichung*) of class and stratification theories in which the main emphasis is on distinguishing occupational groups. This is contrasted by the 'new' social inequalities based on the differences in the three 'life-concepts': life-position, life-course and life-style (Berger and Hradil 1990: 4-18). Studies in this cited volume discussing these three issues, however, cannot always disregard occupation. Noll and Habich examine the various dimensions of individual prosperity (housing, environment, income, wealth, leisure time, health, satisfaction) according to one type of EGP classification (Noll and Habich 1990). Mayer and Blossfeld not only present status attainment models but explicitly criticize Beck and Hradil's theory on individualization and social milieus, claiming that they are neither well-elaborated and historically well-grounded nor corroborated either empirically or statistically (Mayer and Blossfeld 1990: 312-314).

In general, German studies seem to be less concerned with issues of class and stratification or various classification schemas in the 1990s. Schäfer's (1995) book on changes in German society (published in its 6th revised edition) reviews Beck and Hradil's work under the section on neo-Marxist class analysis, as well as dealing with differences by gender, income and wealth inequalities. A separate chapter is devoted to elites and marginal groups. Another

recent monograph on German social structure puts greater emphasis on social relations associated with occupation (Geißler 1992). Only a brief chapter deals with the problems of classes and strata in the traditional sense but the main body of the monograph analyzing individual and household incomes, the school system and school expansion, social mobility and inequalities between men and women, describes the German society as based on differences in various occupational classes. A specific feature of the applied schema is that the unemployed and pensioners form separate groups, the latter ones according to their last occupation (Geißler 1992:70).

In characterizing German studies on social structure, the earlier dominance of the 'occupationalization' of class and stratification theories has shifted to the 'culturalization' (Kulturalisierung) of the research of social structures (Müller and Wegener 1995:8) where analysis of cultural structures has resulted in the characteristic configurations of social milieus. However, beside the cultural approach to social stratification emphasizing horizontal differentiation, empirical practice tends to return again and again to occupational grouping. In a recent study by Berger (1996), the discussion was based on the ZUMA occupational schema. Berger criticized Wright's class model and the EGP schema (labeled as Goldthorpe-Müller classes) on the grounds that their explanatory power is not better than that of the German occupational grouping, either in terms of class consciousness or income.

Operationalization and measurement of social position: categorical and grading approach

The division of factors influencing social position into nominal and gradual types was introduced by Blau (1976). According to this, the parameters of social structure can be nominal (e.g. gender, religion, ethnicity, occupation), or gradual (e.g. qualifications, income, prestige). The former group creates differences, the latter one produces inequalities. This division can be regarded as normative. One of the main concerns of sociological research is studying nominal parameters and how they create inequalities according to gender, race, religion or occupational position. Put another way, inequalities relate to gradual parameters in the light of nominal parameters: e.g. the inequality of chances in schooling between men and women, inequalities in terms of prestige and income between various occupational groups, etc.

For the purposes of this research, occupation is the most important one of Blau's parameters. Scholars of social stratification and mobility usually quote Glass: "occupation reflects the combined influence of a number of factors linked to social position" (Glass 1954: 6). Another citation in the same line: "classes are sets of roles" with "common location in social space" and "the most important such roles are occupational, since the paid work which people do is the most obvious determinant of their life-chances" (Runciman 1990: 377).

When occupation is regarded as an aggregate expression of social position, a functional selection mechanism is assumed as posited by Davis and Moore (1945). Social rewards are associated with different occupational positions because occupational positions in the society differ with regard to their importance and to which members of the society are able to fill these positions. The interest of the society is that the positions must be filled by the most capable individuals. Privileges provided to members of society are based on three resources, ownership, power (control) and market capacity. According to Lenski (1966) the dynamics of redistribution systems are based on needs and power. The redistribution of goods occurs according to needs, but this means that goods are received only by those individuals who are

needed by the society. Redistribution is essentially defined by power which is based on position or ownership and which can equally be brute force or manipulation. Lenski assumes a causal relation: power defines privilege, privilege ensures prestige.

In American sociological studies prestige is a crucial concept and research on occupational prestige served as a foundation to empirical research in social stratification. The analysis of occupational prestige is based on the assumption that occupational position lends prestige to its occupant due to the knowledge, power, income and social usefulness associated with it. Research on occupational prestige relates not to individuals but to occupational positions. Empirical evidence in America suggested that occupational prestige was constant in time (Hodge, Siegel and Rossi 1964) and quite similar in space as indicated by international comparisons (Treiman 1977). The gradual measurement of occupational position based on prestige served as ground for the elaboration of the gradual measurement of socio-economic status (SES) and for the development of the socio-economic index (SEI) measure (Duncan 1966). In fact, the SEI measure is a correction of prestige taking into account two other characteristics connected to occupations: qualification and income. In their classic study, Blau and Duncan (1967) have also used this measure for their status attainment model. In line with the conceptual approach for measuring occupational status, SEI was calculated on an aggregated database of occupations where the analytical unit was not individuals but occupations, and the variables were prestige, qualification and income attached to occupations. A modified version of Duncan's procedure was used for elaborating the international socio-economic index (ISEI) on an international database which is increasingly frequently used as the international gradual measurement of occupational position (Ganzeboom, Graaf and Treiman 1992).

Several other gradual measurements of occupational position are applied in empirical sociology. One of the earliest complex measures of that kind is the Scheuch index which takes into account material conditions (personal income, per capita household income, material goods index, per capita housing area) and cultural level (qualifications, reading index, concert and theater attendance) beside occupational prestige (Scheuch 1961). The prestige measure by Goldthorpe and Hope (1974) was based on the assumption that judgement of occupations is based on various dimensions such as living conditions provided by the occupation, the necessary knowledge required by the occupation, the income that could be earned and the occupation's social usefulness. Empirical studies have shown that various prestige measurements result in strongly correlating indexes with a correlation coefficient of .8 and .9 (Wegener 1992). Prestige research conducted in the socialist countries (e.g. Kulcsár 1992 for Hungary) indicated ranking of occupations similar to that in Western countries in spite of expectations about the higher prestige of manual occupations owing to ideological reasons.

Although the gradual approach and measurement of occupational position look back on many decades of research and analytical work, many sociologists still prefer the nominal categorization of social classes. Even though at first glance this appears to be a question of measurement or operationalization, the two approaches in fact reflect two sharply differing perceptions of society. The rejection of a stratification approach has much in common with the neo-Marxist and neo-Weberian conceptualization of social structure. Wright has strongly criticized the view that classes are essentially aggregations of occupational categories. He argues that class and occupation are two distinct concepts reflecting two differing dimensions of social organization of labor. In his view, "occupation broadly designates the technical content of jobs, class designates the social relations of domination and appropriation within which those technical activities are performed" (Wright et al. 1982: 718-719). But Wright also

criticizes occupational categorizations on the ground that these usually lack a coherent theory. He claims that occupations are often lumped together in the same category arbitrarily and that occupations do not necessarily indicate individuals' position in the division of labor.

Erikson and Goldthorpe (1992) consider the gradual approach to occupational position as a useful tool for analyzing status attainment, especially for investigating the extent to which getting ahead depends on family background or achievement. They also note that occupations with similar prestige or status score can differ according to their position in the division of labor. Erikson and Goldthorpe conclude that the hierarchic and class structure approach in fact represents two alternate paradigms and the choice between them depends on the goals of the research.

Classes, strata, status groups: an overview of research in Hungary

The purpose of this section is to place the so-called work-type groups currently used in Hungary in social sciences and statistics as well as the research aimed at transforming this system, into a historical perspective. In the 1950s, one cannot speak of sociological research *sensu stricto* and contemporary statistics usually used the two classes-one stratum model. In a sociological sense, this model conformed to the orthodox Marxist approach and was based on the differences between ownership relations (state and co-operative property). The gradual transformation of this system began in the 1960s; based mainly on studies by Hegedűs (1971) and Ferge (1969). Ferge's empirical research in fact showed that the position in the division of labor offers a better explanation for distribution of income, housing quality and cultural level than class position as defined by ownership relations. In the late 1960s and early 1970s the work-type groups developed by Ferge were the object of strong ideological critique but were gradually adopted from the 1970s in sociological research and statistical reports. The mobility research conducted by the Central Statistical Office (KSH) and Andorka's (1982) mobility analyses played a pioneering role in this shift. The work-type groups contain 8 categories: managers, professionals, clerical workers, self-employed artisans and shop-owners, skilled workers, semi-skilled workers, unskilled workers, agricultural laborers.

The next major step was the stratification model research conducted by Kolosi in the 1980s. This research analyzed social structure using a multi-dimensional approach and the concept of status inconsistency for operationalizing social position. Although the status groups based on seven dimensions (Kolosi 1984) marked an important milestone in stratification research in Hungary, these groups did not become an alternative to the work-type groups in the same way as work-type groups eventually replaced the two classes-one stratum model. The same holds for the models on the dual structure of socialist society developed in the 1980s, i.e the two triangles model of Szelényi (1986-87) or the L model of Kolosi (1988).

The currently used work-type groups, as elaborated by Ferge, applied by Andorka and used by the reports of the Central Statistical Office are twenty years old. In one of his last studies Andorka (1990) examined the relevance of work-type groups for the social structure of Hungarian society. The study features various time series and characterizes the work-type groups using various social indicators as well as data from income surveys and time-budget analyses from the early 1960s to the late 1980s. His overall conclusion is that stratification theory is suitable for describing and analyzing the social structure of Hungarian society. This study is an important starting point for the present research program since the external

variables used there are suitable for further analyses. Future research should be based on more recent data from the 1990s. Secondly, data should not merely be presented descriptively but should also be tested statistically. Thirdly, there is a need for the comparison of several classification systems, rather than just one. In his study, Andorka contrasts the EGP schema with the Hungarian work-type groups and evaluates them as basically similar. This approach is rather superficial since the nominally identical labels of the two classification systems in fact conceal differing theoretical considerations. Moreover the empirical contexts of the categories also differ from each other. The manager and professional categories of the work-type groups are not identical with the upper and lower service class since both levels of the service class in the EGP schema include managers and professionals. Many occupations in trade, communications and transportation assigned to Class III in the EGP schema, are classified as skilled or unskilled worker in the work-type groups.

This research program intends to test statistically the usefulness of the currently used work-type groups and other alternative classifications. This corresponds to the class analysis research program proposed by Goldthorpe and Marshall (1992) and is also a continuation of the empirical work carried out by Ferge (1969). The assumption is that Hungarian society has undergone certain structuration processes (and that earlier processes have accelerated) which have changed significant attributes of the position occupied within the division of labor. Hungarian society can be less regarded as post-modern in the sense that only consumption and life-style stratifies social groups. Division of labor, employment quality, labor market position and sectorial characteristics play a significant role and can generate a rise in class formation. This calls for the modification of work-type groups and the elaboration of a new occupational class structure. The next section is devoted to the discussion of possible guidelines.

Expectations of an occupational class structure: questions and problems

In the introduction three questions were formulated. In the following section we will discuss these questions and related problems.

Class analysis and the problem of validity

Several studies on class analysis raise the question of the sociological relevance of class analysis. Goldthorpe and Marshall (1992) have argued that class analysis incorporates research on class structure, class mobility, class-based inequalities and class-based action. The same four factors are underlined by Payne (1996), too. Providing a quasi research program, Goldthorpe and Marshall formulate three requirements of class analysis: (1) Class concepts must be as sharply defined as it is feasible operationally. There is need for a categorization which reveals efficiently the deviation of dependent variables studied. (2) Class analysis should be a multivariate analysis since this allows the recognition of its explanatory power. (3) Class analysis should incorporate the time dimension since one of the main research questions is whether the explanatory power of class diminishes or grows. In the same line, class analysis poses a dual task according to Breen and Rottman (1995a). Researchers must prove that there is a statistical relation between class categories and various other social attributes, and they must also define the mechanisms which create these relations.

An important question concerning the validity of class models and categorizations is the 'problem of women' (Crompton 1993:93-97; Breen and Rottman 1995b:162-170) in accordance with criticism of the traditional 'male model' of occupational classes mentioned before. Although conditions have changed even in Western market economies, occupational sex segregation and the concentration of men and women in distinct occupations still exists. An English survey found that 39 per cent of women are in the EGP class III (Marshall et al. 1988:74), and women are over-represented in clerical jobs in Hungary as well. Another element to consider is part-time employment of women (Blossfeld and Hakim 1997) which is in contrast to Western Europe not very widespread in Hungary. The question here is to what extent class position becomes a consequence of the 'interaction' of occupational, employment and gender relations.

In a recent study, Goldthorpe (1996) relates the validity of class analysis to the rational action theory. He takes educational attainment as an empirical example where class differences appear to be constant (Shavit and Blossfeld 1993). Goldthorpe claims that the survival of schooling inequalities is the consequence of rational actions related to class. Members of different classes calculate investments and returns and the more unfavorable the class position, the more likely that in spite of increasing schooling opportunities the estimated costs of schooling exceed the expected returns for members of the lower classes.

One of the most important debates over class analysis, published in *International Sociology*, focused on the problem of validity, too. Clark and Lipset provocatively claimed that "class is an increasingly outmoded concept, although it is sometimes appropriate to earlier historical periods" (Clark and Lipset 1991: 397). This would imply that class analyses can, at the most, be relevant from a historical perspective because social hierarchy is on the wane and economic and family hierarchies are considerably less determinative than one or two generations ago. The authors argue that improvement of material living standards reduces hierarchy and collectivism while enhancing individualism. Similarly, economic growth tends to weaken class relations. Family and inter-personal relations have become more equal, gender roles have become more flexible and tolerance towards other behaviors has been growing. Thus, the family has lost some of its importance in terms of influencing educational and occupational stratification, and social mobility has increased. They regard political behavior also as considerably less class-based than before.

In their reply to this article, Hout, Brooks and Manza (1993) argued that classes remained relevant in post-industrial societies. They state that social hierarchy and class relations are two different sociological concepts which are blurred by Clark and Lipset. Class position still determines economic roles on the labor market as well as material interests and life-chances. To corroborate their claim, they present income data which show significant differences by either Wright's or the EGP class schema. They also challenged the claim that the differences in class-based educational and mobility chances would decrease.

There is no reason to quote this debate at greater length, it is more important to reflect on the relevance of the issues raised by the participants. Most of the claims used to support the argument about the decline of the class approach are probably not relevant for post-communist countries including Hungary. One cannot speak about significant economic growth or improvement of material living standards in these societies. In a recent study we indirectly confirmed the validity of Treiman's industrialization theory by finding that this cannot be demonstrated for Hungary precisely because the theory is valid only during the periods of industrialization and economic growth (Luijkx et al. 1997). The argument about the

waning role of traditional family hierarchies is not true of post-communist societies either. International comparative surveys on women and family roles conducted within the ISSP framework indicate that attitudes to traditional gender roles and division of labor in the family are stronger in these countries (Harding 1989) and have even strengthened in Hungary between 1989 and 1994 (Tóth 1995).

For the empirical research, the question of validity can be approached through the concept of internal homogeneity and external heterogeneity. This implies that the separation of social classes is relevant if the individuals belonging to one class are closer to each other (internal homogeneity) than to members of another class (external heterogeneity). This can be statistically tested but the question is the selection of variables for the analysis. If the valid measurement for occupational class structure is sought, this selection should consider variables linked to occupation. In the light of the theoretical considerations, these variables can include disposal over educational assets and organizational assets (Wright); self-employed versus employee status (Wright, Goldthorpe); the size of the organizational unit, managerial level (Wright, Goldthorpe); service relation versus work contract as types of employment relation (Goldthorpe); belonging to the productive versus service sphere, the sector of workplace (Esping-Anderson); and educational attainment and income (Duncan).

Holtmann (1990) basically proposed a similar approach when he compared the explanatory power of different class models (detailed occupational categorizations used in German statistics, Wright's class models). Two main external variables were applied, income and class consciousness (based on Wright 1985:146). Occupational prestige, self-classification and the left-right scale used in political sociological analyses were also included.

The test of validity thus involves a comparison of different categorizations and schemas for judging them in respect of homogeneity and heterogeneity. The following principles should be considered in our case: (1) The manual/non-manual division which is an important criterion for the work-type groups in Hungary but is less used for differentiation by the international class schemas (Wright, EGP). (2) The division between managers and professionals, i.e. whether these two groups should be merged or, if they are grouped separately, what is the basis of distinction. The two categories can be separated according to the dimension of power and this happens in the work-type groups. In contrast, the EGP schema assigns high-status managers and highly-qualified professionals to Class I, while low-status managers and semi-professionals are assigned to Class II. (3) The division between skilled, semi-skilled and unskilled workers is an important feature of work-type groups in Hungary. Sectorial distinctions between productive and service spheres, however, are less considered and it could be worth testing them.

The measurement of class position and the problem of reliability

The obvious starting point is the measurement of occupation. The questions relating to occupation, however, do not contain categories, but request a detailed description of respondents' actual work activity. What needs to be emphasized here is that special training of interviewers and coders of the question is fundamental for a precise and detailed inquiry into occupation in terms of measurement reliability. The occupation is coded according to a four-digit nominal code, by the National Standard Classification of Occupations (FEOR) which has been used in Hungarian statistical surveys since the 1980s. In the 1990s, the Central Statistical

Office adopted the system of International Standard Classification of Occupations (ISCO). This practically means the ISCO88 system which replaced the previous ISCO68 system. (For the differences between the two ISCO systems as well as their reliability see Ganzeboom and Treiman 1996). Occupational groups or class schemas are constructed from the detailed occupational codes applying a recode program. In accordance with the theoretical considerations, this program classifies occupations and not their occupants.

As it has been mentioned, class position cannot be simply derived from occupation. Recode programs generally use other additional information which again raises the problem of measurement reliability. Such a variable is self-employment when, for example, it is difficult to decide the status of a company manager who is also a part-owner of the company. Reliability is a problem for managerial level, number of subordinates or company size. Deciding whether a company should be assigned to the private or public sector can also be problematic since various types of companies with mixed ownership exist in Hungary. Companies often aim at standing on 'several feet' and a given company can thus operate both in the productive and the service sector. Accordingly, factors that are theoretically needed for constructing occupational class position cannot always be precisely measured in Hungarian society. It is therefore crucial for researchers to define these concepts very precisely and to train interviewers accordingly. Even in this case the problem of reliability arises, namely whether the respondent can in fact accurately answer these questions. Perhaps the best solution in terms of reliability is if the name of the company or institution is recorded and coded by a multi-digit code number. Then the necessary macro-information can be collected from other statistical sources.

The requirement of international comparability

The greatest pitfall in the requirement of international comparability is that the solutions which are valid for Hungary are not necessarily identical with definitions used in other countries for the same questions. Thus, the requirement of validity and international comparability can be in conflict.

A typical case is the difference in the classification of occupations and individuals. This is a vital measurement problem which can be illustrated by a few examples. A teacher, for example, can be assigned to the professional category independently of whether the person holds a degree. Similarly, in the case of manual occupations, it is the detailed occupational code which determines whether the respondent is assigned to the skilled or unskilled worker category and not whether he holds the necessary qualification. In the international practice of occupational classification, educational attainment is an attribute linked to occupation and not one linked to individuals in the sample. The elaboration of the work-type groups currently used in Hungary was not based on this rule. For example, unqualified teachers are not assigned to the professional category, and on the basis of educational attainment a respondent can be assigned to the skilled worker or semi-skilled worker category with the same occupational code. This procedure does not meet the requirement of international comparability.

It is worth mentioning two contrasting views on international comparability. Inasmuch as the structural relations of society are influenced by institutional attributes rather than industrialization processes, the elaboration of internationally comparable occupational

classifications will run into increasing difficulties. On the other hand, increasing efforts are being made to remove institutional barriers within the framework of the European Union and to internationalize the institutional relations of the nation states. This, in turn, will no doubt ease the emergence of internationally comparable classifications.

Conclusion

The goal of the project is to elaborate an occupational class structure in Hungary for sociological and statistical use by modifying the present system of work-type groups. The 'label' of occupational class structure was used because, on the one hand, it expresses the importance of the position occupied in the division of labor. It also expresses the necessity of a certain continuity with earlier categorizations as well as the simple and practical consideration that the research program does not aim at an elaborated typology but a schema which can be easily operationalized and used in sociological surveys and statistical reports. On the other hand, the expression 'class' indicates that the emphasis is not simply on occupation, i.e. the type of work, but also on a number of closely related factors such as institutional control relations (Wright), employment relations (Goldthorpe), 'Fordist' and 'post-Fordist' sectorial differences (Esping-Anderson) which create class-type differences among the members of society. The approach related to the nominal occupational class structure has been chosen rather than any gradual hierarchical measurement of social standing because the task is to elaborate a suitable technique for sociological and statistical data collections and not for multivariate analyses.

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* This study was written for the research project conducted by the Social Statistics Department of the Central Statistical Office (KSH). I would like to express my gratitude for two travel grants which enabled me to visit the Humboldt University in Berlin (as part of the Tempus program of the Institute of Sociology, Eötvös Loránd University [no. SJEP 09189-

95]) and the Netherlands Institute for Advanced Studies (NIAS), where I had the opportunity to study the relevant literature and complete the final version of the paper. I would also like to thank all those who commented on its draft version. Any errors that remain are entirely mine.