

THE BORDER

Is It Really a Low-Wage Area?

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Arbitrage is a basic tenet of economics: If prices are relatively low in one location, buyers move in and bid prices up until parity with other areas is achieved. In labor markets, arbitrage implies that firms should be drawn to low-wage areas, causing job growth to be highest where pay is lowest, as long as all other things—taxes, public services, rents, access to customers and so forth—are equal.

One interesting puzzle of the Texas border economy is the apparent disconnection between wages and job growth. Average wages are sharply lower on the border than elsewhere in Texas, yet until recently the region's job growth lagged the rest of the state. Only in 1999, when most labor markets became painfully tight, did we see the border's job growth outpacing the rest of Texas (*Chart 1*).

A possible solution to the puzzle is that the border might not be a low-wage area after all. This article explores strategies for measuring the border's labor cost and demonstrates that from various perspectives the border cannot be considered a low-wage area.

Local Wage Variations

From a labor supply perspective, average wages might vary across Texas for two reasons. First, all types of workers may demand higher wages in some regions to make up for a higher cost of living or fewer amenities. Second, some workers, such as doctors and lawyers, expect to be paid more than other types of workers throughout the state, so areas with lots of doctors and lawyers

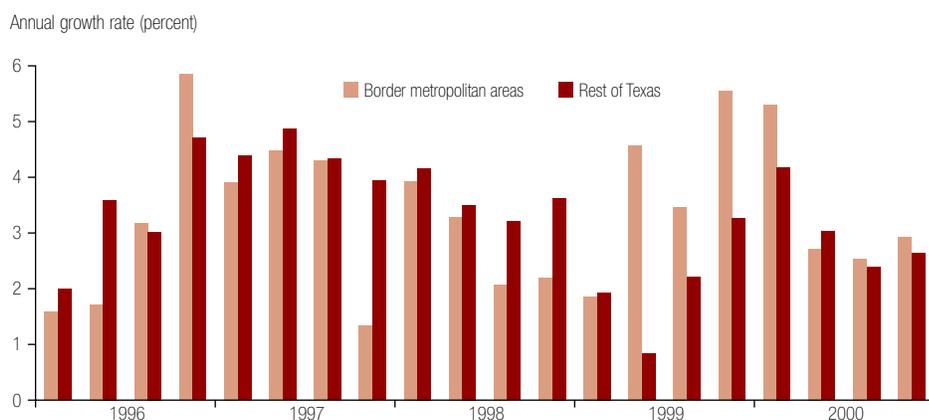
will have higher average wages than regions with relatively few, all else being equal.

The first local wage variation is common to all types of workers and would be reflected in the wages companies would have to pay; the second is limited to specific types of workers and is unlikely to be reflected in the general labor cost.¹

Properly estimating the local wage level requires excluding the second source of wage variation. If all types of workers were represented uniformly across the state, such adjustments could be straightforward. First, calculate the average wage for each type, then use it to figure the local deviation from the comparable state wage. Finally, determine the local price level as the average of the local deviations from the state wage. For example, if Austin construction workers, engineers, nurses and so on were each paid 10 percent more than the average state wage for their professions, the wage level in Austin would be 10 percent above the state average.

However, some types of workers are found in only a few Texas communities. For instance, there are no rig workers where there is no oil. Therefore, the state average wage for those occupations would be a biased standard from which to compare local deviations. After all, if a particular kind of worker is found only in Austin, the city's deviation from the state average for that industry

Chart 1
Border Versus Texas Job Growth
(Total Nonfarm Employment)



would be zero—making the city’s wage level appear artificially low.²

One strategy for dealing with this problem is to pare down the sample to only the occupations found throughout Texas. Another strategy is to use regression analysis to estimate the local wage level, with indicator variables for each occupation, year and market.³ I pursue both approaches.

The Data

Data for this analysis come from two sources. First, the Bureau of Labor Statistics’ Occupational Employment Statistics Survey provides average annual salaries by metropolitan area for 670 nonagricultural occupations, ranging from purchasing managers to musicians. Although many occupations are reported for only a handful of cities, each Texas city has information on at least 143 occupations. The data were constructed by blending survey responses from 1996 through 1998. Data for 1996 and 1997 were adjusted for inflation using the national inflation rate.

Second, I focus on a benchmark occupation richly represented in all metropolitan areas: teaching. I use 1998–99 compensation rates of slightly more than 200,000 public school teachers to estimate the profession’s local wages. The data allow me to strip away wage variations that arise from local differences in teacher characteristics, such as experience, educational attain-

ment, gender and ethnicity. I also remove variations in working conditions, such as the proportion of students who have limited English proficiency.⁴ The resulting wage index represents the predicted cost of hiring a teacher to do the same job in each of the metropolitan areas and, therefore, should reasonably measure the local compensation level.

Each approach has strengths and weaknesses. Because teacher data allow me to control for individual characteristics, estimates of the local wage level are independent of the workers’ experience and education. Given the relatively low educational attainment on the border (*Chart 2*) and the strong relationship between wages and worker education, controlling for the distribution of educational attainment is particularly desirable. In addition, the teacher data represent the population of public school teachers, making those data less subject to sampling error and other problems that may affect the Bureau of Labor Statistics data. On the other hand, teachers are a select group whose tastes and preferences may not generalize to other types of workers. Therefore, indexes based on broader data may more appropriately measure general labor cost.

The Results

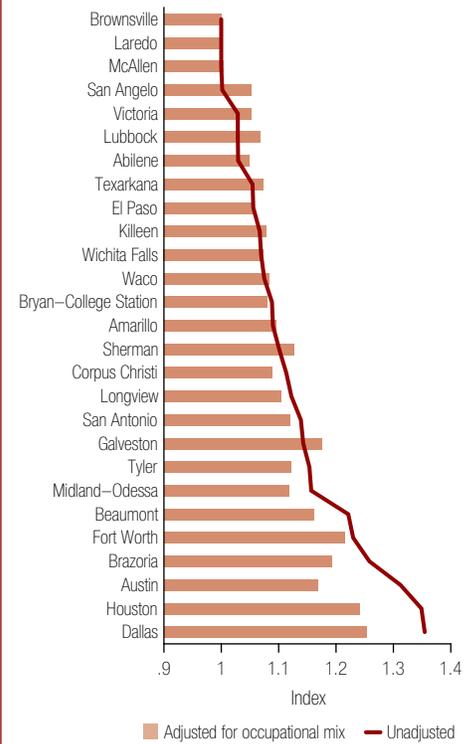
The first cut at the data is to look at average wages, unadjusted for the mix of occupations. For easier comparisons, I divide the wage level in each metropolitan area by the wage level in the metro area with the lowest pay to yield an index value for that metro area.⁵ An index value of 1.1 indicates that the wage level in that metropolitan area is 10 percent higher than in the low-wage area.

Chart 3 presents the index of average wages, ranging from 1 in Brownsville, Laredo and McAllen to more than 1.35 in Dallas. Average wages in El Paso are more than 5 percent higher than in the other border cities but remain among the lowest in the state.

Chart 3 also shows the index as adjusted for occupational mix. The adjusted series has a much narrower range than the unadjusted, suggesting

Chart 3

Occupational Wage Index for Texas Cities



SOURCES: Occupational Employment Statistics Survey, Bureau of Labor Statistics; author’s calculations.

that part of the high average wage in Dallas, Houston and Austin arises from concentrations of high-wage occupations.

In contrast, the adjustments don’t change the border’s index values that much, suggesting that low average wages in that area arise from low wages across many occupations, not from a general concentration of low-wage occupations.

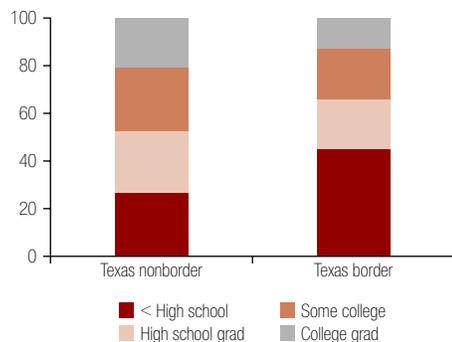
Notably, the adjustments for occupational mix widen the gap between the border and the rest of metropolitan Texas. Average wages in many cities are very close to those for Brownsville, Laredo and McAllen prior to adjustments. But after accounting for occupational mix, wages in these border cities are at least 4.5 percent lower than in any other Texas metropolitan area. Furthermore, only Brownsville, McAllen and Laredo have significantly lower wages than El Paso.

This analytic approach assumes that people from all walks of life have similar

Chart 2

Educational Attainment in Texas Border and Nonborder Metropolitan Areas

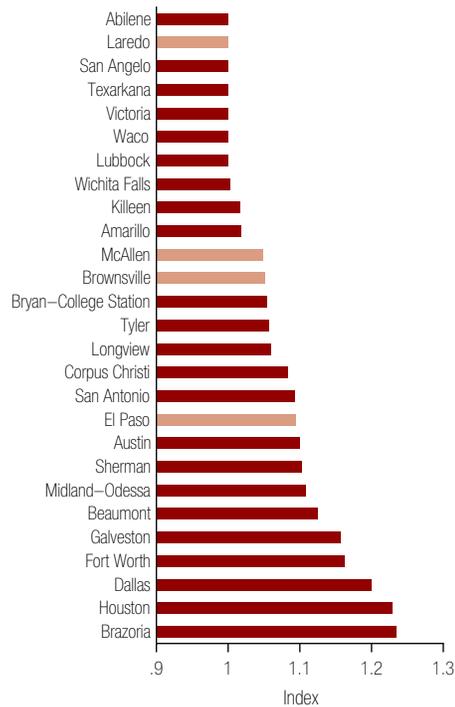
Shares of population over 25 years old (percent)



SOURCE: 1990 U.S. Census.

Chart 4

Professional and Technical Wage Index for Texas Cities



SOURCES: Occupational Employment Statistics Survey, Bureau of Labor Statistics; author's calculations.

tastes for local characteristics. If nurses, bank tellers and construction workers would demand a 10 percent premium to work in a particular community, so would other types of workers. However, anecdotal evidence suggests professionals and other highly skilled workers might be drawn to the bright lights of the big city more so than other types of workers.

Therefore, I estimated average local wages for professionals and technical workers, adjusting for variations in the mix of professional and technical occupations. Chart 4, which presents the index for professional, paraprofessional and technical workers, illustrates that these wages are not unusually low along the border. For example, professional wages in Brownsville and McAllen are 5 percent higher than in Waco, Texarkana and Abilene. So when we consider some of the fastest growing occupations in Texas, the border region is not a low-wage area.

In Texas, teachers make up the lion's share of professional and technical

workers. As Chart 5 illustrates, the border is a relatively high-wage area for teachers. Only Houston and Brazoria have local teacher wage levels that significantly exceed those in McAllen and Laredo.

To the extent that other professional and technical workers share similar tastes with teachers, this evidence suggests that border employers must pay a premium to hire these workers. From this perspective, border wages are anything but low.

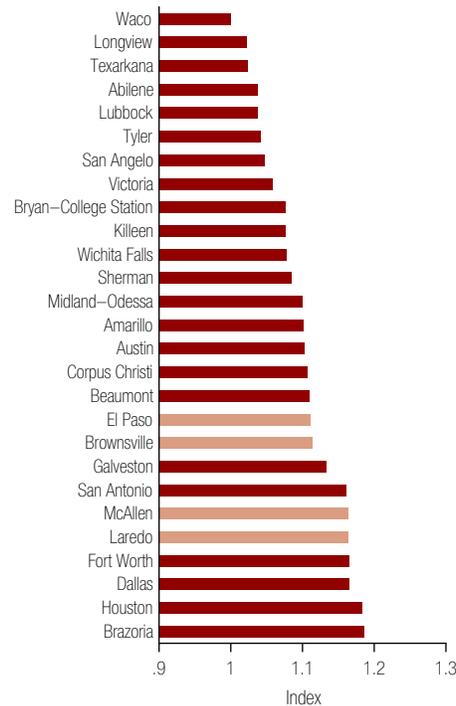
Conclusion

Conventional wisdom says that wages are low on the Texas border with Mexico. However, the evidence suggests that highly skilled workers are relatively scarce in the region and that, unlike other worker types, professional and technical workers are unwilling to accept less from border employers than from employers in other parts of the state.

Indeed, the border can be an expensive place to hire professional workers.

Chart 5

Teacher Wage Index for Texas Cities



SOURCES: "A Study of Uncontrollable Variations in the Costs of Texas Public Education," a report by the Charles A. Dana Center, University of Texas; author's calculations.

Given that much of Texas' recent growth has been in industries that rely heavily on professional and technical workers, it is not surprising that job growth on the border is only keeping pace with job growth in the rest of Texas.

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Notes

This research was conducted while Taylor was principal researcher for the Cost-of-Education Study at the Charles A. Dana Center, University of Texas at Austin. She thanks all involved for assistance. The article's conclusions do not necessarily reflect the positions of the center, UT or any study participant.

- Arguably, some individuals care about the local income distribution and are sensitive to a concentration of highly paid individuals, regardless of their occupations. If this is a widespread perspective, the income distribution will be a local (dis)amenity and will be capitalized into the wages paid to all types of workers.
- In this example, the "true" Austin wage level is presumed to be higher than the state average.
- Implicitly, this discussion assumes that worker types can be indexed by occupation.
- Metropolitan-area fixed effects are estimated following the framework in "A Study of Uncontrollable Variations in the Costs of Texas Public Education," a report to the Texas Legislature by the Charles A. Dana Center at the University of Texas (October 2000), www.utdanacenter.org. This analysis deviates from the center's study by substituting metropolitan-area fixed effects for the community characteristics in the center's study.
- To reflect measurement error in the estimated wage levels, I use the following strategy for constructing occupational indexes. The low-wage market is determined by adding two standard errors of the estimate to the estimated wage level for each metropolitan area and then using the minimum of this sum as the reference wage in constructing the index. No market's estimated local wage is significantly lower than this reference wage. Markets with an estimated wage below the reference wage are assigned an index value of 1.