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TRENDS IN SELF-EMPLOYMENT AMONG DIFFERENT RACE GROUPS IN THE UNITED STATES OF AMERICA

AMERİKA BİRLEŞİK DEVLETLERİNDE FARKLI ETNİK KÖKENLER ARASINDA SERBEST MESLEK ERBABLIĞI EĞİLİMİ

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ABSTRACT

The main goal of this paper is to see the trends self-employment behavior of natives and immigrants living in the U.S. by focusing on different race and ethnic groups using the current population survey (CPS) data under a linear probability model framework. There are two main outcomes of this study. First, although the real income level of immigrants is decreasing over time, they still have the incentive to be self-employed as much as the natives. Second, the Oaxaca decomposition technique results show that there is a little difference between the average group characteristics of natives and immigrants.

Keywords: Self-employment, Immigrant, Linear probability model

ÖZ

Bu çalışmanın ana amacı Amerika'da yaşayan yerli halk ve göçmenler arasındaki serbest meslek erbablığının eğilimini farklı ırk ve etnik kökenlere odaklanıp cari nüfus anket verisini kullanarak doğrusal olasılık modeli çerçevesinde incelemektir. Çalışmanın iki ana sonucu vardır. İlk olarak, çalışma göstermiştir ki, göçmenlerin reel gelir seviyesi zamanla düşmesine rağmen, hala en az yerli halk kadar serbest meslek erbabı olma eğilimindedirler. İkinci olarak, Oaxaca ayrıştırma tekniği sonuçlarına göre, yerli halk ve göçmenler arasında ortalama grup karakteristikleri açısından çok küçük bir fark bulunmaktadır.

***Anahtar* Sözcükler:** *Serbest meslek, Göçmen, Doğrusal olasılık modeli*

1. Introduction

The self-employment studies in the literature have been gaining importance particularly for the last two decades. While some authors argue that self-employment has a risky nature and people will generally be less likely to have the incentive to be self-employed, the others claim self-employment is preferred as it causes higher earnings, independence and high standards when compared to any salaried job. It is obvious that we will decide whether the latter or the former makes more sense by examining the data by keeping in mind that self-employment is an important tool for the economy since it both helps to decrease the unemployment level and to increase the tax income of the government.

In this paper, we basically deal with the answer of the following questions. What factors cause self-employment in US? How do the immigrant self-employed do in terms of earnings when compared to natives? How do the different race groups do in self-employment when compared to each other? How does the trend change from 1980 to 2000?

Actually, as will be seen in the literature review section, the existing studies dealing with the immigrant status/the race of the respondents. Yet, in this study, we will not only focus on the immigrant status but also discuss the different racial groups by taking into consideration the trend throughout the years.

Using the current population survey data and focusing on different race and ethnic groups under linear probability model framework, the self-employment behavior of natives and immigrants are examined in the present paper. In this regard, there are two important findings of the study. First, although the real income level of immigrants is decreasing over time, they still have the incentive to be self-employed as much as the natives. Second, the Oaxaca decomposition technique results show that there is a little difference between the average group characteristics of natives and immigrants.

The paper is organized as follows. After a brief literature review in section 2, the data will be introduced in section 3, which also includes the trends and basic characteristics of the data for different racial groups. Estimation results are going to be discussed in section 4. After pointing out the Oaxaca (1973) decomposition technique and its outcome in section 5, section 6 concludes.

2. Literature Review

The empirical studies for self-employment in US have started to take place after 1980. In this regard, Borjas (1986) is one of the most important studies in the literature. By using the 1970 and 1980 US Censuses, he shows that the self-employment rates of immigrants are higher than those of native-born men. The study basically has three main outcomes. First, it is shown that as the year of the residence of the immigrant in US increases, the self-employment probability is increasing as well. Second, earlier immigrants have lower self-employment rates than the recent ones, which is most probably due to the shrink in opportunities faced by immigrants in the salaried sector for the last years. Last but not least, it is pointed out that the data supports the enclave hypothesis, which indicates that immigrants are more likely to be self-employed when compared to native workers who have the similar skills. The reason is that geographic enclaves of immigrants increase the opportunity of self-employment especially for immigrants who share the same national background as the residents of the enclave. However, the main drawback of

this study is omitted variable problem. In order to explain the factors causing self-employment the study only concentrates on variables such as education, marital status and health and ignores the other potential ones. Therefore, the results are likely to be biased.

Meyer (1990) compares the self-employment of black versus white people and finds a small fraction for black people who are self-employed. According to this study, the differences in net worth of Black and White people can only be able to explain a small portion of the differences existing in the rates of business formation. The paper also examines whether black businesses are being more frequently patronized by white customers. However, the evidence of the study does not support this view. Finally, it is concluded that cultural differences are the main differences being able to explain black/white differences in self-employment.

Yuengert (1995), on the other hand, tests three hypotheses in order to explain the high rates of self-employment relative to native workers. Beyond Borjas (1986), this study tests the reasons for why immigrants have more incentive to be self-employed. It is basically pointed out that the immigrants from countries with high self-employment rates are more likely to be self-employed. Moreover, as opposed to Borjas (1986), this study ends up with little support for the enclave hypothesis. In other words, self-employment rates are not higher in cities where a higher fraction of immigrants are already living in.

Loftstrom (2002) studies the assimilation of the self-employed immigrants by using 1980 and 1990 Census data. The paper basically shows that the immigrants have more incentive to be self-employed than natives, however the rate of self-employment is changing across different groups. Self-employed immigrants are worse off in terms of English proficiency, but they have higher earnings and they are more educated than the wage/salary immigrants. As opposed to Yuengert (1995), main findings of this paper regarding enclave effects support Borjas (1986).

Fairlie (2004) examines the trends and the causes of trends in business ownership among ethnic/racial groups by using Current Population Survey data between the years 1979 and 1998. He ends up with variation in the self-employment rates across groups, which is in line with the Yuengert (1995). Moreover, in order to figure out the causes of this variation, a dynamic decomposition technique developed by Smith and Welch (1989) is used and several patterns are detected. For instance, there is an increasing level of education among black men relative to white men, which shrinks the White/Black self-employment rate gap from 1979-81 to 1996-98.

There are also some other studies done for countries rather than US. For instance, Zimmermann et al (2005) is examining the determinants of the decision to become an entrepreneur for immigrants –particularly Turks- living in Germany by using the German Socioeconomic Panel data. Their main findings are as follows: Firstly, they show that the self-employment in Germany is not widely common. Self-employed Germans constitute 10% of the male labor force. This ratio is 7% and 5% for Turks and other immigrants respectively. Secondly, Turks are much more likely to be self-employed than any other immigrant group in Germany. For natives, marriage positively affects the probability of being self-employed however the same is not true for immigrants. Finally, although there is a concave relationship between age and the self-employment probability, age positively affects the self-employment probability both for natives and immigrants up to a certain level.

3. The Data and Model Specification

The data is obtained from the U.S. Census data, which is available once in every decade. Therefore, the data for the years 1980, 1990 and 2000 are employed in this study. One might wonder why 2010 data is not included. Two explanations can be provided for this purpose. First, it is important to note that the 2010 Census data includes some fundamental changes and some of the variables used in this study are not available after the year 2000. Second, it is also obvious from our results that there is no major change in regression coefficients from one decade to other. Such a condition indicates that the results presented in this study will be insensitive to the exercise of including 2010 Census data even so the dataset have provided all the variables we need.

In order to decrease the computational costs, 1% sample is used throughout the study. It should be noted that although it is 1% sample, the data is big enough to examine the trends particularly for the smaller race groups. As expected, it will also provide more accurate results for all other groups as well.

Abiding by the definitions in the Census data, self-employed workers are defined as those respondents who identify themselves as self-employed. We also limit the sample only by comprising the individuals between the ages of 16-94. There are six racial/ethnic groups created as white, black, Asian, Cuban, Mexican and other Hispanics.

3.1. The Data and Descriptive Statistics

Table 1 shows the income characteristics of native and immigrant self-employed people. It is seen that the share of the self-employed natives and the share of the self-employed immigrants are almost equal throughout the years. Yet, when their real income levels are examined, there is a gap seen between the two groups in favor of natives. The real income of natives increases by 27% from 1980 to 2000, however, the relevant rate is only 4% for immigrants.

Table 1. Income Characteristics of Natives and Immigrants

	Natives			Immigrants		
Years	1980	1990	2000	1980	1990	2000
Number of Self-employed	97349	128568	142568	7168	13305	21402
Total Observation	1067573	1204662	1291506	73455	124667	195133
Share of being self-employed	0.0911	0.1067	0.1103	0.0975	0.1067	0.1096
Income Level	17610	30745	46725	19270	31632	41813
% Change in Income Level (by 1980)		75	165		64	117
Inflation Adjusted Income Level		19383	22358		19942	20008
% Change in Real Income Level (by 1980)		10	27		3	4

Table 2 represents the self-employment rates and incomes for different racial groups from 1980 to 2000. The outcome of this table is confirming the outcomes of Table 1. In addition, it shows that the salaried worker's income increased more than the self-employed people for both natives and immigrants except native born Asians.

Table 2. Self-employment Rates and Incomes from 1980 to 2000

	1980 Mean Annual Income of Salaried Workers	1990 Mean Annual Income of Salaried Workers	2000 Mean Annual Income of Salaried Workers	1980 Mean Annual Income of Self-Employed Workers	1990 Mean Annual Income of Self-Employed Workers	2000 Mean Annual Income of Self-Employed Workers	% change in Income of Salaried Workers from 1980 to 2000	% change in Income of Self-Employed Workers from 1980 to 2000
White								
Immigrant	10675	17993	25577	19112	30602	40483	139	111
Nat. Born	11360	21003	31956	17907	31331	47792	181	166
Black								
Immigrant	8426	16627	25592	13508	22338	33103	203	145
Nat. Born	8309	14636	22848	10423	16669	28170	174	170
Asian								
Immigrant	10491	19833	32644	20880	36362	47945	211	129
Nat. Born	11507	22121	29114	19259	38059	54308	153	181
Mexican								
Immigrant	7584	11347	17097	12852	15698	21362	125	66
Nat. Born	8436	14492	21118	15136	19886	31902	150	110
Cuban								
Immigrant	9858	19314	28084	15448	31780	39463	184	155
Nat. Born	8110	15720	29201	16079	33924	50853	260	216
Other Hispanics								
Immigrant	8573	14531	20682	17559	22944	27992	141	59
Nat. Born	9624	16380	21784	14091	26750	34813	126	147

Table 3 highlights the trend for selected characteristics on self-employed and salaried workers. Family size is bigger for immigrants when compared to natives, but this difference is small enough to ignore. There is an upward trend in family size for self-employed immigrants, however the opposite is true for natives throughout the years.

Self-employed people are older than the salaried workers. Gender variable shows that males have more incentive to be self-employed. However, there is a downward trend throughout the years. In other words, females have an increasing incentive to be self-employed as the time passes. Same inference is true for marital status. People who are married are more likely to be self-employed with a downward trend.

Table 3 also indicates that immigrants have been living in the U.S. for a long time, for which, 3.75 means that respondent has been in US for 15-20 years. It is also true for English proficiency levels, which is scaled ranging from 1 to 4 in line with the census data where 4 is the highest referring an excellent English. It is clear from the table that immigrants are above average in terms of their English speaking capability.

Table 3. Trends of Selected Characteristics on Self-employed and Salaried Workers

Variables	Self-employed Natives			Salaried Natives			Self-employed Immigrants			Salaried Immigrants		
	1980	1990	2000	1980	1990	2000	1980	1990	2000	1980	1990	2000
Family Size	3.05	2.89	2.74	3.11	2.95	2.8	3.29	3.45	3.47	3.4	3.6	3.58
	(1.53)	(1.45)	(1.45)	(1.67)	(1.54)	(1.54)	(1.72)	(1.88)	(1.96)	(1.95)	(2.17)	(2.18)
Number of Children	1.04	0.92	0.83	0.87	0.81	0.75	1.2	1.21	1.2	1.06	1.01	1.02
	(1.29)	(1.18)	(1.15)	(1.21)	(1.1)	(1.07)	(1.37)	(1.32)	(1.34)	(1.37)	(1.31)	(1.3)
Age	46.07	46.48	47.9	36.75	38.4	39.75	48.07	45.11	44.79	39.32	37.88	38.31
	(14.96)	(14.68)	(14.17)	(15.12)	(14.7)	(14.62)	(14.96)	(13.79)	(12.84)	(15.11)	(13.92)	(13.23)
Gender	0.76	0.67	0.65	0.52	0.505	0.49	0.74	0.66	0.62	0.53	0.54	0.54
	(0.42)	(0.46)	(0.47)	(0.49)	(0.499)	(0.49)	(0.43)	(0.47)	(0.48)	(0.49)	(0.49)	(0.49)
Marital Status	0.78	0.74	0.7	0.58	0.57	0.53	0.78	0.72	0.68	0.62	0.55	0.54
	(0.41)	(0.43)	(0.45)	(0.49)	(0.49)	(0.49)	(0.41)	(0.44)	(0.46)	(0.48)	(0.49)	(0.49)
Years in US							3.75	3.66	3.71	3.11	3.2	3.22
							(1.45)	(1.46)	(1.42)	(1.55)	(1.54)	(1.54)
English Proficiency level							2.5	2.38	2.23	2.28	2.27	2.18
							(0.76)	(0.85)	(0.93)	(0.95)	(0.95)	(1.007)
Education	2.51	2.7	2.82	2.41	2.64	2.75	2.45	2.6	2.59	2.25	2.42	2.49
	(0.97)	(0.909)	(0.88)	(0.85)	(0.83)	(0.82)	(1.09)	(1.068)	(1.06)	(1.03)	(1.02)	(1.04)
School type	0.97	0.95	0.95	0.88	0.85	0.85	0.97	0.92	0.93	0.9	0.82	0.87
	(0.17)	(0.21)	(0.2)	(0.32)	(0.35)	(0.34)	(0.16)	(0.26)	(0.24)	(0.29)	(0.37)	(0.33)
Hours of work	43.73	42.28	42.19	37.74	38.55	38.99	43.86	43	42.72	38.1	39.25	39.9
	(17.3)	(17.6)	(17.14)	(11.81)	(12.4)	(12.25)	(17.16)	(16.93)	(16.96)	(11.48)	(12.05)	(11.6)
Total Income	17610	30745	46725	11003	20.297	30748	19270	31632	41813	10476	18264	27097
	(18702)	(40776)	(69748)	(10351)	(21589)	(37980)	(19988)	(43027)	(67444)	(10314)	(21471)	(37268)
Observation	97349	128568	142568	1101292	1208588	1295795	7168	13305	21472	77847	127978	199882

Self-employed natives are the best-educated group. It should also be noted that the average education level for natives is higher than the immigrants. However, when we divide it into immigration status groups, we see that self-employed groups are more educated than the salaried workers, which can be interpreted as more years of schooling pushed individuals into self-employment.

School type variable takes a value of 0 if the respondent respondents' attending school were enrolled in a public school and 1 if it was a private school. Table 3 shows that self-employed people are more likely to be attended to a private school. Same pattern is true for working hours such that all self-employed people work more hours per week than the salaried workers. Moreover, self-employed immigrants have the highest weekly working hours.

3.2. Empirical Models

The weighted linear probability model will be employed so as to see what affects the probability of being self-employed. Therefore, the dependent variable takes the value of "0" and "1" if the respondent is self-employed or salaried worker, respectively. The control variables are family size, number of children, marital status, English proficiency level, education, school type, age, gender and years in the U.S. (for immigrants). Formally,

$$Self\ employment\ status = \alpha + \beta_1 * Family\ Size + \beta_2 * No.\ of\ child +$$
$$\beta_3 * Marital\ status + \beta_4 * Eng.\ Prof.\ Level + \beta_5 * Education + \beta_6 * \qquad (1)$$
$$School\ Type + \beta_7 * Age + \beta_8 * Sex + \beta_9 * Years\ in\ US + error$$

In linear probability model, constant term is interpreted as the probability of a respondent being self-employed given the control variables. On the other hand, the slope coefficients are interpreted as the change in the probability of being self-employed for a unit change in control variables. Here, all control variables, except family size, are expected to affect the probability of being self-employed positively. The details will be discussed in the next section.

Before proceeding to the empirical results it is worth noting the Oaxaca (1973) decomposition technique, which allows us to decompose the changes in the probability of being self-employed. Or, to put it differently, this technique will allow us to see how large the discrimination coefficient is. Briefly,

$$D = \frac{\dfrac{\overline{P_m}}{\overline{P_n}} - \left(\dfrac{\overline{P_m}}{\overline{P_n}}\right)^0}{\left(\dfrac{\overline{P_m}}{\overline{P_n}}\right)} \qquad (2)$$

where $\overline{P_m}/\overline{P_n}$ is the observed average being self-employed ratio $\left(\dfrac{\overline{P_m}}{\overline{P_n}}\right)^0$ is the ratio of the Immigrant-Native self-employment ratio in absence of discrimination. Expressed in logarithmic form, equation (2) becomes the Immigrant-Native average self-employment probability differential:

$$\ln \overline{P^m} - \ln \overline{P^n} = \left(\ln \overline{P^m} - \ln \overline{P^n}\right)^0 + \ln\left(D + 1\right) \qquad (3)$$

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where $\left(\ln\overline{P^m} - \ln\overline{P^n}\right)^0$ is the part of the self-employment probability difference that is due to differences in immigrants' and natives' behaviors and $\ln(D+1)$ is the treatment, or discrimination component.

4. Empirical Findings

Table 4 depicts linear probability model estimation results on the self-employment for immigrants and natives in the U.S. from 1980 to 2000 with robust standard errors. It is obvious from the table that the results are in line with our expectations in the sense that except family size the other variables are positively affecting the probability of being self-employed.

Table 4. Linear Probability Model Estimation Results on the Self-employment: Immigrants and Natives in US from 1980 to 2000 (Dependent Variable Immigration Status) (robust s.e)

	1980 Native	1990 Native	2000 Native	1980 Immigrant	1990 Immigrant	2000 Immigrant
Family Size	0.000	-0.001	-0.002	0.001	-0.002	-0.002
	(1.08)	(6.32)***	(8.94)***	(1.66)*	(5.14)***	(7.09)***
Number of Children	0.003	0.004	0.005	0.002	0.004	0.004
	(10.72)***	(12.74)***	(16.83)***	(2.66)***	(5.40)***	(6.20)***
Age	0.003	0.003	0.003	0.002	0.002	0.002
	(132.79)***	(115.59)***	(126.74)***	(29.40)***	(31.33)***	(38.37)***
Gender	0.066	0.053	0.050	0.062	0.043	0.031
	(141.46)***	(96.79)***	(96.92)***	(34.38)***	(26.08)***	(23.39)***
Marital Status	0.025	0.028	0.024	0.024	0.027	0.022
	(44.72)***	(43.82)***	(39.14)***	(11.33)***	(13.86)***	(13.90)***
English Proficiency level				0.010	0.003	-0.001
				(9.58)***	(2.81)***	(1.11)
Education	0.014	0.010	0.006	0.015	0.014	0.006
	(42.42)***	(28.51)***	(17.02)***	(13.58)***	(14.07)***	(7.63)***
School type	0.011	0.015	0.009	0.024	0.023	0.014
	(20.50)***	(22.89)***	(14.29)***	(10.10)***	(11.95)***	(8.31)***
Years in US				0.006	0.003	0.006
				(8.01)***	(5.18)***	(12.41)***
Constant	-0.146	-0.103	-0.086	-0.163	-0.106	-0.069
	(38.72)***	(22.33)***	(19.81)***	(33.72)***	(24.37)***	(20.17)***
Observations	1198641	1307940	1438324	85015	138415	221347
R-squared	0.55	0.64	0.64	0.58	0.53	0.62

*Absolute value of z statistics in parentheses, *significant at 10%; ** significant at 5%; *** significant at 1%*

Family size basically has a small but negative role on the probability of being self-employed. The impact is negative due to the fact that the head of the crowded families can be more

risk averse than the uncrowded families and therefore avoid the more risky venture of self-employment. It will particularly be valid if the whole family depends on the head's income.

Age is positively affecting the probability of being self-employed which is confirming our inferences from the previous tables. It is also expected as older people have more experience and knowledge and most of the time they may have more capital. They are careful while making up their minds and it is, therefore, not a surprise that we have a positive coefficient for age variable.

Gender and marital status both have positive effect on being self-employed. It is obvious that males are more likely to become self-employed rather than women. However, it is noteworthy that there is a downward trend for that variable which means that females are likely to be self-employed with an increasing rate that is again consistent with our previous outcomes. Marital status is also playing a positive important role on the probability of being self-employed. It has positive effect since self-employment may be an attractive job when compared to be a salaried worker since the former has flexible working schedule yet the latter does not have.

People who are more likely to be able to speak English perfectly increase the probability of being self-employed. However, it should be noted that this impact turns out to be negligible as we come closer to year 2000. In the next section, we will also see that for some ethnic groups this has a negative impact on being self-employed.

Education has almost same pattern as English proficiency. People who have higher educational degree choose being self-employed. It is expected indeed since we know that for some occupations there are important educational requirements. Yet, it is noteworthy that there is a significant downward trend for this variable throughout the years. School type variable has also similar pattern. Although it positively affects the probability of being self-employed, this effect evaporates over time.

The years spent in the U.S. variable measures the time and the quality of experience in the U.S. environment. Positive coefficient in this case means, as immigrants get used to the life, rules and environment in the U.S., they are more likely to be self-employed.

Table 5, 6 and 7 shows the estimation results of linear probability model of self-employment for different racial/ethnic groups in the U.S. for the years 1980, 1990 and 2000, respectively, with robust standard errors. To save space, the main inferences will be discussed here.

Table 5. Linear Probability Results for Ethnic/Racial Groups in 1980 (Weighted)

	White	Black	Asian	Mexican	Cuban	Other Hispanic
Family Size	0.001	-0.001	0.001	0.001	-0.002	0.001
	(1.67)*	(0.84)	(0.85)	(1.40)	(0.85)	(0.61)
Number of Children	0.003	0.000	0.006	0.000	0.015	-0.003
	(2.66)***	(0.15)	(2.32)**	(0.01)	(2.86)***	(1.14)
Marital Status	0.022	0.006	0.021	0.011	0.030	0.017
	(8.93)***	(1.20)	(3.93)***	(2.97)***	(3.50)***	(3.29)***
Eng. Prof. Level	0.019	-0.005	-0.017	0.005	-0.001	0.004
	(15.17)***	(1.25)	(5.16)***	(2.91)***	(0.19)	(1.44)

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Education	0.015	0.001	0.013	0.012	0.011	0.018
	(10.80)***	(0.37)	(5.23)***	(4.24)***	(2.33)**	(5.57)***
School Type	0.030	0.005	0.017	0.004	0.012	0.028
	(9.25)***	(1.09)	(3.41)***	(0.55)	(1.15)	(4.59)***
Age	0.002	0.002	0.004	0.001	0.005	0.003
	(4.25)***	(2.69)***	(3.44)***	(0.89)	(2.87)***	(2.86)***
Age-Square	0.000	-0.000	-0.000	0.000	-0.000	-0.000
	(1.07)	(2.05)**	(1.72)*	(0.86)	(2.43)**	(1.71)*
Gender	0.068	0.032	0.048	0.021	0.070	0.042
	(31.98)***	(7.20)***	(10.57)***	(6.79)***	(8.82)***	(9.25)***
Years in US	0.002	0.006	0.015	0.004	0.007	0.005
	(2.13)**	(3.24)***	(7.10)***	(2.46)**	(1.41)	(2.03)**
Constant	-0.172	-0.052	-0.135	-0.070	-0.140	-0.149
	(18.34)***	(2.19)**	(5.89)***	(3.88)***	(3.84)***	(6.55)***
Observations	64979	5406	13877	13880	4577	8363
R-squared	0.55	0.42	0.53	0.43	0.44	0.43

*Absolute value of z statistics in parentheses, significant at 10%; ** significant at 5%; *** significant at 1%*

Table 6. Linear Probability Results for Ethnic/Racial Groups 1990 (Weighted)

	White	**Black**	**Asian**	**Mexican**	**Cuban**	**Other Hispanic**
Family Size	-0.001	-0.003	-0.002	-0.001	-0.008	0.001
	(2.71)*	(2.36)**	(3.23)*	(2.25)**	(2.14)**	(0.77)
Number of Children	0.003	0.002	0.011	0.000	0.023	-0.001
	(2.79)*	(0.64)	(5.36)*	(0.08)	(3.53)*	(0.48)
Marital Status	0.022	0.003	0.030	0.013	0.021	0.010
	(9.40)*	(0.63)	(6.73)*	(3.65)*	(2.07)**	(1.95)***
Eng. Prof. Level	0.011	0.003	-0.022	0.005	-0.006	0.001
	(9.69)*	(0.68)	(7.91)*	(3.57)*	(1.06)	(0.41)
Education	0.013	0.000	0.011	0.005	0.004	0.008
	(10.51)*	(0.10)	(4.93)*	(2.39)**	(0.80)	(2.98)*
School Type	0.024	0.015	0.013	0.014	0.014	0.010
	(9.74)*	(2.88)*	(2.97)*	(3.82)*	(1.02)	(1.87)***
Age	0.003	0.003	0.006	0.003	0.009	0.005
	(7.23)*	(2.85)*	(6.14)*	(3.71)*	(4.03)*	(4.00)*
Age-Square	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(1.36)	(1.92)***	(4.25)*	(1.21)	(3.53)*	(2.02)**

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Gender	0.046	0.022	0.044	0.011	0.091	0.014
	(23.13)*	(4.61)*	(11.68)*	(3.63)*	(10.05)*	(3.16)*
Years in US	0.001	0.000	0.013	-0.000	0.003	0.002
	(0.69)	(0.01)	(8.96)*	(0.16)	(0.78)	(1.15)
Constant	-0.132	-0.059	-0.117	-0.061	-0.168	-0.100
	(15.05)*	(2.46)**	(6.35)*	(4.30)*	(3.58)*	(4.63)*
Observations	99250	8905	29479	29873	5239	16620
R-squared	0.64	0.51	0.44	0.41	0.54	0.42

*Absolute value of z statistics in parentheses, *** significant at 10%; ** significant at 5%; * significant at 1%*

Table 7. Linear Probability Results for Ethnic/Racial Groups 2000 (Weighted)

	White	**Black**	**Asian**	**Mexican**	**Cuban**	**Other Hispanic**
Family Size	-0.002	-0.003	-0.003	-0.001	-0.002	-0.000
	(4.39)***	(2.79)***	(4.10)***	(3.09)***	(0.69)	(0.36)
Number of Children	0.003	0.005	0.007	0.004	0.014	0.002
	(3.29)***	(2.44)**	(4.26)***	(4.00)***	(2.24)**	(0.88)
Marital Status	0.018	0.008	0.022	0.007	0.015	0.018
	(9.53)***	(1.75)*	(6.33)***	(2.31)**	(1.47)	(4.29)***
Eng. Prof. Level	0.006	-0.005	-0.020	0.003	-0.013	0.000
	(6.86)***	(1.49)	(9.04)***	(3.08)***	(2.28)**	(0.10)
Education	0.007	-0.001	-0.001	0.001	0.004	0.002
	(7.36)***	(0.44)	(0.45)	(0.73)	(0.64)	(0.95)
School Type	0.014	0.014	0.005	0.002	0.013	0.009
	(6.15)***	(2.92)***	(1.41)	(0.51)	(0.75)	(1.87)*
Age	0.004	0.003	0.006	0.003	0.004	0.006
	(11.76)***	(3.15)***	(8.11)***	(4.98)***	(2.17)**	(7.29)***
Age-Square	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(3.98)***	(1.69)*	(5.51)***	(1.56)	(1.66)*	(3.98)***
Gender	0.030	0.031	0.037	0.006	0.089	0.005
	(18.67)***	(7.61)***	(13.08)***	(2.33)**	(9.66)***	(1.37)
Years in US	0.002	-0.002	0.018	0.001	0.016	-0.000
	(3.34)***	(1.33)	(17.24)***	(1.10)	(4.14)***	(0.28)
Constant	-0.109	-0.022	-0.092	-0.033	-0.104	-0.091
	(16.11)***	(1.08)	(6.44)***	(3.11)***	(2.34)**	(5.92)***
Observations	153071	16731	49165	58821	5542	31599
R-squared	0.63	0.61	0.54	0.44	0.53	0.42

*Absolute value of z statistics in parentheses, * significant at 10%; ** significant at 5%; *** significant at 1%*

In all years, white people have the most significant results. Noticeably, all controls are significant in this group and the signs of the coefficients are consistent with the previous results, which imply that except family size all controls have positive impact on the probability of being self-employed.

Asian immigrants have similar pattern as Whites. However, for this racial group, English proficiency level negatively affects the self-employment probability in all years. It is most probably because of the fact that for Asian people, English is an important deficiency and this deficiency does not allow them to become self-employed. In other words, this lack avoids them to be self-employed such that they do need to communicate one to one.

Same estimation results are also true for Mexicans and other Hispanics. In other words, there is not anything unexpected for these groups although there are some insignificant variables.

Blacks and Cubans have the less significant results. One possible reason for that may be the smallest sample size they have as the number of Black and Cuban immigrants is almost one-tenth of the number of white immigrants. Marital status, English proficiency level and education are all insignificant for Blacks while Education is insignificant for Cubans throughout the years.

Table 8, 9, 10 shows the results of the Oaxaca decomposition technique for immigrants and natives for the years 1980, 1990 and 2000, respectively.

Table 8. Oaxaca Decomposition Technique Results for 1980

```
Decomposition results for variables (as %)            Summary of decomposition results (as %)
------------------------------------------------      -------------------------------------------------------
   Variable    |    Attrib   Endow   Coeff            Amount attributable:               |   1.9
-------------+----------------------------------      - due to endowments (E):           |  -0.2
 Family Size  |     0.2      0.0      0.2             - due to coefficients (C):         |   2.1
 No. of Child |     0.0      0.0     -0.0             Shift coefficient (U):             |  -1.6
    Age       |     0.7      0.7      0.1             Raw differential (R) {E+C+U}:      |   0.3
   Gender     |    -0.2      0.0     -0.3             Adjusted differential (D) {C+U}:   |   0.5
  Marital St  |     0.0      0.1     -0.0             ---------------------------------+-----------------------------
 Eng. Prof. L.|     0.0     -0.9      1.0             Endowments as % total (E/R):       |  -71.8
  Education   |    -0.1     -0.2      0.1             Discrimination as % total (D/R):   |  171.8
 Schhol Type  |     1.3      0.1      1.2
-------------+----------------------------------       U = unexplained portion of differential
   Subtotal   |     1.9     -0.2      2.1                  (difference between model constants)
------------------------------------------------       D = portion due to discrimination (C+U)

                                                        positive number indicates advantage to high group
                                                        negative number indicates advantage to low group
```

In 1980, by comparing the output from the two regression equations it is clear that natives have smaller constants and this is reflected in the 1.6% disadvantage in the shift coefficient U. Native people also have disadvantage in gender and marital status variables. However, they have advantage in family size, age and school type as to offset that last disadvantage factors, leaving natives with a net advantage in C of 2.1%.

Table 9. Oaxaca Decomposition Technique Results for 1990

```
Decomposition results for variables (as %)


--------------------------------------------------------------
    Variable |      Attrib   Endow   Coeff
-------------+------------------------------------------
 Family Size  |     -0.3      -0.1    -0.2
 No. of Child |      0.1       0.1     0.0
      Age     |     -0.6      -0.2    -0.4
      Sex     |     -0.4       0.1    -0.5
 Marital St   |     -0.1      -0.0    -0.1
 Eng Prof. L. |      0.1      -0.3     0.5
 Education    |      0.5      -0.3     0.8
 School Type  |      0.7      -0.1     0.7
-------------+------------------------------------------
    Subtotal  |      0.1      -0.7     0.8
--------------------------------------------------------------
```

```
Summary of decomposition results (as %)
---------------------------------------------------------------------
Amount attributable:                    |    0.1
 - due to endowments (E):               |   -0.7
 - due to coefficients (C):             |    0.8
Shift coefficient (U):                  |   -0.2
Raw differential (R) {E+C+U}:           |   -0.1
Adjusted differential (D) {C+U}:        |    0.6
---------------------------------+-----------------------------
Endowments as % total (E/R):     |   764.8
Discrimination as % total (D/R): |  -664.8

   U = unexplained portion of differential
       (difference between model constants)
   D = portion due to discrimination (C+U)

   positive number indicates advantage to high group
   negative number indicates advantage to low group
```

Table 9. Oaxaca Decomposition Technique Results for 2000

```
Decomposition results for variables (as %)

    Variable    |    Attrib    Endow   Coeff
 Family Size  |     -0.3      -0.2    -0.2
 No. of Child |      0.1       0.1    -0.0
      Age     |     -0.5      -0.4    -0.1
      Sex     |     -0.9       0.1    -1.0
 Marital St   |     -0.1       0.0    -0.1
 Eng Prof L.  |     -0.2      -0.2    -0.0
 Education    |     -0.3      -0.1    -0.2
 School Type  |      0.5       0.0     0.5
-------------+---------------------------------------
    Subtotal  |     -1.7      -0.5    -1.1
--------------------------------------------------------
```

```
Summary of decomposition results (as %)
---------------------------------------------------------------------
Amount attributable:                    |   -1.7
 - due to endowments (E):               |   -0.5
 - due to coefficients (C):             |   -1.1
Shift coefficient (U):                  |    1.9
Raw differential (R) {E+C+U}:           |    0.2
Adjusted differential (D) {C+U}:        |    0.7
---------------------------------+-----------------------------
Endowments as % total (E/R):     |  -279.0
Discrimination as % total (D/R): |   379.0

U = unexplained portion of differential
       (difference between model constants)
D = portion due to discrimination (C+U)

   positive number indicates advantage to high group
   negative number indicates advantage to low group
```

There is little difference in endowments between the average group characteristics of natives and immigrants, something evident from a comparison of the high mode (himod) and low mode (lomod) output. This is reflected in the small figure for E, just -0.2%. Consequently, there is little difference between the raw differential (0.3%) and the adjusted differential (0.5%) because the difference in endowments between native and immigrants is so small.

For the years 1990 and 2000, the same results occur. Although there are some minor changes in coefficients, the difference is very small between raw differential and adjusted differential.

5. Concluding Remarks

In this paper, I have basically examined the self-employment behavior of natives and immigrants by focusing on different race and ethnic groups. As pointed out, natives and immigrants generally behave very similar in being self-employed with respect to all variables. Except family size, all controls are positively affecting the probability of being self-employed.

When racial differences are examined, it is shown that Asian people have a deficiency of speaking English and this deficiency cause them not to become self-employed since self-employed jobs need much communication throughout the day when compared to salaried jobs.

Blacks and Cubans have the less significant results and it is most probably because of the sample size such that the number of Black and Cuban immigrants is almost 10% of the number of White immigrants.

Oaxaca decomposition technique results show that there is almost no difference between the average group characteristics of natives and immigrants. Moreover, this situation has not changed throughout the years.

Further studies can be done to explain the coefficient's change throughout the years. For instance, as mentioned above, the effect of English proficiency level is decreasing throughout the years. Also, education becomes less and less important. The reason(s) for those happenings seems to be good candidates as further research questions. It should also be noted that the wealth could be added to this model in order to see whether the respondent's wealth, which can also interpreted as the bequest left from his parents, is affecting the probability of being self-employed as being self-employed usually requires certain amount of capital stock.

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