

# SECONDARY EDUCATION

## Its Impact on Border Income

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Many immigrants from Mexico and Central America are coming to Texas without high school degrees. What they, and native-born Texans who fail to complete high school, are finding as they settle along the border are emerging service sectors that offer high-salary jobs but generally require an advanced education. This situation sets up a potentially debilitating mismatch with important income impacts. Texas border counties adjacent to Mexico conceivably lost as much as \$3.6 billion in earnings in 1990 because so many area residents did not graduate from high school, according to our study of socioeconomic data for that year.<sup>1</sup>

Given the limited tax bases of nearly all border counties, the benefits of improving educational attainment are quite clear. Our study shows that reducing the high school dropout rate to a level equal to the rest of Texas would have potentially increased income per border resident by more than \$2,600 in 1990.

The discrepancy between educational and income levels becomes even more apparent as Texas enters the new millennium more ethnically diverse, with more immigrants from Mexico and Central America who have not graduated from high school. Simultaneously, the state's economy enters the new age with expanding service segments. In fact, earnings loss estimates would likely be much higher had we been able to perform the study using 2000 census data.

### Data and Methodology

Econometric estimates conducted at the University of Texas at El Paso measure the relationships between education and regional earnings across Texas and help examine how changes in educational attainment affect an area. Our central hypothesis is that Texas border county income is affected by educa-



tional attainment in a way similar to other regions of the United States. To test it, we collected figures for formal years of schooling, types of degrees completed and 1990 per capita income levels for all 254 counties. The figures come from the Department of Commerce's 1990 census and the Bureau of Economic Analysis' Regional Economic Information System. Using this information, we simulated what would have happened to per capita income in the border counties in 1990 if their high school completion rates had met the state average.

As in similar studies, our variables included the percentage of high school dropouts aged 25 or older in each county, high school graduates 25 or older with some college and college graduates 25 or older. Other variables included the participation rate of females in the labor force, percentage of the population 65 or older and percentage of residents 18 or younger. We also included language skills. Generally, per

capita income is higher if more residents of a county speak fluent English and have bilingual skills, while Spanish-only skills are likely to be associated with lower earnings.

Increases in the percentage of high school dropouts are expected to reduce a county's income level, and increases in the percentages of both categories of graduates are likely to improve it. Similarly, increases in female labor force participation should raise a county's income level. As the percentage of youth increases in a county, per capita income likely declines because individuals 18 or younger generally do not work or hold part-time positions. The effect of the number of retirees on a county's income is unclear because many drop out of the labor force but simultaneously begin receiving sizable transfer payments.

Variables of geography and industry mix also can play important roles in determining income performance. Large counties with 1990 populations of

more than 600,000 are expected to have higher earnings levels, while more rural border counties likely will have lower earnings. Geographic estimates also can be calculated for other regions of the state, but the border region is especially interesting because of its economic and demographic differences from Texas as a whole.

## Empirical Results

Our study shows that improving secondary school completion rates yields striking results. The single largest gain—\$5,760 a year per resident—would come in Starr County in the Rio Grande Valley. Raising its high school graduation rate to the state average would permit Starr County to more than double its 1990 per capita income, a yearly total of more than \$210 million. In nearby Hidalgo County, income per person would rise by more than \$3,600 annually, or a total of more than \$1.26 billion. Personal incomes in Cameron, El Paso and Webb counties also would rise by more than \$400 million if their cumulative graduation rates were brought to the state average. For all border counties, nearly \$3.6 billion in forgone income results from a dropout rate that exceeds the state average.

Table 1 shows implied income losses due to high school noncompletion in 13 border counties and the region overall. Column 2 calculates the effect on per capita income of raising each county's high school graduation rate to the 1990 Texas state average of 72.1 percent. Column 3 calculates the aggregate economic impact of these lost earnings.

Furthermore, our study found that increases in the percentage of the population over 65 are associated with income gains throughout Texas. According to our findings, residency in urban areas is associated with higher per capita incomes, while the border region is linked to lower incomes. Presumably, the latter result partially reflects language and other skill shortfalls often observed in areas where recent immigrants have settled. Infrastructure gaps relative to the rest of Texas also contribute to that finding.

Table 1  
**Implied Income Losses Due to High School Noncompletion**

County	Per capita impact	Aggregate impact (in millions)
Brewster	Not calculated	Not calculated
Cameron	\$3,143	\$ 744.7
El Paso	1,195	643.8
Hidalgo	3,627	1,262.5
Hudspeth	3,413	9.2
Jeff Davis	370	.7
Kinney	2,261	6.6
Maverick	5,177	170.4
Presidio	4,011	24.5
Starr	5,760	210.2
Terrell	825	1.1
Val Verde	2,276	80.1
Webb	3,456	413.8
Zapata	3,129	26.3
Border zone	\$2,620	\$3,593.9

NOTES: All impacts calculated in dollars for 1990 relative to the Texas state average. Border zone estimate is a weighted average net of Brewster County. Brewster County impacts are not calculated because its high school graduation rate exceeds the Texas state average.

As state and national labor markets change, the implied costs of high school noncompletion may fall below their true level. Namely, service sector or education positions account for the majority of new jobs in Texas, and many of these jobs require training beyond a high school degree. Failure to graduate from high school is thus likely to impose a more severe financial penalty today than in 1990.

## Conclusion

Regional economic research has attempted to quantify the relationships between per capita incomes and socioeconomic factors. Our study, which focused on the state's 254 counties, simulated how education affects per capita income and underscored the importance of high school graduation for people in border counties. Reducing the high school dropout rate to a level commensurate with the rest of the state would have potentially increased income per border resident by more than \$2,600 annually in 1990. Collectively, that figure implies nearly a \$3.6 billion earnings loss for border county economies. Data from the 2000 census are likely to indicate an even larger income loss linked to the lack of educational attainment.

From a public policy perspective, border counties and other regions within the state will realize direct financial benefit by reducing high school dropout rates. Furthermore, border counties also may increase income performance by improving public infrastructure. More advanced transportation and communication networks with the rest of Texas will help offset the income decline partially attributable to geographic isolation and distance from other regional markets.

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## Notes

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<sup>1</sup> For an in-depth discussion of the study, see Thomas M. Fullerton, Jr., "Educational Attainment and Border Income Performance," Federal Reserve Bank of Dallas *Economic and Financial Review*, forthcoming.