NBER WORKING PAPER SERIES

SELF-EMPLOYMENT, FAMILY BACKGROUND, AND RACE

Michael Hout
Harvey S. Rosen

Working Paper 7344
http://www.nber.org/papers/w7344

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
September 1999

This work began when the authors were Visiting Scholars at the Russell Sage Foundation. We are grateful for the supportive environment that the Foundation provided. We thank Lisa Kahraman for outstanding assistance in the preparation of the manuscript, and Thomas Dunn, Andrew Greeley, and Marta Tienda for useful comments. Rosen's work was supported in part by Princeton's Center for Economic Policy Studies. The views expressed herein are those of the authors and not necessarily those of the National Bureau of Economic Research.

Self-Employment, Family Background, and Race
Michael Hout and Harvey S. Rosen
NBER Working Paper No. 7344
September 1999
JEL No. J24, J15

ABSTRACT

We focus on the intergenerational transmission of the propensity to be self-employed. Our emphasis is on the role of family background, and in particular, on what we call the *intergenerational pick-up rate with respect to self-employment*, the probability that a person with a self-employed parent will become self-employed him or herself. We use the General Social Survey, a data source with rich information on individuals' family histories, to investigate how family background affects self-employment probabilities and to document how racial and ethnic groups differ with respect to the intergenerational pick-up rate. We confirm earlier findings that father's self-employment status is an important determinant of offspring's self-employment outcomes. New results include: 1) The impact of paternal self-employment differs by race. 2) Even independent of father's occupation, family structure plays a role. 3) Blacks have lower self-employment rates than whites in part because they have different family structures; still, within each family type, blacks have lower self-employment rates. 4) Extrapolating current patterns into the future, there is no indication that black and white self-employment rates will converge any time soon. 5) The relatively high self-employment rates of immigrants carry into the next generation, but not beyond that. 6) Male immigrants who have self-employed fathers re no more likely to be self-employed than other immigrants.

Michael Hout
Department of Sociology
University of California, Berkeley
Berkeley, CA 94720
mikehout@uclink4.Berkeley.edu

Harvey S. Rosen
Department of Economics
Princeton University
Princeton, NJ 08544
and NBER
HSR@Princeton.edu

1. Introduction

Self-employment rates vary a great deal across American ethnic and racial groups. In 1990, 24 percent of Koreans and 4 percent of African Americans were self-employed; the economy-wide rate was 10.8 percent (Fairlie and Meyer [1996]). There are several reasons why it is important to understand why members of some groups are less likely to be self-employed than others. From the point of view of the economy as a whole, the entrepreneurship associated with self-employment may be linked to the creation of new jobs[1] and the development of new technologies. It has been suggested that this "job creation" aspect of self-employment is particularly instrumental in creating opportunities in ethnic enclaves (see, e.g., Wilson and Portes [1980], Waldinger [1996], Logan et. al. [1997]). More generally, from the point of view of the individual and his or her ethnic group, self-employment has traditionally been viewed as a means of getting ahead in life, socially and politically as well as economically. As Glazer and Moynihan [1970, pp. 30-31] argue in their classic work on the immigrant experience in the United States,

> [A]s against the worker, each businessman had the possibility, slim though it was, of achieving influence and perhaps wealth. The small businessman generally had access to that special world of credit which may give him for a while greater resources than a job. He learns about credit and finance and develops skills that are of value in a complex economy. He learns too about the world of local politics..."

Why do people become self-employed? Some theories view differences in attitudes toward risk as being the primary factor. Self-employment is inherently more risky than wage-earning[2], so the risk-averse avoid self-employment (Kihlstrom and Laffont [1979]). Other theories focus on differences in managerial skill across individuals--some people have a comparative advantage in running an enterprise, and they are the ones who choose self-

---

[1] See Davis, Haltiwanger and Schuh [1993] for a critical discussion of the job creation issue.
[2] This is documented in Hamilton [1995].

employment in the first place or survive longer once the choice becomes a reality (Jovanovic [1982]). A third set of theories puts financial constraints at the center of the story (Evans and Jovanovic [1989]). The idea here is that running and maintaining a business require access to capital, but for various reasons, some individuals have access to capital markets and others do not.[3]

The various theories are not mutually exclusive, and there is no reason to expect that only one cause predominates. In a way, all of these theories merely push back the question--why do people differ in their attitudes toward risk or their abilities to run a business or in the constraints they face? This is where ethnicity and race enter the story. People's ethnic and racial backgrounds may expose them to a variety of cultural and psychological factors that affect risk-taking and management skills. Ethnicity and race may be correlated with the constraints they face as well. For example, even after slavery, there were severe institutional constraints on the development of black self-employment. Jim Crow legislation restricted the size and revenues of black-owned businesses in the states of the former Confederacy, Maryland, Delaware, and Missouri from the 1890s to the 1930s (Woodward [1955]). Race riots in Wilmington, Delaware (in 1898) and Tulsa, Oklahoma (in 1921) wiped out thriving districts of black-owned businesses (Oliver and Shapiro [1995]). Even today, there is some evidence that blacks are subject to discrimination in capital markets (Browne and Tootell [1995]).

This focus on ethnicity and race is particularly relevant in light of an important fact: not only is the black self-employment rate low relative to the white rate, it has been that way for decades (Fairlie and Meyer [1997]). The low self-employment rate among blacks has long been

---

[3] See Holtz-Eakin, Joulfaian and Rosen [1994] for evidence that access to capital increases the probability that an individual will make a transition from wage-earning to self-employment.

viewed as something of a puzzle by both sociologists and economists: "Negro business did not develop, despite the fact that business is in America the most effective form of social mobility for those who met prejudice" (Glazer and Moynihan [1970, p. 36]).[4] Glazer and Moynihan attribute this phenomenon to a legacy shared by all members of this group, slavery: "Negroes emerging from slavery had no experience with money, and had no occasion to develop the skill in planning and foresight that even the smallest businessman must have" (p. 36).

Viewing slavery as the source of a phenomenon that has persisted over decades suggests that self-employment has an important intergenerational component. Parents pass on self-employment to their offspring, but if members of some group have historically been excluded from self-employment, or chosen to exclude themselves, then the intergenerational chain from self-employed father to self-employed offspring never starts.[5] Several mechanisms can transmit the propensity to be self-employed across generations. Self-employed parents may endow their children with human capital that is specific to running an enterprise (Lentz and Laband [1990]). They may provide role models and adopt child-rearing practices that facilitate self-employment as well (Kerckhoff [1972]). Previous work has in fact documented that children of self-employed individuals are more likely to be self-employed themselves (see e.g., Blau and Duncan [1967], Hout [1984, 1988], Lentz and Laband [1990], Fairlie [1996], and Dunn and Holtz-Eakin

---

[4] See Meyer [1990] for an econometric analysis of the differences in black and white self-employment rates, and Fairlie [1996] for a study of racial differences in transition rates between wage-earning and self-employment.

[5] While in principle either parent can contribute to the offspring's propensity to be self-employed, we focus on the role of fathers because we have only very limited data on mothers' self-employment status. In this context, it may be useful to note Dunn and Holtz-Eakin's result that the presence of a self-employed mother has no statistically discernible effect on a son's probability of becoming self-employed (net of father's self-employment status), but it does matter for daughters.

[1996]). One can imagine that other attributes of family background could matter as well, but these have not received a great deal of attention in the literature, presumably because of data limitations.[6]

In a model that focuses on the transmission of self-employment from parents to children, the length of time required to "compensate" for a low initial self-employment rate depends on what we call the *intergenerational pick-up rate with respect to self-employment,* the probability that the child of a self-employed parent will become self-employed him or herself.[7] Intergenerational pick-up rates are no more likely to be the same across ethnic groups than self-employment levels. For example, to the extent that the nature of intra-family interaction differs across ethnic groups (some fathers are "involved" with their children and others are not), then the father's self-employment status will differentially affect his offspring's status. Alternatively, we posit that the likelihood that a person succeeds in self-employment depends in part on the human capital he or she receives from a self-employed father, and the quality of that human capital may differ from one ethnic group to another. For example, fathers in groups that have long traditions

---

[6] Fairlie [1996] considers the education of the father; Dunn and Holtz-Eakin [1996] include the assets of the parents in their analysis. Glazer and Moynihan [1970] speculate that the prevalence of female-headed households among African-American families might lower rates of self-employment (as well as other forms of occupational achievement).

[7] To be more precise, the intergenerational pick-up rate is the probability of self-employment among those adults whose fathers were self-employed. This retrospective definition has several advantages over a prospective definition that defines the intergenerational pick-up rate as the probability that a self-employed person will have self-employed offspring. Most importantly, the retrospective definition can be combined with the corresponding conditional probability for those whose father was not self-employed to arrive at the cross-sectional proportion self-employed at any time (Fairlie and Meyer [1996]). The retrospective definition also avoids the difficulty that prospective definitions have adjusting for the fact that some people have no children and that parents vary in the number of children they have. Everyone has just one father. Some complexity arises because that father may have more than one job and may not live with all of his children all the time while they are growing up. Retrospective and prospective definitions share these complexities, but the retrospective definition at least solves the initial matching problem.

of self-employment might have more useful lore to pass on. As far as we know, however, there are no estimates of racial and ethnic differences in this crucial parameter.

More generally, in the economic, sociological, and developmental psychology literatures there is research suggesting that family structure affects educational and occupational outcomes.[8] In this paper, we use a data source with rich information on individuals' family backgrounds to investigate how they affect self-employment probabilities. In particular, we document how the races differ with respect to the intergenerational transmission of the propensity to become self-employed. We also present data on the roles of immigration, family size, and family structure in self-employment.

2. The Data

2.1 General Description

Our empirical work is based upon the General Social Survey (GSS), which consists of annual face-to-face interviews with a (changing) representative sample of about 1500 English-speaking adults (18 years old and older) living in the United States. The GSS has been conducted by the National Opinion Research Center at the University of Chicago with only a few changes in format almost every spring since 1972 (1979, 1981, and 1992 were skipped due to insufficient funding). Details of the sampling design changed over time; GSS provides sampling weights that adjust for the differences. (See Davis and Smith [1996].) We employ these weights.

An attractive feature of the GSS from our perspective is its relatively detailed characterization of family background, particularly the father's employment. The Current Population Survey and the decennial census, for example, tell us nothing about family background. The Panel Study of Income Dynamics provides family background information on

---

[8] Butcher and Case [1994] provide a concise and excellent survey.

the *children* of the members of the original sample from the late 1960s, but these individuals are not a random sample of the working population in any year.[9] Similar limitations apply to the various National Longitudinal Surveys, which are characterized by the same age-censoring. In contrast, the GSS includes father's occupation, the family's religion, and family structure when the individual was growing up, *inter alia.* Such variables may be correlated with both the individual's propensity to be self-employed and his or her parent's self-employment status. Hence, including them should enhance the likelihood of obtaining consistent estimates of the parameters that determine the intergenerational pick-up rate.

2.2 Intergenerational Pick-Up Rates: Summary Information

We analyze information on men and women between the ages of 25 and 64 for the calendar years 1974 to 1994.[10] We focus on individuals who worked 15 hours per week or more. Our classification of the individual as a wage-earner or self-employed is based on the response to the following question: "Are you self-employed or do you work for someone else?" In cases in which individuals were simultaneously wage-earners and self-employed, they were asked what their "main job" was, and we identify them as self-employed or not on the basis of the response.[11] Unlike many previous studies we decided to leave farmers in the sample. Consequently, the proportion of individuals who are self-employed is somewhat higher than in such studies.

---

[9] Further, even in the initial sample, there was not much information about family background. For example, the questions about family structure and father's occupation are not very detailed.

[10] Some variables are not available every year or for some sub-samples in some years. The 1972 and 1973 surveys did not ask hours worked. Data on immigration were not obtained until 1977. The vocabulary quiz has a complicated rotation schedule. Analyses involving these variables are restricted to the appropriate sub-samples.

[11] This question conforms to the self-employment questions on the 1970, 1980 and 1990 census long forms and on the Current Population Surveys up to 1992. Recent changes in CPS questions probably produce slightly lower estimates of the incidence of self-employment than the Census and GSS questions.

The GSS contains racial, ethnic, and religious data that permit us a more refined set of categories than Census and CPS data allow. We begin with a question very similar to the Census' ancestry question. The GSS codes up to three countries of origin. We use the first one mentioned. The largest country-of-origin groups are each assigned their own categories. We combine smaller country-of-origin groups to form categories that contain geographically proximate areas (e.g., Southern Europe). Blacks, Latinos, and Jews get special treatment. All persons identified as "black" on a separate race variable are coded "African American" regardless of which country of origin they mentioned first (most often it was "United States"). All persons who identify Cuba, Mexico, or Puerto Rico are coded "Latino." All persons who said that their religion while growing up was Jewish are coded "Jewish" regardless of country-of-origin. This eliminates the ambiguity that arises for ethnic ancestry groupings that preclude religious categories (e.g., Lieberson and Waters [1988]).[12]

The GSS directly asks "Was your father self-employed while you were growing up?" There is clearly some ambiguity associated with this question given the fact that people often move into and out of self-employment. In cases where the respondent indicated that the father's self-employment status changed over time, the interviewer asked a follow-up question, "Was he self-employed when you were 16?"

Figure 1 shows how individuals' self-employment status varies by fathers' self-employment status, ethnic group, and gender. For each ethnic group, the black bar shows the rate of self-employment among individuals whose fathers were self employed, and the gray bar shows

---

[12]This raises the possibility that religion per se exerts an effect on the propensity to be self-employed. Perhaps, for example, the "Protestant ethic" might encourage entrepreneurship. However, when we added religion to our final empirical model (see column (3) of Table 2), we found that it had no statistically discernible impact.

the self-employment rate among individuals whose fathers were wage-earners. As expected from previous studies of the incidence of self-employment, we find that, in general, men are more likely to be self-employed than women (the bars on the left side of the Figure are longer than those on the right side), and that the children of self-employed fathers are more likely to be self-employed than those whose fathers are wage earners (within each category, the black bars are longer than the gray bars, with the exception of Central European and Italian women).

The groups in Figure 1 are sorted according to the proportion of individuals who are self-employed, with the low proportions at the top of the table and high proportions at the bottom. African-Americans have the lowest rate and Jews have the highest rate. Interestingly, although there appear to be substantial differences in the intergenerational pick-up rate across ethnic groups, the relationship between the pick-up rate and the proportion self-employed is not monotone.[13] Among the males, for example, blacks have the lowest proportion of self-employment and the lowest pick-up rate, but Russians, who have the second lowest incidence of self-employment have one of the highest pick-up rates. Of course, an individual's self-employment decision depends upon characteristics other than his or her father's self-employment status; age and education, for example, have been shown to be important in previous studies (see, e.g., Fairlie and Meyer [1996]). To the extent these characteristics are correlated with father's self-employment status and differ across ethnic groups, then the ethnic patterns in the pick-up rate depicted in Figure 1 may be misleading. Hence, while the Figure is informative, a multivariate analysis of self-employment propensities is required.

3. Multivariate Analysis

---

[13] The correlation between overall prevalence of self-employment and the pick-up rate is 0.67 for men and 0.72 for women.

In this section we explore further the relationship between family background and the propensity to become self-employed. An important goal is to determine whether the relationship between the intergenerational pick-up rate and ethnicity that we saw in Figure 1 is attenuated when we take into account other variables that might affect self-employment probabilities. Although there might be advantages to a model that features the intergenerational pick-up rate as an explicit parameter, we found it convenient to use a standard logistic regression model in which the left-hand side variable is the logarithm of the odds that the individual is self-employed. As usual in analyses of this kind, the logit model allows us to parse the intergenerational pick-up rate into several constituent parts. The probability that a working person from some group k is self-employed, given that her or his father was self-employed, is:

$$P_k^S = \frac{\exp(\hat{y}_{k|FSE})}{1+\exp(\hat{y}_{k|FSE})}, \qquad (1)$$

$$\textit{where} \qquad \hat{y}_{k|FSE} = \beta_0 + \beta_{1k} + \beta_2 + \beta_{3k} + \sum_{j=4}^{J} \beta_j \bar{X}_{jk}, \qquad (2)$$

and where FSE designates that the father was self-employed, β_0 is the logistic regression constant, β_{1k} is the coefficient for the dichotomous variable designating membership in group k, β_2 is the coefficient for paternal self-employment for all persons, β_{3k} is the coefficient which gives the incremental impact of paternal self-employment among persons in group k, the $\bar{X}_{jk}$ are group k's means of the other variables in the analysis, and β_j is the coefficient for X_j.

Equation 1 allows us to compare intergenerational pick-up rates between black and white workers (indexed by subscripts b and w). It implies that blacks and whites will have the same intergenerational pick-up rates if the main effect of race on self-employment is zero ($\beta_{1b} = \beta_{1w}$),

the effect of paternal self-employment does not differ by race ($\beta_{3b} = \beta_{3w}$), and blacks and whites have the same means of the other factors that influence self-employment ($\bar{X}_{jb} = \bar{X}_{jw}$ for $j = 4,\ldots, J$). The intergenerational pick-up rates will also be the same for blacks and whites if the intergenerational interaction effect ($\beta_{3b} - \beta_{3w}$) is just large enough to offset the main effect ($\beta_{1b} - \beta_{1w}$) and the compositional effect $\beta_j (\bar{X}_{jb} - \bar{X}_{jw})$. In the course of our analysis we will estimate the intergenerational pick-up rates and the logistic regression coefficients. We will also provide some calculations that suggest the contribution of each component to the observed difference in pick-up rates.[14]

3.1 Basic Results

To begin, we estimate a simple model in which the probability of self-employment depends only on the individual's ethnicity, gender, and a time effect. Specifically, on the right hand side we have a dichotomous variable for each ethnic group (the omitted group is British ancestry); the variable MALE, which takes a value of 1 if the individual is male, and zero otherwise; and a set of year effects. The means and standard deviations of all the variables (except for the time effects) are presented in Table 1.

The results are presented in the first column of Table 2 (except for the time effects, which are not reported in order to conserve space). Consistent with earlier findings (see, e.g., Fairlie and Meyer [1996]), we find substantial and statistically significant differences in the self-employment probabilities across ethnic groups. Particularly noteworthy is the coefficient for

---

[14] In the absence of interaction effects (β_{3b} and β_{3w}), it would be possible to calculate the proportion of the observed difference between blacks' and whites' intergenerational pick-up rates that is attributable to the main race effect, to differences in the presence of self-employed fathers, and to differences in composition of other factors. The presence of the interaction effects makes a unique decomposition impossible. We will address the issue with some illustrative calculations, recognizing that other researchers might treat the interactions differently.

blacks, which is negative and exceeds its standard error by about a factor of eight.[15] Taken as a group, the ethnic variables are jointly significant; the chi-squared test with 18 degrees of freedom is 142.2, which is significant at conventional levels. Mirroring the impression from Figure 1 and also consistent with earlier literature, we find that men are more likely to be self-employed than women; the MALE variable is positive and exceeds its standard error by a factor of more than 100. In short, the GSS data generate results that are broadly consistent with those from other data sets.

We next augment the equation with a dichotomous variable that takes a value of one if the individual's father was self-employed (Father-SE), and interactions of this variable with ethnicity and gender. In effect, this specification produces a more structured version of the information in Figure 1. Initially, we included interactions between Father-SE and each of the 18 ethnic categories. This, however, turned out to be an inefficient procedure--the pick-up rates across most of the white ethnic groups were not very different from each other, resulting in mostly insignificant coefficients and a Wald statistic (24.31) that was small relative to the degrees of freedom. However, we found that, in the presence of a set of variables to control for immigrant status (discussed in detail below), ethnicity has a bigger effect and that we could capture most of the variance associated with ethnic differences using only six categories in the interactions with father's self-employment: African-American, Latino, East Asian, Eastern European, "American,"

---

[15]Another noteworthy result is the negative and insignificant coefficient for East Asians, which runs counter to conventional notions that self-employment is prevalent in this group. In our data, the East Asian category is dominated by individuals from China, the Phillipines, Japan, and India. There are not enough Koreans to have their own category; they are included in "other Asian." And according to Farley's [1996, p. 198] analysis of the 1990 Census, Chinese, Indian, and Philippino immigrants all have below-average self-employment rates.

and other (with other the omitted group in the regression).[16] Specifically, as already noted, the Wald test statistic associated with all 18 ethnic categories was 24.31, while the 6-category version had a Wald statistic of 14.14. The difference between the two Wald statistics (10.17) is distributed as a chi-square with 12 degrees of freedom, implying that the constraint is consistent with the data. Hence, to enhance efficiency, we impose the constraint.

The results are reported in the second column of Table 2. Father-SE has a positive coefficient that exceeds its standard error by more than a factor of 3--as suggested in Figure 1 and previous research, having a self-employed father increases the probability that an individual will be self-employed. Also consistent with the impression from Figure 1, the intergenerational pick-up rate is stronger for men than for women: the interaction of Male and Father-SE is positive and statistically significant. However, the interactions of Father-SE with the race variables are generally insignificant on an individual basis.

Before concluding that pick-up rates are the same across racial groups, however, one should note that there are other variables that might affect the self-employment probability that are also correlated with race and father's self-employment status. Some of these pertain to the current situation of the individual:

--Decisions regarding self-employment may depend on the individual′ s stage of the life-cycle. Hence, we include age and age-squared.

--Human capital may affect the choice. We enter education as a set of categorical variables, one each for those whose education ended with a high school degree, with a junior

---

[16] African American, Latino, and East Asian are defined as they were before. "Eastern European" combines the Russian and Polish groups, "American" combines the "American" group and "Native American Indian" groups, and "other" is simply a residual category.

college degree, with a four-year college degree, and an advanced degree.[17] (The omitted category is less than a high school education.)

--Economic environments differ across regions of the country, so we include a series of dichotomous variables to reflect the individual's census region. (The omitted category is Middle Atlantic.)

--Similarly, opportunities for self-employment may differ depending on the size of the community in which an individual lives. We include a set of variables reflecting size of city. (The omitted category is rural area.)

As noted above, there are reasons to expect that the individual's family background will affect his or her propensity to be self-employed. So far, the only variable relating to background is the father's self-employment status. The GSS has a variety of interesting variables in this respect:

--An individual's tastes and human capital are affected by the structure of the family in which he or she was raised. From a series of questions that the GSS asks individuals about their family situations when they were 16 years of age, we know whether they lived with their mother and father, father and stepmother, mother and stepfather, father only, mother only, male relative, female relative, male and female relative, or some other kind of arrangement (which generally is an institution like an orphanage). We create a dichotomous variable for each category, with the mother-and-father-present category as the omitted variable.

--A growing body of literature suggests that various labor market and human capital outcomes may be influenced by one's number of siblings. (For example, Mare [1980] and

---

[17] We also estimated the equation using years of education and its square rather than a set of categorical variables. Their combined effects were weaker than the combined effects of these credential categories.

Butcher and Case [1994] argue that educational decisions are affected, although Kaestner [1996] finds no such effect for whites.) We include the number of siblings.[18]

--The father's occupation may be of importance for two reasons, which are not mutually exclusive. First, even if the father is not self-employed, certain occupations are more likely to offer opportunities for self-direction that might translate into a propensity for self-employment (Hout [1984]). Second, we do not have a measure of the family's wealth. However, family wealth may be systematically related to the father's occupation (Conley [1997]). Hence, to the extent that liquidity constraints lower the probability of self-employment and family money can help relax these constraints, we would expect father's occupation to matter. We collapse the more than 400 occupations in the GSS into seven categories: business, clerical and retail, skilled blue collar, semi-skilled blue collar, unskilled blue collar, farm, and professional. These categories correspond to the Census' major occupational groups except that non-retail sales workers are combined with managers and proprietors to form the business category because their mobility patterns are more similar (Hout [1988]). The omitted category is professional.

--There is a substantial literature indicating that immigrants and native born Americans have different self-employment probabilities. (See, e.g., Borjas and Bronars [1989] and Fairlie and Meyer [1996].) We know not only whether the individual is an immigrant, but whether he or she is the child of an immigrant, or the grandchild of an immigrant. Preliminary analysis indicated that for females, the immigrant status of parents and grandparents has no effect on their self-employment probabilities--immigrant females, daughters, and granddaughters are statistically

---

[18] The record for one individual reported that he had 60 sibs. Assuming that this was a transcription error of some kind, we deleted the observation. We also examined a specification with a quadratic term in the number of siblings, and found that it rendered both terms statistically insignificant.

indistinguishable from natives of native grandparentage, *ceteris paribus*. To sharpen the results, we therefore include only the following categorical variables: male immigrant, son of an immigrant, and grandson of an immigrant. All other individuals are in the omitted category. Further, to allow for the possibility that the intergenerational pick-up rate is affected when an individual migrates (so that a self-employed father lived in a foreign country), we include a term interacting Father-SE and the immigrant variable.

The results are reported in column (3) of Table 2.[19] To begin, we note that the ethnic dichotomous variables continue to be strongly significant. In particular, the coefficient for blacks remains negative, and is almost six times its standard error. Hence, although we will see that the various family background variables contribute significantly to the explanatory power of the equation, there is still an independent ethnicity effect. Similarly, the strong gender effect survives--the coefficient on Male is positive and significant. We divide the rest of the discussion of column (3) into two parts, the first dealing with implications for the intergenerational pick-up rate, and the second with the other variables.

Implications for the intergenerational pick-up rate. The intergenerational pick-up rate is determined by the coefficients on Father-SE and its interactions with other variables (see Equation (2)). The coefficient on Father-SE is positive; its statistical significance is diminished somewhat by the presence of interaction terms that augment this main effect but are (definitionally) correlated with it. A joint test of all terms that contain Father-SE yields a chi-squared test statistic of 78.73 with 8 degrees of freedom, which is significant at all conventional levels of significance.

---

[19] Note that there are fewer observations than in columns (1) and (2). This is due to the fact that some of the new variables in column (3) were not available in all the observations. However, when we re-estimated the specifications in columns (1) and (2), with the column (3) sample, no substantive changes were found. Interestingly, the interaction of Father-SE and Black increased in statistical significance.

Thus, the total effect of Father-SE is significant, consistent with our column (2) result. As before, the interaction of Father-SE and Male suggests that men have a higher pick-up rate, other things being the same.

At the bottom of the column, the negative coefficient on Male*Immig*Father-SE suggests that male immigrants who have self-employed fathers are no more likely to be self-employed than other immigrants. To explore this conjecture, note that the main effect of Father-SE is 0.22; its interaction with gender is 0.52, and its interaction with the son-of-immigrant variable is -0.80. The sum of these effects is -0.06, or essentially zero. This finding may have some bearing on the debate over whether a "tradition" of self-employment in the country of origin affects an ethnic group's propensity to be self-employed in the United States. On one hand, writers such as Frazier [1957] have argued that the low rate of self-employment among blacks is due to a lack of tradition in business enterprise. On the other hand, Aldrich and Waldinger [1990] point out that some ethnic groups have high self-employment rates in the US, even though they did not have high rates of self-employment in the country of origin. While we would not want to over-interpret our result, it does seem to support the Aldrich-Waldinger view--immigration weakens the link between fathers' and sons' self-employment probabilities, so it is hard to ascribe to "tradition" the difference in ethnic self-employment rates that we observe.[20]

An important result from column (3) is that the interaction of Black and Father-SE is positive and more than twice its standard error.[21] Given that the main effect of being black is to

---

[20] Raijman and Tienda [1997] reach a similar conclusion.

[21] Two other groups — the Eastern Europeans and the East Asians — also have positive interaction effects. Neither coefficient is significantly different from zero at conventional levels, nor is it significantly different from the interaction effect for blacks. Note, too, the significant negative interaction effect for "American." It means that for this heterogeneous group, there is almost no intergenerational persistence of self-employment. The interaction between ethnicity and father's self-employment status does not depend on the sex of the offspring. When we included three-way

reduce the probability of being self-employed, the positive interaction tells us that the racial disparity is less among workers whose fathers were self-employed. We will turn shortly to a quantitative assessment of this effect.

Other results from column (3). The coefficients on Age and Age-sq suggest that the probability of being self-employed first increases and then decreases. Given, however, that the peak is at age 53.6, it is fair to characterize the relationship as increasing through the prime working ages. With respect to education, we find that as educational attainment increases, the probability of being self-employed goes down, although for three out of four educational categories the relationship is not statistically significant. Borjas and Bronars [1989] found that completing college has a positive effect on the self-employment probability for white males, but no impact on blacks, Hispanics, or Asians. The coefficients on the regional variables indicate that there is substantial geographic variation in self-employment rates. In particular, the Middle Atlantic region (which is the omitted category) has lower self-employment rates than the rest of the country, *ceteris paribus,* while the Pacific region has the highest. With respect to city size, the omitted category is rural counties; the fact that all the included categories have negative coefficients indicates that rural self-employment rates are the highest, other things being the same. This is surely a consequence of the fact that farmers tend to be self-employed.

With respect to family structure, the omitted category is mother and father both present. The family structure variables are jointly significant; the chi-square statistic with 8 degrees of freedom is 17.99. None of the included categories has a positive and statistically significant coefficient, that is, no family structure is more likely to produce self-employed children than the "traditional" one. Individuals who are raised by relatives other than parents are less likely to be

---

interaction terms in the equation, they were jointly insignificant.

self-employed, although not all of these differences are statistically significant.

We next consider the influence of father's occupation. Recalling that the omitted category is professional, the main lesson that we learn from the mostly negative coefficients is that non-professionals are less likely to have self-employed children. As we suggested earlier, there is some ambiguity in interpreting this result. To the extent that professionals have higher wealth than other men, this may be reflecting the fact that their offspring face fewer liquidity constraints. The other interpretation is that the relative autonomy enjoyed by individuals in the professions may create the same kind of family culture as we find in homes with self-employed fathers (Kerckhoff [1972]). The two interpretations are not mutually exclusive, and may both be operative.

The number of siblings is significant at conventional levels. This extends previous findings that family size affects occupational outcomes (Blau and Duncan [1967]; Duncan, Featherman, and Duncan [1972]).[22] Finally, we note that male immigrants and their sons are more likely to be self-employed than native born individuals, but the next generation is not statistically distinguishable from the natives. This constitutes the first evidence that the relatively high self-employment rates of immigrants carry into the next generation, but disappear thereafter.

To summarize: The results in Table 2 demonstrate that various aspects of family background affect an individual's propensity to be self-employed. In particular, father's self-employment status and occupation, family structure, and number of siblings are all part of the story. In addition, the number of generations that the family has been in the country exerts a

---

[22]More specifically, Blau and Duncan find that large families are a disadvantage in attaining occupations with high social standing. To the extent we are willing to characterize self-employment as having relatively high social standing, our negative coefficient on Sibs reinforces Blau and Duncan's. As we note below, however, the quantitative significance of this coefficient is very small.

powerful effect. Nevertheless, the impact of race remains substantial. In effect, then, we have shown that conjectures about the importance of social origins, especially family structure and father's employment are essentially correct, but they do not entirely explain blacks' low rates of self-employment. "Tradition" and socialization are important contingencies but race exerts an independent effect, holding down the self-employment of blacks.

In that context, it is important to recall that the regression coefficients for racial and ethnic categories adjust for differences among the groups in their composition on the other variables in the model. Given our focus on blacks' self-employment rates, we summarize in Table 3 how blacks differ from others with respect to family structure, father's occupation, region, city size, immigrant status, and of course, father's self-employment. The table indicates that blacks are less likely to come from intact families, less likely to have professional fathers, more likely to be in the mid-Atlantic and south-Atlantic regions, less likely to be immigrants, and less likely to have self-employed fathers. The results in Table 2, column (3), suggest that each of these differences will tend to depress blacks' self-employment rates, *ceteris paribus.*

Quantitative implications. We turn now to a discussion of the quantitative implications of our results. To begin, we compute the effect of father's self-employment status on the probability that an individual is self-employed. In effect, this exercise gives us the regression-corrected version of the information in Figure 1. We use the coefficients from column (3) of Table 2 to estimate for each individual the probability that he or she is self-employed given his or her actual characteristics, except we set Father-SE to zero for everyone.[23] Taking the average of all these

---

[23] This revises downward the expected probability we would calculate for those persons whose father was self-employed; it involves no change from the probability we would calculate for those whose father was not self-employed.

probabilities gives us the predicted overall self-employment rate when Father-SE is zero. Next, we repeat the exercise, this time setting Father-SE equal to one for everyone. The difference between the two hypothetical probabilities is a measure of the impact of father's self-employment status upon the probability that an individual is self-employed.

The calculations indicate that, for the population as a whole, having a self-employed father roughly doubles the probability that an individual will be self-employed—the probability goes from 10.1 percent to 21.2 percent. For black men, the probability goes from 5.5 percent to 12.0 percent; for white women from 8.6 percent to 15.3 percent, and for black women from 3.4 percent to 5.2 percent. These group differences are consequences of the positive interactions between being a male and Father-SE, and between being black and Father-SE. Our finding that having a self-employed father doubles the probability that a son will be self-employed is in line with Dunn and Holtz-Eakin's [1996] results from the NLS and Fairlie's [1996] results from the PSID.[24]

A similar exercise indicates that race is also quantitatively significant. Specifically, changing the value of the African-American indicator variable from zero to one for each individual in the sample increases the probability of self-employment in the sample from 6.9 percent to 13.8 percent. The observed gap between self-employment among blacks and whites is about 28 percent larger than this hypothetical difference is.[25] The regression-corrected probabilities are closer together than the observed probabilities because the former reflect the direct effects of race per se;

---

[24]Further, Dunn and Holtz-Eakin [1996] find that the magnitude of the effect of parents' self-employment status does not depend on the inclusion of parents' assets (which are not reported in the GSS).

[25] Using actual values of the right-hand side variables, the simulated difference between the white and black probabilities is 8.8 percent (=14.1-5.3) which is 28 percent larger than the 6.9 percent (=13.8-6.9) regression-corrected difference.

the observed difference includes the effects of factors for which we control in the regressions. While recognizing that there is no unique decomposition of the various factors' contributions to the black-white difference, several reasonable decompositions point to father's self-employment and family structure as playing predominant roles.

We turn next to the impact of family structure. For illustrative purposes, we simulate the effects of moving from a family in which only a mother is present to a family with both a mother and father.[26] Specifically, when we assume that a mother and father were both present for every individual in the sample (i.e., all the "family structure" variables are set equal to zero), the implied self-employment rate is 13.4 percent. On the other hand, the simulated proportion of self-employed if only the mother was present ("mother-only" equals one) is 10.8 percent.[27] Thus, removing the father from the family induces a 2.6 percentage point decrease in the incidence of self-employment. In contrast, the quantitative effect of the number of siblings is very small. When we simulated the effect of increasing the number of siblings from zero (only child) to two, the overall change in the incidence of self-employment was only 0.27 percentage points.

To analyze the impact of immigration, we compare the probabilities of self-employment when the individual is an immigrant (the "male-immig" variable is one) and when his family has been in the United States for at least three generations (all the immigration variables are set equal to zero). The incidence of self-employment in the population increases from 12.7 percent to 15.0 percent.

---

[26]The point estimate upon which we base this simulation is imprecisely estimated, although, as noted above, the family structure variables are jointly significant.

[27] In calculating the probabilities with the father and mother present, Father-SE was set equal to its actual value. In the simulations with only the mother present, Father-SE was set equal to zero, as was the father's occupation.

Father's occupation also has a quantitatively substantial effect. Our simulations suggest that if everyone's father were a professional (i.e., all of the father's-occupation variables were set equal to zero), the incidence of self-employment in the population would be 15.4 percent. In contrast, if all fathers instead were unskilled blue collar workers, the proportion would be 11.2 percent.[28]

In summary, we have shown that, in general, the family background variables are not only statistically significant, they exert a quantitatively important effect on self-employment probabilities as well.

Implications of racial differences in pick-up rates. Another way to think about the quantitative implications of our findings is in terms of the simple Markov model of the intergenerational transmission of self-employment suggested by Fairlie and Meyer [1996]. Let P^S be the (unchanging) probability that a person becomes self-employed given that his or her father was self-employed (i.e., the intergenerational pick-up rate), P^N the analogous probability for a person whose father was not self-employed, and SE, the self-employment rate in generation t. Then,

$$SE_t = P^S \ SE_{t-1} + P^N (1 - SE_{t-1}). \qquad (3)$$

For realistic values of the parameters, this type of model has two important properties. First, convergence to the equilibrium self-employment rate implied by a given pair of rates P^S and P^N is rapid. Second, the initial conditions do not matter very much; the starting value of SE_t (for t = 0)

---

[28] In this simulation, the Father-SE variable is assigned its actual value for each individual in the sample. In another simulation, we removed the Father-SE component of the contrast. With this setup, moving from a professional father to an unskilled blue collar father changes the incidence of self-employment from 8.7 percent to 3.5 percent. This refinement does not change the difference between the two probabilities, since the same quantity is removed from both.

is less important than the values of P^S and P^N because self-employment in the initial generation affects the first generation's self-employment but has no input beyond that. These properties may or may not have a real world analog.

Fairlie and Meyer assign blacks and whites different initial conditions but the same values of P^S and P^N. They observe that blacks and whites converge to a common self-employment rate (SE_t) in three generations.[29] This convergence is the consequence of a common set of P^S and P^N values for blacks and whites. If either P^S or P^N differs by group, then the groups will converge (quickly) to the different self-employment rates implied by their combination of P^S and P^N.

The GSS data contradict the assumption that blacks and whites share common values of P^S and P^N. We find, before doing any regression adjustments or other analysis, that among black men P^S and P^N are 10.6 percent and 5.7 percent while among nonblack men P^S and P^N are 26.6 percent and 13.0 percent. With a wide range of initial conditions that include all plausible values of self-employment rates among fathers, these different values imply that black men reach an equilibrium self-employment rate of 6.0 percent while others reach a higher level of 15.0 percent. Even if blacks and others start out with the same initial conditions, they reach these different equilibria after four generations (and they attain 99 percent of the equilibrium values after three generations).

Our logistic regression adjusts these gross pick-up rates for compositional differences between the races. The key issue for present purposes is the relationship between the regression parameters and the probabilities that drive the Markov model. Suppose that we subscript the probabilities with b's for blacks and o's for other races, so that, for example, P_b^S is the probability

---

[29] Their example is even stronger in the details. Convergence was 88 percent complete after one generation and 98 percent complete after two generations.

that a black child of a self-employed father becomes self-employed. The main effect of race contributes to the difference between P_b^N and P_o^N; because this effect is negative, P_b^N is less than P_o^N. (Consult column (3) of Table 2, which indicates that the main effect is –1.01.) The main effect of race and the interaction between race and father's self-employment contribute to the difference between P_b^S and P_o^S. The interaction effect is positive (0.605) but less than the main effect in absolute value, so that P_b^S is less than P_o^S. However, $(P_0^N - P_b^N)$ is greater than $(P_0^S - P_b^S)$, that is, blacks are at less of a disadvantage if their father is self-employed.

In short, the net difference between self-employment rates for blacks and others with similar family backgrounds is sufficiently large that one cannot expect their self-employment rates to converge. We emphasize again, however, that this is based on a very simple model which, *inter alia*, ignores the possibility that some exogenous factor not yet acting in real time could reduce the magnitude of the main effect of race, which dominates all of these calculations.

3.2 Alternative Specifications

We analyzed a number of alternative specifications in order to assess the robustness of our findings. To begin, recall from Table 3 that there is a strong life-cycle aspect to self-employment. Our specification imposes the restriction that this pattern be the same for all individuals, but it might be different for the offspring of the self-employed. In particular, they might get off to an earlier start. We therefore augmented the specification in column (3) with interactions of Age and Age-sq with Father-SE. It turns out that the interaction terms were not statistically significant--the chi-square statistic with 2 degrees of freedom was 2.1, which is significant only at the 0.35 level. Thus, we cannot reject the hypothesis that the life-cycle pattern of self-employment is invariant with respect to father's self-employment experience.

We next analyzed the impact of the individual's marital status. We were reluctant to

include it in our canonical specification because of possible endogeneity--the decision to become self-employed may be made jointly with other major personal decisions. Still, it seemed worthwhile to see what would happen if we included variables relating to marital status. For this exercise, we used 5 categories to characterize marital status: divorced, widowed, separated, never married, and currently married. Both the marital status variables and their interactions with sex were jointly significant. The results indicated that currently married women are more likely to be self-employed, *ceteris paribus*, while divorced men are *more* likely to be self-employed than their currently married counterparts. The interaction between Father-SE and marital status was not statistically significant. In any case, the inclusion of the marital status variables leaves unchanged our substantive results. In particular, the coefficient on Black*Father-SE is essentially the same.

In the same spirit, we checked to see whether the presence of children affects self-employment probabilities. In our data, there is no effect. When we added a linear term in the number of children, the associated chi-square test with one degree of freedom was 1.09, which is statistically insignificant. Checking for nonlinearities by adding a quadratic term added nothing to the explanatory power of the equation. Similarly, entering the number of children via six categorical variables (childless, one child, ..., four children, five or more children) also produced a null result--the associated chi-square test was 2.11 with 5 degrees of freedom, which is insignificant at conventional significance levels.

Finally, we turned to an issue that has received a lot of attention in the literature on the self-employment experience of immigrants--language skills. In particular, some have argued that immigrants have a comparative advantage in self-employment because their lack of language skills reduces their value as employees. Fairlie and Meyer [1996] investigated this issue by including in their regression a dichotomous variable indicating whether or not the individual had a problem

speaking English, and found that men with a language problem are *less* likely to be self-employed. A possible problem with this variable is that it relies on the individual's own assessment of his language skills.The GSS provides a somewhat more objective measure—the score on a 10-word vocabulary test.[30] We augmented the specification of column (3), Table 1 with a variable equal to the number of correct answers, and found that it was statistically insignificant.[31] Neither did interacting the test score with the immigration variables significantly increase the explanatory power of the equation. Further, the immigration variables remained jointly significant. One must be cautious in interpreting this result, given that it is generated with a much smaller sample than the rest of our analyses (we had the vocabulary test score only for 5939 observations). Still, our tentative conclusion would be that, during the past several decades, language problems have not been pushing individuals into self-employment. Fairlie and Meyer report that language problems actually keep people out of self-employment. Our null finding—using a measure that specifically taps the respondent's ability to recognize a variety of words—fails to confirm their surprising result (which was based on 140,000 observations).

4. Conclusion

In this paper we have investigated the impact of family background and race on the probability that an individual is self-employed. We found that circumstances from early in life affect the likelihood of self-employment in adulthood. Having a self-employed father, living with both parents, and being a first or second generation immigrant are most salient among the background factors that facilitate self-employment. These findings confirm the conjectures of a number of

---

[30] The test was given in the following years: 1978, 1982, 1984, 1987-1994. Since 1988 only two-thirds of respondents have been given the test.

[31] The t-statistic of the vocabulary test was 1.50, and its interaction with Father-SE had a t-statistic of −1.16.

recent studies of self-employment and extend the range of variables that have been considered in this context.

We have focused particularly on the low self-employment rate of African-Americans. They are certainly disadvantaged with respect to the background variables that enhance the probability of self-employment. Researchers since Glazer and Moynihan in the early 1960s have speculated as to whether these disadvantages account for blacks' low rates of self-employment. Our finding is that they do to some extent. The prevalence of family disruption and fathers' low rates of self-employment hold down self-employment among blacks, especially black men. However, race itself has an independent effect on self-employment. We are still missing some important pieces to the puzzle of low rates of self-employment among blacks.

References

Aldrich, Howard E., and Robert Waldinger. 1990. "Ethnicity and Entrepreneurship." *Annual Review of Sociology* 16: 111-35.

Blau, Peter M., and Otis Dudley Duncan. 1967. *The American Occupational Structure*. New York: Wiley.

Borjas, George J., and Stephen G. Bronars. 1989. "Consumer Discrimination and Self-Employment." *Journal of Political Economy* 97(3): 581-605.

Browne, Lynn Elaine, and Geoffrey M.B. Tootell. 1995. "Mortgage Lending in Boston—A Response to the Critics." *New England Economic Review* Sept/Oct: 34-39.

Butcher, Kristin, and Anne C. Case. 1994. "The Effect of Sibling Sex Composition on Women's Education and Earnings." *Quarterly Journal of Economics* 109(3): 531-63.

Conley, Dalton. 1997. *Race, Family and Wealth in the United States*. Unpublished Ph.D. dissertation. Department of Sociology, Columbia University.

Davis, James A., and Tom W. Smith. 1996. *General Social Survey Cumulative Codebook*. Storrs, CT: The Roper Center for Public Opinion Research.

Duncan, Otis Dudley, David L. Featherman, and Beverly Duncan. 1972. *Socioeconomic Background and Achievement*. New York: Academic Press.

Dunn, Thomas, and Douglas Holtz-Eakin. 1996. "Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links." National Bureau of Economic Research, Working Paper No. 5622.

Evans, David S., and Boyan Jovanovic. 1989. "An Estimated Model of Entrepreneurial Choice Under Liquidity Constraints." *Journal of Political Economy* 97(4): 808-27.

Fairlie, Robert W. 1996. "The Absence of the African-American Owned Business: An

Analysis of the Dynamics of Self-Employment." University of California, Santa Cruz, Working Paper.

Fairlie, Robert W., and Bruce D. Meyer. 1996. "Ethnic and Racial Self-Employment Differences and Possible Explanations." *Journal of Human Resources* 31(4): 757-93.

Fairlie, Robert W., and Bruce D. Meyer. 1997. "Trends in Self-Employment Among White and Black Men: 1910-1990." Northwestern University, Working Paper.

Farley, Reynolds. 1996. *The New American Reality*. New York: Russell Sage Foundation.

Frazier, E. Franklin. 1957. *The Negro in the United States*, 2nd Edition. New York: MacMillan.

Glazer, Nathan, and Daniel P. Moynihan. 1970. *Beyond the Melting Pot*, 2nd Edition. Cambridge, Mass.: MIT Press.

Hamilton, Barton Hughes. 1995. "Does Entrepreneurship Pay? An Empirical Analysis of the Returns to Self-Employment." McGill University, Working Paper.

Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen. 1994. "Entrepreneurial Decisions and Liquidity Constraints." *Rand Journal of Economics* 25(2): 334-47.

Hout, Michael. 1984. "Status, Autonomy, and Training in Occupational Mobility." *American Journal of Sociology* 89(6): 1379-1409.

——. 1988. "More Universalism, Less Structural Mobility: The American Occupational Structure in the 1980s." *American Journal of Sociology* 93(6): 1358-1400.

Jovanovic, Boyan. 1982. "Selection and the Evolution of Industry." *Econometrica* 50(3): 649-70.

Kaestner, Robert. 1996. "Are Brothers Really Better? Sibling Sex Composition and

Educational Achievement Revisited." National Bureau of Economic Research, Working Paper No. 5521.

Kerckhoff, Alan C. 1972. *Socialization and Social Class.* Englewood, NJ: Prentice Hall.

Kihlstrom, Richard, and Jean-Jacques Laffont. 1979. "A General Equilibrium Entrepreneurial Theory of Firm Formation Based on Risk Aversion." *Journal of Political Economy* 87(4): 719-48.

Lentz, Bernard F., and David N. Laband. 1990. "Entrepreneurial Success and Occupational Inheritance Among Proprietors." *Canadian Journal of Economics* 23(3): 563-79.

Lieberson, Stanley, and Mary C. Waters. 1988. *From Many Strands.* New York: Russell Sage Foundation.

Logan, John R., Richard D. Alba, Michael Dill and Min Zhou. 1997. "Ethnic Economies in the Second Decade of the Post-1965 Immigration." Department of Sociology, SUNY at Albany, Working Paper.

Mare, Robert D. 1980. "Social Background and School Continuation Decisions." *Journal of the American Statistical Association* 75: 295-305.

Meyer, Bruce. 1990. "Why Are There So Few Black Entrepreneurs?" National Bureau of Economic Research, Working Paper No. 3537.

Oliver, Melvin, and Thomas M. Shapiro. 1995. *Black Wealth / White Wealth.* London: Routledge.

Raijman, Rebecca, and Marta Tienda. 1997. "Pathways to Business Ownership Among Immigrants to Chicago." Paper presented at the meeting of the International Sociological Association Research Committee on Stratification and Social Mobility, Tel Aviv, 18-20 May 1997.

Waldinger, Roger. 1986. "Immigrant Enterprise: A Critique and Reformulation." *Theory and Society* 15(1-2): 249-85.

Wilson, Kenneth, and Alejandro Portes. 1980. "Immigrant Enclaves: An Analysis of the Labor Market Experiences of Cubans in Miami." *American Journal of Sociology* 86(2): 295-319.

Woodward, C. Vann. 1955. *The Strange Career of Jim Crow.* New York: Oxford University Press.

</ref_section>

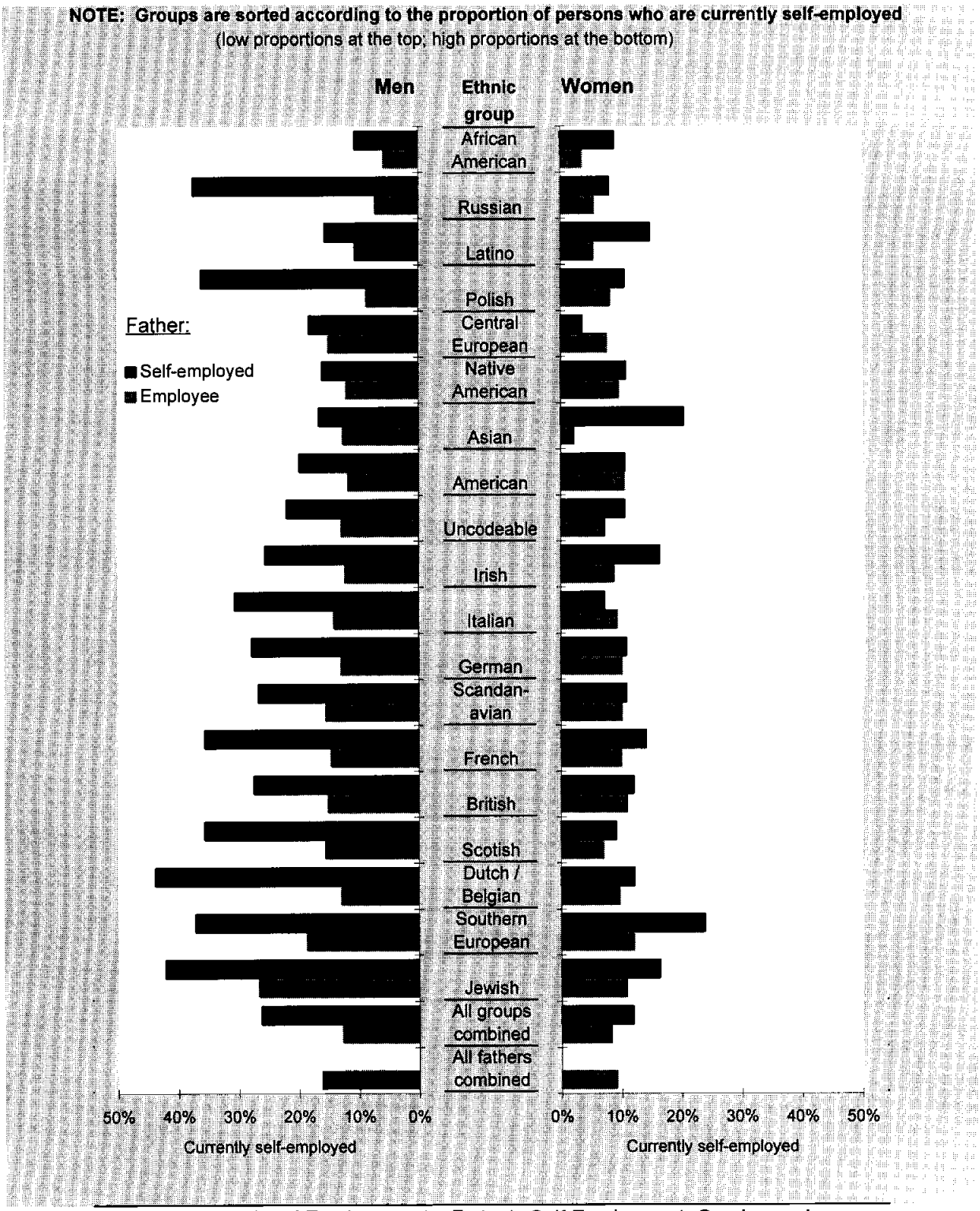

Figure 1. Rate of Self-Employment by Father's Self-Employment, Gender, and Ethnic Group: Employed Persons, 25-64 Years Old, United States, 1974-1994

SOURCE: General Social Survey, 1974-1994

Table 1

Percentage Distributions of Categorical Variables and Means and Standard Deviations of Continuous Variables for Full Sample and Subsample Used in Logistic Regression Analyses: Persons, Aged 25-64, Who Worked 15 or More Hours, United States, 1974-1994

	Full Sample (N=14,209)		Subsample (N=11,104)	
Variable/Category	% or mean	S. D.	% or mean	S. D.
SELF-EMPLOYMENT	12.8%		13.0%	
ETHNICITY				
African	12.4%		12.7%	
Russian	0.8%		0.8%	
Latino	4.4%		4.6%	
Polish	2.5%		2.5%	
C. European	2.3%		2.2%	
Native American	2.7%		2.9%	
East Asian	1.2%		1.4%	
"American"	1.2%		1.1%	
Uncodeable	12.1%		10.7%	
Irish	10.5%		10.7%	
Italian	4.8%		4.8%	
German	17.5%		17.6%	
Scandinavian	4.3%		4.5%	
French	3.2%		3.3%	
British	12.4%		12.7%	
Scottish	2.9%		3.0%	
Dutch/Belgian	1.7%		1.7%	
S. European	0.6%		0.6%	
Jewish	2.3%		2.3%	
Male	54.1%		52.7%	
Father-SE	24.9%		24.4%	
Age	40.57	10.59	40.34	10.43
INDIVIDUAL'S EDUCATION				
Less Than High School			13.5%	
High School Grad			53.5%	
Junior College Degree			6.0%	
Four-Year College Degree			17.8%	
Advanced Degree			9.2%	
REGION				
0 (Mid Atlantic): NY, NJ, PA			14.9%	
1 (New England): ME, VT, NH, MA, CT, RI			5.4%	
2 (East N Central): WI, IL, IN, MI, OH			18.4%	
3 (West N Central): MN, IA, MO, ND, SD			8.1%	
4 (South Atlantic): DE, MD, DC, WV, VA, NC, SC, GA, FL			18.0%	
5 (East S Central): KY, TN, AL, MS			6.8%	
6 (West S Central): AR, OK, TX, LA			9.2%	
7 (Mountain): MT, ID, WY, CO, UT, NM, AZ, NV			5.7%	

8 (Pacific): CA, OR, WA, AK, HA			13.5%	
CITY SIZE				
Large city, central			8.2%	
Medium city, central			13.6%	
Large city, suburb			12.2%	
Medium city, suburb			16.9%	
Small city			37.3%	
Rural			11.7%	
FAMILY STRUCTURE AT AGE 16				
Mother & Father			76.7%	
Father & Stepmother			1.6%	
Mother & Stepfather			4.2%	
Father Only			1.7%	
Mother Only			11.1%	
Male Relative			0.3%	
Female Relative			1.1%	
Male & Female Relatives			1.8%	
Other			1.7%	
FATHER'S OCCUPATION				
Professional			9.9%	
Business			18.8%	
Clerical & Retail			3.5%	
Skilled blue collar			19.9%	
Semi-skilled blue collar			17.2%	
Unskilled blue collar			6.7%	
Farm			10.2%	
Sibs	3.79	3.01	3.72	2.96

Source: Full sample, General Social Survey, 1974-1994; Subsample, General Social Survey, 1977-1994.

Table 2*
Logit Analysis of Self-Employment Probabilities

Variable Name	column 1 coefficient	column 1 st. error	column 2 coefficient	column 2 st. error	column 3 coefficient	column 3 st. error
ETHNICITY						
African	-1.092	.133	-1.080	.153	-1.068	.196
Russian	-.629	.328	-.712	.353	-.870	.425
Latino	-.502	.150	-.506	.179	-.473	.207
Polish	-.477	.185	-.480	.205	-.383	.241
C. European	-.301	.186	-.234	.187	-.073	.211
Native American	-.300	.171	-.180	.191	.012	.208
East Asian	-.256	.240	-.532	.371	-.671	.400
"American"	-.218	.238	-.086	.253	.105	.286
Uncodeable	-.218	.099	-.236	.100	-.173	.120
Irish	-.163	.101	-.141	.102	-.053	.116
Italian	-.127	.129	-.081	.130	.116	.154
German	-.068	.087	-.093	.088	-.030	.102
Scandinavian	-.027	.131	-.043	.132	-.011	.151
French	-.028	.147	.036	.148	.254	.165
Scottish	.016	.150	.012	.151	-.052	.175
Dutch/Belgian	.177	.181	.129	.183	.086	.212
S. European	.451	.268	.366	.271	.302	.315
Jewish	.649	.142	.501	.145	.636	.174
Male	.627	.053	.455	.066	.418	.083
Father-SE			.322	.097	.221	.116
RACE*Father-SE						
African American			.185	.267	.621	.306
Latino			.072	.295	.240	.329
East Asian			.263	.479	.639	.522
"American"			-.361	.297	-.712	.346
E. European			.657	.369	.844	.432
Male*Father-SE			.523	.114	.517	.131
Age					.113	.024
Age-sq					-.105	.028
INDIVIDUAL'S EDUCATION						
High School Grad					-.099	.094
Junior College Degree					-.329	.160
Four-Year College Degree					-.127	.115
Advanced Degree					-.318	.133
REGION						
Region 1					.179	.150
Region 2					.087	.111
Region 3					.257	.132
Region 4					.071	.115
Region 5					.256	.146

Region 6	.478	.126
Region 7	.283	.147
Region 8	.537	.111
CITY SIZE		
Large city, central	-.430	.146
Medium city, central	-.365	.119
Large city, suburb	-.395	.121
Medium city, suburb	-.401	.109
Small city	-.360	.092
FAMILY STRUCTURE AT AGE 16		
Father & Stepmother	-.273	.250
Mother & Stepfather	-.345	.173
Father Only	.118	.218
Mother Only	-.145	.134
Male Relative	-.571	.628
Female Relative	-.737	.442
Male & Female Relatives	-.717	.287
Other	.240	.214
FATHER'S OCCUPATION		
Business	.002	.108
Clerical & Retail	-.346	.192
Skilled blue collar	-.326	.114
Semi-skilled blue collar	-.335	.122
Unskilled blue collar	-.391	.166
Farm	-.219	.135
Sibs	-.027	.012
INTERACTIONS		
Male immig.	.581	.189
Son of immig.	.356	.125
G-Son of immig.	-.045	.093
Male*Immig*Father-SE	-.796	.313
Constant	-2.226 .145	-2.379 .150	-4.770 .554
Observations	14,209	14,209	11,104
-2 loglikelihood	10,657	10,481	8,059
(residual d.f.)	(14,172)	(14,165)	(11,026)

* Variables are defined in Table 1. Numbers in parentheses are standard errors. In each column, the left-hand side variable is the logarithm of the odds of being self-employed. Each equation is estimated with time effects. Columns (1) and (2) are based on data from 1974 to 1994, and column (3) is based on 1977 to 1994.

Table 3

Percentage Distributions of Categorical Variables and Means and Standard Deviations of Continuous Variables for Blacks and Non-Blacks: Persons, Aged 25-64, Who Worked 15 or More Hours, United States, 1977-1994

	Black Sample (N=1,430)		Other Sample (N=9,674)	
Variable/Category	% or mean	S. D.	% or mean	S. D.
SELF-EMPLOYMENT	5.1%		14.2%	
Father-SE	15.2%		25.7%	
REGION				
0 (Mid Atlantic): NY, NJ, PA	16.3%		14.6%	
1 (New England): ME, VT, NH, MA, CT, RI	1.3%		6.0%	
2 (East N Central): WI, IL, IN, MI, OH	17.8%		18.5%	
3 (West N Central): MN, IA, MO, ND, SD	4.1%		8.6%	
4 (South Atlantic): DE, MD, DC, WV, VA, NC, SC, GA, FL	30.8%		16.1%	
5 (East S Central): KY, TN, AL, MS	11.2%		6.1%	
6 (West S Central): AR, OK, TX, LA	10.1%		9.1%	
7 (Mountain): MT, ID, WY, CO, UT, NM, AZ, NV	1.0%		6.4%	
8 (Pacific): CA, OR, WA, AK, HA	7.4%		14.5%	
CITY SIZE				
12 Largest SMSA, CC	22.3%		6.1%	
Other SMSA, CC	26.2%		11.7%	
12 Largest SMSA, Suburb	9.3%		12.5%	
Other SMSA, Suburb	10.7%		18.0%	
Nonmetro, urban	24.7%		39.3%	
Nonmetro, rural	6.9%		12.6%	
FAMILY STRUCTURE AT AGE 16				
Mother & Father	57.3%		79.6%	
Father & Stepmother	1.4%		1.6%	
Mother & Stepfather	5.7%		3.9%	
Father Only	1.9%		1.7%	
Mother Only	22.8%		9.3%	
Male Relative	0.6%		0.3%	
Female Relative	4.3%		0.6%	
Male & Female Relatives	4.0%		1.4%	
Other	2.0%		1.7%	
FATHER'S OCCUPATION				
Professional	3.2%		10.9%	
Business	6.1%		20.7%	
Clerical & Retail	2.2%		3.7%	
Skilled blue collar	13.2%		20.9%	
Semi-skilled blue collar	20.7%		16.6%	
Unskilled blue collar	14.1%		5.6%	
Farm	11.3%		10.1%	
AGE (years)	39.52	10.44	40.45	10.44
EDUCATION (years)	12.68	2.79	13.50	2.93
SIBLINGS	5.43	3.77	3.51	2.78

Subsample, General Social Survey, 1977-1994.