

# **Differing Immigrant Wages: Causes for Differences in Immigrants Standards of Living.**

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## **Abstract:**

This paper looks at the relationship between immigration workers and their differing standards of living based on various variables. The variables chosen were gender, place of origin/ethnicity, number of years living in the United States, education level and finally, the age of the immigrants. The model incorporates all these variables and then finds the connection between them and the earning status of the immigrants. The results show that gender and ethnicity often impact the earnings negatively whereas age, number of years living in the US and education level impact immigrant earnings positively.

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Keywords: Immigration, earnings

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## **1.0 Introduction**

Immigration has always been a very controversial topic and has become even more recently. Enchautegui, 1998 describes immigrants as “foreign born persons whose original citizenship is that of another country”. Immigration is the relocation of these foreign born citizens to another country. In the long history of immigration most of the emphasis has been on illegal immigration and its effects on the host society. In contrast, this paper looks at immigrants and how their living standards compare to each other, and not citizens.

Immigrants make up a significant part of the population, and like citizens, their living standards differ drastically. The paper is to see living standard comparisons among immigrants once they reach the country based on different factors. The variables looked at will be age, gender, ethnicity, time spent in the US and education level. These variables were taken from various studies over the years which are mentioned in the literature review. The point of the paper is to look at the variables and their effects on the earnings status of immigrants. It is also to look at the effects of the variables on each other when placed in the same model.

This study aims to enhance understanding of the living standards of immigrants that are here legally and illegally and the factors that affect those living standards. Further valuation of the variables and their importance will give an idea of which one of the variables is most influential to determining earnings, which in this paper is the medium to determine standard of living.

The topic is important because it can be used while evaluating current immigrant policy and standard of living among immigrants. Research can be furthered by using the results of this paper and then comparing it to a study of the standard of living of citizens and the factors that

influence those standards. It would be interesting to see the differences between the living standards of immigrants and citizens and the various factors that affect those standards.

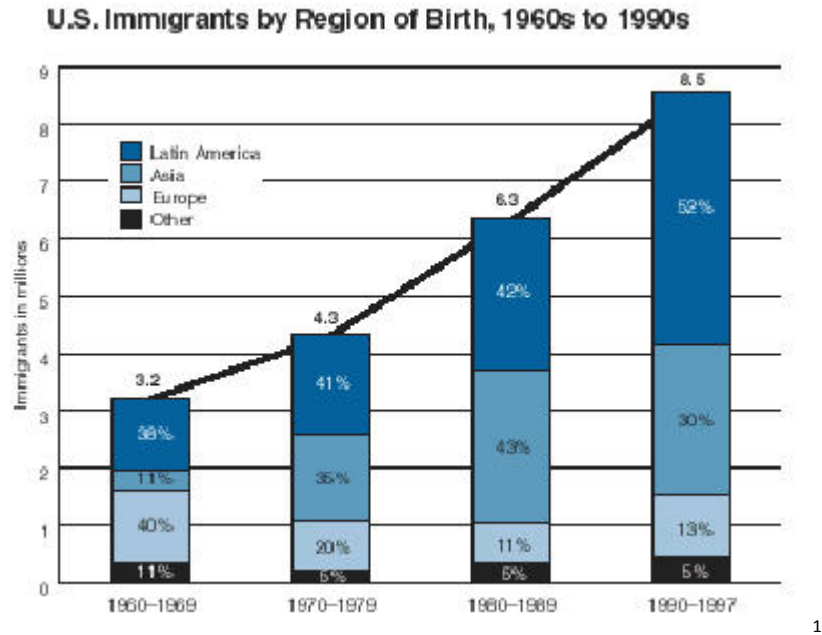
The study is different from others because there have been no papers that have looked at immigration living standards with these specific variables. There have been papers with variables that are listed in this paper, but no paper in this field has these particular variables together and seen their impact on each other and earnings.

The rest of the paper is prepared in five sections. The second part is the historical trends of immigration and gives the reviewers background on the subject. The third part is the literature review, which goes into the articles for this subject and their effects on the economic model. The fourth part of the paper estimates the empirical model and the signs. The fifth section discusses the results and methodology. This section also contains the data and estimation methods analysis. Finally the sixth section is the conclusion, in which the significance of the data is discussed, as well as the purpose of the final model.

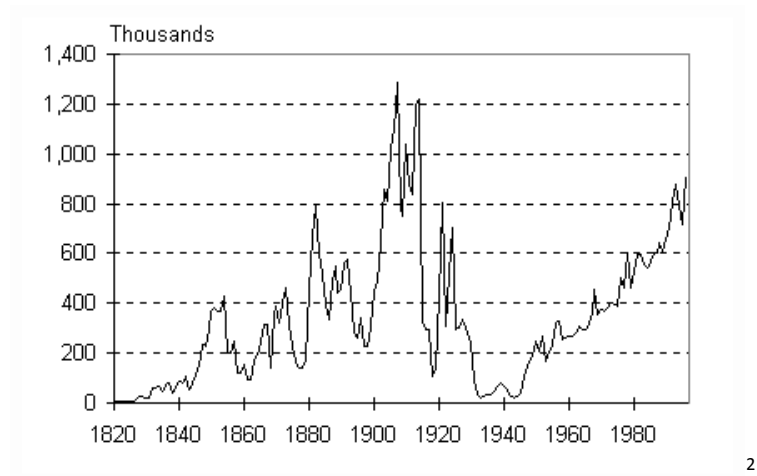
## **2.0 History and Trends of Immigration**

Immigrants have always been attracted by the religious and political freedoms and the great economic opportunities available in the US, thus immigration has always been an important part of the country. Early immigration peaked between 1892-1924 but after that limits began to be passed on how many people could come into the U.S from specific countries. The limits were based on the number of people from that country already living in the U.S. In 1965 immigration quotas were established according to who applied first and preference was given to people with specific skills or relatives of citizens, a trend which continues till today. In 1978 Congress abandoned hemispheric quotas and established a worldwide ceiling, which is the practice currently. The U.S accepts more immigrants than any other developed country, with 11.1% of

the country's population being foreign born. Below are charts showing immigration trends in the U.S thus far in its history.



**Immigration Trends from 1820-1980**



**3.0 Literature Review**

<sup>1</sup> www.usimmigration.com

<sup>2</sup> T21.ca

There is a fair amount of literature on the subject of legal immigrants in the academic field. This depth, however, is miniscule compared to the amount of research done on illegal immigrant. Borgas (1994), asked three main questions in his study: the first was the immigrants economic performance in the host country; the second question looked at the impact immigrants had on native employment opportunities; the third question looked at which immigration policy benefited the host country the most. According to Borgas (1994), immigration was shown to have fluctuated dramatically in this past, which is consistent with the trends chart above. The author also talked about how the ethnic origins of the immigrant population have also changed with changes in immigration policy and the impact this could have on policy in the future. Of major interest was the fact that the author contended that the gap between immigrant wages and native wages had actually increased from 27.6% in 1980 to 31.7% in 1990. The study attributed this to lower skill level immigrants coming into the U.S and taking cheaper jobs.

While Borgas, claimed that immigration wages were actually going down Enchautegui (1998) gave concrete proof to the claim. The study showed that between 1980 and 1994, the number of immigrants without a high-school diploma almost doubled (Enchautegui, 1998). This accounted for Borgas's research, which showed the gap in wages between immigrants and natives widening between these two time periods. In the study Enchautegui (1998) noted that despite the picture painted of the incoming immigrants, many of the low skilled immigrants that come into the U.S had poverty rates that increase faster than those of the natives, despite relatively solid employment history. The author also made note of the fact that although education was an important determinant of economic success it continued to be the main divider between skilled and low-skilled workers.

Guillermina Jasso et al (1986), talked further about education especially schooling and language skills of new immigrants and their gains from immigration. The authors stressed the

importance of the fact that a key attribute of immigrants is their human capital, one measure of which is years of schooling. The study also claimed that the data showed that there are far more legal immigrants at the top of the education pyramid than at the bottom, which supports the theory that many illegal immigrants arrive here for low-paying jobs that many Americans cannot or will not do. It also shows that legal immigrants come to plug in the gap between the demand for certain types of jobs and the lack of native born supply, such as engineers or physicists (Guillermina Jasso et al 1986). In this study the wages for immigrants were lower than the wages for native born, a fact that remained consistent throughout all authors. The study gives the explanation that this is because many of the immigrants are new, young entrants to the U.S labor market. This study differed from the previous two by showing that new legal immigrants are better schooled than native-born, and that they gain substantial economic advantage by immigrating. One thing to note is that none of the above studies talked about race in their findings. However Waters & Eschbach (1995) contend that in their study they found that employers still use racial and ethnic cues in hiring, which in turn impedes immigrants more than native born. In the study they also found evidence on the substitution on the labor markets of immigrants for native born.

Almost as a contradiction to Waters and Eschbach, Bernt Bratsbreg et al (2002) talked in detail about how with naturalization young male immigrants gained access to public-sector, white-collar, union jobs, and wage growth accelerates that were consistent with removal of employment barriers. In conjunction with wages, Harriet Orcutt Duleep and Mark C. Regets talked about idea of how fast wages were growing and the reason why. In the study the researchers pointed out that with their research they found out that immigrant wages grow faster than native born wages. However, they did concede that this could be due to potential lower entry wages for immigrants. Duleep and Regets showed that immigrant entry wages usually

started lower than the wages of native born but their growth rate was 6.7% compared to native workers 4.4% wage increase.

Alan K. Simpson provided in depth background knowledge on the history of immigration, necessary to understand the results of the model better. Overall the author was very informative. The study talked about how the U.S is a major target of immigration due to stagflation in many countries and the opportunities given here (Simpson, 1984). Since the article was written in 1984, there were a great many changes to the policy after, which made it a little less useful than it would have been if it had been written a little later. The author also talked about the different measures instituted to ensure legal employment. All in all, the paper was informative, but in the context of my research it provided more historical background and understanding of my model, and not actual concrete evidence and facts that could be used. Finally Joseph Schaafsma and Arthur Sweetman claimed age was an important factor in wages. The paper was done in Canada, and it was hoped that the results would be replicated in the U.S. As you will see, further into the paper, while the results were not identical the implications were the same. Schaafsma and Sweetman showed evidence that support three underlying scores of the “age” effect: work experience in the “source” country “yields virtually no return in the host country; second, the return to education varies with age at immigration, and, finally, an acculturation effect is observed for immigrants who are visible minorities or whose mother tongue is not English. Further, it is found that educational attainment, and relatedly earnings, varies systematically across age at immigration with those arriving around age 15 to 18 obtaining fewer years of education” (Schaafsma & Sweetman, 2001).

#### **4.1) Empirical model and Reasoning:**

## Variables, signs and definitions:

$$\text{Earnings} = \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{Ethnicity} + \beta_3 \text{Years in the US} + \beta_4 \text{Education} + \beta_5 \text{Age}$$

The dependant variable in the equation is earnings. In this case earnings are the medium for standard of living of immigrants. Earnings are defined as the pay the immigrant is given, including any options or stocks that is part of the salary.

There are five independent variables chosen due common theories and research into previous studies. The first variable is the gender of the immigrant; the second variable is the ethnicity or place of origin of the immigrant. Education and age stand for the education level and age level of the immigrant respectively. Years in the US are the number of years the immigrant has spent in the United States. The explanations behind the signs of the model are as follows: For age, theoretically the greater the age of the individual, the greater their experience. This in turn would usually translate into a higher paying job and thus a higher standard of living. That is why the sign for age is positive: it makes sense since it is likely that a 35 year old computer engineer will earn more than a 20 year old student. For years in the U.S the theory is the longer a person has worked here, the greater their chances of getting a better paying job comparatively. Therefore the sign for this variable is positive as well. For gender the explanation is a little different. In theory if the gender of the immigrant is male then he should be paid higher wages than a female immigrant. However if the emphasis is on the female immigrant then the sign should be negative. Taking into consideration both these circumstances the author has decided to let the sign in the model be positive, because it is believed that more male immigrants are coming in because of their labor skills and thus the sign is likely to be positive since male immigrants are paid more than female immigrants. In other words, since males are paid more than females and since it is the theory that there are more male immigrants than female immigrants, than in this study which

compares the standard of living for immigrants only, the sign should be positive overall, although it can be negative for the female sub-variable. In the case of ethnicity it is the author's belief that ethnicity will be a positive sign since it is people of favorable ethnic status in the States that immigrate more here and these people are given higher earnings. Thus the sign for ethnicity remains positive. The table with a summary of the variables, their descriptions and signs is below.

**Table 1: Variable Description and expected signs**

Variable	Description	Expected Sign	Data Source
Gender	The sex of the immigrant: in the regression for this variable 0 is for Male and 1 is for females	+; the theory is that more men than women are entering the U.S; thus the sign is positive	US Census Bureau
Ethnicity	The place of origin/race of the immigrant. Race 1: 1: Asian and White while 0 is Hispanic. Race 2: 1: Hispanic and 0 is Asian and White	+; More immigrants from developed countries therefore a positive sign	US Census Bureau
Age	The Age of the immigrant at the time of arrival	+; The older the immigrant is, the more experienced they are, thus they make more	US Census Bureau
Education	The education degree the immigrant has: Educ: 0: HS; 1: College and Post grad: Educ1: 0: College and Post and 1: HS.	+; the more time the immigrant spends in the states, the better their chances for greater pay via permanent visas.	US Census Bureau
Years in the U.S	The years the immigrant has spent in the US	+; the higher the education level, the better the chance of the immigrant to be paid more.	US Census Bureau

## 4.2 Data

The data for this paper was obtained from the U.S Census Bureau with 148,048 total observations. The data was provided by Professor Jongsung Kim from Bryant University, in Smithfield, RI. The explanation of the data is below. The data is collected every 10 years, the last collected being in 1999. The next data set shall be collected in 2009, and will be distributed with results in 2011.

**Table 2: Summary Statistics**

Variable	Std. Error	T-Statistic	P>T	Confidence Interval
<b>Gender</b>	<b>Women: 201.2048 Men: 100.6024</b>	<b>Women: - 95.65 Men: -95.65</b>	<b>W: 0.000 M: 0.000</b>	<b>W:-19640.09 -18851.38 M: 9820.046 - 9425.688</b>
<b>Ethnicity</b>	<b>Race 1:445.1174 race2   382.693</b>	<b>R1: 20.76 R2: -24.13</b>	<b>R1: 0.000 R2: 0.000</b>	<b>R1: 8370.431 10115.27 R2: -9982.771 --8482.629</b>
<b>Education</b>	<b>Educ: 976.1856 educ1   - 962.6571</b>	<b>Educ: 27.91 Educ 1: 23.53</b>	<b>Educ: 0.000 Educ 1: 0.00</b>	<b>Educ: 25332.85- 29159.45. Educ 1: 24537.21 - 20763.63</b>
<b>Age</b>	<b>34.03381</b>	<b>127.84</b>	<b>0.00</b>	<b>4284.103- 4417.514</b>
<b>No. Of years in US</b>	<b>9.006215</b>	<b>16.40</b>	<b>0.00</b>	<b>130.0175- 165.3215</b>

## 5.0 Empirical Results:

**Table 3: Regression Results**

Variable <sup>3</sup>	Coefficient	Std. Error	R <sup>2</sup>	No of Obs
<b>Gender</b>	<b>Men: - 9622.867** Women: - 19245.73**</b>	<b>Men: 100.60 Women: 201.20</b>	<b>Men:.0582 Women:.0582</b>	<b>148048</b>
<b>Ethnicity</b>	<b>Race 1: ***9242.853 Race 2***:- 9232.7</b>	<b>Race1:445.1174 Race2: 382.693</b>	<b>.0090</b>	<b>148048</b>
<b>Education</b>	<b>Educ***: 27246.15 educ1***:- 22650.42</b>	<b>Educ: 976.1856 Educ1: 962.65</b>	<b>.0984</b>	<b>148048</b>
<b>Age</b>	<b>147.6695***</b>	<b>9.006</b>	<b>.157</b>	<b>148048</b>
<b>No. Of years in US</b>	<b>1.26***</b>	<b>.155</b>	<b>.157</b>	<b>148048</b>

## 5.1 Explanation

As you can see from the regression above while most of the variables yielded the expected signs, the variables for sex and ethnicity did not. Both men and women were negative, women more so than men, which was expected. In retrospect, part of the explanation for this sign is simple.

While immigrant men do make more money than immigrant women, compared to citizen men, they still make comparatively less wages. The same explanation goes for immigrant women, hence the reason why their wages are even lower than immigrant men. Most immigrant women coming into the country do not typically go into high paying positions, which would explain why their wages are so much lower than immigrant men. However since the comparison was between

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<sup>3</sup> Please note that \*\*\* denotes 1% significance and \*\* denote 5% significance

immigrants only, further research is required to understand the problem. The author is unsure about the negative sign with ethnicity. A likely explanation is the fact that many of the immigrants coming into the country are Hispanic; since the regression shows that on average Hispanic immigrants make less than white and Asian immigrants, the overall sign would be negative. Barring that, the author feels that further research is needed for the subject. Of interest to the author was the coefficient for the number of years living in the U.S. Regarding the result, it would seem that number of years living does not make a significant difference in the earnings of immigrants- an interesting factor given the article on naturalization and how it increases and immigrants wages. These results contradict that data and further research is suggested to get more accurate results. Education was also an interesting result since it showed that many immigrants that came to the U.S with only a high-school diploma fared much worse than those that came who had graduated from college or done post-doctorate work: it coincides with the article reviewed that states that education has a significant impact on earnings. Finally we also see that while age matter, as was claimed in the Sweetman article, compared to all the other factors, its influence on earnings is relatively low.

The above regression also shows that all the factors chosen were important in the equation- they all play a significant part in the increase or decrease of earnings. All the factors fall into the 1% or 5% range which means that there is a 99% or 95% chance that they play a role in the amount of earnings an immigrant makes. Since all the variables are important, this makes the accuracy of the regression more viable.

## **6.0: Conclusion**

In today's day and age immigration is a highly contested issue. However much of the discussion is about illegal immigration and its effects on society and citizens. Not much attention is given to the immigrants themselves and their standards of living compared to each other. This study looks

at that part of the population in comparison to each other with their standards of living. The results show that age, gender, ethnicity, education and years of living in the U.S are all significant factors with regards to differences in earnings. They also show that unlike the hypothesized equation, the actual signs for gender and ethnicity are negative, with a misinterpretation of information being the reason. However further research is suggested for more concrete results. The results also show that immigrants are more likely to have higher wages if they are white or Asian, than if they are Hispanic. They also show that immigrants with higher degrees of education earn, on average, far more than those immigrants that come into the U.S with only high school diplomas. All in all the regression is considered accurate and viable and will hopefully further our understanding of this particular subject. This study is different than other studies since it takes many factors that have been specifically studied, such as age and education and then adds in other factors that should be theoretically relevant such as gender and age. The study shows the effects the variables have on each other as well as on the dependant variable. For example, in Sweetman's study, age was considered a very important factor. This study shows that age, while significant does not have a significant impact compared to gender and ethnicity. Also, in contradiction to Bernt Bratsbreg, the study shows that naturalization/Years in the US, do not play substantial roles compared to other factors.

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## Appendix

Period of Arrival	Number from					Largest Source of Immigrants		Second-Largest Source of Immigrants	
	All Countries	Europe	Asia	Americas <sup>2</sup>	Other	Country	Number	Country	Number
1821-1830	143.4	98.8	0	11.6	0	Ireland	50.7	United Kingdom	25.1
1831-1840	599.1	495.7	0.1	33.4	0.1	Ireland	207.4	Germany	152.5
1841-1850	1713.3	1,597.4	0.1	62.5	0.1	Ireland	780.7	Germany	434.6
1851-1860	2,598.2	2,452.6	41.5	74.7	0.4	Germany	951.7	Ireland	914.1
1861-1870	2,314.8	2,065.1	64.8	166.6	0.5	Germany	787.5	United Kingdom	606.9
1871-1880	2,812.2	2,271.9	124.2	404.0	11.3	Germany	718.2	United Kingdom	548.0
1881-1890	5,246.6	4,735.5	69.9	427.0	13.4	Germany	1,453.0	United Kingdom	807.4
1891-1900	3,687.6	3,555.4	74.9	39.0	4.3	Italy	651.9	Austria-Hungary	592.7
1901-1910	8,795.4	8,056.0	323.5	361.9	20.4	Austria-Hungary	2,145.3	Italy	2,045.9
1911-1920	5,735.8	4,321.9	247.2	1,143.7	21.9	Italy	1,109.5	Soviet Union	921.2
1921-1930	4,107.2	2,463.2	112.1	1,516.7	15.0	Canada	924.5	Mexico	459.3
1931-1940	528.4	347.6	16.6	160.0	4.2	Germany	114.1	Canada	108.5
1941-1950	1,035.0	621.1	37.0	354.8	21.9	Germany	226.6	Canada	171.7
1951-1960	2,515.5	1,325.7	153.3	996.9	27.1	Germany	477.8	Canada	378.0
1961-1970	3,321.7	1,123.5	427.6	1,716.4	54.1	Mexico	453.9	Canada	413.3
1971-1980	4,493.3	800.4	1,588.2	1,982.7	122.0	Mexico	640.3	Philippines	355.0
1981-1990	7,338.1	761.6	2,738.2	3,615.2	222.1	Mexico	1,655.8	Philippines	548.8
1991-2000	9,095.4	1,359.7	2,795.7	4,486.8	410.8	Mexico	2,249.4	Philippines	503.9

## Regressions:

Source	SS	df	MS	Number of obs = 148048		
Model	3.6968e+13	5	7.3937e+12	F( 5,148042)	=	5514.10
Residual	1.9851e+14	148042	1.3409e+09	Prob > F	=	0.0000
				R-squared	=	0.1570
				Adj R-squared	=	0.1570
Total	2.3547e+14	148047	1.5905e+09	Root MSE	=	36618

earns	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
<b>sex</b>	-19549.66	190.3915	-102.68	0.000	-19922.82	-19176.49
<b>racel1</b>	-462.4343	54.48495	-8.49	0.000	-569.2237	-355.6449
yr2us	1.260267	.1559409	8.08	0.000	.954626	1.565908
<b>educ</b>	4350.809	34.03381	127.84	0.000	4284.103	4417.514
age	147.6695	9.006215	16.40	0.000	130.0175	165.3215
_cons	8895.089	631.0628	14.10	0.000	7658.219	10131.96

### 1) Regression with dummy variables

Gender Sex: Women

Source	SS	df	MS	Number of obs = 148048		
Model	1.3706e+13	1	1.3706e+13	F( 1,148046)	=	9149.40
Residual	2.2177e+14	148046	1.4980e+09	Prob > F	=	0.0000
				R-squared	=	0.0582
				Adj R-squared	=	0.0582
Total	2.3547e+14	148047	1.5905e+09	Root MSE	=	38704

earns	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sex	-19245.73	201.2048	-95.65	0.000	-19640.09	-18851.38
_cons	58331.59	319.6915	182.46	0.000	57705	58958.18

Men

Source	SS	df	MS	Number of obs = 148048		
Model	1.3706e+13	1	1.3706e+13	F( 1,148046)	=	9149.40
Residual	2.2177e+14	148046	1.4980e+09	Prob > F	=	0.0000
				R-squared	=	0.0582
				Adj R-squared	=	0.0582
Total	2.3547e+14	148047	1.5905e+09	Root MSE	=	38704

earns	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
sex2	-9622.867	100.6024	-95.65	0.000	-9820.046	-9425.688
_cons	39085.85	143.4332	272.50	0.000	38804.73	39366.98

### 2) Race

Race 1: 1: Asian and White while 0 is Hispanic

Race 2: 1: Hispanic and 0 is Asian and White

Source	SS	df	MS	Number of obs = 148048		
Model	2.1296e+12	2	1.0648e+12	F( 2,148045)	=	675.55
				Prob > F	=	0.0000

Residual		2.3334e+14	148045	1.5762e+09		R-squared	=	0.0090
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Total		2.3547e+14	148047	1.5905e+09		Adj R-squared	=	0.0090
						Root MSE	=	39701

earn		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
racel		9242.853	445.1174	20.76	0.000	8370.431	10115.27
race2		-9232.7	382.693	-24.13	0.000	-9982.771	-8482.629
_cons		22061.34	429.5651	51.36	0.000	21219.4	22903.28

3) Education

Source		SS	df	MS		Number of obs	=	148048
-----+-----								
Model		2.3165e+13	2	1.1582e+13		F( 2,148045)	=	8076.47
Residual		2.1231e+14	148045	1.4341e+09		Prob > F	=	0.0000
-----+-----								
Total		2.3547e+14	148047	1.5905e+09		R-squared	=	0.0984
						Adj R-squared	=	0.0984
						Root MSE	=	37869

earn		Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
educ		27246.15	976.1856	27.91	0.000	25332.85	29159.45
educ1		-22650.42	962.6571	-23.53	0.000	-24537.21	-20763.63
_cons		-17474.91	388.4297	-44.99	0.000	-18236.23	-16713.6

Variable	Description	Data Source
Gender	The sex of the immigrant: in the regression for this variable 0 is for Male and 1 is for females	US Census Bureau
Ethnicity	The place of origin/race of the immigrant. Race 1: 1: Asian and White while 0 is Hispanic. Race 2: 1: Hispanic and 0 is Asian and White	US Census Bureau
Age	The Age of the immigrant at the time of arrival	US Census Bureau
Education	The education degree the immigrant has: Educ: 0: HS; 1: College and Post grad; Educ1: 0: College and Post and 1: HS.	US Census Bureau
Years in the U.S	The years the immigrant has spent in the US	US Census Bureau