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Introduction

Immigration has been one of the main driving forces that have contributed to shape the United States as it is today. The current wave of immigration started in 1965 and has different characteristics to the previous inflows of immigrants[1]. In particular, the 1965 Immigration Act had an impact in shifting the national origin of U.S. immigrants mostly to Latin Americans and Asians, widening therefore the gap between natives and immigrants in terms of language and culture (Card, 2005). Since immigration from Latin America has constituted between 40 and 50 percent of total immigration in the current wave, and given that Latin Americans are relatively less skilled than U.S. natives and other immigrants, it is worth studying the wage differentials that potentially exist between natives and Latin American immigrants.

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[1] The first wave of immigration took place from 1840 to 1860 and the primary sending countries were the United Kingdom, Ireland, Germany, and other Northern European countries. During the second wage, about 20 million immigrants came mostly from Southern and Eastern European countries from 1880 to 1920.

A typical analysis of wage differentials consists in estimating an earnings function based on workers' socio-demographic characteristics, and controls for education and geographical location. The purpose of this paper is to estimate the wage differential between natives and Latin American immigrants by means of estimating an hourly wage equation not only in the mean (OLS analysis) but also in the different deciles of the wage distribution (quantile regression).

While OLS can provide a global picture, the quantile regression approach can be useful for a wider representation. As Chiswick *et al* (2006) state, an advantage of not focusing only on the conditional mean but extending the analysis over the whole wage distribution through the use of quantile regression is that it "facilitates a full characterization of the conditional distribution of earnings, and has the potential to offer advantages in the study of inequality when exogenous variables influence parameters of the conditional distribution of earnings other than the mean" (p. 1). As a consequence, previous studies that have focused on mean analysis may be hiding differences that arise in other points of the wage distribution.

Besides estimating the wage differential between Latin American immigrants and natives, which has not been a recurrent topic of interest in the literature, this paper offers a quantile regression approach to estimate wage differentials with respect to natives with similar characteristics in the different deciles of the distribution, as well as the differentials concerning immigrants' cohort of arrival. The analysis of cohorts will provide a measure of wage assimilation over time of Latin American immigrants.

The first section of this paper presents a description of Latin American immigrants' characteristics in relation to their native and other immigrant counterparts. The second section develops a quantitative methodology to measure the wage differential between Latin Americans and natives, taking into account the differences that could exist across the different deciles of the wage distribution. In the third section, the empirical strategy is used to estimate whether there has been wage assimilation of Latin American immigrants according to the cohort in which they arrived in the mean wage and across the wage distribution. The final section presents the most important conclusions.

Characteristics of Latin American Immigrants

As mentioned in the introduction, Latin American immigration[2] has had a relatively high weight in total immigration in the U.S. in the current wave. One of the most important motivations of this paper is that, despite the high share in the immigrant inflow, Latin American immigrants tend to fare poorly with respect to natives and immigrants from other countries[3]. According to calculations for workers aged 25-64 using the 2000 Census 1 percent Public Use Microdata Samples, the average wages for U.S. natives, other immigrants, and Latin American immigrants were $18.37, $20.72, and $13.75, respectively[4].

[2] The sending countries from Latin America considered in this paper refer to those territories where the Spanish or Portuguese languages prevail: Mexico, most of Central and South America, and Cuba, the Dominican Republic, and Puerto Rico in the Caribbean.

[3] The majority of immigrants from other countries come from Phillipines, China, India, West Indies, Germany, Canada, and Korea.

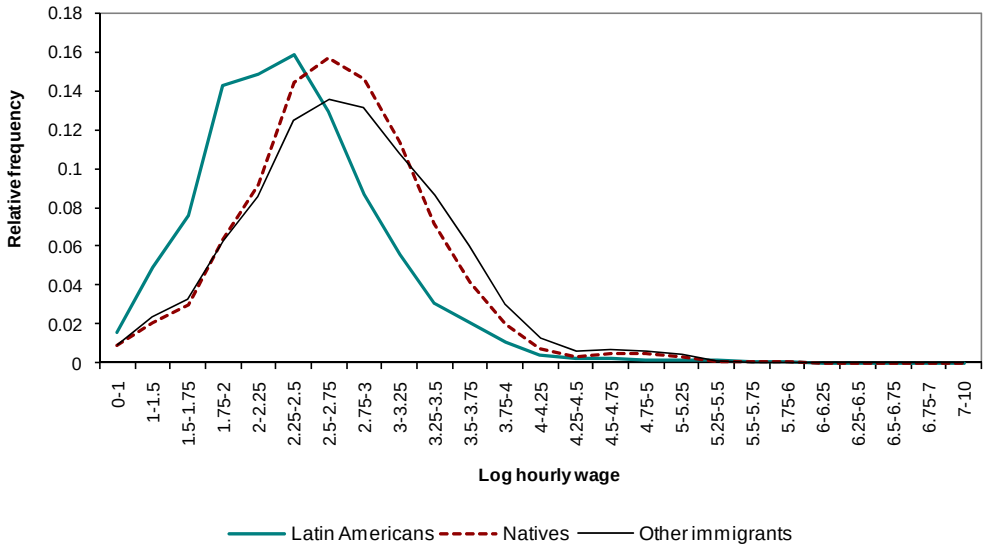
[4] When diferentiating average hourly wage of natives by race, the results show that average wages are $16.38 for Black natives and $18.58 for non-black natives. Even if compared to Blacks'

Average hourly wages show a marked inequality among groups: Latin American immigrants' average wage is only 66.4% that of natives, while other immigrants' wages are above by almost 13%.

While the average wage of the three groups shows important differences among them, the distribution of hourly wages (Figure 1) shows a more comprehensive picture. Natives and immigrants different from Latin Americans have similar distributions except for the higher kurtosis and more symmetry of the native wages distribution. Latin Americans' wage distribution presents important differences with respect to the other groups. While similar in shape to the native distribution, Latin American immigrants' distribution is significantly shifted to the left of the other two, implying that the mass of the distribution is concentrated in very low wages. For this reason, one of the main contributions of the graph depicted is that it discriminates more accurately between the main immigrant groups, something that is hardly achieved when mixing non-English-speaking immigrants together, as other studies have suggested.

wages, which tend to be low among natives, Latin American immigrants' wages are significantly lower.

Figure 1.
Distribution of log hourly wages, workers (25-64), 1999



Data source: 2000 U.S. Census, Public Use Microdata Sample (1% sample).

In this study immigrant workers were divided in cohorts of arrival because there is evidence that the more recent the arrival, the wider the wage gap with respect to natives[5]. This allows to eventually find a crossover point where immigrant wages are equal or higher than those of natives, which is normally expected to happen after the immigrant has spent a considerable amount of time in the U.S. Table 1 shows the mean wages of Latin American and other immigrants by cohort of arrival, as well as the proportion of each group of immigrants in the total number of immigrants by cohort.

For Latin Americans in general, the longer the time the cohort arrived, the higher the mean wage appears to be. However, average wages seem to be stagnated during the first 20 years after arrival but present significant increases beyond this threshold. Workers who arrived in 1974 and before earn $16.61 on

[5] For a detailed description of the process of wage assimilation, see Chiswick (1978).

average, a difference of almost $5 with respect to Latin American immigrants in cohort 2, and $2.5 with respect to workers in cohort 5. Other immigrants tend to have more equal wages across cohorts of arrival, although there seems to be also a small increase the longer the immigrant has stayed in the U.S.

Table 1.
Mean wages of native and immigrant workers (25-64) by cohort of arrival, 1999

	Latin American		Other	
	Average wage ($)	*Proportion (%)*	*Average wage ($)*	*Proportion (%)*
Cohort 1 (1995-1999)	12.36	43.08	20.71	56.92
Cohort 2 (1990-1994)	11.69	42.71	19.58	57.29
Cohort 3 (1985-1989)	13.30	49.92	19.65	50.08
Cohort 4 (1980-1984)	12.89	44.39	19.87	55.61
Cohort 5 (1975-1979)	14.35	40.50	21.16	59.50
Cohort 6 (1974 and before)	16.61	37.12	22.07	62.88

Source: Own calculations based on 2000 U.S. Census, Public Use Microdata Sample (1% sample).

The data shown in table 1 correspond with what Borjas (1995) identified: since the trends of immigration have changed during the most recent wave in terms of the inflow of less skilled immigrants, their characteristics have been reduced in quality, deteriorating the skill distribution and widening the wage gap. As long as immigrants' characteristics differ from those of natives, the wage differentials are expected to be greater (p. 4). Nevertheless, table 1 makes a distinction between those immigrants with the characteristics mentioned by Borjas but it also shows that the other group of immigrants, on the contrary, does not deteriorate the skill distribution nor widen the wage gap, so that the two main groups of immigrants are located in both extremes of the skill distribution in the U.S. From this perspective, low-skilled workers, of whom there is a low

supply in the U.S., as well as high-skilled immigrants, for whom there is a high demand in the domestic economy, effectively complement the skill endowment of natives.

As discussed in the earnings and immigration literature, the difference in wages could be attributed to diverse factors, being acquired skills and educational attainment some of the most important factors required for success as an immigrant. Table 2 shows the distribution of the groups of interest in the most important schooling categories (every column totals 100 percent). The most salient feature shown in table 2 is that Latin American immigrants are concentrated in the lowest levels of the education categories. Of all Latin Americans, 38.6 percent are high school dropouts, 6.1 percent have no school, 26.3 percent are high school graduates and not even 20 percent have higher education.

The picture for natives and other immigrants is significantly different. Almost 94 percent of natives have at least high school diploma whereas for other immigrants the corresponding figure is 91 percent. Native workers are nearly evenly distributed among the three highest levels of education while other immigrants are heavily concentrated in the level college or more, with 43.3 percent.

Table 2.
Proportion of native and immigrant workers (25-64) per education level, 1999

	Natives	Immigrants	
		Latin American	*Other*
No school	0.21	5.99	1.33
1 to 8 years of education completed	1.14	25.29	3.68
9 to 11 years of education completed	4.77	12.94	3.84
High school diploma	31.60	26.20	22.44
Some college	32.82	18.11	25.40
College or more	29.46	11.47	43.31
Sample size	904,681	56,292	76,421
Percent sample	87.21	5.43	7.37

Source: Own calculations based on 2000 U.S. Census, Public Use Microdata Sample (1% sample).

So far, an immediate conclusion of tables 1 and 2 is that Latin Americans tend to have the lowest wages presumably because they have low educational attainment. Nevertheless, it is important to distinguish between the education attained by immigrants before arriving in the U.S. and the schooling they acquired while in the U.S. According to the wage assimilation theory, the skills acquired in the receiving country are more transferable than the schooling attained in the home country. If this were true, workers who obtain most of their education in the U.S. would have higher wages after a considerable amount of time in the U.S. because their skills are highly comparable to those of natives. On the other hand, workers who do not receive education in the U.S. would tend to have lower wages when compared with similar natives.

Table 3 shows the distribution of immigrants on different education levels; that is, the proportion of immigrants who have attained certain level of education before arriving in the U.S. Since this variable is not observed in the Census data, it was constructed according to the age of immigration and calculations of

completed years of education[6]. The table shows no difference between Latin Americans and other immigrants who had no school before their arrival. However, for the remaining education levels, it is evident that Latin Americans tend to arrive with relatively less education than other immigrants. For example, 69.3 percent of Latin American immigrants in contrast with 39.9 percent of other immigrants arrive with high school or less. With some college or college or more there are 16.1 percent of Latin Americans compared to 45.2% of other immigrants.

According to these figures and those presented in table 2, immigrants from places other than Latin American countries not only come with more education than Latin Americans but also accumulate more education while in the U.S. Pre-immigration education reinforces the preliminary conclusion mentioned in the discussion of table 2. Education seems to be one of the most important factors explaining wage differentials among Latin Americans and natives as well as Latin Americans and other immigrants.

[6] Various assumptions were taken into account for calculating years of education pre- and post-immigration. As Chiswick (1978) assumed, workers are thought to be continuously studying from age 5 on; this is, there are no interruptions in the process of accumulating education. From this assumption and considering the typical ages at which people attend every school level and the age of immigration, it was possible to calculate the years of schooling the person accumulated before arriving in the U.S.

Table 3.
Proportion of native and immigrant workers (25-64) per education level pre-immigration, 1999

	Latin American	Other immigrants
	%	%
No school	14.59	14.85
1 to 8 years of education completed	35.64	13.81
9 to 11 years of education completed	20.53	11.69
High school diploma	13.14	14.41
Some college	7.73	11.34
College or more	8.37	33.89
Sample size	56,292	76,421

Source: Own calculations based on 2000 U.S. Census, Public Use Microdata Sample (1% sample).

Methodology for Estimating the Wage Differential between Latin American Immigrants and Natives

This paper uses 2000 U.S. Census data to estimate the hourly wage differential between natives and immigrants through a human capital earnings function as Chiswick (1978) proposed. However, a starting point is specifying a model including only dummy variables for type of immigrant so that the raw differential in the natural logarithm of the hourly wage between natives and immigrants can be estimated according the following equation:

$$\log(hrwage_i) = \alpha_0 + \alpha_1 * Lamerican + \alpha_2 * Other + \varepsilon_i \qquad (1)$$

The raw differential provides a rough idea of what the dimension of the differential is going to be. Nevertheless, it is important to take into account some characteristics such as experience and educational attainment that clearly influence the ability of a worker to earn a certain wage. A Mincer equation could be estimated along the lines proposed by Chiswick (1978). The dependent

variable (log hourly wage) would depend on years of schooling; labor market experience, measured as age minus years of schooling minus 5, and labor market experience squared. Other controls that can be included are socio-demographic determinants (race, marital status), geographical location, and weeks worked during the last year. In the case of immigrants, this function also depends on certain variable accounting for the time the immigrant has spent in the U.S. Equation 2 shows the specification including the above variables[7]:

$$\log(hrwage_i) = \alpha_0 + \alpha_1 * age + \alpha_2 * agesq + \alpha_3 * black + \alpha_4 * married + \alpha_5 * Lamerican$$
$$+ \alpha_6 * Other + \sum_{j=1}^{5} \alpha_j * educ_j + \sum_{k=2}^{6} \alpha_k * cohort_k * immigrant\_dummy + \varepsilon_i \qquad (2)$$

Where, besides the dummies included in equation 1, the natural logarithm of the hourly wage depends on the age and age squared; a dummy for race (1=black); a dummy for marital status (1=married, spouse present); education in the form of dummies for level of education attained (excluding college or more), and time since immigration expressed in the form of dummies for cohort (excluding cohort 1, the most recent cohort) interacted with each of the immigration variables. These last interactions can be used to estimate the wage differentials for immigrants who arrived in different cohorts; that is, it provides a means for testing if wage assimilation occurs and when. In other words, if the differential estimated for some cohort is not statistically different from zero and remains at zero or above for older cohorts, it is possible to conclude that Latin American immigrants' wages have been assimilated to those of natives. In order

[7] A full description of the 2000 U.S. Census variables used in this paper can be found in annex 1.

to identify this, it is necessary to calculate the partial effect of immigration on hourly wage using the following derivative:

$$\frac{\partial(\log(hrwage_i))}{\partial American} = \alpha_5 + \alpha_k \qquad (3)$$

This is, given that the dummy for cohort 1 is excluded, the coefficient α_5 is the estimated wage differential for those who arrived in the most recent cohort of immigrants. For other cohorts, the partial effect is calculated according to equation 3, with k depending on the cohort. It is expected, according to the wage assimilation literature, that the older the cohort, the more similar the wage is compared to natives with the same characteristics. This implies that if the sign of α_5 is large and negative, the values for the α_k have to be positive and eventually larger than α_5, in which case there is wage assimilation.

Equations 1 and 2 can be estimated using an alternative methodology that allows finding the differentials in different points of the wage distribution. This is important because the conditional mean analysis could be hiding some effects that could only be taken into account when analyzing the whole distribution. It also allows calculating the partial effect for cohorts (equation 3) at different deciles, as explained in the previous paragraph. This analysis could be interesting because the differential between Latin Americans and natives could be higher in the right-hand side of the distribution while it could be lower in the first decile for reasons associated with the effect of the minimum wage. Also, as mentioned by Chiswick *et al* (2006), "in the study of immigrant earnings, the concentration of immigrants in the U.S. among the least skilled, and amongst the

most skilled, suggests that the quantile regression approach may have merit" (p. 6).

Equation 4 provides the econometric specification for the quantile regression model[8]:

$$y_i = x_i\beta_\theta + \varepsilon_\theta, \quad \text{Quant}_\theta(y_i \mid x_i) = x_i\beta_\theta \qquad (4)$$

Where $\text{Quant}_\theta(y_i \mid x_i) = x_i\beta_\theta$ refers to the conditional quantile of y_i, conditional on the vector of characteristics of workers specified in equation 3, and $\theta \in (0,1)$.

$\text{Quant}_\theta(u_{\theta i} \mid x_i) = 0$

Results for the Estimation of the Wage Differential between Latin American Immigrants and Natives

The methodology presented in the previous section allows quantifying the wage differential both in the conditional mean and across the wage distribution. Table 4 presents an estimation of equation 3 controlling neither for worker characteristics nor for cohort of arrival.

[8] For reasons of space this paper does not explain the quantile regression model with details. See Chiswick et al (2006) for a synthesis of the model applied to this topic.

Table 4.
OLS and Quantile Regression estimates without controls, male workers (25-64)

	OLS	Quantile								
Variable		*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.7*	*0.8*	*0.9*
Constant	2.667	1.676	2.267	2.490	2.663	2.799	2.959	3.115	3.298	3.586
	(0.0014)	(0.0077)	(0.0010)	(0.0017)	(0.0015)	(0.0027)	(0.0004)	(0.0019)	(0.0018)	(0.0018)
Latin American	-0.308	-0.065	-0.328	-0.381	-0.395	-0.401	-0.399	-0.411	-0.391	-0.366
	(0.0047)	(0.0162)	(0.0078)	(0.0050)	(0.0016)	(0.0031)	(0.0071)	(0.0048)	(0.0050)	(0.0051)
Other immigrant	0.060	-0.054	-0.066	-0.028	0.009	0.054	0.063	0.105	0.160	0.167
	(0.0053)	(0.0212)	(0.0068)	(0.0073)	(0.0038)	(0.0064)	(0.0078)	(0.0031)	(0.0053)	(0.0067)

Source: 2000 U.S. Census, 1% Public Use Microdata Sample.

Sample size: 555,829

OLS Robust standard error in parenthesis; QR bootstrapped standard errors in parenthesis (500 reps)

All variables are statistically significative at the 1% level

OLS estimates a differential between Latin American immigrants and natives of -30.8 percent. The differentials across the distribution vary significantly in all deciles. For the first decile, the differential is only -6.5 percent while from the second decile to the last, the differential ranges between -32.8 and -41.1 percent. As explained before, the result for the first decile could be associated to the wage compression effect of the minimum wage. An interesting observation is that the differential does not tend to increase at the higher end of the distribution, as could be expected. On the contrary, the differentials for deciles 80 and 90 are even smaller than those for the deciles 40 to 70.

For other immigrants, the average differential is slightly positive at 6 percent. The quantile regression estimates report a negative differential for the first three deciles of the distribution, a slightly positive differential at decile 40 and large and positive differentials thereafter. At deciles 80 and 90, other immigrants earn above 16 percent when compared to natives.

Another interesting feature shown in table 3 is that the constants tend to increase the higher the decile. This could imply that omitted variables may play a more important role in explaining hourly wages in the highest deciles.

Table 5 presents OLS and Quantile Regression estimates including control variables for working men aged 25-64. All worker characteristics are significant and show the expected sign. It is interesting to discuss the results for the education dummies. Respect to workers with college degree or more, workers with no school earn, on average, 69.7 percent less; with 1 to 8 years of education completed, -71.3 percent; with 9 to 11 years of education completed, -67.2 percent, with high school diploma, -50.3 percent, and with some years of college, -33.4 percent. It is worth noting, however, that the higher the decile, the greatest the differences for all education levels compared to college or more.

Table 5.
OLS and Quantile Regression estimates without controls, male workers (25-64)

	OLS	**Quantile**								
Variable		*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.7*	*0.8*	*0.9*
Constant	2.055	0.798	1.440	1.613	1.735	1.844	1.963	2.103	2.259	2.564
	(0.0213)	(0.0834)	(0.0255)	(0.0208)	(0.0169)	(0.0147)	(0.0142)	(0.0152)	(0.0176)	(0.0242)
Age	0.040	0.092	0.053	0.051	0.051	0.052	0.051	0.050	0.050	0.048
	(0.0011)	(0.0042)	(0.0013)	(0.0011)	(0.0008)	(0.0007)	(0.0007)	(0.0007)	(0.0009)	(0.0012)
Age squared	0.000	-0.002	-0.001	-0.001	-0.001	-0.001	-0.001	0.000	0.000	0.000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Married	0.149	0.140	0.189	0.179	0.169	0.160	0.154	0.146	0.141	0.141
	(0.0027)	(0.0070)	(0.0028)	(0.0025)	(0.0021)	(0.0020)	(0.0021)	(0.0021)	(0.0020)	(0.0028)
Black	0.020	0.221	-0.024	-0.066	-0.082	-0.087	-0.089	-0.091	-0.084	-0.083
	(0.0040)	(0.0093)	(0.0041)	(0.0037)	(0.0029)	(0.0034)	(0.0028)	(0.0035)	(0.0043)	(0.0056)

Source: 2000 U.S. Census, 1% Public Use Microdata Sample.
Sample size: 555,829
OLS Robust standard error in parenthesis; QR bootstrapped standard errors in parenthesis (500 reps)
All variables are statistically significative at the 1% level unless stated by the usual criteria:
* p-value<0.1; ** p-value<0.05; *** p-value<0.01

Table 5 (continued).
OLS and Quantile Regression estimates without controls, male workers (25-64)

	OLS	Quantile								
Variable		*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.7*	*0.8*	*0.9*
No school	-0.697	-0.593	-0.669	-0.683	-0.711	-0.737	-0.748	-0.758	-0.772	-0.798
	(0.0141)	(0.0331)	(0.0171)	(0.0141)	(0.0115)	(0.0111)	(0.0104)	(0.0116)	(0.0137)	(0.0223)
1 to 8 years	-0.713	-0.635	-0.610	-0.647	-0.680	-0.706	-0.727	-0.748	-0.772	-0.823
completed	(0.0079)	(0.0259)	(0.0082)	(0.0066)	(0.0060)	(0.0047)	(0.0055)	(0.0050)	(0.0072)	(0.0099)
9 to 11 years	-0.672	-0.752	-0.591	-0.600	-0.621	-0.638	-0.653	-0.668	-0.697	-0.762
completed	(0.0058)	(0.0253)	(0.0062)	(0.0048)	(0.0038)	(0.0039)	(0.0035)	(0.0039)	(0.0042)	(0.0055)
High school	-0.503	-0.466	-0.400	-0.424	-0.448	-0.469	-0.490	-0.514	-0.546	-0.638
diploma	(0.0034)	(0.0136)	(0.0043)	(0.0031)	(0.0029)	(0.0025)	(0.0025)	(0.0025)	(0.0027)	(0.0045)
Some college	-0.334	-0.226	-0.247	-0.281	-0.304	-0.320	-0.343	-0.360	-0.395	-0.473
	(0.0034)	(0.0136)	(0.0043)	(0.0031)	(0.0029)	(0.0025)	(0.0025)	(0.0025)	(0.0027)	(0.0045)
Latin American	-0.169	-0.070	-0.231	-0.267	-0.264	-0.261	-0.258	-0.245	-0.213	-0.170
	(0.0101)	(0.0194)	(0.0096)	(0.0098)	(0.0079)	(0.0074)	(0.0087)	(0.0091)	(0.0099)	(0.0133)
Cohort 2	0.051	0.068	0.066	0.073	0.065	0.068	0.070	0.072	0.063	0.067
	(0.0140)	(0.0245)	(0.0141)	(0.0117)	(0.0112)	(0.0098)	(0.0109)	(0.0118)	(0.0139)	(0.0172)
Cohort 3	0.061	0.099	0.086	0.099	0.095	0.093	0.095	0.096	0.078	0.058
	(0.0134)	(0.0319)	(0.0126)	(0.0120)	(0.0096)	(0.0093)	(0.0104)	(0.0106)	(0.0138)	(0.0199)
Cohort 4	0.088	0.179	0.133	0.131	0.124	0.120	0.122	0.118	0.099	0.068
	(0.0144)	(0.0293)	(0.0124)	(0.0126)	(0.0109)	(0.0111)	(0.0117)	(0.0117)	(0.0136)	(0.0159)
Cohort 5	0.142	0.240	0.179	0.181	0.171	0.156	0.153	0.152	0.134	0.118
	(0.0166)	(0.0417)	(0.0150)	(0.0156)	(0.0142)	(0.0133)	(0.0128)	(0.0152)	(0.0166)	(0.0235)
Cohort 6	0.185	0.343	0.230	0.236	0.221	0.216	0.211	0.192	0.172	0.138
	(0.0144)	(0.0332)	(0.0150)	(0.0134)	(0.0098)	(0.0100)	(0.0104)	(0.0114)	(0.0137)	(0.0176)
Other immigrant	0.013	-0.018	-0.164***	-0.149***	-0.100***	-0.051***	0.005	0.043***	0.072***	0.138***
	(0.0107)	(0.0223)	(0.0141)	(0.0132)	(0.0120)	(0.0123)	(0.0097)	(0.0098)	(0.0120)	(0.0176)
Cohort 2	-0.057***	0.003***	0.029*	0.014	-0.015	-0.030*	-0.052***	-0.063***	-0.073***	0.088***
	(0.0155)	(0.0320)	(0.0168)	(0.0161)	(0.0145)	(0.0162)	(0.0135)	(0.0157)	(0.0167)	(0.0159)
Cohort 3	-0.077***	-0.179**	0.033	0.056***	0.033**	0.009	-0.034***	-0.055***	-0.055***	-0.063
	(0.0169)	(0.0749)	(0.0213)	(0.0186)	(0.0152)	(0.0155)	(0.0127)	(0.0137)	(0.0150)	(0.0209)
Cohort 4	-0.082***	-0.270***	0.032*	0.066***	0.050***	0.028*	-0.019	-0.043***	-0.059***	-0.031**
	(0.0171)	(0.0797)	(0.0189)	(0.0170)	(0.0150)	(0.0163)	(0.0131)	(0.0149)	(0.0168)	(0.0195)
Cohort 5	-0.020	-0.163**	0.105***	0.147***	0.113***	0.079***	0.024*	-0.013	-0.030*	-0.052
	(0.0179)	(0.0802)	(0.0260)	(0.0198)	(0.0163)	(0.0153)	(0.0136)	(0.0129)	(0.0172)	(0.0248)
Cohort 6	0.039***	-0.091	0.173***	0.192***	0.166***	0.118***	0.070***	0.039***	0.018	-0.001
	(0.0147)	(0.0568)	(0.0204)	(0.0184)	(0.0146)	(0.0151)	(0.0122)	(0.0127)	(0.0150)	(0.0229)

Source: 2000 U.S. Census, 1% Public Use Microdata Sample.
Sample size: 555,829
OLS Robust standard error in parenthesis; QR bootstrapped standard errors in parenthesis (500 reps)
All variables are statistically significative at the 1% level unless stated by the usual criteria:
* p-value<0.1; ** p-value<0.05; *** p-value<0.01

When controlling for worker characteristics and cohorts of arrival, the differential between Latin American immigrants and natives is reduced to an average of -8.1 percent with the OLS estimation, 22 percentage points less than the differential estimated without controls. The differentials by cohort are

different, however. According to the wage assimilation theory, "knowledge and skills are not perfectly transferable across countries, other things the same, immigrants would have earnings significantly lower than native born persons, but the gap would narrow the longer they are in the United States" (Chiswick, 1978, p. 899). Table 5 shows that in the case of Latin American immigrants, it is exactly what is happening. The differential for cohort 1 (the most recent cohort) is -16.9 percent; for cohort 2 it is -11.8 percent, for cohort 3 it is -10.8 percent, for cohort 4 -8.1 percent, for cohort 5 is -2.7 percent, and for cohort 6 is 1.6 percent. As predicted by the wage assimilation theory, the more recent the arrival, the widest gap and it seems that the crossover for Latin Americans occurs between 21 and 25 years of stay in the United States.

In the case of other immigrants, table 5 shows that the differential is positive only for the most recent and oldest cohorts. The wage assimilation hypothesis does not seem to hold in the case of this group but a formal explanation for this phenomenon is out of the reach of this paper.

An assessment of the advantages of estimating the wage differentials across the deciles of the wage distribution can be performed by comparing the coefficients obtained for the dummy Latin American across the different quantiles. This implies testing if the difference in the value of the coefficients is statistically significant for every pair of coefficients. Table 6 shows that for the deciles that are close in the distribution, there is no evidence that the estimated coefficients are different. For example, estimates for decile 3 are statistically equal to estimates for deciles 4, 5, 6, and 7 at the 5 percent level. In general, estimates

for deciles 1, 2, 8, and 9 are different from the estimates obtained for the central deciles of the distribution.

Table 6.

Quantile Regression coefficient comparison across deciles

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1		No	No	No	No	No	No	No	No
Q2			No	No	No	No	Yes	Yes	No
Q3				Yes	Yes	Yes	Yes	No	No
Q4					Yes	Yes	Yes	No	No
Q5						Yes	Yes	No	No
Q6							Yes	No	No
Q7								No	No
Q8									No
Q9									

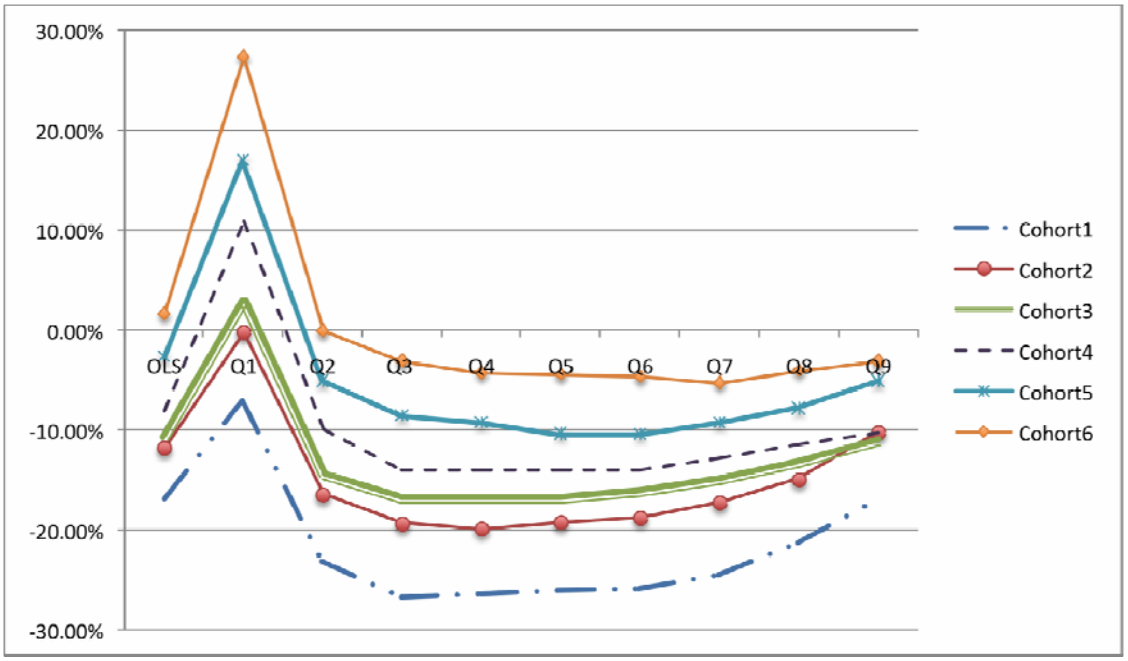
Source: Coefficient tests computed from regression estimates presented in table 5.

Across deciles, the differentials by cohort show a richer picture as is shown in figure 2[9]. For workers located in the first decile, only those in cohort 1 have a negative differential with respect to comparable natives. That is, in the lowest decile of wages Latin American workers in almost all cohorts earn equal or more than similar natives – in the case of immigrants who came in the oldest cohort, the differential is close to 30 percent above natives. In the rest of the deciles, only those in cohort 6 have closed the gap with natives on average but truly it has only happened in the second decile of the wage distribution. For the remaining deciles, cohort 6 has a small and almost constant differential with

[9] Tests performed to evaluate if the coefficients across deciles where equal were rejected in most cases so that it is worth using the quantile regression approach.

respect to natives. More recent cohorts tend to fare poorly across the whole distribution and figure 2 evidences that the more recent the cohort, the higher the negative differential in all deciles, except in the first, as mentioned above. Interestingly, in the right-hand side of the distribution, the cohort of arrival does not seem to be so important because Latin American immigrants tend to fare better and the differentials among cohorts become close together.

Figure 2.
Wage differentials calculated across the wage distribution by cohort
Male workers (25-64)



Source: Estimates in table 4. 2000 U.S. Census data (1% sample).

Conclusions

This paper developed an econometric strategy to estimate the wage differentials existing between Latin American immigrants and U.S. natives based on conditional mean and quantile regression models. When controlling for worker socio-demographic and education characteristics, the average estimated differential was -8.1 percent, compared to -30.8 percent when none of these characteristics are taken into account.

Across quantiles, only for the first decile of the distribution and for the oldest cohort, Latin Americans seem to fare relatively well with respect to natives. The commonplace, however, is that immigrants coming from Latin American countries tend not to be successful in terms of catching up with natives, even when they are compared only to natives that have the same characteristics. The quantile regression analysis served to unmask the wage differences that exist across the wage distribution and that are not visible when using OLS. The quantile regression approach resulted to be advantageous, especially for the lowest and highest deciles of the wage distribution.

Indeed, education has a lot to do in explaining the persistent differential between Latin Americans and natives. The low educational attainment of Latin American workers surely plays an important role in constraining the occupational and wage upward mobility that they could experience.

Finally, the distinction proposed in this paper separating immigrants among Latin Americans and other immigrants seems to be more accurate than the distinction commonly proposed in the literature among immigrants from English-speaking and non-English-speaking countries. This is due to the fact that

possibly the most important source of wage inequality is found in differences in education and separating Latin Americans from the rest successfully brings up this distinction.

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Annex 1. Variables Description

Variable	Description
Dependent	
log(hrwage)	Natural logarithm of the individual's hourly wage for 1999, computed by dividing the annual income for 1999 by the product of weeks worked in 1999 and hours worked per week in 1999. The wage variable reports each respondent's total pre-tax wage and salary income -- that is, money received as an employee-- for the previous year.
Independent	
Age	Reports the person's age in years as of the last birthday
Agesq	Age squared
Married	Dummy variable, 1= the individual is married, spouse present
Black	Dummy variable, 1= the individual is black
Latin American	Dummy variable, 1= immigrant come from one of the Latin American countries as defined in the text
Other immigrant	Dummy variable, 1= immigrant does not come from one of the Latin American countries as defined in the text
Cohort	Set of dummy variables that distinguish immigrants according to their year of arrival in the U.S. (Cohort 1 excluded)
Cohort 1	0 to 5 years since arrival, workers who arrived between 1995 and 2000
Cohort 2	6 to 10 years since arrival, workers who arrived between 1990 and 1994
Cohort 3	11 to 15 years since arrival, workers who arrived between 1985 and 1989
Cohort 4	16 to 20 years since arrival, workers who arrived between 1980 and 1984
Cohort 5	21 to 25 years since arrival, workers who arrived between 1975 and 1979
Cohort 6	26 or more years since arrival, workers who arrived before 1974
Educ	Set of dummy variables identifying the highest educational level attained by the individual (college or more is excluded)
No school	1=individual has no education
1 to 8 years completed	1=individual has 1 to 8 years of education completed
9 to 11 years completed	1=individual has 9 to 11 years of education completed
High school	1=individual has high school diploma
Some college	1=individual has 1 to 3 years of college education
College or more	1=individual has college degree or more