INDUSTRIAL SECTOR AND CAREER MOBILITY RECONSIDERED

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The relationship between industrial sector and career mobility is reexamined. It is argued that one must separate stayers and movers when studying career mobility. Data from the National Longitudinal Survey of Older Men and from the March 1981 Current Population Survey are employed. Two industrial sector models are tested, and are compared with a blue-collar vs. white-collar dichotomy. Industrial sector is shown to have only a modest impact on career mobility: Industrial sector is no more important for blacks and women than for white men. For all groups, collar color inhibits career mobility significantly more than does industrial sector.

The "new structuralism" has helped to spark a vigorous debate over the nature of inequality (Baron and Bielby, 1980). This perspective has emphasized the importance of structural features of the economy as constraints on the career contingencies and economic rewards of individuals. One strand of this research has focused on identifying sectors of the economy based on an analysis of such factors as firm size and industrial concentration (Oster, 1979; Kaufman et al., 1981). Another line of inquiry has examined the effects of sectoral location on income, and on the returns individuals obtain from schooling (Beck et al., 1978; Bibb and Form, 1977; Coverman, 1982; Osterman, 1975). Less attention has been paid to the link between economic sector and career mobility (Tolbert, 1982).

The constraining effect of labor market location on career mobility has been a central theme of dual labor market theories (Edwards et al., 1975; Doeringer and Piore, 1971; Harrison and Sum, 1979). The recent work on economic sector raises the question of the relationship between dualism in the economy and dualism in labor markets. To what extent do these sets of structures coincide? Do divisions in the organization of the economy represent labor market barriers across which mobility is limited? Evidence making such a link would provide important empirical support for efforts to integrate these two strands of the new structuralist perspective.

This note will present further evidence on career mobility between the core and periphery sectors of the economy. Central to the analysis is the notion that the appropriate test of the effect of economic sector on career mobility focuses on "movers," those changing industry or occupation in the period considered. Failure to restrict the analysis to movers results in an artificially inflated idea of the importance of economic sector.

To anticipate the results, "movers" exhibit only a modest degree of immobility between the core and the periphery sectors. This immobility is no more evident for women and racial minorities than for white men, and is only slightly higher among older workers than among younger workers. Finally, changing one's economic sector proves to be substantially more likely than changing one's collar color.

In the first section, the importance of separating movers and stayers in studying career mobility is discussed. In the second section, National Longitudinal Survey data on men's career mobility are examined, separating stayers and movers. The effects on career mobility of the Beck-Horan-Tolbert industrial sector model, the Bibb-Form core-periphery model, and a simple blue-collar vs. white-collar dichotomy are compared. Data from the March 1981 Current Population Survey are analyzed to provide further evidence on the relationship between age and intersector mobility. In the third section, data from the March 1981 Current Population Survey are employed to compare career mobility patterns by race and sex.

STAYERS AND MOVERS

In studying career mobility, it is crucial to separate stayers and movers (Blumen and McCarthy, 1955). Most individuals stay in the same occupations and industries over a short period of time. We know that a substantial proportion of those holding jobs as bus drivers this year will be working as bus drivers five years from now. The same is clearly true for lawyers, nurses, engineers, textile workers, and workers in countless other occupations. In a sense, every occupation restricts one's career mobility, since one is more likely to stay in

one's occupation or industry than one is to turn up working in some random occupation. Yet this only states the obvious. The tendency for individuals to stay in the same occupations should not be taken as evidence of sectors or segments in labor markets. For the purpose of studying career mobility, those who stay in the same detailed (3-digit) occupation or industry from year to year are referred to as "stayers"; those individuals who change their detailed industry or occupation in the period considered are termed "movers."[1]

If one includes both stayers and movers in the analysis of economic sector, one will obtain an exaggerated estimate of the difficulty of career mobility. If both stayers and movers are included, any set of occupation or industry categories will appear to restrict career mobility. Quite simply, one cannot change industrial sector if one does not change one's detailed industry. The tendency to stay in one's occupation represents an occupation effect, not an occupational sector or an industrial sector effect. The relevant test for an analysis of a hypothesis about sectoral effects on career mobility is "To what extent does the sector of destination depend on the sector of origin, for those who change their detailed industry or occupation?"

Consider an example which highlights the importance of separating stayers and movers. Let us define a set of perfectly arbitrary categories. Once constructed, we will examine the extent of career movement between these categories for all employed individuals, and then for movers only. Category 1, let us say, includes all industries in which the 3-digit Census code is odd; Category 2 includes all industries in which the 3-digit Census code is even. Let us trace the patterns of career movement between these two categories. Intuition tells us that movement between these two arbitrary categories is random. Any analytic approach which tells us that even and odd numbered industries constitute separate strata of industries should be suspect.

Data are obtained from the National Longitudinal Survey of men aged 45–59 in 1966. Two transitions will be examined: the transition from the first job held to the job held in

1966; and the transition between the 1966 job and the job held in 1975.[2]

If one includes all employed individuals in the analysis, the odd-even boundary appears to restrict career mobility. Considering mobility for all individuals from first job to job in 1966, there is a modest degree of immobility between odd and even industries (Pearson's $r = .19$). The transition for all individuals employed in 1966 and 1975 indicates an even higher degree of immobility between odd and even industries ($r = .60$). (These results are presented on Table 1, which is discussed below.) This latter transition period is shorter, and the cohort of men is older. Consequently, the proportion of stayers is higher, and the observed relationship between odd and even industries is higher than for the earlier transition. Were we to rely on these statistics, we would be led to the conclusion that odd and even industries represent separate spheres of the industrial structure between which movement is rather difficult, and becomes more difficult as men grow older.

The "movers" only analysis, however, corresponds with our intuitions. It indicates that, for those who changed detailed (3-digit) industries, there is no relationship between odd-numbered and even-numbered industries either for the first job to 1966 transition ($r = -.02$) or for the 1966 to 1975 transition ($r = -.02$). For those changing industries, the chances of ending in an odd-numbered industry do not depend on whether one started from an odd-numbered or an even-numbered industry.

A portion of the NLS sample stayed in the same 3-digit industries in each of the periods considered. For this group, there was no mobility between the core and the periphery sectors. The analysis including all individuals, then, is actually a composite of the mobility patterns of stayers, who experience no mobility, and movers, who may experience substantial flexibility in changing economic sector.

While over a short period of time most people are "stayers," it does not follow that "movers" are a small, aberrant and uninteresting group. A large fraction of people change occupations at some point in their career. For example, 1970 Census data employed indicate that 32 percent of employed individuals changed occupations between 1965 and 1970 (Somers and Eck, 1977). Of the NLS men, over 80 percent changed detailed industries and nearly 90 percent changed their detailed occupations between their first job and 1975.[3] Occupation and industry changes are

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[1] My use of the terms "stayers" and "movers" is based on a substantive distinction: whether individuals changed detailed categories in the period considered. This usage contrasts with the elimination of all entries in the diagonal cells (see, e.g., Clogg, 1981). Where others eliminate a priori all diagonal cell entries, I eliminate all entries which are a priori on the diagonal: one must be in the same sector if one is in the same industry.

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[2] The data and transition periods are those used by Tolbert (1982).

[3] This large proportion of industry and occupation

Table 1. Career Mobility Between Economic Sectors, NLS Men Sample[a]

	First Job vs. 1966 Job	1966 Job vs. 1975 Job[b]
ALL EMPLOYED MEN	(N = 3342)	(N = 1987)
Beck-Horan-Tolbert Core-Periphery	.24***	.64***
Bibb-Form Core-Periphery	.28***	.71***
Blue-Collar vs. White-Collar	.44***	.72***
Odd-Numbered Industries vs. Even-Numbered Industries	.19***	.60***
INDUSTRY CHANGERS	(N = 2647)	(N = 735)
Beck-Horan-Tolbert Core-Periphery	.07***	.11***
Bibb-Form Core-Periphery	.09***	.23***
Blue-Collar vs. White-Collar	.35***	.57***
Odd-Numbered Industries vs. Even-Numbered Industries	−.02	−.02
INDUSTRY AND OCCUPATION CHANGERS	(N = 2459)	(N = 535)
Beck-Horan-Tolbert Core-Periphery	.05***	.05
Bibb-Form Core-Periphery	.07***	.15***
Blue-Collar vs. White-Collar	.30***	.42***
Odd-Numbered Industries vs. Even-Numbered Industries	−.03	−.01

[a] Agriculture is excluded in the Bibb-Form model. This industry was omitted for all models to allow for comparability. Also excluded are all cases with missing industry or occupational data.
[b] Analysis including cases for which some data is missing produces virtually the same findings.
*** p <.001.

thus widely experienced at some point in most individuals' careers. Focusing on occupation and industry changers gives us leverage in tracing the contours of career opportunity in the occupational structure.

Tolbert's recent report (1982) on the relationship between economic sector and career mobility unfortunately does not separate stayers and movers. Thus we can not tell what proportion of the immobility between core and periphery sectors of the economy was due solely to the fact that many men stayed in the same 3-digit industries. We do not know the probability of moving to a core-sector position for those who changed their detailed industry category. The present analysis will re-examine Tolbert's hypotheses separating stayers and movers, and will also examine the effects of economic sector on the career mobility of women and minorities.

The effect of economic sector is tested both for the Beck-Horan-Tolbert core-periphery model and for the Bibb-Form model of the economy. Since the best way to identify economic sectors is not a settled issue, two different core-periphery sector models are examined. We can see the extent to which the conclusions about the B-H-T model apply to other models of economic sector. Beck, Horan and Tolbert have greatly facilitated work in

changers may be due in part to coding error. The NLS data is coded for the 1960 Census occupation and industry classification system, which is less detailed and more error-prone than the 1970 Census classification system. The CPS data presented in Section 3 is coded for the 1970 Census classifications.

this area by providing detailed coding information for their own core-periphery model as well as for the Bibb-Form and early Hodson models (Beck et al., 1978). In addition, the inhibiting effect of economic sector will be compared with that of the blue-collar vs. white-collar dichotomy. We will be able to see the extent to which economic sector is a fundamental dividing point in career mobility analysis by comparing it with another dividing line which has a long-standing place in sociological analysis.

MEN'S CAREER MOBILITY RECONSIDERED

Methods simply involve cross-tabulation of the economic sector held in one job by economic sector in a subsequent job. The degree of relationship between economic sectors is indicated by Pearson's r.

The analysis compares the mobility patterns of industry changers with those obtained for all employed individuals. Since the core-periphery schemes are defined on industry lines, one would logically view a mover as anyone who changed his or her detailed industry in this period. Results are also obtained for a sample restricted to individuals who changed their detailed occupation and detailed industry. This latter test facilitates a comparison of industry-based measures and occupation-based measures (i.e., collar color).

Table 1 reports a comparison of mobility for the Beck-Horan-Tolbert core-periphery scheme, the Bibb-Form core-periphery scheme, the blue-collar vs. white-collar occupational dichotomy, and the odd vs. even in-

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Table 2. Career Mobility Between Economic Sectors by Age, Current Population Survey Men, 1980 to 1981

INDUSTRY CHANGERS

	16–24 (1767)	25–34 (1325)	35–44 (499)	45–54 (312)	55–64 (181)	65+ (64)
	r	r	r	r	r	r
Beck-Horan-Tolbert Core-Periphery	.10***	.14***	.10***	.18***	.09***	−.04
Bibb-Form Core-Periphery	.17***	.18***	.22***	.13***	.22***	.17
Blue-Collar vs. White-Collar	.25***	.55***	.57***	.59***	.45***	.45*

INDUSTRY AND OCCUPATION CHANGERS

	16–24 (1625)	25–34 (1050)	35–44 (374)	45–54 (233)	55–64 (139)	65+ (56)
	r	r	r	r	r	r
Beck-Horan-Tolbert Core-Periphery	.13***	.07**	.02	.13*	.10	−.09
Bibb-Form Core-Periphery	.13***	.11***	.12**	.03	.15*	.12
Blue-Collar vs. White-Collar	.19***	.45***	.44***	.49***	.32***	.36**

* p <.05.
** p <.01.
*** p <.001.

dustrial sector scheme described above for the NLS sample men. The first panel on Table 1 includes all employed men. The second panel is limited to men who changed industries in the period considered. The third panel is limited to those who changed occupation and industry in this period. The left column represents the first job to 1966 transition; the right column represents the 1966 to 1975 job transition.

Let us begin with the first job to 1966 transition. Of the three schemata, the B-H-T scheme proves least restrictive of career mobility; the Bibb-Form core-periphery approach is somewhat more restrictive; but neither core-periphery scheme restricts career mobility as much as the simple blue-collar vs. white-collar dichotomy. For men who changed industries, the B-H-T scheme is slightly restrictive of men's mobility (r = .07). The Bibb-Form core-periphery boundary also is not infrequently crossed (r = .09). In comparison, the blue-collar vs. white-collar line is less frequently traversed both for male industry changers (r = .35) and for men changing both industry and occupation (r = .30).

Similar patterns of results are evident in the 1966 to 1975 job transition. For industry movers, the B-H-T core-periphery scheme is again slightly restrictive (r = .11); the Bibb-Form core-periphery scheme is more restrictive (r = .22); and the blue-collar vs. white-collar line is again most effective as a career barrier, both for industry changers (r = .57) and for occupation and industry changers (r = .42). The correlations are somewhat higher for this second transition than for the first transition. This may be due to age, but it may also be due to the fact that the first transition period is longer, and consequently there is more opportunity for multiple moves, which would lower the observed relationship.

Another view of the relationship between age and intersector mobility can be obtained by examining the mobility of the full age spectrum of men during a common transition period. Data are obtained from the March 1981 Current Population Survey, which allow analysis of a one-year transition period. These data are described more fully below.

Table 2 presents intersector mobility patterns of CPS men who were industry changers between 1980 and 1981 by age category. Results for the B-H-T core-periphery scheme, the Bibb-Form core-periphery model and the blue-collar vs. white-collar dichotomy are presented.

The number of movers declines steadily with age. However, the serial correlation of economic sector does not increase substantially with age, as Tolbert hypothesizes. The degree of immobility between these sectors is not dramatic even for the relatively older age groups. For industry changers aged 45–54, the degree of immobility for the B-H-T model remains modest (r = .18).

In summary, the core-periphery sectors delineated by the Beck-Horan-Tolbert industrial sector model and the Bibb-Form core-periphery model do not present major obstacles to career mobility. The relationship between these sectors stems in large measure from stayers, those who do not change detailed industry. Among those who changed detailed industry, the effect of economic sector on career movement is modest.

FURTHER EVIDENCE ON CAREER MOBILITY

Dual labor market approaches are designed in part to explain the disadvantaged position of women and minorities in the workplace (Harrison and Sum, 1979; Kemp and Beck, 1981). In mobility terms, this view would predict that

Table 3. Short-Term Career Mobility Between Economic Sectors, By Sex and Race, March 1981 CPS Sample, 1980–1981, Beck-Horan-Tolbert Core-Periphery Coding System[a]

INDUSTRY CHANGERS

	WHITES		BLACKS		OTHER	
	Men	Women	Men	Women	Men	Women
r	.15***	.12***	.04	.14*	.13	.19*
(N)	(3707)	(3402)	(327)	(293)	(133)	(101)

INDUSTRY AND OCCUPATION CHANGERS

	WHITES		BLACKS		OTHER	
	Men	Women	Men	Women	Men	Women
r	.08***	.05**	.00	.11*	.00	.09
(N)	(3498)	(3031)	(301)	(271)	(123)	(90)

[a] Agricultural workers are included in this table.
* p <.05.
** p <.01.
*** p <.001.

women and racial minorities are likely to experience even greater difficulty in moving between the core and the periphery sectors of the economy than do white men. Women and racial minorities are included in the following analyses to determine if this hypothesis is borne out.

Data are obtained from the March 1981 Current Population Survey (Bureau of Labor Statistics, 1976). The March CPS data include a one-year retrospective question regarding income and employment, as well as questions about current employment. A one-year occupational transition can thus be examined, comparing the longest job held in 1980 with that held during the survey week in 1981.

Approximately 85,000 households are sampled, with nearly 100,000 individuals working either in 1980 or 1981. Ten percent of the sample changed detailed occupations between 1980 and 1981, and 10 percent changed detailed industries. These figures are consistent with other data on short-term career changes (Rosenfeld, 1979). Data on sex, age, race, occupation, and industry are included in the analysis.

While the short time period available for longitudinal analysis is a disadvantage, other considerations make these data attractive. The very large sample size, which includes the full age range of working individuals, is large enough to enable comparisons of the mobility patterns of white men with women and minorities. In addition, the short time span considered has the advantage of enabling us to assume we are measuring a single occupational transition in the majority of cases. Results for short-term mobility obtained from the CPS data are quite similar to those obtained from analysis of the National Longitudinal Survey data (Jacobs, 1982).

Table 3 presents the correlations between economic sector in 1980 and economic sector in 1981 for the B-H-T scheme for race and sex groups. Two interesting results become apparent in this table. First, cross-sector mobility is no more difficult for white or black women than for white men. The serial correlation of economic sector for industry changers is low for industry changers of all three groups (r = .12 for white women, r = .14 for black women, and r = .15 for white men). Black women, however, are less likely to change sector than are black men (r = .04). The second noteworthy finding on Table 3 is that, overall, neither blacks nor other minority men have greater difficulty than whites in moving between the periphery and core sectors of the economy. The serial correlation of industrial sector for black and other minority men industry changers is not significant.[4]

CONCLUSIONS

The evidence presented here suggests that economic sector does not represent a fundamental barrier to career mobility for those who change occupation or industry. When we consider a single transition, there is a modest degree of immobility between the core and the periphery sectors of the economy (r < .25). However, the cumulative effect of this barrier

[4] Both the Bibb-Form and blue-collar vs. white-collar distinctions were also examined. Each follows the general pattern described here. The principal difference is that the correlations are consistently higher for the Bibb-Form scheme than for the B-H-T core-periphery model. The blue-collar vs. white-collar correlations are substantially higher than the Bibb-Form correlations.

over workers' careers, among those who change industries at some point in their careers, is not great (r < .10). This finding does not by itself conflict with the idea of dual labor markets: it merely suggests that the core and periphery sectors of the economy do not correspond precisely with the primary and secondary labor markets. Dualism in the economy is not congruent with dualism in career patterns.

The core-periphery scheme needs to be specified in more detail. For example, data on firm size will enable us to identify those in peripheral firms in core industries. Surely much of the mobility evident in this note is "noise" induced by mismeasurement of economic sector. Yet in the final analysis, the exact specification of the economic core and periphery is not likely, in my view, to be coincident with the primary vs. secondary labor market dichotomy.

The white-collar vs. blue-collar dichotomy proves more resistant to career mobility, especially for men. The collar color line may be more difficult to cross because white-collar jobs require more education than blue-collar jobs. Whether one views education as need for productivity in white-collar positions, or as a screen for trainability (Thurow, 1976), or even as representing "cultural capital" (Bourdieu, 1977), differences in educational requirements between white-collar and blue-collar occupations reduce the likelihood of moves in both directions.

While the core and periphery sectors may differ in wages, benefits, and security, it is not clear why mobility between jobs with similar skill requirements in the different sectors should be difficult. The modest effects of industrial sector found here may be due to patterns of network ties which convey information about job openings (Granovetter, 1981). It may be that the modest effects of sector on career mobility have as much to do with the channels of information about jobs as they have to do with the prejudices of core-sector employers against workers with a history of employment in the periphery.

The disadvantaged position of minorities is not explained by the core-periphery conceptual apparatus. Blacks and other minorities are no less likely to move across the core-periphery boundary than are whites. The career patterns of women are also not elucidated by this set of categories. Women move not infrequently across economic sectors.

The segregation of women into female-dominated occupations is a form of labor market segmentation not captured by the core-periphery distinction. Yet even here, career mobility analysis holds surprises in store. There is a good deal of career movement between male-dominated and female-dominated occupations (Jacobs, 1982).

Two elements basic to a labor market segmentation theory are disadvantage and immobility. One must show that workers in a given sector are disadvantaged (e.g., have low incomes) and one must show that mobility in and out of the sector is difficult. The economic periphery has been defined in part by low incomes, so this criterion is necessarily at least partly met. But neither white men nor women and minorities find mobility between sectors significantly restricted. The challenge for those committed to the view that the organization of labor markets plays an important role in determining labor market outcomes is to identify empirically the boundaries of the secondary market, or alternatively, to demarcate discrete labor market segments.

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