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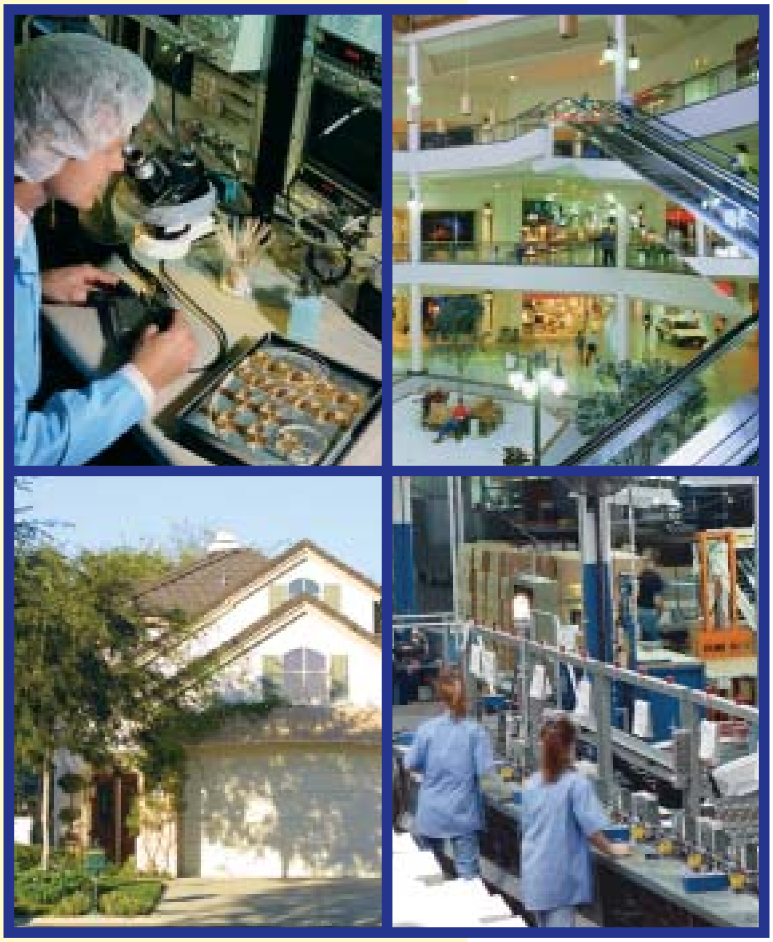

What Wages and Property Values Say About Texas

Two principal factors determine which cities experience the most rapid economic growth: business investment and labor growth. Business investment is high in cities where productivity is high relative to the cost of production. Workers are most attracted to cities where the amenities and wages are high relative to the cost of living.

Together, wages and property values convey considerable information about a city's productivity and amenities, and therefore about its growth potential. Taken independently, however, neither provides a complete measure of amenities and productivity. Wages could be low in a city because productivity is low, but they could also be low because people are willing to accept lower wages to live in a place with so many amenities. High wages could indicate either high productivity or the need to compensate workers for a lack of amenities. Similarly, high property values indicate either that high productivity has attracted enough business to bid up property values, that high amenities have attracted enough residents, or both.

A simple economics framework—one that takes into account the role labor and capital

(Continued on page 2)

Debunking Derivatives Delirium

Banks have gotten a lot of bad press lately. Some commentators have gone so far as to declare a banking breakdown, brought on by the free market policies of the 1990s. At the heart of much of the controversy is the explosive growth in banks' use of the sometimes complex financial instruments known as derivatives.

Close examination, however, suggests the potential costs of derivatives are often exaggerated and their benefits downplayed. Moreover, recent data provide evidence that despite talk of a breakdown, the banking system has been remarkably resilient. Contrary to popular claims, the free market policies instituted in the 1990s have contributed to, rather than detracted from, the industry's stability.

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mobility plays in establishing regional market conditions—can be used to sort through the contributions of productivity and amenities to wages and property values. This framework implies that Texas cities range from near to below the national average in productivity for a variety of reasons that range from educational attainment to government policy. One major Texas city ranks above the national average in amenities, but most are below. When Texas' rapid population and employment growth over the past decade is taken into account, however, it is apparent that Texas offers a combination of wages, property values, natural amenities and government policies that is particularly attractive to labor. That attractiveness has helped propel the state's economic growth.

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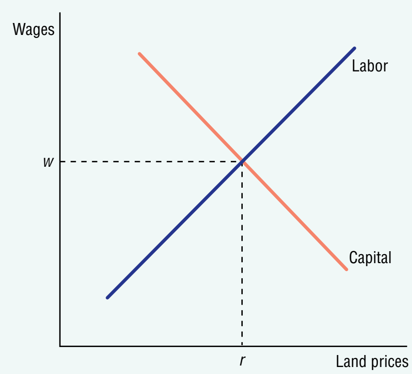
Labor Mobility and Compensation

People seek to live and work in cities or regions that offer the best overall compensation package. The total compensation of living and working in a region takes into account salary and benefits, natural amenities, cost of living, government services and taxes. In a market economy, people's willingness to move between regions fosters adjustments in wages (salary and benefits) and property values such that on the margin individuals can expect to find the same level of economic well-being in different cities across the country. For a given set of amenities and government policy, people will expect higher wages to live and work in cities that have higher property values and will accept lower wages in regions with lower property values. For labor, this willingness establishes a positive relationship between wages and property values (*Chart 1*).

To live in communities with greater amenities or advantageous government policy, people will accept either lower wages, higher property values or some combination. The result is lower real wages (that is, wages adjusted for the cost of living) in communities with greater amenities, advantageous government policy or both. To live in regions with lesser amenities or an unattractive government policy, people will demand higher wages, lower property values or both. The result is higher real wages.

Chart 1

Labor and Capital Establish Market Conditions for Wages and Land Values



Workers are willing to pay higher land prices to reside in cities where they can earn higher wages. Firms are willing to pay higher wages in cities with lower land prices. Labor and capital establish the market-clearing conditions for wages and property values in a city, shown as *w* and *r*, respectively.

Capital Mobility and Returns

When determining where to locate their plants, firms seek the best returns on their capital investment. In any city, the returns to capital are affected by the city's labor productivity, wages, property costs, government services and taxes, and the natural amenities in the region that affect production. In a market economy, the movement of capital between cities ensures that capital earns the same rate of return in each city. For a given level of productivity, amenities and government policy, firms will offer lower wages in cities that have higher property values and will be willing to pay higher wages in regions with lower property values. For capital, this willingness establishes the inverse relationship between wages and property values shown in Chart 1.

Firms that locate their operations in regions with advantageous government policy or productive natural amenities will accept higher property values, pay higher wages or both. To locate their operations in regions with less attractive government policies or fewer productive amenities, firms will expect to pay lower property values, lower wages or both.

Regional Market Conditions

Each city's labor and capital markets, taken together, yield a combination of wages and property values that reflect the city's labor productivity and amenities, as shown in Chart 1.[1] In communities where labor is more productive than the national average, nominal wages will be above the national average. If that community also has amenities that are at the national average, property values will be sufficiently above the national average that real wages (that is, wages adjusted for the cost of living) remain at the national average.

In communities with above-average amenities, labor will accept real wages below the national average. If the community's labor productivity is at the national average, nominal wages will also be at the national average. Property values will be sufficiently above the national average to ensure that real wages are below the national average.

Productivity and Amenities in Texas Cities

As described above, nominal and real wages provide a basis for comparing the productivity and amenities in Texas cities with their counterparts in other states. Nominal wages reflect productivity; cities with above-average labor productivity have above-average nominal wages, and cities with below-average labor productivity have below-average nominal wages. Real wages reflect amenities; cities with above-average amenities have below-average real wages, and cities with below-average amenities have above-average real wages.

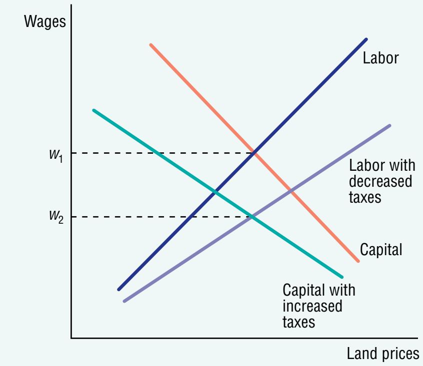
Therefore, we can use nominal and real wages to measure the productivity and amenities in various U.S. cities.[2] To create these measures, we adjust nominal wages to account for the occupational mix of each city's workforce.[3] To create real wages, we adjust nominal wages to account for the educational attainment and age of the labor force and for differences in the median value of residential property and other geographic differences in living expenses.[4]

As shown in Chart 2, U.S. cities can be classified into four categories on the basis of their productivity and amenities: low productivity/low amenity (Youngstown, Ohio); high productivity/low amenity (Atlantic City); high productivity/high amenity (San Francisco); and low productivity/high amenity (Raleigh–Durham). Although Dallas is close to the national average in both categories, all Texas cities rank below the national average on labor productivity. Austin is relatively close to the national average in productivity and the only Texas city by this measure that has above-average amenities. Beaumont is decidedly low in both labor productivity and amenities.

One factor that contributes to lower labor productivity in Texas is a younger and less educated population.[5] Another is the relatively heavy taxation on business and the relatively light taxation on labor income. This taxation pattern reduces the capital-to-labor ratio by discouraging capital formation and encouraging labor in-migration. From the perspective of labor, the relatively light taxation of labor is an amenity that reduces the nominal wage required for each property value (*Chart 3*). In a real sense, labor considers the state's tax policy an amenity and is willing to accept lower real wages for the continuation of such a policy. From the perspective of firms, the relatively high business taxation is a disamenity that requires lower wages at each given property value. The result is lower nominal and real wages in Texas cities.

Chart 3

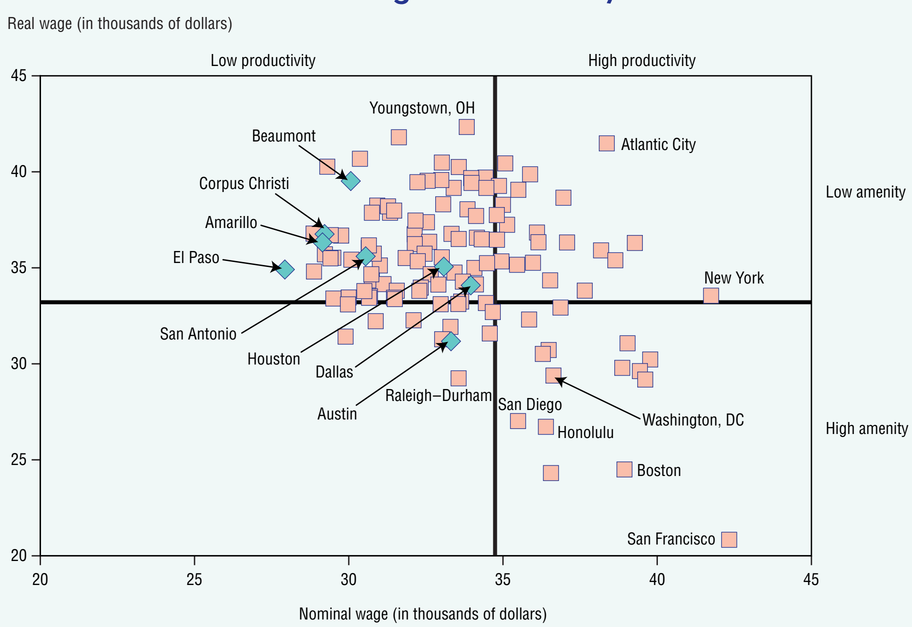
Effects of Increasing the Share of Taxes Borne by Capital



With reduced taxation, workers are willing to accept lower wages at each given property value, which amounts to a reduction in real wages. With increased taxation, the wages firms are willing to pay at each property value also decline. The result is a reduction in wages (from w_1 to w_2) and lower productivity. The effect on property values is unknown.

Chart 2

Most Texas Cities Below Average in Productivity and Amenities



NOTE: Heavy horizontal and vertical lines indicate average for cities in the study.

Chart 4

Texas Population Growth Outpaces Nation's

Index, 1990 = 100

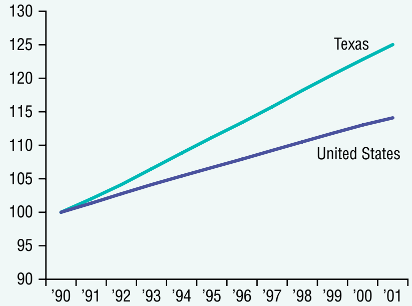
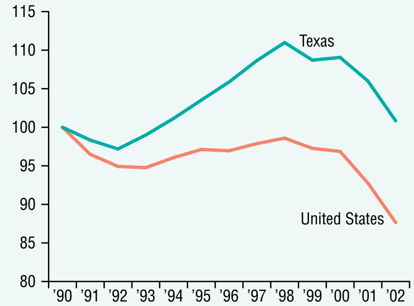


Chart 5

Texas Manufacturing Job Growth Stronger than Nation's

Index, 1990 = 100



Differential Rates of Regional Economic Growth

Our methodology—evaluating labor productivity and amenities in U.S. cities by comparing nominal and real wages—assumes a general equilibrium in labor and capital markets across the country. This assumption may be unwarranted for cities that have unusually strong growth. More rapid growth occurs in regions where capital and labor can make the highest returns.[6] More rapid employment growth will occur in cities where labor finds real wages are high (nominal wages are high relative to property values) given the natural and government amenities. More rapid growth of business capital will occur where nominal wages and property values are low for the city's labor productivity.

As shown in Charts 4 and 5, Texas population and manufacturing employment growth greatly outpaces the nation's.[7] This more rapid growth implies that labor finds Texas cities have an unusually attractive mix of amenities, property values and wages. In other words, a given real wage buys more amenities in Texas than elsewhere in the country, and Chart 2 understates the amenities of Texas cities.

As shown in Chart 6, Texas manufacturing capital grew at about the same rate as the nation's during the 1990s. The similarity in growth rates implies that nominal wages and property values in Texas cities are on par with the state's productivity. Thus, Chart 2 accurately represents the labor productivity in Texas cities.

Productivity and Amenities of Texas Cities

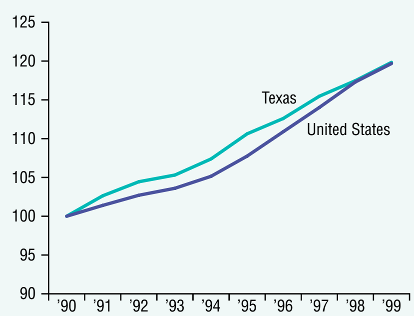
On the whole, the wages and property values in Texas cities appear to accurately reflect the cities' labor productivity. Low educational attainment and a high share of taxes paid by business have helped keep the state's labor productivity below the national average. On the other hand, labor finds that Texas offers an attractive combination of wages, property values, and natural and government amenities—and the low share of taxes paid by workers is one of those amenities. Texas' ability to attract labor has manifested itself in a consistent pattern of population, employment and economic growth that exceeds the national average.

—Stephen P. A. Brown
Lori L. Taylor

Chart 6

Texas Manufacturing Capital Grew at National Rate During the 1990s

Index, 1990 = 100



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Notes

1 This equilibrium analysis follows Jennifer Roback (1982), "Wages, Rents and the Quality of Life," *Journal of Political Economy* 90 (December): 1257–78.

2 This methodology follows Patricia E. Beeson and Randall W. Eberts (1989), "Identifying Productivity and Amenity Effects in Interurban Wage Differentials," *Review of Economics and Statistics* 71 (August): 443–52.

3 Adjusting nominal wages for occupational mix prevents concentrations of particular occupations from dominating a city's productivity estimates.

4 These adjustments create a real wage for a person who is comparable across regions.

5 See Lori L. Taylor (2003), "Region Lags Nation in Education Gains," Federal Reserve Bank of Dallas *Southwest Economy*, Issue 1, January/February, 1–5.

6 In the process of uneven growth, markets work toward a national equilibrium in which the rate of return on capital is the same in each community; labor is paid the value of its marginal product as seen on a national market; and a combination of nominal wages, property values and amenities leaves market-clearing individuals with the same degree of economic well-being in any community.

7 The growth in manufacturing employment understates the growth rate differential between Texas and the nation. We use manufacturing employment to maintain comparability with the capital data we have.