

A Comment on the Effect of Duration on Intragenerational Social Mobility

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COMMENTS

A COMMENT ON THE EFFECT OF DURATION ON INTRAGENERATIONAL SOCIAL MOBILITY

In a recent article in this *Review* McFarland (1970) presented an interesting model designed to demonstrate why intragenerational social mobility rates would decline over time. This comment does not dispute the substantive findings of that article; rather, it presents from an economic standpoint several addenda to certain arguments presented there. In addition, we provide one bit of empirical evidence regarding the relationship between the length of time spent in an occupation and the probabilities of observing subsequent moves from that occupation.

That the expected effect of duration on the probability of mobility is uncertain can be seen from an economic model of occupational mobility in which a change in occupation depends on the expected benefits net of any costs attributable to the change. On the one hand, attachment to familiar job surroundings and associates plus increasing familiarity with tasks associated with a particular occupation may prove important barriers to job changes. Also, as an employee works in a particular occupation he obtains skills for which his employer will be willing to pay a premium to avoid turnovers which would require training new personnel.¹ On the other hand, it can be argued that a major cost of occupational mobility is the cost of information about other positions and that this cost is a decreasing function of the time spent in an occupation.² Only if this decreased cost outweighs the increased cost of mobility due to increased attachment and increased wage offers would increased mobility rates be likely to occur with longer duration.

These remarks suggest that, in addition to

¹Becker (1963:18-29) argues that such employer-specific training should impede both quit and layoff rates.

²For a more complete discussion of the role of information costs in labor markets see Stigler (1962).

the stochastic model applicable to heterogeneous populations developed by McFarland (1970), there are behavioral economic reasons to expect a relationship between duration and social mobility. Although the evidence concerning this empirical question presented below suggests the form and strength of the relationship, it does not lead to a clear-cut choice among competing models designed to explain observed associations between mobility and duration. More complete modeling of employee and employer behavior is required before definitive hypotheses regarding the effects of duration on occupational mobility can be posited and tested.

In another study Schroeder (1971) investigated the occupational (and intercounty) mobility patterns of a longitudinal sample of male taxpayers living in Wisconsin who had filed at least two state income tax returns for the period 1947-1959.³ The method of measuring occupational mobility was to observe self-reported major (1-digit) occupations on successive tax returns and record a move whenever this occupation changed. To standardize the mobility duration time, the only taxpayers included in the analysis were those who moved at least once — at which point their “duration clocks” were set to zero. Although this procedure may bias the sample by excluding all non-movers, it would decrease the measured effect of duration on the likelihood of mobility.

Regression analysis was used to test the effect of duration on relative frequencies of occupational mobility for different duration statuses. The data-preparation procedure used was similar to those used by Land (1969), Meyers, et al. (1967), and Morrison (1967) in testing McGinnis’ (1968) “Axiom of Cumulative Inertia” for geographical mobility. That is, duration-specific relative frequencies of mobility were first determined for those included in the sample. Using two different functional forms, these proportions were then regressed on variables related to the number

³For a description of the Wisconsin Assets and Incomes Studies Data Archive see Bauman, et al. (1970).

Table 1. Regressions of Probability of Occupational Mobility on Duration Status

Model	Constant	(t-values in parentheses)		R ²	F**
		ln Yr	(ln Yr) ²		
A	.148	-.0482 (-9.49)*		.909	90.0* (1,9)
B	.166	-.0949 (-9.87)*	.0185 (5.05)*	.978	180.4* (2,8)

* denotes significance at less than the .01 level

** numbers in parentheses in this column denote the degrees of freedom

of years in the occupation. Since pre-test examination of the relationship indicated a non-linear association between duration-specific propensities to move and duration measured in years, a simple semilog regression was first fit to the data (Model A). Following Morrison (1967) the alternative function used included both the natural log of duration and the square of this variable as simultaneous independent variables in the regression. The results of these regressions are shown in Table 1 where it is apparent that one can reject the null hypothesis that duration of residency in an occupation does not retard subsequent moves from that occupation. A comparison of the results from the functional forms suggests that the impediment of duration is strongest in the first several years in an occupation, then trails off slowly.⁴

Several comments about these results and the results reported in the studies cited above are in order. First, note that the data used here can suffer from idiosyncracies of annual self-reporting of occupations. Second, there is no real justification for the functional forms used in the equations other than nonlinearity. Admittedly, the R² statistic indicates that much variation in the dependent variable is explained by the independent variables; however, that is not equivalent to a theoretical justification of its form. Finally, the use of a relative frequency as the dependent variable poses the problem of inefficient estimators caused by heteroscedasticity in the error term of the regression equation.⁵

In conclusion, the effect of duration of residence on occupational mobility is a

phenomenon which deserves further study, preferably with data analogous to those used here, i.e., a time series on a cross-section of individuals, but which avoid potential problems with reporting occupations and have a longer time span of observation. More important, however, is the need to construct a behavioral model of mobility, based on sociological or economic theory, which is capable of untangling the offsetting tendencies of duration to increase or decrease subsequent probabilities of changing occupations. Likewise, this theory should include rationale for the proper functional form to be used in tests of the hypotheses.

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⁴One must bear in mind, however, that the results were obtained from a sample in which the greatest observed duration level was only ten years.

⁵See for example, Goldberger (1964).

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ON THE RELATIONSHIP BETWEEN
MATHEMATICAL MODELS AND
EMPIRICAL DATA, AND THE
RELATIONSHIP BETWEEN
DURATION OF STAY
AND SUBSEQUENT
MOBILITY

Larry Schroeder offers some "empirical evidence regarding the relationship between the length of time spent in an occupation and the probabilities of observing subsequent moves from that occupation," and briefly sketches some economic arguments which he regards as "addenda to certain arguments presented. . ." in my 1970 paper, "Intragenerational social mobility as a Markov process."

It is useful to distinguish between evidence, on the one hand, and mere empirical data, on the other. A datum becomes a piece of evidence only in the context of a dispute which it helps to resolve. Insofar as I am aware, there is no dispute as to whether a negative relationship exists between the length of time already spent in a current status category and the probability that one selected randomly from those still remaining there will subsequently move.

Indeed, this negative relationship must by now be one of the most thoroughly replicated findings in sociology. It has been observed for mobility of persons between industries (Blumen et al., 1955), mobility of both persons and family lines between occupational categories (Hodge, 1966), and migration of persons or families between geographic regions (Myers et al., 1967; Morrison, 1967; Land, 1969; Spilerman, 1972). This empirical

generalization seems to hold up regardless of variations from study to study in (a) the nature of the mobility — geographic, occupational, or industrial; (b) the precise category boundaries selected; and (c) the time, location, and nature of the sample and the population it represents.

Schroeder adds to our stock of empirical findings the fact that the same negative relationship obtains for occupational mobility in a sample of "male taxpayers living in Wisconsin who had filed at least two state income tax returns for the period 1947-1959" and who had in addition reported two different "major (1-digit) occupations on successive tax returns."

But the observed decline in mobility rates over time, in Schroeder's and the earlier studies, constitutes an empirical generalization to be explained, and not evidence favoring one over another explanation. As Schroeder notes, his empirical data do not "lead to a clear-cut choice among competing models designed to explain observed associations between mobility and duration."

In the remainder of this comment I wish to elaborate on Schroeder's note by clarifying the precise sense in which the different models are "competing," and the requirements which must be met by data in order for them to become evidence which would help to resolve a dispute between the authors who set forth those various models.

An important point often overlooked is that not all mathematical models are intended to fit empirical data; not infrequently mathematical models are developed to work out the implications of postulates their authors themselves regard as counterfactual or at least dubious. Lieberman and Fuguitt (1967), for example, asked what would happen if racial discrimination were eliminated at once, and found that about a century would elapse before all the effects of prior discrimination would be eradicated. "What would happen if. . .?" may be a fruitful question to explore whether the specified conditions be plausible or implausible, and exploration of the implications of counterfactual postulates is a practice by no means confined to mathematical sociologists.

Max Weber (1904, pp. 89 ff.), in his discussion of the ideal-type, provided a by now longstanding justification for such a practice. According to Weber the ideal-type "is not a description of reality." Rather it "is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more or less present and occasionally absent concrete