# WORKING PAPER

# Immigrants and the Labor Market

JAMES P. SMITH

**RAND** LABOR AND POPULATION

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The once-again rapidly expanding numbers of immigrants in the American labor market has not escaped the attention of labor economists. In this paper, I deal with two issues concerning immigrants on which labor economists have made significant contributions over the last few decades. The first question concerns what has happened to the skill gap between immigrants and Native-born Americans (see Borjas (1995) and Jasso, Rosenzweig, and Smith (2000)). This 'what happened' question is followed by 'why did it happen' and I will offer my answers to why. The second question concerns what has happened to the education dimension of the skill gap for descendants of immigrants- assimilation across generations. An important form in which this question has been asked is how the recent waves of ethnic immigrants compare with the reality of the generational success of European immigrant experience, a success that has shaped much of mythology surrounding the American immigrant experience.

## Section 1- The Changing Labor Market Quality of Immigrants

Immigrants may not come with much, but they do bring their human capital. Schooling is the most basic index of skill and how much education migrants had when they arrived may be critical in determining their eventual economic success or failure. Immigrants are generally thought to have much less schooling than Native-born Americans do—a disparity that it is often claimed has been growing over time. To see the reasons for this claim, Figure 1 plots trends in the education gap between migrants to the United States and Native-born Americans for selected years between 1940 and 2002.[1] The line with triangles represents the total population over age 24 while the line with squares indicating the data points provides the same comparison for 'recent' immigrants of the same age—that is those who arrived within the last five years, the conventional definition of recent immigrants used by labor economists in a wide variety of applications.

Basically the 'all' line describes changes in the stock while the 'recent immigrant' line plots

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[1] Data for Figures 1-3 were obtained from the six decennial Censuses between 1940 and 1990 and the 1996 and 2002 Current Population Surveys. Recent immigrants are those who came to the United States in the last five years before the Survey. There is no such variable in the 1950 Census, which only identifies immigrant status but not length of stay. The comparison group is always the comparable native-born population. For the precise definition of

trends for the new inflows and the two messages could not be anymore different. Since 1940, mean education levels have of course risen rapidly over time for all groups- by 4.4 years for the native-born, a even larger 5.3 years for all foreign-born and 3.4 years for recent migrants. But it is the education disparity by nativity on which the literature has placed it focus. For the stock—that is the education gap between the typical adult foreign-born person and the typical adult Native-born American in any of these years represented in this figure—the education disadvantage of migrants has actually been declining over time while the schooling gap by nativity was simultaneously rising when one examines only new 'recent' immigrant inflows.

These opposing trends are not a contradiction. The stock of migrants is weighted heavily by the history of the volume and character of past migration flows. The negative age gradient to mean schooling combined with a much older immigrant population than the native-born population due to the long historical stall in migration to the United States before 1960 implies that as some of the older immigrants (many of whom had very little schooling) die off, the mean education of those remaining will rise. This is especially the case when the pace of migration quickens thereby placing higher weight on younger more educated migrants. It is not at all clear why the stock concept is not the more relevant statistic to describe what is happening to the average migrant and native-born person over time. Nor is it even clear why measures of flows only count new entrant inflows while ignoring new exit outflows-older migrants who die off.

Another outflow that may also be quite important but one that is ignored in the concentration on 'recent' immigrants is those recent immigrants from any entering cohort who returned home either permanently or temporarily to the sending countries. It is difficult to gauge the precise magnitude of this effect since other forces are also operating here as well, including continuing schooling advances among recent migrants and the general tendency of education inflation that characterizes even closed cohorts in Census and CPS data over time. However, it is most likely that the migrant outflow is less educated than those who remained in the US. One reason is that the outflow is undoubtedly more concentrated in that

years of schooling in each survey, see the data Appendix.

subset of recent migrants who are undocumented, a less-education group of migrants engaged in more temporary or circular migration.

Thus, even if we ignore the stock-flow distinction, the common use of data on 'recent' immigrants overstates the extent of the labor market quality differences between immigrants and the native-born.[2] First, it ignores the substantial education and skill investments immigrants make post-migration. Second, it does not weight immigrants by the duration of their stay in the United States. Even among new inflows, it is the quality of stayers who should be of more interest. This issue may be quantitatively important. For example, Mexican 'recent' immigrants who entered between 1990 and 1996 in the 1996 CPS had 7.9 years of schooling. In contrast, Mexican immigrants who reported that they entered during those years in the 2002 CPS had 8.8 years of schooling. Focusing only on migrants during their first five years of stay is portraying them at their worse. Moreover, given the growing numbers of undocumented among recent migrants, it is likely that this bias has grown over time so that the improvements in education of stayers within a given immigrant cohort has grown over time.

Data on recent immigrant inflows alone clearly do not accurately describe what is happening to the average quality (as indexed by years of schooling) of migrants compared to the native-born. However, the existing literature has in fact emphasized cohort inflows and I will follow that practice in this paper as well. Perhaps more to the point, no matter whether one uses the stock or inflow of recent migrants, these changes in the education gap may appear small relative to the attention this issue receives in the literature. For example, even if we use only recent migrant inflow as the reference group, the end-point-to-end-point deterioration in the migrant schooling gap was only about a year of schooling.

One question is whether these overall trends are the same for male and female immigrants. To examine this issue, Figure 2 presents data for trends in the schooling gap for male migrants while Figure 3 plots similar data on education deficits of female migrants. The direction of trends in the stocks is quite similar for men and women with a narrowing of the migrant schooling gap compared with the native-

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[2] The same argument implies that ignoring this outflow overstates the amount of labor market wage assimilation that takes place within an entering cohort as duration of stay increases. This should be especially true for Latino and

born. In contrast, among recent migrant inflows, while the slowly expanding education deficit with the native-born characterizes both men and women, the education gap increases at a slower rate among women than among men. In fact, among recent female migrant inflows, the education gap is actually slightly smaller in 2002 than it was in 1970. This is largely because the typical historical advantage new male immigrants have had over new female immigrants has been gradually eroding. By 2002 recent female migrants actually had slightly more schooling than did recent male migrants to the United States—12.4 years of schooling for women compared to 12.2 for men.

If all we knew were these trends in schooling differences by nativity, the expanding skill gap of migrants would be less of a concern.[3] But the main evidence in favor of a growing skill gap comes from wages not schooling. To see this, Figure 4 plots trends in the percent wage gap between recent male migrants and male native-born workers among men between the ages of 25 and 54 years old.[4] Starting at about an 18% wage gap in 1970, the average migrant wage gap grew steadily larger reaching a peak at 30% in 1996. While there apparently has been some recovery in recent years, it remains the case that a story of declining relative skills of new migrants appears to have considerable support from wage data.

However, in addition to any effect changing labor market quality of immigrants may have had on observed labor market outcomes, there are three other forces that should be examined first to assess their impact on the expanding wage gap of recent immigrants. These three forces are age, prices, and illegal

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Mexican immigrants.

[3] An important caveat to that statement is that my description of the schooling gap is limited to mean differences only. Differences in schooling distributions between recent immigrants and the native-born are much bigger than the mean difference alone would imply. For example, consider the one-year difference is mean schooling between recent immigrants and the native-born in Figure 1 in calendar year 2002. That relatively small difference in means camouflages large counteracting differences in the tails of the distribution. To illustrate, 27% of recent immigrants did not graduate from high school compared to 12% of the native born while 14% of recent immigrants had more than a college degree compared to 10% of the native-born. The relatively small difference in means in that year is certainly not to imply that the large differences in the bottom tail are of little consequence and should be ignored. I will argue below that the large difference in the lower tail is largely due to undocumented migrants while the large difference in the upper tail of the schooling distribution is due to legal migrants.

[4] As is usually the case, the focus turns to men only when wages and labor market data are used. Bringing in women raises many complicating issues about labor force participation and the selectivity of the wages based on labor force participants only. Income is defined as wage and salary income. Percent wage differentials are computed as the natural lns of the ratio of the arithmetic means of recent immigrants compared to the native-born. All male recent immigrants are compared to all male native-born, both between the ages of 25-54 years old. See the data appendix for details on the construction of weekly wages.

immigration.[5]  I will deal with each one of them in isolation to determine how much of the trend in the recent immigrant wage gap each can explain.

The first of the three forces is age.  Over the last 60 years, Figure 5.a documents there have been large changes in the age disparity between immigrants and the native-born.  In 1940 the average migrant were actually older than the typical native-born American—today they are much younger.  This chart shows that for all migrants as well as for recent migrants there has taken place a steady widening of the age gap between the native-born and foreign-born—for example over the full span of years represented in this chart this age gap for recent migrants has expanded by more than six years.

Two distinct demographic forces have acted to expand the age gap between migrants and the native-born over the last fifty years.  First as the pace of immigration quickens, the average migrant necessarily becomes younger.  Second, the aging of the baby boom cohorts has made the typical native-born in the workforce older.  Given the well-established curvature in age earnings profiles, this growing age gap by nativity affects the observed average wage gap of immigrants.  While one could argue that age is simply another dimension of skill, I think that an increasing immigrant wage gap simply due to fact that American workers are getting older or immigrants younger is not what we should mean by an expanding skill gap of immigrants.

To age adjust the time series wage gap between recent migrants and the native-born, for men between the ages of 25 and 54 I estimated separately for the Native-born and for recent immigrants a series of year specific standard Mincerian ln weekly wage equations with years of schooling and an age quadratic as controls.  In the recent immigrant models, ethnic dummies for European, Asian, and Latino ancestry were also included.  Using the estimated quadratic age profiles, the ln weekly wages of both the

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[5] One issue that has received considerable attention in the recent literature on the racial wage gap concerns the importance of the exclusion of the institutionalized population from the CPS files.  For the age groups I am analyzing the incarcerated population comprises most of those who are institutionalized.  However, this is most likely to be a far less serious issue among immigrants.  For example, among male prison inmates between the ages of 18 and 54 years old in 1991, 5.4 % were non-citizens compared to their about 7% representation in this subgroup of the population (see Table 8.6 Smith and Edmonston, 1997).  In a similar vein, using the 1980 and 1990 Censuses, Butcher and Piehl (1997) report that immigrants are much less likely to be institutionalized than the native-born are.  Their table 2 reports for example that in 1990 rates of institutionalization for men ages 18-40 were 1.5% for

native born and recent migrants were then adjusted in each year represented in Figure 5.b so that the ln wages of both groups would be evaluated at the same age. The age I chose was thirty-eight since it is close to the age of the current average male native-born worker. These age adjusted ln wages are the data used in Figure 5.b.

The results of this age adjustment on the recent migrant wage gap are displayed in Figure 5.b This age adjustment alone not only dampens the expanding wage gap of recent immigrants since 1970, it leaves us at a point in 2002 that is not all that different than where we started in 1970.[6]

While age is one factor leading to an increasing migrant wage gap, it is certainly not the only one. Another concerns the effect of changing prices. Wages are the product of prices and skills and we should always be wary of assigning all observed wage trends to skills. This is particularly the case over the last thirty years and especially so in this application where labor economists have convincingly established that skill prices have changed a great deal over the period in question (Katz and Murphy 1992, Murphy and Welch 1992).

The big price movement involved the rapidly expanding skill price of labor. Starting in the mid 1970s and continuing with considerable force throughout the 1980s and never adjusting back much since then, real wages of those at the top of the wage distribution have risen rapidly relative to those toward the bottom of the wage distribution. Figure 6.a illustrates this phenomenon by showing what has happened to real wages between 1970 and 2002 at each percentile of the native-born male wage distribution. While median wages were roughly constant in real terms, the gap between real wages at the $90^{th}$ and $10^{th}$ percentile increased by almost 40 percent over this period.

When two populations start off at very different initial conditions in terms of their relative placement of their real wage distributions, this type of changing wage structure can have quite large impacts on the subsequent repositioning of the relative placement of different groups in the wage

immigrants, 2.2% for the native-born and 8.1% for native-born Blacks.

[6] Borjas (1995) also does an age adjustment for wage trends for recent immigrants and finds little effect. But as Figure 5.a shows this is the time period when the trends in differences in ages between the native-born and recent immigrants are quite small.

distributions (Juhn, Murphy, and Pierce, 1993).  Figure 6.b documents that the starting points of the two

populations of interest—the native-born and recent immigrants—were quite different in 1970.  Using data

from the 1970 Census, this figure maps percentiles of the weekly wage distributions of recent male

migrants onto the weekly wage distribution of native-born men.  For example, in 1970 the weekly wage

of the median recent male migrant was about the same as the weekly wage of a native-born male at the

30th percentile of his wage distribution. Similarly large location differences exist throughout the two

weekly wage distributions.

Given these large differences between recent immigrants and the native born in 1970 and in light

of the subsequently large increase in the skill price of labor by wage percentiles in 1970, the wage gap

between these two populations would have expanded even if their relative skill distributions had remained

the same.  With this in mind, I eliminated from the observed time series trends that component of the

increase in the migrant wage gap that was a consequence of the rising price of skill since 1970.[7]

Figure 7 documents what would have happened to the recent migrant wage gap over the last

thirty years if skill prices had not risen so dramatically.  Similar to the results from the age adjustment

discussed earlier, taking out this 'price effect' significantly dampens the increase in the immigrant wage

gap. In fact we are left with a recent migrant wage gap in 2002 that is no different than it was in 1970.[8]

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[7] These wage inequality adjustments were done for men between the ages of 25 and 54 years old.  Using 1970 as the
base year, the first step involved computing at each percentile of the native-born male weekly wage distribution the
ratio of real weekly wages in each subsequent year relative to the same wage percentile in 1970.  In the second step,
in each year percentiles in the weekly wage distributions of recent foreign-born immigrants were matched to
percentiles of weekly wages of native-born men so that at each percentile weekly wages were the same for both
groups.  The comparable native-born wage percentile wage growth tells us what would have happened to immigrant
real weekly wage at ever wage percentile if recent immigrants were treated the same as the native-born in terms of
real wage growth as a consequence of a rising skill price.  Mean wages of this hypothetical weekly wage
distribution of recent immigrants was used to adjust the data to obtain the wage inequality adjusted wage gaps in
Figure 7.
[8] Similar conclusions were reached by LaLonde and Topel (1992) and Butcher and DiNardo (2002).  Using only the
1970 and 1980 decennial Censuses, LaLonde and Topel adapt a similar analytical strategy to that used in this paper.
They report that for low skilled immigrant groups—those with 10 years of schooling or less or Mexican
immigrants—rising inequality did 'affect the relative wages of immigrants in some cases by a substantial amount.'
Similarly, using constructed hourly wage data from the 1970 and 1990 decennial Censuses, Butcher and DiNardo
apply the 1990 price structure to the 1970 data.  They report that there was substantial overlap in the two wage
distributions of recent immigrants when they faced the same prices.  More specifically, they state that at the mean
for men, 50% of the change between 1970 and 1990 is due to changing wage structure, a number quite consistent
with the data presented in Figure 7.  For a contrary view, Borjas (1995) reports that only one-sixth of the change

The final factor I consider involves the impact of illegal immigration. Labor economists have been mostly silent on the distinction between legal and illegal migrant flows in part because our main data sets used in analyses—the CPS and Census-are unable to distinguish between them.

But legal and illegal migrants turn out to represent very different populations. One way that they differ is documented in Table 1—their ethnicity. Among recent legal immigrants, Asians are the most numerous comprising almost forty percent, followed by Latinos with less than a third. 57% of legal recent migrants arrived from Asia and Europe where the average skills of migrants are quite high. In very sharp contrast more than three quarters of all undocumented migrants are Latinos and about 60% are from a single country—Mexico. While there certainly are undocumented migrants amongst them, most recent Asian and European migrants are in fact legal and the majority of recent Latino migrants are not. Given the well-established labor market skill differences between these groups, country of origin differences alone would imply large differences in skills and wages between legal and illegal migrants.

To show how big those differences are, I use data from two sources. The first is the New Immigrant Survey-Pilot (NIS-P), a nationally representative sample of new legal migrants who received their green cards in 1996. Based on probability samples of administrative records of the U.S. Immigration and Naturalization Service (INS), the NIS-P links survey information about immigrants' pre- and post-immigration labor market, schooling, and migratory experiences with data available from INS administrative records including the visa type under which the immigrant was admitted (see Jasso, Massey, Rosenzweig, and Smith (2000) for details). The second is the 1996 CPS, which represents all recent migrants (legal and illegal alike). With these two surveys from the same calendar year, we are able to describe three distinct populations—all recent migrants from the CPS; legal migrants only from the NIS-P; and the residual group- the difference between them, recent undocumented migrants.[9]

Table 2 documents mean education of these three groups. Education means for legal migrants are provided in the 2nd column while CPS based mean schooling levels for two definitions of all recent

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between 1970 and 1990 is due to rising inequality.
[9] More precisely, the residual group includes temporary legal migrants- that is those who reside in the US legally

immigrants are listed in the 4<sup>th</sup> and 5<sup>th</sup> columns.  The implied average schooling of the not legal

immigrant group is in the third column. This table documents two key facts.  First, on average legal

immigrants have much higher levels of schooling than we would think by only looking at the recent

foreign-born population in a CPS or Census file.  And second, if education is a reasonable guide, recent

legal immigrants are far more skilled than recent undocumented migrants are.  Nor are these skill

differences produced only by the country of origin of immigrants.  Even among Latino immigrants, the

sub-group of them who came to the United States legally has much more schooling than the sub-group of

them who arrived as undocumented migrants.

Given these large differences between the legal and undocumented populations, the question

remains about what impact undocumented migrants may have had on trends in the immigrant wage gap.

This following formula tells us what for secular changes in the relative wage of all recent migrants (which

can be observed in the CPS and the Census files) relative to the wage of legal migrants, which is what we

would like to know.

$$\Delta\left(\frac{\text{Wage of Recent Foreign - Born}}{\text{Wage of Recent Legal Immigrants}}\right) = \Delta\ell(1-\gamma) + (1-\ell)\Delta\gamma$$

where $\ell$ is the fraction of immigrants who are legal and $\gamma$ is the wage rate of illegals to legals.

Two parameters provide the answer to this question- levels and changes in levels in both the

fraction of migrants who are undocumented and the wage gap between legal and undocumented migrants.

What do we reasonably know about these two parameters?

Fortunately we know much more than we used to know about them.  Consider first the wage

difference between legal and illegal migrants.  The enormous differences in ethnicity and in education

between these two populations documented in Tables 1 and 2 suggest that undocumented migrants earn

much less than legal migrants do.  For example, the two and a year difference in mean education between

illegals and legals with an eight percent return to schooling would by itself imply that wages of illegals

would be twenty percent less than legals.  Similarly, if legals and illegals within the same ethnic group

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but on a temporary visa. However, the dominant group in the residual category is the undocumented.

were paid the same, the differences in ethnic distributions would indicate that illegals would earn 70% of the wages of legal migrants. These two hypotheticals both understate the actual wage disparity since even within the same education class or ethnic group undocumented migrants surely earn significantly less than their legal counterparts.

Additional evidence is provided in Table 3, which shows earnings in the home country as well as in the United States for a random sample of legal migrants who came in 1996. These migrants are separated into those with prior illegal experience and those without any prior illegal experience in the US. The wage disparity between these two groups is quite large. In their jobs in the United States, in this sample undocumented migrants earned 74% as much as legal migrants. Once again this wage disparity is most likely an understatement of the wage gap between all recent legal and illegal migrants. While these legal immigrants may be representative of all recent legal recent migrants, the undocumented migrants in this sample are quite unique in that they eventually made the transition to legal status, a process that favors the more skilled. Those undocumented migrants who never transited to legal status (the majority) most likely earned less than those who successfully made that transition.

For the purpose of the simulation of the impact of illegal migrants on wage trends on migrants, I will use the assumption that undocumented migrants earn 60% what legal migrants do. Moreover, I will also assume that this wage ratio has not changed over time making the second term in equation 1 equal to zero. This assumption will understate the extent to which the wages of legal and illegal migrants grew apart over the last thirty years since it is far more likely that the wage disparity between legals and illegals grew in light of the pro-skill bias in changes in the legal immigration policy (Jasso, Rosenzweig, and Smith (2000)).

What about the other parameter—the changing fraction of migrants who are undocumented? Over the last 30 years, there has taken place a quite dramatic increase in the fraction of new immigrants who are illegal. Using data from Passel and his associates (Passel (1999), and Passel et al. (2004)), Table 4 documents the changing fraction of undocumented migrants in the total recent immigrant

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population since 1970.  For example among recent migrants, 5% were illegal in 1970—in 2002 almost half of all recent immigrants are undocumented.  It is important to note that these are estimates of the fraction undocumented migrants who appear in the CPS and the Census files.

Given the magnitude of this trend in rising fractions of undocumented migrants, Figure 8 provides an estimate of what has been happening to the wage gap of legal migrants only.  This is a very different type of story than that observed for all recent immigrants.  Instead of an expanding immigrant wage gap, the last thirty years the wage gap of new legal migrants has been becoming smaller. This should not be surprising since the main revisions to immigration law governing legal immigrants during the last few decades have had a strong pro skill bias (see Jasso, Rosenzweig, and Smith (2000) for details). Similarly, using INS data on new legal migrants alone Jasso, Rosenzweig, and Smith (2000) demonstrate that wages of legal immigrants have been rising relative to those of native-born Americans.

The education gap between migrants and the native-born can also be adjusted for the changing fraction of migrants who are illegal.  To do so, education of legal migrants is obtained from the 1996 New Immigrant Survey Pilot Survey.  Assuming that the education gap between undocumented and legal migrants has remained constant over time (a conservative assumption for this purpose), Figure 9 describes trends in the education gap between legal immigrants and native-born Americans.  Instead of an increasing gap, there apparently is no trend at all.  Since the schooling gap between legal and illegal was almost certainly growing over this period, it is most likely that there was a small widening of the education gap with native-born Americans, but one that tilts in favor of legal immigrants.

What can be concluded from all this?  First the evidence in favor of a widening skill gap between immigrants and the native born may not be as strong as many of us including this author used to think (Smith and Edmonston, 1997).  While wage data show a pronounced fall in the relative wages of recent immigrants, significant independent contributors to that decline are due to a widening age gap or the increasing price of skill.

Moreover, when our attention shifts to legal migrants the evidence seems if anything the reverse.

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Legal migrants appear on average to be as least as skilled as the average American worker, and they are at a minimum keeping up with native-born Americans. The distinction between trends for legal and undocumented migrants is important since the policies that produce the flows are quite different. Explanations for the declining labor market quality of immigrants have often focused on ethnicity (the increasing numbers of Hispanics) and see it as a consequence of changes in legal immigration laws. This analysis argues instead that any decline largely reflects the increasing numbers of undocumented migrants who are largely Latinos. Getting this straight is important not only for understanding our migration history, but also for not confusing the policy response. For example, if this analysis is correct reducing the flows of legal immigrants due to a concern about the declining relative labor market quality of immigrants could have the opposite effect. This is both because we have restricted the more skilled component of immigration, but also likely encouraged additional undocumented migration (the less skilled component).[10]

## 2. Immigrant Education and Generational Assimilation

Successful economic mobility across immigrant generations was a deeply held belief about American immigration history. However, the actual documentation of the speed at which different immigrant ethnic groups were able to secure a better economic lot for their heirs is under renewed debate.[11] The conventional and current view is that in terms of generational assimilation the waves of European immigrants who arrived at the end of the 19th century and the beginning of the 20th century were an enormous success. Some of the progeny of these European immigrants have become CEOs of major corporations, professors at the leading American Universities, and Presidents of the United States.

The success of more recent waves of immigrants, which were dominated by Asian and especially

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[10] See Jasso, Rosenzweig, and Smith (2000) for details about this type of substitution.

[11] Some intriguing recent work by labor economists has focused on the 'intergenerational assimilation rate',- one minus the coefficient estimated from a regression of children on parents' schooling see (Card et al 2000) or Borjas 1994 for some good examples. These issues are important, but even if the estimated education coefficients were the same for all ethnic immigrant groups, one group could have larger education gains across generations through the constant term.

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Latino immigrants, is often seen as more problematic (Glazer and Moynihan, 1963), Bean et al, 1994). Trejo (1997)). This concern is particularly strong with Latino immigrants where the existing demographic and economic literature adopts a quite pessimistic tone about the extent of generational progress within the Hispanic population (Huntington 2004). In this section, I will document the differential ability of European, Asian, and Hispanic immigrants to secure a better economic lot for their children and grandchildren. In an earlier paper, I presented some generational progress for Hispanic men (Smith, 2003). This methodology is extended here to the other two main immigrant groups- Europeans and Asians and, for all three ethnic groups, data are also presented for women.

One problem in studying generational assimilation concerns the ambiguity in defining generations and ethnicity across different Census and CPS files. In this research, generations are defined as follows: 1st generation—born outside the U.S.; 2nd generation—at least one parent born outside the U.S.; 3rd generation or more—both parents born in the U.S. Thus, when reference is made to the 3rd generation, due to the form in which the data come it actually includes all generations beyond the second.

Due to conceptual and data reasons, defining ethnicity is more difficult. For example, there were two ways that someone was identified as Asian. The first method used the race question regularly asked in the Census and the CPS and counted all those who self-identified as Asian in response to that question. I then defined the specific Asian generation by place of birth-if foreign-born they were first generation Asian, if one parent was foreign-born they were second generation Asian, and if neither parents nor the respondent was foreign-born they were counted as third generation Asian. Alternatively, for the first and second generation only, I used a specific list of Asian countries of birth to assign Asian ancestry. Fortunately, the overlap between these two methods was very large. For example, using the 1996 CPS, 94% of the foreign-born who said that they were of Asian race were also born in the list of Asian countries used and 90% of those who were born in the selected Asian countries also said that their race was Asian. The analyses reported here were simultaneously conducted for both the race and country definitions of Asian and none of the conclusions were affected. In the tables below, I use country of birth

to define the first two Asian generations.

Similarly, determining 1$^{st}$ and 2$^{nd}$ generation Hispanics was relatively straightforward since place or birth or self-reported ethnicity is available and either can be use to assign Hispanic ethnicity.[12] The main problem concerns the third generation where the type of information available to assess if someone was of Hispanic descent differs across the various Censuses and CPSs. For example, the 1940, 1950, 1960, 1970 Censuses asked respondents whether they had a Spanish surname.[13] As an additional source of Hispanic ancestry, the 1940, 1960, and 1970 Census asked if Spanish was spoken in the home. In all other data sources used, I defined Hispanic ethnicity in the third generation by respondent self-identification. In all analyses of Latinos reported in this section, Puerto Ricans are excluded given their special status, which technically excludes them as immigrants.

Finally, when the race question was used to categorize, Europe was the residual category. That is, one was of European ancestry if one did not claim being Hispanic, Asian, Black, or Native-American. The generations were then assigned with the same algorithm used for Asians. Alternatively, a specific list of countries of birth of a respondent or his/her parents were used to say that one was a first or second generation European. By necessity, third generation Europeans always had to be defined using the residual race method, but this is not much of an issue given immigration history to the United States. Once again the overlap in the two methods were quite high- 95% of those from the country list were also defined as Europeans using the residual race method and 85% of those on the residual race method had a country of birth on the European list. Once again, the substantive conclusions of this paper did not depend

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[12]Once again, there is little practical difference between these two methods. For example, the 1980 Census contains both self-identification and country of birth questions and the correspondence between these two methods is extremely high. For example, in 1980, 97 percent of those born abroad who self identified as Hispanics were born in the list of countries I used to identify Hispanic immigrants. Once again, in this section, the list of countries was used to define 1$^{st}$ and 2$^{nd}$ generation Latinos.

[13] The 1960 Census asked whether a person in one of the five Southwestern States (Arizona, California, Colorado, New Mexico and Texas) had a Spanish surname. When the Spanish surname questions were asked for all states in 1950, 92 percent of all Mexicans in the third generation lived in these five southwestern states.

on which method of assigning ethnicity was used for Europeans.[14]  The country list is used in tables that

follow for the 1$^{st}$ and 2$^{nd}$ generation.

No matter which procedure is used, constructing this generational data requires that information

on country of birth exists for both respondents and their parents and that some method is available for

identifying ethnicity.  These requirements are met by the 1940-1970 decennial Censuses inclusive, but

after 1970 generations beyond the first were not distinguished in the Censuses.  Because of this limitation,

other sources had to be used to obtain generational data for the last two decades.  Starting in 1994, March

Current Population Surveys incorporated a number of changes that made these surveys much more useful

for immigrant research.  In particular, questions were added concerning immigrant status (and that of the

parent), the number of years since immigration, and ethnicity.  While containing much smaller sample

sizes than the decennial Census files, these recent CPS innovations make that data useful for the more

recent periods.  For this research, I use an average of the 1994, 1995, 1996, 1997 CPSs to represent the

mid 1990s and an average of the 1999, 2000, 2001, and 2002 CPSs to represent 2000.

It is the alleged inability of successive Hispanic generations to close their schooling gap that led

to pessimism about generational assimilation.  To illustrate where that pessimism comes from, Table 5

documents the pattern of education accomplishments by immigrant generation that one would obtain from

a typical cross-sectional survey, in this case the 1996 Current Population survey.  The first two panels list

education levels for three generations of Hispanics, the next two panels the corresponding information for

those of European descent, while the last two panels contain the generational schooling data for Asians.

For each of these three ethnic categories, mean education by generation is first presented for men

followed by a parallel set of generational data for women.  Any other CPS or Census year would show

basically similar patterns by generation to those displayed in Table 5.

If one considers only the cross-sectional schooling levels by generation for Latino men and

women, one can see the origins for the pessimism about the alleged inability of successive Hispanic

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[14] Since there was no way of excluding them from the third plus generations, Canadians were included in the list of
European countries for the first two generations.  Excluding Canadians had little effect on the results.

generations to close their schooling gap.  For both men and women, Latino education levels do rise by almost three years between the 1st and 2nd generation, but in every age group listed the mean education of the third generation is actually less than that of the second.  Moreover, across all three generations, Latino schooling gains among men were only about two and one half years and for Hispanic women only 2.1 years of schooling.  Since these generations span at least 50 years, at this pace generation progress could rightly be labeled slow, especially given beliefs about the considerable progress made by the children and grandchildren of the European immigrants and the common perceptions about the educational accomplishments of Asian migrants.

Cross-sectional data such as that contained in Table 5 have been repeatedly used to evaluate generational assimilation among Hispanics.  Of course, data arrayed as in Table 5 are methodologically inappropriate and have little to do with generational assimilation.  The easiest way of seeing this is to examine the patterns among Europeans, the gold standard of generational success among American immigrant groups.

Not surprisingly, Table 5 confirms the well-established fact that mean education of contemporary male and female European immigrants are far in excess of those of recent Hispanic immigrants.  For men (women), the typical European immigrant had about four years (three and one half) more schooling than the average Latino immigrant.  However, for our purposes, the key patterns in Table 5 concern the implied generational increases in education among Europeans.  If we judged only by these cross-sectional patterns as the educational history of Hispanics is often assessed, the generational story for Europeans would actually be more pessimistic than it is for Latinos.  To illustrate, the total mean schooling increase across all three generations in Table 5 is less than a year and for European men (the supposed comparative immigrant success story) and less than half a year among European women.

The story for Asians is if anything more dramatic.  While mean schooling among contemporary migrants is even higher than for the Europeans, average education increases by only one-twentieth of a year between the first and third generation Asian men.  If cross-sectional education levels by generation

had any validity as a measure of generational progress, ironically it is Latino immigrants who would be judged as faring the best.  But what the European and Asian data are telling us is that there is something seriously wrong with using data arrayed in this way to draw any conclusions about generational assimilation.

These data do not speak to inter-generation assimilation since we should not be comparing 2nd and 3rd generation workers of the same age in the same year.  For example, the 40-year-old, 3rd generation Asians in Table 5 are not sons of 40-year-old 2nd generation Asian men in the same year, and certainly not the grandsons of the 1st generation immigrants who were 40 years old in the same year.  To correctly evaluate generational assimilation, the data must be realigned to match up the children and grandchildren of the each set of ethnic immigrants.

To obtain a single estimate for each five-year birth cohort cell, mean education by birth cohort and generation across all Census and groups of CPS years were averaged (that is the 1994-1997 CPSs form one group and the 1999-2002 CPSs another group).  To track generation progress, the data in Tables 6 through 9 are indexed by immigrant generation birth cohorts.  With an assumed 25-year lag between generations, education of the 2nd generation refers to 2nd generations born 25 years after the birth-years indexed for immigrants in the first column.  A similar 25-year offset is assumed between the 3rd and 2nd generations.

To the extent that schooling is an adequate proxy for labor market quality, reading down the column for the first generation is another way of monitoring secular changes in the 'quality' of immigrants.  Among both Asian and European immigrants, there is a steady improvement over time in the average education of immigrants.  The rate of improvement seems somewhat higher among Asians compared to Europeans and slightly higher among women compared to men.  While there exists secular increases in schooling amongst Latino immigrants as well, these increases are definitely smaller than those of either European or Asian migrants (for either sex), a disadvantage that is larger among more recent birth cohorts of migrants.

Reading across any of the rows in Tables 6-9 documents the extent of education advances made by the descendents of immigrants.[15] This index of education generation progress are much higher and far more plausible than those implied by the cross-sectional comparison in Table 5. To take the 1905-1909 immigrant birth cohorts as an illustrative example, the increase in mean years of schooling across three generations was 4.6 years for European men and 6.6 years for Asian men. For the same birth cohort, the comparable male education advances was 7.5 years among all Hispanic men and 8.2 years among Mexican males. Similarly this birth cohort, European women achieved a 5.1 years of schooling increment, Asian women a 5.3 year advance while the mean education of Latinas improved by 6.8 years and that of Mexican women by 7.6 years.

To generalize across all birth cohorts, Fig. 10 (for men) and Fig 11 (for women) highlight the relative educational progress across generations of the three ethnic groups. In these graphs, the vertical axis represents the number of years of additional schooling between the generations while the horizontal axis indexes the year of birth of immigrants. As is apparent from the previous tables arrayed by generation, these educational advances can sometimes be measured across all three generations and sometimes only across two generations because the story of the third generation is not yet complete. However, whether measured across all three or just two generations and for men and women alike, the education advances made by Latinos are actually greater than those achieved by either Europeans or Asian migrants. There is certainly no evidence from these data that Latinos have lagged behind these other large immigrant groups in their ability to transmit education accomplishments to their children and grandchildren. [16]

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[15] Since these are blended means across as many as five surveys, the underlying sample sizes tend can be quite large. Consider the critical cohorts where all three generations are present. For example, among European men the smallest first generation sample size is 3,700 and the largest is over 10,000. Sample sizes are even larger in the second and third generation. For Hispanic males across the same cohorts, first generation sample sizes are as low as 181 and has high as 1,026. Once again sample sizes are larger for the second and third generations. Sample sizes are lowest for Asian immigrants, ranging from about 100 to about 500 for these cohorts. Given the regularity of the patterns in these tables, these sample sizes appear to be more than sufficient.

[16] The interesting debate between Borjas (1994) and Alba et al (2001) uses literacy as a first generation measure and education as the third generation measure. They estimate a regression between group literacy rates in 1910 and third generation mean education in 1986-1994. Using this metric, they both suggest that intergenerational progress was

This stronger educational transmission among Latinos between the 1st and 2nd generation should not be surprising since these Latino immigrants who have relatively low levels of schooling are sending their children to American schools where the norm is the completion of high school. When comparably educated European immigrants sent their children to American schools many decades earlier, the education completion norms at that time were not as high.

However, even when I examine the education transmission between the 2nd (children of immigrants) and 3rd generation (grandchildren of immigrants), the size of transmission at a minimum does not indicate that Latinos lag behind other immigrant groups. For two reasons, these data tend to understate the progress made by Latinos relative to other groups and to overstate the differences in educational accomplishments that remain in the third generation. As mentioned earlier, by necessity the third generation refers to all generations beyond the second. This tends to understate the relative educational advances of Latino immigrants between the second and third generation since a larger fraction of Latinos in the third plus group (compared to Europeans) will actually be members of the third generation. In contrast, many of the Europeans will be members of generations well beyond the third and unless all generational progress stops at the third generation, this will further increase their education levels.

The second reason why the educational advances of Latinos are understated at least relative to Europeans is that as Latinos intermarry and assimilate across the generations, some subset of them will w stop reporting their Latino ancestry. There is some evidence that this leakage out of Latino ancestry is positively correlated with education so that the gains in education across generations are biased downwards (Duncan and Trejo, 2005)

This more positive reading of the history of Latino immigrant education advances across generations has some cautions attached to it. First some care has to be exercised in assessing rates of progress across generations and the use of labels of what is fast and slow. Complete elimination of all

less for Mexicans than for Europeans in that Mexicans lie below the fitted equation. But literacy is highly correlated with low levels of education, so that even if improvements in schooling across generations were much

economic and educational differentials by the third generation would take a half-century and another generation alone would extend it to seventy-five years.  Second, the past does not have to repeat itself. The grandchildren of prior immigrants, including Hispanic immigrants, have been successfully integrated in the economic mainstream of America because the schools they attended apparently did their job.  The schools that today's Latino immigrants attend may have greater challenges due to much larger concentrations of immigrants in the schools, difficulties in communication across several competing dominant languages, and the possibility of withdrawal of support from the non-immigrant White middle class as the schools of immigrants become more isolated from the rest of the community.

**Conclusions**

This paper deals with a number of issues about immigrants to the United States and their education.  In part reflecting the reasons why they come in America, immigrants are more highly represented in both the lowest and highest rungs of the education ladder.  On average immigrants have less schooling than the native born, a schooling deficit that reached 1.3 years in 2002.  Perhaps as important as the average difference between immigrants and the native-born population, there is considerable diversity in the schooling accomplishments among different immigrant sub-groups.  The education of new European and Asian immigrants is higher than that of native-born Americans, while the typical Latino immigrant continues to trail the native-born by about four years of schooling on average.

The education gap of new recent immigrants did rise modestly over the last 60 years.  This increase was higher among men than among women and is entirely accounted for the increasing fraction of immigrants who are illegal.  Legal immigrants appear to have about the same amount of schooling as native-born Americans do, and in the top of the schooling hierarchy have a good deal more.  Finally, I find that the concern that educational generational progress among Latino immigrants has lagged behind other immigrant groups is largely unfounded.

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higher among Mexicans one would observe lower education levels of the third generation with low literacy rates.

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**Data Appendix**

In this data appendix, I describe how the principal variables in this paper were defined in the various data sets that were used.

**Years of Schooling**

1940 Census: Years of schooling was defined by the highest grade of school completed and the value of five years or more of college was assigned a value of 17.5.

1950 Census: Years of schooling was defined by the highest grade attended from which one year was subtracted if the respondent was still attending school. Five years or more of college was assigned 17.5. This value as well as the one used in the 1940 Census was obtained by examining the distribution of schooling beyond college in the 1960 Census.

1960 and 1970 Censuses: Years of schooling was defined by the highest grade attended from which one year was subtracted if the respondent was still attending school. Six or more years of college was defined as 18.5.

1980 Census: Years of schooling was defined by the highest grade attended from which one year was subtracted if the respondent was still attending school. eight or more years of college was assigned the value 20.5.

1990 Census and 1994-2002 Current Population Survey (CPS): In the 1990 Census and beginning in 1992, the CPS changed its education question from years of schooling to educational attainment categories. Taking advantage of the CPS practice of rotating households into and out of the survey, I matched people who responded to the 1991 survey with the same people in the 1992 survey by household id, person line number, race, ethnicity and age. I then calculated the mean of the years of schooling reported in 1991 by the educational attainment categories used in 1992 for this matched sample. These means were used to assign the values within the 1990 Census and post 1992 CPS education categories.

**Weekly Wages**

Weekly wage data are obtained from the 1970 to 2000 decennial Censuses. In addition, a combination of the 1995-1997 CPSs and the 2001-2003 CPSs are used to produce estimates for 1996 and 2002. Weekly wages are calculated as annual income divided by weeks worked. The sample consists of men 25 to 54 years old who did not live in group quarters. A number of additional sample restrictions were imposed. I excluded men (1) who worked less than 50 weeks in the previous year and who were now attending school; (2) who were in the military; (3) who were self-employed or working without pay if they were not employed in agriculture; (4) whose weekly wages put them below the following values: 1970 = $10.00, 1980 = $19.80, 1990 = $33.82 1995,1996,1997,2000,2001,2002= $40.00; (5) whose computed weekly wages put them above the following values: 1970 = $1250, 1980 = $1875, 1990 = $3202 1995=$3500 1996 = $3550 1997 = $3600 2000 = $3850 2001 = $3900 2002 = $3950; 6) who were in the open-ended, upper income interval and who did work at least 40 weeks last year.

The Census and CPS all contain open-ended upper income intervals. The means of these top codes were calculated assuming that the upper part of the income distribution followed an exponential distribution and the following values were assigned; 1940 (5,000) = 8,900; 1950 (10,000) = 22,500; 1960 (25,000) = 42,500; 1970 (50,000)= 80,000; 1980 (75,000) = 115,000, 1990 (140,000) = 195,000. The CPS imputed top codes were used in that data**.** In the 2000 Census, respondents with wage and salary income equal to 175,000 and above were assigned the state mean for their state of residence based on all

people in that state with wage and salary income equal to 175,000 and above.

Weeks worked were coded into broad intervals in the 1960 and 1970 Censuses. The following within interval means, derived from the 1980 Census, were assigned- 1-13 = 6.5; 14-26 = 21.73, 27-29 =33.08; 40-47 = 42.67; 48-49 = 48.29; 50-52 =51.82. In the other Census, years we used these intervals or the continuous value of weeks worked and the results were basically identical. In light of this, I used the continuous weeks measure in the CPS files.

Percent weekly wage differentials are then computed as the difference in the natural lns of the ratio of the arithmetic means of recent immigrants compared to the native-born.  All male recent immigrants are compared to all male native-born, both between the ages of 25-54 years old.

Table 1
Country of Origin Distribution of "Recent Immigrants" in 1995
(% distribution)

|  | Legal | Undocumented |
|---|---|---|
| Europe | 19.1 | 4.3 |
| Asia | 38.3 | 11.6 |
| Latin America | 31.2 | 76.5 |
| Mexico | 8.9 | 59.8 |
| Other | 11.4 | 7.5 |

Source:  Passell 1999.

Table 2

Education Levels of Recent Male Immigrants—Legal and All Recent Foreign-Born

| Place of Birth | | | Foreign Born | | Native-Born |
|---|---|---|---|---|---|
| | Legal | Not Legal | CPS < 3 years | CPS < 5 years | |
| Average Education (Years) | | | | | |
| All | 12.64 | (10.79) | 12.33 | 11.73 | 12.99 |
| All Hispanics | 10.12 | (6.90) | 8.99 | 8.41 | 11.52 |

Note: Recent Legal Immigrants obtained from NIS-P. Recent Foreign Born are obtained from the 1996 CPS. These immigrants came either less than 3 years ago (4th column) or less than 5 years ago (5th column).

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Table 3


Comparative Skills of 1996 Legal Immigrants

|  | No Prior Illegal Experience | Prior Illegal Experience |  |
| --- | --- | --- | --- |
| Schooling | 13.0 | 10.5 |  |
| Male Earnings |  |  |  |
|   Country of Origin | $17,059 | $7,513 |  |
|   USA | $26,359 | $19,566 |  |

Source:  New Immigrant Survey Pilot Survey

Table 4
Estimated Fraction of "Recent Immigrants"
Who are Undocumented

| Year | Percent |
|------|---------|
| 1970 | 5 |
| 1980 | 28 |
| 1996 | 40 |
| 2002 | 45 |

Source:  Jeff Passel.

Table 5 Immigrant Education by Generation

| | Age | | | | |
|---|---|---|---|---|---|
| | 25-30 | 31-40 | 41-50 | 51-60 | All |
| **Hispanic Male Education** | | | | | |
| First | 9.99 | 9.49 | 9.59 | 7.78 | 9.27 |
| Second | 12.98 | 12.60 | 12.97 | 11.99 | 12.14 |
| Third | 12.56 | 12.26 | 11.98 | 11.16 | 11.63 |
| **Hispanic Female Education** | | | | | |
| First | 10.07 | 9.79 | 9.45 | 8.53 | 9.27 |
| Second | 13.24 | 13.49 | 11.99 | 10.42 | 11.70 |
| Third | 12.57 | 12.11 | 11.77 | 10.29 | 11.34 |
| **European Male Education** | | | | | |
| First | 14.34 | 14.08 | 14.18 | 13.03 | 13.28 |
| Second | 14.16 | 14.14 | 14.56 | 14.08 | 13.27 |
| Third | 13.59 | 13.54 | 13.83 | 13.32 | 13.33 |
| **European Female Education** | | | | | |
| First | 13.41 | 13.83 | 13.86 | 12.38 | 12.61 |
| Second | 14.16 | 14.22 | 13.85 | 13.39 | 12.60 |
| Third | 13.67 | 13.57 | 13.63 | 12.94 | 13.09 |
| **Asian Male Education** | | | | | |
| First | 14.32 | 14.40 | 13.94 | 13.66 | 13.85 |
| Second | 14.40 | 14.74 | 15.73 | 13.93 | 14.57 |
| Third | 13.96 | 14.00 | 14.16 | 13.92 | 13.93 |
| **Asian Female Education** | | | | | |
| First | 14.10 | 13.37 | 12.78 | 12.62 | 12.69 |
| Second | 15.50 | 14.40 | 15.82 | 14.84 | 13.83 |
| Third | 14.22 | 13.96 | 13.97 | 13.81 | 13.60 |

Source 1996 March Current Population Survey.

Table 6

HISPANIC AND MEXICAN MEN'S EDUCATION

| Year of Birth | Hisp. 1st | Hisp. 2nd | Hisp. 3rd | Mex. 1st | Mex. 2nd | Mex. 3rd |
|---|---|---|---|---|---|---|
| 1830-1834 | | | 3.17 | | | 2.80 |
| 1835-1839 | | | 4.34 | | | 4.61 |
| 1840-1844 | | | 3.69 | | | 3.49 |
| 1845-1849 | | | 5.30 | | | 5.47 |
| 1850-1854 | | | 5.27 | | | 5.43 |
| 1855-1859 | | 6.34 | 5.97 | | 5.50 | 5.68 |
| 1860-1864 | | 5.19 | 6.62 | | 3.75 | 6.32 |
| 1865-1869 | | 4.46 | 7.56 | | 3.72 | 7.28 |
| 1870-1874 | | 5.26 | 8.26 | | 3.70 | 8.08 |
| 1875-1879 | | 4.77 | 8.92 | | 4.77 | 8.95 |
| 1880-1884 | 3.12 | 5.65 | 9.33 | 2.67 | 5.08 | 9.16 |
| 1885-1889 | 3.62 | 6.22 | 10.63 | 2.79 | 5.66 | 10.38 |
| 1890-1894 | 4.98 | 7.71 | 10.95 | 4.56 | 7.22 | 10.56 |
| 1895-1899 | 4.68 | 8.15 | 12.29 | 3.80 | 7.72 | 12.10 |
| 1900-1904 | 4.55 | 8.34 | 12.86 | 3.81 | 7.88 | 12.61 |
| 1905-1909 | 5.06 | 9.07 | 12.60 | 4.27 | 8.66 | 12.46 |
| 1910-1914 | 6.10 | 10.99 | 12.35 | 5.02 | 10.78 | 12.24 |
| 1915-1919 | 7.44 | 11.89 | 12.43 | 5.96 | 11.54 | 12.34 |
| 1920-1924 | 7.61 | 12.52 | 12.60 | 6.02 | 12.19 | 12.57 |
| 1925-1929 | 8.08 | 12.51 | | 5.81 | 12.05 | |
| 1930-1934 | 8.70 | 12.61 | | 6.20 | 12.11 | |
| 1935-1939 | 8.61 | 12.87 | | 6.38 | 12.16 | |
| 1940-1944 | 9.32 | 12.97 | | 7.25 | 12.68 | |
| 1945-1949 | 9.80 | 12.92 | | 7.83 | 12.41 | |
| 1950-1954 | 9.30 | | | 7.82 | | |
| 1955-1959 | 9.95 | | | 8.53 | | |
| 1960-1964 | 10.01 | | | 8.78 | | |
| 1965-1969 | 10.14 | | | 9.45 | | |
| 1970-1974 | 9.95 | | | 9.28 | | |

Table 7

| | | | HISPANIC AND MEXICAN WOMEN'S EDUCATION | | | |
|---|---|---|---|---|---|---|
| Year of Birth | Hisp. 1st | Hisp. 2nd | Hisp. 3rd | Mex. 1st | Mex. 2nd | Mex. 3rd |
| 1830-1834 | | | 5.04 | | | 3.67 |
| 1835-1839 | | | 5.00 | | | 2.96 |
| 1840-1844 | | | 4.73 | | | 3.06 |
| 1845-1849 | | | 5.32 | | | 4.18 |
| 1850-1854 | | | 6.24 | | | 4.88 |
| 1855-1859 | | 5.82 | 6.35 | | 4.62 | 5.04 |
| 1860-1864 | | 3.47 | 7.35 | | 2.00 | 6.63 |
| 1865-1869 | | 5.64 | 7.95 | | 2.96 | 7.08 |
| 1870-1874 | | 6.54 | 8.25 | | 4.37 | 7.96 |
| 1875-1879 | | 5.42 | 8.98 | | 4.09 | 8.76 |
| 1880-1884 | 3.65 | 5.88 | 9.28 | 3.15 | 4.50 | 9.22 |
| 1885-1889 | 3.64 | 6.93 | 10.14 | 3.19 | 5.22 | 10.26 |
| 1890-1894 | 4.60 | 7.61 | 11.03 | 4.01 | 6.31 | 10.96 |
| 1895-1899 | 4.76 | 8.10 | 11.74 | 3.89 | 7.13 | 11.41 |
| 1900-1904 | 4.58 | 8.25 | 12.22 | 3.94 | 7.52 | 11.95 |
| 1905-1909 | 5.56 | 8.83 | 12.33 | 4.56 | 8.36 | 12.19 |
| 1910-1914 | 6.48 | 9.93 | 12.41 | 5.18 | 9.37 | 12.28 |
| 1915-1919 | 7.20 | 11.20 | 12.70 | 5.50 | 10.78 | 12.66 |
| 1920-1924 | 8.19 | 11.51 | 12.63 | 5.89 | 10.59 | 12.54 |
| 1925-1929 | 7.92 | 12.62 | | 5.84 | 12.16 | |
| 1930-1934 | 8.30 | 12.53 | | 6.02 | 12.02 | |
| 1935-1939 | 8.22 | 13.09 | | 6.55 | 12.64 | |
| 1940-1944 | 8.96 | 13.55 | | 7.40 | 13.01 | |
| 1945-1949 | 8.89 | 12.87 | | 6.91 | 12.37 | |
| 1950-1954 | 9.68 | | | 7.67 | | |
| 1955-1959 | 10.01 | | | 8.36 | | |
| 1960-1964 | 10.24 | | | 8.99 | | |
| 1965-1969 | 10.24 | | | 9.38 | | |
| 1970-1974 | 10.52 | | | 9.82 | | |

Table 8
EUROPEANS AND ASIANS- Males

| Year of Birth | EUR 1st | EUR 2nd | EUR 3rd | ASIA1st | ASIA 2nd | ASIA 3rd |
|---|---|---|---|---|---|---|
| 1830-1834 | | | 8.13 | | | 5.00 |
| 1835-1839 | | | 8.43 | | | 4.00 |
| 1840-1844 | | | 8.69 | | | na |
| 1845-1849 | | | 9.09 | | | 2.00 |
| 1850-1854 | | | 9.26 | | | 8.08 |
| 1855-1859 | | 8.22 | 9.79 | | 4.75 | 10.78 |
| 1860-1864 | | 8.46 | 10.15 | | 5.67 | 8.54 |
| 1865-1869 | | 8.69 | 10.71 | | 9.10 | 11.15 |
| 1870-1874 | | 9.14 | 11.14 | | 6.85 | 10.05 |
| 1875-1879 | | 9.42 | 11.46 | | 8.13 | 10.72 |
| 1880-1884 | 6.21 | 9.91 | 11.79 | 6.48 | 10.43 | 11.99 |
| 1885-1889 | 6.27 | 10.32 | 12.61 | 7.42 | 11.16 | 12.90 |
| 1890-1894 | 6.66 | 10.99 | 13.20 | 7.27 | 11.60 | 13.98 |
| 1895-1899 | 7.19 | 11.52 | 13.94 | 6.60 | 12.32 | 14.52 |
| 1900-1904 | 8.32 | 12.01 | 13.96 | 6.68 | 12.44 | 14.52 |
| 1905-1909 | 9.10 | 12.57 | 13.66 | 7.45 | 13.15 | 14.01 |
| 1910-1914 | 9.78 | 13.43 | 13.54 | 7.91 | 13.56 | 13.98 |
| 1915-1919 | 10.51 | 14.00 | 13.65 | 9.37 | 14.02 | 13.95 |
| 1920-1924 | 10.88 | 14.69 | 13.70 | 11.62 | 14.33 | 13.89 |
| 1925-1929 | 11.10 | 14.68 | | 12.38 | 14.60 | |
| 1930-1934 | 11.55 | 14.36 | | 14.08 | 14.57 | |
| 1935-1939 | 12.50 | 14.25 | | 14.36 | 14.46 | |
| 1940-1944 | 12.86 | 14.37 | | 14.48 | 14.65 | |
| 1945-1949 | 14.08 | 14.28 | | 14.32 | 15.23 | |
| 1950-1954 | 13.89 | | | 14.23 | | |
| 1955-1959 | 14.05 | | | 14.30 | | |
| 1960-1964 | 14.41 | | | 14.65 | | |
| 1965-1969 | 14.46 | | | 14.60 | | |
| 1970-1974 | 14.43 | | | 15.23 | | |

Table 9

EUROPEANS AND ASIANS- Females

| Year of Birth | EUR 1st | EUR 2nd | EUR 3rd | ASIA1st | ASIA 2nd | ASIA 3rd |
|---|---|---|---|---|---|---|
| 1830-1834 | | | 8.61 | | | |
| 1835-1839 | | | 8.70 | | | |
| 1840-1844 | | | 9.16 | | | 12.00 |
| 1845-1849 | | | 9.42 | | | na |
| 1850-1854 | | | 9.71 | | | 9.40 |
| 1855-1859 | | 8.53 | 10.21 | | | 11.13 |
| 1860-1864 | | 8.56 | 10.48 | | | 9.01 |
| 1865-1869 | | 8.77 | 10.84 | | | 10.02 |
| 1870-1874 | | 9.16 | 11.10 | | 8.00 | 10.40 |
| 1875-1879 | | 9.42 | 11.40 | | 7.88 | 10.92 |
| 1880-1884 | 6.04 | 9.85 | 11.56 | 6.82 | 10.40 | 11.90 |
| 1885-1889 | 6.03 | 10.21 | 12.25 | 5.94 | 10.44 | 12.96 |
| 1890-1894 | 6.07 | 10.66 | 12.77 | 6.87 | 10.56 | 13.57 |
| 1895-1899 | 6.83 | 11.19 | 13.53 | 7.75 | 11.39 | 14.01 |
| 1900-1904 | 7.77 | 11.59 | 13.74 | 7.17 | 12.05 | 14.42 |
| 1905-1909 | 8.55 | 11.96 | 13.63 | 8.96 | 12.48 | 14.27 |
| 1910-1914 | 9.31 | 12.75 | 13.62 | 9.55 | 13.47 | 14.00 |
| 1915-1919 | 10.31 | 13.33 | 13.71 | 9.79 | 13.68 | 13.95 |
| 1920-1924 | 10.58 | 13.87 | 13.94 | 10.90 | 14.38 | 13.86 |
| 1925-1929 | 10.61 | 14.27 | | 10.42 | 14.64 | |
| 1930-1934 | 10.64 | 14.17 | | 11.24 | 14.28 | |
| 1935-1939 | 11.81 | 14.21 | | 12.19 | 14.86 | |
| 1940-1944 | 12.39 | 14.25 | | 12.87 | 15.03 | |
| 1945-1949 | 13.28 | 14.50 | | 12.93 | 15.37 | |
| 1950-1954 | 13.67 | | | 13.26 | | |
| 1955-1959 | 13.73 | | | 13.38 | | |
| 1960-1964 | 13.98 | | | 13.75 | | |
| 1965-1969 | 14.21 | | | 14.28 | | |
| 1970-1974 | 14.71 | | | 14.70 | | |
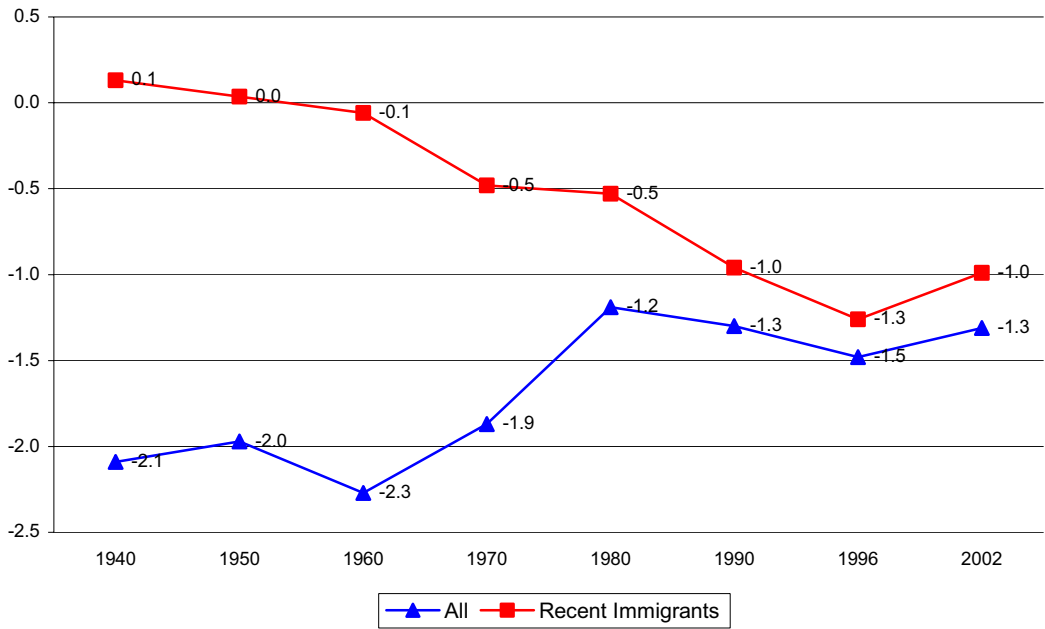
**Fig. 1. Schooling Disparity of Foreign Born Ages 25+ (Foreign Born – All Native Born)**
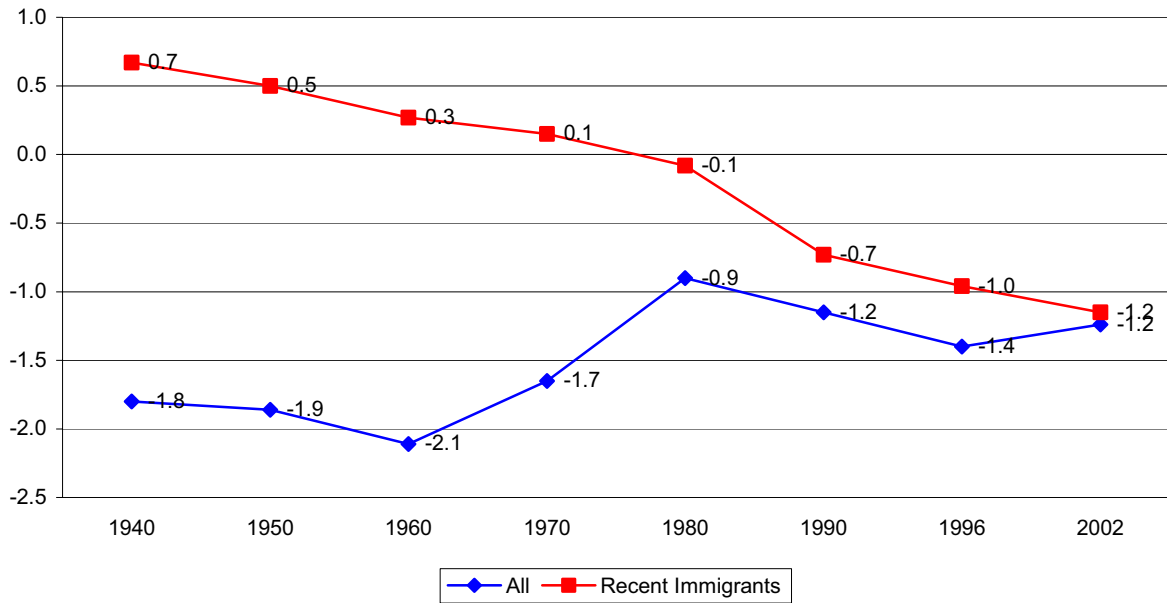
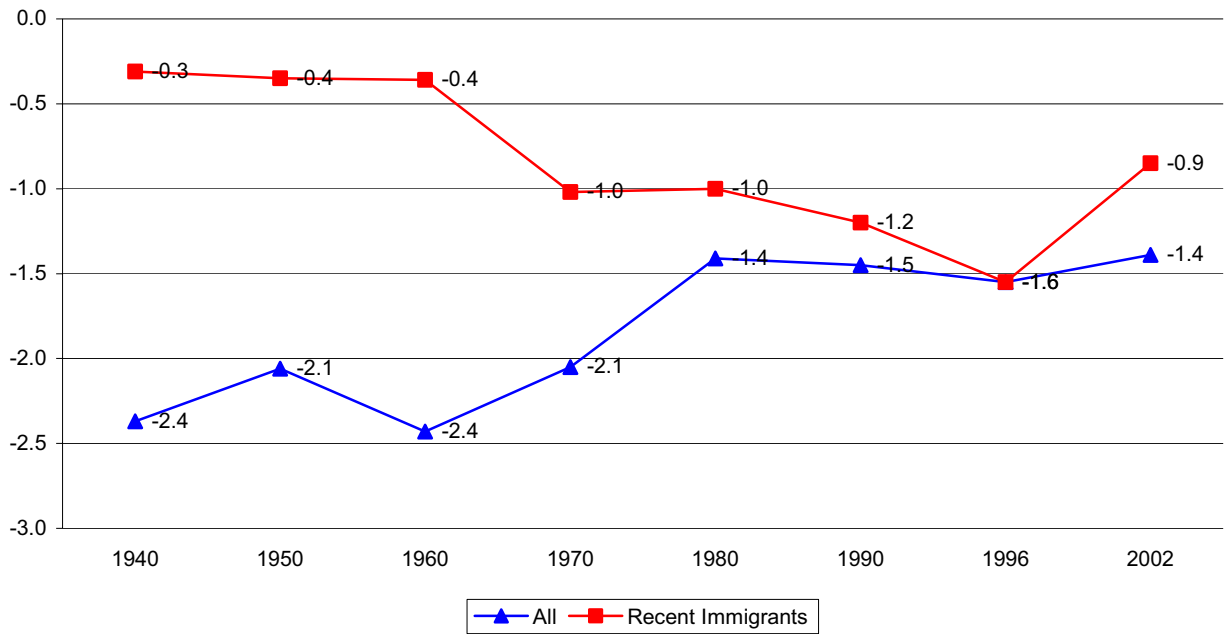**Fig. 2.  Schooling Disparity of Males Ages 25+ (Foreign Born – All Male Native Born)**

**Fig. 3. Schooling Disparity of Females Ages 25+ (Foreign Born – All Native Born)**

# Fig. 4.  Wage Gap of Recent Male Immigrants
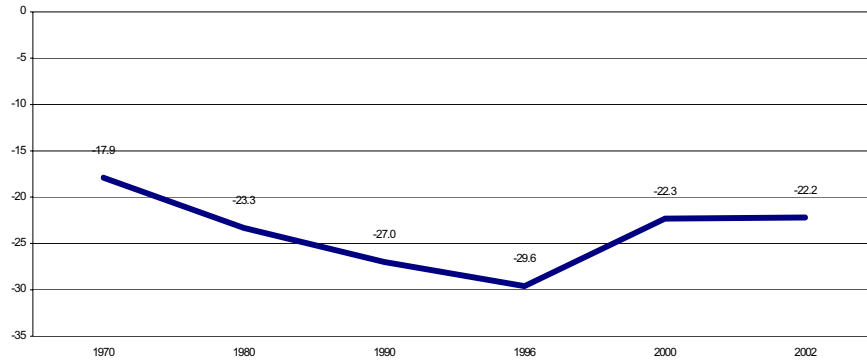## (Comparison group:  All Male Native Born)

**Age Difference of Foreign Born
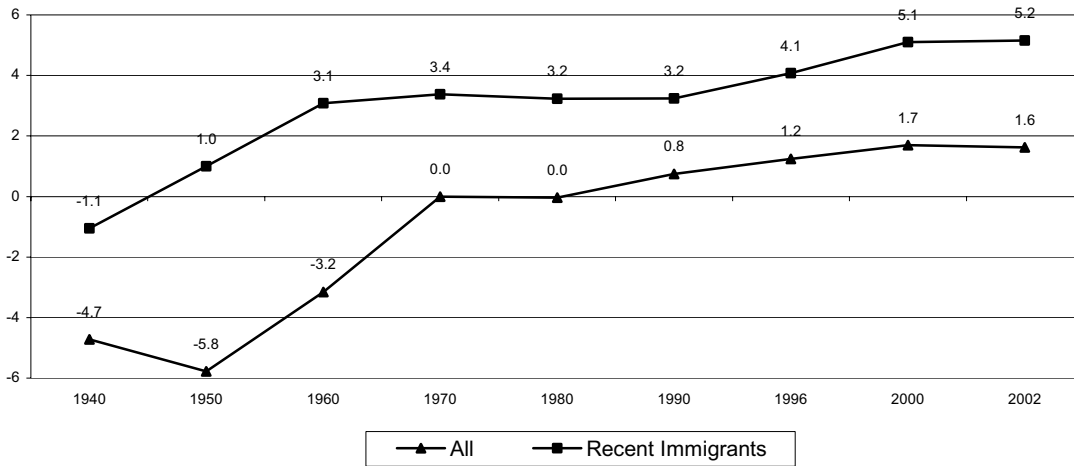(with Native Born)
Native Born - Foreign Born**

**"Age Adjusted" Wage Disparity of
Recent Immigrants**



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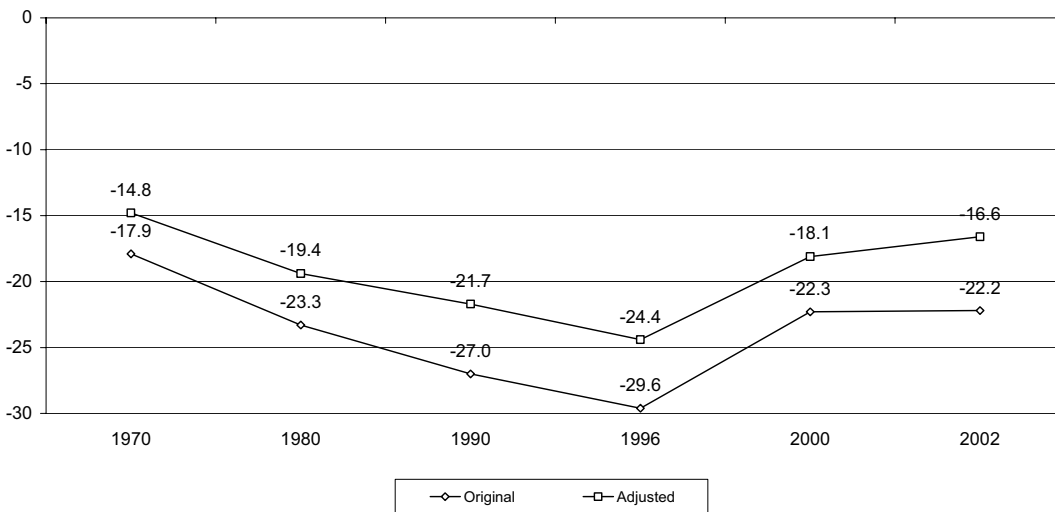
**Figure 6A.**

## Male Native Born Percentage Wage Growth by Percentiles (1970-2002)
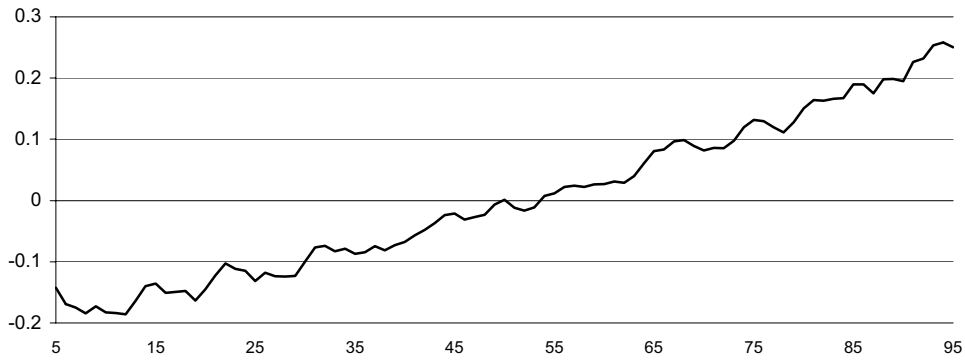


**Figure 6B.**

## Matched Wage Percentiles of Recent Immigrants with Native Born, 1970
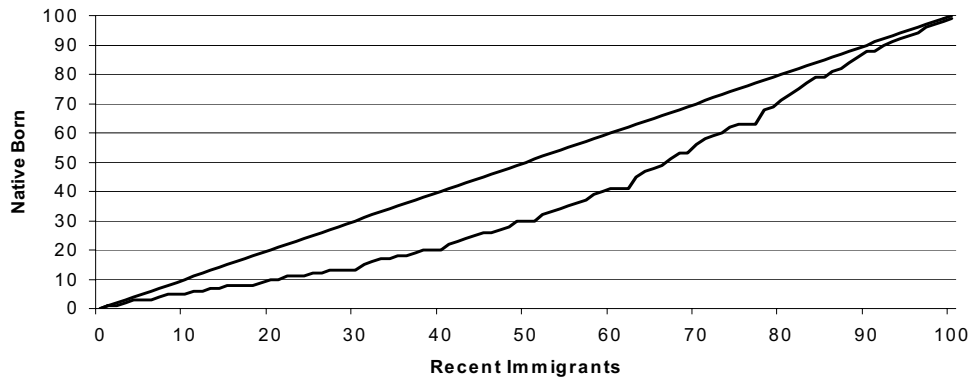
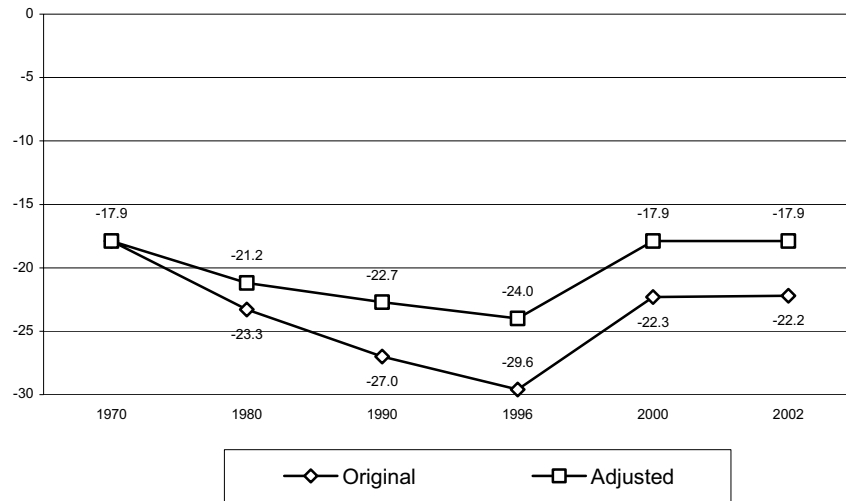# Figure 7.

# "Inequality Adjusted" Wage
# Disparity of Recent Immigrants

**Figure 8.**
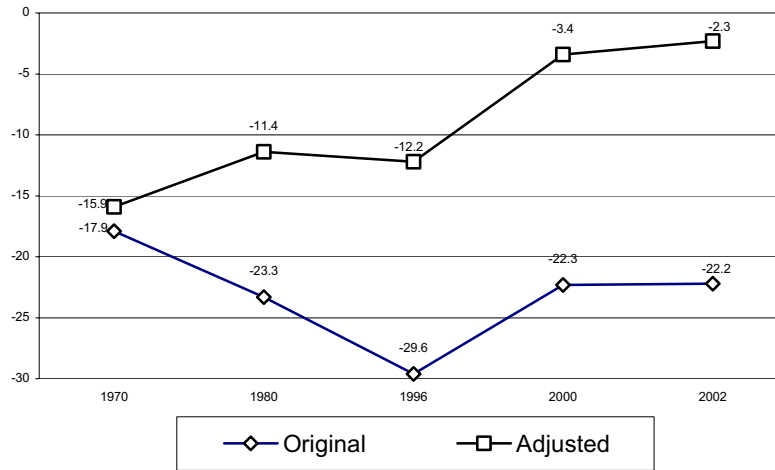
**"Illegal Adjusted" Wage Disparity of
Recent Immigrants**

**Figure 9.**

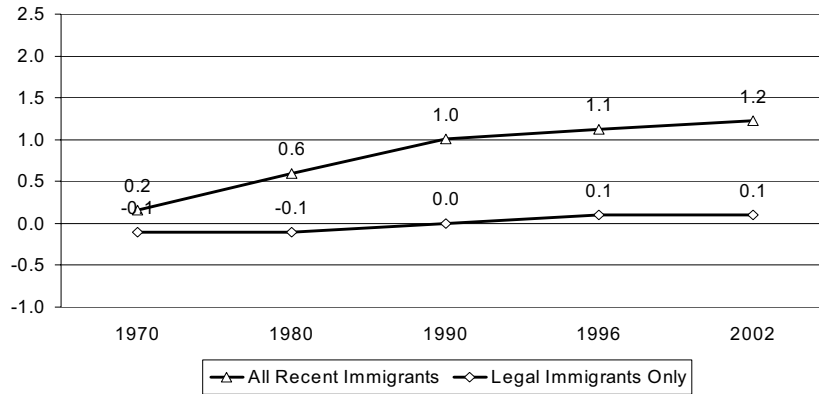# "Illegal" Adjusted Education Disparity of Recent Immigrants

# Figure 10.

# Education Advances by Generation

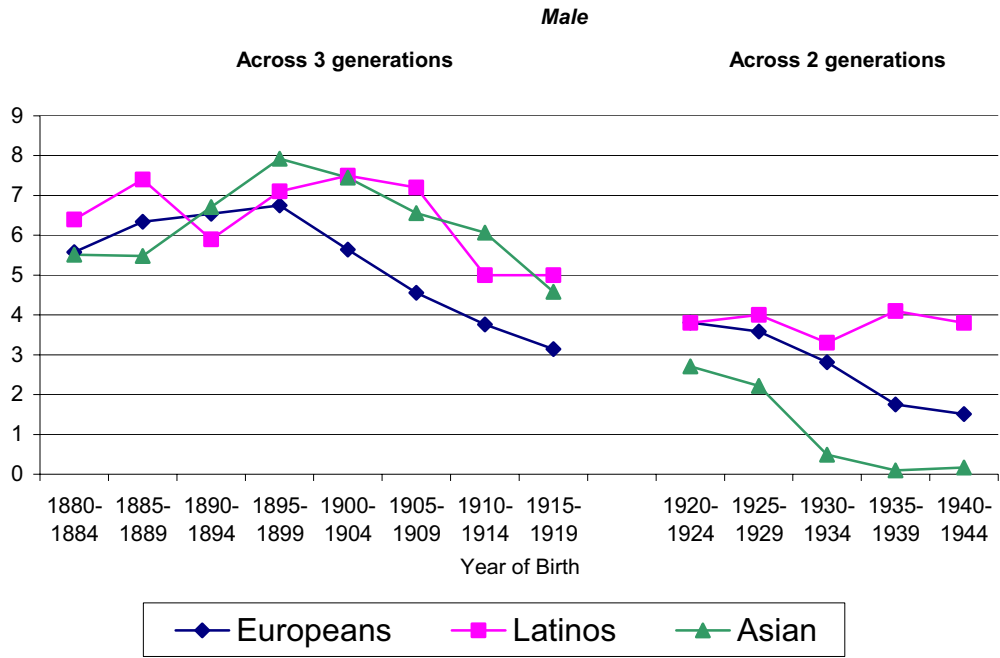*Male*

**Across 3 generations**                    **Across 2 generations**



Year of Birth

# Figure 11.
# Education Advances by Women

**Across 3 generations**    **Across 2 generations**



| | European | Latinos | Asian |