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Latinos and Economic Development in California

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Enrique Ramirez, Ph.D.
Refugio I. Rochin, Ph.D.*

*Prepared at the request of Senator Richard Polanco
Senate Majority Leader and
Chair of the Latino Legislative Caucus*

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C A L I F O R N I A

R E S E A R C H B U R E A U

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Executive Summary

California is by many accounts a remarkable state. Demographically, California has gone from having only 1.5 million persons at the turn of the century to having a population of 33 million. In 1900, it was the 21st most populous state; today, it is the most populous.

In economic terms, California is a success story. If California were a country, it would have the seventh largest economy of the world. Compared to other states, California leads the rest of the nation in manufacturing, wholesale and retail sales, and business services. Its high technology sector, motion picture industry, and its Central Valley agriculture are especially renowned for their dominance in world markets.

Will California continue to flourish? That question remains unanswered. However, there are certain actions that policymakers can take to ensure that California continues to have a vibrant and booming economy. According to the report, "Collaborating to Compete in the New Economy: An Economic Strategy for California," prepared by the California Economic Strategy Panel (1996), government can provide two key elements to promote broad-based economic growth: public infrastructure and a well-trained labor force. The first element requires an investment in roads, schools, universities, telecommunications, water systems, ports, and other such institutions. The second element requires an investment in the education and training of people.

This report deals with the second element. It focuses, in particular, on a large group of workers that seem to be lagging behind. At the request of Senator Richard Polanco, this paper looks at the educational attainment of Latinos, the largest minority group in California. This group, which comprises 28 percent of the labor force, is growing in numbers and is expected to be the largest group of workers by the year 2025. The earnings and the tax base that they represent therefore are vital to the state's economy.

This report alerts policymakers to the fact that the wages of Latinos are not in parity with their numbers; therefore, neither are their tax contributions. Why do Latinos earn significantly less than other ethnic groups in California? Although there are several factors that determine the earnings of a person, the most important reason for Latinos earning relatively less is that they have lower levels of educational attainment. Some might argue that this is a problem of immigrants. This paper shows, however, that the low levels of educational attainment persist for even third generation Latinos. Relying on time alone to take care of the problem does not appear to be the best prescription. This paper looks at the implications, in terms of earnings and the tax base, of increasing the educational attainment of Latinos, both in the long-term and in the short-term.

Long-Term Goal

For the long-term, California would want the educational attainment of Latinos to mirror that of non-Latinos. If this were to happen today, assuming that the economy could support it, there would be \$28 billion in increased earnings circulating in the economy. For the state, this would mean \$1.7 billion more in state income taxes. (See the flow diagram on page 33.)

For the long-term goal to materialize, however, two short-term goals need to be accomplished. If the overall goal is for Latinos to have the same educational attainment as non-Latinos, then an obvious place to start is in the K-12 arena. The next place to target is the labor market.

Short-Term Goal Number One: Latino K-12 Students

Short-term goal number one is that, by the end of four years, Latinos will be graduating from high school with the same expected educational attainment as non-Latinos. This means that by the year 2004, 32 percent of Latinos coming out of high school will be enrolled in a four-year university. It also means that those dropping out will comprise only 10 percent.

Currently, the expected educational attainment of Latinos recently out of high school is significantly lower. In the class of 1997, only 17 percent enrolled in a university while 23 dropped out (see Chart 17).

If we were to meet short-term goal number one today, California would gain \$329 million in increased wages on an annual basis. For state income taxes, this would mean an annual increase of \$23 million. (See the flow diagram on page 37.)

Short-Term Goal Number Two: Latinos in the Labor Force

Short-term goal number two states that, four years from now, 5 percent of the Latinos in the labor force, or 217,000 workers, will have gone back to school to further their education. The goal would be for those with no high school to get their high school diploma, for those with a high school diploma to get an Associate degree, and so on.

Currently, the educational attainment of Latinos in the labor force is significantly lower than that of non-Latinos. Only 8 percent of Latinos have a bachelor's degree or more, while 45 percent have no high school diploma. The situation for non-Latinos is the reverse. Thirty-three percent of non-Latinos have a bachelor's degree or more, while only 8 percent lack a high school diploma.

If we were to meet short-term goal number two, California would gain \$1.4 billion in increased wages on an annual basis. For state income taxes this would mean an annual increase of \$79 million. (See the flow diagram on page 39.)

How Can Latinos Achieve Parity?

How can California help Latinos achieve parity? This paper provides the required justification (the economic benefits coupled with the demographic trends) for something to be done about the problem. It also develops a framework for monitoring the educational progress of Latinos.

California needs a plan to provide answers to the following questions: How will the long-term goal and the short-term goals be accomplished? Furthermore, who will do what? What types of resources are needed to accomplish these goals?

Although the focus of this paper is on Latinos, other groups face similar constraints. In looking for solutions, we would therefore want to look beyond ethnicity.

About the Data

The data used in this paper come primarily from the 1998 March Current Population Survey (CPS). The March CPS surveys more than 130,000 persons nationwide and 13,000 in California. Latinos are defined in accordance with the Census Bureau's definition of a person who self-identifies as part of any of the following groups: Mexican, Mexican-American, Chicano, Puerto Rican, Cuban American, Central or South American, or of Spanish descent.

This paper also makes use of data put forth by the California Postsecondary Education Commission and the California Department of Education. Census Bureau population projections for California are also used.

Do Latinos Earn Less Than Other Ethnic-Racial Groups?

Introduction

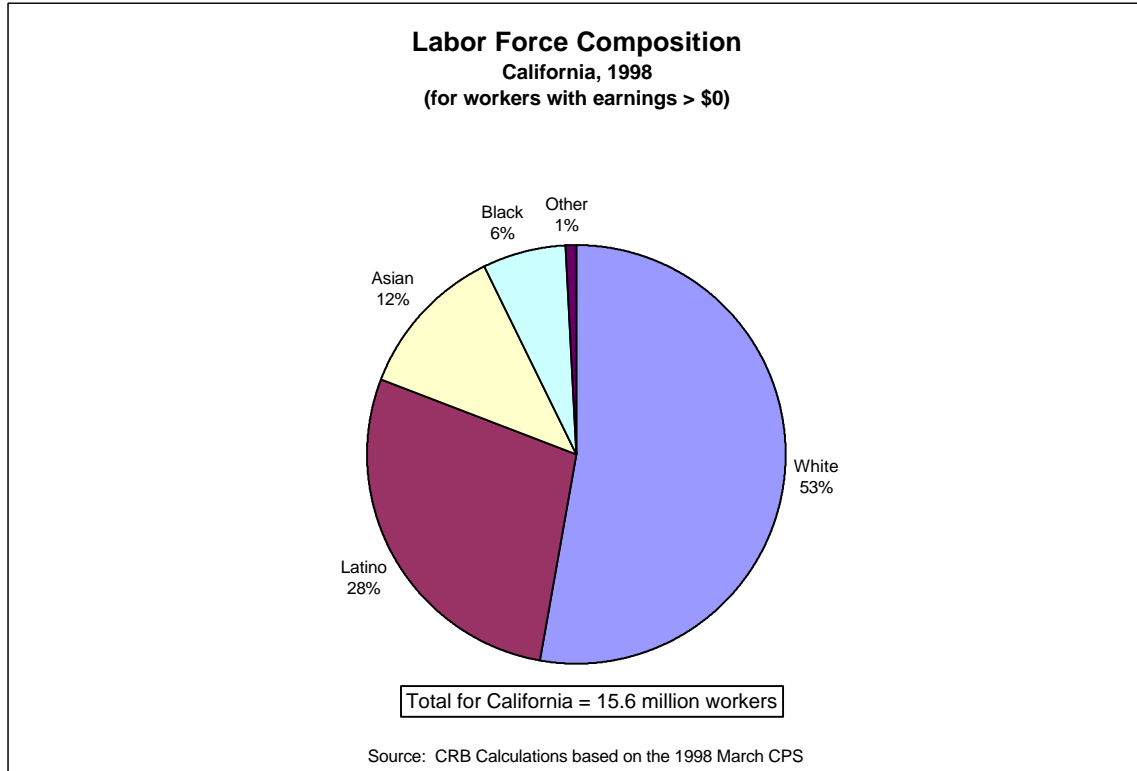
This section asks a seemingly simple but very important question. Do Latinos earn less than other racial and ethnic groups? It compares the income of Latinos to that of Whites, Asians, and Blacks. This section tests the hypothesis that Latinos are at the bottom of the wage scale. In this section, no attempt is made to explain the differences in wages; that is the subject of the next section.

Two measures are used to test the hypothesis that Latinos are at the bottom of the wage scale: the wages of the entire group and the wages of the typical individual. Before looking at wages, however, this section begins by showing the race-ethnic composition of the labor force.

The Composition of California's Labor Force

In California, there are 15.6 million persons in the labor force who worked for wages in 1998. Currently, the largest groups of workers are Whites, followed by Latinos, Asians, Blacks, and Others. The labor force composition is similar to that of the overall population.

Chart 1

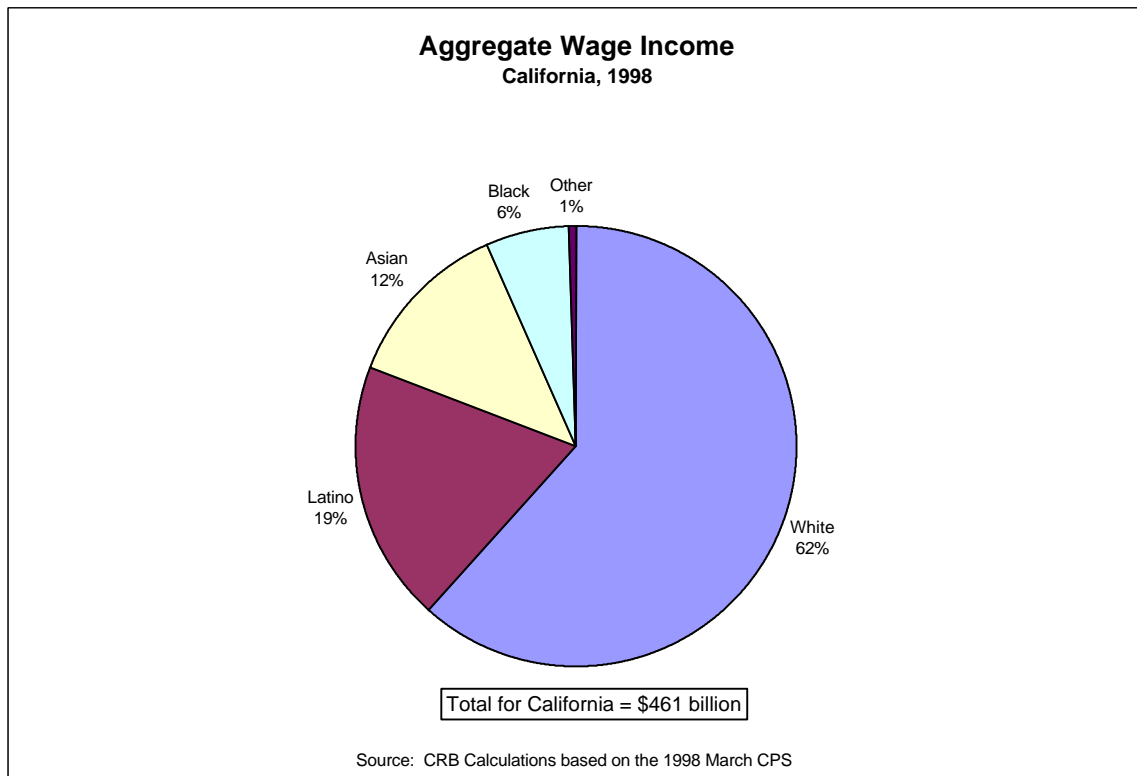


Wages by Group

In California, annual wages add up to \$461 billion dollars. How is this pie divided? The largest portion of the pie, 62 percent, comes from the wages of Whites. The next largest portion, 19 percent, is the aggregate wages of Latinos. Asians account for 12 percent, Blacks for 6 percent, and Others for 1 percent.

Compared to the labor force composition (the pie chart presented earlier), the wages of most groups are in parity with their numbers. This is not the case for Latinos and Whites. Latinos are 28 percent of the labor force, but account for only 19 percent of the aggregate wages. Whites, on the other hand, are 53 percent of the labor force and yet account for 62 percent of the wages.

Chart 2



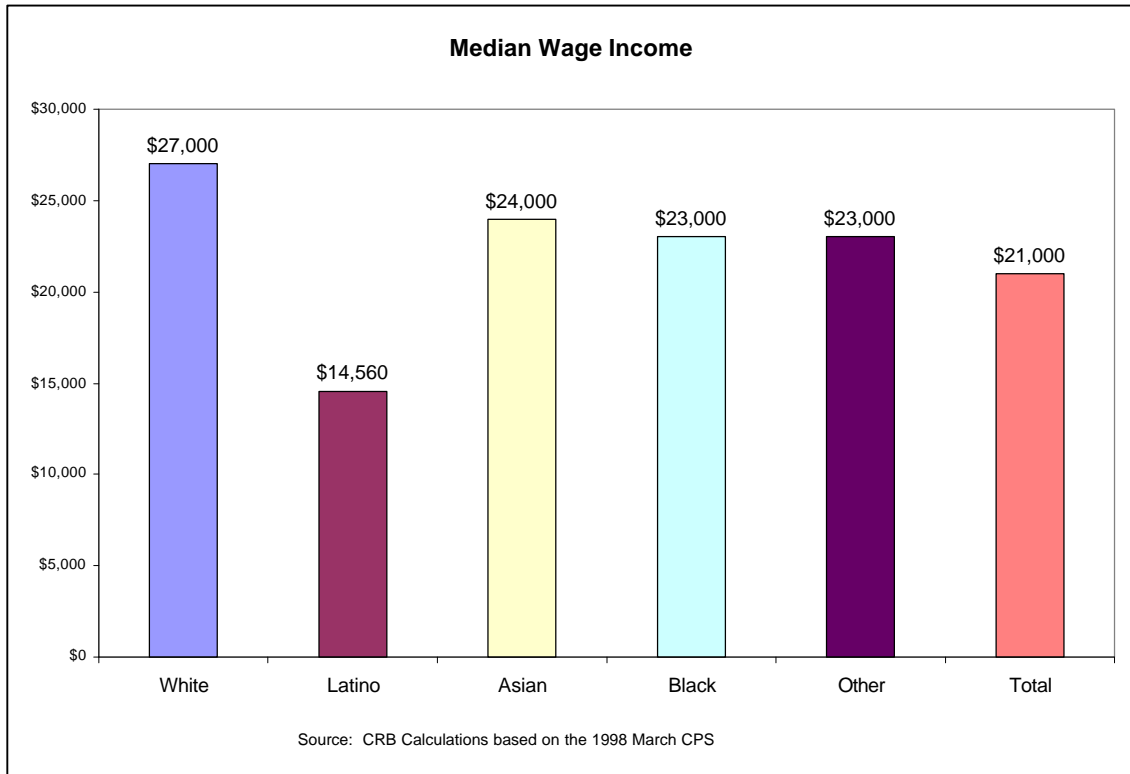
Wages of the Typical Individual in the Labor Force

In this section we examine the median wage for each group. The median wage is the midpoint where half of the people in the group earn less, while the other half earn more. It can be said that the median is the point where the typical individual resides.

For the 15.6 million workers in California, the median wage is \$21,000 as of March 1998. The median wage of Whites is \$27,000, of Asians \$24,000, of Blacks \$23,000, and of Others \$23,000. The median wage of Latinos is much lower than of any of these groups.

The median wage for the 4.4 million Latino workers is \$14,560. This means that half of the 4.4 million Latinos working earn less than this amount, and half of them earn more. Overall, the typical Latino in California earns at least \$6,000 less a year in comparison to the other racial and ethnic groups.

Chart 3



So far, no explanation has been offered as to why Latinos earn less. The next section attempts to explain the differences.

Explaining the Lower Wages of Latinos

Introduction

The last section shows that Latinos earn less than other racial and ethnic groups. This was relatively easy to do. What is not so simple, however, is explaining why Latinos have significantly lower wages in comparison to other groups. Is it because they tend to be younger? Is it because of differences in hours or weeks worked? Or is it because of differences in educational attainment? Could the differences be attributed to immigration status? If all else fails, could the differences be attributable to ethnicity?

This subsection compares individuals of similar characteristics. It does that by using a statistical technique called multivariate regression analysis. This is essentially an algebraic equation that enables the researcher to compare persons with similar characteristics. In this case, the comparison is for individuals that work the same number of hours and weeks, and that are of the same age and gender.

This section begins by graphing the educational attainment of the different groups. It then proceeds to determine the importance of education relative to hours and weeks worked, age, gender, and ethnicity.

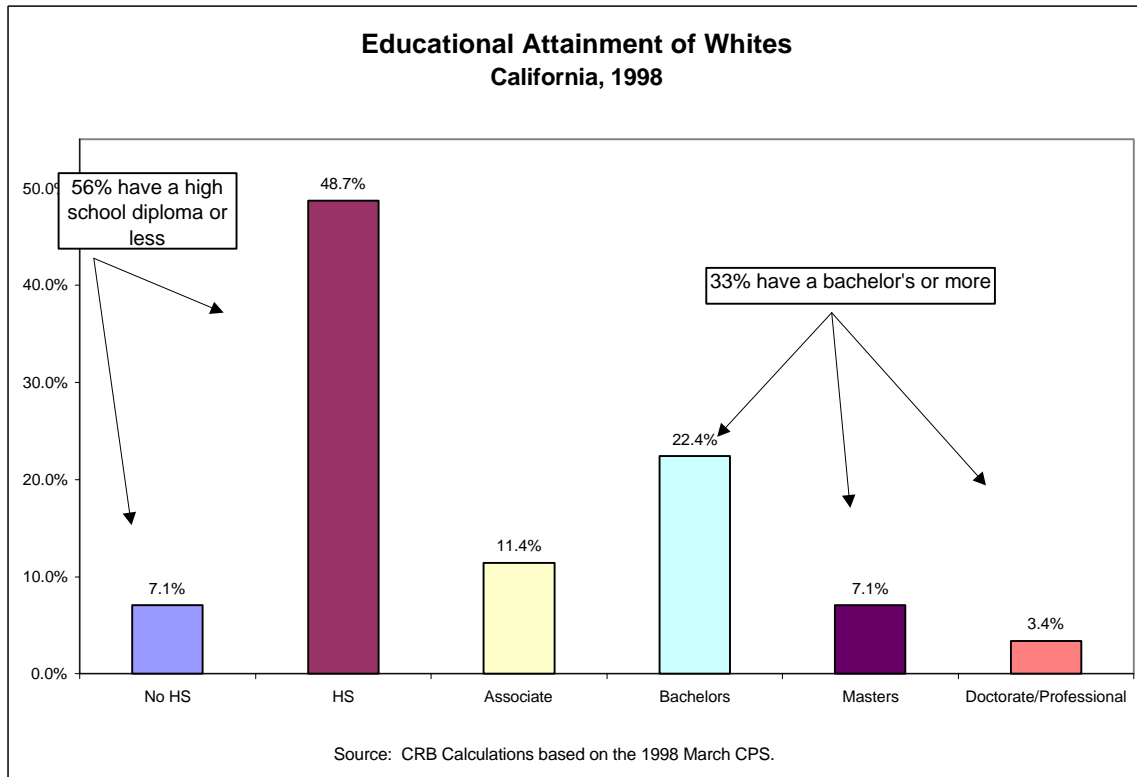
Educational Attainment of Groups in the Labor Force

This subsection answers a simple and yet important question. Do Latinos have significantly lower levels of educational attainment¹ in comparison to the other groups? If they do, this would help explain the lower wages. If they don't, then another explanation will have to be sought.

Educational Attainment of White Workers

There are 8.2 million White workers in the labor force of California. According to the chart below, 7.1 percent of them lack a high school education while another 49 percent have only a high school diploma. At the other end of the education spectrum, 33 percent have a bachelor's or more. The educational attainment of Whites tends to be among the highest.

Chart 4

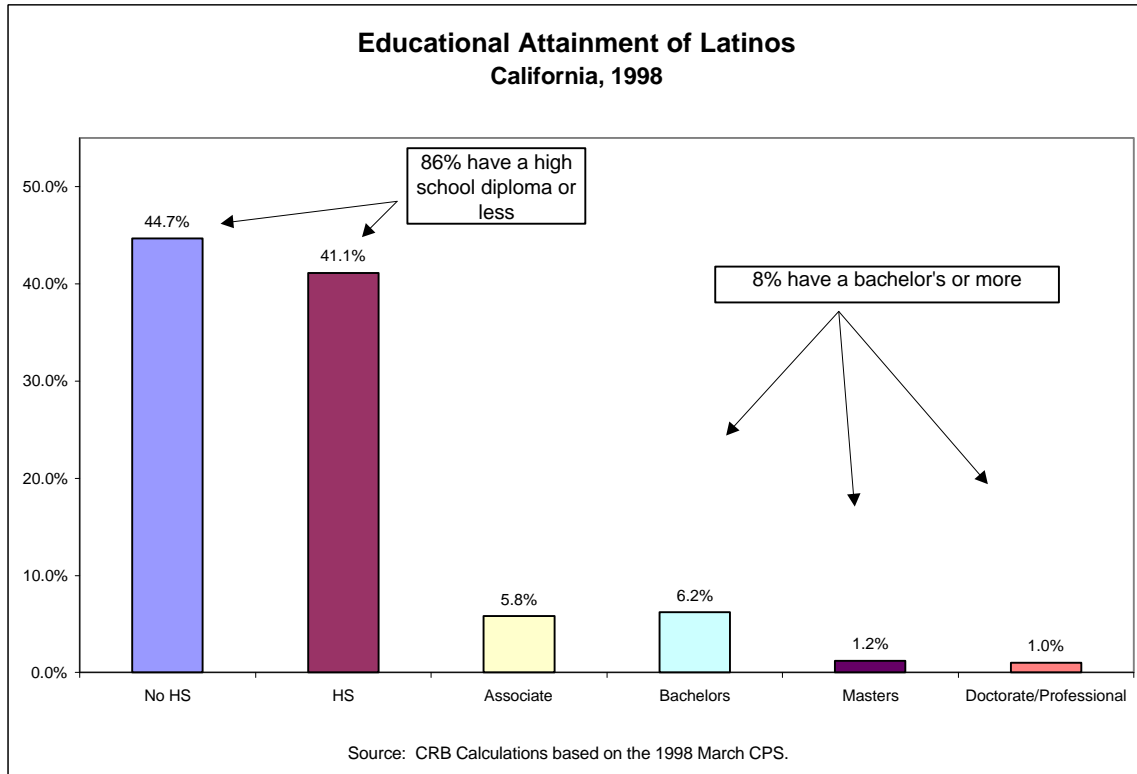


¹ "Educational attainment" is defined as the highest degree completed.

Educational Attainment of Latino Workers

In contrast to Whites, the educational attainment of Latino workers is heavily concentrated at the lower end of the scale. Of the 4.4 million Latino workers, 45 percent do not have a high school diploma, while another 41 percent have only a high school diploma. Only 8 percent of the Latino workers have a bachelor's degree or more. This is in sharp contrast to the 33 percent for Whites.

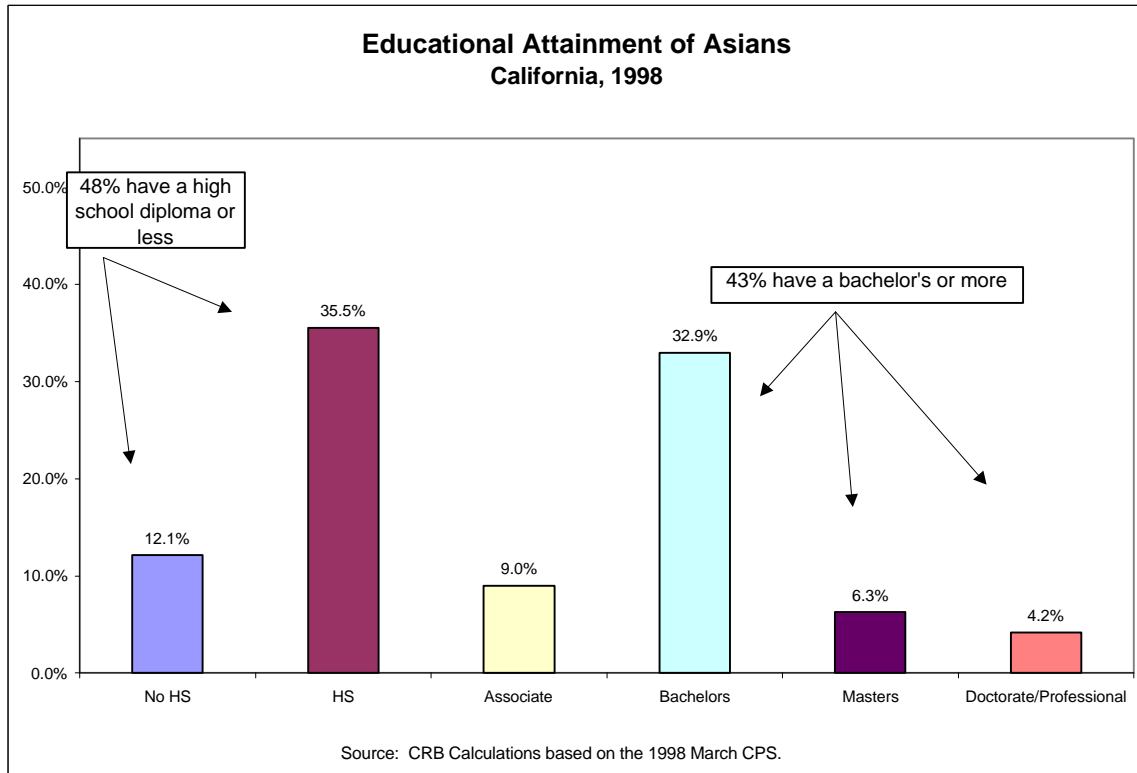
Chart 5



Educational Attainment of Asian Workers

The educational attainment of Asian workers is not unlike that of Whites. It differs slightly, however, at higher levels. Of the 1.9 million Asian workers, 12 percent do not have a high school degree while 36 percent have only a high school diploma. At the lower end, therefore, 48 percent have a high school diploma or less. At the higher end, 43 percent have a bachelor's degree or more. Asians have the highest educational attainment of all the groups.

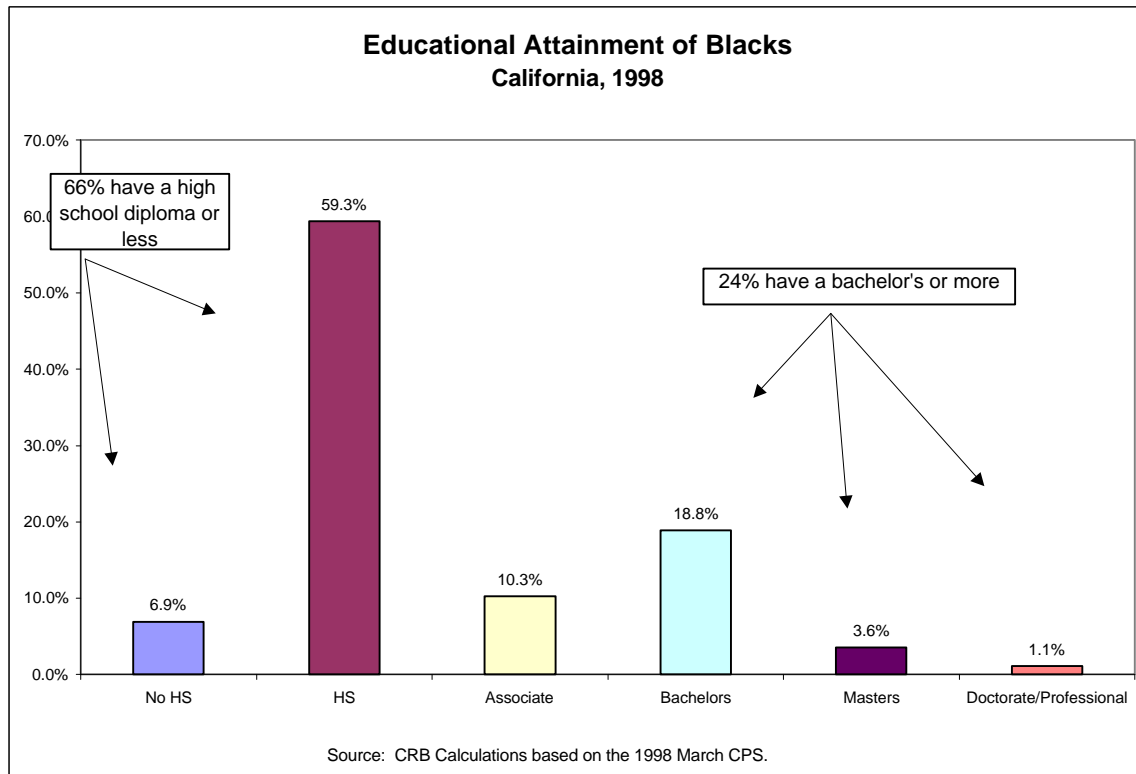
Chart 6



Educational Attainment of Black Workers

The educational attainment of Black workers is between that of Whites and Latinos. They tend to have higher levels of education in comparison to Latinos. However, they are not yet quite at the level of Whites and Asians. Of the one million Black workers, 7 percent have no high school degree and 60 percent have only a high school diploma. At the other end of the spectrum, 24 percent have a bachelor's degree or more.

Chart 7



The patterns in the charts above may explain much of the differences in wage income shown earlier. It seems plausible that Latinos, on average, tend to earn less because they have lower levels of educational attainment. Whites and Asians tend to earn more because they tend to have more education. The wages and educational attainment of Blacks is somewhere in between Latinos and Whites.

The Importance of Education in a Multivariate Setting

The previous subsection showed that Latinos tend to have lower levels of education in California compared to other groups. This correlates well with the income of Latinos, at least graphically. Statistically, individuals with similar characteristics still have to be compared. In particular, variables that help explain differences in wages between Latinos and non-Latinos have to be isolated.

What Variables Best Explain Wages?

Using a regression equation, whereby “wages” are the dependent variable², this subsection isolates the variables with the most explanatory power. That is, what best explains the wages of labor?

The table below summarizes the regression results in terms of the variation explained by each variable.

Table 1

Total Variation Explained:	68%
Hours & Weeks Worked	48.5%
Education	7.9%
Age	5.2%
Gender	1.9%
Ethnicity	1.4%
Variation Not Explained:	32%

Notice that 32 percent of the variation in wages is not explained by the model. For the most part these are persons that do not fit the average pattern. There could also be an error in how they reported their wages or in how the information was tabulated. For instance (looking at the residuals with an absolute standard deviation greater than three), the data shows a 38 year old male, with a bachelor’s degree, working 20 hours a week for 52 weeks, but making only \$600 in yearly wages. Another case not explained well by the model is that of a 28 year old male, with no high school diploma, making \$309,950 in yearly wages.

The objective of the model is not to explain the wages of every single individual, but to capture patterns in the data that are reflective of most workers in the labor force. With about 70 percent of the variation explained, the model fits the data reasonably well.

² Wages are in their log form. The regression is performed on a weighted sample of 6,041 individuals residing in California.

The variables with the most explanatory power are the variables of hours and weeks worked. This is not surprising since a person who works only one month of the year is likely to earn less than somebody who works the entire year, regardless of educational attainment and work experience. In general, the working habits of Latinos and non-Latinos are very similar. On average, both groups tend to work 38 hours a week and 45 weeks a year.

These two work variables are able to explain close to 50 percent of the variation in individual wages. The accuracy of the results can be further improved, however, by including other variables.

Next in explanatory power is the educational attainment variable. It explains why two persons that are of the same age and work the same number of weeks and hours have very different wages.

Next in importance is the age of a person. The older the person, the more they tend to earn. This is true in general except that after age 50 the wages tend to level off. This is probably because individuals start to work less as they approach retirement, or maybe because they become underemployed as they compete with the younger generations who are coming into the market with a new set of skills.

The variables of gender and ethnicity, together, explain less than four percent of the variation in individual wages. In general, men tend to earn more than women, and non-Latinos tend to earn more than Latinos.

The Importance of Education

After controlling for all the variables mentioned above, does the mere fact of being a Latino help explain why this group tends to have lower wages. Being a Latino explains less than two percent of the variation in wages. What does this mean? The interpretation has to be in the context of the other variables.

In looking at the other variables, there is not much difference in the hours and weeks worked. There is some age difference and this can account for some of the variation. Latino workers are, on the average, younger by five years and thus may be expected to earn less. The difference in age, however, is not large enough to explain all the variance in wages.

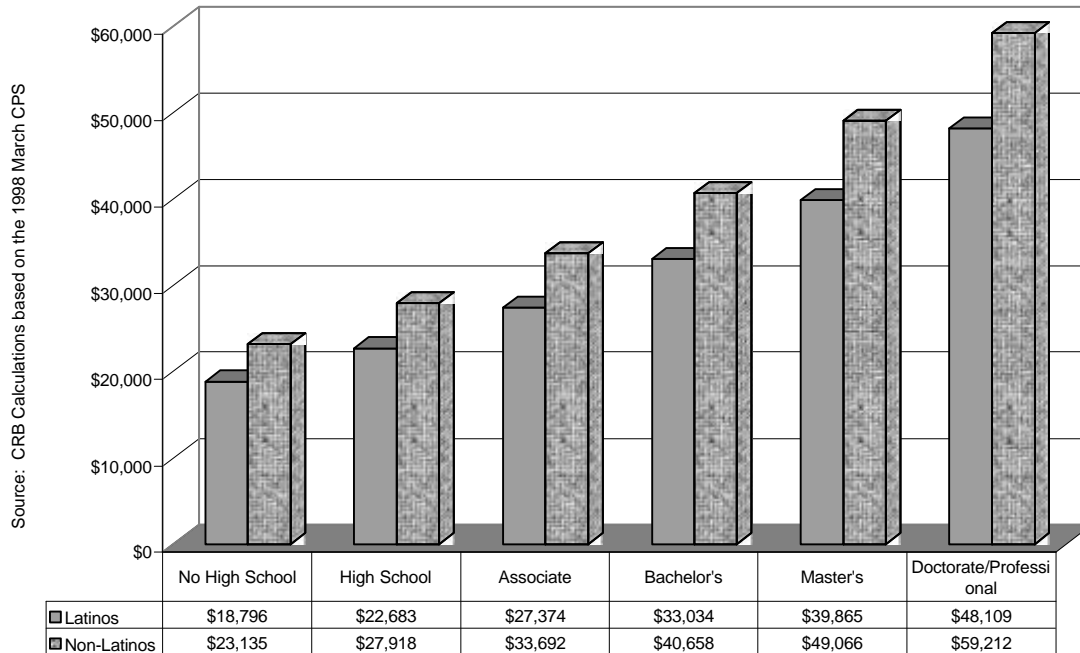
The variable that stands out is the education variable. Even when Latinos are of the same age, the wage difference is large because non-Latinos tend to be better educated. What is more, the income of highly educated persons grows faster than for those with less education.

A person is likely to earn more in wages with a higher education, all else being equal. Suppose there are six persons of the same age. Furthermore, suppose they work the same

number of hours and weeks. The graphs below show the expected income of Latinos and non-Latinos for different levels of educational attainment. It shows clearly that the more education a person has, the higher their wages. For instance, a person with a doctorate earns, on average, at least \$24,000 more than a worker with no formal education, regardless of whether they are Latino or not.

Chart 8

Expected Wages for Individuals With Similar Characteristics
(Age=39, Hours Worked=40, Weeks Worked=52)



The results above are very significant, especially since the previous subsection showed that 86 percent of Latinos in the labor force had a high school degree or less. This means that even if the wage gap³ at each level of education between Latinos and non-Latinos were to disappear, the disparity between the two groups would continue unless the educational attainment of Latinos is raised.

³ Why do non-Latinos appear to make more at each level of education? Several explanations are offered. The wage gap would probably become smaller if we were better able to control for differences in skill and experience. Beyond the limitations of the data, social scientists offer other explanations. One such explanation is the Dual-Labor Market Hypothesis. According to the hypothesis, even if there are two individuals with similar levels of skill and experience, employers would pay more to the one that had certain inherent characteristics. For instance, some employers tend not to hire older workers while others may hire only those who share a culture. According to proponents of the hypothesis, there are essentially two markets, one for those with the preferred characteristics and one for those without.

What about the Native-Born Latinos? What is their Wage & Educational Attainment?

Introduction

Up to now, the discussion has not distinguished between immigrants and the native-born. One can make the argument that Latinos earn less because 60 percent of those in the labor force are foreign born. Furthermore, one could argue that there is no cause for alarm because time will take care of the issue.

This section addresses these two arguments by turning attention to the native-born Latinos in California. More specifically, this section looks at their wages and educational attainment. Since the subject of this section is one of economic mobility over generations, it also looks at the native-born children of native-born parents, i.e., third and later generation Latinos. What are their wages and educational attainment? Are they anywhere near those of the other groups?

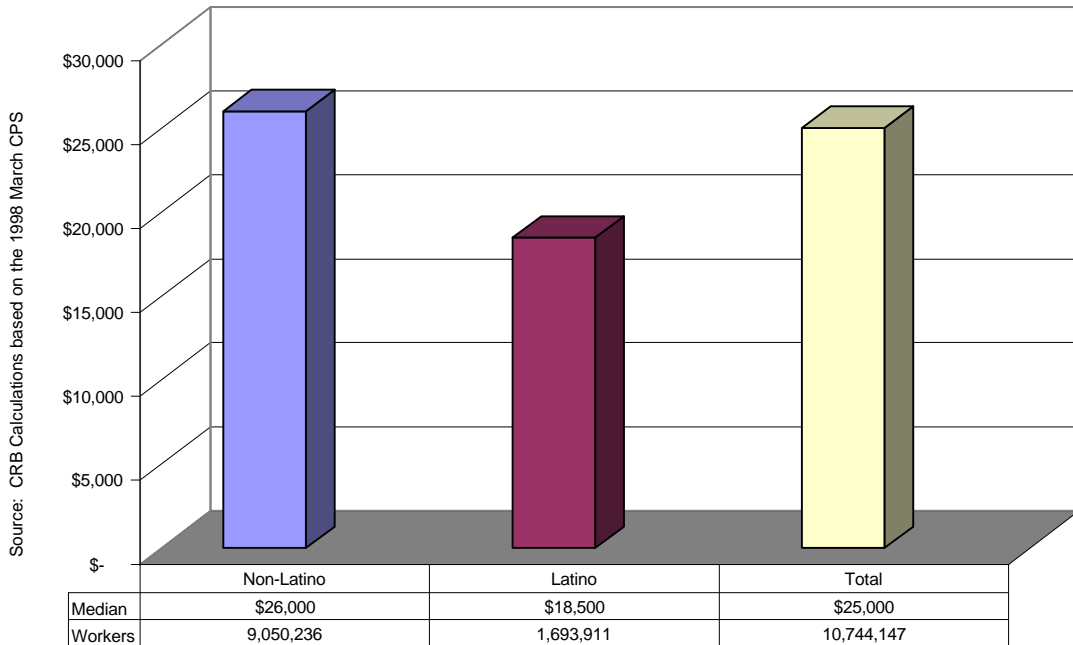
Wages and Educational Attainment of Native-Born Latinos in the Labor Force

Median Wages of the Native-Born

Of the 15.6 million workers in the California labor force, 10.8 million are native-born. The chart below shows the median wage of these workers. The wages of native-born Latinos is \$4,000 higher in comparison to that of all Latinos in the labor force (Chart 3). Unfortunately, the gap between Latinos and non-Latinos persists. The typical native-born Latino worker earns about \$7,000 less than a native-born non-Latino worker.

Chart 9

**Median Wages
Native-Born Workers in California, 1998**

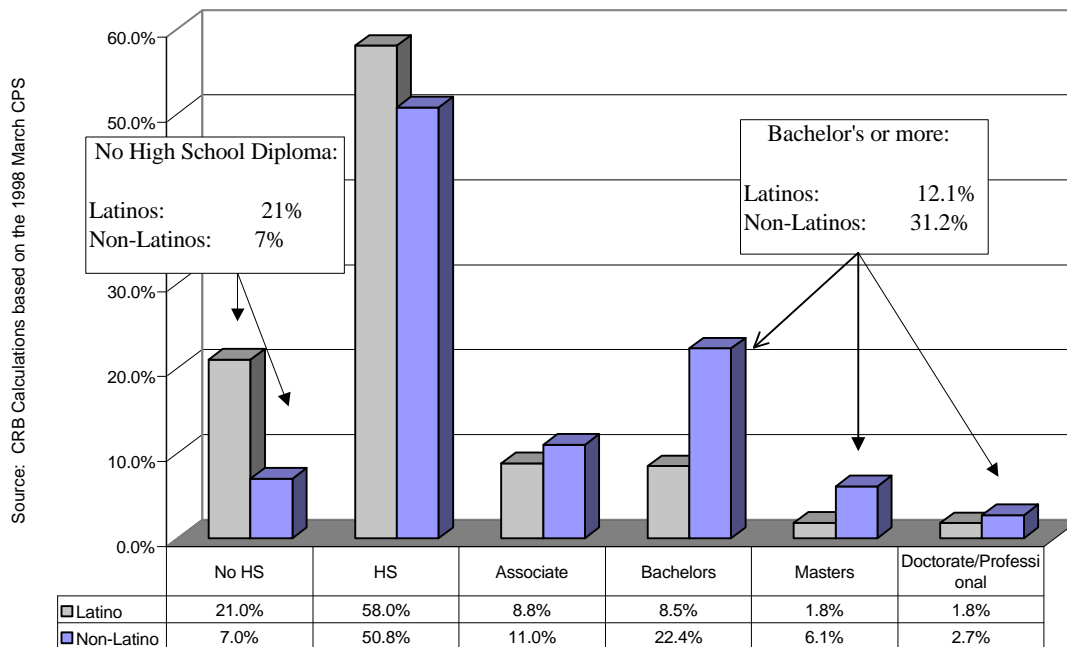


Educational Attainment of the Native-Born

How does one explain the lower median wages of native-born Latinos? The chart below compares the educational attainment of native-born Latinos and non-Latinos. The pattern is similar to the one shown earlier in that, overall, native-born Latinos tend to have lower levels of education. At the lower end, 21 percent of them do not have a high school diploma. For non-Latinos, the percentage is seven percent. At the upper end of the education spectrum, only 12 percent of the native-born Latinos have a bachelor's degree or more. The figure for non-Latinos is at 31 percent.

Chart 10

**Educational Attainment
Native Born Workers in California, 1998**



According to the two charts presented in this subsection, being native-born does not necessarily guarantee a step up in the economic ladder. The next subsection takes this line of analysis one step further by focusing on the third generation.

Wages and Educational Attainment of Third Generation Latinos

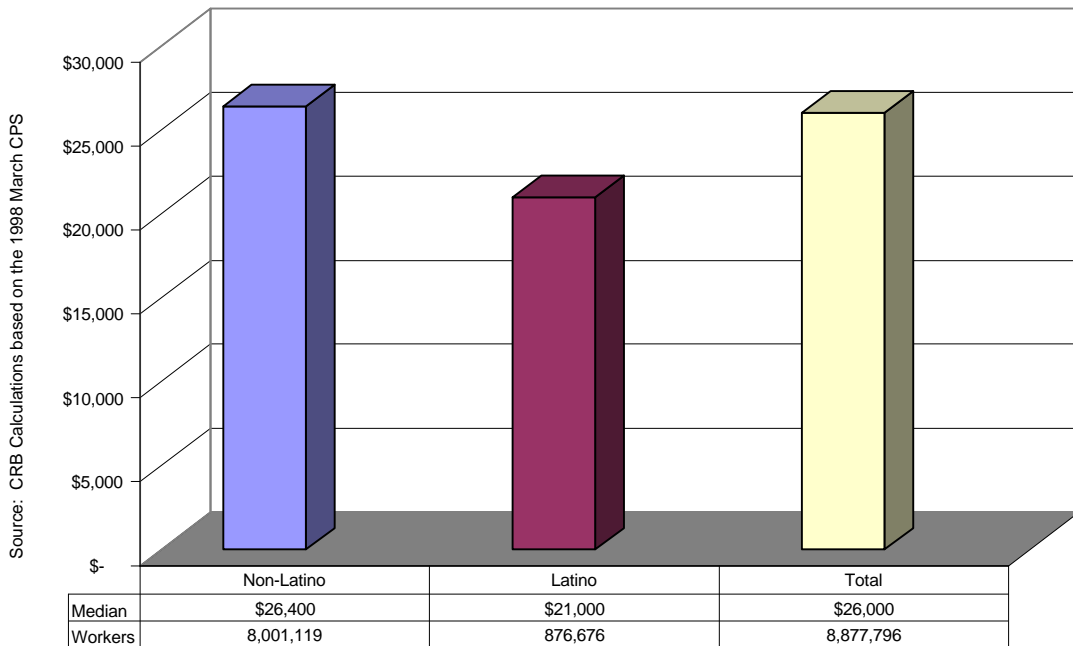
Median Wages of the Third Generation

The previous subsection begins to address the question of how many generations it will take Latinos to achieve economic parity under the present situation. This subsection takes the analysis one step further and presents the socio-economic performance of the third and later generations⁴.

The chart below shows the median wage for Latinos and non-Latinos. As before, the wage gap continues. The typical Latino earns \$5,400 less than the typical non-Latino. Can the disparity be attributed to lower levels of education?

Chart 11

**Median Wages
Third Generation Workers, California 1998**



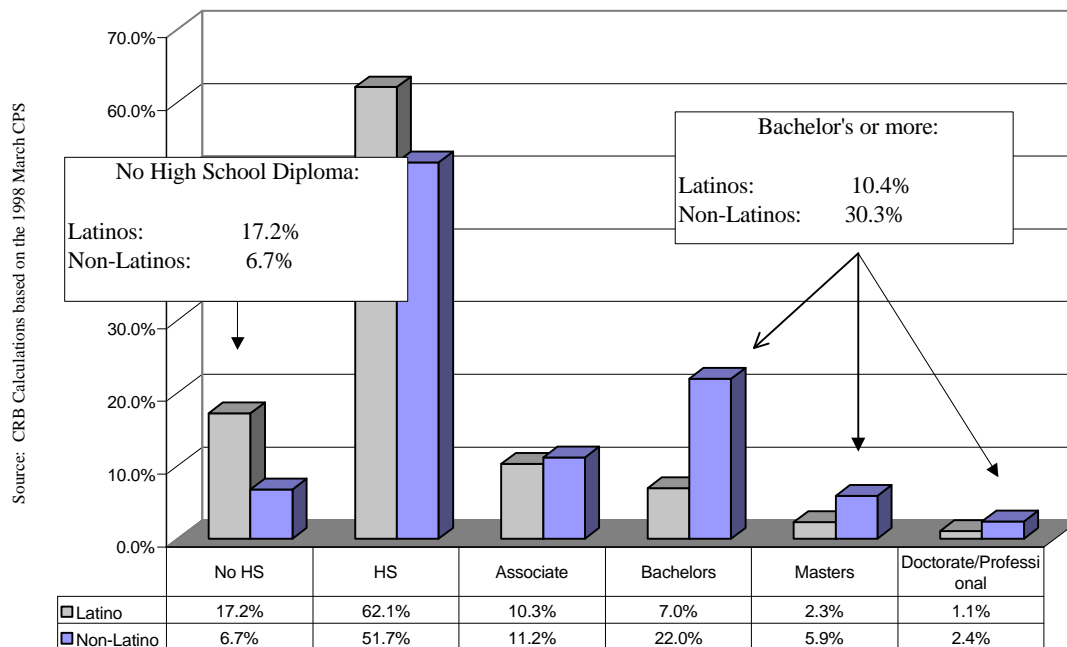
⁴ By “third generation and later” we mean individuals born in the United States of native-born parents. It includes the third, fourth, fifth, and later generations.

Educational Attainment of the Third Generation

The objective of this section has been to find out whether or not Latinos show economic progress over generations. Comparing the chart below to the educational attainment charts shown earlier, one would have to conclude that there is progress, but the progress is slow. One would expect that Latinos by the third generation would have educational attainments similar to those of non-Latinos. Seventeen percent of third generation Latinos do not have a high school degree. At the other end of the education spectrum, Latinos are not attending college at very high rates. Only 10 percent of this group has a bachelor's degree or more. For non-Latinos the figure is 30 percent.

Chart 12

**Educational Attainment
Third Generation Workers, California 1998**



Clearly, the fact that Latinos continue to have low levels of education, even in the third or later generation, is of great economic importance for the state.

A Demographic Profile of California: 2025

Introduction

The previous sections have focused on the realities of today with no mention of the future. The reality is that Latinos today are the second largest group in the labor force. They tend to have lower wages and lower levels of education, even the native-born. We already know, therefore, that economic progress over generations for Latinos in California is occurring slowly. The expectation is that 25 years from now the wage gap will still be significant.

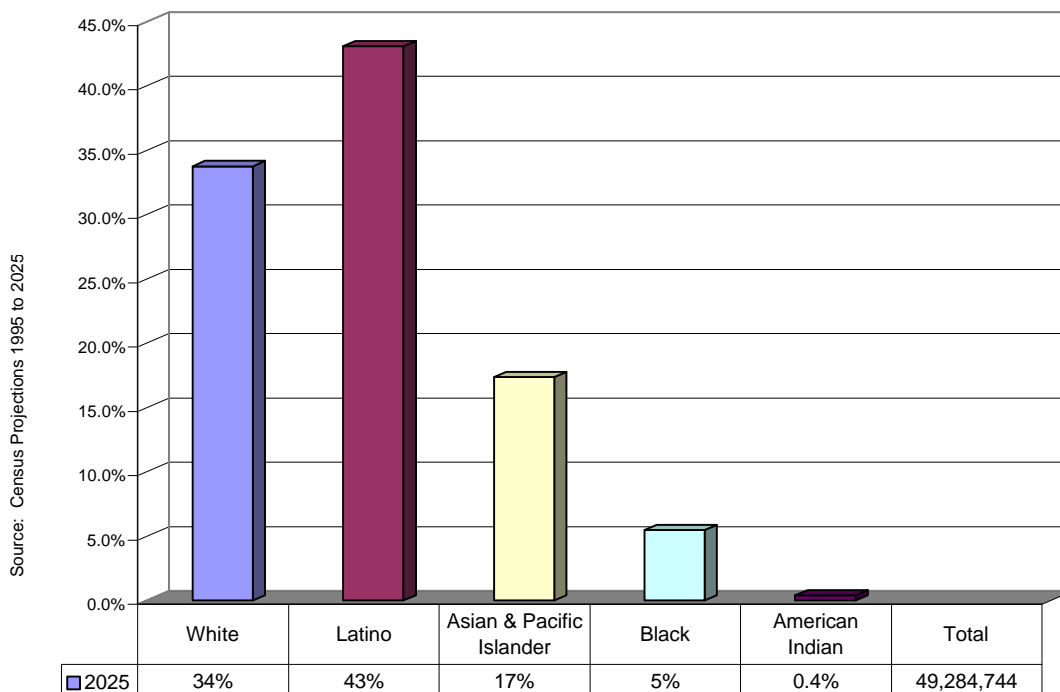
From this section on, however, the paper begins to look at the role that Latinos could play in the future. This section, in particular, looks at the role Latinos will play in California, numerically. First, it presents the demographic composition for the year 2025. Second, it validates the projections by showing the current (1998 school year) ethnic composition in today's public schools. The subsequent section then shows what might happen if the present course is altered by raising the educational attainment of Latinos.

Demographic Composition of California in the Year 2025

Demographically, how will California look 25 years from now? The best guess for this answer comes from population projections. These projections use historical patterns to predict future population growth, using birth, mortality, and net migration rates. This section uses population projections constructed by the U.S. Census Bureau. It shows that in the year 2025 there will be close to 50 million persons in California. Currently, Latinos are the second largest ethnic-racial group in California at 30 percent. By the year 2025, however, they will be the largest group with 43 percent. Whites will be the second largest group at 34 percent, followed by Asians at 17 percent. Blacks are projected to be at 5 percent.

Chart 13

Projected Population Composition of California, 2025



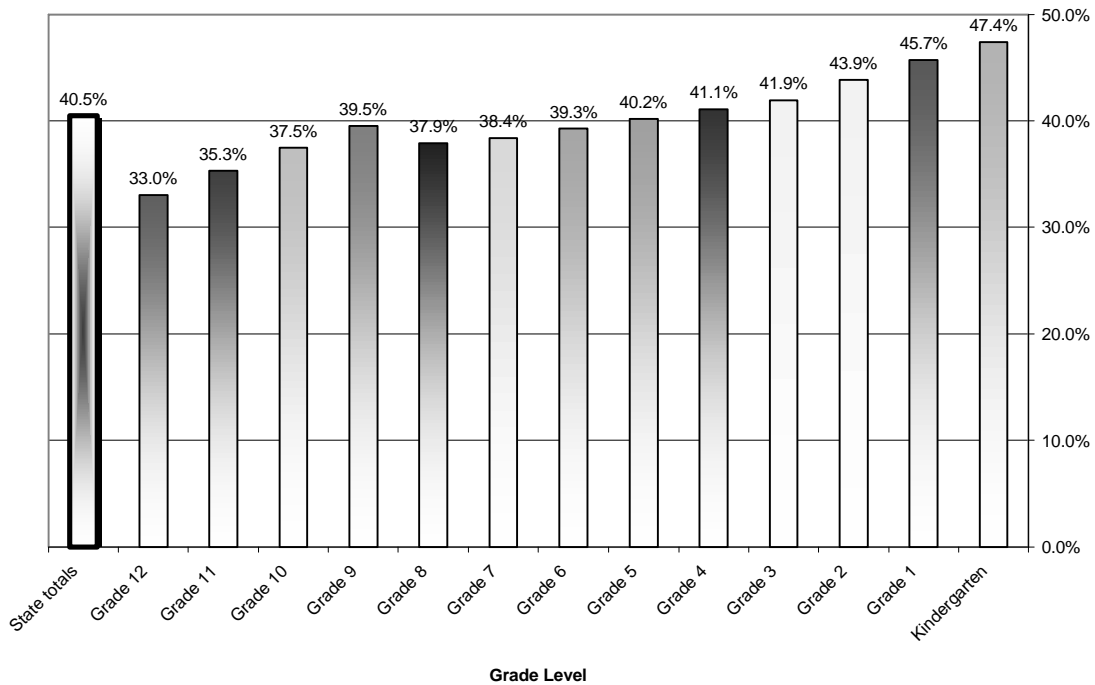
Collaborating Evidence: Current K-12 Enrollment in California by Grade Level

This subsection examines K-12 enrollment by grade level to see if there is any supporting evidence for the Census Bureau projections. The chart that follows shows the percentage of Latinos enrolled in California public schools by grade level. According to statistics compiled by the California Department of Education, currently there are over 5.7 million children enrolled in the K-12 public schools of California. Of this total, 40.5 percent or 2.3 million are Latino children.

Are the Census Bureau projections realistic? The pattern of the chart below seems to indicate that it is. As one moves down in grade level, the percentage of Latinos increases. In the 12th grade, Latinos are 33 percent, but by kindergarten, Latinos are close to 50 percent of the enrollees.

Chart 14

Percentage of Latinos in California Public Schools by Grade Level, 1997-1998



The objective of showing population projections for the year 2025 or current K-12 enrollment by grade level is to show that the demographic implications for California are real and that the role of Latinos in California is growing. The concern now is how to accompany the increase in numbers with economic prosperity.

The Economic Benefits of Raising the Educational Attainment of Latinos

Introduction

The previous sections have shown that Latinos are currently the second largest group in the labor force and that in less than 25 years they will be the largest. Because Latinos tend to have lower levels of education and lower wages, California could find itself, in the future, with a vastly reduced capacity⁵ to provide the public services and infrastructure needed by businesses and individuals.

This section looks at Latinos as a source of economic growth. Because of their low levels of education, Latinos represent a sizeable economic opportunity. There are several economic benefits to raising the educational attainment rates of Latinos. The direct benefit would be to Latinos themselves and their families who would be better off as the workers gain higher wages. The indirect benefits would come in the form of higher expenditures on goods and services, increases in tax revenues, and a reduction in the need of public programs for the poor.

This report attempts to measure the economic benefits⁶ and the increase in state income tax revenues from raising the educational attainment of Latinos to the levels of non-Latinos. The economic benefits are assumed to be only the increase in wages to Latinos. The increased contributions in state income taxes are also calculated. Increased contributions in property taxes, sales taxes, federal income taxes, Medicare, and social security contributions are not measured.

This section has three parts. The first part looks at the economic benefits in the long-term, 20 years or more. It calculates the benefits of educating all Latinos in the labor force to the levels of non-Latinos. Parts two and three look at the short-term, e.g., what can be realistically accomplished four years from now. Part two looks at raising the expected educational attainment of Latinos currently enrolled in high schools of California. The goal is for Latinos and non-Latinos in high school to have similar opportunities for educational advancement. Part three focuses on adults, i.e., those out of high school and in the labor force. The goal here is to entice 217,000 adult Latinos to further their education and move up to the next level or degree of education.

⁵ By “reduced capacity” we mean a lower tax base relative to the population.

⁶ In measuring the economic benefits, this section assumes that there are no multiplier effects on consumption. No multiplier effects are assumed to minimize any controversy over the use of a specific multiplier.

In the analysis that follows, the only factor that changes is the educational attainment variable. Wages associated with each level of education are therefore assumed to remain constant. The average unadjusted wages for each of these levels of education, specific to Latinos, are used. Currently in California, a Latino without a high school diploma earns, on average, a little over \$15,000. A Latino with a high school diploma earns about \$5,000 more. Latinos with an associate, bachelor's, master's, and doctorate degree earn, on average, \$12,000, \$16,000, \$30,000, and \$42,000 more than a worker without a high school diploma. These wages are the raw wages and they are unadjusted for age, hours, and weeks worked.

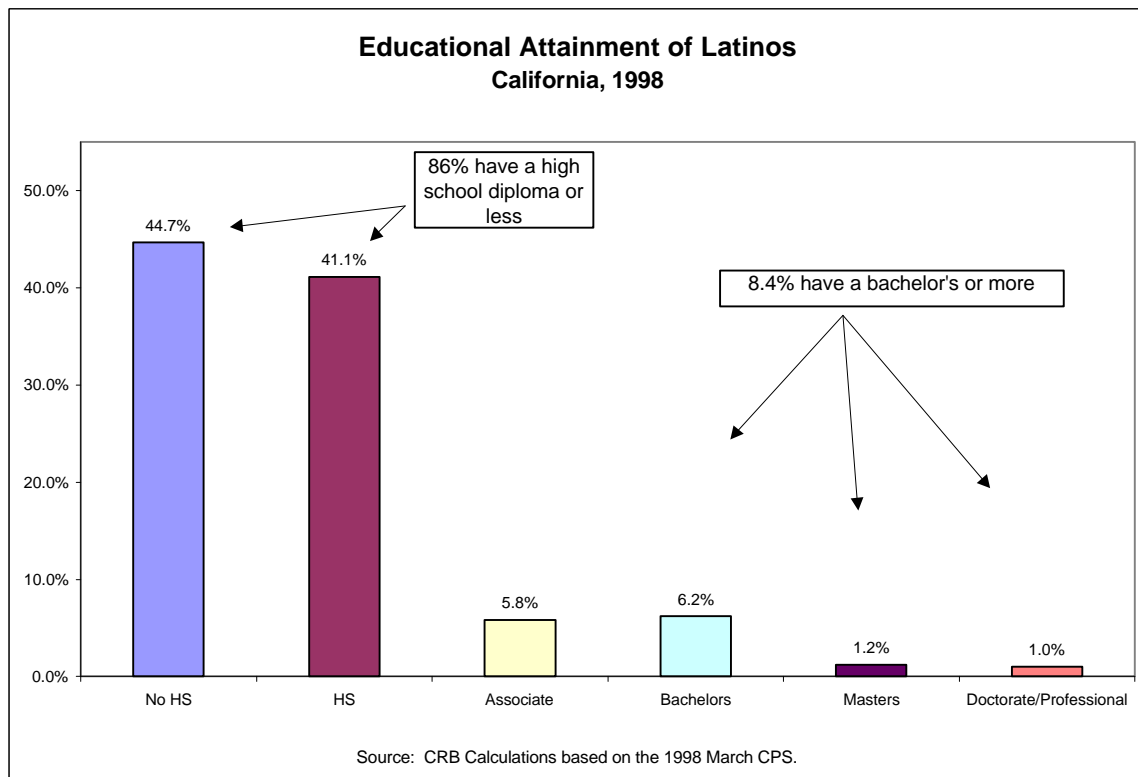
Long-Term Goal: The Economic Benefits of Educating Latinos to the Levels of Non-Latinos

What does California stand to gain if Latinos in the labor force were to have the same educational attainment as non-Latinos? Furthermore, what are the implications for the state tax base?

The Present Situation

Of the 4.4 million Latinos in the labor force, 45 percent do not have a high school diploma, 41 percent have only a high school degree, six percent have an associate degree, and eight percent have a bachelor's degree or higher. Although this information was shown earlier in Chart 5, it is displayed again below since it constitutes the "before" scenario.

Chart 15

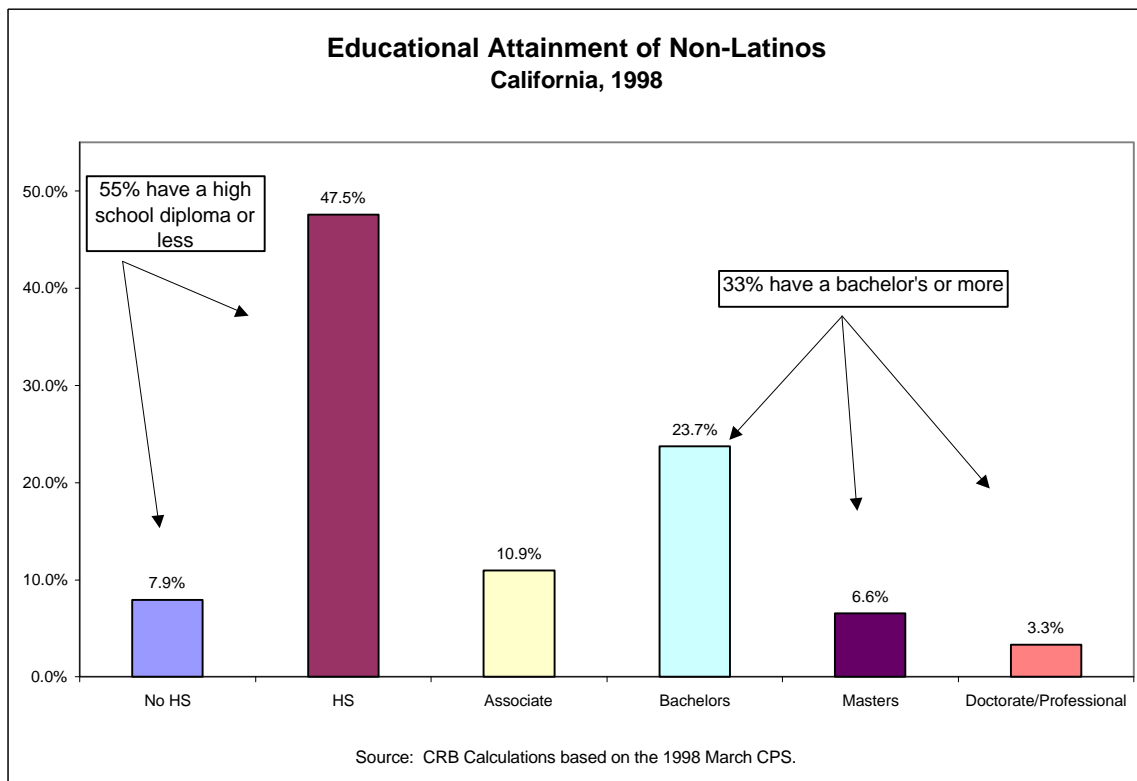


The Long-Term Goal

What if the situation for Latinos were to change to the point where they would have the same educational attainment as non-Latinos? What would this mean for the aggregate wages of Latinos?

The chart below shows the projected educational distribution for Latinos, which matches that for non-Latinos. The biggest changes come at the extremes of the distribution. Instead of 45 percent, there are now only eight percent without a high school degree. At the other extreme, the assumption is that 33 percent of the Latino labor force has a bachelor's degree or more, instead of only eight percent.

Chart 16



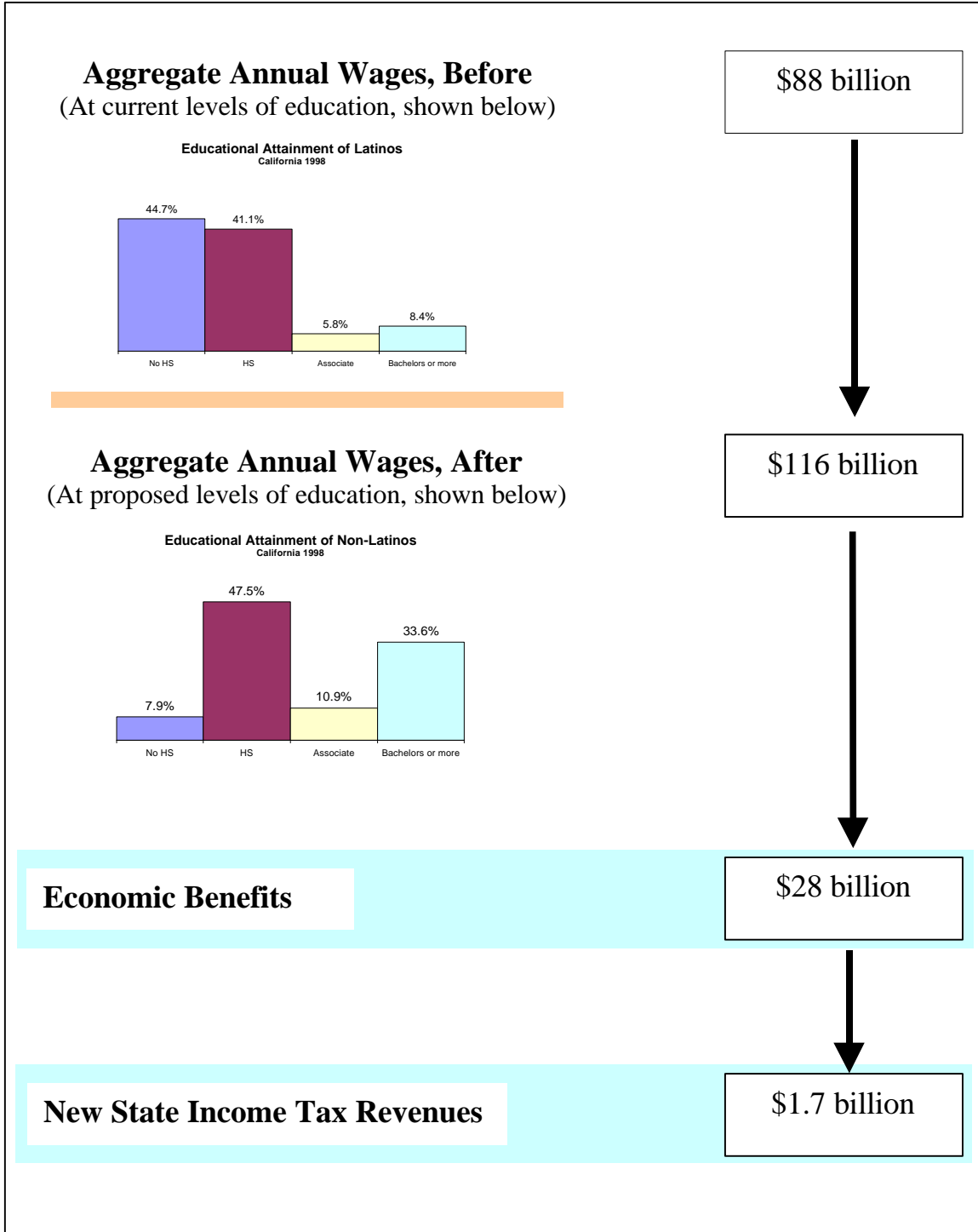
Economic Benefits and Net Public Revenues

The difference in aggregate wages between the present and proposed scenario suggests that the economic benefits would be on the order of \$28 billion a year. The economy as a whole would benefit as this money is spent on goods and saved or invested.

Part of this money would also go to taxes. The next page provides a summary of the results and shows that the increase in wages leads to \$1.7 billion more in state income taxes. (For the details on the derivations of these figures see Appendix 1.)

Long-Term Goal

*Educating Latinos to the Levels of Non-Latinos in California
(estimates based on 4.4 million Latino workers as of 1998)*



Short-Term Goal Number One: Raising the Educational Attainment of Latinos Passing Through Our High Schools

As the flow diagram in the previous page shows, California stands to gain billions of dollars by increasing the educational attainment of Latinos in the long run. How do we get to the long-run scenario?

The long-term goal can be accomplished through more manageable short-term goals. More specifically, there are two approaches that can be taken. The first focuses on increasing the educational attainment of high school students, while the second focuses on increasing the educational attainment of adults in the labor force. This section will address the former while the next section will address the latter.

The Present Situation

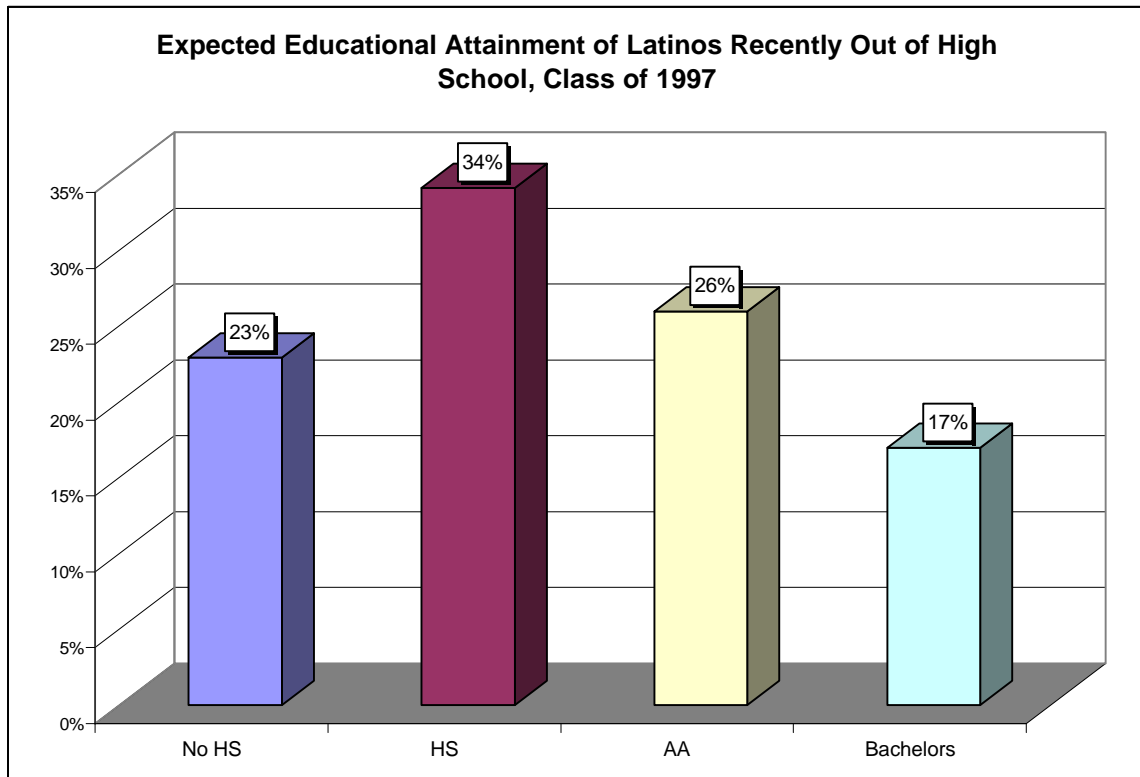
As with adults, it would be of interest to know the likely educational attainment of students that have recently gone through the high school system. This subsection uses data from the California Postsecondary Education Commission and from the California Department of Education to create such a variable.

The following pieces of information are needed to construct the “expected educational attainment” variable for high school students: the number of recent graduates from high school, the number of high school dropouts, and the number that transferred from a community college to a University of California (UC) or a California State University (CSU). In June 1997, 82,015 Latino students graduated from high school, while 27,393 Latino students dropped out. In addition, 10,091 Latino students transferred from a community college to a UC or a CSU. The total number of Latino students recently out of high school is therefore 119,499.

Information on the number of students attending four-year and two-year colleges is also needed. For Fall 1997, there were 3,085 Latino freshmen in the UC, 7,111 in the CSU, and 31,053 in the community colleges.

With this information, it is now possible to construct a variable showing the likely educational attainment for the 119,499 Latinos just out of high school. At one extreme, as the chart below shows, 23 percent of this cohort are high school dropouts. At the other extreme, 17 percent are attending a UC or a CSU and are on their way to getting a bachelor’s or more, assuming there is no attrition. Of those left, 26 percent are in a community college and perhaps working on their associate degree. The rest, 34 percent, are presumably in the work force as they are neither high school dropouts nor going to college. This last group has a high school diploma.

Chart 17



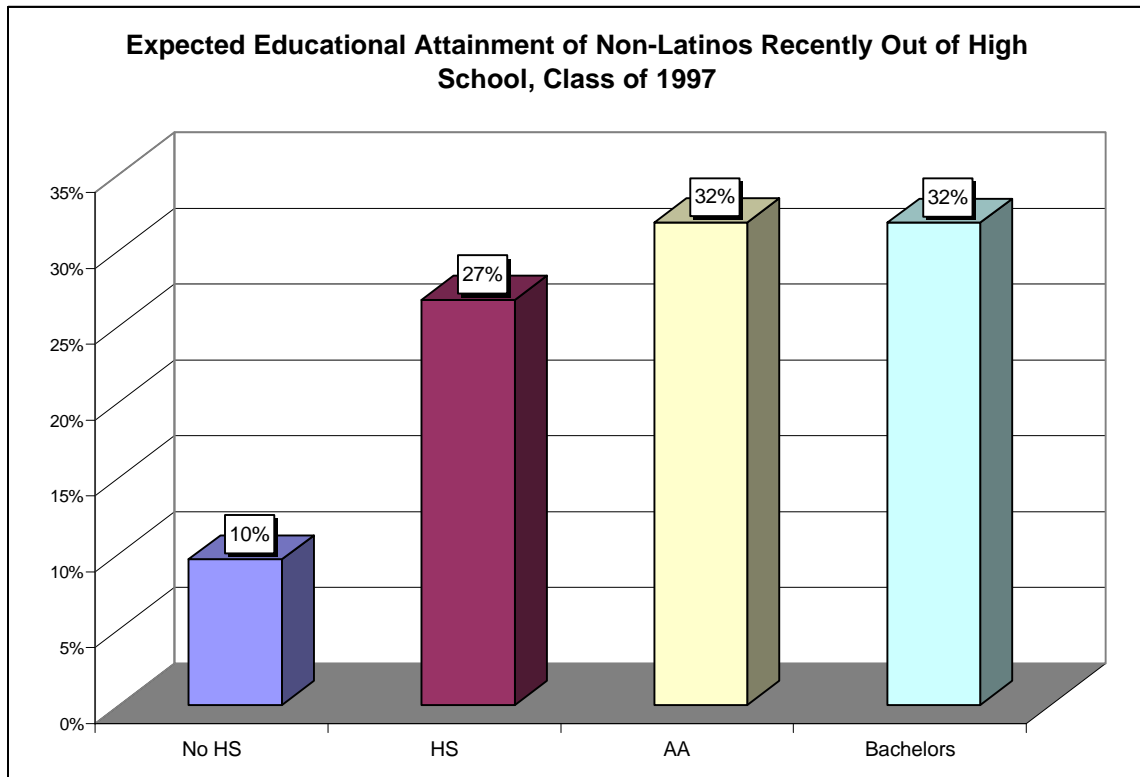
The estimates above are generally overly optimistic on the college side, since not all the students that start out as freshmen end up with a bachelor's degree. At the other end, the percent with no high school diploma will probably decrease a few percentage points as students in this group get their High School Equivalency Certificate.

The approach developed above is significant because it provides policymakers with a forward-looking indicator, i.e., the likely educational attainment of students recently out of high school. The approach is also useful because it synthesizes information from a variety of sources. It brings together information on those that dropped out of high school, those that graduated, those that are attending a college or a university, and on those that transferred from a community college to a university.

Proposed Goal

Short-Term Goal Number One is to have Latinos graduating from high school with the same expected educational attainment as non-Latinos. Using the same methodology, the chart below shows that 10 percent of non-Latinos are dropouts, 27 percent have only a high school diploma, 32 percent are enrolled in a community college, and 32 percent are on track to getting their bachelor's. This is the goal for Latinos in the high schools of California.

Chart 18



Economic Benefits and Net Public Revenues

The analysis that follows is not unlike that of the previous subsection where the average wages for Latinos are assumed to hold. Furthermore, this subsection assumes that the economic benefits accrue after the college years.

The flow diagram on the next page shows that the annual economic benefits from raising the educational attainment of Latinos recently out of high school to the same levels of non-Latinos is \$329 million. This is what California stands to gain by educating Latinos.

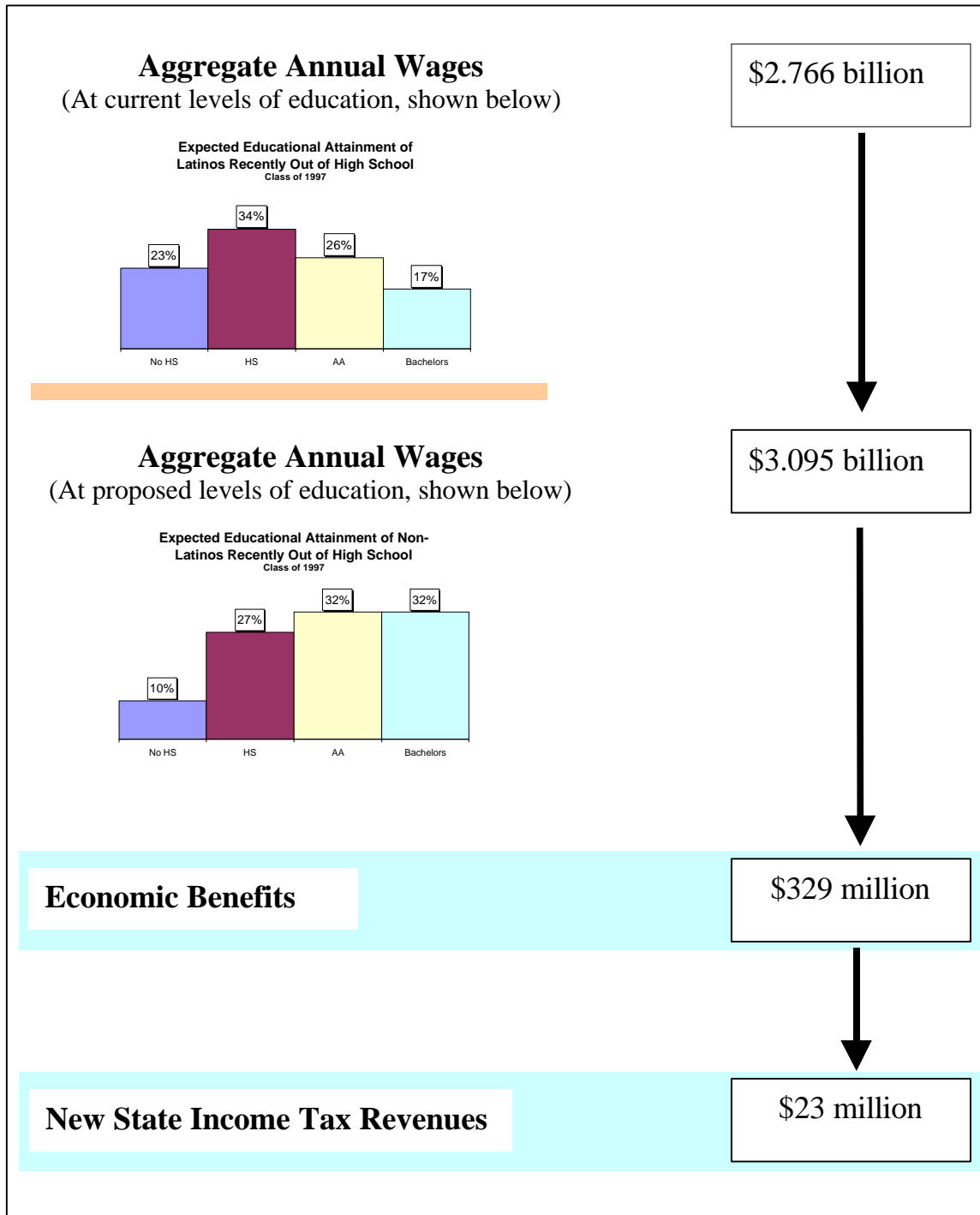
In addition to the economic benefits, there are increases in public revenues. Latinos coming out of high school would be able to contribute \$22 million dollars more in state income taxes, on an annual basis, if they were better educated.

For the details on the derivations of these figures, see Appendix 2.

Short-Term Goal Number One

Latino K-12 Goal for California

*Educating High School Latino Students to the Levels of Non-Latinos
(estimates based on 119,499 Latino students, Class of 1997)*



Short-Term Goal Number Two: Raising the Educational Attainment for 5% of Latinos in the Labor Force

Current Situation and Proposed Goal

For the long-term goal to materialize, progress also needs to be made by increasing the levels of education of Latinos in the workforce. A realistic short-term goal could be to raise the educational attainment for five percent of Latinos in the labor force. A goal of five percent is equivalent to 217,000 persons.

The table below shows the college or university that the 217,000 persons are likely to attend given their current level of education. The great bulk, or 86 percent, would be going to a community college⁷, since their current level of education is at a high school diploma or lower. The other 14 percent would be going to either a public or private university in California.

Table 2
Furthering the Education of 5% of the Latino Labor Force

Education	Total Latino Workers	5% Goal	Targeted College or University
No HS	1,961,983	5% →	
HS	1,804,472	5% →	98,099
AA	255,278	5% →	90,224
Bachelors	273,207	5% →	12,764
MS	53,818	5% →	13,660
Doctorate/Professional	43,500	5% →	2,691
Total	4,392,257		217,438

Economic Benefits and Net Public Revenues

What would be the economic benefits of raising the educational levels of five percent of the Latino labor force? The flow diagram on the next pages shows that the increase in annual net income is \$1.4 billion. This net increase in wages becomes an economic benefit to all as these workers and their families buy more goods, pay additional taxes, and have a reduced need for public programs targeting the poor.

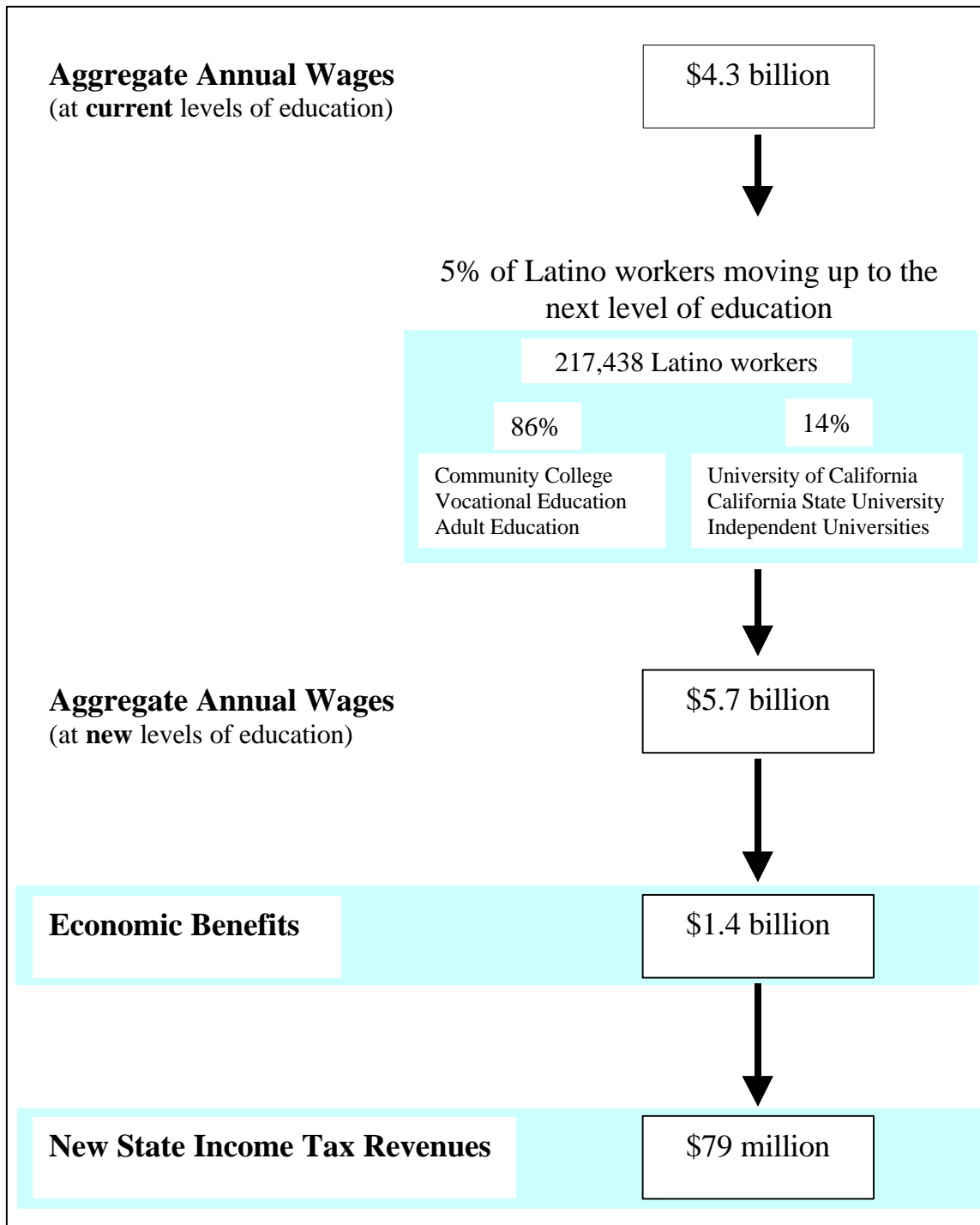
The public sector also benefits from the increased wages. For the state income tax alone, the increase in wages results in \$79 million more in tax revenues for the State of California. (See Appendix 3 for the details of the derivation of these figures.)

⁷ Community Colleges are one of several institutions that can render services to this population. The Employment Training Panel, the Department of Industrial Relations, the Department of Education, and the Employment Development Department also have programs that can help further the training or education of this group.

Short-Term Goal Number Two

Latino Adult Education Goal for California

*Raising the Educational Attainment of Latinos in the Labor Force
(estimates based on 217,438 workers or 5% of the Latino labor force in 1998)*



Cost-Benefit Analysis

A cost benefit analysis of this option analyzes whether the investment of educating Latinos pays for itself over time. Benefits are calculated as the difference in the expected lifetime earnings in a “before and after” scenario. In the before scenario, Latinos continue to work until they retire. In the after scenario, Latinos stop working for a number of years to go to school. When they graduate, however, their income will be higher because of their higher level of education. Costs are estimated to be the cost of instruction for the number of years that a person goes to school. These costs vary depending on the college or university they attend. Also, note that if a new intervention program were created, then the cost of that program would also have to be factored in.

Is there a net benefit to educating Latinos? Using a cost-benefit analysis, the answer is yes. The discounted benefits are \$36 billion. The discounted costs are \$26 billion in foregone income and \$3 billion in instruction related costs. The net benefits therefore amount to \$7 billion. This assumes a discount factor of five percent. The details of the calculations are in Appendix 4.

It is not difficult to ascertain why the benefits outweigh the costs in a cost-benefit analysis in this particular situation. Costs accumulate over a shorter time-period, anywhere between three to seven years depending on how long the individual stays in school. Benefits, i.e., the difference in expected lifetime earnings, accumulate over the number of years a person is likely to work. Because Latinos tend to be younger with an average age of 34 years, the benefits are going to accumulate over a longer period. Most of them could be expected to work another 26 years, assuming that they retire at the age of 65.

Conclusion

The previous sections provided several important findings with respect to Latinos. The first finding is that Latinos are the second largest group in the labor force and represent 28 percent of the wage earners in California. Moreover, they are a group that is growing rapidly and are projected to be the largest group in the labor force by the year 2025. The second finding is that the wages of Latinos are not in parity with their numbers since overall they account for only 19 percent of the wage income in California. Taken together with the first finding, the outlook for California is not good, for the economy as a whole and for the tax base.

Fortunately, the problem has a remedy and it lies in raising the educational attainment of Latinos to that of non-Latinos. In the long run, California stands to gain, on an annual basis, \$28 billion in increased wages and \$1.7 billion in increased state income tax revenues (see flow diagram one). For the short run, summing the benefits from the two short-term goals, there is an annual economic benefit of \$1.7 billion (see flow diagrams two and three). For public revenues, this means an annual increase of \$102 million in state income tax (see flow diagrams two and three). These estimates do not take into account that the number of Latinos in the labor force is growing over time.

These findings pose both a challenge and an opportunity for policymakers. The challenge consists in formulating strategies to raise the educational attainment of Latinos. The opportunity presents itself in the form of economic development. There is a sizeable economic benefit in raising the educational attainment of Latinos. First, state revenues would increase since Latinos would generate a larger tax base. Second, Latinos would have more cash for consumption, thus stimulating the state economy even more. Third, there would be less need for social government services targeting the poor.

In looking for solutions, however, we have to look beyond ethnicity, especially since persons of many different racial and cultural backgrounds are usually living in the same community.

What now? California needs a plan to carry out the short-term goals, one that can help unleash the economic potential of Latinos. The reality is that no one institution by itself can achieve the long-run goal. Cooperation is needed from many different agencies and institutions. These institutions include, but are not limited to, churches, schools, universities, community colleges, mediums of communication, and philanthropic agencies.

Appendix 1: Long-Term Goal Calculations

Economic Benefits

The first section of this report showed that of the \$461 billion in wages, Latinos account for 19 percent, or \$88 billion. The table below shows the same information, but by levels of educational attainment. It shows several columns of data. The first column of data shows the percent of Latinos that fall in that educational category. The second, third, and fourth columns show the number of corresponding workers, the average wages for that level of education, and the resulting aggregate wages.

Table 3
Wage Income of Latinos
 At Current Levels of Education

Education	Latino Workers		Annual Wages		
	%	Number	Mean		Aggregate
No HS	45%	1,961,983 *	\$15,268	=	\$29,956,217,562
HS	41%	1,804,472 *	\$20,892	=	\$37,699,521,399
AA	6%	255,278 *	\$27,376	=	\$6,988,535,970
Bachelors	6%	273,207 *	\$31,857	=	\$8,703,521,650
MS	1%	53,818 *	\$44,345	=	\$2,386,569,608
Doctorate/Professional	1%	43,500 *	\$57,135	=	\$2,485,356,374
Total		4,392,257			\$88,219,722,564

Source: CRB Calculations using the 1998 March CPS.

The proposed change in educational attainment leads to \$116 billion in aggregate wages as the table below shows. Notice that the column of mean wages remains the same. Changes in the table are due to changes in educational attainment.

Table 4
Wage Income of Latinos
 At New Levels of Education

Education	Latino Workers		Annual Wages		
	%	Number	Mean		Aggregate
No HS	8%	348,551 *	\$15,268	=	\$5,321,789,769
HS	48%	2,088,018 *	\$20,892	=	\$43,623,440,173
AA	11%	480,706 *	\$27,376	=	\$13,159,885,631
Bachelors	24%	1,042,983 *	\$31,857	=	\$33,226,196,291
MS	7%	287,980 *	\$44,345	=	\$12,770,595,937
Doctorate/Professional	3%	144,020 *	\$57,135	=	\$8,228,547,817
Total		4,392,257			\$116,330,455,618

Source: CRB Calculations using the 1998 March CPS.

What is the economic benefit in the increased educational attainment of Latinos? The benefits are measured as the difference in wages between the current scenario and the proposed scenario. The projected change in educational attainment would lead to an increase of \$28 billion in aggregate wages.

Table 5

Economic Benefit (after wages - before wages):	=	\$28,110,733,054
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Net Revenues to the Public Sector:

What does a \$28 billion increase in wages mean for the public sector? The public sector would benefit in two ways. First, as the income of Latinos increases, federal, state, and local tax revenues would increase. Second, because of Latinos' higher wages and lower unemployment rates, fewer of them would require social services (e.g., welfare, food stamps, Medi-Cal).

The effect on the largest source of revenue for the State of California, the State Personal Income Tax, is quantified below. The Current Population Survey has information on the amount of state income taxes paid by each individual. It is possible, therefore, to calculate the percent of wages that go to pay the state income tax for California, by level of education. For instance, a Latino without a high school diploma has, on average, 2.4 percent of their wages going to the state income tax.

The table below starts by showing the aggregate net gain in income by level of education. Next, it shows the average state income tax rate for the group. The multiplication of the

two figures produces the third column. It shows the additional taxes that would be collected if the educational attainment of Latinos was similar to that of non-Latinos.

Table 6
**New State Income Tax Revenues
 From the Wages of Latinos**

Education	New Wages	Average Tax Rate ^a	New State Income Tax Revenues
No HS	-\$24,634,427,794 *	2.4% =	-\$581,933,086
HS	\$5,923,918,774 *	2.9% =	\$169,343,119
AA	\$6,171,349,660 *	3.9% =	\$239,002,552
Bachelors	\$24,522,674,641 *	4.6% =	\$1,137,741,490
MS	\$10,384,026,329 *	4.4% =	\$453,809,669
Doctorate/Professional	\$5,743,191,443 *	5.2% =	\$296,208,939
Total	\$28,110,733,054		\$1,714,172,683

^a The percent of wages that go to the state income tax, specific to Latinos.

Source: CRB Calculations using the 1998 March CPS.

Increasing the educational attainment of Latinos by the proposed target increases state income tax revenues by more than \$1.7 billion.

Appendix 2: Short-Term Goal Number One Calculations

Economic Benefits

Table 7
Wage Income of Latinos Recently Out of High School
At Present & Proposed Levels of Educational Attainment

Latinos Recently Out of High School:		119,499				
Education	Average Wage	Present Situation		At Same Level of Non-Latinos		Difference
		% of Workers	Aggregate Wages	% of Workers	Aggregate Wages	
No HS	\$15,268	23%	\$ 418,245,593	10%	\$ 175,496,150	\$ (242,749,443)
HS	20,892	34%	\$ 851,694,273	27%	\$ 667,321,461	\$ (184,372,812)
AA	27,376	26%	\$ 850,112,522	32%	\$ 1,041,493,892	\$ 191,381,369
Bachelors	31,857	17%	\$ 646,280,737	32%	\$ 1,211,199,244	\$ 564,918,507
Economic Benefit:		\$ 2,766,333,125		\$ 3,095,510,746		\$ 329,177,621

Net Revenues to the Public Sector

Table 8
New State Income Tax Revenues
From the Wages of Latinos

Education	New Wages	Average Tax Rate ^a		New State Income Tax Revenues
No HS	-\$242,749,443 *	2.4%	=	-\$5,734,411
HS	-\$184,372,812 *	2.9%	=	-\$5,270,543
AA	\$191,381,369 *	3.9%	=	\$7,411,772
Bachelors	\$564,918,507 *	4.6%	=	\$26,209,671

Total	\$329,177,621	\$22,616,489
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^a The percent of wages that go to the state income tax, specific to Latinos.

Appendix 3: Short-Term Goal Number Two Calculations

Economic Benefits

The table below shows the present and proposed situation for 5 percent of the Latino workers. The last column shows how the benefits are accrued by levels of education. Educating 5 percent of the Latino labor force produces an increase in their annual income of \$1.4 billion.

Table 9
Wage Differences for 5% of the Latinos
Current vs the 5% Goal

Education	Average Wage	Present Situation		5% Goal		Difference
		Workers	Aggregate Wages	Workers	Aggregate Wages	
No HS	\$15,268	98,099	\$ 1,497,810,878		\$ -	\$(1,497,810,878)
HS	20,892	90,224	\$ 1,884,976,070	98,099	\$ 2,049,513,726	\$ 164,537,656
AA	27,376	12,764	\$ 349,426,799	90,224	\$ 2,469,977,884	\$ 2,120,551,085
Bachelors	31,857	13,660	\$ 435,176,083	12,764	\$ 406,618,132	\$ (28,557,950)
MS	44,345	2,691	\$ 119,328,480	13,660	\$ 605,773,183	\$ 486,444,702
Doctorate/Professional	57,135	-	\$ -	2,691	\$ 153,743,730	\$ 153,743,730
Economic Benefit:			\$ 4,286,718,310		\$ 5,685,626,655	\$ 1,398,908,345

Net Revenues to the Public Sector

Table 10
**New State Income Tax Revenues
From the Wages of Latinos**

Education	New Wages	Average Tax Rate ^a	New State Income Tax Revenues
No HS	-\$1,497,810,878	* 2.4%	=\$35,382,421
HS	\$164,537,656	* 2.9%	=\$4,703,528
AA	\$2,120,551,085	* 3.9%	=\$82,124,195
Bachelors	-\$28,557,950	* 4.6%	=\$-1,324,960
MS	\$486,444,702	* 4.4%	=\$21,258,932
Doctorate/	\$153,743,730	* 5.2%	=\$7,929,436
Total	\$1,398,908,345		\$79,308,709

^a The percent of wages that go to the state income tax, specific to Latinos.

Source: CRB Calculations using the 1998 March CPS.

Appendix 4: Short-Term Goal Number Two Cost-Benefit Analysis

A cost benefit analysis requires that the benefits and cost be estimated over time. In what follows, the costs are estimated first and then the benefits.

Costs

The following table shows how the total cost of instruction was calculated. Column (A) is the number of workers projected to go back to school. It shows, for instance, that 98,099 of them will work on their high school diploma at a community college. The annual cost of instruction per student, which includes student fees, is \$3,853. It is estimated that these individuals, on average, will go to school for three years. The total cost of instruction for these 98,099 workers, assuming they go to school three years, is \$1.1 billion. Using a discount factor of five percent⁸ (this assumes that a dollar today is worth more than a dollar tomorrow), the present value of the costs is \$968 million. Summing the last column gives a grand total for instruction related cost of \$3.2 billion.

Table 11
Cost of Instruction Over the Period of Study

Education	5% Goal (A)	Targeted College or University (B)	Annual Cost Per Student (C)	Years of Study (D)	Total Instruction Costs (A x C x D)	Present Value of Instruction Related Costs
HS	98,099	Community College	\$ 3,853	3	\$ 1,133,927,971	\$968,031,208
AA	90,224	Community College	\$ 3,853	3	\$ 1,042,894,743	\$890,316,390
Bachelors	12,764	UC/CSU/Independent	\$ 13,377	5	\$ 853,697,722	\$655,859,187
MS	13,660	UC/CSU/Independent	\$ 13,377	3	\$ 548,193,208	\$467,991,042
Doctorate/	2,691	UC/Independent	\$ 16,291	7	\$ 306,853,541	\$212,148,623
Total	217,438				\$ 3,885,567,184	\$ 3,194,346,450

Per student costs for UC/CSU/ Independent and UC/Independent are weighted averages.

Source: CPEC 1998 (instruction related costs for full time equivalents).

Annual Cost for UC are \$13,972 and for CSU \$9,887 as of 1997-98. The costs for Independent Colleges is \$18,528 for 1996-97.

In addition to the cost of instruction, it is also important to know what the 217,438 persons would have made in income under the current conditions, i.e., if they do not go to school. With Latinos having an average age of 34, they could be expected to work for another 31 years, assuming that they retire at the age of 65. Over this period, the 217,000 Latinos could be expected to earn \$133 billion in wages. Using a discount factor of five percent, the present value of these lifetime wages reduces to \$26 billion.

⁸ A higher than usual discount factor was chosen since over the last thirty years (1967 to 1997) the annual rate of inflation has been 5 percent.

Net Benefits

The table below shows the net benefits.

Table 14

	Undiscounted:	Discounted*:
Benefits Minus Costs:	\$ 20,995,500,377	\$ 7,398,861,005

**Assumes a discount factor of 5.4 percent.*

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