Variations in Latino Immigrant Self-Employment in Four Metropolitan Areas: An Exploration of the Resource Theory of Entrepreneurship

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The preponderance of work on entrepreneurship in the last decade suggests that self-employment is beneficial to immigrant workers in that it improves their economic position and speeds assimilation (Aldrich & Waldinger, 1993; Fawcett & Gardner, 1994; Light & Karageorgis, 1994; Sanders & Nee, 1996; Waldinger & Bozorgmehr, 1996; Yuengert 1993).[1] Consequently, immigrants are much more likely to enter into self-employment than native workers (Borjas, 1991; Fawcett & Gardner, 1994; Sanders & Nee, 1996; Tang, 1995; Portes & Zhou, 1996; Razin & Light, 1998). Despite the advantages of immigrant entrepreneurship, however, some immigrant groups are more likely to enter into self-employment than others (Aldrich & Waldinger, 1990; Min, 1987; Sanders & Nee, 1996). For example, Korean immigrants are very likely to be self-employed, while Filipino immigrants are likely to be employed by others (Fawcett & Gardner, 1994).

Various theories have been posited to explain group differences in the propensity to be self-employed. Some authors have argued that certain groups, such as the Koreans mentioned above, are culturally predisposed toward entrepreneurship, a trait they bring with them from their sending country (Fawcett & Gardner, 1994). Other authors have argued that self-employment is motivated by discrimination in the larger labor market which affects some groups more than others, based on historical conditions and settlement patterns (Aldrich & Waldinger, 1990). The conditions of this group have been likened to those of life boat passengers on the Titanic (Light & Rosenstein, 1995). When the luxury liner is unavailable (i.e., good employment is not allowed by the larger society), immigrants enjoy the penultimate alternative. A third group of scholars contends that some group members ban together in solidarity to create ethnic economies in order to avoid the loss of esteem that comes from taking on the status of immigrants. This final theory,

[1]While some have argued that there is a theoretically important distinction between entrepreneurship and self-employment (Carland, Hoy, Boulton & Carland, 1984; Kallen & Kelner, 1983), in the absence of empirical evidence that the two concepts are different, we concur with Light and Rosenstein (1995) that the distinction is falsely fine. In this paper, we will use the two terms interchangeably.

reactive ethnicity, is linked to the notions of bounded solidarity and enforceable trust, and is the primary theory for explaining the creation of the Cuban enclave in Miami (Light & Rosenstein, 1995; Portes & Stepick, 1993).

Light and Rosenstein (1995) have proposed the *resource theory of entrepreneurship* as a way of conceptually integrating these various explanations of intergroup differences in self-employment. They argue that certain groups have some important and shifting combination of class and ethnic resources that predispose them toward self-employment. Their argument rests on two major assumptions: 1) that self-employment creates changes in the local economy, rather than filling a market demand for entrepreneurship; and 2) that rates of self-employment among groups are independent of each other (i.e., high self-employment rates among one group does not preclude high rates among another).

Since these two assumptions are not self-evident, some further explanation is necessary. First, Light and Rosenstein note that, "the *sociology* of entrepreneurship posits markets that depend for entrepreneurs upon exogenous and noneconomic societal conditions" (1995: 6). Underscoring that entrepreneurship is not a simple response to the supply and demand for self-employment where the market produces exactly as many new enterprises as it needs, they point out instances where self-employed persons have remained in short supply over protracted periods of demand. Conversely, certain labor markets are over saturated with entrepreneurs despite the fact that their sheer numbers decrease profits for all engaged in those ventures. In short, using Wilken's (1979) terminology, they argue that entrepreneurship is "causally significant" in that it more likely to create economic conditions than respond to them.

Light and Rosenstein's second point is that the "saturation theory of entrepreneurship" is a logical fallacy (1995: 222). They maintain that the presence of one particularly entrepreneurial group in the market does not necessarily preclude the presence of another. This assertion runs counter to the more common notion that immigrant entrepreneurship occurs within a context of competition where individuals and groups vie for both capital and customers (Fawcett & Garnder, 1994). Light and Rosenstein argue, however, that this more common notion has never

been demonstrated, and they point to several markets where high rates of self-employment among one group seems to correlate with high rates among another.

Economists offer another theory to explain group differences in self-employment: human capital. Borjas (1991) and others (Boyd, 1991) have argued that differential rates of self-employment are explained by differences in average levels of human capital such as education, English fluency, and job experience explains group differences in self-employment. While the resource theory of entrepreneurship does not specifically encompass human capital, the two perspectives are not entirely competing. Light and Rosenstein (1995) suggest that groups can improve their entrepreneurial resources by gaining human capital; however, human capital alone is an insufficient resource for self-employment.

In this paper we explore the resource theory of entrepreneurship by examining differences in self-employment patterns among Latin American immigrants between 1990 and 2000 in four metropolitan areas using the 1990 and 2000 Integrated Public Use Microdata Sample (IPUMS) data sets (Ruggles & Sobek, et al., 2003). We posit three hypotheses based on this theory: 1) With increasing numbers of immigrants from countries with high resources for self-employment, the number (but not necessarily the rate) of self-employed will increase from 1990 to 2000; 2) Groups with advantages in self-employment in 1990 will maintain these advantages in 2000; and 3) Human capital will minimize, but not eliminate the effects of group membership in both 1990 and 2000.

Self-Employment and Place

While Light and Rosenstein (1995) argue that self-employment is largely a function of ethnic and class resources, they acknowledge that these resources are often influenced by place. They are not alone in this assertion. Razin (1993) posits that there are important variation in self-employment across metropolitan areas due to location-specific factors, variations in ethnic resources, and the interaction between the two. Aldrich and Waldinger (1990) argue similarly that differences in entrepreneurship among immigrant groups must be explained through

opportunity structure, group characteristics, and ethnic strategies for working within the interaction of opportunities and characteristics.

All three sets of authors agree that ethnic resources are important and vary across place. Aldrich and Waldinger (1990) diverge from Light and Rosenstein (1995) by arguing that opportunity structures are based on market conditions such as the demand for ethnic goods, presence or absence of under served markets, and protected market positions for some immigrant groups. Opportunity structure is also shaped, according to Aldrich and Waldinger (1990) by access to ownership which varies greatly by the level of inter-ethnic competition and political policies regarding immigrant reception and work.

If it is true that entrepreneurial immigrants do compete for labor, capital, and customer (particularly those who demand ethnically-defined goods), then most of the competition should occur within narrow parameters. For example, Latino business owners in Los Angeles should be competing with other Latino business owners for (perhaps Spanish-speaking) labor and customers who demand Latin American goods and services, but they would not be competing with Asian entrepreneurs. If we are correct in our assumption, then elements of both the ethnic resource and the opportunity structure arguments are correct. A particularly dominant entrepreneurial group cannot squeeze out all other groups, but it can reduce self-employment for groups most similar to it. To examine this possibility more fully, we have limited our study to immigrants from Spanish-speaking countries in Latin America.[2]

In this paper, we focus on four metropolitan areas: Chicago-Gary-Lake, Illinois; Los Angeles-Long Beach, California; Miami-Hialeah, Florida; and New York, New York-Northeastern New Jersey. We selected these areas based on several criteria. First, each of these metropolitan areas represents places that, in 1990, showed disproportionate rates of self-employment by one or more Latin American immigrant group (Logan, Alba & McNulty, 1994).

[2]We acknowledge the cultural differences between Latin American countries, but also point out important similarities, particularly with respect to language. For example, a Mexican entrepreneur who speaks little English but wishes to start a lawn mowing enterprise in a predominantly Cuban area of Miami is more likely to find him or herself competing with other Spanish-speaking lawn mowers in the area than Chinese-speaking ones.

Under the resource theory of entrepreneurship, this suggests that each of these places contains at least one immigrant group with class and ethnic resources that lend themselves to self-employment. Second, we selected places that had Latin American immigrants from at least three different countries in numbers large enough to analyze with reasonable statistical stability across time. This selection criterion eliminated metropolitan areas such as Jersey City, New Jersey, where there are several Latin American immigrant groups but sample sizes are prohibitively small. Finally, we selected metropolitan areas that met the second criterion in *both* 1990 and 2000. Consequently, metropolitan areas such as those surrounding Washington, D.C. and Atlanta were eliminated because they contained few Latino immigrants in 1990. Metropolitan areas such as Houston were eliminated because there was little variation in the Latino immigrant population by sending country in 1990. The study was restricted to immigrants because immigrants are self-employed at a considerably higher rate than U.S.-born workers with the same ancestry (Sanders & Nee, 1996; Tang, 1995; Portes & Zhou, 1996; Razin & Light, 1998), indicating that ethnic resources disproportionately aid the foreign-born. Only Latin Americans were included for the theoretical considerations discussed above, and because they are the only immigrant group that experienced growth from each of the sending countries in the four metropolitan areas studied, suggesting that the opportunity structure that creates self-employment should have expanded for these groups between 1990 and 2000.

Data

The data for this study were taken from the IPUMS for 1990 and 2000 (Ruggles & Sobek, et al., 2003) for the Chicago-Gary-Lake, Los Angeles-Long Beach, Miami-Hialeah, and New York-Northeastern New Jersey metropolitan areas. Respondents were included in this study if they self-identified as Hispanic or Latino, immigrated from a Spanish-speaking Latin American country, are in the labor force, are not in school, and were at least sixteen years of age at the time of the Census. We also included island-born Puerto Ricans in our analysis. The respondents who met these criteria were included if they lived in one of the four metropolitan

areas listed above.

Ideally, we would have liked to limited our sample to those who work (rather than live) in the metropolitan areas, as the study focused on work-related outcomes (see Portes & Jensen, 1992). Unfortunately, problems with the allocation of respondents to the place of work public use microdata areas (PUMA) in the 1990 PUMS for some metropolitan areas (see Bohon, 2001) and the incompatibility of the place of work PUMA in 1990 and the place of work super PUMA in 2000 for Miami preclude the use of place of work as a selection criterion.

The variables used in this study are detailed in Table 1. The dependent variable is a dichotomous variable indicated whether or not the respondent is self-employed. Respondents are self-employed if they indicated that their class of work was self-employment in either an incorporated or unincorporated business. All other persons in the labor force are considered not self-employed. While this measure of self-employment is common, it is not without difficulties. First of all, it likely excludes persons self-employed in the informal economy, particularly those engaged in illegal activities such as prostitution and drug sales (Light & Rosenstein, 1995; Tienda & Raijman, 2000). Secondly, use of the Census as the data source for this study likely omits or underestimates self-employment by undocumented immigrants. Qualitative data from a recent study (Atiles & Bohon, 2002) suggests that undocumented Latino immigrant women are particularly likely to cook, sew, and do laundry for hire out of their homes.

[Table 1 about here]

While our measure of self-employment likely underestimates the true extent of self-employment and how it might vary across groups, it also has other difficulties. First of all, it relies on a work-defined category of self-employment. Light and Rosenstein (1995) show that self-employment can also be measured using an income-defined criterion. That is, persons are self-employed if they report income from self-employment. A respondent whose secondary economic activity is self-employment is likely to fit an income-defined but not a work-defined self-employment category. Finally, there is a considerable difference between self-employment that generates considerable revenue and represents a high degree of professionalism (as

demonstrated by physicians, lawyers, etc.) and self-employment that does not (as demonstrated by street vendors, for example). It is our intention to explore these various nuances at a later time (i.e., after PAA).

Our primary predictor of interest is ethnicity. To operationalize this, immigrants are categorized based on their place of birth in Latin America. Immigrants born in countries with insufficient sample sizes to analyze were eliminated from the study; consequently, place of origin categories vary across metropolitan areas. For example, in Chicago, the place of origin categories are Puerto Rican, Mexican, Cuban and Colombian. In Miami, the place of origin categories include the four in Chicago along with Hondurans, Nicaraguans, Dominicans, Argentinians, Ecuadorans, Peruvians, and Venezuelans. We eliminated small sample size groups, rather than combining them in an "other South American" or "other Central American" category, since it would be virtually impossible to explain possible findings related to those categories under resource theory.

We acknowledge that place of origin is an imperfect proxy for ethnicity; however, a strong argument can be made for treating immigrant national groups as ethnic groups for the purpose of our research. Aldrich and Waldinger note that, "[the term ethnic group] implies that members have some awareness of group membership and a common origin and culture" (1990: 112). In their native lands, people may feel little attachment to other groups in their country. However, upon immigration, the foreign-born often feel more kinship with their compatriots, and ethnic distinctions within their country of origin become less important than national origin. We argue that, with few exceptions, once a Latin American immigrant has entered the United States, their national identity serves as their ethnic identity. Further support for our position comes from the general use of the terms *ethnic enclave* and *ethnic economy*, which technically describe marketplaces dominated by a single country of origin population, rather than strictly ethnic groups.[3]

[3]To further support our position, we conducted an earlier analysis where we selected into our place of origin categories only those immigrants whose place of birth and ethnicity matched. That is, respondents were considered "Mexican" if Mexico was their place of birth *and* they indicated Mexican ethnicity on a separate question in the

Control variables include measures of immigrant status including citizenship, year of entry into the United States, and ability to speak English. Other factors also controlled include age, sex, whether or not the respondent is the head of the household, whether or not the respondent is married and living with their spouse, and educational attainment. These are all variables that have been used in previous studies (Borjas, 1986; Light & Rosenstein, 1995; Sanders & Nee, 1996). Three variables are conspicuously absent from our analysis. Race is not included because it shows surprisingly little variation in some metropolitan areas (proportions of white reach 99 percent in Chicago, for example) and because differences between white and "other" race are difficult to interpret (and not significant in earlier tests not shown). Disability is not included because it was non-significant in every early model and eliminated in the interest of parsimony. Experience was also excluded because proxy measures for experience are problematic (Mincer and Polacheck, 1978; Bland, Keicher, & Botello, 1996) and the measures correlate highly with age and education.

Results

Means and proportions of the variables used in this study for 1990 and 2000 are shown in Table 2. All four metropolitan areas saw increases in their Latino immigrant populations, as noted above. Chicago had the greatest growth rate at 92 percent, Los Angeles grew at 17 percent, Miami at 12 percent, and New York at 18 percent. Despite this population growth and the considerable growth in the economy between the two decades, rates of self-employment remained fairly stable, suggesting that the number of people self-employed increased in all places. This lends some weak, preliminary support to one aspect of ethnic resource theory–rates of self-employment are not largely dependent on economic conditions.

[Table 2 about here]

Only Los Angeles and New York saw significant increases in the rates of self-

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Census. The results were not substantively different from those shown in this paper.

employment (as indicated by a difference of proportions test), and these increases were modest. The proportion of Latino immigrants self-employment increased from 6.8 percent in 1990 to 9.6 percent in 2000 in Los Angeles. Rates increased from 6.4 percent to 8.2 percent between the two decades in New York.

In our analysis of the four metropolitan areas, we use logistic regression to examine the odds ratios of self-employment by place of origin, relative to Cubans. We use Cubans as the reference group because they have been repeatedly shown to be disproportionately self-employed (see Portes & Zhou, 1996) in accordance with ethnic resource theory. In the reduced models, we examine only differences in the odds ratios associated with self-employment. In the full models, we include the demographic control variables. Since the purpose of this paper is to examine patterns of self-employment, rather than to examine the factors that predict self-employment, we could easily present either odds ratios or regression coefficients in our tables. We have chosen to present odds ratios because it eliminates the need to report standard errors, therefore making our tables less unwieldy. We use unweighted data in our analysis in keeping with Light and Rosenstein's assertion that weighted data obscures between place differences (1995: 53-56).

[Table 3 about here]

Table 3 shows the results for Chicago. Puerto Ricans and Mexicans were significantly less likely than Cubans to be self-employed in Chicago in 1990. There was no difference between Colombians and Cubans. In 2000, patterns of self-employment by ethnicity were similar to those seen in 1990 in the reduced models, as would be suggested by the resource theory of ethnicity.

Controlling for human capital and other factors, only differences between Puerto Ricans and Cubans remained in 1990. Additionally, the only factors that significantly predicted the probability of self-employment in 1990 were Puerto Rican origin, age, and a college degree (relative to those with only a high school diploma), lending mixed support to the human capital notion that immigrants differ in self-employment only insofar as they differ in endowments. In

2000, however, when other factors were controlled, both Puerto Ricans and Mexicans remained significantly less likely to be self-employed, relative to Cubans. Furthermore, there were many more demographic characteristics that predict self-employment in the 2000 model. In addition to place of origin, length of U.S. residency, English fluency, age, household headship, and education were also significant predictors of self-employment. Those immigrants residing in the U.S. for 16 to 20 years were significantly more likely to be self-employed than recent entrants. Immigrants reporting speaking English well or very well also demonstrated significantly higher probabilities of self-employment than those who spoke no English. Like in 1990, age had a significantly positive, but modest impact on self-employment, while those who reported themselves as householders were considerably more likely than other residents to be self-employed. Finally, those who had attended some college were more likely to be self-employed than those with a high school diploma.

The findings from Chicago suggest that either changing economic conditions altered the patterns of self-employment between 1990 and 2000, or that Mexicans lost ethnic resources (relative to Cubans) between the two time periods. Furthermore, over time, human capital seems to have increased in importance, suggesting that either the growth in the Latino immigrant population increased competition for self-employment capital, that expanding economic conditions disproportionately improved self-employment chances for those with the highest levels of human capital, or that the opportunity structure differences between the two years interacted more fruitfully with the ethnic resources of Cubans than Mexicans.

[Table 4 about here]

Table 4 shows the results for the Los Angeles-Long Beach metropolitan area. In Los Angeles in 1990, Puerto Ricans, Mexicans, Salvadorans, and Guatemalans were significantly less likely than Cubans to be self-employed, while Argentinians were significantly more likely. Controlling for other factors, the predicted probabilities (not shown) are reduced for all groups, except the South American groups. The presence of the control variables in the model increase the impact for Argentinians and results in Colombians becoming significantly more likely than

Cubans to be self-employed, suggesting a suppressor effect. Only Guatemalans show no difference from Cubans in the full model.

Unlike in Chicago, several demographic factors are significantly related to self-employment in the 1990 model. Those with 11-15 years of residency are significantly less likely than recent immigrants to be self-employed, and those who speak English well are significantly more likely to be self-employed than those who speak no English at all. Age, being male, and heading a household are also positively related to self-employment. Finally, those with a college degree are more likely to be self-employed than those with a high school education.

In 2000, place of origin shows the same patterns in predicting self-employment as in 1990, again, lending support to the resource theory of entrepreneurship. Controlling for other factors, however, yields some interesting differences. In the full model, only Puerto Ricans and Mexicans are less likely to be self-employed than Cubans, while Argentinians are more likely. Odds ratios are different across the demographic variables in 1990 and 2000, as well, with a few notable exceptions. First, in 2000, U.S. citizenship emerges as a predictor of self-employment with those who are naturalized (or Puerto Rican) significantly less likely to be self-employed than those who are not U.S. citizens. Furthermore, the impact of being in the United States for 11 to 15 years changes directions going from negative in 1990 to positive in 2000. Both those speaking English not well and those speaking well were more likely to be self-employed than those who spoke no English at all, as were older, married respondents and those who are household heads. However, unlike in 1990, males demonstrated no significant difference from females in the likelihood of self-employment. Finally, those with less than nine years of education were more likely to be self-employed than those with a high school degree.

If human capital differences truly drive differential propensities toward self-employment, the findings here are very difficult to interpret. It is unclear, based on human capital theory, why certain factors would emerge important at some time points but not others. Sex differences might be explain away be improved economic conditions. When the economy expands, perhaps it creates greater opportunities for women to become self-employed. On the other hand,

significant educational differences between the two years are seemingly impossible to explain logically. Also, it is unclear why citizenship made no difference in 1990, but disadvantaged immigrants in 2000.

[Table 5 about here]

Table 5 shows results for the Miami-Hialeah metropolitan area. Miami is predominantly Cuban, but it has a considerably diverse Latino population. In 1990, those groups from Central America included in the model, as well as Mexicans and Puerto Ricans, were significantly less likely to be self-employed than Cubans, while the South American groups and Dominicans showed no difference in the reduced model. In the full model for 1990, we see differences only between Puerto Ricans, Nicaraguans, Colombians, and Peruvians, with the first two groups being disadvantaged in self-employment and the last two groups exceeding the odds ratios for Cubans. Patterns of self-employment in the full model for the demographic factors are easily interpretable. Latinos with at least six years of residence or more in the U.S. are significantly more likely than new residents to be self-employed, giving support to the idea that Miami is a self-employment "mill" where immigrants train before starting their own businesses (Bailey & Waldinger, 1991). Ability to speak English does not matter at all, which is what should be expected for Miami, a city where Spanish is spoken more often than English. Older, married, and male respondents are also more likely to be self-employed as are heads of households. Finally, those with a college degree are more likely to be self-employed than those with a high school diploma.

In 2000, examining just the impact of place of origin, we see a marked change from 1990. While Puerto Ricans, Mexicans, Hondurans, and Nicaraguans remain less likely to be self-employed than Cubans, so do Dominicans. Furthermore, Argentinians and Colombians show a greater likelihood of self-employment. Nothing in the resource theory of entrepreneurship suggests that a group that seems to be able to disproportionately garner resources at one time would suddenly be unable to do so at a later time.

In the full model, differences remain between Puerto Ricans, Nicaraguans, Dominicans,

Argentinians, and Colombians, once measured endowments are controlled. Demographic patterns in 2000 remain similar to those found in 1990, with the exception of education. Those with some high school education or a college degree are more likely than those with a diploma to be self-employed, while those with some college education (but no degree) are less likely than high school graduates to be self-employed. Of all of the models examined so far, the Miami model lends the most support to Borjas' (1991) argument that high Cuban self-employment rates are the result of high levels of human capital. Nonetheless, controlling for human capital factors still results in differences between Cubans and other groups.

[Table 6 about here]

Finally, we examine the odds ratios of self-employment in the New York-Northeastern New Jersey metropolitan area in Table 6. Like Miami, New York also has a diverse Latino immigrant population. Also like Miami, Puerto Ricans, Mexicans, and Central American groups in the model were significantly less likely than Cubans to be self-employed. Dominicans were also less likely to be self employed in 1990, as were Ecuadorans and Peruvians. Argentinians and Uruguayans were significantly more likely than Cubans to be entrepreneurs.

Controlling for demographic factors changes little. Only the coefficient associated with Hondurans becomes non-significant, although effect sizes are reduced slightly for all groups. Age, being male, heading a household, and being married were all positively related to self-employment as well. Those with less than nine years of schooling were significantly less likely to be self-employed than those with a high school diploma.

In 2000, in the reduced model, we see few changes from the patterns in 1990. Puerto Ricans, Mexicans, Salvadorans, Hondurans, Dominicans, and Ecuadorans remain disadvantaged in self-employment relative to Cubans. Argentinians (but not Uruguayans) show an advantage, all consistent with the resource theory of entrepreneurship. Controlling for demographic factors has a greater impact in 2000 than in 1990, however. In the full model, only Puerto Ricans and Hondurans remain significantly less likely than Cubans to be self-employed, while Argentinians are significantly more likely.

In 2000, like in Los Angeles, being male no longer matters, but age, marital status, and household headship remain important. In 2000, year of residence also emerges as important. Those in the U.S. for 6 to 20 years are more likely to be self-employed than recent immigrants.

Finally, although it is not the purpose of this paper to compare across the metropolitan areas, some of the similarities and differences are worth underscoring. First, Puerto Ricans are significantly disadvantaged in self-employment in each of the metropolitan areas in each time period, even when endowments are controlled. This suggest, perhaps, that this group is less able to turn its ethnic and class resources into self-employment, that it has fewer of these resources, or it is less motivated to do so. We believe that the results represent a selection effect. Since island-born Puerto Ricans are not immigrants, those who choose to live on the mainland are less likely to be as selected from among the most risk-taking members of the population as those who choose to immigrate from Mexico, Cuba or elsewhere. Insofar as risk-taking behavior is an ethnic resource, our theory supports Light and Rosenstein (1995).

As second interesting finding is that being a U.S. citizen mattered only in Los Angeles and only in 1990. The fact that citizens are no different from non-citizens underscores the fact that there are obstacles in the larger economy for non-citizens than there are among those who wish to be self-employed.

Thirdly, the impact of sex was inconsistent across time and place. Being male mattered not at all in Chicago, was significant in Los Angeles and New York only in 1990, and showed a strong, positive effect in both years in Miami. Because the majority of Miami's total population is Latino, it is possible that there is a more patriarchal culture in the city. It is also possible that the expanding economy in the nineties allowed greater opportunity for female self-employment in Los Angeles and New York. In contrast, patterns of residency, English fluency, and education were much more inconsistent and harder to understand. They are particularly difficult to interpret because, in most places, the impacts change in inconsistent ways over time. One possibility is that the patterns reflect a problem of causation. Significant results reflect the characteristics of the people self-employed rather than the characteristics leading to self-

employment. Again, calling into question the human capital theory of self-employment.

Conclusions

In this study, we posed three questions suggested by the resource theory of entrepreneurship: 1) Did the number of Latin Americans who reported themselves as self-employed increase between 1990 and 2000? 2) Do groups who show themselves to be advantaged in self-employment in 1990 remain advantaged in 2000? and 3) Do place of origin effects remain, controlling for human capital, in both 1990 and 2000? In general, the answer to all of these questions is yes, but the support for the resource theory of entrepreneurship is not overwhelming.

While our findings do not refute the resource theory of entrepreneurship, they do call some factors inherent in the development of that theory into question. First of all, it appears from our findings that ability to translate unmeasured ethnic resources into self-employment for a group changes over time, likely in response to changing social and economic conditions that vary across place. Our findings show that the likelihood of self-employment (relative to Cubans) for many groups changes across time when you take into account factors such as time in the United States, age, sex, and household characteristics. On the other hand, the fact that certain groups remain consistently more likely to be self-employed than other groups, suggests that these groups do have an ethnic advantage separate and apart from their measurable human capital characteristics.

Our findings also call into question the assertion that human capital differences explain differences in self-employment by immigrant groups, in support of the ethnic resource theory. While some human capital factors were significant in each of the models, the significant predictors changed greatly over time and across place. Only a few factors were consistent in predicting self-employment. These included age, marital status, and household headship. It is unclear, however, whether or not the household characteristics that predict self-employment are actually measures of human capital. If having a spouse and heading a household give

entrepreneurs access to a cheap or free pool of exploitable family labor (as has been suggested by Bonacich, 1988), then household characteristics are human capital. If, however, marriage and household headship are an impetus to entering economic activities that yield the greatest return (usually self employment for immigrants), then household characteristics are social, not human, capital (Sanders and Nee, 1996).

Overall, while we cannot test it directly, our findings lend the most support to the Aldrich and Waldinger's (1990) suggestion that self-employment occurs within a context of opportunity structures, group characteristics, and ethnic strategies for working within the interaction of opportunity and characteristics. Certain groups, particularly South American groups, have been able to capitalize upon changes between 1990 and 2000 that has lead to increased opportunities for self-employment.

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Table 1. Variables used in this study

Variable	*Description*
Self-employment	Class of work is self-employed in an incorporated or unincorporated business (=1) or not (=0)
Place of origin	Country of birth or Puerto Rico. Categories vary from model to model, depending on sample size. Place of origin categories include Puerto Rico, Mexico, El Salvador, Guatemala, Honduras, Nicaragua, Cuba (reference group), Dominican Republic, Argentina, Colombia, Equador, Peru, Venezuela, and Uruguay.
U.S. citizen	Naturalized or Puerto Rican (=1) or not a U.S. citizen (=0)
U.S. residency	Years since immigration in five year groups up to 20 or more. Zero to five years is the reference category.
Ability to speak English	Self-assessment of English speaking ability. Categories are very well, well, not well, and not at all (reference).
Age	Years of age measured continuously from 16 to 89.
Male	Male (=1) or female (=0).
Head of household	Relationship of person to other members of the household reported as householder (=1) or not (=0).
Married, spouse present	Currently married and living with spouse (=1) or not (=0).
Educational attainment	Years of schooling completed. Categories are less than high school (0-8 years of school completed), some high school (9-12 years without a diploma), high school graduate (diploma or equivalent, reference), some college (associate's degree in an occupational or academic program or other college attendance with no four-year degree completed), and college graduate (Bachelor's, Master's, professional, or Doctoral degree).

Table 2. Sample by Place of Origin, by Metropolitan Area, 1990 and 2000

	Chicago-Gary-Lake		Los Angeles-Long Beach		Miami-Hialeah		New York-Northeastern NJ	
Census year	1990	2000	1990	2000	1990	2000	1990	2000
Self-employed	.037	.037	.068	.096	.134	.132	.064	.082
Place of origin								
Puerto Rico	.152	.070	.008	.006	.050	.053	.354	.211
Mexico	.787	.899	.759	.758	.015	.024	.059	.142
El Salvador	---	—	.126	.133	—	—	.029	.032
Guatemala	---	—	.066	.075	—	—	—	—
Honduras	---	—	—	—	.023	.040	.019	.027
Nicaragua	---	—	—	—	.089	.093	—	—
Cuba	.037	.015	.022	.012	.688	.575	—	—
Dominican Republic	—	—	—	—	.023	.041	.236	.308
Argentina	---	—	.009	.007	.012	.019	.019	.011
Colombia	.023	.016	.011	.009	.062	.089	.104	.088
Equador	---	—	—	—	.010	.015	.085	.122
Peru	---	—	—	—	.018	.029	.033	.034
Venezuela	---	—	—	—	.010	.022	—	—
Uruguay	---	—	—	—	—	—	.007	.003
U.S. Citizen	.379	.325	.200	.297	.462	.052	.541	.472
U.S. Residency								
0-5 years	.193	.227	.253	.133	.156	.171	.188	.171
6-10 years	.163	.167	.217	.151	.212	.137	.177	.185
11-15 years	.199	.162	.195	.197	.059	.133	.093	.169
16-20 years	.179	.118	.161	.169	.130	.169	.125	.136
21 or more years	.265	.326	.173	.349	.442	.390	.418	.339
Ability to speak English								
Not at all	.115	.159	.191	.169	.156	.139	.103	.119
Not well	.307	.303	.324	.294	.233	.216	.244	.267
Well	.274	.247	.234	.248	.243	.231	.268	.260
Very well	.304	.159	.251	.289	.368	.414	.386	.353
Age*	35.47 (11.53)	35.81 (11.60)	33.83 (11.08)	36.98 (11.19)	43.23 (13.45)	43.64 (13.03)	39.84 (12.35)	39.63 (12.34)
Male	.670	.653	.647	.621	.566	.543	.584	.568
Head of household	.489	.438	.429	.460	.532	.502	.511	.462
Married, spouse present	.570	.554	.496	.527	.620	.583	.471	.431
Educational attainment								
Less than high school	.447	.389	.505	.416	.216	.124	.252	.228
Some high school	.202	.221	.238	.257	.196	.190	.252	.235
High school diploma	.192	.229	.141	.174	.217	.234	.252	.256
Some college	.113	.110	.089	.115	.219	.254	.162	.181
College graduate	.045	.052	.028	.039	.152	.198	.083	.101
n	7092	13611	38828	45281	16890	18939	17825	20981

*Mean shown (standard deviation in parentheses).

Table 3.
Logistic Regression of Self Employment on Place of Origin, Immigrant Characteristics, and Demographic Factors, Chicago 1990-2000

	1990		2000	
Place of origin				
Puerto Rico	.433**	.491*	.315***	.355**
Mexico	.371***	.693	.319***	.513**
Cuba	REF	REF	REF	REF
Colombia	1.009	1.242	1.078	1231
U.S. Citizen		1.179		1.029
U.S. Residency				
0-5 years		REF		REF
6-10 years		1.003		1.355
11-15 years		1.065		1.178
16-20 years		1.039		1.639**
21 or more years		1.613		1.220
Ability to speak English				
Not at all		REF		REF
Not well		1.156		1.388
Well		1.627		1.527*
Very well		1.332		1.591*
Age		1.018**		1.016**
Male		1.251		1.173
Head of household		1.238		1.293*
Married, spouse present		1.286		1.190
Educational attainment				
Less than high school		1.084		.916
Some high school		.948		1.104
High school diploma		REF		REF
Some college		1.367		1.402*
College graduate		1.856**		1.405
Constant	-2.394	-4.666	-2.165	-4.186
-2 Log Likelihood	2206.87	2124.45	4310.76	4217.15
n	7092	7092	13611	13611

Notes: Odds ratios shown; self-employed is the reference category.
*p<.05; **p<.01; ***p<.001.

Table 4.
Logistic Regression of Self Employment on Place of Origin, Immigrant Characteristics, &Demographic Factors, Los Angeles 1990-2000

	1990		2000	
Place of origin				
Puerto Rico	.346***	.372***	.473**	.5002**
Mexico	.414***	.657***	.558***	.701**
El Salvador	.408***	.714**	.739*	.910
Guatemala	.491***	.843	.703**	.877
Cuba	REF	REF	REF	REF
Argentina	1.606**	1.655**	1.796**	1.762**
Colombia	1.209	1.458**	.835	.888
U.S. Citizen		.995		.910*
U.S. Residency				
0-5 years		REF		REF
6-10 years		.887		1.139
11-15 years		.858*		1.191*
16-20 years		1.001		1.084
21 or more years		1.079		1.086
Ability to speak English				
Not at all		REF		REF
Not well		1.064		1.140*
Well		1.226**		1.194**
Very well		1.080		1.090
Age		1.028***		1.029***
Male		1.212***		1.049
Head of household		1.323***		1.239***
Married, spouse present		1.054		1.077*
Educational attainment				
Less than high school		1.095		1.106*
Some high school		1.108		1.035
High school diploma		REF		REF
Some college		1.073		1.029
College graduate		1.632***		1.182
Constant	-1.808	-3.708	-1.749	-3.485
-2 Log Likelihood	19136.53	18603.51	28412.47	27830.36
n	38828	38828	45281	45281

Notes: Odds ratios shown; self-employed is the reference category.
*p<.05; **p<.01; ***p<.001.

Table 5.
Logistic Regression of Self Employment on Place of Origin, Immigrant Characteristics, and Demographic Factors, Miami 1990-2000

	1990		2000	
Place of origin				
Puerto Rico	.3884***	.454***	.575***	.674**
Mexico	.576*	.697	.640**	.753
Honduras	.519***	.808	.760*	.951
Nicaragua	.425***	.649***	.629***	.700***
Cuba	REF	REF	REF	REF
Dominican	.779	.955	.674**	.774*
Argentina	.986	1.100	1.424*	1.548**
Colombia	1.024	1.222*	1.169*	1.381***
Equador	.915	1.059	1.262	1.459*
Peru	1.107	1.488*	.919	1.078
Venezuela	1.095	1.256	.939	1.221
U.S. Citizen		1.004		.915
U.S. Residency				
0-5 years		REF		REF
6-10 years		1.631***		1.375***
11-15 years		1.803***		1.573***
16-20 years		1.593***		1.772***
21 or more years		1.865***		1.850***
Ability to speak English				
Not at all		REF		REF
Not well		1.148		10.29
Well		.939		.926
Very well		.874		.872
Age		1.006**		1.010***
Male		2.228***		1.660***
Head of household		1.306***		1.280***
Married, spouse present		1.386***		1.189***
Educational attainment				
Less than high school		1.147		1.130
Some high school		1.011		1.149*
High school diploma		REF		REF
Some college		.988		.872*
College graduate		1.502***		1.217**
Constant	-1.738	-3.557	-1.809	-3.266
-2 Log Likelihood	13247.03	12584.56	14700.29	14244.27
n	16890	16890	18939	18939

Notes: Odds ratios shown; self-employed is the reference category.
*p<.05; **p<.01; ***p<.001.

Table 6.
Logistic Regression of Self Employment on Place of Origin, Immigrant Characteristics, and Demographic Factors, New York 1990-2000

	1990		2000	
Place of origin				
Puerto Rico	.373***	.422***	.406***	.467***
Mexico	.419***	.528**	.547***	.715
El Salvador	.499**	.591*	.588*	.661
Honduras	.603*	.724	.503**	.589*
Cuba	REF	REF	REF	REF
Dominican	.591***	.716*	.682*	.750
Argentina	1.537*	1.482*	1.808**	1.907**
Colombia	.888	.992	.997	1.061
Equador	.517***	.579**	.659**	.745
Peru	.520**	.523**	.900	.929
Uruguay	1.827*	1.734*	1.252	1.310
U.S. Citizen		.988		.881
U.S. Residency				
0-5 years		REF		REF
6-10 years		1.038		1.286**
11-15 years		.997		1.348**
16-20 years		1.131		1.396**
21 or more years		.877		1.156
Ability to speak English				
Not at all		REF		REF
Not well		1.117		1.131
Well		1.098		1.089
Very well		1.092		.834
Age		1.012***		1.018***
Male		1.667***		1.066
Head of household		1.161*		1.185**
Married, spouse present		1.234**		1.242***
Educational attainment				
Less than high school		.750**		.974
Some high school		.864		1.051
High school diploma		REF		REF
Some college		.927		.979
College graduate		1.178		1.144
Constant	-2.107	-3.169	-1.979	-3.225
-2 Log Likelihood	7738.73	7613.07	11739.97	11560.34
n	16530	16530	20981	20981

Notes: Odds ratios shown; self-employed is the reference category.
*p<.05; **p<.01; ***p<.001.