Small Business and Self-employment as Income Mobility Mechanisms

by

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Executive Summary

The contributions of small businesses to the labor market entry, skill training, and wage growth of youth have been extensively documented in a series of research studies conducted in the mid-1980s. That research confirmed that small businesses provide most first-time job opportunities for young labor market entrants. Moreover, the skills and experience provided at those entry jobs paid off handsomely for the affected youth, as witnessed by their subsequent wage growth.

This study extends the observation period for gauging income growth. Using the same National Longitudinal Survey of Youth (NLSY) surveys used in earlier studies, this study tracks employment and income experiences in a later phase of the typical work life. Whereas earlier studies focused on the first years of labor market entry for youths aged 14-22, this study focuses on those same workers a decade later. Specifically, this study focuses on young people aged 24-32 years at the beginning of the observation period (1989). We then track their work history over the subsequent 15 years (1989-2004).

Our research goal was twofold. First we wanted to gauge the degree of relative income mobility over the 1989-2004 period. That is, we wanted to ascertain how often and to what degree individuals change intra-cohort income ranks in this age and time space. That would allow us to determine whether general mobility in the U.S. economy is changing over time.

Our second goal was to isolate the role of small business exposure in the mobility process. Specifically, does small business experience – either as owner or employee – significantly affect the degree of income mobility?

We were successful in documenting general mobility patterns. The study also reaffirms that earnings mobility continues to be the norm in the labor market even as workers get older and more experienced. Mobility patterns in the 1990s mirror those of earlier decades. The U.S. labor market continued to be a very dynamic source of income growth and decline. Although earnings mobility is a pervasive phenomenon, the experience is not shared equally. As in earlier decades, workers at the top and bottom ranks of the earnings distribution are less likely to move than workers in the middle of the distribution. This differential mobility has increased slightly over time, thereby intensifying longer term inequities.

This study reaffirms the pervasiveness of small business exposure in the U.S. labor market. According to NLSY data that reflect work history over a 15-year period (1989-2004), at least 3 of every 4 workers have had small establishment work experience, even in the age range of 24-47. Moreover, a high proportion of these same workers are employed in small single-establishment firms.

In contrast to the 1980s experiences, mobility among female workers was actually higher than among male workers in the 1990s. Female workers have also experienced much higher exit rates from the lowest ranks of the income distribution than their male counterparts.

Self-employed individuals are more mobile than paid employees, i.e., they experience more year-to-year changes and volatility in income than payroll workers. Not only is the incidence of mobility (i.e., number of moves) higher for self-employed individuals, but the extent of mobility is greater also. Individuals with self-employment experience move further (up and down the income hierarchy) than workers without small business or self-employment histories.

For men, self-employment and small business experience are associated with net downward mobility, particularly in relation to individuals without such exposure. For women,

the patterns are similar, with the single exception of women who are self-employed at the outset of the period (1989) which is associated with net upward mobility.

A full assessment of the role of small-business exposure in this income dynamic was not possible. Although the NLSY includes specific and detailed questions on firm and establishment size by employment, those data were not accessible in the public-use files. We could distinguish firm sizes only at a 1,000-employee lower threshold. As a result, we had to limit ourselves to observations on *establishment* size, with a distinction between single- and multi-establishment firms. We were able to document, however, that self-employment continued to be common in this cohort, as was employment in small establishments and in small, single-establishment firms with 100 or fewer employees (defined as small businesses in the study). For those with self-employment experience, income volatility (absolute change in year-to-year income) is somewhat higher than in the other employment subgroups analyzed as well as the entire NLSY core sample, but the differences are small.

Further analysis of the role of small business exposure in income dynamics will require access to the disaggregated NLSY files. Privacy concerns, however, currently severely limit that access for outside researchers.

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Introduction

It has long been recognized that individuals accumulate "human capital" as they acquire labor market experience. However, neither the rate of capital accumulation nor the returns on capital are identical across individuals. As a consequence, individual incomes change over the work life cycle at widely varying rates. As a result of that variation, some individuals who have had relatively low incomes at one point in time may experience such high income growth that they overtake individuals who earlier had higher incomes than theirs. In the process of "overtaking," they are changing their *relative* position in the income rankings. It is similar to a foot race wherein a runner in fourth place pulls into third place, moving that overtaken runner into fourth place. All the runners are still moving ahead, but at varying speeds.

In the context of income dynamics, we know that individual incomes all tend to rise over most of the work life. The income of some individuals rises faster than that of others. In the process, the hierarchical distribution of individual income changes, with some workers' income rank moving up in relative position and others necessarily falling (in relative ranking terms, not necessarily in absolute terms).

The phenomenon of *relative* income mobility has historically been an important focus of economic theory, analysis, and policy. It has spawned two interrelated types of research. The first area of research has focused on the *measurement* of income mobility. The core question in this arena is how much income mobility exists. The second area of research seeks to identify characteristics and mechanisms affecting mobility, i.e., those traits, experiences, or forces that propel individuals up and down the rank-ordered income distribution.

This study pursues both questions. The first goal is to document the extent of relative income mobility among young workers in the 15-year period from 1989 to 2004. The second goal is to ascertain the influence of small business ownership and/or small business employment on individual mobility. By pursuing these questions, we can try to determine whether patterns of income mobility are changing over time and whether small business exposure is a significant mechanism of this mobility.

The following section offers a brief review of the income mobility literature, highlighting observations and conclusions from previous studies. Section III introduces the data and methodology used in this study. Subsequent sections summarize the salient findings of the empirical inquiry.

Related Literature

The phenomenon of worker earnings or income mobility has been the subject of increasing research and policy interest in recent years. Empirical research on this subject has always been limited, however, by the dearth of longitudinal data files. To measure adequately the presence and extent of mobility, one must be able to track the employment/income experiences of individual workers over long time periods. Most Census Bureau surveys do not provide such

information, as they are cross-sectional profiles of an ever-changing sample.[1] Only *longitudinal* surveys, tracking the *same* individuals over many years, can provide the observations needed to compute long-run mobility rates and patterns. There are only three large-scale, nationally representative longitudinal data bases that track work histories in acceptable detail. These are the Social Security Administration's Longitudinal Employee-Employer Data (LEED) file, the National Longitudinal Survey of Youth (NLSY), and the University of Michigan's Panel Survey of Income Dynamics (PSID). The LEED gauges earnings mobility patterns, using a sample of 1.3 million individuals over a 15-year period from 1957 to 1971. Research findings indicate that income mobility was pervasive and substantial across all age cohorts (Schiller, 1977). Unfortunately, the LEED file is no longer available to the public, due to privacy concerns. Accordingly, empirical research largely relies on the PSID and NLSY.

The PSID data base focuses more on family income dynamics rather than individual work/income histories. Because it is designed to track changes in a cross-section of households, it does not provide sufficiently large subsamples of specific age cohorts to permit intra-cohort mobility analysis. It has, however, been used extensively to measure absolute changes in household income over time. Recent PSID studies have focused on income volatility, i.e., year-to-year variance in absolute incomes (Gottschalk and Moffitt, 2009). Another exceptionally detailed bibliography of PSID studies is also available (Hacker and Jacobs, 2008).

Particularly relevant to this study are those papers focused on variations over time in the earnings of individuals (Autor, Katz, and Kearney, 2008; Kopczuk, Saez, and Song (forthcoming); and Shin and Solon 2008). It should be noted here, however, that none of the cited works offer the specificity of the earnings hierarchy used in this study.

The NLSY is effectively the only publicly available longitudinal data base well suited for tracking relative earnings/income mobility. The NLSY initially focused on a cross-section of youth aged 14-22 in 1979. By focusing on a narrow age range, it was able to offer sufficient sample size to undertake intra-cohort income mobility analysis. The same initial sample has been tracked ever since, generating an exceptionally long time period for longitudinal analysis. Detailed employment profiles also facilitate analysis of income mobility mechanisms.

Several studies of income mobility using the NLSY have dealt with human capital transfers and have documented the exodus of labor market entrants from small business employers to larger enterprises (Schiller, summer 1983, Schiller, September 1983).

Research using the NLSY has also studied the issue of early jobs and training. One focus has been on the locus of first-time jobs for labor market entrants and their on-the-job training experiences (Schiller, 1987). Another focus has been on minimum-wage employment and the identification of the impact of state minimum-wage legislation on small business employment (Schiller, fall 1994). A related area examined in the literature is the prevalence, nature, and implications of jobs paying below federal minimum-wage thresholds due to coverage gaps in the FICA legislation (Schiller, 1991, 1994).

The NLSY has also been used to pursue broader mobility questions. One such study, conducted for the Employment Policies Institute (EPI), examined the profiles and subsequent career tracks of young men and women who were employed in the hospitality industry (Schiller, 1995). The NLSY has also been used to update the relative earnings observations from the 1957-1971 period to the 1978-1988 period (Schiller, 1994). Contrary to emerging opinion, findings indicated that mobility did *not* decline in the 1980s.

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[1] Census' Survey of Income and Program Participation (SIPP) is a longitudinal survey but tracks individuals only over about a four-year period.

The NLSY has also been used to focus on young people who pursue self-employment. One study sought to identify *predictors* of self-employment (mother's education was a strong determinant), then gauge subsequent earnings growth (Schiller, July 1997).

Description of the NLSY Data Base

The data used for this study are from the National Longitudinal Survey of Youth (NLSY). Begun in 1979, the NLSY has tracked a nationally representative sample of young men and women since 1979. The initial sample of 12,686 respondents was aged 14-22 in 1979. Re-interviews were conducted annually until 1994 and have been conducted on a biannual basis ever since (Table 2). As of 2004, the survey still included 7,661 of the original respondents. Because the NLSY is used so extensively, there is abundant documentation of its characteristics and attrition biases.

The overwhelming advantage of the NLSY is, of course, its longitudinal tracking of individual workers. By stringing together the responses in each survey, a 28-year work history of individual workers can be constructed. These work histories are the core source of the present inquiry.

Earlier SBA-funded research utilized NLSY work history data for the period 1979-1986 (Schiller, 1994). The NLSY respondents were aged 14-22 at the outset of that period and aged 21-29 at the end. Hence, the emphasis of that earlier research was on labor market *entrants*. At present, the NLSY has an additional 20 years of work history observations. Accordingly, it is now possible to analyze career tracks over a much more substantial time period. With such an extended observation horizon one can assess longer-term consequences of career choices. The longer horizon also facilitates a differentiation between transitory market outcomes and more permanent changes in labor market status. Indeed, that is one of the fundamental purposes of mobility research.

NLSY Sample

From the universe of NLSY respondents, a sample of workers with significant work experience during the 15-year period 1989-2004 was identified for analysis in this study. The length of this observation horizon was selected to match the duration of earlier income mobility studies, particularly the seminal study for the period 1957-1971 (Schiller, 1977). The end date of the time horizon coincided with the most recent data available at the outset of this study (2006 interviews are now available). Thus, 1989 became the start year so as to create a time horizon equal to earlier studies.

1989 Labor Force Attachment

Since the broad goal of this study was to assess income mobility among workers, 1989 was chosen as the base year for identifying initial income status. In that year, the NLSY respondents were in the age range of 26-34 years. Hence, nearly all of the NLSY subjects had already accumulated work experience. However, not all of them were substantially employed in the 1989 base year or had responded to the survey in that year. As Table 1 documents, of the universe of

Table 1:   NLSY Sample Specification

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	Total	Male	Female
Full NLSY Sample, 1979	12,686	6,403	6,283
Interviewed in 1989	10,605	5,196	5,409
Employed in 1989 (hours >0)	8,942	4,661	4,281
Attached Workers in 1989 (income > $3,800)	7,425	4,085	3,340
Attached 1989, Interviewed 2004	5,212	2,802	2,410
Attached 1989, Employed 2004 ("core sample")	4,776	2,660	2,116

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Source: NLSY 1989 and 2004.

12,686 NLSY subjects, only 10,605 were interviewed in 1989. Of these, 8,942 reported some employment income in that year. Many of these employed individuals reported small income amounts. To focus more directly on individuals with significant employment, we further limited the sample to individuals with at least $3,800 of income. This coincides with roughly half-time employment at the then-prevailing federal minimum wage. As such, it matches the definition of "attached" workers utilized in previous mobility research. A total of 7,425 such attached 1989 workers were identified. Of these, 7,298 reported usable income and hours of data.

Because the goal of this study is to access mobility patterns within a fixed time horizon, we also required that the attached 1989 workers be employed in 2004, the end year of the observation period. In that year, the respondents were aged 39-47. No wage floor was set for their 2004 attachment to the labor force; any reported employment was acceptable. Using these selection criteria we ended up with 4,776 individuals who were both attached in 1989 and employed in 2004. This is our core study sample.

Small-Business Exposure

Our first goal with respect to the core sample was to identify their experience in small businesses during the observation period. This is not as simple as had been expected. The NLSY did not ask questions about employer size every year, nor did it utilize the same questions every time. Table 2 shows the distribution of data queries over the observation period of this study.

A second measurement problem arises from the fact that people can hold more than one job in any single year. In fact, most of the core sample did so at some point between 1989 and

Table 2: Frequency of NLSY Survey Questions Relating to Establishment and Firm Size

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	Year															
	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	03	'04
Establishment Size (Number of Employees at Current Location)	x	x	x	x	x	x		x		x		x		x		x
Firm Size * (Number of Employees at Other Locations)	x	x	x	x	x	x		x		x		x		x		x
Multi-Establishment Firm (Yes/No)					x	x		x		x		x				

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2004. Given this intra-year job mobility, our focus on the *current* job (at time of interview) inevitably omits potentially significant employment information. Some individuals even held more than one job at the same time. In that case, the survey focus was on the principal job.

Establishment Size

Exploration of the NLSY job histories revealed a preponderance of employment in small establishments with fewer than 25 workers. At the outset of the observation period, 41 percent of males and 34 percent of females were employed in such small establishments. That was just in the 1989 year. Reviewing all the years in the observation period reveals that 74 percent of both male and female workers spent some employment time in small establishments. Were all jobs in any year, rather than only current jobs examined, the exposure to small establishments would be higher still. This pervasive exposure to small establishments makes it difficult to isolate the impacts of that exposure.

Firm Size

In principle, the NLSY should identify firm size as well as establishment size. To do so requires the addition of responses to two questions, i.e., the number of employees at the current location and the number of employees at other locations. As Table 2 indicated, these two questions were asked repeatedly throughout the analysis horizon (1989-2004).

Table 3: Establishment Size Distribution by Cohort Employers, 1989 and 2004 (Percent)
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Establishment Size (Number of Employees)	Percent of Cohort Employers	
	1989	2004
1-10	28.4	21.8
11-25	14.2	14.1
26-50	13.1	12.5
51-100	10.5	12.1
101-250	11.2	12.6
251-500	9.0	10.3
➢ 500	13.5	16.5
	100.0	100.0

_____
Source: NLSY79 for longitudinal sample of working males, aged 39-50.

Unfortunately, the responses on number of employees at "other locations" have been severely aggregated in the public-use files of the NLSY. The aggregated NLSY data file only indicates whether that number is above or below 1,000 employees. As a consequence, we can only distinguish between small establishments that are (a) part of very large multi-establishment firms (over 1,000 employees), (b) part of other (not so large) multi-establishment firms, or (c) simply single-establishment firms. This data constraint, which was not known at the outset of this inquiry, severely restricts our ability to identify truly small businesses.

Small Business Subsample

Table 4 depicts the distribution of the core sample across these three establishment/firm classifications. Reading across the bottom row of the table reveals that 2,426 individuals – a third of the sample – worked in single-establishment firms in 1989. Over 80 percent of these workers were employed by "small" firms with 100 or fewer employees. These 1,955 workers in single-establishment, small firms are our designated "small business" subsample.

Firms with multiple establishments are much less likely to be small businesses. That is certainly true for the 2,704 respondents shown to be working in multiple-establishment firms that have more than 1,000 employees at other locations (the last column of Table 4). Those workers in small establishments that are part of such huge multi-establishment firms are likely to be employed in fast-food franchises, gas stations or similar businesses

Table 4: Establishment and Firm Size of 1989 Attached Workers (Percent)

Establishment Size (Number of Workers)	All 1989 Attached Workers	in Single-establishment Firm	in Multiple-establishment Firm	
			</=1000 Workers	>1000 Workers
1-10	26.3	44.3	27.4	9.4
11-25	14.4	16.7	18.3	9.9
26-50	13.2	11.8	17.6	11.5
51-100	11.1	7.7	13.4	12.3
101-250	10.3	6.5	10.5	13.8
251-500	9.5	5.4	6.4	15.5
>500	14.8	7.5	6.3	27.6
Number	7,176	2,426	1,928	2,704

Source: NLSY1989

Quite a few workers are also employed in small establishments that are part of a "small" (1,000 or fewer workers) multi-establishment firm. But since we do not have more details on the number of workers at other locations, we cannot really identify employees in small, multi-establishment firms.

Self-Employment

Self-employment was also experienced by a substantial number of attached workers. In 1989, only 7.8 percent of the male cohort and 3.9 percent of the female cohort was self-employed. Over the 15-year observation period, however, many more of these individuals tried self-employment. The cumulative exposure to self-employment was 29 percent for the men and 21 percent for the women.

Profile Differences

Small Business Subgroups

To determine whether a unique profile exists for persons employed in or owning a small business, we need to compare the characteristics of individuals across various establishment/firm sizes. Because both small-establishment and self-employment experience is so common, however, it is difficult to identify unique characteristics of these subsamples. Table 5 summarizes the results of our search for such characteristics. The characteristics of the entire core sample of 4,776 individuals are compared to those of five subsamples, namely,

(1)	SSB 89:	in small, single-establishment firm ("small business") in 1989
(2)	SE 89:	in self-employment in 1989
(3)	NSBSE:	never in small establishment or self-employed, 1989-2004
(4)	SB 8904:	ever in small establishment, 1989-2004
(5)	SE 8904:	ever in self-employment, 1989-2004
(6)	Total:	entire core sample

Table 5: Subsample Characteristics (Mean Values) and Significant Differences between Subsamples (1) Through (5) and Full Sample (6)

Males	(1)	(2)	(3)	(4)	(5)	(6)
	SSB89	SE89	NSBSE	SB8904	SE8904	Total
Age89 (yrs)	27.92	28.12	27.97	27.87	27.85	27.90
Enroll89 (%)	0.039	.05	0.058	.049	.060	.052
Edu89 (yrs)	12.33	12.56**	13.46***	12.77**	12.97	12.95
Exp89 (yrs)	7.56	7.594	7.34	7.326	7.37	7.33
Married89 (%)	0.45	.55	0.581*	.498	.525	.520
Kids89 (%)	0.76	.861	0.75	.747	.750	.746
White (%)	0.74	.833***	0.70	.709	.743**	.704
Black (%)	0.20	.116***	0.24	.237	.209*	.241
N	511	180	583	1,808	678	2,459

Females						
	SSB89	SE89	NSBSE	SB8904	SE8904	Total
Age89 (%)	27.88	28.28	28.0	27.88	28.06	27.94
Enroll89 (%)	0.029	.081	.074	.057	.095**	.061
Edu89 (yrs)	13.35	13.47	13.62	13.39	13.73*	13.45
Exp89 (yrs)	6.45	6.581	7.20***	6.59*	6.60	6.76
Married89 (%)	0.55	0.729*	.527	.515	0.54	.518
Kids89 (%)	0.94	1.18	.904	.974	.966	.957
White (%)	0.79	.837***	.611**	.674	.770***	.660
Black (%)	0.15	.094***	.344***	.268	.180***	.287
N	311	74	522	1,432	387	1,992

Source: NLSY 1989 and 2004

Note: Statistically different from total sample (column 6) at 1 percent (***), 5 percent (**), 10 percent (*).

Key:
(1)	SSB 89:	in small, single establishment firm ("small business") in 1989
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(6)	Total:	entire core sample

The goal is to identify statistically significant differences between each of these *five* subsamples and the full sample. The analysis is performed separately for men and women. Column (1) includes respondents who fit our purist definition of "small business," i.e., single-establishment firms with fewer than 100 employees. There are 511 men and 311 women in this category. Column (2) includes respondents who were self-employed or business owners in 1989. We have 254 such individuals.

Column (3) includes individuals who had *no* small business or self-employment experience during the 1989-2004 period. Columns (4) and (5) include, by contrast, those with at least some small business or self-employment exposure. (Hence, columns (1) and (2) are subsets of columns (4) and (5), respectively.)

Distinguishing Characteristics

Distinguishing characteristics of these subgroups entails comparing the mean values of characteristics across columns (Table 5). What we are looking for are statistically significant differences in these characteristics. The results indicate that relatively few such differences exist. Having children (defined as Kid89 (0,1)) was not a differentiating characteristic for either men or women. Nor was school enrollment (part-time or full-time) in 1989 (Enroll89(0,1))

- **Race (defined as White (1) and Black (0)).** Race stands out as one of the few differentiating characteristics for both men and women, with whites more likely to experience self-employment than minorities. To a lesser, but still statistically significant extent, whites are also more likely to work in small establishments than their counterparts in the full sample.

- **Education (defined as Edu89 (years completed by 1989)).** Education also emerges as a significant factor. For both males and females, those individuals who work in small establishments or self-employment have lower educational attainments than their counterparts in the full sample.

- **Marital Status before 1989 (defined as Married89 (0,1)).** Marital status had different effects on men and women. Early marriage (before 1989) significantly reduced the incidence of either self-employment or small-establishment experience for men. For women, however, early marriage substantially increased the incidence of self-employment, especially at the beginning of the observation period.

- **Work Experience (defined as Exp89 (yrs)) and Age (defined as Age89 (yrs)).** Because the NLSY cohort has only an eight-year age span, there are no significant differences across subsamples in either age or work experience. The only exception is for women, among whom work experience is inversely correlated with small-establishment employment. This is consistent with earlier research that documented the migration of young workers from small to larger businesses in the early years of labor force participation (Schiller, 1986).

General Income Mobility Patterns

One purpose of isolating workers who are self-employed or employed in small businesses is to assess their differential income mobility experiences. Our goal is to determine whether small business exposure – as an owner or an employee – significantly affects income mobility over a longer period of time. To do this, we must have an empirical assessment of general income-mobility patterns as a base of comparison. We developed this base by examining the income mobility experiences of our core sample of workers both "attached" in 1989 and employed in 2004.

Measuring Income Rank Positions

Our assessment of income mobility is conducted in relative rather than absolute terms. That is to say, we are not simply tracking changes in dollar incomes over time. Instead, we are gauging the extent to which individuals change *relative* income position as a result of differential income growth. To register upward relative mobility, one has to have income growth that is significantly faster than one's cohort. Downward relative mobility may result either from an absolute decline in income or simply from income growth that lags average cohort experience.

The assessment of relative income mobility requires the identification of the income-rank distributions in various years. To construct this distribution, we used *all* NLSY respondents with usable wage data in the first (1989) and last (2004) years of our observation period. We ordered these individuals into descending values, creating a continuous hierarchy of income positions. That continuous distribution was then partitioned into discrete ranks. For this purpose we partitioned the distribution into 20 equal-sized ranks. These "ventiles" represent the ordered income ranks. Those are the same partitioning boundaries used in earlier income mobility studies (Schiller, 1977, 1994).

Table 6 depicts the ventile boundaries for 1989 and 2004. To attain the highest income rank in 1989 an individual had to have earned at least $39,000. To be at the top rank in 2004 required at least $100,000. This escalation of income thresholds reflects not only the general growth of nominal wages but also the accelerated wage growth of individuals who were aged 24-32 in 1989 and approaching their peak productivity in 2004.

Measuring Mobility

Our concept of income mobility focuses on changes in rank position from 1989 to 2004. A move across ventile boundaries, however, can entail a minuscule income change into an adjacent ventile or a move of up to 5 percentage points, i.e., across the span of an entire ventile. To examine significant mobility change, we define "mobility" as a move of at least two ventiles. This assures a rank movement of at least 5 percentage points.

Observed Mobility

Table 7 summarizes the mobility experiences of attached male workers during the 1990s (the mobility experience of attached female workers as well as male workers is summarized in Table

Table 6: Aggregate Income Ventile Boundaries, 1989 and 2004 (Dollars, except last line N)

Ventile	1989	2004
1	1	1
2	1,300	5,000
3	3,000	10,000
4	5,000	13,352
5	7,000	16,000
6	8,200	20,000
7	10,000	22,000
8	11,000	25,000
9	12,500	28,000
10	14,000	30,000
11	15,000	33,000
12	16,500	36,000
13	18,000	40,000
14	20,000	43,000
15	21,000	47,000
16	23,000	51,000
17	25,000	58,000
18	28,000	65,000
19	32,000	76,000
20	39,000	100.000
Mean	18,150	42,529
N=	8,377	6,041

Source: NLSY 1989 and 2004.

Table 7: Male Income Mobility Indices, 1989 and 2004

Ventile	Percent Mobile[1]	Mean Absolute Change[2]	Mean Algebraic Change[3]
1	--	--	--
2	52.7	4.6	4.2
3	69.6	5.0	4.4
4	63.7	3.9	2.4
5	71.1	4.0	2.5
6	74.8	4.2	2.8
7	74.0	3.6	1.5
8	75.2	3.7	1.0
9	77.2	3.9	-0.4
10	81.5	4.3	-0.6
11	77.4	3.7	-0.3
12	74.6	3.7	-0.5
13	76.6	4.0	-1.3
14	81.8	4.6	-1.9
15	78.9	4.1	-2.3
16	71.5	4.3	-0.2
17	73.1	4.8	-4.2
18	62.6	4.1	-3.6
19	50.3	3.4	-3.0
20	45.5	3.0	-3.0
All	69.8	4.0	-0.4

[1]Percentage of respondents that change rank positions by at least 2 ventiles (5 -10 percentiles).
[2] Average distance in ventiles between a worker's initial (1989) and terminal (2004) rank, without regard to direction of change.
[3]Average distance between initial and terminal ranks, taking account the direction of change.

Source: NLSY   N = 2,513 attached workers aged 24-32 in 1989.

8, column 6). Rank assignments in the end years (1989 and 2004) are based on the position of the individual's earning in the male earnings hierarchy of that year, for all men in this age cohort. Based on these initial and terminal rank positions, we compare three distinct measures, namely:

1. Percent Mobile: The percentage of respondents that change rank positions by at least 2 ventiles (5-10 percentiles) between 1989 and 2004.
2. Mean Absolute Change: The average distance, in ventiles, between an individual's initial (1989) and terminal (2004) ranks, without regard to the direction of change.
3. Mean Algebraic Change: The average distance, in ventiles, between initial (1989) and terminal (2004) ranks, taking into account the direction of change.

Overall, 69.8 percent of these young men were mobile, as seen in the last row of Table 7 (also Chart 1). Moreover, they moved an average distance of 4.0 ventiles (20 percentiles). These mobility indices are only slightly below the observed mobility for comparably aged men in the 1957-1971 period (73 percent mobile with an average distance of 4.2 ventiles) (Schiller, 1977). They are also in line with the mobility experiences of these same men in the previous decade (1978-1988) (Schiller, 1994). (There are no observations in the first row of the table, as none of these experienced workers were in the lowest income ventiles in 1989.) In other words, men who were moving up and down their age-specific earnings hierarchy in the 1980s were also changing rank order positions in the 1990s: relative earnings mobility remains a pervasive phenomenon in the U.S. labor market.

Although earnings mobility is a pervasive phenomenon, the experience is not shared equally among workers along the income hierarchy. As in earlier decades, workers at the top and bottom ranks of the earnings distribution are less likely (45-50 percent) to move than are workers in the middle of the distribution (75-82 percent). To some extent this phenomenon is attributable to the fact that those in the bottom and top ventiles can move two ventiles only in one direction, while those in the middle can move either way. In fact, this differential mobility has increased slightly over time, thereby intensifying longer-term inequities (Chart 1). However, the decrease in top rank exits has been modest (52-58 percent in the 1960s; 54-63 percent in the 1980s). Overall, the net average movement for men over the 15-year period 1989-2004 was -0.4 ventiles suggesting a slight shift from higher to lower ranked ventiles (Table 7 and Chart 2).

In contrast to the 1980s experience, earnings mobility among female workers (73.2 percent) is actually higher than among male workers (69.8 percent) in the 1990s. Female workers have also experienced much higher exit rates (75-85 percent) from the lowest ranks of the distribution than male workers have.

Table 8: Comparative Income Mobility

	Subgroups					
	(1) SSB89	(2) SE89	(3) NSBSE	(4) SB8904	(5) SE8904	(6) Total
TOTAL						
Males						
Percent Mobile[1]	0.733	0.761*	0.67	0.715	0.752**	0.70
Absolute Mobility[2]	4.25	4.58*	3.67**	4.14	4.69***	4.05
Algebraic Mobility[3]	-0.21	-0.372	0.567	-0.42	-0.47	-0.48
Females						
Percent Mobile	0.762	0.783	0.634***	0.770**	0.757	0.732
Absolute Mobility	4.34	4.71	3.50***	4.56**	5.04**	4.27
Algebraic Mobility	-0.52	0.45	0.098**	-0.60	-1.31**	-0.43

Source: NLSY 1989-2004

Note: Statistically different from total sample (column 6) at 1 percent (***), 5 percent (**), 10 percent (*).

Key:

(1)	SSB 89:	in small, single establishment firm ("small business") in 1989
(2)	SE 89:	in self-employment in 1989
(3)	NSBSE:	never in small establishment or self-employed, 1989-2004
(4)	SB 8904:	ever in small establishment, 1989-2004
(5)	SE 8904:	ever in self-employment, 1989-2004
(6)	Total:	entire core sample

[1]Percentage of respondents that change rank positions by at least 2 ventiles (5-10 percentiles).
[2]Average distance, in ventiles, between an individual's initial (1989) and terminal (2004) ranks, without regard to the direction of change.
[3]Average distance between initial and terminal ranks, taking account the direction of change.

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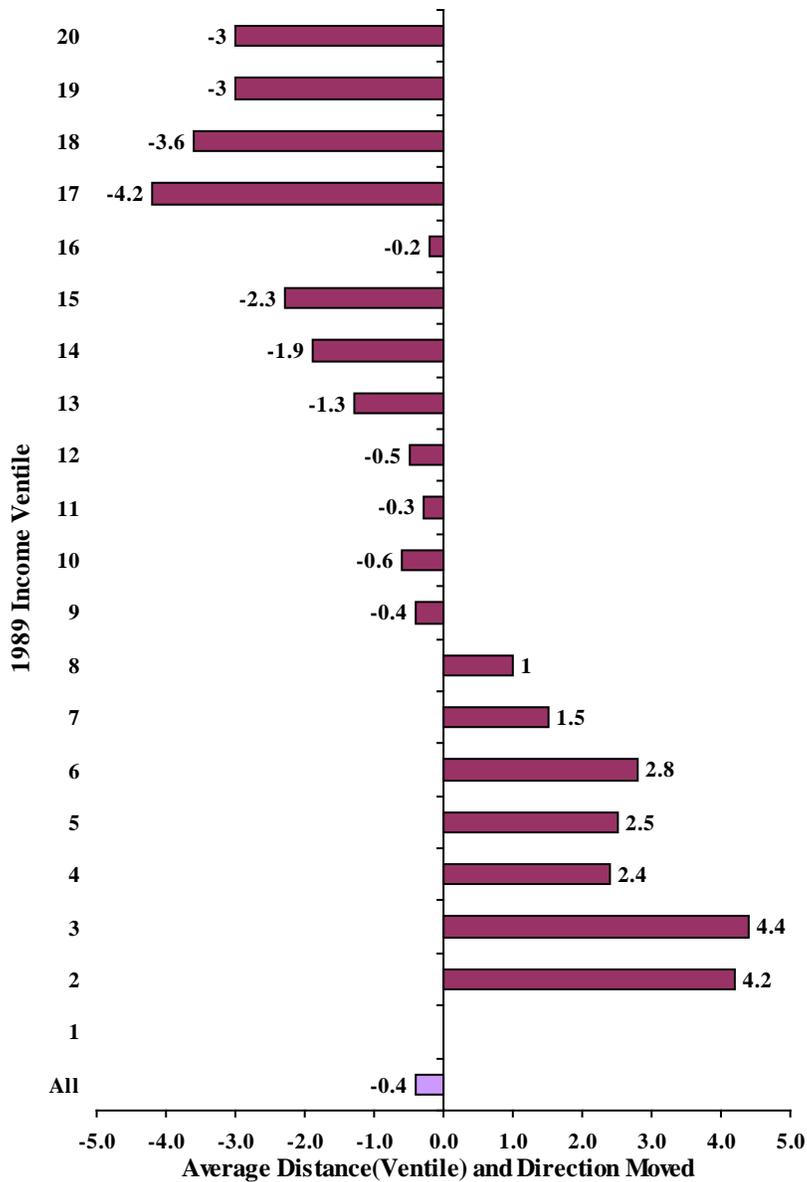# Chart 1: Mobility Indices: Percent Mobile[1] and Average Distance Moved in Ventiles,[2] 1989-2004, Men
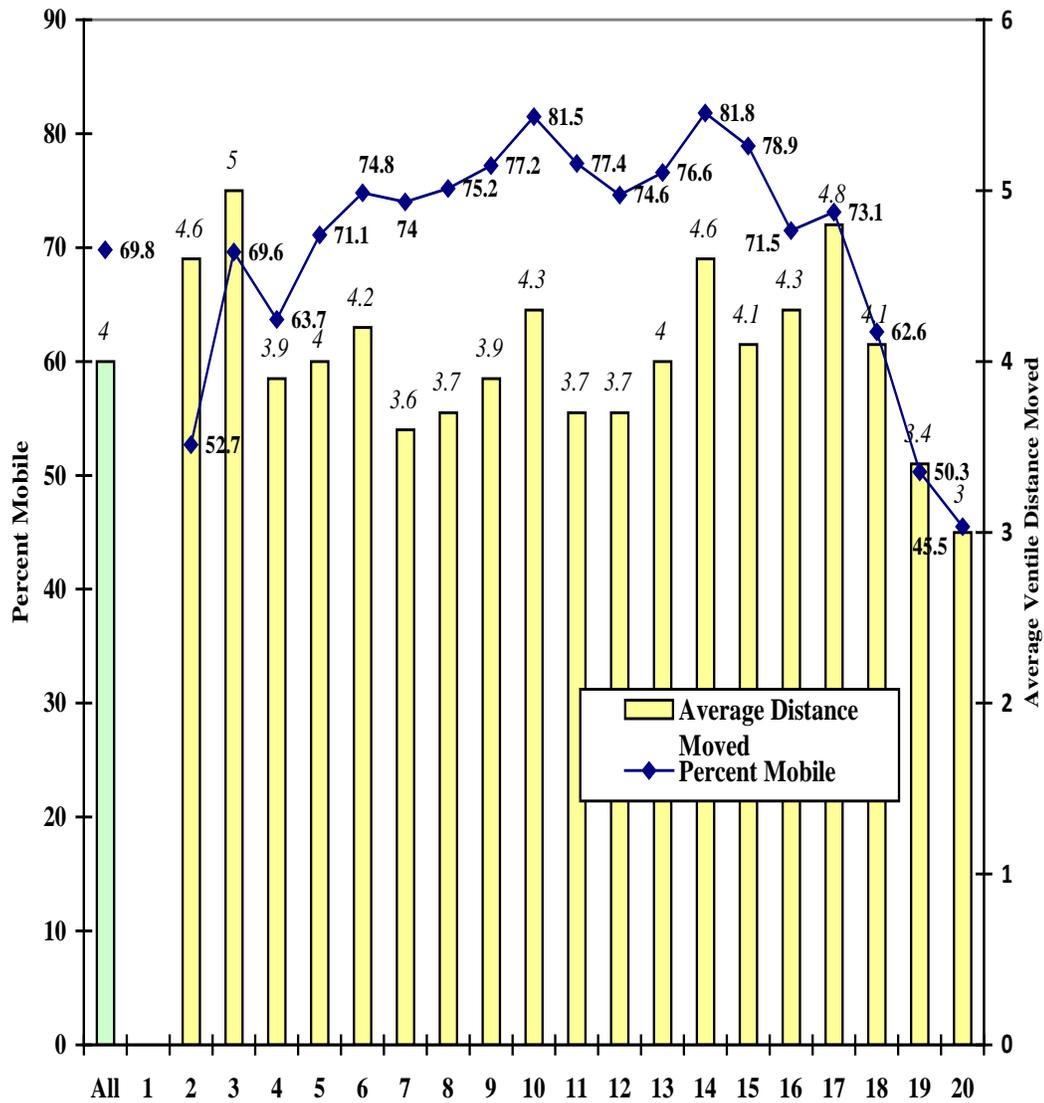
Source: National Longitudinal Survey of Youth, 1989-2004

[1] The percentage of respondents that change rank positions by at least 2 ventiles (i.e., 5-10 percentiles).

[2] Mean absolute change, i.e., the average distance, in ventiles between an individual's initial (1989) and terminal (2004) ranks, without regard to the direction of change.

Note: In 1989, ventile boundaries range from a low (ventile 1) of $1 to a high of $39,000 (ventile 20): in 2004, the range is from $1 to $100,000. See Table 6 for all ventile boundary levels.

Chart 2: Mobility Index -- Average Distance and Direction Moved (Mean Algebraic Change) by Men, From 1989 to 2004

1989 Income Ventile	Average Distance (Ventile) and Direction Moved
20	-3
19	-3
18	-3.6
17	-4.2
16	-0.2
15	-2.3
14	-1.9
13	-1.3
12	-0.5
11	-0.3
10	-0.6
9	-0.4
8	1
7	1.5
6	2.8
5	2.5
4	2.4
3	4.4
2	4.2
1	
All	-0.4

Average Distance(Ventile) and Direction Moved

Source: National Longitudinal Study of Youth, 1989-2004.

Note: In 1989, ventile boundaries ranged from a low of $1 (ventile 1) to a high of $39,000 (ventile 20); in 2004; the range was from $1 to $100,000. See Table 6 for all ventile boundary levels.

Small Business Patterns

A central question addressed by this study is whether small business exposure – as employee or owner – visibly affects the income mobility experience. As noted earlier, data limitations preclude a definitive answer to this question. We can only compare summary mobility measures across the various establishment/firm subgroups of our data set. Our focus is on the degrees of *absolute* mobility (total ventile distance moved in any direction) as well as *algebraic* mobility (net ventile distance and direction moved).

As was observed in previous studies, income mobility is a common experience. As column (6) of Table 8 reveals, 70-73 percent of the individuals in this age cohort (age 26-34 in 1989) switched rank position during this 15-year observation period. It is like a continuous game of musical chairs. There are differences across gender and employment subgroups, but those differences are small. One noteworthy observation is that self-employed individuals have more income mobility than paid employees (column 3). In other words, self-employed workers experience more year-to-year changes in income rank-order movements than payroll workers. Greater income volatility is a feature of self-employment.

Not only is the incidence of mobility higher for self-employed individuals, but the extent of income mobility (change in rank order—up or down) is greater too. Individuals with self-employment experience (columns 2 and 5) move 1.5 ventiles further than workers without small business/establishment or self-employment histories (column 3).

The final measure of mobility (mean algebraic change) takes into account the direction of those rank-order movements. For males, the news is not good: self-employment and small-business experience (columns 2, 4, and 5) are associated with net *downward* income mobility, particularly in relation to individuals with no such exposure (column 3). For women, the patterns are similar, with the single exception of women who are self-employed at the outset of the observation period which is associated with net upward mobility (column 2).

Conclusions

This study reaffirms the pervasiveness of small business exposure in the U.S. labor market. According to NLSY data that show work history over a 15-year period (1989-2004), at least 3 of every 4 workers have had small establishment work experience, even in the age range of 24-47. Moreover, a high proportion of these same workers are employed in small, single-establishment firms.

For both men and women, whites are more likely than minorities to work in small establishments or experience self-employment. Men and women who work in small establishments or self-employment have lower educational attainment than their counterparts. Early marriage (before 1989) significantly reduced the incidence of self-employment or small establishment experience for men, but substantially increased the incidence of self-employment for women. Because the NLSY cohort has only an eight-year age span, there are no significant differences across subsamples in either age or work experience. The only exception is for women, where work experience is inversely related to small-establishment employment—in other words, women who worked in small establishments had less work experience, on average, at the beginning of the study period (1989). This latter finding is consistent with earlier research showing migration of young workers from small to larger businesses in their early years of labor force participation.

The study also reaffirms that earnings mobility continues to be the norm in the labor market even as workers get older and more experienced. Mobility patterns in the 1990s mirror those of earlier decades. Although earnings mobility is a pervasive phenomenon, the experience is not shared equally. As in earlier decades, workers at the top and bottom ranks of the earnings distribution are less likely to move than workers in the middle of the distribution. This differential mobility has increased slightly over time, thereby intensifying longer-term inequities.

In contrast to the 1980s experiences, mobility among female workers was actually higher than among male workers in the 1990s. Female workers have also experienced much higher exit rates from the lowest ranks of the distribution than their male counterparts.

Self-employed individuals are more mobile than paid employees, i.e., they experience more year-to-year changes and volatility in income than payroll workers. Not only is the incidence of mobility (i.e., number of moves) higher for self-employed individuals, but the extent of mobility is greater also. Individuals with self-employment experience move further (up and down the income hierarchy) than workers without small business/establishment or self-employment histories.

For men, self-employment and small business experience are associated with net downward mobility, particularly in relation to individuals without such exposure. For women, the patterns are similar, with the single exception of women who are self-employed at the outset of the period (1989) which is associated with net upward mobility.

This study was unable to identify distinctive mobility patterns beyond small single-establishment firms and self-employment associated with small business exposure because of the unavailability in the NLSY public use files of specific firm size data for multi-establishment firms with fewer than 1,000 employees. Further analysis of the role of small business exposure in income dynamics will require access to the disaggregated NLSY files. Privacy concerns, however, currently severely limit that access for outside researchers.

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