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African Americans' Pursuit of Self-Employment

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ABSTRACT

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This study examines causes of black/white gaps in business ownership and self-employment rates by analyzing small-business entry and exit patterns. We proceed by recognizing heterogeneity in business ownership across different industry groups: a classification of firms by human- and financial-capital "intensiveness", or entry barriers, we find, is useful for explaining racial differences in entrepreneurship. The barriers facing aspiring entrepreneurs seeking entry into low-barrier industries differ substantially from those limiting entry into high-barrier industries. Higher entry and lower exit rates typifying whites, relative to African Americans, are traditionally interpreted as reflections of the greater financial- and human-capital resources possessed by non-minorities. This consensus view, however, is simplistic. While education background is a powerful predictor of self-employment patterns in the low-barrier industries, advanced educational credentials actually predict lower entry: college graduates are less likely to select into low-barrier small business ownership. In the high-barrier fields, in contrast, college-educated individuals are more likely than less educated persons to enter into self employment. Overall, black presence in high-barrier fields is held down by lower net asset holdings and weaker educational credentials of potential and actual entrepreneurs. In the low-barrier industries, where the majority of black-owned businesses operate, net worth levels and educational backgrounds are trumped by the racial characteristic: low black entry and high exit rates are powerfully predicted by one's race.

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<u>Introduction</u>

A large body of literature indicates that the people most likely to enter self employment and small-business ownership have higher personal net worth and stronger human-capital credentials than nonentrants. Similarly, increased success and survival odds typify well-capitalized small businesses run by owners having the human capital (education, experience, expertise) appropriate for operating viable ventures (see, for example, Fairlie and Robb, forthcoming; Holtz-Eakin, et al., 1994; Bates, 1990a; Dunn and Holtz-Eakin, 2000; Evans and Jovanovic, 1989; Bruderl, et al., 1992; Fairlie and Robb, 2007; Hout and Rosen, 2000).

"Relatively low levels of education, assets, and parental self-employment" typify black American workers, partially explaining why 3.8 percent of them are "self-employed business owners, compared to 11.6 percent of white workers" (Fairlie and Robb, 2007, p. 289). Black-owned firms, furthermore, are relatively less successful and more likely to go out of business than white-owned ventures. The stronger human- and financial-capital characteristics of potential and actual nonminority entrepreneurs are widely viewed as important explanations of the lower entry rates and higher exit rates of black Americans. When cross-sectional data are used to explain black-white self-employment differentials, this conventional wisdom is well established. Findings of this study dispute this wisdom.

Analyses of time trends in small-business ownership among African Americans, in contrast, reveal little scholarly consensus. Rapid growth in the size and scope of "emerging" lines of black-owned small business has been documented by Bates (1997; 2006). A new African American entrepreneur has emerged: "this new entrepreneur is young, well educated, operating increasingly in nontraditional industries" (Boston and

Ross, 1997). African Americans have made little progress in rates of business ownership, even in light of substantial gains in education…", observe Fairlie and Robb (2007). In many of the same cities where scholars have documented rapid development of black entrepreneurship, Fairlie (1999) notes "the failure of blacks to establish and maintain businesses in many of these cities" (p. 81). Scholarly studies analyzing trends in self-employment and small-firm ownership among African Americans have been profoundly polarized for nearly 40 years (see Brimmer and Terrell, 1971; Bates, 1973; Light and Rosenstein, 1995). Seemingly reasonable and empirically grounded studies are either decidedly positive or distinctly negative in their assessments of entrepreneurship trends among black Americans.

This study analyzes data drawn from the Survey of Income and Program Participation (SIPP) to track self-employment entry and exits among African Americans and nonminority whites over a six-year period. The concept of high- and low-barrier industry subgroups is developed to explain self-employment dynamics. "Barriers", in this context, refer to the human- and financial-capital resources that self-employment entrants and business owners bring into their ventures. Utilizing this framework, we demonstrate that determinants of self-employment patterns differ sharply across the high- and low-barrier sectors. Finally, we attempt to reconcile the diverse findings of studies tracking the development of black-owned businesses through time.

To the extent that existing studies of self-employment dynamics agree on anything, the consensus is that growth of entrepreneurship among African Americans is thwarted by their relatively low personal wealth levels, relevant work experience, and educational credentials. Nonminority whites achieve higher entry rates (and lower self-

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employment exit rates) because they are a relatively wealthier, better educated, appropriately experienced group. Our analysis of SIPP data indicate that this consensus view is simplistic: in low-barrier lines of business, higher wealth and education levels do not predict higher rates of entry. One's personal net worth amount has no explanatory power whatsoever for predicting entry. Those with the strongest educational credentials, furthermore, are less likely to enter into self employment than high school dropouts. The relevance of human- and financial-capital resource endowments applies largely to explaining entry patterns in the high-barrier lines of business. African American self employment, however, is concentrated in low-barrier fields.

The human- and financial-capital constraints widely cited as determinants of entry and exit patterns in fact operate quite differently in high- and low-barrier business segments. Self-employment entry/exit have been most often examined empirically in one-size-fits-all econometric models, but this approach cannot capture key entry and exit dynamics. This is because industry context heavily shapes the impacts of owner resource endowments on small firm entry and exit. Limitations of one-size-fits-all are rooted in the fact that major differences in entry barriers typify different industry subgroups. Characteristics of potential and actual owners draw entrepreneurs toward some types of small ventures and away from others. College graduates, in particular, positively select into skill-intensive service industries while steering clear of low-remuneration fields like personal and repair services.

. Racial differences in the industries that potential owners most often enter are important factors for understanding observed racial differences in outcomes. Furthermore, black Americans, conditional upon entry, are more likely to exit low-barrier

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lines of business than similarly situated nonminority whites. In low-barrier fields, one's race – other factors constant – is a key determinant of one's ability to pursue self employment. Among highly educated blacks, in contrast, our findings point toward weak links between race per se and observed exit rates from high-barrier lines of small business. The higher exit rates from self employment typifying the nation's overall black business community, on balance, partially reflect their concentration in industry subfields characterized by high business closure rates generally.

 Nascent Entrepreneurship

Black Americans nationwide are simultaneously more likely to pursue small-business ownership AND relatively less likely to own small firms, according to recent studies (Reynolds et al., 2004; Fairlie and Robb, 2007). Rates of nascent entrepreneurship amomg black adults are "about 50% higher than that for whites," according to Panel Study of Entrepreneurial Dynamics (PSED) data (Reynolds et al., 2004, p. 274). "Nascent" entrepreneurs, by definition, are adults 18 to 64 currently active in attempting to start a small business. Despite their active pursuit of small-firm ownership, nationwide data indicate that white adults are much more likely than blacks to be self-employed business owners (Fairlie and Robb, 2007).

The seeming paradox of high entrepreneurial aspirations and the relatively low measured ownership rates typifying black Americans has been studied by sociologists for years in the context of an Asian immigrant compare-and-contrast exercise. Ivan Light's (1972) pioneering work helped to launch this long-running discourse: African Americans are often viewed as entrepreneurial laggards, partially because of their alleged lack of the

kinds of family and cultural solidarity that Asians tap. Mobilizing "social capital", Asian Americans utilize in-group resources, thereby accessing the means to start and sustain viable small firms (Ward, 1991; Light and Rosenstein, 1995). Factual underpinnings of such claims have never been well established.

Empirically, reliance upon social capital mobilization has been found to typify the smaller and weaker Asian immigrant-owned firms operating in the U.S. The success of Asian immigrant-owned firms is empirically linked not to social capital utilization, but to owner endowments of human and financial capital (Fairlie and Robb, forthcoming; Bates, 1997). The paradox of high nascent entrepreneurship rates among black Americans coexisting with low rates of self-employment entry is not readily explainable, whether the focus is upon social capital or owner wealth and human-capital endowments. Rather, nascent entrepreneurship scholarship simply highlights the fragility of our understanding of entrepreneurship dynamics among African Americans.

Barriers to Business Entry and Survival

The fact that owner endowments of appropriate human-and financial-capital resources are prerequisites for success in many lines of self employment is rarely disputed (Fairlie and Robb, forthcoming; Bates, 1997; Evans and Jovanovic, 1989). Self-employment entry rates are low among persons lacking requisite skills and capital. Weak businesses – those started with minimal financial- and human-capital resources – translate, furthermore, into high closure rates because of their limited ability to compete. Low human-and financial-capital resources thus produce low self-employment and business-ownership entry rates and high exit rates among African Americans.

The evidence documenting low personal wealth levels and limited borrowing power among black Americans – self employed and otherwise – is overwhelming. Bradford (2003) utilized PSID data to measure median net asset holdings of black families headed by employees ($10,679) as opposed to white families with employee heads ($67,449). These nationwide wealth data further indicate that families headed by black business owners held median net assets of $67,449 in 1994, about one third of the corresponding holdings among whites ($202,348) (Bradford, 2003, p. 94).

More recent data from the U.S. Bureau of the Census, cited by Fairlie and Robb (forthcoming), indicate overall median wealth levels $6,166 for black households, less than one tenth the corresponding $67,000 median net worth figure reported by white households. Whether invested directly into small businesses or used as collateral to obtain loans, such huge wealth differences translate into startup capital disparities for African American entrepreneurs. "Racial differences in asset levels play an important role in explaining the racial gap in the entry rate" (Fairlie, 1999, p. 97).

Lending discrimination practiced by financial institutions appears to exacerbate black-white differences in access to financial capital. For startups as well as existing small businesses, bankers are the primary source of debt capital, and this capital is more accessible to white entrepreneurs than to similarly situated blacks (Blanchflower, et al., 2003; Cavalluzzo and Wolken, 2005). Restricted access to capital, of course, shapes the scale and industry distribution of planned businesses, thus reducing financial capital demand among black-owned firms (Bates, 1997; Fairlie and Robb, 2007). African-American business owners – moreso than whites – indicate that expectation of loan denial causes firms in need of credit not to seek bank loans (Blanchflower, et al., 2003).

The implication that limited capital access thwarts the size and scope of the black business community is as old as empirical research on the topic, tracing back to the 1940s. Joseph Pierce undertook the first sophisticated quantitative study of black-owned businesses in 1944, covering nearly 4,000 firms operating in 12 cities. When asked to rank significant obstacles to progress in business operation among blacks, the surveyed owners identified lack of financial capital as their single greatest barrier (Pierce, 1947).

An impressive body of scholarship, in summary, suggests that limited access to financial capital shapes the present-day black business community in multiple ways. First, some nascent entrepreneurs never take the plunge because they are unable to assemble the capital required to launch their firms. Aspirations thus fail to translate into ownership of actual businesses, perhaps partially explaining the paradox of high rates of nascent entrepreneurship among African Americans coexisting with low actual ownership rates.

This conventional wisdom is not without its skeptics. According to Light and Rosenstein (1995), the notion that financial capital barriers retard startup and operation of minority-owned business is a myth. Citing data from the U.S. Bureau of the Census Characteristics of Business Owners (CBO) database, Light and Rosenstein note that most small businesses begin operations with capital investments of under $5,000. Utilizing these same data, Meyer (1990) observed that 78 percent of black business owners required less than $5,000 to start their firms.

These scholars misinterpreted the CBO database, which is overly inclusive when utilized to judge startup investments of financial capital. In this person-specific database, "business owner" is defined to include all filers of Schedule C income-tax returns: filers

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reporting to the IRS at least $50 in gross revenues from a broadly defined array of business activities are "business owners" (Bates, 1990b). Many in fact do not consider themselves to be either self employed or owners of small businesses. Meyer (1990) and Light and Rosenstein (1995) are certainly correct that one needs little or no financial capital to generate several hundred dollars worth of self-employment-related annual revenues; this activity, however, often does not constitute ownership of a small business.

The issue – level of capital required for startup – is important, deserving serious analysis. Hurst and Lusardi (2004), utilizing PSID data, found that the relationship between wealth and entry into self employment "is essentially flat over the majority of the wealth distribution" (p. 319). Only at the high end of the distribution of household net worth was wealth positively related to self-employment entry. Their conclusion was that wealth and borrowing constraints do not deter most small business formations: "This may simply reflect the fact that the starting capital required for most businesses is sufficiently small" (p. 321). Yet in those lines of business where startup capital needs are not small, constraints may nonetheless be binding. Where borrowing opportunities are limited and small-firm startup capital requirements are large, low net-worth potential entrepreneurs may in fact be handicapped.

Hurst and Lusardi (2004) investigated this issue simply by segmenting industry subgroups by startup capital amounts, defining high and low segments based upon observing capital amounts actually used to start firms. Utilizing the above-mentioned CBO database, Bates (1995) identified the small-firm subgroups with the highest mean startup levels of capital investment -- manufacturing and wholesaling. Utilizing SIPP data covering 1983 through 1986, he proceeded to delineate entrants into manufacture and

wholesale self employment from nonentrants, incorporating wealth, human capital, and demographic traits as explanatory variables. "Wealth", defined as a series of categorical variables -- $10,000 to $25,000, …$100,000 and up – was related to entry only at the high end of the distribution, consistent with Hurst and Lusardi's (2004) findings.

Following Hurst and Lusardi's (2004) convention of segmenting industries by the amount of capital needed to start a business, we identify subsets of high-barrier and low-barrier small-firm startups. Financial capital investment is certainly not the only, or even the dominant factor likely to shape small firm entry and exit. "Those transitioning into entrepreneurship were more likely to be white, male, married and to have high education and high income" (Hurst and Lusardi, 2004, p. 323). Recognizing the importance of the human-capital element, we have utilized this factor and startup capital to define low-barrier and high-barrier subsets of small firm entrants and exits.

While most scholars agree on the important role played by financial capital in shaping self employment, human capital's role is a more contentious topic. Educational attainment and work experience measures of potential owners have been erratic determinants of self-employment entry (Evans and Leighton, 1989). Focusing specifically upon black entry, Fairlie (1999) found that graduating from college – relative to dropping out of high school – did not increase the probability of entry for blacks. "Overall, the size of the coefficient estimates and their statistical significance suggests that the relationship between education and entry into self employment is weak" (p. 40). Dunn and Holtz-Eakin (2000) highlighted the role of intergenerational links: having a self-employed parent had a strong, positive effect on the probability of transitioning to

self employment. Fairlie (1999) confirmed that having a self-employed father was positively linked to self-employment entry among African Americans.

Concerning self-employment exit, evidence linking human-capital traits to heightened survival prospects is strong. Utilizing CBO data, Bates (1990a) found that highly educated business owners were less likely to experience closure of their firms than others; Fairlie and Robb (2007) confirmed this pattern. Intergenerational effects of parental entrepreneurship also appear to predict survival. Having work experience in a family-owned business prior to becoming an owner stands out as a key mechanism for improving one's prospects for self-employment success (Fairlie and Robb, 2007).

The erratic track record of education and work experience in predicting entry into self employment may reflect the practice of inappropriate aggregation across diverse business types. The practice of placing entrepreneurs into overly broad industry groups appears to increase the imprecision of research findings (Bates, 1997). Use of high- and low-barrier industry groupings is pursued in our analyses of SIPP entry and exit data precisely because the nature of financial- and human-capital constraints is expected to vary substantially across small-business sectors.

SIPP Data on Entry and Exit

Utilizing data from the 1996 and 2001 SIPP panels, we drew two samples, the first including potential entrants, defined as persons who did not report owning a business in the initial period. Group two includes adults reporting ownership of, and active involvement in a business in the initial survey period. Both samples were restricted to African American and non-Hispanic white adults between the ages of 20 and 64, all of

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whom reported household wealth information. No work restrictions were imposed upon the entrant sample because a significant portion of business entries came from non-employment. The restrictions yielded samples of 67,610 potential entrants (initially not self employed) and 6,059 candidates for exit (self employed in the first sample period). African Americans accounted for 10,578 of the observations in samples one and two; whites made up the remaining 63,091 observations.

The 1996 and 2001 SIPP surveys are rotating panels made up of 12 and nine waves of data, respectively. Surveys (waves) were conducted every four months, tracking the same individuals/households throughout the panel. Because low-income households were oversampled, sampling weights are used throughout our analysis, making the data nationally representative. Finally, an individual is defined as self employed if he/she reported owning a business and earning at least $333 in self-employment earnings the sample wave (the equivalent of $1,000 per year).

Table one reports summary statistics for four subgroups of potential entrants into self employment. Those entering after wave one are compared to those who did not enter, and the entrant/no entry subgroups are broken out into African American/white subsets. Within these racially-defined subsets, entrants stand out as more likely to be college graduates and less likely to be high-school dropouts, relative to nonentrants. Substantial household wealth differentials also delineate entrants from nonentrants: black entrants reported mean net assets 60 percent greater than black nonentrants, but less than one third of the $179,535 average wealth amount describing white entrants (table one). Two dominant patterns apparent in table one statistics are 1) the lower average wealth of potential black entrants and their weaker educational backgrounds, relative to whites, and

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2) conditional upon race, the higher mean wealth and educational credentials of entrants, relative to nonentrants.

Table two reports entry rates for blacks and whites, where "entry rate" reflects the probability of becoming self employed during the first nine sample waves (three years), conditional upon initially not being self employed. Whites exhibit a substantially higher rate of entry – 4.48 percent – than blacks, 2.77 percent of whom entered self employment. Although no clear theoretical basis exists for disaggregating small firms into high- and low-barrier subgroups (Hurst and Lusardi, 2004), the major industries cluster conveniently into high and low human capital/financial capital subgroups. At the high-barrier end stand manufacture, wholesale, professional services, business services, finance, insurance, and real estate, and entertainment. Low-barrier fields are personal services, repair services, construction, transportation, retail and miscellaneous services. High-barrier fields are those in which average financial capital investments are highest and/or mean owner years of formal schooling are highest: average owner equity investment in high-barrier fields is in the top one third, relative to all small-business subgroups, and/or owner average years of education is in the top one third.

The robustness of high/low barrier classifications was explored using CBO data to classify industry subgroups, using mean owner equity investment at startup, as well as average years of schooling. Retail thus emerged as a high-barrier industry; retail exhibited the highest owner equity and education traits observed in low-barrier fields when SIPP data were utilized to define cutoffs. Retail is the borderline case, not clearly high-or low-barrier. Analyses reported throughout this study were replicated in all cases, with retail included in the high-barrier grouping, to test the consistency of econometric

findings to alternative high/low barrier specifications. It is noteworthy that industries meeting high-barrier cutoff values for financial capital investment most commonly met cutoff values for high owner human capital as well: most high-barrier fields report both owner human- and financial-capital mean values exceeding cutoff values.

Most entrants described in table two were operating businesses in low-barrier fields, with blacks exhibiting more concentration than whites in industries where low financial- and human-capital levels were the norm. Overall, 42.6 percent of African American entrants were in high-barrier lines of business, along with 48.9 percent of whites (table two). Our guiding hypothesis is that substantial differences in owner human- and financial-capital resources in different industry subgroups reflect differences in barriers to entry across industries. Potential entrepreneurs with lower educational attainment and net worth holdings tend to enter industries where lower owner education and household wealth levels prevail, and vice versa.

Multinomial Logit Models of Self-Employment Entry

A major objective of this study is to investigate determinants of black/white gaps in self-employment entry rates. Utilizing multinomial logit models, explanatory variables include demographic, financial- and human-capital traits of adults who were not initially self employed. We treat self employment and industry choices as simultaneous: the three choices are no entry, entry into a low-barrier field, and entry into a high-barrier line of business. Entry is a process shaped by traits and resources of potential entrepreneurs as they interact with business-specific barriers to entry in high- and low-barrier fields.

Applicable barriers are hypothesized to vary substantially across small-business sectors, affecting not only the decision to enter but also the type of business entered.

Entrepreneur educational background and household net assets predict entry in the logistic regression model (table three) in profoundly different ways, depending upon whether entry is into a low- or high-barrier type of firm. The college-graduate variable coefficient is strongly positive for high-barrier fields, yet the exact opposite outcome describes low-barrier industry entry (table three). The weak and inconsistent explanatory power of education in predicting self-employment entry – observed by Evans and Leighton (1989) for whites and Fairlie (1999) for blacks – appears to be the result of over-aggregation of diverse industry types: advanced education, properly understood, positively predicts entry into some lines of small business, while negatively predicting entry into others.

Household net worth amount strongly and positively predicts entry into high-barrier small businesses in the table three logit exercise, while exhibiting a weak, statistically insignificant relationship to low-barrier firm entry. The clear implication is that low net-worth holdings do not limit one's entry into business fields where low average capitalization levels prevail. Most self-employed African Americans work in low-barrier fields; this finding conflicts with the conventional wisdom that black presence is thwarted by capital constraints, including lending discrimination.

If low net-worth households – white or black – face borrowing constraints and are thus unable to finance small-firm startups, it follows that small-firm formation rates will rise as household wealth goes up. Higher wealth levels, after all, serve both as a direct source of startup equity capital, as well as collateral for enhancing one's borrowing

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power (Bates, 1997). Higher wealth alleviates the capital-constraint problem. Failure to observe a positive relationship between household wealth and entry (table three) implies the absence of both equity capital and borrowing constraints in the low-barrier lines of business that account for 57.4 percent of black (and 51.1 percent of white) entrants.

Beyond educational background and household wealth, demographic traits – race and gender – predict entry into self-employment in consistent directions but differing magnitudes. The racial trait negatively predicts entry into both high- and low-barrier fields, while being male positively predicts entry (table three). Yet, coefficient values suggest that being black, other factors constant, is less of a constraint than being female.

Role of Differences in Endowments -- High-Barrier Entry Rate Gap

It is clear (table three) that our set of observable characteristics, including education and household wealth, explains very little of the low-barrier entry rate gap between blacks and whites. However, the differences in endowments explain 70 percent of the high-barrier gap. To address the role of specific characteristics in explaining the observed one percentage point high-barrier industry gap, we first estimate a parsimonious model, including only education controls, shown as model one in table three. Results indicate that the high-barrier entry rate gap drops to 0.5 percentage points, suggesting that the difference in educational attainment alone between blacks and whites explains roughly 50 percent of this gap. If we instead include controls for household net worth only, (model two), the high-barrier entry rate gap is reduced to 0.8 percentage points, implying that differences in net worth alone explain roughly 20 percent of the gap.

However, since education and net worth are positively correlated, the contribution of wealth in explaining the gap may also capture the impact of education.

To investigate the combined contribution of education and net worth, we estimate a specification that includes both types of controls. The results (not reported in table three) indicate that the estimated entry rate gap is -0.3 percent, suggesting that 70 percent of the gap is explained by differences in educational attainment and wealth alone. Our interpretation is that differences in educational attainment between blacks and whites explain roughly 50 percent of the high-barrier entry rate gap. Adding net worth explains an additional 20 percent of the gap. As the model three results show (table three), additional controls do not further reduce the gap.

Sensitivity Analysis of Self-Employment Entry Results

As a robustness test, we reclassified retail as a high-barrier line of business and re-estimated table three's multinomial logit exercises. Treating this borderline subgroup as a high- as opposed to a low-barrier industry produced no changes in the degree to which black/white gaps were explained, nor did it appreciably alter any of our findings or conclusions. As a final robustness test, we examined other individual industry subgroups within the high- and low-barrier categories, seeking subgroups that did not conform to the patterns reported in table three. In the case of professional services, the black/white entry gap unadjusted was -0.2 percent (statistically significant), declining to -0.1 percent (not significant) when education, wealth, and other traits were controlled for.

Hurst and Lusardi (2004) concluded from their analysis of PSID data that household net worth was positively related to self employment entry only toward the top

of the wealth distribution, a result that conflicts with our table three (models two and three) analyses of entry patterns. As a direct test of this difference in findings, we added categorical wealth variables to our multinomial logit model, specifically identifying potential entrants with net worth holdings of 1) $50,000 to $150,000, 2) $150,000 to $350,000, and 3) $350,000 plus. None of these higher wealth subset measures resulted in statistically significant coefficients (model three, table three); we conclude that household wealth levels and entry are unrelated in the case of low-barrier industries and positively related -- across a wide range of the wealth distribution -- in high-barrier fields.

Exit Analysis

Among the 6059 individuals who were self employed at the beginning of the SIPP panels analyzed in this study, over 43 percent of blacks and 33 percent of whites exited over the course of the next three years. Those remaining as self-employed firm owners were disproportionately college graduates, males, and those who had been in business for many years; their firms tended to report higher net worth (equity) amounts, relative to owners exiting from self employment (table four).

Relatively low entry rates characterizing African Americans coexisting with higher exit rates, in comparison to whites, add up to lower overall black self-employment and small-firm ownership rates. Table five data indicate that 45.4 percent of black owners operating in low-barrier fields had exited by wave nine, versus 34.6 percent of corresponding whites. Patterns of exit from high-barrier fields were broadly similar: 41.0 percent and 32.4 percent of black and white owners, respectively, had exited. Table six's logistic regression exercises analyze these patterns. Explanatory variables utilized to

differentiate exiting owners from those remaining self employed overlap with the owner traits previously employed in entry logit regressions; additionally, new variables describing the firms (as opposed to the owners) are added.

Business net worth dollar amount is utilized to measure the financial solvency of the business venture. Higher business net worth has been linked consistently to heightened business survival prospects in past studies (Fairlie and Robb, forthcoming; Cooper, et al., 1994; Bates, 1990a; Gimento, et al., 1997; Bruderl, et al., 1992). Well-capitalized firms possess a buffer, heightening their ability to withstand periods of poor business performance. Highly capitalized firms may also have to absorb large sunk costs in the event of closure, reinforcing their tendency to ride out bad times, while owners not burdened by high costs of switching may choose to close down (Gimento, et al., 1997). Level of firm capitalization at startup may also be linked to the probability of success perceived by owners and, or investors. Greater confidence about a venture's viability facilitates attracting capital; greater perceived risk may scare away investors and cause owners to reduce the scope of their own investment (Caves, 1998).

An additional explanatory variable, "years in business", identifies owners by the number of years they have operated their current business. The heightened likelihood of owner exit associated with small-firm newness has been a recurring theme in past studies. Older firms possess an established clientele while new firms must build up goodwill over time. Experienced owners have a strong sense of their managerial expertise while new owners are often unsure of their managerial abilities, and thus more likely to fail through overreaching or underestimate themselves and stagnate (Jovanovic, 1982).

Logit analysis findings indicate some similarities in ways that owner (and firm) financial-and human-capital traits predict owner exit from high- and low-barrier industries (table six). Greater business net worth reduces the likelihood of owner exit out of both high- and low-barrier fields. Owner education variables produce statistically insignificant coefficients, even though the college-graduate trait coefficient (.088) suggests a lower likelihood of exit from high-barrier industries. The profound difference in outcomes concerns the impact of owner race: blacks are no more likely than whites to exit high-barrier industries, controlling for other factors. In the low-barrier fields, in contrast, owner race stands out: blacks are more likely than whites to exit (table six). Racial impact may be acting through the indirect route of depressing business net worth levels among black businesses: mean values of this factor were $30,340 and $66,451, respectively, for black and white small-firm owners.

Other than race, several similarities are noteworthy among the factors that delineate survivors from exiting owners of low-and high-barrier lines of business. Owners remaining self-employed in low-barrier fields are disproportionately older, male, white, married, and attached to established firms. The age trait exhibits a strong nonlinear relationship to owner exit: while young owners are generally the ones most likely to exit, those approaching 65 are also highly prone to leave self employment, controlling for other factors. Older males attached to established businesses, furthermore, are less likely than others to exit from high-barrier fields (table six).

Role of Differences in Endowments – High-Barrier Exit Rate Gap

As with the low-barrier entry rate gap, we do not find that differences in the business owners' endowments explain much of the observed difference in the low-barrier exit rate gap. Business equity amounts have some relevance. Controlling for this factor, the black/white gap in the low-barrier exit rate is reduced from 10.9 to 10.4 percentage points. Hence, our discussion focuses largely on the 8.7 percentage point exit rate gap found in the high-barrier industry group. The high-barrier racial gap closes somewhat, to 8.1 percentage points, when education controls are included (see model one, table six). This implies that differences in schooling levels explain about seven percent of the observed high-barrier exit rate gap. When we include only controls for business equity, model two, the racial gap shrinks somewhat more, to 7.9 percentage points, suggesting that business equity differences between blacks and whites account for close to 10 percent of the exit rate gap. When both education and business equity controls are included, the high-barrier exit rate difference drops to 7.5 percentage points; these results are not reported in table six. Overall, the combined differences in these endowments between blacks and whites explain relatively little of the gap, only about 14 percent.

In contrast, when controls for owner age, gender, household composition, and years running this business are added, model three, the racial gap drops to four percentage points. To investigate the specific contributions of these factors in explaining the high-barrier exit rate gap, we sequentially added controls for i) age, ii) gender, iii) household composition and iv) years in business to the logistic regression model which controls for education and business equity.

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The estimated high-barrier gap drops to 6.4 percentage points when owner age is added to the model, implying that differences in the age distribution between black and white entrepreneurs explain close to 13 percent of the gap. Adding variables for entrepreneur gender and family composition drop the gap to 5.6 percentage points: differences in gender and family composition explain about nine percent. Last, we control for the number of years the person has owned the business. This has a noteworthy impact on the gap, which drops to four percentage points, showing that differences in business tenure explain approximately 18 percent of the high-barrier exit gap between black and white entrepreneurs. In total, differences in endowments of observables explain slightly over 50 percent of the black/white gap in exit rates from high-barrier lines of business.

Fitting the Pieces Together

An equalization of black/white household net worth holdings, by itself, would increase the rate of self-employment entry among African Americans, but most of the black/white entry rate gap would remain. Equalization of educational attainment would have an even greater impact, substantially increasing the rate at which black Americans enter into self-employment and small-business ownership in high-barrier fields, according to our findings. Yet much of the racial gap in entry rates would remain.

Our analyses of SIPP data indicate that the majority of both blacks and whites entering into self employment choose low-barrier lines of business (table two). Entry into this sector appears to be unrelated to household net worth amounts (table three). A rising incidence of college graduates in the general population, furthermore, would actually depress entry into low-barrier lines of business, tending to widen the racial gap, other

factors constant, because such education credentials predict lower rates of entry. The low annual earnings associated with working in one's own low-barrier line of business (table seven) are unlikely to be attractive to college-graduate entrepreneurs, in light of more attractive alternatives, including the higher earnings typifying high-barrier fields. Our conclusion is that very little of the racial gap regarding entry into, or exit out of the low-barrier lines of business that make up the majority of black-owned firms nationwide can be explained by net worth or owner education measures.

After controlling for wealth, education, and other traits, we observe that black Americans are less likely than whites to enter into self employment in both high-barrier and low-barrier lines of business during the 1996 through 2004 period. The SIPP data we relied upon were collected nationwide during a time period overlapping substantially with data-gathering efforts that generated the Panel Study of Entrepreneurial Dynamics (PSED). The PSED, a national longitudinal study of 64,622 households, is relevant because these data indicate that black Americans are more likely than whites to be actively involved in starting small businesses (Reynolds, et al, 2004).

Among adults nationwide, the PSED documented that 9.5 percent of blacks and 5.7 percent of whites were nascent entrepreneurs, defined as persons currently active in a business startup effort and anticipating full or part ownership of the new venture. A reconciliation of our findings of relatively low black entry rates with PSED findings of relatively high black nascent entrepreneurship rates implies that many aspiring African American entrepreneurs have not been successful in their attempts to enter the ranks of the self employed. Capital constraints may explain why nascent entrepreneurship sometimes fails to translate into self employment among black Americans in high-barrier

lines of business, but actual entry is most common in low-barrier fields, where wealth was not found to constrain entry.

PSED data point toward a partial reconciliation of what initially appears to be a poor understanding of racial nascent entrepreneurship and entry gaps. Black/white differences in nascent entrepreneurship rates are most pronounced at the top of the educational distribution: college-graduate black Americans nationwide are about twice as likely as white graduates to be actively involved in starting a small business (Reynolds, et al, 2004, p. 276). The single line of business in which college graduates are most overrepresented is professional services. Professional services, a high-barrier line of business, is also the field in which SIPP data indicate a black/white gap in entry rates of only two tenths of one percent. This small gap, furthermore, shrunk to one tenth of one percent and was statistically insignificant when observed characteristics were controlled for. One area of consistency in PSED and SIPP analyses is the finding that black entry (nascent or actual) into self employment is strongest among those who are most highly educated; thus, the racial differential in actual entry rates is smallest where college graduates are most heavily represented (skill-intensive service industries).

Time-series evidence supports this conclusion. Focusing solely upon large cities in the southern, midwestern, and northeastern parts of the U.S., Pierce (1947) documented that over 96 percent of all black-owned businesses operated in low-barrier fields -- largely personal services, secondarily, restaurants and small-scale retailing -- identified as traditional lines of black enterprise. Small-business ownership patterns among African Americans in the latter decades of the 20th century have been steadily shifting away from these traditional lines of enterprise.

Nationwide PUMS data indicate that black self-employment grew 185.7 percent in the finance, insurance and real estate (FIRE) field and 175.0 percent in business services from 1960 to 1980, while personal services self employment declined 49.1 percent (Bates, 1997). FIRE and business services attracted college-educated black Americans disproportionately, while personal services largely attracted blacks lacking high school degrees. Over this same time period, numbers of whites self employed in FIRE and business services nationwide grew by 57.4 percent and 169.6 percent respectively (Bates, 1997). The professional services niche could not be similarly tracked because it was not consistently defined. Updating these time trends with recent census data describing black-business patterns of industry concentration reinforces this portrait of growth in skill-intensive services and stagnation in traditional fields (Bates, 2006).

An optimistic assessment of black entrepreneurship derives from focusing upon the gains, through time, of well-educated blacks operating in high-barrier lines of small business (Bates, 1973; Boston and Ross, 1997; Bates, 2006). A pessimistic assessment derives from concentrating upon the relatively low rates of entry and high exit rates typifying the more numerous low-barrier lines of black enterprise (Brimmer and Terrell, 1971). When traditional, low-barrier fields are not distinguished from high-barrier industries, the more numerous former tend to swamp the latter and pessimistic conclusions are apt to be forthcoming (Fairlie and Robb, 2007). The diverse findings of existing studies can be partially reconciled within this framework.

Over time, the slow growing low-barrier fields are likely to be outnumbered by the faster growing high-barrier lines of black enterprise, if long-term trends continue; under this scenario, racial gaps will most likely narrow. The major unknown is why black

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business progress lags so profoundly in low-barrier lines of small business. Personal

wealth gaps and differentials in educational achievement are not the culprits.

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Table 1.

Potential Entrants Only: Summary Statistics, Sample Means, by Entry and No Entry.

	Self-Employment Entry Sample			
	Black		White	
	No Entry	Entry	No Entry	Entry
Years of Schooling	12.46	13.55	13.39	14.09
High School Dropout	0.17	0.09	0.09	0.06
High School Graduate	0.39	0.31	0.33	0.27
Some College	0.31	0.34	0.32	0.31
College Graduate	0.13	0.26	0.26	0.36
Age	39.55	39.97	40.58	39.27
Married	0.38	0.50	0.63	0.66
Number of Children	1.04	0.94	0.78	0.90
Female	0.60	0.44	0.54	0.43
Immigrant	0.06	0.10	0.04	0.04
Wage/Salary	0.66	0.71	0.75	0.76
Not Working	0.34	0.29	0.25	0.24
Years at Job	4.86	4.15	5.60	4.25
Household Net Worth	$37,157	$59,489	$148,600	$179,535
Number of Individuals	9,926	284	54,845	2,555

Source: 1996 and 2001 Survey of Income and Program Participation

Table 2.
Self-Employment Transitions: Entrants by Race

	Black	White	Gap (Black-White)
Overall Entry Rate (3 Year)	2.77%	4.48%	-1.71
Entry Rates by Industry Group			
Entry into Low-Barrier Industry*	1.59%	2.29%	-0.70
Percent of all Entrants	57.4	51.1	
Entry into High-Barrier Industry**	1.18%	2.19%	-1.01
Percent of all Entrants	42.6	48.9	
Number of Individuals	10,210	57,400	

Source: 1996 and 2001 Survey of Income and Program Participation.

* Low-barrier industries: personal services, repair services, miscellaneous services, construction, transportation, retail.
** High-barrier industries: professional services, finance, insurance, and real estate, business services, manufacture, wholesale, entertainment.

Table 3.
Multinomial Logit Model of Entry (High-Low Barriers) - Marginal Effects

Variable	Model 1		Model 2		Model 3	
	Entry to		Entry to		Entry to	
	Low Barrier	High Barrier	Low Barrier	High Barrier	Low Barrier	High Barrier
Black	-0.008	-0.005	-0.007	-0.008	-0.007	-0.003
	(5.42)	(3.88)	(4.69)	(5.45)	(4.95)	(2.29)
High School Graduate	0.001	0.011			0.001	0.008
	(0.51)	(2.76)			(0.33)	(2.61)
Some College	-0.001	0.026			-0.002	0.020
	(0.57)	(5.14)			(0.80)	(4.55)
College Graduate	-0.008	0.064			-0.008	0.045
	(4.08)	(6.86)			(4.60)	(5.53)
Household Net Worth ($100,000s)			0.0001	0.0015	0.0003	0.0006
			(0.73)	(12.14)	(0.69)	(2.58)
Household Net Worth squared			-0.0000	-0.0003	-0.0001	-0.0010
			(0.07)	(10.13)	(0.22)	(2.24)
Household Net Worth > $50,000					0.001	0.001
					(0.46)	(1.36)
Household Net Worth > $150,000					0.000	0.002
					(0.04)	(1.56)
Household Net Worth > $350,000					0.004	0.001
					(1.12)	(0.76)
Age					0.003	0.002
					(7.92)	(6.99)
Age squared					(0.004)	(0.003)
					(8.38)	(7.13)
Female					-0.009	-0.007
					(7.98)	(7.55)
Married					0.004	0.0005
					(3.09)	(0.56)
Number of Children					0.0004	-0.0004
					(0.82)	(1.16)
Immigrant					0.003	-0.001
					(0.99)	(0.57)

Continued…

Not Working					-0.002	-0.001
					(1.45)	(0.94)
Years at Job					-0.002	-0.001
					(7.87)	(6.42)
Years at Job squared					0.004	0.003
					(5.32)	(4.64)
SIPP 2001	0.001	0.000	0.001	-0.001	0.001	-0.001
	(1.19)	(0.50)	(1.00)	(0.93)	(0.91)	(1.90)
Number of Observations			67,610			
Log Likelihood	-13,514		-13,743		-13,227	

Note: Z-statistics are in parentheses. The reference group is "no entry". Low-barrier industries: personal services, repair services, miscellaneous services, construction, transportation, retail. High-barrier industries: professional services, finance, insurance, and real estate, business services, manufacture, wholesale, entertainment.

Source: 1996 and 2001 Survey of Income and Program Participation

Table 4.
Potential Leavers Only: Summary Statistics, Sample Means, by Exit and No Exit.

| | Self-Employment Exit Sample | | | |
| | Black | | White | |
	No Exit	Exit	No Exit	Exit
Years of Schooling	13.57	13.23	14.13	13.87
High School Dropout	0.08	0.14	0.06	0.06
High School Graduate	0.31	0.30	0.28	0.27
Some College	0.32	0.34	0.29	0.34
College Graduate	0.28	0.22	0.37	0.32
Age	44.53	41.25	44.74	42.57
Married	0.56	0.48	0.76	0.72
Number of Children	0.87	1.02	0.86	0.90
Female	0.34	0.48	0.31	0.44
Immigrant	0.15	0.07	0.05	0.05
Years in Business	8.99	6.28	10.14	7.27
Business Equity	$34,796	$24,215	$76,695	$46,519
Number of Individuals	213	155	3,759	1,932

Source: 1996 and 2001 Survey of Income and Program Participation.

Table 5.
Self-Employment Transitions: Exits by Race

	Black	White	Gap (Black-White)
Overall Exit Rate (3 Year)	43.62%	33.48%	10.14
Observed Number of Exits	155	1,932	
Exit Rates by Industry Group			
Exit out of Low-Barrier Industry*	45.42%	34.56%	10.86
Exit out of High-Barrier Industry**	41.04%	32.36%	8.68
Number of Individuals Initially Self-Employed	368	5,691	

Source: 1996 and 2001 Survey of Income and Program Participation

* Low-barrier industries: personal services, repair services, miscellaneous services, construction, transportation, retail.
** High-barrier industries: professional services, finance, insurance, and real estate, business services, manufacture, wholesale, entertainment.

Table 6.
Logistic Regression Models of Exit Out of Self-Employment (High-Low Barriers) - Marginal Effects

Variable	Model 1		Model 2		Model 3	
	Exit		Exit		Exit	
	Low Barrier	High Barrier	Low Barrier	High Barrier	Low Barrier	High Barrier
Black	0.109	0.081	0.104	0.079	0.094	0.040
	(2.88)	(1.84)	(2.74)	(1.80)	(2.36)	(0.91)
High School Graduate	-0.013	-0.060			-0.014	-0.082
	(0.43)	(1.13)			(0.43)	(1.57)
Some College	0.039	-0.019			0.025	-0.041
	(1.22)	(0.35)			(0.73)	(0.73)
College Graduate	-0.014	-0.088			0.004	-0.087
	(0.40)	(1.59)			(0.12)	(1.53)
Business Equity (in $10,000s)			-0.022	-0.032	-0.017	-0.020
			(2.73)	(3.72)	(2.19)	(2.35)
Business Equity squared			0.080	0.105	0.067	0.062
			(1.51)	(1.95)	(1.36)	(1.19)
Age					-0.020	-0.022
					(2.96)	(2.91)
Age squared					0.022	0.023
					(2.79)	(2.64)
Married					-0.049	-0.002
					(2.19)	(0.07)
Number of Children					0.008	0.002
					(0.86)	(0.18)
Immigrant					-0.040	-0.026
					(1.00)	(0.67)
Female					0.113	0.101
					(5.94)	(5.12)
Years in Business					-0.020	-0.019
					(6.68)	(6.45)
Years in Business squared					0.044	0.047
					(4.67)	(5.05)

Continued…

SIPP 2001	-0.012	-0.029	-0.011	-0.024	0.002	-0.031
	(0.70)	(1.63)	(0.61)	(1.34)	(0.09)	(1.69)
Number of Observations	3,147	2,912	3,147	2,912	3,147	2,912
Log Likelihood	-2,033	-1,832	-2,032	-1,826	-1,941	-1,762

Note: Z-statistics are in parentheses. Low-barrier industries: personal services, repair services, miscellaneous services, construction, transportation, retail. High-barrier industries: professional services, financ e, insurance, and real estate, business services, manufacture, wholesale, entertainment.

Source: 1996 and 2001 Survey of Income and Program Participation

Table 7.

Self-Employment Exit Sample: Earnings and Hours Worked Summary Statistics, by Race and Industry Group.

	Low Barrier		High Barrier	
	White	Black	White	Black
Mean				
Total Annual Earnings	$28,702	$20,098	$54,466	$34,224
Total Annual Self-Employment Earnings	$24,675	$17,003	$46,966	$26,809
Median				
Total Annual Earnings	$20,346	$15,000	$32,700	$25,000
Total Annual Self-Employment Earnings	$16,800	$11,150	$26,300	$16,600
Mean				
Weekly Hours Worked	45.1	46.2	46.7	47.1
Weekly Hours Worked in Business	41.7	42.4	41.4	40.9
Median				
Weekly Hours Worked	42	40	45	48.0
Weekly Hours Worked in Business	40	40	40	40.0
Number of Individuals	2,928	219	2,763	149

Note: Low-barrier industries: personal services, repair services, miscellaneous services, construction, transportation, retail. High-barrier industries: professional services, finance, insurance, and real estate, business services, manufacture, wholesale, entertainment.

Source: 1996 and 2001 Survey of Income and Program Participation