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Income Differentials in the U.S.: Impact on Latino Socio-Economic Development

by Marcelo E. Siles
JSRI Senior Research Associate

Working Paper No. 33
December 1997

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Income Differentials in the U.S.: Impact on Latino Socio-Economic Development

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Introduction

Many studies have analyzed income differentials among different population segments and evaluated their impact on socioeconomic development. More than 40 years ago, Simon Kuznets formulated his famous hypothesis which suggests that, at low levels of per capita income, inequality increases with rising per capita income and decreases only in the later stages of development, resulting in an inverted U-shaped relationship between per capita income and income inequality. This hypothesis is based on a model in which individuals migrate from a low-wage rural sector with little inequality to an urban sector characterized by high income inequality and high average income. Recent research has also identified a negative relationship between initial inequality and subsequent growth (Deininger and Squire, 1996). Another recent study shows how income inequality is negatively correlated with socio-economic indicator variables of family cohesiveness and community well-being (Robison and Siles, 1997).

In recent years the Hispanic population in the United States has experienced a tremendous growth. According to the U.S. Bureau of the Census, in less than eight years Hispanics will become the largest U.S. minority group. The long term efforts are important for Blacks as well: whereas in 1970, the nation's 22 million Blacks accounted for about twice as many people as Hispanics, by 2030 Hispanics will outnumber Blacks by nearly 22 million. The notable growth of the Hispanic population will affect national roles of this ethnic group within the U.S. economy.

The extraordinary growth of the Hispanic population in the United States has been uneven among the different Hispanic origin sub-groups: Mexicans, Puerto Ricans, Cubans, and others. Each of these Hispanic groups has its special demographic, economic, and income characteristics. For example, Mexicans account for the largest numbers of people across the country, but a large number of them are newcomers and came to the United States searching for jobs and better living conditions than the ones that they had in Mexico. On the other hand, many Cubans and others from South and Central America came to the U.S. as political refuges, bringing with them high levels of human capital and important sums of financial assets which helped them to become important actors in their economic activities.

The overriding purpose of this paper is to analyze the main causes for income differentials between Hispanics and other ethnic groups. Here we analyze issues such as the deterioration of Hispanics income in constant terms between 1980 and 1990 and the poor returns that Hispanics have on their Labor Force Participation Rates. We evaluate the prevailing relationships between a variable for "income differential" with socioeconomic variables related to the Hispanic population. Finally, using time series in an econometric analysis, the paper explains the potential impact of income differentials on the economic development of the Hispanic community in the United States.

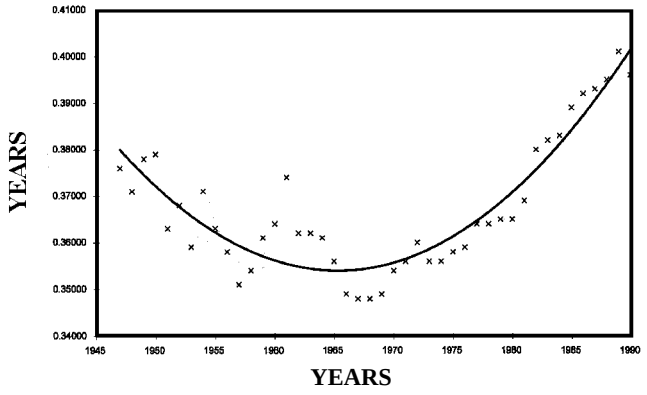
Income Distribution Patterns in the United States

Two indexes have been utilized by researchers to measure income differentials. One of these indexes is called the Gini Coefficient, a measure of the extent to which actual income distribution within a certain population differs from a hypothetical uniform distribution. Gini Coefficients range from 0, for absolute equality, with each household receiving an identical share of income, to 1.0 which indicates that only one household receives all the income. The other index is the Coefficient of Variation, a ratio between the Mean Household Income and its standard deviation. The latest index constitutes a percentual distribution of the household income around its mean.

Figure 1 shows a U-shaped curve for Gini Coefficients corresponding to the total population of the United States in the last 50 years. The curve starts just after World War II at the level of .40. During the next 20 years, up to the mid-1960's, the curve shows a clear downward trend. This period characterized by a rapid economic expansion of the country, during which the middle class grew, the purchasing power of many American households increased year after year, and the income differentials among American households had reduced considerably.

Many important historical events occurred during the 60's; the Vietnam War, the racial tensions previous to the implementation of the Affirmative Action Programs, and President Johnson's "Great Society" programs, to name a few. Most of the Great Society programs were aimed at reducing poverty rates prevalent at that time in the country, expanding the size of the middle class with the incorporation of vast segments of the population to its ranks,

Figure 1. GINI Coefficients in the U.S., 1947-1990



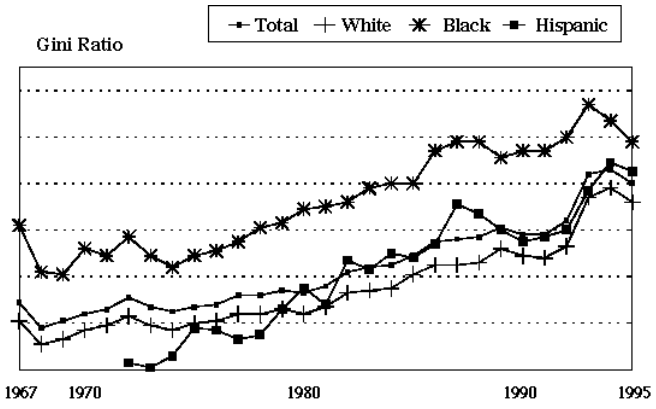
and continuing to reduce the income differentials among American households. Researchers have different opinions about the success or failure of these programs. However, it is true that since the mid-1960's the Gini Coefficients trend changed its slope from negative into positive. Income differentials experienced a 30-year long trend of continuing growth from just below .35 up to nearly .50 in the early 1990's.

The observed upward trend of Gini Coefficients for the entire population presents interesting features when considering race and ethnic origin. Figure 2 shows the evolution of Gini Coefficients by race and Hispanic origin in the last 30 years. The graph depicts that differentials in household income have experienced a deterioration in each of the ethnic groups.

However, it is interesting to observe that Blacks present the highest levels of income differentials among the three considered groups. They are followed by Hispanics, with whom the gap has closed considerably in the last five years. Finally, Whites present the lowest levels, which are essentially parallel (with small differences) with the levels of the total population. On the other hand, Hispanics present the steepest slope, thus they experience the largest increases in income differentials. The large numbers of new Hispanic immigrants from different countries and their differences in human, financial, and social capital explain in part this huge growth in income differentials. As we will see later, each of these groups present certain characteristics that help us explain the differences in household incomes.

Figure 2. GINI Coefficients for Households

By Race and Hispanic Origin of Householder, 1967-1995



Source: U.S. Bureau of the Census

Figure 3. Mean Household Income and Coefficient of Variation

By Race and Hispanic Origin, 1980

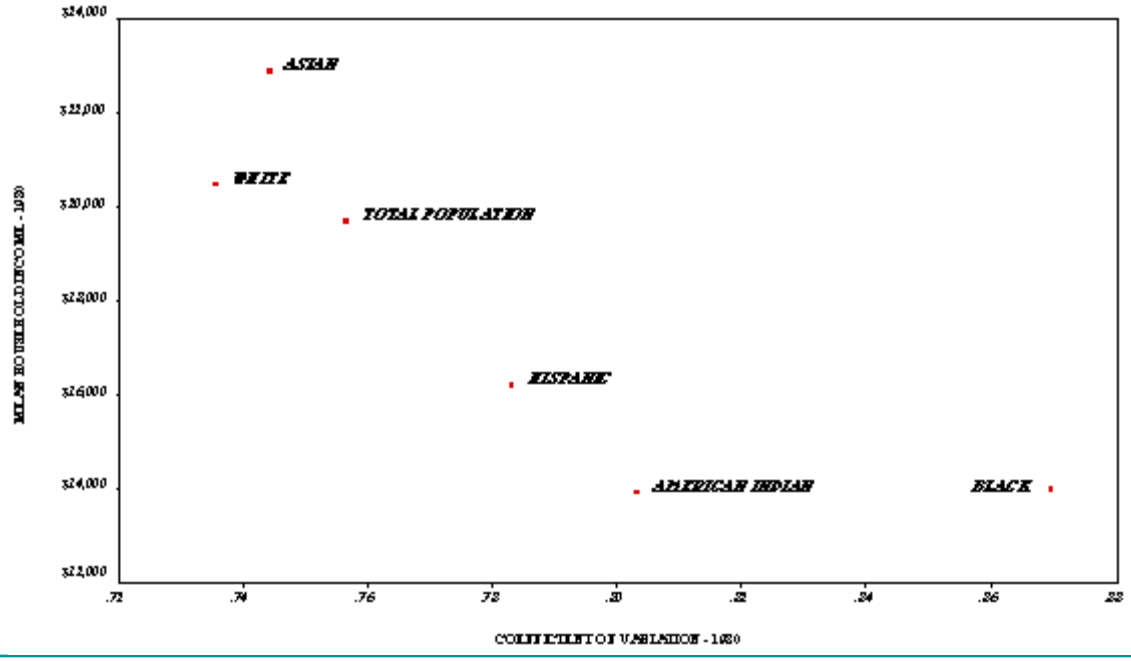
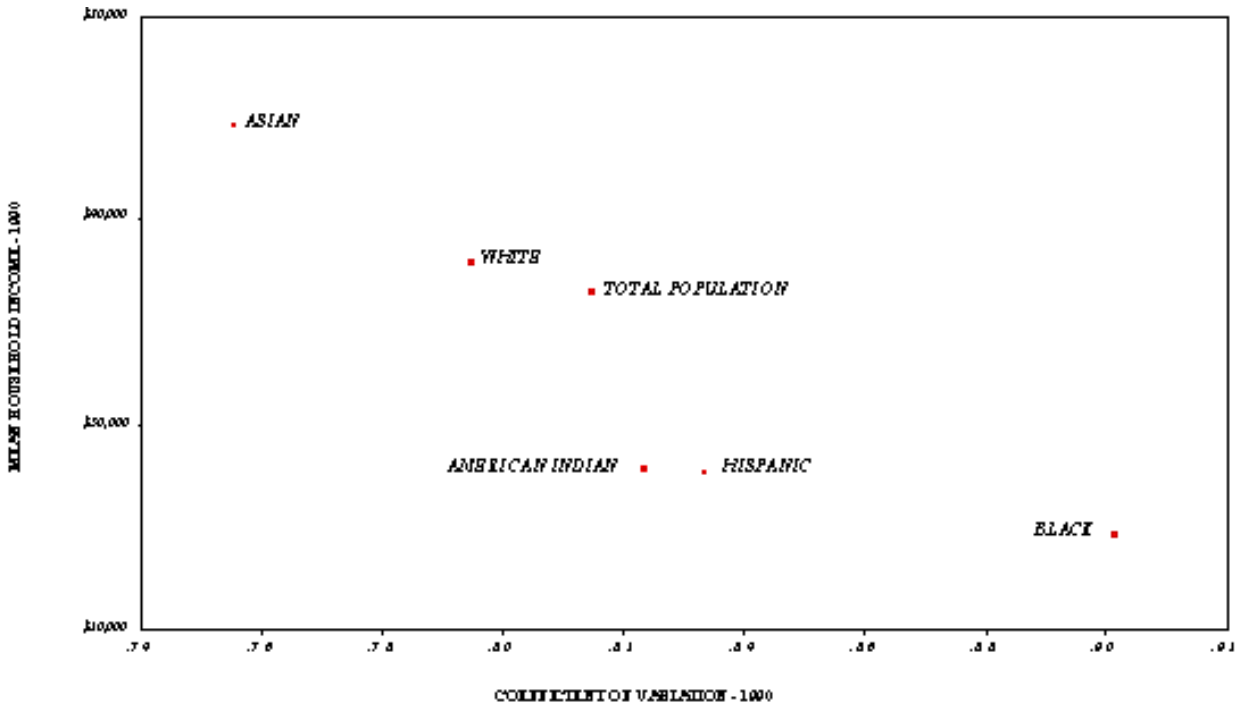


Figure 3, based on cross-sectioned data of Mean Household Income and Coefficient of Variation for household incomes by race and Hispanic origin in 1980, shows that Asians and Whites had the highest mean household income while Native-Americans and Blacks had the lowest Mean Household Income. On the other hand, the two latter groups (Blacks and Native-Americans) also present the largest Coefficient of Variation. The Mean Household Income for Hispanics in 1980 was just above $16,000 and their Coefficient of Variation was close to 78%.

In order to make a relevant comparison of the behavior of these two variables (Mean Household Income and Coefficient of Variation) between 1980 and 1990, it is necessary to convert the 1980 figures into 1990 constant dollars. CPI figures were utilized for this purpose using the series, 1984 = 100. Once the 1980 figures were converted into 1990 dollars, we obtained two ratios (1990/1980), one for Mean Household Income and the other for Coefficient of Variation. Figure 5 depicts the ratios for five different ethnic groups. An interesting feature of this Figure is that income differentials for all these

Figure 4. Mean Household Income and Coefficient of Variation

By Race and Hispanic Origin, 1990



Similar data for 1990 shows differences with the corresponding data from 1980 (see Figure 4). Asians continued to have the largest Mean Household Income, close to $45,000, and the lowest Coefficient of Variation, around .75. Whites followed Asians with a Mean Household Income close to $39,000, but their Coefficient of Variation was considerably higher, close to .79. At the same time Blacks presented the largest Coefficient of Variation, more than 0.90, and the lowest Mean Household Income, at $22,000. Hispanics had the second largest Coefficient of Variation, equal to .83, and a Mean Household Income close to $28,000. It is necessary to note that the large increases in nominal Mean Household Income for all the groups was mainly due to the relatively high inflationary process prevalent in the country during the 1980's.

groups increased during the period, while the behavior of their Mean Household Incomes was mixed. For example, Whites had an 8% increase in income differentials during this period and a relatively modest increase in Mean Household Income equal to 4%. Asians and Native Americans had increases in Mean Household Income were above the corresponding to Whites and equal to 9% and 11% respectively. Their Coefficients of Variation were relatively low, no higher than 2.5%. Blacks and Hispanics observed an erosion on their Mean Household Incomes; Blacks lost around 1% in real income during this period while Hispanics lost about 3%. Both of these groups presented increases in income differentials. For Hispanics, this was equal to 6.5%.

Figure 5. Mean Household Income and Coefficient of Variation

By Race and Hispanic Origin, 1990/1980

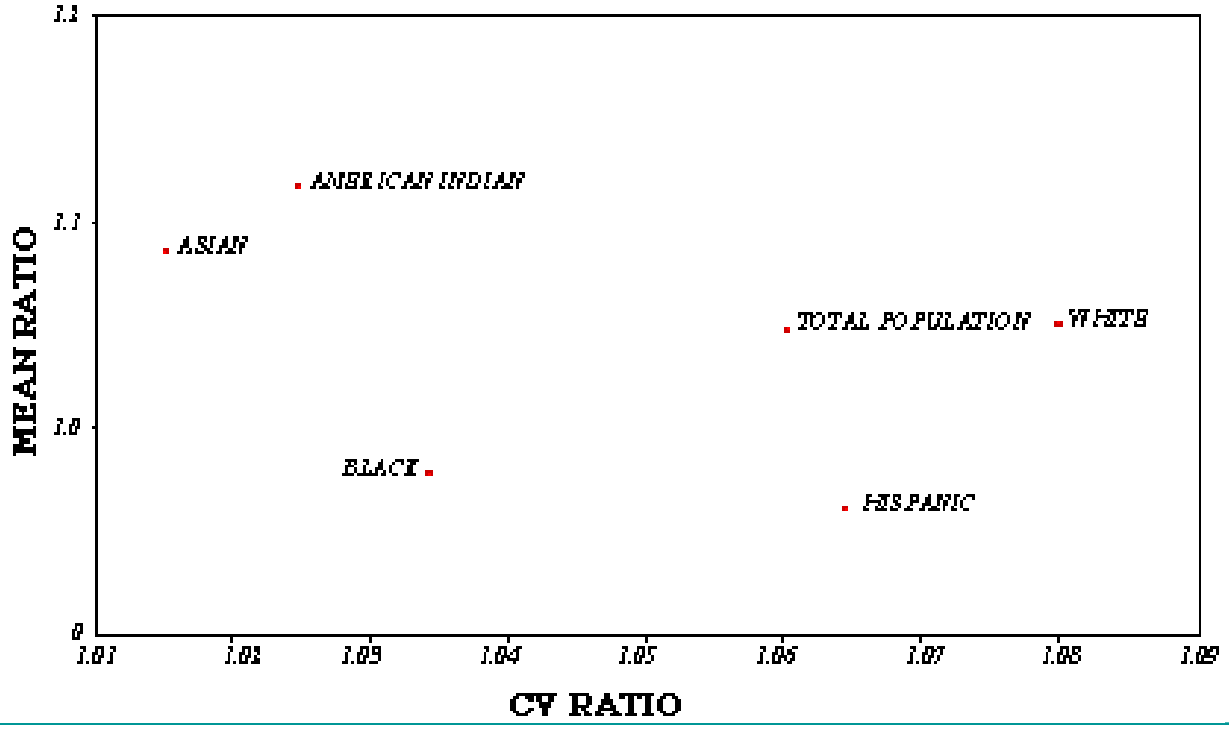
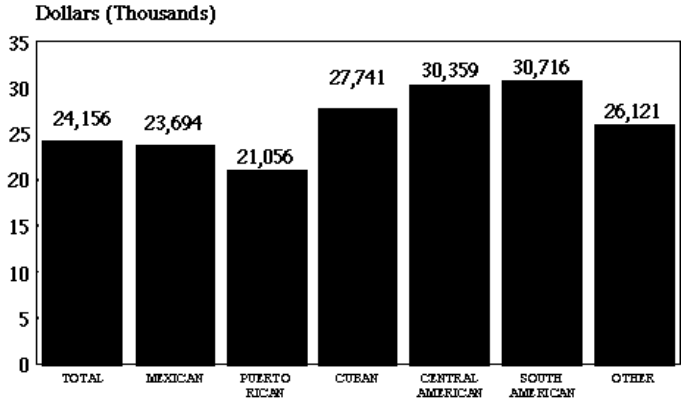


Figure 6 shows that Central and South Americans had the highest Median Incomes, above $30,000 in 1990 among all Hispanic origin sub-groups, while Puerto Ricans ($21,056) and Mexicans ($23,694) presented the lowest figures for Median Incomes. The arrival during the 1980's of wealthy newcomers from Central and South America explain in part their high Median Incomes. On the other hand, as we will explain later, low Median Incomes for Puerto Ricans and Mexicans can be explained in part by their low levels of educational attainment.

Figure 6. Household Median Income

For Selected Hispanic Origin Groups, 1990



Source: U.S. Bureau of the Census

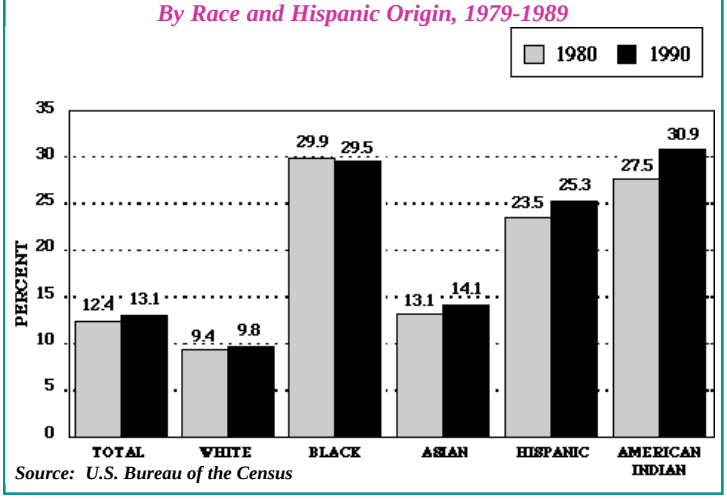
Some Causes of Income Differentials

In this section we will present some of the causes for income differentials among racial groups. Figure 7 reports poverty rates by race and Hispanic origin prevailing in 1979 and 1989. We can observe that all the groups had an increase in their poverty rates with the exception of Blacks, who experienced a decline of .4%. Native-Americans suffered the steepest increase, equal to 3.4%, followed by Hispanics with an increase of 1.8% over 10 years. Whites and Asians had the lowest increase among all the groups; poverty rates for Whites only increased .8%, while the increase for Asians was 1%.

Another important variable which we consider affects income differentials is the number of persons per household. As the number of persons living in a household increases, the costs of maintaining a household increases. Sometimes these higher costs are compensated by the incorporation of some household members into the labor force (i.e., youths), leading to school dropout and other problems that in the long run are reflected in the household income levels. Hispanics had the highest levels of persons per household, equal to 3.5, both in 1980 and 1990 among all the races and ethnic groups considered (see Figure 8). Asians became the group with the second largest number of persons per household in 1990, and was the group that

Figure 7. Household Median Income

By Race and Hispanic Origin, 1979-1989

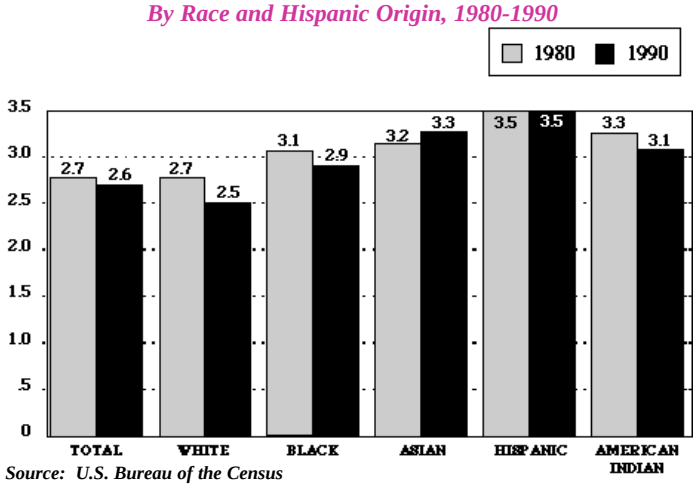


Source: U.S. Bureau of the Census

experienced the largest increase (.1) of all the groups during the decade. Whites, Blacks, and Native-Americans experienced reductions in the number of persons living in their households; all these groups lost .2 persons per household in the years between the two last Censuses.

Figure 8. Number of Persons Per Household

By Race and Hispanic Origin, 1980-1990



Source: U.S. Bureau of the Census

Tables 1 and 2 show the percent of school enrollment by race/ethnic origin for different age brackets in 1980 and 1990. From both years, we can observe that the figures corresponding to Hispanics are the lowest among all the groups in practically all the age brackets; however, it is evident that some progress has been made during the decade. Figures for 1990 are higher than those corresponding to 1980, but still they fell low in comparison to the other racial groups.

When college enrollment figures are compared, it is sad to observe that Hispanic enrollment figures are considerably below those of all the other racial groups. In 1980, only 14.2% of Hispanic high school graduates enrolled in college, while 20.8% of Whites, 15.6% of Blacks, and 30.3% of Asians did. In 1990 the trend continues, and the gap in percentual terms increased substantially. While 35.9% of White and 55.1% of Asian high school graduates enrolled in college, only 27.1% of Black and 22.9% of Hispanic high school graduates did. It is interesting to observe that between 1980 and 1990 Asians had 24.8% more college students, yet the same time Hispanics only listed 8.7% more college students. When gender was included in the analysis, females in all the groups except Asians had higher college registration rates than their male counterparts. For example, 56% of Asian males, aged 18 to 24, were registered in College in 1990, while 54.1% of Asian females were registered in college that year. On the other hand, 30.8% of Black females were attending college compared to only 23.3% of Black males. Hispanic females also had higher college registration rates at 30.8% than Hispanic males at 20.4%.

Table 1. Percent of School Enrollment

by Race/Ethnic Origin and Age, 1980

Age	Total	White	Black	Asians	Hispanic
3-4 Years	na	32.0	38.8	40.4	26.0
5-6 Years	86.3	86.1	87.3	89.6	84.6
7-13 Years	98.8	99.0	97.9	98.2	98.1
14-15 Years	97.8	98.1	96.9	97.9	95.2
16-17 Years	88.4	89.0	87.9	93.4	80.2
18-19 Years	52.3	52.8	51.7	70.7	43.8
College*	19.9	20.8	15.6	30.3	14.2

*3 or more years.

Source: U.S. Bureau of the Census

Table 2. Percent of School Enrollment

by Race/Ethnic Origin and Age, 1990

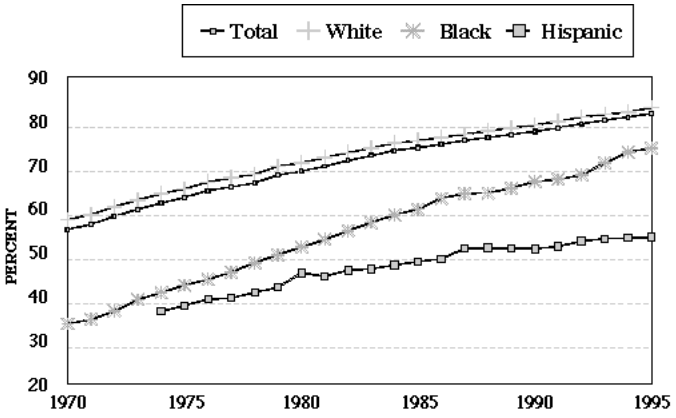
Age	Total	White	Black	Asians	Hispanic
3-4 Years	28.9	29.2	31.0	30.4	21.2
5-14 Years	92.6	92.7	92.2	93.0	92.0
15-17 Years	92.4	93.0	90.9	95.1	87.7
18-19 Years	65.5	66.5	61.8	83.7	55.0
College	34.4	35.9	27.1	55.1	22.9
Males 18-24	32.7	34.7	23.3	56.0	20.4
Females 18-24	36.0	37.2	30.8	54.1	25.7

Source: U.S. Bureau of the Census

Figure 9 shows a time series of high school completion rates for the entire population and by race for Whites, Blacks, and Hispanics. Since 1970 the percent of persons 25 years and older who completed high school has been steadily increasing for all these groups. The figures for Whites run parallel to the figures corresponding to the entire population. In 1970, 54% of Whites had completed high school; this figure jumps to 81% in 1995 at an annual rate of 1.04%. Blacks made an important effort to reduce their gap with Whites. While their high school graduation rates in 1970 were only 32%, the figures for 1995 were close to 72% with an annual increase of 1.56%. Again, Hispanics fall far behind in this category. For example, in 1973, 38% of Hispanics 25 years and over completed high school, only 2% below the corresponding rates for Blacks. However, in 1995 only 51% of Hispanics had completed high school, a rate almost 20% below that of Blacks. In the 22 years between 1973 and 1995, the annual rate at which Hispanics completed high school increased by only 65%.

Figure 9. People Age 25+ With H.S. Diploma

By Race and Hispanic Origin, 1970-1995

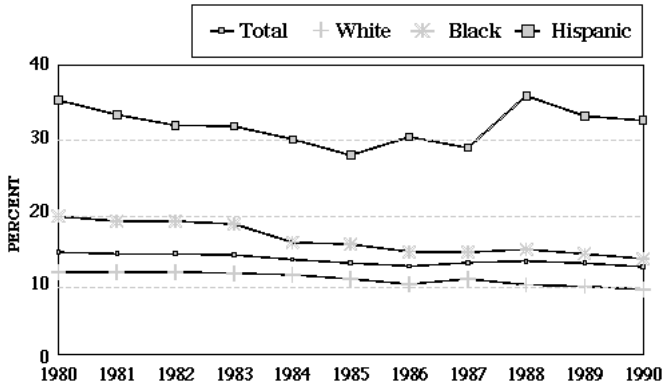


Source: U.S. Bureau of the Census

The low completion rates for Hispanics can be explained in part by their high dropout rates. Indeed, in 1990 they had the highest dropout rates among all racial groups, more than 32% and with a growing trend in that direction (see Figure 10). Dropout rates for Whites were just below 10% and declining, while the corresponding rates for Blacks were close to 13%. The gap between Hispanics and the other racial groups was close to 20%. This gap not only shows the big difference in dropout rates among racial groups, but also that if the prevailing trends continue, the existing difference in dropout rates will grow. It is troublesome to observe that nearly one in two Hispanic High School students do not finish their studies due to dropout from school.

Figure 10. Percent of High School Dropouts

Among 16-24 Year Olds, By Race &Hispanic Origin, 1980-1990

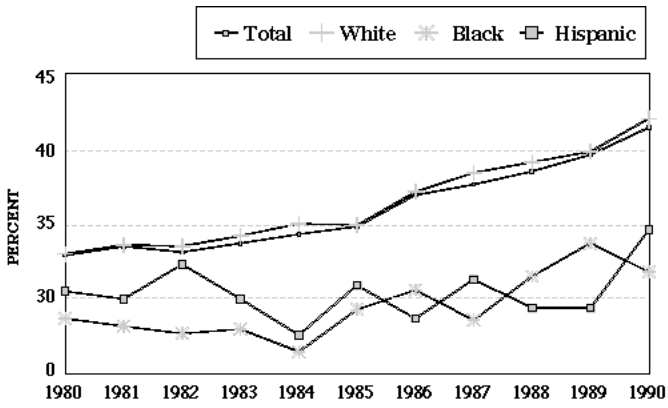


Source: U.S. Bureau of the Census

Low high school completion rates and high dropout rates make Hispanics the group with the lowest educational attainment at the K-12 level among all the racial groups. This educational attainment problem is exacerbated when analyzing college enrollment and completion rates. Figure 11 shows college enrollment rates for students who had completed high school during the period between 1980 and 1990. College enrollment rates for Whites grew during this period at an annual growth rate of .90%, from around 33% in 1980 to 42% in 1990. The trends for Blacks and Hispanics were mixed. College enrollment rates for Hispanics, at 30%, were higher in 1980 than the corresponding rates for Blacks at 28%, but in the last two years of the decade Hispanic college enrollment rates fell below comparable rates of Blacks. In 1990, 35% of Hispanic high school graduates enrolled in college, while only 32% of Blacks decided to attend college. The last figures show that college enrollment rates for Hispanics grew at only .4% per year, while for Blacks the growth rate was .3%.

Figure 11. Percent of H.S. Grads, Ages 14-24

Enrolled in College, By Race and Hispanic Origin, 1980-1990

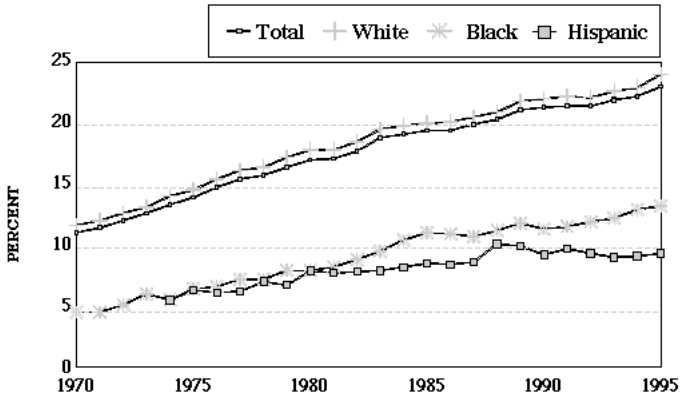


Source: U.S. Bureau of the Census

Data for the last 25 years shows that the percent of persons 25 years and older who completed college has been growing for all the racial groups but at different rates. For example, the related rate for Whites who in 1970 had more than 11% of college graduates, grew .52% annually to reach 24% in 1995. Blacks, on the other hand, had a lower growth rate in college enrollment at .36% per year; they started in 1970 with a little less than 5% and by 1995 had a college enrollment rate equal to 13%. Again the position of Hispanics was troubling is this area. In 1973 they had a similar rate as Blacks, equal to 5%, but in 1995 they could only reach 9.5%, with an annual growth rate of .20%. The last figures show that only one in ten Hispanic persons aged 25 years and older have a college degree, while one in four Whites and one in eight Blacks completed college (see Figure 12).

Figure 12. Percent Age 25+ with 4 Years of College

By Race and Hispanic Origin, 1970-1990

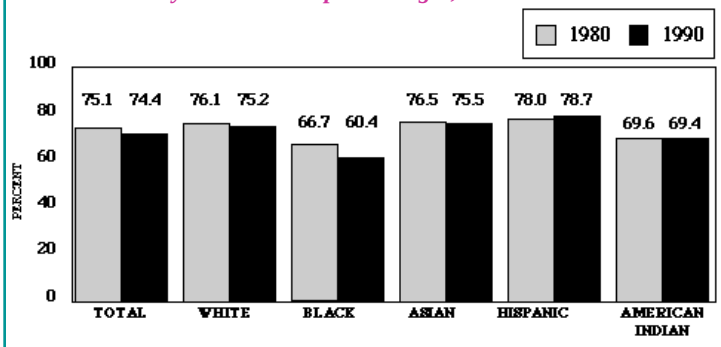


Source: U.S. Bureau of the Census

Other important variables considered in this study that can explain in part income differentials are labor force participation rates and occupation of persons belonging to different racial groups. Figure 13a shows that Hispanic males aged 16 and older had the highest labor force participation rates among all racial groups. In 1980, 78% of Hispanic males participated in the labor force of the United States, and the corresponding rate for 1990 increased to 78.7%. It is interesting to note that Hispanics were the only ethnic group that presented an increase in male labor force participation rates, while all the other racial groups presented an actual decline in their labor force participation rates. Asians followed Hispanics with 76.5% in 1980 and 75.5% in 1990, a decline of 1% and more than three percentage points below Hispanics. Labor force participation rates for Whites declined by .9% during the decade, from 76.1% in 1980 to 75.2% in 1990. Native-Americans and Blacks had the lowest labor force participation rates in both years, but Blacks show the largest decline, by more than 6%, reaching 1990 with only 60.4% in the labor force.

Figure 13a. Labor Force Participation, Males 16+

By Race and Hispanic Origin, 1980-1990



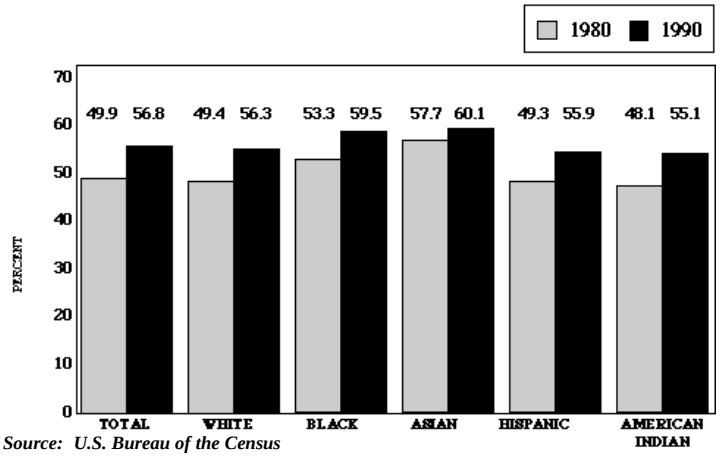
Source: U.S. Bureau of the Census

Data for female labor force participation rates show a slightly different picture, with Asians and Blacks presenting the highest rates and Hispanics and Native-Americans with the lowest rates during the period. Contrary to what occurred with male labor force participation rates, all the racial groups presented an increasing trend in female labor force participation rates. Native-Americans and Whites had the largest increases in their participation rates, at 7% and 6.9% respectively, followed by Hispanics with 6.6% and Blacks with 6.2% (see Figure 13b). Nevertheless, female labor force participation rates are still on average 15% below the corresponding rates of their male counterparts in all ethnic groups.

High labor force participation rates for Hispanics are not necessary correlated to good paying jobs. Figure 14 shows that more than 68% of Hispanics were working in low paying jobs as operators, fabricators, and laborers; in service occupations; and in the technical sales and administrative support areas. Only 14% of Hispanics were working in high paying jobs in managerial and professional specialty occupations. Whites, contrary to Hispan-

Figure 13b. Labor Force Participation, Females 16+

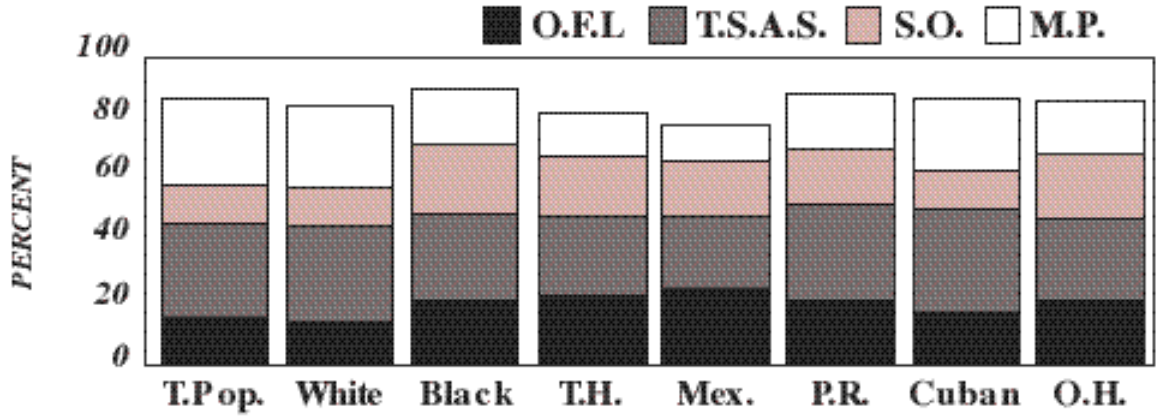
By Race and Hispanic Origin, 1980-1990



Source: U.S. Bureau of the Census

Figure 14. Occupations of U.S. Employees Age 16+

By Race and Hispanic Origin, 1990



	T.Pop.	White	Black	T.H.	Mex.	P.R.	Cuban	O.H.
M.P.	26.4	27.9	18.1	14.1	11.6	17.2	23.2	16.5
S.O.	13.2	11.8	22.1	19.2	18.5	18.5	13.2	22.3
T.S.A.S.	31.7	32.3	29.4	25.9	23.6	31.9	34.1	26.7
O.F.L	14.9	13.8	20.8	22.9	24.9	21.0	16.5	20.4

O.F.L. *= Operators, Fabricators, and Laborers*
S.O. *= Service Occupations*
T. Pop. *= Total Population* ***T.H.*** *= Total Hispanics*
T.S.A.S. *= Technical Sales and Administrative Support*
M.P. *= Managerial and Professional Specialty Occupations*
Mex. *= Mexican* ***P.R.*** *= Puerto Rican*
Source: Table 16

ics, had a higher percent of people employed in the managerial and professional areas, close to 28%. Only 58% of Whites were employed in low paying jobs. Blacks had a higher percentage of employed persons in Managerial and Professional occupations, at 18%, than Hispanics, but at the same time they have higher percentual numbers of people employed in low paying jobs, at more than 72%.

In the analysis of the type of occupation held by employed persons among the different Hispanic origin groups, it is interesting to note that in 1990 Cubans had the highest figures in the managerial and professional occupations, as well as in the technical sales and administrative support areas, among all the Hispanic origin groups. Other Hispanics, i.e., Guatemalans, Hondurans, and Nicaraguans, were mainly employed in Service occupations at 22.3%. Mexicans had the highest figures for employed persons as operators, fabricators, and laborers. Here we can observe two parallel trends, the first with Cubans who compete with Whites and Asians for high paying jobs, and the other with Mexicans who compete with Blacks for low paying jobs.

Further Analysis

When considering all the variables presented above, it is possible to make some inferences about how each and all of them impact the distribution of income and, more importantly, the economic development associated with it. Educational attainment levels have a direct impact on the level of expected mean earning of workers. Table 3 shows that different levels of educational attainment are correlated to mean earnings. As described before, different racial groups have different levels of educational attainment, and therefore we can expect that their mean earnings will differ accordingly.

To observe the impact of educational attainments on mean earnings, we constructed a table using different levels of educational attainment and compared them with mean earnings by gender for the total population and by race/ethnic origin, for both 1980 and 1990. In order to make relevant comparisons we converted the 1980 nominal figures into 1990 constant dollars using CPI indexes, and then obtained differences in constant dollars for all the categories. For the total population, Table 3 shows that Hispanics in general and Hispanic males in particu-

Table 3. Mean Earnings of Workers, Ages 18 Years & Over, by Educational Attainment, Race, and Hispanic Origin, 1980-1990

	1980*				1990				DIFFERENCE			
DESCRIPTION	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC	TOTAL	WHITE	BLACK	HISPANIC
Total												
All Sexes	20,137	20,734	17,625	15,999	21,793	22,401	16,677	15,943	1,656	1,667	-938	-56
Male	26,047	26,943	17,625	19,573	27,164	28,105	18,859	18,320	1,117	1,162	1,234	-12,253
Female	12,575	12,609	12,218	10,764	15,493	15,559	14,449	12,516	2,918	2,957	2,231	1,752
Not A H.S. Grad												
All Sexes	14,064	15,491	13,389	12,909	12,582	12,773	11,184	10,368	-1,482	-2,718	-2,205	-2,541
Male	17,557	18,347	13,339	15,622	14,991	15,319	13,031	13,182	-2,566	-3,028	-358	-2,440
Female	8,368	11,111	7,449	7,995	8,808	8,727	8,946	5,093	440	-2,384	-1,497	-2,902
HS Grad												
All Sexes	17,989	18,323	18,385	16,189	17,820	18,257	14,794	15,417	-169	-66	-3,591	-772
Male	23.853	24,457	18,385	20,842	22,378	23,135	17,046	18,100	-1,475	-1,322	-1,339	-2,742
Female	11,803	11,790	11,938	11,008	12,986	13,031	12,560	12,109	1,183	1,241	622	1,101
Some College/Asc. Degree												
All Sexes	19,730	20,156	19,705	18,907	20,694	21,095	18,209	19,206	964	939	-1,496	299
Male	25,235	25,938	19,705	22,786	26,120	26,841	21,152	22,376	885	903	1,447	-410
Female	13,127	13,071	13,585	14,005	15,002	14,922	15,734	15,245	1,875	1851	2,149	1,240
Bachelor's Degree												
All Sexes	28,739	37,311	24,829	24,925	31,112	41,908	26,448	25,703	2,373	4,597	1,619	778
Male	37,111	37,847	24,829	30,566	38,901	39,780	29,451	31,485	1,790	1,933	4,622	919
Female	16,899	16,611	19,699	16,803	21,933	21,725	23,837	19,378	5,034	5,114	4,138	2,575
Advanced Degree												
All Sexes	37,060	37,311	31,736	34,837	41,458	41,908	32,962	38,075	4,398	4,597	1,226	3,238
Male	44,275	37,847	37,120	39,181	49,768	50,385	39,104	47,479	5,493	12,538	1,984	8,262
Female	22,295	21,956	27,472	23,322	32,929	28,494	28,074	27,184	10,634	6,738	602	3,862

*In 1990 Dollars

Source: U.S. Bureau of the Census

lar experienced losses in their mean income during this period, at $56 and $1,200, respectively. Females from each of the racial groups made substantial progress during the period, with White females at the top with again close to $3,000.

When considering persons that do not have a high school degree, men and women in all racial categories experienced substantial losses in their incomes during the 1980's. For example, White males lost more than $3,000 followed by Hispanic females with more than $2,900. The results were mixed for people who hold a high school certificate; all males in this category experienced losses in their incomes, while females saw some gains in their incomes. Hispanic males lost more than $2,700 followed by Black males with a loss of $1,340. At the same time, White females who completed high school recorded the highest gains at $1,250.

In general, people with some years in college associate degrees, or college degrees made considerable gains in their mean incomes, because the higher a person's educational attainment, the higher the amount of money a person can expect from his or her job. For example, persons with some college improved their mean income by $964 during this period, while with a bachelor's degree the gains jump up to more than $2,300. In these two categories only Hispanic males, at $410, and Black females, at $1,496, experienced losses in their mean incomes. Finally, mean incomes for people with advanced degrees increased substantially for both males and females during the decade. White females with advanced degrees improved their mean incomes by more than $6,700. Their male counterparts had a gain in mean income of $12,540. Hispanics in this category also had excellent gains in their mean incomes, males with a nearly $8,300 gain and females more than a $3,200 gain. Here we clearly can see that the higher the educational attainment, the higher the gains in constant mean incomes.

Correlations

The next steps of our analysis consist in running some correlations between selected indicator variables for Hispanics, explained above, with Gini Coefficients and the Mean Household Income. Table 4a reports the correlations between several indicator variables and Gini Coefficients reported by time series. Almost all of the indicator variables mentioned earlier have the predicted correlations and are statistically significant for Gini Coefficients. The correlation results show that Gini Coefficients are positively correlated with the following: rate of births to single teens, percent of persons 25 years and older that have a college degree, divorce rates, high school graduation rates, labor force participation rates for females, mean household incomes, and children's poverty rates. The only negative correlation is with infant mortality rates. This last relationship can be explained in part to medical advances and to strong government programs aimed at preventing and reducing infant mortality rates.

Table 4a. Correlation Between GINI Coefficients and Selected Indicator Variables for Hispanics

Variables	*Correlation Coefficients*	*Significance Level*
Births to Single Teens	**.804**	**.029**
College Graduates	**.914**	**.000**
Divorce Rates	**.924**	**.000**
High School Graduates	**.969**	**.000**
Labor Force Participation Rates for Females	**.848**	**.008**
Mean Income	**.645**	**.005**
Children Poverty Rates	**.693**	**.002**
Infant Mortality Rates	**-.866**	**.058**

Source: Estimated by the Author.

The positive correlation between Gini Coefficients and educational attainment indicator variables (high school and college graduates) can be explained by the impact of degree completion on income levels, as discussed above. In the short run, educational attainment indicators tend to reduce income differentials as new degree holders become middle class members. In the long run, the differences in income tend to increase due to increases in income to degree holders and the loss of real income by people who do not have a degree. This supports a previous assertion that gaps in educational attainments have a positive impact in income differentials.

Table 4b reports the correlations between Mean Household Incomes and selected indicator variables. Again all except one of the correlations are positive and statistically significant. Results show that in a time series analysis, the educational attainment indicators tend to increase mean incomes, and the same happens with labor force participation rates for both male and females. The correlation between divorce rate and mean household income is positive, and this can be explained in part by an increasing trend in divorce rates over time in the United States. Another result was that higher levels of income are associated with declines in infant mortality rates. As people improve their standard of living, they tend to allocate part of the extra income to cover their health care costs and participate in health management programs which are aimed at preventing diseases. One of these programs is pre- and post-natal mother and infant care aimed at reducing infant mortality rates.

Table 4b. Correlation Between Mean Income and Selected Indicator Variables for Hispanics

Variables	*Correlation Coefficients*	*Significance Level*
College Graduates	**.709**	**.001**
Divorce Rates	**.587**	**.013**
GINI Coefficients	**.645**	**.005**
High School Graduates	**.705**	**.002**
Labor Force Participation Rates for Females	**.798**	**.018**
Labor Force Participation Rates for Males	**.669**	**.070**
Infant Mortality Rates	**-.895**	**.040**

Source: Estimated by the Author.

Factor Analysis

We intended to determine the extent to which Gini Coefficients and Mean Household Income could be predicted using our indicator variables. Because of the larger number of indicator variables, their influence was summarized using factor analysis. Of the variance associated with the indicator variables, 81.6% was captured using four factors. The factors were obtained using an "equamax" rotation approach. These factors are listed in Table 5. The first factor condenses educational attainment (high school and college graduation rates) and family related variables (divorce rates and children's poverty rates). Female-related indicator variables (labor force participation rates for females and births to single teens) make up the second factor. The third factor is the result

Table 5. Factor Analysis, Rotated Factor Matrix of Indicator Variables				
Variables	*Factor 1**	*Factor 2*	*Factor 3*	*Factor 4*
High School Graduates	**.957**	**.174**	**-.002**	**.107**
Divorce Rates	**.938**	**.134**	**.110**	**.160**
College Graduates	**.933**	**.234**	**-.095**	**.014**
Children Poverty Rates	**.730**	**-.022**	**.472**	**-.089**
LFPR — Females	**.152**	**.966**	**-.145**	**.053**
Births to Single Teens	**.146**	**.920**	**.105**	**-.018**
LFPR — Males	**.065**	**.132**	**-.786**	**-.129**
Children Living w/Single Parents	**-.034**	**.479**	**.708**	**-.011**
High School Dropout Rates	**-.401**	**.077**	**-.690**	**.342**
Infant Mortality Rates	**-.136**	**.140**	**.181**	**-.834**
Low Weight Birth Babies	**.008**	**.135**	**.151**	**.751**

Source: Estimated by the Author.

of the combination of labor force participation rates for males and two other variables associated with contemporary social problems such as the rate of children living with single parents and the dropout rates of teens from school. Finally, the fourth factor is constituted by infant mortality rates and low weight birth babies.

Regressions

We ran two regressions using the four factors obtained in the factor analysis. In the first regression Gini Coefficients are considered the dependent variable and three of the four factors were significant at the 5% level of significance (see Table 6). The three factors that are statistically significant are also positive. Thus, they tend to increase income disparities over time. Only Factor 3 is not significant since its components do not have any impact on income inequalities.

Table 6. Regression Analysis to Predict GINI Coefficients for Hispanics			
Variable	*Beta*	*T-Statistic*	*Significance*
Constant	**.397**	**286.786**	**.000**
Factor 1	**.020**	**13.918**	**.000**
Factor 2	**.005**	**3.426**	**.005**
Factor 3	**.002**	**1.479**	**.165**
Factor 4	**.004**	**2.974**	**.012**
Adj R^2	**.93**	**--.--**	**.--**
F-Statistic	**54.20**	**--.--**	**.000**

Source: Estimated by the Author.

The second regression evaluates the effect of the four factors obtained in the factor analysis on Mean Household Incomes. Results show that only two factors have an impact on the dependent variable, but with different signs. Factor 1 tends to increase the prevailing levels of mean household income. This means that higher educational attainment levels have a positive impact on Mean Household Income. On the other hand, Factor 3 has a negative impact on Mean Household Income. As two of its components, labor force participation rates for males and dropout rates have a negative relationship with these, the factor of their impact on Mean Household Income is positive, while the number of children living with single parents has a negative impact on Mean Household Incomes (see Table 7).

Table 7. Regression Analysis to Predict Mean Household Income for Hispanics			
Variable	*Beta*	*T-Statistic*	*Significance*
Constant	**29555.294**	**125.535**	**.000**
Factor 1	**798.718**	**3.291**	**.006**
Factor 2	**392.147**	**1.616**	**.132**
Factor 3	**-571.815**	**2.356**	**.036**
Factor 4	**429.078**	**1.768**	**.102**
Adj R^2	**.531**	**--.--**	**.--**
F-Statistic	**5.530**	**--.--**	**.009**

Source: Estimated by the Author.

Conclusions

Income differentials have been steadily increasing in the United States since the mid-1960's up to the early 1990's. This is true for the entire U.S. population and for each of the racial groups considered in this study. Blacks present the largest gaps in household incomes, but the existing gap with Hispanics and Whites has been decreasing in the last few years.

There are many variables that affect the level of incomes and their differences among racial groups, and especially Hispanic origin groups. It is important to note that we cannot generalize results for all Hispanic sub-groups given the fact that each of these groups (Mexicans, Puerto Ricans, Cubans, Central Americans, and South Americans) have particular characteristics that differentiate them from the other sub-groups. In general, educational attainment is the variable that has the strongest effect on income differentials and Means Household Income.

The educational attainment of Hispanics is the lowest among all the considered racial groups. The expected earnings for this ethnic group are very low. Mean earnings for Hispanics declined in constant dollars between 1980 and 1990 for people that do not have a high school diploma and even for those who possess this diploma. Perhaps the most serious problem for Hispanics in the educational area is the high levels of dropout rates from the school systems.

Hispanic males and females have one of the highest participation rates in the labor force among all racial groups Hispanic females are continuing to increase their levels of participation in the labor force, but the low levels of Hispanic educational attainment constrain the opportunities that Hispanics have to obtain good paying jobs. Most Hispanics are working as operators, fabricators, laborers, and in the service industry. Hispanic households have the largest number of persons per household that any of the other racial groups. Low incomes and large families make Hispanics the group with the highest poverty rates.

This study shows that income differentials have a direct impact on socioeconomic variables related to family cohesiveness and community well-being. Statistical analysis shows increases in divorce rates and child poverty rates when income differentials (Gini Coefficients) increase. It is interesting to note that in some time series correlation analyses, high levels of educational attainment are positively correlated with high levels of Mean Household Income differentials. Studies done with a cross section analysis present a different outcome. As a result, we can infer that educational attainment increases Mean Household Incomes in both scenarios (cross section and time series), but reduce income differentials only in the short run and increase these differences in the long-run.

Obviously, the results presented in this paper need to be tested in other settings. A cross section analysis needs to be performed using indicator variables for Hispanics in each of the 50 States.

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