Entrepreneurship among Disadvantaged Groups:
An Analysis of the Dynamics of Self-Employment by Gender, Race, and Education

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1. Introduction

Policies to promote entrepreneurship and business ownership among disadvantaged groups are widespread. In the United States, for example, there exist at least 650 non-profit programs providing loans, training, and/or technical assistance to disadvantaged entrepreneurs (Aspen Institute 2002). Many countries have programs providing financial and other assistance to the unemployed to start businesses.[1] Several states in the United States also have programs providing transfers to unemployment insurance recipients and programs promoting self-employment as a way to leave the welfare rolls (Vroman 1997, Kosanovich et al. 2001, Guy, Doolittle, and Fink 1991, and Raheim 1997). The federal government and several states have also promoted self-employment as a way to leave the welfare rolls.

There also exist a large number of federal, state and local government programs providing set-asides and loans to minorities, women, and other disadvantaged groups.[2] These affirmative action programs, which target government contracts for disadvantaged and minority-owned firms, have been and continue to be extremely controversial. During the late 1970s and 1980s there was tremendous growth in the value of federal, state, and local government contracts reserved for minority-owned businesses in the United States. The purpose of these set-aside programs was to develop minority enterprise, counter the effects of past discrimination, and reduce unemployment among minorities. For the last 15 years, however, the state and local programs established in the 1980s have been both judicially and legislatively challenged and in many cases dismantled. The constitutionality of government-sponsored set-aside programs has been seriously questioned with the 1989 *Richmond v. J.A. Croson Co.* and 1995 *Adarand Constructors Inc. v. Peña* U.S. Supreme Court decisions.

The interest in entrepreneurship and business development programs has been spurred by arguments from academicians and policymakers that entrepreneurship provides a route out of

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[1] See OECD (1992) for descriptions of programs in Beligium, Canada, Finland, France, Greece, Netherlands, Portugal, Spain and the United Kingdom.
[2] See Bates (1993) for a description of programs promoting self-employment among minorities.

poverty and an alternative to unemployment or discrimination in the labor market.[3] For example,

Glazer and Moynihan (1970, p. 36) argue that "business is in America the most effective form of

social mobility for those who meet prejudice." Proponents also note that many disadvantaged

groups facing discrimination or blocked opportunities in the wage/salary sector have used

business ownership as a source of economic advancement. It has been argued, for example, that

the economic success of earlier immigrant groups in the United States, such as the Chinese,

Japanese, Jews, Italians, and Greeks, is in part due to their ownership of small businesses (See

Loewen 1971, Light 1972, Baron et al. 1975, and Bonacich and Modell 1980). More recently,

Koreans have purportedly used business ownership for economic mobility (Min 1989, 1993).

Finally, stimulating business creation in sectors with high growth potential (e.g., construction,

wholesale trade, and business services) may represent an effective public policy for promoting

economic development and job creation in poor neighborhoods (Bates 1993).

The desire for entrepreneurship is also strong in many countries around the world. When

individuals are asked the question of whether they would prefer "being an employee or being self-

employed" a large percentage reported "self-employment (Blanchflower, Oswald and Stutzer

2001)." Slightly more than 70 percent of respondents in the United States express a desire to be

self-employed. In many other countries, including Germany, Italy and Canada for example, more

than half of all individuals reported a desire for self-employment.[4] Interest in self-employment is

also strong among disadvantaged groups. More than 60 percent of young women and 75 percent

of young blacks report being interested in starting their own business (Kourilsky and Walstad

1998 and Walstad and Kourilsky 1998). Among young men and whites, 72 and 63 percent of

respondents are interested in starting a business. Although many disadvantaged individuals may

possess a strong desire for entrepreneurship, they ultimately do not operate successful small

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[3] See Glazer and Moynihan (1970), Light (1972, 1979), Sowell (1981), and Moore (1983).
[4] Job satisfaction is also much higher among the self-employed than wage/salary workers (Blanchflower, Oswald and Stutzer 2001).

businesses due to a lack of knowledge of business opportunities, sector-specific human capital, and financial capital.

In this study, I examine entrepreneurship patterns among several disadvantaged groups. I first document rates of business ownership using microdata from the U.S. Current Population Survey (CPS) and U.S. Census, and aggregate data from the OECD Labour Force Statistics, Canadian Census, and British Census making comparisons to more advantaged groups. New estimates of self-employment rates for several ethnic and racial groups from the Canadian, U.K. and U.S. Censuses are presented. Next, using microdata from the CPS, I explore differences in entry rates into and exit rates out of self-employment across groups. This dynamic approach is useful for identifying the causes of differences in self-employment rates between groups and changes over time in self-employment rates. In previous research, I use this approach to analyze the causes of black/white differences in business ownership rates in the United States (Fairlie 1999). I also use a non-linear decomposition technique to identify the contributions from racial and ethnic differences in education, assets and other factors to gaps in self-employment entry and exit rates.

Several major disadvantaged groups are analyzed in this study -- women, blacks, Latinos, Native Americans, immigrants, and the less-educated. All of these groups have substantially lower earnings than their more advantaged counterparts. Among year-round, full-time workers, women earn only 66 percent of what men earn (U.S. Bureau of the Census 2004). Latinos, blacks, and Native Americans earn only 2/3 to 3/4 of the earnings of white, non-Latinos.[5] Immigrants earn 90 percent of natives, and high school dropouts earn only 43 percent of college-educated workers. Most of these groups have also been targeted by set-aside programs in the United States. As discussed below, extensive literatures on female, minority and immigrant entrepreneurship currently exist and a relatively small literature is emerging on less-educated

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[5] A comparison of poverty rates reveals even more alarming differences. The Latino, black and Native American poverty rates range from 2.8 to 3.1 times the white, non-Latino poverty rate (U.S. Bureau of the Census 2003).

entrepreneurs. The lack of research on less-educated workers is somewhat surprising as this group also faces limited opportunities in the wage/salary sector and has experienced declining wages relative to the wages of their college-educated counterparts.[6] Furthermore, similar to other disadvantaged groups limited access to capital may represent a significant barrier to entrepreneurial success for this group.

2. Business Ownership among Disadvantaged Groups

Using data from the Current Population Survey (CPS) Annual Demographic Files (ADF), I first examine patterns of self-employment across several disadvantaged groups. These surveys, conducted annually by the U.S. Bureau of the Census and the Bureau of Labor Statistics, are representative of the entire U.S. population and contain observations for more than 130,000 people. Several recent years of the ADFs are combined to increase the precision of estimates, especially for smaller groups.

Self-employed workers are defined as those individuals who identify themselves as self-employed in their own not incorporated or incorporated business on the class of worker question.[7] The class of worker question refers to the job with the most hours during the reference week. I restrict the sample to include only prime-age individuals (ages 25 to 55) to lessen concerns regarding schooling and retirement decisions.

Table 1 reports estimates of self-employment ratios and rates by sex, race/ethnicity, immigrant status, and education level. The self-employment ratio is defined as the percent of all individuals ages 25-55 who report being a self-employed business owner. The self-employment rate conditions on employment. For both measures, women have substantially lower levels of self-employment than men. Although female self-employment rates have risen dramatically in recent decades (see Aronson 1991, Devine 1994a, U.S. Small Business Administration 1998, and

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[6] See Levy and Murname (1992) and Katz and Autor (1999) for reviews of the literature on wage inequality.
[7] Unpaid family workers are not counted as self-employed.

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Fairlie 2004 for example), the prevalence of business ownership among women is only 50-60 percent of that for men.

The low rate of self-employment among women permeates across ethnic/racial groups and countries. Estimates from the 1990 Census indicate that female self-employment rates are typically around 55 percent of male rates within detailed ethnic/racial groups and rarely deviate from this ratio (Fairlie and Meyer 1996). In fact, of the 60 detailed ethnic/racial groups studied only 4 groups have female/male self-employment rate ratios that lie outside the range of 0.35 to 0.75. British data reveal a similar pattern of low rates among women within ethnic groups although the ratios of female to male rates are generally lower than in the United States. Estimates from the Fourth National Survey of Ethnic Minorities indicate that female/male ratios ranging from 0.22 to 0.63 with the exception of the Chinese ratio of 0.88 (Clark and Drinkwater 2000).

An examination of aggregate data from the OECD also indicates that women are less likely to be self-employed than men for every reported country. Table 2 reports estimates of the percent of all workers who are self-employed in all industries and non-agricultural industries for men and women. Although self-employment rates vary substantially across countries, female rates are substantially lower than male rates in almost every reported country. The average and median female/male self-employment rate ratios across all countries are 0.543 and 0.548 percent, respectively. Several countries have female self-employment rates that are roughly one third male rates, and only Canada, Mexico and the United States have female/male self-employment rate ratios greater than 0.7. The U.S. female/male self-employment rate ratio also appears to be inflated because incorporated business owners are not included in the OECD estimates for the United States. Estimates from the CPS reported in Table 1 indicate a U.S. female/male self-employment rate ratio of 0.613. Clearly, women are substantially less likely to be self-employed

than are men, which is quite consistent around the world and across different ethnic/racial groups.[8]

Returning to estimates from the CPS reported in Table 1, a clear ordering of self-employment propensities across ethnic and racial groups emerges. White, non-Latinos and Asians have the highest self-employment rates and ratios. Among white, non-Latinos, 10.7 percent of the population ages 25-55 is self-employed and 12.8 percent of the workforce is self-employed. The Asian self-employment rate and ratio are slightly lower. Relative to these two groups, blacks, Native Americans and Latinos are much less likely to be self-employed. The likelihood of business ownership among Latinos is only slightly higher than 50 percent of that for white, non-Latinos. Native Americans have even lower levels of business ownership. Finally, of the five ethnic/racial groups identified in this analysis blacks have the lowest rates of business ownership. For example, the black self-employment ratio of 3.8 percent is roughly one-third the white self-employment ratio. Similarly low rates of black business ownership date back to at least 1910 (see Fairlie and Meyer 2000). Clearly, the three major disadvantaged minority groups in the United States -- blacks, Latinos and Native Americans -- are substantially underrepresented in business ownership.

The ordering of self-employment rates across ethnic/racial groups is similar to that reported in previous studies using alternative data sources and years. These include, but are not limited to, estimates for some or all groups from the 1980 Census (Borjas 1986, Borjas and Bronars 1989, Light and Rosenstein 1995), the 1990 Census (Fairlie and Meyer 1996 and Razin and Light 1998), the General Social Survey (Hout and Rosen 2000), the Panel Study of Income Dynamics (Fairlie 1999), and the Survey of Income and Program Participation (Meyer 1990, Bates 1997).

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[8] Estimates from the CPS also indicate that women have substantially lower rates of self-employment than men even after stratifying the sample by the presence of children, marital status, full-time or part-time status, education level, and age group.

Using aggregate data from the 2001 Canadian and U.K. Censuses and microdata from the 2000 U.S. Census, I provide new estimates of self-employment rates for several ethnic and racial groups (see Table 3).[9] All ethnic/racial groups that are roughly comparable for at least two of the three countries selected. Black self-employment rates are higher in the United Kingdom than in Canada and the United States, but remain relatively low. Even in the United Kingdom, where 8.3 percent of blacks are self-employed business owners, this represents less than 2/3rd the white rate of business ownership. Two additional disadvantaged groups -- Latinos and Natives -- have similarly low self-employment rates in both Canada and the United States. For example, only 7.2 percent of Latinos are self-employed business owners in the United States and 7.9 percent of Latinos in Canada are self-employed.

There exists substantial heterogeneity across Asian groups. Only 3.6 and 5.0 percent of Filipinos are self-employed in Canada and the United States, respectively. In contrast, 32.3 percent of Koreans are self-employed business owners in Canada and 23.8 percent of Koreans are self-employed in the United States. Another interesting finding is that Chinese, Indians, and all Asians have substantially higher rates of business ownership in the United Kingdom than in Canada and the United States.

The estimates reported in Table 3 indicate a clear pattern in ethnic/racial entrepreneurship -- disadvantaged groups, such as blacks, Latinos and Natives, have relatively low rates of business ownership in all of the countries reported. Thus, low rates of business ownership among these ethnic/racial groups are not peculiar to the United States or one country. Although more research is needed, disadvantaged groups may have similar characteristics that are associated with low levels of entrepreneurship or face similar institutional barriers such as consumer or lending discrimination in each of the countries.

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[9] Estimates from the 1991 Census and the 1993-94 Fourth National Survey of Ethnic Minorities indicate similar ethnic and racial patterns in self-employment rates for Britain (Clark and Drinkwater 1998, 2000).

Another disadvantaged group that has received considerable attention in the literature is immigrants. Although immigrants appear to be disadvantaged along many other lines, such as education, income and wealth, their propensity to own businesses is comparable to native-born Americans. The self-employment ratio among immigrants is only slightly lower than the native ratio and the immigrant self-employment rate is the same as the native rate.

A few recent studies have focused on an additional disadvantaged group -- the less educated (see Fairlie 2004 and Krashinsky 2004 for example). Estimates from the CPS indicate that only 6.5 percent of individuals who do not have a high school diploma are self-employed. In contrast, 11.0 percent of college-educated individuals own a business. The differences are smaller, however, after conditioning on employment. The fraction of less-educated individuals who are not employed is higher than that of college-educated individuals.

Estimates from the CPS indicate that disadvantaged groups generally have low rates of business ownership. Although these groups may face limited opportunities in the wage/salary sector, their rates of business ownership are substantially lower than rates for more advantaged groups even conditioning on employment. The major exception studied here is immigrants who have roughly similar levels of self-employment as native-born Americans.

3. The Dynamics of Business Ownership

The large disparities in self-employment ratios and rates noted above are created by group differences in transition rates into and out of self-employment. In fact, the steady-state self-employment rate in a simple model of two labor market states is simply equal to $E / (E+X)$, where E is the entry rate into self-employment and X is the exit rate from self-employment. In a more complicated model with several possible states, the steady-state self-employment ratio is a function of the transition rates to and from each state and their relative shares of the population. A comparison of self-employment transitions across groups may provide insights into the causes of disparities in business ownership.

In previous research using a two-state model, I find that the low rate of self-employment among blacks is due to a black transition rate into self-employment that is approximately one-half the white rate, and a black transition rate out of self-employment that is twice the white rate (Fairlie 1999). Building on these results, I examine transition patterns among additional disadvantaged groups allowing for three possible states -- not employed, wage/salary employed, and self-employed. The use of additional labor market states is becoming increasingly popular in the empirical literature on self-employment (see Constant and Zimmerman 2004, Martinez-Granado 2002, Kuhn and Schuetze 2001, and Carrasco 1999 for a few recent examples). For some disadvantaged groups unemployment may represent a common path into self-employment.

Although the CPS ADFs are primarily used as cross-sectional samples in the previous literature, one-year transitions can be identified by linking consecutive surveys. Households in the CPS are interviewed each month over a 4-month period. Eight months later they are re-interviewed in each month of a second 4-month period. Thus, individuals who are interviewed in March of one year are interviewed again in March of the following year. The rotation pattern of the CPS makes it possible to match the information from one survey to the following survey creating a one-year panel for up to half of all respondents in a given ADF. To match data from one survey to the next, I use the procedure described in Madrian and Lefgren (2000).

Table 4 reports estimates of transition matrices by sex, race/ethnicity, immigrant status, and education level.[10] The first three columns of the table report the percentage of individuals in a specific labor market state in the first survey year who are not employed, employed in a wage/salary job, or self-employed one year later. Women have lower rates of entry into self-employment from both non-employment and wage/salary employment. For example, only 2.1 percent of women in wage/salary employment start businesses the following year, whereas 3.0 percent of wage/salary men switch to self-employment. Women also have substantially higher exit rates from self-employment than men contributing to their relatively low rate of self-

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[10] Estimates are similar excluding agricultural workers.

employment. Slightly more than a third of all self-employed women leave by the following year compared to 24.6 percent of self-employed men. Women are also much more likely to make the transition from self-employment to non-employment. Thus, it appears as though the lower entry rate into self-employment among women and the higher exit rate contribute to their relatively low rate of business ownership.[11]

Of all reported ethnic/racial groups, Asians have the highest entrepreneurship rates. Three and a half percent of Asian wage/salary workers start businesses which is higher than the white wage/salary to self-employment transition rate of 2.7 percent. Asians, however, have a lower retention rate in self-employment than whites. The result is roughly similar self-employment rates for Asians and whites.

Blacks, Latinos, and Native Americans are less likely to start businesses than are whites. All three groups are also more likely to leave self-employment. The differences in transition probabilities between these disadvantaged groups and whites are striking, especially for blacks. Only 1.2 percent of wage/salary blacks become entrepreneurs, which is less than half the white rate of entrepreneurship. For all three disadvantaged minority groups exit rates are at least 40 percent, whereas the white exit rate is 26.8 percent. Another interesting finding is that these higher exit rates are partly driven by higher transition probabilities to non-employment. For all three groups more than 1 out 10 business owners is non-employed the following year.

The results for differences between blacks and whites are roughly consistent with those from the PSID reported in Fairlie (1999). Estimates from the PSID indicate that 2.0 percent of black men and 4.0 percent of white men enter self-employment annually, and 36.6 percent of black men and 18.5 percent of white men exit self-employment annually. Excluding women and non-employment from the CPS sample for comparability, I find black and white transition rates

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[11] Estimates from Canada indicate a slightly higher entry rate into self-employment from wage/salary work, a much higher entry rate into self-employment from non-employment, and a slightly higher exit rate out of self-employment for women than men (Kuhn and Schuetze 2001). Their estimates, however, are not directly comparable because they count incorporated business owners as wage/salary workers.

into self-employment of 2.0 and 3.3, respectively. The black exit rate is 29.1 percent and the white exit rate is 20.8 percent.

Table 4 also reports estimates by immigrant status. Immigrants have a higher transition rate into self-employment from wage/salary employment than natives, but not from non-employment. The total transition rate into self-employment, however, is higher among immigrants. On the other hand, immigrants are more likely than natives to leave self-employment. Thirty-three percent of self-employed immigrants leave annually, whereas 27.5 percent of self-employed natives leave annually.

Estimates from transition matrices by major education level also reveal a few interesting patterns. First, education and entry into self-employment from wage/salary employment have an U-shaped relationship. Entry into business ownership from non-employment, however, is clearly increasing with education. Only 1.6 percent of non-employed high school dropouts start a business the following year compared to 4.1 percent of non-employed college-educated individuals.[12] Second, exit rates from self-employment decrease with education contributing to the positive relationship between self-employment and education shown in Table 1. Finally, a much higher percentage of those leaving self-employment move to non-employment among the less-educated than among the more-educated. In fact, the probability of becoming non-employed conditional on self-employment is more than twice as high for high school dropouts as it is for college graduates.

To summarize, all disadvantaged groups, with the exception of immigrants, have relatively low rates of entering self-employment and high rates of exiting self-employment. Disadvantaged groups also generally have high rates of movement from self-employment to non-employment. Interestingly, however, their rates of entry into self-employment from non-employment are lower across all of the dimensions analyzed here, including immigrants. This

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[12] Krashinsky (2004) also notes high rates of entry into self-employment among less-educated workers displaced from their jobs.

finding contrasts with disadvantaged theory, which states that disadvantages such as poverty,

unemployment and discrimination push certain groups into self-employment instead of

wage/salary work. Furthermore, although disadvantaged groups have relatively high rates of non-

employment, the preponderance of entrants into self-employment come from wage/salary

employment for all groups.

4. The Determinants of Self-Employment Entry and Exit

    To identify the independent effects of sex, race, immigrant status and education, I

estimate logit regressions for self-employment transition probabilities. Separate logit regressions

are estimated for the probability of entry into self-employment and the probability of exit from

self-employment. To simplify, I do not estimate separate regressions for the probability of entry

from non-employment and wage/salary employment. I also do not distinguish between leaving

self-employment for non-employment or for wage/salary employment. Instead, non-employment

and wage/salary employment are grouped together and a dummy variable is included for non-

employment in the entry regression. The non-employed represent 22.5 percent of entrants into

self-employment and 22.3 percent of leavers from self-employment. I find that results

conditioning on employment in both years, and thus focusing on wage/salary to self-employment

and self-employment to wage/salary transitions are qualitatively similar.[13]

    Estimates for the probability of entry into self-employment are reported in Table 5 and

are discussed first.[14] Marginal effects and their standard errors are reported.[15] All of the

independent variables are measured in the first year surveyed, which is prior to when the self-

employment entry decision is measured. Specification 1 reports estimates from four separate

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[13] The main exceptions are that the high school dropout coefficient in the entry logit is no longer negative and statistically significant and the female and high school dropout coefficients in the exit logit are much smaller in magnitude.

[14] Estimates are similar if agricultural workers are excluded.

[15] The reported marginal effect provides an estimate of the effect of a 1-unit increase in the independent variable on the self-employment entry probability. It equals the sample average of $e^{X_i\hat{\beta}}/(1+e^{X_i\hat{\beta}})$.

regressions that include dummies for sex, racial groups, immigrant status, and education levels. Each regression includes only one set of variables. The marginal effects estimates on these dummies capture a weighted average of differences in the transition probabilities into self-employment reported in Table 4. The comparison or left-out groups in the four separate regressions are men, non-Latino whites, natives, and college graduates, respectively. The coefficient estimates create a baseline for comparison to other specifications and indicate that disadvantaged groups, with the exception of immigrants, have substantially lower business entry rates than do the comparison advantaged groups.

It is well known that race, immigrant status and education levels are related. To explore the effects of these correlations on self-employment entry rates for disadvantaged groups, Specification 2 includes the sex, race, immigrant status and education dummies in one regression. The marginal effects estimates capture differences in transition probabilities accounting for these correlations. Two key patterns emerge from comparing these estimates to the previous estimates. First, the black, Native American, high school dropout and high school graduate coefficients become smaller in absolute value because of the correlation between these racial groups and low levels of education. Second, the negative coefficient on Latino becomes larger in absolute value and the positive coefficient on Asian essentially disappears at the same time the positive coefficient on immigrant increases substantially. Apparently, the preponderance of immigrants among Asians and Latinos makes the coefficient estimates for these racial/ethnic groups sensitive to controlling for immigrant status. Overall, the logit estimates clearly indicate that disadvantaged groups, with the exception of immigrants, have substantially lower business entry rates than do the comparison advantaged groups.

Returning to the issue of the interrelatedness of race/ethnicity and immigration, I find that 54.7 percent of Latinos and 73.9 percent of Asians are immigrants in my sample, and that these two groups comprise roughly two-thirds of all immigrants. Although immigrants from different races and ethnicities share some common attributes, such as language barriers and unfamiliarity

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with U.S. institutions, they may differ substantially along many other dimensions, such as reasons for emigrating, home country economic conditions, networks, and unobserved skills. Specification 3 addresses this concern by including interactions between immigrant status and race/ethnicity. A clear pattern emerges -- white, Asian and black immigrants are substantially more likely to become business owners than their native-born counterparts, whereas Latino immigrants are slightly less likely to enter self-employment than native Latinos (although the difference is not statistically significant).[16] Apparently, immigrant status has an independent effect on self-employment entry, but its effects differ somewhat by race/ethnicity. Thus, I allow for differential effects by race/ethnicity below.

Specification 4 adds controls for age, marital status, number of children, region of the country, central city status, survey year and non-employment in the regressions. The probability of entering self-employment increases with age (up to age 43), being married, the number of children and non-employment. Controlling for these characteristics generally does not have a large effect on the majority of the female, race/immigrant and education coefficients. The exceptions are that the black coefficient declined in absolute value, and the Native American, Asian and high school dropout coefficients increased in absolute value. Clearly, the inclusion of these controls does not "explain away" the general finding of low rates of entry into self-employment by most disadvantaged groups.

The importance of assets has taken center stage in the literature on the determinants of self-employment. Numerous studies using various methodologies, measures of assets and country microdata explore the relationship between assets and self-employment. Several recent studies estimate the relationship by modeling the decision of wage/salary workers or other non-business owners to switch into self-employment over a fixed period of time.[17] These studies

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[16] The exact causes of these differences are unknown and are beyond the scope of this chapter.
[17] For example, see Evans and Jovanovic (1989), Evans and Leighton (1989), Meyer (1990), Holtz-Eakin, Joulfaian, and Rosen (1994), Dunn and Holtz-Eakin (1999) Fairlie (1999, 2002) and Hurst and Lusardi (2004) for evidence from U.S. microdata, Holtz-Eakin and Rosen (2004) for U.S. and Germany, and

generally find that asset levels (e.g. net worth or asset income) measured in one year increase the

probability of entering self-employment by the following year suggesting that entrepreneurs may

face liquidity constraints.[18] Recent studies also indicate that blacks have substantially lower

levels of assets than whites and that these differences contribute to racial differences in business

ownership levels (Bates 1989, Fairlie 1999 and Fairlie and Robb 2003). Although less is known

for other disadvantaged groups, disparities in asset levels may be large and explain why these

groups are also less likely to become business owners.

In Specification 5, I add several measures of assets available in the CPS to the logit

regression. Home ownership is included as well as dividend, interest and rental income.

Investment and rental income are not a direct measure of assets, but are roughly proportional to

asset levels. These measures are included separately to allow for differential values on the

underlying assets and liquidity. All measures of assets are measured prior to the self-employment

decision.[19] As expected, home owners are more likely to enter self-employment.[20] In the

presence of liquidity constraints, the ability of owners to borrow against the value of their home,

such as home equity loans, may make it easier to finance new business ventures. The

relationships between the probability of making a transition into self-employment and dividend,

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Johansson (2000) for Finland.

[18] The focus on transitions to self-employment attempts to avoid the endogeneity problem of including assets in a static model of self-employment. A positive relationship found in a cross-sectional analysis may simply reflect the possibility that business owners accumulate more wealth instead of wealth increasing the likelihood of owning a business. Although individuals may save in anticipation of becoming self-employed, a measure of assets in the prior year should be more exogenous to the entrepreneurial decision than a contemporaneous measure of assets.

[19] Another approach that has been taken in the literature is to use inheritances, gifts, lottery winnings or insurance settlements as a measure of or instrument for assets (see Holtz-Eakin, Joulfaian, and Rosen 1994a, Fairlie 1999 and Hurst and Lusardi 2004 for U.S. microdata, Blanchflower and Oswald 1998 and Taylor 2001 for British microdata, and Lind and Ohlsson 1994 for Swedish data). Inheritances and other unanticipated, or at least less-anticipated, lump sum payments represent a more exogenous measure of assets than net worth and are generally found to increase the probability of entering or being self-employed suggesting that entrepreneurs face liquidity constraints. Hurst and Lusardi (2004), however, find that future inheritances also increase the probability of self-employment entry suggesting that liquidity constraints are not the underlying cause of the positive relationship.

[20] Previous studies find that home prices, home ownership and property restitution increase the likelihood of business creation and self-employment (Fairlie 2004, Black, de Meza and Jeffreys 1996, Johansson 2000, and Earle and Sakova 2000).

interest and rental income are concave and increasing at the means of each measure of asset income. Similar to previous studies, I find that higher levels of assets increase the probability of entry into self-employment.

Controlling for differences in asset levels reduces (in absolute value) the coefficients for most disadvantaged groups. All of the main effects for ethnic and racial groups become smaller in absolute value (or increase) suggesting that assets levels are relatively low among native-born minorities compared to native-born whites and that these low levels of assets limit their opportunities to start businesses. I also find that the coefficient estimates on all of the immigrant/race interactions increase suggesting that controlling for assets explains an additional amount of the difference in entry rates between racial groups and whites among immigrants. For example, the native Latino differential drops from 0.48 percentage points to 0.36 percentage points after controlling for assets, whereas the immigrant Latino differential drops from 0.67 to 0.51 percentage points. Low levels of assets appear to limit entrepreneurial opportunities among disadvantaged ethnic and racial groups, however, it is difficult to identify the importance of this factor. I explore this question further in the Section 5.

The coefficients decline sharply for high school dropouts and high school graduates after the addition of assets. This result suggests that, all else equal, less-educated individuals have relatively low levels of assets resulting in lower entry rates. Indeed, a direct comparison of asset levels by education level reveals that high school graduates and especially high school dropouts have substantially lower levels of assets than do college graduates. For example, only 60.1 percent of high school dropouts own a house compared to 83.3 percent of college graduates, and average interest income among dropouts is $109 compared to $1,190 among college graduates. The presence of liquidity constraints and relatively low levels of assets appears to limit the ability of less-educated workers to start businesses.

Even controlling for differences in asset levels, the individual's education level has a strong positive effect on entry into self-employment. High school dropouts are nearly a full

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percentage point less likely to enter self-employment, and high school graduates and individuals

with some college are slightly more than 0.3 percentage points less likely to enter self-

employment than are college graduates. Estimates from several other countries, however,

indicate a generally statistically insignificant relationship between education and self-

employment entry (see, for example, Holtz-Eakin and Rosen 2004 for Germany, Blanchflower

and Meyer 1994 for Australia, and Lin, Picot and Compton 2001 for Canada).[21] On the other

hand, evidence from East European transition economies indicates a positive relationship between

schooling and transitions into self-employment.

FEMALE ENTREPRENEURSHIP

Interestingly, the female coefficient increases slightly in absolute value after the inclusion

of the main controls and does not change after inclusion of assets. The change in the marginal

effects estimate from Specification 3 to Specification 4 is primarily due to the higher percentage

of women who are not employed and the higher rate of entry from non-employment than from

wage/salary employment into self-employment. This finding suggests that the female/male

difference in self-employment entry rates would be slightly larger if not for the initial difference

in non-employment rates. As expected, controlling for other variables has little effect on the

female coefficient estimate because men and women have very similar characteristics.[22] Women

are much less likely than men to enter self-employment, all else equal. Similar results are found

using microdata from the European Union. Blanchflower (2000, 2004) finds large female/male

differences in the probability of being self-employed after including education and other

measurable individual characteristics as well as country dummies.

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[21] Cross-sectional data for Europe indicates a negative relationship between education and self-employment
(Blanchflower 2004).
[22] Estimates from the National Center for Educational Statistics indicate that women received 49.6 and 40.7
percent of all Bachelor's and Master's degrees in business conferred in 2000-01 (U.S. Department of
Education 2002).

Recent studies focusing on gender differences in self-employment provide some interesting findings, but provide only limited direct evidence on the question of what explains the large gender difference in self-employment rates.[23]. For example, these studies find that women who are married to self-employed men are more likely to be self-employed or enter self-employment and that the choice of self-employment is partly driven by the desire for flexible schedules and other family-related reasons for women relative to men (Bruce 1999, Boden 1996, 1999, Carr 1996, Devine 1994b, Lombard 2001, and Lohmann 2001).[24] Gender earnings differentials in the wage/salary sector may contribute, but there is also considerable evidence indicating large female/male earnings differences in the self-employment sector (Aronson 1991, Devine 1994b, Hundley 2000 and U.S. Bureau of the Census 2004). In the end, unobservable factors, such as different preferences, discrimination, and risk aversion, may be responsible for low levels of female entrepreneurship.[25] As noted above, an interesting finding is that a lower percentage of young women than men report a desire for being self-employed in the United States (Kourilsky and Walstad 1998). Using a combined sample from many countries, Blanchflower, Oswald and Stutzer (2001) also find a lower probability of preferring self-employment among women after controlling for other factors. In both cases, however, the differences are not large and represent roughly 15 percentage points.

TRANSITIONS OUT OF SELF-EMPLOYMENT

Logit regressions are also estimated for the probability of exit from self-employment. Estimates are reported in Table 6. Specification 1 reports estimates from four separate regressions that include dummies for sex, ethnic/racial groups, immigrant status, and education levels. All disadvantaged groups have relatively high exit rates from self-employment.

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[23] See Gatewood, et al. 2003 and Parker 2004 for recent reviews of the literature.
[24] Another possibility is that female entrepreneurs have access to different business and investment social networks than male entrepreneurs (Brush, et al. 2004).
[25] See Coleman (2001) for a discussion of constraints faced by women-owned firms.

Specification 2 accounts for the correlations between sex, race, immigrant status and education. Again, women, blacks, Latinos, Native Americans, and high school dropouts have relatively high exit rates from self-employment. The difference between immigrants and natives, although positive, is now small and statistically insignificant. The coefficients on all of the race/ethnicity, immigrant and education dummies become smaller in absolute value due to the correlation between these factors.

Specification 3 includes race/immigrant status interactions. Interestingly, white immigrants have high exit rates relative to white natives, whereas black and Asian immigrants have lower exit rates than their native counterparts (although the differences are not statistically significant). Finally, there appears to be no difference between transition rates out of self-employment between native and immigrant Latinos.

Specification 4 includes controls for individual characteristics. The exit rate decreases with age (until age 47) and being married. The coefficient estimates for blacks, Latinos, and white immigrants become notably smaller, whereas the coefficient estimate for Native Americans becomes larger. In the final specification, I include controls for asset levels. As expected home ownership decreases the probability of exit from self-employment and the asset income measures generally have a negative relationship with the exit probability. Even after controlling for asset levels, most disadvantaged groups are substantially more likely to leave business ownership annually.

Overall, disadvantaged groups have relatively low rates of entry into self-employment and high rates of exit from self-employment. The only exception is immigrants who have a higher rate of entry into self-employment than natives, but this comparison does not hold for all groups. Among Latinos, immigration is not associated with a higher level of entry. These patterns of low entry rates and high exit rates among disadvantaged groups persist even after controlling for the correlated effects of other disadvantages (i.e. race and education), individual characteristics, and asset levels. Again, immigrants represent the exception as the

immigrant/native difference in exit rates becomes negligible for some groups after controlling for other factors. I now turn to a more detailed analysis of the causes of low rates of self-employment entry and exit among disadvantaged minority groups.

5. Identifying the Causes of Ethnic and Racial Differences in Entry and Exit Rates

The estimates reported in Tables 5 and 6 indicate that the relatively low rates of entry and high rates of exit from self-employment among disadvantaged minority groups can be explained, in part, by group differences in education, assets and other individual characteristics. The estimates, however, cannot identify the separate contributions from group differences in each of these variables. To explore these issues further, I employ a variant of the familiar technique of decomposing inter-group differences in a dependent variable into those due to different observable characteristics across groups and those due to different "prices" of characteristics of groups (see Blinder 1973 and Oaxaca 1973). The technique that I describe here takes into account the nonlinearity of the logit regressions discussed above (see Fairlie 1999, 2003 for more details).

For a linear regression, the standard Blinder-Oaxaca decomposition of the white/minority gap in the average value of the dependent variable, Y, can be expressed as:

$$(5.1) \quad \overline{Y}^W - \overline{Y}^M = \left[(\overline{X}^W - \overline{X}^M) \hat{\beta}^W \right] + \left[\overline{X}^M (\hat{\beta}^W - \hat{\beta}^M) \right],$$

where $\overline{X}^j$ is a row vector of average values of the independent variables and $\hat{\beta}^j$ is a vector of coefficient estimates for race j. For a nonlinear equation, such as $Y = F(X\hat{\beta})$, the decomposition can be written as:

$$(5.2) \quad \overline{Y}^W - \overline{Y}^M = \left[\sum_{i=1}^{N^W} \frac{F(X_i^W \hat{\beta}^W)}{N^W} - \sum_{i=1}^{N^M} \frac{F(X_i^M \hat{\beta}^W)}{N^M} \right] + \left[\sum_{i=1}^{N^M} \frac{F(X_i^M \hat{\beta}^W)}{N^M} - \sum_{i=1}^{N^M} \frac{F(X_i^M \hat{\beta}^M)}{N^M} \right],$$

where N^j is the sample size for race j. This alternative expression for the decomposition is used because $\overline{Y}$ does not necessarily equal $F(\ \overline{X}\ \hat{\beta}\ )$. In both (5.1) and (5.2), the first term in brackets represents the part of the racial gap that is due to group differences in distributions of X, and the second term represents the part due to differences in the group processes determining levels of Y. To calculate the decomposition, I define $\overline{Y}$ as the self-employment entry or exit rate and F as the logistic cumulative distribution function.

An equally valid method of calculating the decomposition is to use the minority coefficient estimates, $\hat{\beta}^M$, as weights in estimating the contributions from group differences in the independent variables. This alternative method of calculating the decomposition often provides different estimates, which is the familiar index problem with the Blinder-Oaxaca decomposition technique. A third commonly-used alternative is to weight the first term of the decomposition expression using coefficient estimates from a pooled sample of the two groups or all groups (see Oaxaca and Ransom 1994 for example). I follow this approach to calculate the decompositions. In particular, I use coefficient estimates from logit regressions that include pooled samples of all ethnic and racial groups.

The first term in (5.2) provides an estimate of the contribution of racial differences in the entire set of independent variables to the racial gap, but I am particularly interested in identifying the effects of group differences in specific variables, such as education and asset levels. To identify contributions from these variables an additional calculation is needed. To simplify, assume that X includes two variables, X_1 and X_2. Using coefficient estimates from a logit regression for a pooled sample, $\hat{\beta}^*$, the independent contribution of X_1 to the racial gap can then be expressed as:

$$(5.3) \quad \frac{1}{N^M} \sum_{i=1}^{N^M} F(\ \hat{\alpha}^* + X_{1i}^W \hat{\beta}_1^* + X_{2i}^W \hat{\beta}_2^*\ ) - F(\ \hat{\alpha}^* + X_{1i}^M \hat{\beta}_1^* + X_{2i}^W \hat{\beta}_2^*\ ).$$

Similarly, the contribution of X_2 can be expressed as:

$$(5.4) \quad \frac{1}{N^M} \sum_{i=1}^{N^M} F(\hat{\alpha}^* + X_{1i}^M \hat{\beta}_1^* + X_{2i}^W \hat{\beta}_2^*) - F(\hat{\alpha}^* + X_{1i}^M \hat{\beta}_1^* + X_{2i}^M \hat{\beta}_2^*).$$

The contribution of each variable to the gap is thus equal to the change in the average predicted probability from replacing the black distribution with the white distribution of that variable while holding the distributions of the other variable constant.[26] A useful property of this technique is that the sum of the contributions from individual variables will be equal to the total contribution from all of the variables evaluated with the full sample.

Table 7 reports estimates from this procedure for decomposing the gap between the native-born white and minority gaps in self-employment entry rates. I report estimates only for those race/immigrant groups that have large enough sample sizes. The individual contributions from racial differences in education, marital status and children, non-employment, assets, region, and central city status are reported. I first describe the results for native-born blacks, which are reported in Specification 1. The native white/black gap in the self-employment entry rate is large (0.0144). Racial differences in sex and age explain virtually none of the gap. Marital status and children explain only a small part of the gap (5.0 percent). This contribution is primarily due to blacks having a substantially lower probability of currently being married than whites and the positive effect of marriage on entry into self-employment. Slightly more of the gap is explained by relatively low levels of education among blacks. In the sample, 14.3 percent of blacks are high school dropouts compared to only 6.2 percent of whites.

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[26] The calculation of (5.3) and (5.4), however, is not possible without first matching the white distribution of X_1 and the minority distribution of X_2. I draw a random subsample of whites with a sample size equal to N_M and match it to the minority sample based on the predicted probability of the dependent variable. To approximate the use of the entire white sample, I draw 1000 random white samples for matching and calculate the mean value of estimates from all of these matched samples. See Fairlie (2003) for more details.

As expected, the largest factor explaining racial disparities in business creation rates are differences in asset levels.[27] Lower levels of assets among blacks account for 15.5 percent of the white/black gap in the probability of entry into self-employment. In the presence of liquidity constraints, low levels of assets appear to limit opportunities for blacks to start businesses. The finding is very similar to estimates reported in Fairlie (1999) for men in the PSID. Estimates from the PSID indicate that 13.9 to 15.2 percent of the black/white gap in the transition rate into self-employment can be explained by differences in assets.

The overrepresentation of blacks in regions of the country with low entry rates explains a modest portion of the gap. Also, the underrepresentation of blacks in rural areas, which have relatively high entry rates, contributes to the gap. Overall, racial differences in the explanatory variables explain roughly one third of the black/white gap in business creation rates. The remaining or "unexplained" portion of the racial gaps in self-employment entry rates may be due to lending discrimination and consumer discrimination against black-owned firms and/or the omission of important unmeasurable factors such as risk aversion.[28]

Table 7 also reports estimates for native-born and immigrant Latinos (reported in Specifications 2 and 3, respectively). The two most important factors in explaining the gaps between the two Latino groups and native-born whites are assets and education. Relatively low levels of assets explain more than half of the entry rate gap for native-born Latinos and slightly less than half of the gap for immigrant Latinos. Apparently, low levels of assets are limiting opportunities for Latinos to start businesses and this factor, at least in percentage terms, is more important for Latinos than for blacks.

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[27] See Menchik and Jianakoplos (1997), Altonji and Doraszelski (2001), and Gittleman and Wolff (2004) for a few recent studies on racial differences in asset levels, and Bradford (2003) on wealth holding among black and white entrepreneurs.

[28] See Cavalluzzo, Cavalluzzo, and Wolken (2002), Blanchflower, Levine and Zimmerman (2003), Borjas and Bronars (1989), and Meyer (1990) for evidence on lending and consumer discrimination against blacks, and see Fairlie (2002) for evidence on risk aversion.

Relatively low levels of education among Latinos, especially immigrants, are also a limiting factor in business creation. A surprisingly high 53.1 percent of immigrant Latinos and 20.4 percent of native-born Latinos did not complete high school. Education differences account for 44.8 percent of the entry rate gap for Latino immigrants and 34.3 percent of the entry rate gap for Latino natives.

The underrepresentation of Latinos residing in rural areas also contributes to the gaps in entry rates. On the other hand, Latinos have a favorable regional distribution as evidenced by the negative contribution estimates. Latinos are disproportionately located in the West South Central, Mountain, and Pacific regions where business entry rates are relatively high. This finding suggests that the entry rate gap would be even larger if Latinos had a similar geographical dispersion as whites. Similarly, entry rate gaps would be larger if not for the relatively high rates of non-employment among Latinos and high entry rates into self-employment from non-employment.

The entry rate into self-employment is 0.55 percentage points lower among Native Americans than native-born whites. Low levels of education and assets are mainly responsible. Education and asset differences explain 36.1 and 54.1 percent of the gap, respectively. Although these factors alone explain nearly the entire gap in business creation rates, there exist a number of offsetting factors. The Native American regional composition, overrepresentation in rural areas, high levels of non-employment, and family characteristics are favorable in terms of increasing business formation. These results imply that if Native Americans had similar geographical locations, family structures and levels of employment as whites the gap in entry rates would be substantially larger than that reported.

THE CAUSES OF HIGH EXIT RATES FOR DISADVANTAGED MINORITY GROUPS

Table 8 reports estimates for the decomposition of exit rates from self-employment for native blacks, native Latinos, and immigrant Latinos. Sample sizes are relatively small for these

groups (250-301 observations) because they condition on business ownership in the first survey year. Sample sizes for Native American business owners are too small to report estimates.

Native-born blacks are nearly twice as likely to leave self-employment annually as native-born whites. Although there is no clear dominant factor explaining the disparity in exit rates, racial differences in asset levels, region distributions and central city status contribute to the gap. The overrepresentation of blacks in inner city areas, which have relatively high exit rates, provides the largest single contribution (9.8 percent). Racial differences in asset levels explain 7.3 percent of the gap, which is in the range of estimates from the PSID reported in Fairlie (1999). Estimates from the PSID indicate that 1.8 to 11.1 percent of the male black/white gap in exit rates from self-employment is explained by differences in asset levels. Recent estimates from the Characteristics of Business Owners (CBO) survey indicate that 43.2 percent of the gap in business closure rates is explained by differences in the amount of required startup capital (Fairlie and Robb 2003), but the focus on businesses, startup capital, and closure rates makes the results difficult to compare.[29]

Both native-born and immigrant Latinos have substantially higher exit rates than native-born whites. Lower levels of education and assets, a younger population of business owners, and underrepresentation in rural areas partly explain why Latinos are more likely to leave self-employment. Education and assets are especially important factors for Latino immigrants, explaining 20.7 and 16.5 percent of the gap in self-employment exit rates, respectively.

OTHER POTENTIAL EXPLANATIONS FOR ETHNIC/RACIAL DIFFERENCES

Additional factors that might explain low rates of entry and high rates of exit from self-employment among disadvantaged minority groups include, but are not limited to, racial differences in parental self-employment, sector-specific human capital, and lending and consumer

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[29] Using the 1982 CBO, Bates (1989) finds that racial differences in levels of financial capital partly explain racial patterns in business failure rates.

discrimination. Early researchers emphasized the role that past inexperience in business played in creating low rates of business ownership among blacks. In particular, Du Bois (1899), and later Myrdal (1944), Cayton and Drake (1946) and Frazier (1957) identify the lack of black traditions in business enterprise as a major cause of low levels of black business ownership at the time of their analyses. The lack of black traditions in business argument relies on a strong intergenerational link in business ownership. Indeed, several recent studies find that the probability of self-employment is substantially higher among the children of the self-employed (see Lentz and Laband 1990, Fairlie 1999, Dunn and Holtz-Eakin 2000, and Hout and Rosen 2000).

Recent research has also examined whether the strong intergenerational link in business ownership is detrimental to disadvantaged minorities. Hout and Rosen (2000) note a "triple disadvantage" faced by black men in terms of business ownership. They are less likely than white men to have self-employed fathers, to become self-employed if their fathers were not self-employed, and to follow their father in self-employment. Fairlie (1999) provides evidence from the PSID that current racial patterns of self-employment are in part determined by racial patterns of self-employment in the previous generation. Finally, Fairlie and Robb (2003) find related evidence that the lack of prior work experience in a family business among black business owners, perhaps by limiting their acquisition of general and specific business human capital, negatively affects black business outcomes, such as closures, employment and sales. They also find that racial differences in business inheritance are negligible and cannot explain differences in outcomes.

Lending and consumer discrimination may also contribute to the patterns documented above. Recent evidence indicates that black-owned businesses experience higher loan denial probabilities and pay higher interest rates than white-owned businesses even after controlling for differences in credit-worthiness, size and other factors (Blanchflower, Levine and Zimmerman 2003 and Cavalluzzo, Cavalluzzo, and Wolken 2002). Minority-owned firms are also more likely

to report not applying for loans because of concerns over being denied and that the availability of credit was a major problem. The evidence on consumer discrimination against minority-owned firms, however, is less clear (see Borjas and Bronars 1989 and Meyer 1990 for example).

6. Conclusions

Estimates from the CPS indicate that several major disadvantaged groups have relatively low rates of entrepreneurship in the United States. Women, disadvantaged minorities (i.e. blacks, Latinos and Native Americans), and less-educated workers are found to have substantially lower business ownership rates than men, white non-Latinos, and college-educated workers, respectively. An analysis of the dynamics of self-employment reveals some underlying causes of these patterns.

Although female self-employment rates have risen dramatically in recent decades, the prevalence of business ownership among women is only 50-60 percent of that for men. The low rate of self-employment among women permeates across ethnic/racial groups and countries. Evidence from U.S. and British data indicate that only a handful of detailed ethnic/racial groups have female/male self-employment rate ratios larger than 0.75 (Fairlie and Meyer 1996 and Clark and Drinkwater 2000), and aggregate data from the OECD indicate that female self-employment rates are substantially lower than male rates in almost every reported country with an average ratio of 0.543.

Estimates from one-year transition matrices using matched CPS data indicate that women have lower rates of entry into self-employment from both non-employment and wage/salary employment than men. Women also have substantially higher exit rates from self-employment than men. Slightly more than one third of all self-employed women leave by the following year compared to one fourth of self-employed men. These estimates imply that the low rate of business ownership among women is due to both a relatively low entry rate into self-employment and a relatively high exit rate out of self-employment.

Logit regressions for the probability of self-employment entry and exit are estimated to control for differences in ethnicity/race, immigration, education, non-employment, assets, age, marital status, number of children, region of the country, and central city status. As expected the inclusion of these controls has little effect on the female/male entry and exit rate differentials because men and women generally have similar observable characteristics. Although previous research indicates that the determinants of self-employment differ between men and women (Bruce 1999, Boden 1996, 1999, Carr 1996, Devine 1994b, Lombard 2001, and Lohmann 2001), the question of what explains the large gender gap in self-employment entry and exit remains largely unanswered. As reported above, evidence from the United States and several other countries suggests that women are less likely than men to report having a desire for self-employment, although the difference is not large (Kourilsky and Walstad 1998 and Blanchflower, Oswald and Stutzer 2001). In the end, unobservable factors, such as different preferences, discrimination, and risk aversion, may be responsible for low levels of female entrepreneurship.

Estimates from the CPS indicate a clear ordering of self-employment propensities across ethnic and racial groups. White, non-Latinos and Asians have the highest self-employment rates followed distantly by Latinos. The likelihood of business ownership among Latinos is only slightly higher than 50 percent of that for white, non-Latinos. Native Americans have even lower levels of business ownership, and blacks have the lowest rates of business ownership, which are 36 to 39 percent of white rates. Aggregate data from the 2001 Canadian and U.K. Censuses and microdata from the 2000 U.S. Census, indicate similar patterns of ethnic/racial entrepreneurship -- disadvantaged groups, such as blacks, Latinos and Natives, have relatively low rates of business ownership in all of the countries reported. Thus, low rates of business ownership among these ethnic/racial groups are not peculiar to the United States or one country.

Blacks, Latinos, and Native Americans are less likely to start businesses than are whites. All three groups are also more likely to leave self-employment. The differences in transition probabilities between these disadvantaged groups and whites are striking, especially for blacks.

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Only 1.2 percent of wage/salary blacks become entrepreneurs over a one year period, which is less than half the white rate of entry into self-employment. For all three disadvantaged minority groups exit rates are at least 40 percent, whereas the white exit rate is 26.8 percent. Clearly, low rates of business ownership among disadvantaged minorities are driven by both low entry rates and high exit rates.

To identify the contributions from ethnic and racial differences in education, assets and other factors to gaps in self-employment entry and exit rates a non-linear decomposition technique is employed. For entry rates, the largest factor explaining disparities between native blacks and whites are racial differences in asset levels. Lower levels of assets among blacks account for 15.5 percent of the white/black gap in the probability of entry into self-employment. The two most important factors in explaining the gaps between native-born and immigrant Latinos and native-born whites are assets and education. Relatively low levels of assets explain more than half of the entry rate gap for native-born Latinos and slightly less than half of the gap for immigrant Latinos. Apparently, low levels of assets are limiting opportunities for Latinos to start businesses and this factor, at least in percentage terms, is more important for Latinos than for blacks. Relatively low levels of education among Latinos, especially immigrants, are also a limiting factor in business creation. Education differences account for 44.8 percent of the entry rate gap for Latino immigrants and 34.3 percent of the entry rate gap for Latino natives. Low levels of education and assets are also mainly responsible for the entry rate gap between Native Americans and native-born whites. Education differences explain 36.1 percent of the gap and asset differences explain 54.1 percent of the gap, however, there exist many offsetting factors such as regional composition, overrepresentation in rural areas, high levels of non-employment, and family characteristics which are favorably associated with business creation.

The non-linear decomposition technique is also used to identify factors explaining ethnic/racial differences in exit rates out of self-employment. Although there is no clear dominant factor explaining the black/white disparity in exit rates, racial differences in asset

levels, regional distributions and central city status contribute to the gap. Lower levels of education and assets, a younger population of business owners, and underrepresentation in rural areas partly explain why Latinos are more likely to leave self-employment. Education and assets are especially important factors for Latino immigrants, explaining 20.7 and 16.5 percent of the gap in self-employment exit rates, respectively.

A few recent studies have focused on an additional disadvantaged group -- the less educated (see Fairlie 2004 and Krashinsky 2004 for example). Estimates from the CPS indicate that only 6.5 percent of individuals who do not have a high school diploma are self-employed. In contrast, 11.0 percent of college-educated individuals own a business. The differences are smaller, however, after conditioning on employment. Estimates from transition matrices also reveal an U-shaped relationship between education and entry into self-employment from wage/salary employment. Entry into business ownership from non-employment, however, is clearly increasing with education. Also contributing to the positive relationship between self-employment and education, exit rates from self-employment are found to be decreasing with education.

The addition of controls for ethnicity/race and assets in logit regressions is found to reduce the self-employment entry and exit rate differentials between the less-educated and college graduates. The presence of liquidity constraints and relatively low levels of assets may limit the ability of less-educated workers to start businesses. Even controlling for differences in ethnicity/race and asset levels, however, the individual's education level has a large positive effect on entry into self-employment and a large negative effect on exit out of self-employment. High school dropouts are nearly a full percentage point less likely to enter self-employment and are 7.2 percentage points more likely to exit from self-employment than college graduates. Although many entrepreneurship programs targeted towards disadvantaged groups currently exist, the estimates presented here indicate continuing disparities in levels of business ownership

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Table 1
Self-Employment Rates by Gender, Race, Immigration, and Education
Current Population Survey, Matched Annual Demographic Surveys (1998-2002)

Group	Self-employment ratio	N	Self-employment rate	N
Men	12.6%	49,299	14.2%	44,099
Women	6.6%	54,065	8.7%	40,967
White, non-Latino	10.7%	80,383	12.8%	67,448
Black	3.8%	9,216	5.0%	7,112
Latino	5.5%	8,661	7.3%	6,501
Native American	4.8%	1,202	6.5%	857
Asian	8.9%	3,902	11.2%	3,148
Native-born	9.6%	91,869	11.6%	76,226
Immigrant	8.9%	11,495	11.6%	8,840
High school dropout	6.5%	10,293	10.3%	6,600
High school graduate	9.1%	33,699	11.4%	27,010
Some college	9.4%	28,721	11.2%	24,117
College	11.0%	30,651	12.4%	27,339

Notes: (1) The sample consists of individuals ages 25-55. (2) The self-employment ratio is the number of self-employed business owners divided by the population, and the self-employment rate is the number of self-employed business owners working 15 or more hours divided by all workers with 15 or more hours. (3) All estimates are calculated using sample weights provided by the CPS.

Table 2
Male and Female Self-Employment Rates by Country (Non-Agricultural Sectors)
OECD Labour Force Statistics (2002)

Self-Employment Rate

Country	Women	Men	Female/Male Ratio
Australia	8.8%	14.8%	0.595
Austria	5.4%	9.7%	0.563
Belgium	9.7%	17.3%	0.561
Canada	7.9%	9.5%	0.831
Czech Republic	9.6%	20.3%	0.476
Germany	6.2%	12.2%	0.510
Denmark	3.7%	10.4%	0.351
Spain	11.3%	18.5%	0.611
Finland	6.3%	12.3%	0.511
France	4.9%	8.3%	0.595
United Kingdom	6.4%	14.9%	0.430
Greece	17.5%	31.4%	0.555
Hungary	8.1%	15.1%	0.539
Ireland	5.8%	18.2%	0.316
Iceland	6.8%	20.5%	0.329
Italy	15.4%	28.0%	0.550
Japan	6.7%	10.7%	0.632
Korea	20.4%	29.5%	0.694
Mexico	27.4%	27.1%	1.010
Netherlands	7.4%	11.8%	0.622
Norway	2.9%	6.8%	0.423
New Zealand	10.1%	20.7%	0.490
Poland	8.3%	15.2%	0.547
Portugal	13.3%	21.2%	0.628
Slovak Republic	4.7%	12.1%	0.388
Sweden	4.5%	12.3%	0.370
Turkey	8.9%	27.1%	0.330
United States	5.4%	7.2%	0.741
Average	9.1%	16.5%	0.543

Notes: (1) Data for Austria and Turkey are from 2001, and data for Belgium are from 1999. (2) Australia, Japan, Norway and the United States classify owner-managers of incorporated businesses as employees. Austria, Czech Republic, Iceland, Italy, New Zealand, and Portugal have unknown classifications for incorporated business owners. See OECD (2002) for more details.

Table 3
Self-Employment Rates by Race/Ethnicity for Selected Countries
2000-2001

	Canada		United Kingdom		United States	
	Self-Employment Rate	Workers 000s	Self-Employment Rate	Workers 000s	Self-Employment Rate	Workers 000s
Total	12.0%	15,516	13.7%	22,796	10.6%	115,146
White	12.4%	13,208	13.6%	21,277	11.8%	85,743
Black	6.1%	315	8.3%	424	4.8%	11,368
Latino	7.9%	114			7.2%	10,696
Native	7.2%	377			7.8%	808
Asian	11.0%	1,284	18.7%	849	10.9%	4,034
Chinese	13.3%	477	25.5%	89	11.2%	984
Indian	10.0%	374	17.0%	445	10.7%	693
Vietnamese	8.8%	74			11.0%	411
Korean	32.3%	43			23.8%	386
Japanese	13.5%	36			11.7%	345
Filipino	3.6%	180			5.0%	820

Notes: (1) Estimates are from the Canadian 2001 Census, the U.K. 2001 Census and the U.S. 5% Public Use Microdata Sample from the 2000 Census. (2) Canadian minority groups include multiracial responses to the race question. Canadian whites, and all U.S. and U.K. groups include only monoracial responses to the race question.

Table 4
Transition Matrices by Gender, Race, Immigration, and Education
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

| Total | ——————— Year t+1 ——————— | | | | |
Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Non-employment	75.8%	21.2%	3.0%	17.9%	18,298
Wage/salary employment	6.2%	91.3%	2.5%	72.5%	74,795
Self-employed	6.3%	21.8%	71.9%	9.5%	10,271

| Men | ——————— Year t+1 ——————— | | | | |
Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Non-employment	71.5%	25.0%	3.6%	11.2%	5,200
Wage/salary employment	5.1%	91.9%	3.0%	76.1%	37,562
Self-employed	3.7%	20.9%	75.4%	12.6%	6,537

| Women | ——————— Year t+1 ——————— | | | | |
Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Non-employment	77.7%	19.6%	2.7%	24.2%	13,098
Wage/salary employment	7.2%	90.7%	2.1%	69.2%	37,233
Self-employed	11.0%	23.4%	65.6%	6.6%	3,734

| Native-born | ——————— Year t+1 ——————— | | | | |
Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Non-employment	76.1%	20.9%	3.0%	17.3%	15,643
Wage/salary employment	5.9%	91.6%	2.5%	73.1%	66,921
Self-employed	6.1%	21.4%	72.5%	9.6%	9,305

| Immigrant | ——————— Year t+1 ——————— | | | | |
Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Non-employment	73.8%	23.5%	2.7%	22.9%	2,655
Wage/salary employment	8.2%	88.4%	3.4%	68.2%	7,874
Self-employed	7.7%	25.3%	67.0%	8.9%	966

(continued)

Table 4 (continued)
Transition Matrices by Gender, Race, Immigration, and Education
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

White

Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
	Year t+1				
Non-employment	76.0%	20.7%	3.2%	16.5%	12,935
Wage/salary employment	5.6%	91.7%	2.7%	72.8%	58,409
Self-employed	5.7%	21.1%	73.2%	10.7%	9,039

Black

Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
	Year t+1				
Non-employment	76.9%	21.2%	1.9%	22.7%	2,104
Wage/salary employment	8.6%	90.2%	1.2%	73.4%	6,760
Self-employed	13.3%	26.9%	59.8%	3.8%	352

Latino

Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
	Year t+1				
Non-employment	72.5%	25.3%	2.3%	25.4%	2,160
Wage/salary employment	9.4%	88.5%	2.1%	69.1%	6,014
Self-employed	11.0%	28.3%	60.7%	5.5%	487

Native American

Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
	Year t+1				
Non-employment	78.2%	20.4%	1.4%	26.5%	345
Wage/salary employment	6.7%	91.3%	2.0%	68.7%	797
Self-employed	20.9%	24.0%	55.0%	4.8%	60

Asian

Year t	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
	Year t+1				
Non-employment	74.2%	21.9%	3.9%	20.0%	754
Wage/salary employment	6.8%	89.6%	3.5%	71.1%	2,815
Self-employed	5.8%	25.1%	69.1%	8.9%	333

(continued)

Table 4 (continued)
Transition Matrices by Gender, Race, Immigration, and Education
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

High school dropout	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Year t		Year t+1			
Non-employment	82.1%	16.2%	1.6%	36.6%	3,693
Wage/salary employment	11.1%	86.3%	2.7%	56.9%	5,928
Self-employed	12.4%	22.6%	65.0%	6.5%	672

High school graduate	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Year t		Year t+1			
Non-employment	75.6%	21.5%	3.0%	20.4%	6,689
Wage/salary employment	7.2%	90.4%	2.4%	70.6%	23,775
Self-employed	6.8%	22.0%	71.2%	9.1%	3,235

Some college	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Year t		Year t+1			
Non-employment	73.9%	22.8%	3.3%	16.1%	4,604
Wage/salary employment	6.1%	91.6%	2.3%	74.5%	21,245
Self-employed	5.5%	22.4%	72.1%	9.4%	2,872

College	Non-employment	Wage/salary employment	Self-employed	Share of year t total	N
Year t		Year t+1			
Non-employment	72.0%	23.9%	4.1%	11.0%	3,312
Wage/salary employment	4.1%	93.0%	2.9%	77.9%	23,847
Self-employed	5.2%	21.1%	73.7%	11.0%	3,492

Notes: (1) The sample consists of individuals ages 25-55. (2) All estimates are calculated using sample weights provided by the CPS.

Table 5
Logit Regressions for Probability of Entry into Self-Employment
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Explanatory Variables	Specification									
	(1)		(2)		(3)		(4)		(5)	
Female	-0.0092	**	-0.0089	**	-0.0089	**	-0.0104	**	-0.0103	**
	(0.0011)		(0.0011)		(0.0011)		(0.0011)		(0.0011)	
Black	-0.0179	**	-0.0170	**	-0.0178	**	-0.0154	**	-0.0139	**
	(0.0024)		(0.0024)		(0.0026)		(0.0027)		(0.0027)	
Latino	-0.0073	**	-0.0092	**	-0.0040		-0.0048		-0.0036	
	(0.0021)		(0.0024)		(0.0029)		(0.0030)		(0.0030)	
Native American	-0.0109		-0.0095		-0.0091		-0.0147	*	-0.0134	*
	(0.0057)		(0.0057)		(0.0057)		(0.0057)		(0.0057)	
Asian	0.0046		-0.0012		-0.0066		-0.0082		-0.0072	
	(0.0025)		(0.0029)		(0.0058)		(0.0059)		(0.0059)	
Immigrant	0.0035	*	0.0077	**						
	(0.0016)		(0.0021)							
White*Immigrant					0.0099	**	0.0109	**	0.0116	**
					(0.0027)		(0.0027)		(0.0028)	
Black*Immigrant					0.0141	*	0.0158	*	0.0164	*
					(0.0064)		(0.0065)		(0.0065)	
Latino*Immigrant					-0.0016		-0.0019		-0.0016	
					(0.0040)		(0.0040)		(0.0040)	
Asian*Immigrant					0.0145	*	0.0157	*	0.0161	*
					(0.0064)		(0.0064)		(0.0064)	
High school dropout	-0.0102	**	-0.0082	**	-0.0075	**	-0.0106	**	-0.0078	**
	(0.0021)		(0.0022)		(0.0022)		(0.0022)		(0.0023)	
High school graduate	-0.0059	**	-0.0046	**	-0.0045	**	-0.0058	**	-0.0036	*
	(0.0013)		(0.0013)		(0.0013)		(0.0014)		(0.0014)	
Some college	-0.0045	**	-0.0030	*	-0.0030	*	-0.0043	**	-0.0031	*
	(0.0014)		(0.0014)		(0.0014)		(0.0014)		(0.0014)	
Age							0.0016	*	0.0015	*
							(0.0007)		(0.0007)	
Age squared / 100							-0.0018	*	-0.0019	*
							(0.0009)		(0.0009)	
Married							0.0060	**	0.0052	**
							(0.0018)		(0.0019)	
Previously married							0.0034		0.0033	
							(0.0022)		(0.0022)	

(continued)

Table 5 (continued)
Logit Regressions for Probability of Entry into Self-Employment
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Explanatory Variables	Specification				
	(1)	(2)	(3)	(4)	(5)
Number of children				-0.0003	-0.0006
				(0.0010)	(0.0010)
Number of children squared				0.0005 **	0.0006 **
				(0.0002)	(0.0002)
Not employed				0.0078 **	0.0084 **
				(0.0013)	(0.0014)
Home owner					0.0039 *
					(0.0015)
Dividend income (000s)					0.0014
					(0.0009)
Dividend income squared (000s)					-0.0001
					(0.0001)
Interest income (000s)					0.0013 **
					(0.0004)
Interest income squared (000s)					0.0000
					(0.0000)
Rental income (000s)					0.0023 **
					(0.0007)
Rental income squared (000s)					0.0000
					(0.0000)
Mean of dependent variable	0.0270	0.0270	0.0270	0.0270	0.0270
Log Likelihood value		-11,461	-11,457	-11,366	-11,189
Sample size	93,093	93,093	93,093	93,093	91,819

Notes: (1) The sample consists of individuals (ages 25-55) who are not self-employed business owners in year t. (2) All independent variables are meausred in the first year surveyed. (3) Marginal effects and their standard errors are reported. Statistical significance at the 0.05 and 0.01 levels are denoted by * and **, respectively. (4) All specifications include a constant, and specifications 3-4 also include dummy variables for Census divisions, central city status, and year effects. Specification 1 includes separate regressions for each of the four sets of listed variables.

Table 6
Logit Regressions for Probability of Exit from Self-Employment
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Explanatory Variables	Specification									
	(1)		(2)		(3)		(4)		(5)	
Female	0.0989	**	0.1001	**	0.0999	**	0.0997	**	0.0993	**
	(0.0088)		(0.0088)		(0.0088)		(0.0088)		(0.0089)	
Black	0.1439	**	0.1320	**	0.1453	**	0.1010	**	0.0967	**
	(0.0216)		(0.0216)		(0.0229)		(0.0235)		(0.0238)	
Latino	0.1097	**	0.0841	**	0.0989	**	0.0771	**	0.0701	*
	(0.0189)		(0.0210)		(0.0276)		(0.0278)		(0.0281)	
Native American	0.1432	**	0.1263	*	0.1303	*	0.1456	**	0.1448	**
	(0.0513)		(0.0512)		(0.0512)		(0.0510)		(0.0510)	
Asian	0.0546	*	0.0383		0.1118	**	0.1075	*	0.1052	*
	(0.0236)		(0.0263)		(0.0434)		(0.0438)		(0.0439)	
Immigrant	0.0653	**	0.0253							
	(0.0142)		(0.0171)							
White*Immigrant					0.0586	**	0.0399		0.0380	
					(0.0213)		(0.0214)		(0.0215)	
Black*Immigrant					-0.0708		-0.0648		-0.0707	
					(0.0654)		(0.0651)		(0.0653)	
Latino*Immigrant					0.0013		-0.0057		-0.0116	
					(0.0369)		(0.0369)		(0.0372)	
Asian*Immigrant					-0.0730		-0.0804		-0.0826	
					(0.0510)		(0.0507)		(0.0508)	
High school dropout	0.0906	**	0.0699	**	0.0703	**	0.0749	**	0.0720	**
	(0.0176)		(0.0180)		(0.0181)		(0.0183)		(0.0186)	
High school graduate	0.0168		0.0109		0.0107		0.0211		0.0168	
	(0.0109)		(0.0108)		(0.0108)		(0.0110)		(0.0113)	
Some college	0.0084		0.0016		0.0011		0.0089		0.0076	
	(0.0113)		(0.0112)		(0.0112)		(0.0113)		(0.0115)	
Age							-0.0260	**	-0.0229	**
							(0.0059)		(0.0059)	
Age squared / 100							0.0278	**	0.0245	**
							(0.0071)		(0.0072)	
Married							-0.0323	*	-0.0220	
							(0.0159)		(0.0162)	
Previously married							-0.0084		-0.0073	
							(0.0189)		(0.0191)	

(continued)

Table 6 (continued)
Logit Regressions for Probability of Exit from Self-Employment
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Explanatory Variables	Specification				
	(1)	(2)	(3)	(4)	(5)
Number of children				-0.0058	-0.0051
				(0.0088)	(0.0089)
Number of children squared				0.0017	0.0016
				(0.0021)	(0.0021)
Home owner					-0.0563 **
					(0.0136)
Dividend income (000s)					-0.0059
					(0.0069)
Dividend income squared (000s)					0.0003
					(0.0005)
Interest income (000s)					0.0044
					(0.0033)
Interest income squared (000s)					-0.0001
					(0.0001)
Rental income (000s)					-0.0056
					(0.0050)
Rental income squared (000s)					0.0001
					(0.0002)
Mean of dependent variable	0.2696	0.2696	0.2696	0.2696	0.2692
Log Likelihood value		-5,875	-5,870	-5,798	-5,714
Sample size	10,271	10,271	10,271	10,271	10,145

Notes: (1) The sample consists of individuals (ages 25-55) who are self-employed business owners in year t. (2) All independent variables are meausred in the first year surveyed. (3) Marginal effects and their standard errors are reported. Statistical significance at the 0.05 and 0.01 levels are denoted by * and **, respectively. (4) All specifications include a constant, and specifications 3-4 also include dummy variables for Census divisions, central city status, and year effects. Specification 1 includes separate regressions for each of the four sets of listed variables.

Table 7
Decomposition of Racial/Ethnic Gaps in Self-Employment Entry Rates
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

	Specification			
Explanatory Variables	Native-born Blacks (1)	Native-born Hispanics (2)	Hispanic immigrants (3)	Native Americans (4)
White/minority gap in entry rate	0.0144	0.0047	0.0071	0.0079
Contributions from racial differences in:				
Sex	-0.0002	-0.0006	-0.0009	-0.0006
	-1.6%	-16.8%	-14.7%	-17.2%
Education	0.0009	0.0012	0.0028	0.0012
	6.0%	34.3%	44.8%	36.1%
Age	0.0000	0.0002	0.0001	0.0001
	0.0%	4.5%	0.9%	2.2%
Marital status and children	0.0007	-0.0002	-0.0010	-0.0009
	5.0%	-6.1%	-16.3%	-27.5%
Not-employed	-0.0005	-0.0004	-0.0008	-0.0013
	-3.4%	-10.9%	-12.0%	-37.1%
Assets	0.0022	0.0018	0.0028	0.0019
	15.5%	55.4%	45.0%	54.2%
Region	0.0010	-0.0018	-0.0018	-0.0027
	6.7%	-54.5%	-28.1%	-78.3%
Central city status	0.0008	0.0010	0.0013	-0.0023
	5.4%	29.4%	20.5%	-66.5%
Year effects	0.0001	0.0001	0.0000	0.0002
	0.6%	2.9%	0.8%	5.7%
All included variables ("explained" part of the gap)	0.0049	0.0013	0.0025	-0.0043
	34.0%	27.1%	35.6%	-54.6%

Notes: (1) The sample consists of individuals (ages 25-55) who are not self-employed business owners in year t. (2) Contribution estimates are from non-linear decompositions. See text for more details

Table 8
Decomposition of Racial/Ethnic Gaps in Self-Employment Exit Rates
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

	Specification		
	Native-born Blacks	Native-born Hispanics	Hispanic immigrants
Explanatory Variables	(1)	(2)	(3)
White/minority gap in exit rate	-0.1797	-0.1135	-0.1251
Contributions from racial differences in:			
Sex	-0.0092	-0.0054	0.0046
	4.9%	4.3%	-4.0%
Education	-0.0059	-0.0074	-0.0267
	3.2%	6.8%	20.7%
Age	-0.0066	-0.0086	-0.0057
	3.6%	7.9%	4.4%
Marital status and children	-0.0036	-0.0010	0.0002
	2.0%	1.0%	-0.2%
Assets	-0.0134	-0.0091	-0.0140
	7.3%	8.4%	10.8%
Region	-0.0123	0.0029	0.0029
	6.7%	-2.7%	-2.3%
Central city status	-0.0180	-0.0080	-0.0213
	9.8%	7.5%	16.5%
Year effects	0.0011	-0.0013	-0.0004
	-0.6%	1.1%	0.3%
All included variables ("explained" part of the gap)	-0.0679	-0.0379	-0.0604
	37.8%	33.4%	48.2%

Notes: (1) The sample consists of individuals (ages 25-55) who are self-employed business owners in year t.   (2) Contribution estimates are from non-linear decompositions. See text for more details

Appendix A
Sample Means of Selected Variables for Self-Employment Entry Rate Decompositions
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Variable	Native-born Whites	Native-born Blacks	Native-born Hispanics	Hispanic immigrants	Native Americans
Female	0.5343	0.5973	0.5580	0.5163	0.5447
High school dropout	0.0621	0.1431	0.2041	0.5312	0.1844
High school graduate	0.3315	0.3729	0.3549	0.2497	0.3790
Some college	0.2885	0.3102	0.2896	0.1201	0.3138
Age	41.0587	40.5718	38.4327	37.5398	40.3073
Married	0.7192	0.4646	0.6423	0.7521	0.5940
Previously married	0.1432	0.2169	0.1588	0.0959	0.1844
Number of children	0.9288	0.8953	1.1791	1.4959	1.1862
Not employed	0.1777	0.2408	0.2368	0.2861	0.3017
Home owner	0.8415	0.6115	0.6813	0.4973	0.7011
Dividend income (000s)	0.4361	0.1306	0.1334	0.0452	0.1788
Interest income (000s)	0.7372	0.2712	0.2657	0.1109	0.2660
Rental income (000s)	0.2067	0.0526	0.0637	0.0596	0.1483
Middle Atlantic	0.1328	0.1279	0.1291	0.1176	0.0298
East North Central	0.1680	0.1800	0.0613	0.0710	0.0652
West North Central	0.1173	0.0313	0.0261	0.0237	0.1974
South Atlantic	0.1473	0.3274	0.0857	0.1400	0.0801
East South Central	0.0586	0.1177	0.0052	0.0045	0.0084
West South Central	0.0722	0.1187	0.2305	0.1309	0.0978
Mountain	0.1113	0.0173	0.2151	0.1323	0.2561
Pacific	0.0916	0.0585	0.2135	0.3582	0.2486
Not in central city	0.4173	0.2777	0.3725	0.4387	0.1834
Not in MSA	0.2586	0.1403	0.1365	0.0819	0.5857
MSA status not identified	0.1711	0.1154	0.1624	0.0916	0.0903
Sample size	67,892	7,902	3,640	4,422	1,074

Notes: (1) The sample consists of individuals (ages 25-55) who are not self-employed business owners in year t. (2) All variables are meausred in the first year surveyed.

Appendix B
Sample Means of Selected Variables for Self-Employment Exit Rate Decompositions
Current Population Survey, Matched Annual Demographic Surveys (1998-2003)

Variable	Native-born Whites	Native-born Blacks	Native-born Hispanics	Hispanic immigrants
Female	0.3635	0.4186	0.3796	0.2830
High school dropout	0.0492	0.1196	0.1250	0.4189
High school graduate	0.3136	0.3189	0.3657	0.2491
Some college	0.2906	0.2791	0.2593	0.1698
Age	42.7593	41.6910	40.6481	40.8943
Married	0.7958	0.6246	0.7407	0.8189
Previously married	0.1125	0.1661	0.1111	0.0755
Number of children	1.0792	0.8837	1.1991	1.4604
Home owner	0.9062	0.7276	0.7824	0.6943
Dividend income (000s)	0.6399	0.2057	0.0745	0.1746
Interest income (000s)	1.1284	0.6501	0.6022	0.3344
Rental income (000s)	0.6523	0.1750	0.3637	0.2372
Middle Atlantic	0.1092	0.0997	0.0833	0.1547
East North Central	0.1320	0.1628	0.0556	0.0566
West North Central	0.1420	0.0299	0.0556	0.0075
South Atlantic	0.1366	0.3654	0.1389	0.2038
East South Central	0.0490	0.0897	0.0000	0.0000
West South Central	0.0753	0.1429	0.2269	0.1472
Mountain	0.1365	0.0233	0.2222	0.1132
Pacific	0.1147	0.0764	0.1944	0.2830
Not in central city	0.3825	0.3156	0.3426	0.5057
Not in MSA	0.3317	0.1196	0.1574	0.0528
MSA status not identified	0.1548	0.0864	0.2130	0.0830
Sample size	8,528	301	216	265

Notes: (1) The sample consists of individuals (ages 25-55) who are self-employed business owners in year t. (2) All variables are meausred in the first year surveyed.