# Social Mobility

## Actual, Perceived, and Equitable

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### Introduction

In sociology, intergenerational social mobility is usually studied in its "material" dimension, that is, as an objectively existing social process. Irrespective of the population considered and method of data collection, mobility is conceived in terms of the transitions of persons between their categories of origin and destination. Empirical analysis of social mobility begins with investigating the frequency of such transitions.

Parallel subjective dimensions involve images and preferences concerning the frequency of mobility in the social consciousness. Thus, one can ask: What are the perceived amounts of mobility between specific origins and destinations? What amounts of mobility are equitable? We pose these questions since social mobility, as a process experienced directly or indirectly by all members of a society, is an object of everyday evaluations and judgments (e.g. Janicka, 1976: 152–185; Goldthorpe, 1980:217–50; Harrop, 1980; Nowak, 1969; Narojek, 1982)

In this paper we attempt to compare three dimensions of mobility: "material" (corresponding to mobility that is objectively observable and verifiable), "cognitive" (corresponding to mo-

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bility perceived and expressed through popular beliefs), and "normative" (corresponding to mobility postulated according to group standards of equity). In comparing these dimensions we are interested in the differences between their *mobility regimes*. A mobility regime comprises the internal relationships among all mobility frequencies, invariant with respect to changes in the origin and destination distributions. Our research questions are:

1) To what extent is the actual mobility regime distorted in social consciousness?

2) To what extent is the equitable mobility regime different from the perceived one?

3) To what extent does the actual mobility regime depart from the equitable one?

In the theoretical part of this paper we show that answers to these questions are interpretable in terms of "popular perception," "justice evaluation," and "folk-norm legitimacy." By performing appropriate algebraic operations on the matrices of actual, perceived, and equitable mobility, we formalize some aspects of these concepts to measure the degree of false consciousness, the degree of the feeling of injustice, and the degree of illegitimacy in the domain of social mobility.

In the empirical part of the paper we rely on previously collected data on the actual frequencies of mobility transitions among major segments of Polish society. The data on perceived and equitable amounts of mobility among the same segments of society were elicited from a limited sample of university students. We describe in detail the procedure used in gathering data on both subjective types of mobility and a method of constructing the respective mobility tables for each individual. However, our analyses utilize these tables with frequencies averaged for the total sample of respondents to reflect modal perceptions and modal judgments. After presenting the matrices of actual, perceived, and equitable mobility we compare them with respect to their mobility regimes.

## Problematics and formalization of concepts

Traditionally, research on social inequality maintains a balanced interest in the objective, cognitive, and normative dimensions, as is evident in the works of Marx and Weber. By contrast, recent research on social mobility is so heavily slanted toward studying the objective dimension of mobility that its cognitive and normative dimensions have not been elaborated in reviews of the literature (Kerckhoff, 1984; Matras, 1980; Simkus, 1981; Featherman, 1981; Mach et al., 1978; Mayer, 1979).

In this paper we attempt to integrate the objective, cognitive and normative dimensions of mobility in a unified framework by analyzing the relations between them (cf. Figure 1). The material dimension characterizes ''what objectively exists'': reality is described by means of frequencies of transitions among all origin and destination categories. Although these frequencies are not directly observed by members of society, we assume that rough estimates of the frequencies of mobility transitions are implied in people's images of the mobility process and, as such, are retrievable for assessment of ''what is believed to be.'' By perceived mobility we mean a complete set of frequencies of mobility transitions inferred from people's beliefs about the distribution of members of each major segment of society according to social origin. The relation of ''what is believed to be'' to ''what objectively exists'' characterizes the popular perception of reality, and links the cognitive and material dimensions of social mobility. An inaccurate perception of reality corresponds to various degrees of ''false consciousness'' in the domain of social mobility.

Perceived mobility involves, at least indirectly, the class positions of evaluators and their class interests (Harrop, 1980); however, the term ''false consciousness,'' referring to social mobility, is only vaguely reminiscent of its Marxian origin. Our usage is closer to ''false social consciousness'' than to ''false class consciousness.'' In this paper we compare perceived mobility to actual mobility and account for distortions in perception independently of their class-related causes.
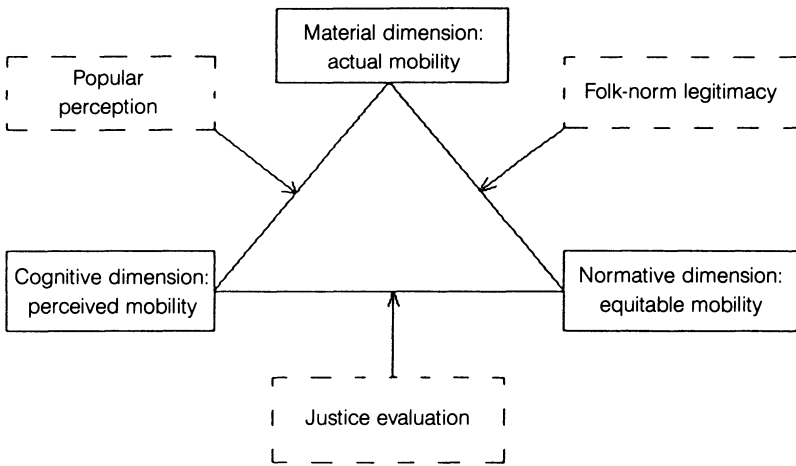
*Figure 1.* Material, cognitive, and normative dimensions of social mobility and relations resulting from their pairwise comparisons.

Equitable mobility is defined as the complete set of frequencies of mobility transitions that are inferred from people's judgements about the just distribution of destinations among persons originating in each of the major segments of society. Thus, equitable mobility frequencies are those that "ought to be" if group standards of justice are fulfilled. Since actual mobility is not directly observable by the members of a society, their "justice evaluation" involves a comparison of "what is believed to be" with "what ought to be." This evaluation, relating the normative and cognitive dimensions of social mobility, results in varying degrees of the feeling of injustice.

Actual mobility is rather strongly supported by the standards of equity or justice expressed through "folk norms." Thus, "what objectively exists" can be legitimized by "what ought to be," even though the relevant reality is misperceived or unknown. In the domain of social mobility, the relation of the material and normative dimensions reflects the essence of legitimacy. Mutatis mutandis, "legitimation is treated as a process in which the

structure of the larger society becomes incorporated within the inner consciousness of the individual'' (Della Fave, 1980:956). On the basis of the discrepancy between actual and equitable mobility, one can appraise the degree of illegitimacy of the objectively existing mobility.

The measures of false consciousness, feeling of injustice, and illegitimacy are provided in terms of operations on mobility matrices. Let us assume that we have empirically determined three matrices of social mobility, $A = (a_{ij})$, $P = (p_{ij})$, and $E = (e_{ij})$, containing frequencies of transitions from origin categories $i$ to destination categories $j$. The entries of matrix $A$ are observed frequencies, which describe the objective situation. The entries of matrices $P$ and $E$ are the perceived and equitable frequencies, respectively; they are considered to reflect the state of social consciousness attributed to a particular population.

We assume that all elements of matrices $A$, $P$, and $E$ are positive. Under this assumption, the relations of $P$ to $A$, $E$ to $P$, and $A$ to $P$ are investigated. In each pair the first matrix is compared to the second matrix, which is treated as a standard. Comparisons are made in terms of ratios of corresponding elements of the mobility matrices. We express these ratios in the form of matrices $F = (f_{ij})$, $S = (s_{ij})$, and $L = (l_{ij})$, with elements defined as follows:

$$f_{ij} = p_{ij}/a_{ij} \quad s_{ij} = e_{ij}/p_{ij} \quad l_{ij} = a_{ij}/e_{ij} \quad \text{for all } i, j.$$

Matrices $F$, $S$, and $L$ characterize the degrees, respectively, of false consciousness, feeling of injustice, and illegitimacy. Figure 2 shows the directions of comparisons among the pairs of matrices of actual, perceived, and equitable mobility as well as the algebraic operations used for these comparisons. The properties and implications of the proposed formalization will be discussed in some detail.

The values of ratios $f_{ij}$, $s_{ij}$, and $l_{ij}$ range over all positive numbers. The value 1 means that no deviation exists between the value compared (the numerator) to its standard (the denomina-

$$A = (a_{ij})$$

$$f_{ij} = \frac{p_{ij}}{a_{ij}} \qquad\qquad l_{ij} = \frac{a_{ij}}{e_{ij}}$$

$$P = (p_{ij}) \qquad\qquad\qquad\qquad E = (e_{ij})$$

$$s_{ij} = \frac{e_{ij}}{p_{ij}}$$
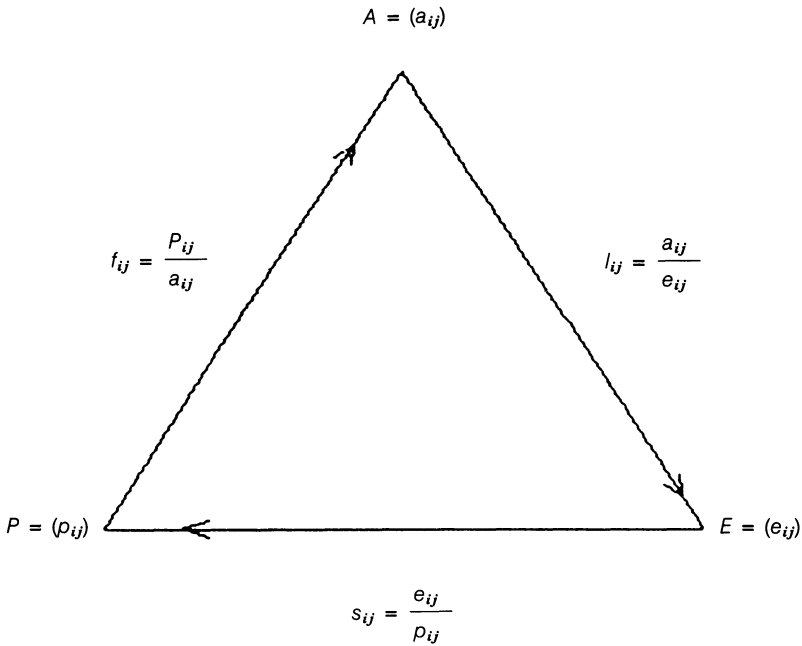
*Figure 2.* Comparisons of matrices of actual (*A*), perceived (*P*), and equitable (*E*) mobility and resulting measures of false consciousness ($f_{ij}$), feeling of injustice ($s_{ij}$), and illegitimacy ($l_{ij}$).[a]

[a]Arrows indicate the standard of comparison.

tor). If the value of the ratio is larger than 1, then the frequency compared is overestimated with respect to the standard. In practice, overestimated frequencies are compensated for by underestimated ones.

The ratios $f_{ij}$, $s_{ij}$, and $l_{ij}$ characterize "local" discrepancies of the compared matrices with respect to their standards; they can be interpreted as "errors." The global measure of the discrepancy, based on the ratios, is given by the formula

$$L^2 = \Sigma x_{ij}\log(x_{ij}/y_{ij})$$

where $x_{ij}$ denotes the compared frequencies and $y_{ij}$ denotes the

standard ones. The measure $L^2$ is the goodness of fit index, also known as the likelihood-ratio test statistic (Bishop et al., 1975:125). This index, used in the modelling approach to mobility tables, expresses a weighted sum of errors of prediction in which the frequencies of the compared matrix are the weights and the standard matrix is the model.

Since ratios $f_{ij}$, $s_{ij}$, and $l_{ij}$ involve frequencies of mobility transitions, they are comparable; the values of $L^2$, as a global measure, can also be contrasted to allow for strict comparisons of $P$ to $A$, $E$ to $P$, and $A$ to $E$. Thus, the differences in degrees of false consciousness, feeling of injustice, and illegitimacy can be investigated at both the local and global levels.

By comparing $P$ to $A$ we are able to assess the distortion of mobility perception—that is, the degree of false consciousness in the domain of social mobility. The ratio $p_{ij}/a_{ij}$ resembles those used in psychophysical measurement, in which the intensity of psychological reaction is related as a ratio to the physical properties of the stimulus (for discussion of Fechner's and other psychological laws see Duncan, 1984).

In research on distributive justice, the sense of injustice is usually assessed by the discrepancy between the existing situation and an equitable one (e.g. Jasso, 1980; Phillips, 1983; Bell, 1974). Such conceptualization is theoretically grounded if perception of the existing situation is not distorted in the mind of the evaluator. However, social mobility is not perceived accurately, and therefore the feeling of injustice depends on the evaluator's perception of the reality rather than on the reality itself. Accordingly, the feeling of injustice in the domain of social mobility is conceptualized as a comparison of $E$ to $P$. The feeling of injustice is diminished when equitable mobility closely corresponds to perceived mobility, and disappears when the two are equal.

By comparing matrix $A$ to matrix $E$ we assess the degree to which actual mobility is not legitimized, independently of how mobility is perceived. However, in our conceptualization, perceived mobility is indirectly involved in the definition of illegitimacy. Using the equality

$$f_{ij}s_{ij}l_{ij} = 1 \quad \text{(for all } i \text{ and } j\text{)}$$

we see that the measure $l_{ij}$ can be expressed as

$$l_{ij} = (a_{ij}/p_{ij})(p_{ij}/e_{ij}).$$

Thus the extent of the illegitimacy of objective mobility is shown to be a function of the discrepancy between the existing situation $(a_{ij})$ from the perceived one $(p_{ij})$ and the discrepancy between the perceived state of affairs $(p_{ij})$ from the equitable one $(e_{ij})$.

**Data**

In this paper we study mobility patterns among the three major social classes in Poland: white-collar workers (the intelligentsia), blue-collar workers (the working class), and farmers (the peasantry). We neglect other social classes—such as the petite bourgeoisie or the lumpenproletariat—because their role in class structure has diminished in recent decades and is no longer important for the overall social mobility process (e.g. Zagórski, 1976). Moreover, the perception of upward and downward mobility is based on the trichotomous division involving the major social classes (Nowak, 1969; Janicka, 1976).

The data on actual social mobility were collected in 1982, in a study using a national sample of 1727 persons (Domański and Sawiński, 1984:120). The mobility table constructed on the basis of these data will be compared to identically constructed mobility tables containing perceived and normative frequencies.

Subjective data on social mobility were collected in 1982 from 280 students of the University of Warsaw. A questionnaire was administered to ten groups of students under the guidance of sociologists trained in research methods. Questions concerning social mobility were tested in a pilot study and the results obtained were used in modifying them. In particular, it was evident that students consider male and female mobility rates to be equal and

are not aware of differences in fertility rates among social classes. For these reasons the final version of the questions pertained not strictly to men but to both sexes.

The perception of mobility frequencies was elicited by means of three questions. The first question was: "In your opinion, among one hundred randomly selected *blue-collar workers*, how many were brought up in the families of white-collar workers, blue-collar workers, and farmers?" The second and third questions respectively substituted "white-collar workers" and "farmers" for the (italicized above) category of blue-collar workers. To each group of student-respondents it was explained that the type of family origin was defined by the occupation of the head of the household. In addition, respondents were asked about the proportions of white-collar workers, blue-collar workers, and farmers in the labor force. Answers to the complete set of questions allow one to construct a table of perceived mobility for each respondent.

In order to obtain the normative mobility frequencies we asked the following question: "From among one hundred children of blue-collar workers, how many should grow up to become white-collar workers, blue-collar workers, and farmers in order to achieve social justice?" In the two subsequent questions, "white-collar workers" and "farmers" were substituted for the reference category of blue-collar workers. Having answered these questions, the respondents were asked to fill in a table by providing percentages of outflow distributions for each class of origin. Since the pilot study showed that students are not aware of the differences in fertility among social classes, we were justified in using the perceived distribution of adults in three classes as a basis for contructing the table of equitable mobility frequencies.

The first panel of Table 1 contains frequencies of the actual mobility of employed men aged 19 to 65; the second and third panels display average frequencies of the perceived and equitable mobility of a population assumed to be closely comparable. Average frequencies were obtained from the limited sample of student-respondents. The variability of responses was analyzed with re-

Table 1

**Frequencies of Actual, Perceived, and Equitable Mobility, with Totals Standardized to 1,000**

| Origin / Destination | White-collar | Blue collar | Farmers | Total |
|---|---|---|---|---|
| **(1) Actual mobility** | | | | |
| White-collar | 80 | 55 | 4 | 139 |
| Blue-collar | 89 | 283 | 23 | 395 |
| Farmers | 60 | 209 | 197 | 466 |
| Total | 229 | 547 | 224 | 1,000 |
| **(2) Perceived mobility** | | | | |
| White-collar | 189 | 60 | 15 | 264 |
| Blue-collar | 96 | 254 | 25 | 375 |
| Farmers | 46 | 147 | 168 | 361 |
| Total | 331 | 461 | 208 | 1,000 |
| **(3) Equitable mobility** | | | | |
| White-collar | 201 | 89 | 40 | 331 |
| Blue-collar | 134 | 272 | 55 | 461 |
| Farmers | 33 | 50 | 125 | 208 |
| Total | 369 | 411 | 220 | 1,000 |

spect to two characteristics: class origin and major subject studied. Small intergroup differences justified the aggregation of all responses.

Three matrices presented in Table 1 differ from each other to a great extent; however, a large part of this difference occurs because of the intermatrix discrepancy between origin and destination distributions. This discrepancy should be eliminated before comparing various kinds of mobility in terms of their mobility regimes (Hauser, 1978; 1979).

## Analysis and results

The initial step in the comparison of perceived to actual mobility, equitable to perceived mobility, and actual to equitable mobility

Table 2

**Frequencies of Perceived Mobility Adjusted to Row and Column Sums of Actual Mobility**

| Origin \ Destination | White-collar | Blue collar | Farmers | Total |
|---|---|---|---|---|
| White-collar | 93 | 39 | 7 | 139 |
| Blue-collar | 84 | 289 | 22 | 395 |
| Farmers | 57 | 219 | 195 | 460 |
| Total | 229 | 547 | 224 | 1,000 |

consists in adjusting the margins of the compared mobility matrix to the margins of its standard. We achieved this adjustment by means of the well known Deming-Stephan iterative algorithm (Deming and Stephan, 1940; Deming, 1943). The algorithm leaves invariant the mobility regime in the sense of preserving odds ratios of mobility frequencies. Thus the adjusted frequencies of the compared matrix represent its original mobility regime, net of the intermatrix discrepancy of the margins. Table 2 provides an example of the matrix of mobility frequencies after margins adjustment.

The reasons for margin adjustment in pairwise comparisons of matrices—$P$ to $A$, $E$ to $P$, and $A$ to $E$—are straightforward. In the comparison of perceived mobility to actual mobility it is natural to abstract from distortion in the perceived distributions of origin and destination. In order to eliminate the effects of equitable origin and destination distributions on mobility frequencies, we replaced these distributions by those of perceived mobility. Finally, in comparing actual mobility to equitable mobility we obtain the frequencies of the former that would occur under equitable distributions of origins and destinations.

Table 3 characterizes local and global discrepancies between matrices for each compared pair. Although the extreme value of overestimation is contained in the matrix describing false consciousness, the overall distortion of the perceived mobility regime is relatively small. We argue that actual mobility is per-

Table 3

**Ratios of Mobility Frequencies Expressing the Measures of False Consciousness ($f_{ij}$), Feeling of Injustice ($s_{ij}$), and Illegitimacy ($l_{ij}$)**

| Origin | Destination | White-collar | Blue collar | Farmers |
|---|---|---|---|---|
| (1) Ratios $f_{ij}$ of perceived mobility frequencies to actual mobility frequencies[a] ($L^2 = 5.5$) | | | | |
| White-collar | | 1.16 | .71 | 1.75 |
| Blue-collar | | .94 | 1.02 | .96 |
| Farmers | | .87 | 1.05 | .99 |
| (2) Ratios $s_{ij}$ of equitable mobility frequencies to perceived mobility frequencies[a] ($L^2 = 15.8$) | | | | |
| White-collar | | .85 | 1.42 | 1.27 |
| Blue-collar | | 1.05 | .98 | 1.04 |
| Farmers | | 1.52 | .87 | .97 |
| (3) Ratios $l_{ij}$ of actual mobility frequencies to equitable mobility frequencies[a] ($L^2 = 11.2$) | | | | |
| White-collar | | 1.07 | 1.07 | .50 |
| Blue-collar | | .98 | .98 | 1.15 |
| Farmers | | .67 | .98 | 1.10 |

[a]Frequencies of compared matrix divided by corresponding frequencies of standard matrix. Prior to the division the compared matrix was adjusted to the row sums and column sums of the standard matrix.

ceived rather accurately. If the respondents do not take into account any association between origins and destinations—that is, if their perception of mobility approximates random assignment—then the resulting perceived mobility would differ greatly from the actual one ($L^2 = 168.1$). Treating the random assignment as the baseline, we observe that the perceived mobility, net of marginal effects, fits reality extremely well ($L^2 = 5.5$), accounting for 97 percent of association.

University students perceive much less mobility from farmers to white-collar workers than actually occurs: this is shown in Tables 1 and 3. Net of marginal effects, students consider as

equitable much more mobility (farmers to–white-collar workers) than they perceive. In consequence, the actual mobility from farmers to white–collar workers is not legitimized by the respondents; the amount of this kind of mobility is much smaller than that required by their equity standard.

In contrast, for both perceived and equitable mobility, students overestimate the amount of mobility from white-collar workers to farmers; this is reflected in the magnitude and direction of the measures of false consciousness and feeling of injustice. However, the actual mobility from white–collar workers to farmers is still too low to be legitimized.

These examples show how the ratios of compared mobility frequencies to standard ones can be analyzed. We should note, however, that because of margin adjustments the equality $f_{ij}s_{ij}l_{ij} = 1$ is only approximated. However, adjustment of margins of perceived and equitable mobility to margins of actual mobility does not change the qualitative conclusions. Even under these common margins for all matrices the main conclusion still remains valid: the degree of false consciousness is smaller than the degree of illegitimacy, and both are smaller than the degree of the feeling of injustice. That students sense more injustice than actually exists according to their own equity standards was an unexpected finding.

## Summary

From the theoretical standpoint, this paper attempts to integrate the objective, cognitive and normative dimensions of social mobility. This integration is based on a comparison of the matrices of actual, perceived and equitable frequencies of transitions between origins and destinations. The ratios of compared frequencies operationally define the degree of false consciousness, feeling of injustice and illegitimacy in the domain of social mobility.

From the methodological standpoint we propose a practical method for ascertaining cognitive and normative mobility frequencies. In this paper we used average frequencies for the entire

sample, although an analysis of individual images and preferences of mobility frequencies can be performed. This extension would seem particularly useful for heterogeneous samples with respect to the social positions of the respondents.

From the empirical standpoint we have demonstrated that, net of marginal effects, the matrices of actual, perceived and equitable mobility do not differ very much from each other, at least in terms of the goodness of fit. Within a small range of differences the measure of false consciousness has a smaller value than the measure of illegitimacy, which is still smaller than the measure of the feeling of injustice.

## References

Bell, W.
   1974   "A conceptual analysis of equality and equity in evolutionary perspective." *American Behavioral Scientist* 18 (No. 1):8–35.
Bishop, Y.M.M., S.E. Fienberg, and P.W. Holland
   1975   *Discrete Multivariate Analysis: Theory and Practice.* Cambridge, Mass.: M.I.T. Press.
Della Fave, L.R.
   1980   "The meek shall not inherit the earth: self-evaluation and legitimacy of stratification." *American Sociological Review* 45:955–71.
Deming, W.E.
   1943   *Statistical Adjustment of Data.* New York: Wiley.
Deming, W.E. and F. Stephan
   1940   "On a least squares adjustment of a sample frequency table when the expected marginal totals are known." *Annals of Mathematical Statistics* 11:427–44.
Domański, H. and Z. Sawiński
   1984   "Prestiż i pozycja społeczna jako wymiary ruchliwości zawodowej." [Prestige and social position as dimensions of occupational mobility.] *Studia Socjologiczne* No. 2 (93):107–25.
Duncan, O.D.
   1984   Notes on Social Measurement. New York: Russell-Sage.
Featherman, D.L.
   1981   "Social stratification and mobility: two decades of cumulative social science." *American Behavioral Scientist* 24:364–85.

Goldthorpe, J.H. (in collaboration with C. Llewellyn and C. Payne)
    1980    *Social Mobility and Class Structure in Modern Britain*. Oxford:
            Clarendon Press.

Harrop, M.
    1980    "Popular conceptions of mobility." *Sociology* 14:89–98.

Hauser, R.M.
    1978    "A structural model of the mobility table." *Social Forces* 56:919–
            53.
    1979    "Some explanatory methods for modeling mobility tables and
            other cross-classified data." Pp. 413–58 in K.F. Schuessler (ed.),
            *Sociological Methodology*, 1980. San Francisco: Jossey-Bass.

Janicka, K.
    1976    *Ruchliwość międzypokoleniowa i jej korelaty*. [Intergenerational
            Mobility and Its Correlates.] Wrocław: Ossolineum.

Jasso, G.
    1980    "A new theory of distributive justice." *American Sociological
            Review* 45:3–32.

Kerckhoff, A.C.
    1984    "The current state of social mobility research." *Sociological
            Quarterly* 25 (Spring):139–53.

Mach, B.W., K.M. Słomczyński, and W. Wesołowski
    1978    "Introduction: Some trends in the sociology of social mobility."
            Pp. 7–34 in W. Wesołowski, K.M. Słomczyński, and B.W. Mach
            (eds.), *Social Mobility in Comparative Perspective*. Wrocław:
            Ossolineum.

Mach, B.W. and W. Wesołowski
    1982    *Ruchliwość a teoria struktury społecznej*. [Mobility and the Theory
            of Social Structure.] Warsaw: Polish Scientific Publishers.

Matras, J.
    1980    "Comparative social mobility." *Annual Review of Sociology*
            6:401–31.

Mayer, K.U.
    1979    "Class formation and social reproduction." Pp. 37–56 in J. Bert-
            ing, F. Geyer and R. Jurkovich (eds.) *Problems in International
            Comparative Research in the Social Sciences*. Oxford: Pergamon
            Press.

Narojek, W.
    1982    *Struktura społeczna w doświadczeniu jednostki*. [Social Structure
            in the Individual's Experience.] Warsaw: State Publishing House.

Nowak, S.
    1969    "Changes in social structure in social consciousness." Pp. 235–
            247 in C.S. Heller (ed.), *Structured Social Inequality*. New York:
            Macmillan.

Phillips, D.
    1983    "The normative standing of economic inequalities." *Sociolo-
            gische Gids* 30 (September):318–50.

Simkus, A.
    1981    "Comparative stratification and mobility." *International Journal of Comparative Sociology* 22:213–36.
Zagórski, K.
    1976    *Zmiany struktury i ruchliwość społeczno-zawodowa w Polsce.* [Changes of Structure and Socio-occupational Mobility in Poland.] Warsaw: Central Statistical Office.