

A Sensitivity Analysis of the Net Undercount for Young Hispanic Children in the 2010 Census

2010 Census

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INTRODUCTION

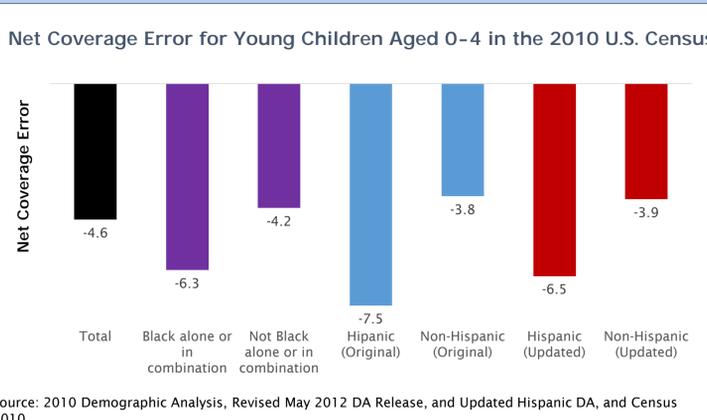
The 2010 Census had a large net undercount for children aged 0 to 4. Net coverage error for these cohorts is measured using Demographic Analysis (DA). DA uses historical vital records and data on international migration to produce population estimates by age, sex, race and Hispanic origin. In this poster, we present the results of a sensitivity analysis of the undercount for young Hispanic children in the 2010 Census. Using data from Mexico's 2010 Census and ENOE Survey, we estimate the number of children born in the United States but living in Mexico in 2010. We then adjust the estimate of the U.S.-born population living abroad in the 2010 DA results. Next, we produce a range of estimates of coverage error for young Hispanic children. Finally, we discuss the importance of accurately measuring migration between Mexico and the United States when using demographic methods to evaluate the 2020 Census.

DATA AND METHODS

Mexico 2010 Census
 Census day was June 12, 2010 with field work completed from May 31 to June 24, 2010. The census included a short questionnaire collected from all residents and a long questionnaire collected from a sample.

National Survey of Occupation and Employment (ENOE)
 Mexico's Labor Force Survey conducted monthly with a sample of approximately 40,000 households. Data are released quarterly.

NET COVERAGE IN THE 2010 CENSUS



NET MIGRATION OF U.S.-BORN CHILDREN

Net Native Migration in the 2010 DA was estimated using the **Foreign-Census Method**. In this method, cohort change is measured in the U.S.-born (or U.S. citizen if country of birth is not available) population living abroad using foreign censuses and population registers. Any change in stock between two census years or population register files that is not explained by mortality is assumed to represent net migration between the United States and the foreign country. The estimates for Mexico were calculated using Mexico's 1990 and 2000 Censuses.

The demographic composition of net native migration comes from a proxy universe, a subset of the resident population in the American Community Survey (ACS) that is assumed to have age, sex, race, and Hispanic origin characteristics similar to U.S.-born migrants.

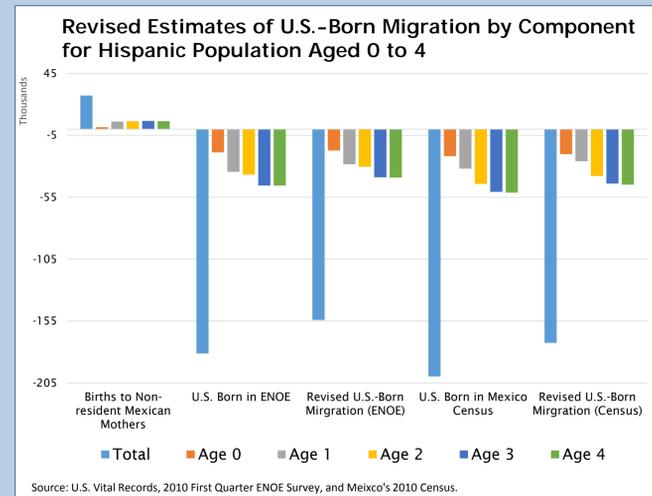
Age in 2010	Births	Deaths	Net Foreign-born Migration	Other NIM	Net Native Migration	Resident Population
0	1,044,000	5,428	4,055	158	-92	1,042,000
1	1,086,000	6,341	10,970	613	-273	1,091,000
2	1,124,000	6,755	16,830	1,275	-459	1,134,000
3	1,108,000	6,709	22,900	2,047	-635	1,126,000
4	1,052,000	6,630	29,600	2,968	-798	1,077,000
Total	5,413,000	31,860	84,350	7,061	-2,257	5,470,000

Source: 2010 Demographic Analysis, Hispanic DA Estimates with updated Births and Net Foreign-born Migration.

The total estimate for the Hispanic Population aged 0 to 4 was a net out-migration of **2,257**. Conversely, data from Mexico show that the number of young children born in the United States but living in Mexico in 2010 was relatively large. Mexico's 2010 Census enumerated **199,700** children aged 0 to 4 born in the United States. The ENOE labor force survey estimated **181,200** young children living in Mexico that were born in the United States in the first quarter to 2010.

REVISED U.S.-BORN MIGRATION ESTIMATES

The discrepancy between the 2010 DA and Mexico data is due to differences in methodology, the recency of data, and an overall increase in out-migration to Mexico from the United States in the late 2000s. In this section, we use Mexico Census and ENOE estimates to revise the estimates of U.S.-Born Migration for the 2010 DA.



Net U.S.-Born Migration was estimated by adjusting the U.S.-born population in the ENOE and Census for births to non-resident Mexican mothers to get Revised U.S.-Born Migration.

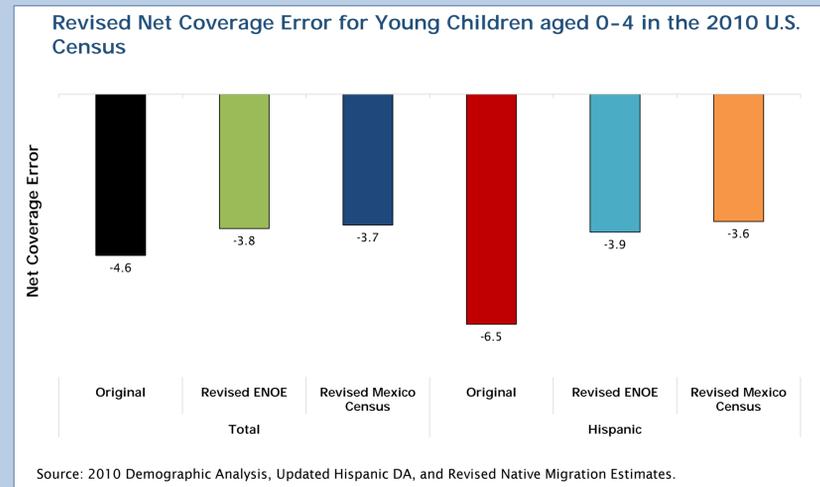
Births to non-resident Mexican mothers were excluded from the 2010 DA estimates. We subtract them from the estimates of U.S.-Born population in the ENOE and Mexican Census.

The results show that using more recent survey and census data from Mexico increases the estimates of U.S.-Born Migration significantly. Next, we use the new estimates of U.S.-Born Migration to revise the 2010 DA estimates.

REVISED NET UNDERCOUNT ESTIMATES

Using the Revised U.S.-Born Migration estimates reduces the net coverage error for the all young children and young Hispanic children.

- The total undercount declines from -4.6 percent to -3.8 (ENOE) and -3.7 (Census) percent.
- The undercount for Hispanic young children declines from -6.5 percent to -3.9 (ENOE) and -3.6 (Census) percent.



PREPARING FOR THE 2020 CENSUS

Demographic Analysis will be used to evaluate net coverage error in the 2020 Census. This research has shown the importance of accurately measuring migration between the United States and Mexico. This is especially important for young children born in the United States but later migrate to Mexico. As we prepare for the 2020 Census, we will:

- Monitor trends in Mexican data on the population born in the United States.
- Develop methods to potentially include data from Mexico in our estimates of net native migration.
- Seek out additional data sources to estimate the international migration components of the 2020 DA estimates.



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