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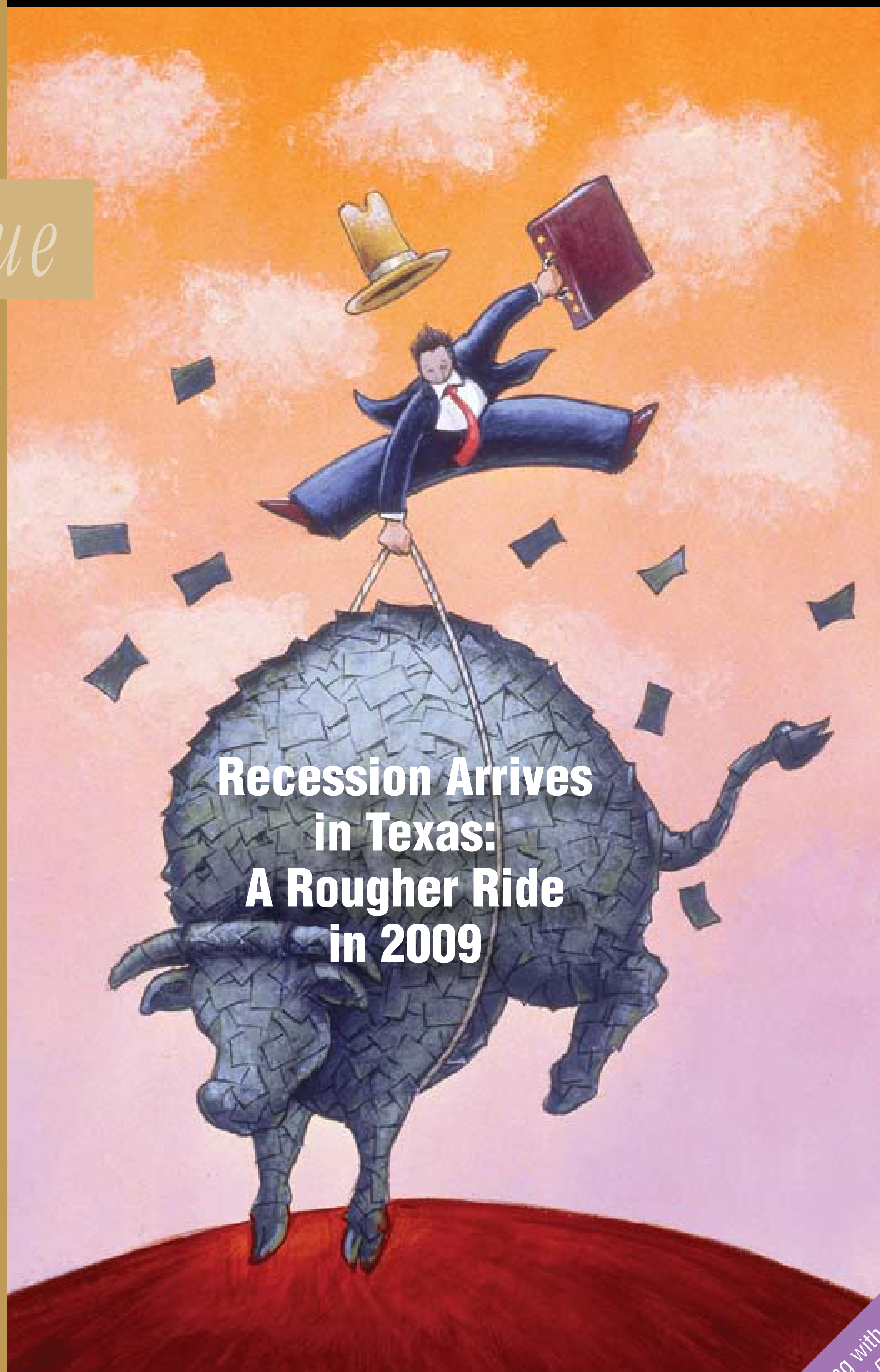


Recession Arrives in Texas: A Rougher Ride in 2009

Starting with this issue, *Southwest Economy* will be published quarterly.

President's Perspective

Protectionism will undercut any temporary benefits it provides with long-term damage and destruction.

Before Nicolas Sarkozy became France's president, he offered a politically incorrect dose of economic reality. "Globalization is a fact," he said. "It would be as pointless to deny it or oppose it as to challenge the law of gravity or to stop the movement of the clouds. The question therefore is not whether globalization is good or bad. It is whether we are prepared for it."

In the two years since Sarkozy's observation, the tailwinds that had propelled the world's economies have reversed direction. Many countries now face stiff headwinds that threaten growth on a variety of fronts.

Facing tougher times, many countries are shrinking from globalization, looking inward to protect themselves. I am sure most *Southwest Economy* readers are well aware of proposals aimed at restricting foreign buying, recruiting and investing that are now being advanced around the world—from England to France to these United States.

Today, the question is not whether we are prepared for the forces of globalization—what Sarkozy described as a *fait accompli*. It is whether we will stand to defend it from the siren calls of protectionism.

We know firsthand the destruction that protectionism can bring. It was the protection afforded in the Smoot–Hawley Tariff Act of 1930 that made the Great Depression regrettably "great." The Panic of 1873 was transformed into a 23-year-long depression by Chancellor Otto von Bismarck's abandonment of free trade in Germany, aided by our own President Benjamin Harrison's election platform of protectionism.

Protectionism is a dangerous, double-edged sword. It benefits a handful of domestic producers at the expense of their peers. It ensures the employment or recruitment of some while forcing the layoffs of others. It raises prices on imported goods while simultaneously raising the cost to consumers of the domestic goods they purchase. In essence, it will undercut any temporary benefits it provides with long-term damage and destruction.

I am happy to see Nathan Sheets, director of the Federal Reserve Board's Division of International Finance, address the danger of protectionism in this issue's "On the Record" feature. I urge you to read the interview, which offers plenty of other cogent insights.

Richard Fisher

Richard W. Fisher
President and CEO
Federal Reserve Bank of Dallas

Recession Arrives in Texas: A Rougher Ride in 2009

By Keith R. Phillips and Jesus Cañas

Through much of 2008, the Texas economy continued to expand while the nation fell into recession. Growth in the energy and high-tech sectors and rising home prices were key factors in making Texas' economy one of the nation's strongest.

In the last half of the year, however, the state's economic conditions deteriorated rapidly. The weakening was primarily due to the deepening global financial crisis and sharp declines in energy prices, high-tech activity and exports.

Based on available data, Texas was in recession when 2009 began and was probably on the brink weeks or months before then. The state's last recession came during the 2001–03 tech bust.

The beginnings and ends of recessions take time to pinpoint because of data revisions and economic noise. This is especially true for state economies because performance measures are less reliable.

Evidence of the current recession comes from data on jobs and unemployment, composite gauges of current and future economic activity, various industry measures and anecdotal reports from Texas businesses.

These indicators suggest Texas trailed the official December 2007 start of the U.S. recession by at least six months. So far, the state's economic losses have been moderate compared with the rest of the country's, which means Texas is still faring better than the nation as a whole.

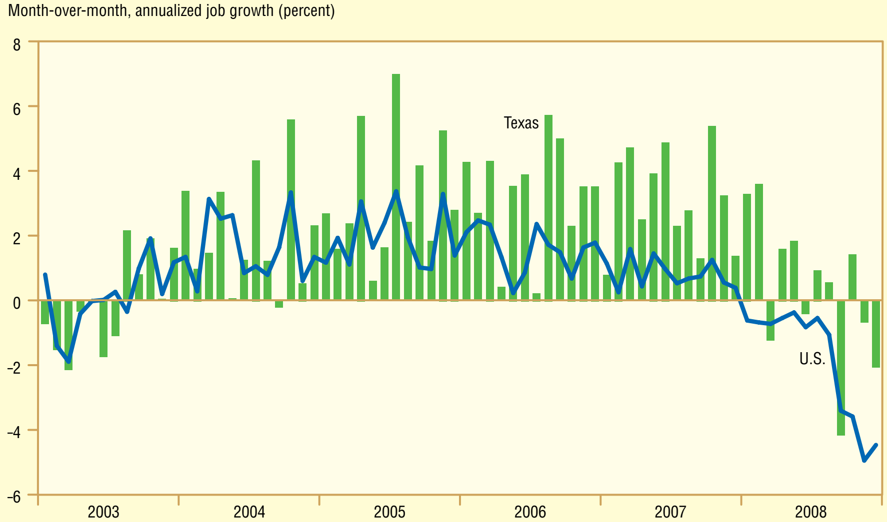
Based on available data, Texas was in recession when 2009 began and was probably on the brink weeks or months before then.

A Broad View

Texas' job growth of 0.4 percent in 2008 was greater than the U.S. decline of 1.9 percent and ranked eighth in the nation. However, the employment picture worsened toward the end of the year (*Chart 1*). At annual rates, jobs grew 1.5 percent through June, then declined 0.7 percent in the second half of the year.

Employment growth fell sharply in

Chart 1
Texas Loses Jobs in Year's Final Months



NOTE: Data are seasonally adjusted.
SOURCES: Bureau of Labor Statistics; Texas Workforce Commission.

September, the month Hurricane Ike delivered a blow to the Texas coast. It bounced back in October, but cyclical economic factors likely caused declines of 0.7 percent in November and 2.1 percent in December.

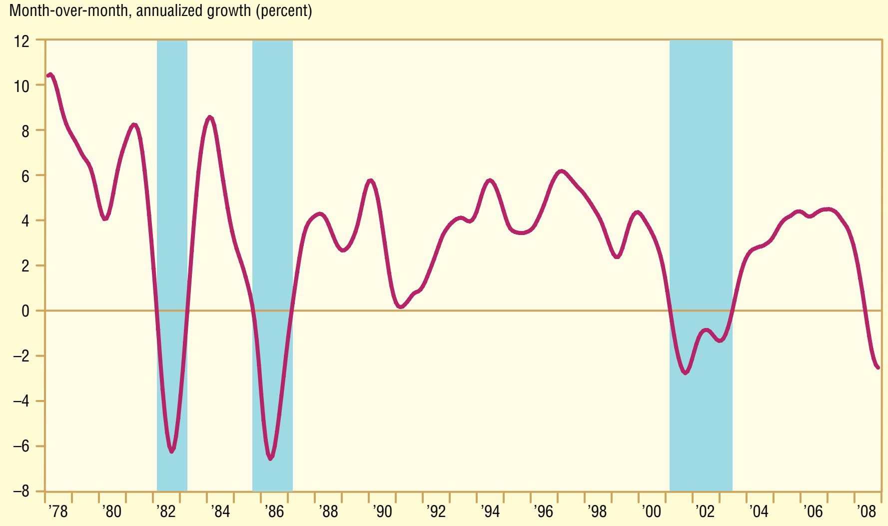
As job growth weakened, the Texas unemployment rate rose sharply from 4.4 percent in June to 6 percent in December. This compares with the U.S. rate's increase from 5.6 percent to 6.8 percent.

The roots of the rising unemployment rates are different. In the U.S., much of the increase has been due to lost jobs. In Texas, the rate has climbed because of slower but still positive employment gains and faster labor force growth.

A broad picture of the state's economy comes from the Dallas Fed's Texas Business-Cycle Index, which combines movements in employment, the unemployment rate and gross state product. The index is designed to distinguish between expansion and recession.

A moderate decline in July marked its first drop into negative territory since July 2003, when the state was in recession (*Chart 2*). The index continued falling through December. While it's subject to revision, the index has rarely declined in real time during an expansion period.

Chart 2
Texas Business-Cycle Index Falls in Second Half of 2008



NOTES: Data are seasonally adjusted. Shaded areas represent Texas recessions as defined by persistent declines in the Texas Business-Cycle Index.
SOURCE: Federal Reserve Bank of Dallas.

A Sectoral View

Some key components of the Texas economy echo the broad measures in showing a sudden weakening in the second half of 2008.

Take exports. Aided by a falling dollar and strong energy industry, they were a bright spot the first six months of 2008, surging 12.4 percent. Compared with a year earlier, sales were up 15.2 percent to Europe, 13.2 percent to Latin America and 5.7 percent to Asia.

However, slower growth overseas and the dollar's rising value have curtailed international demand, and Texas exports fell 16 percent from June to November (*Chart 3*).

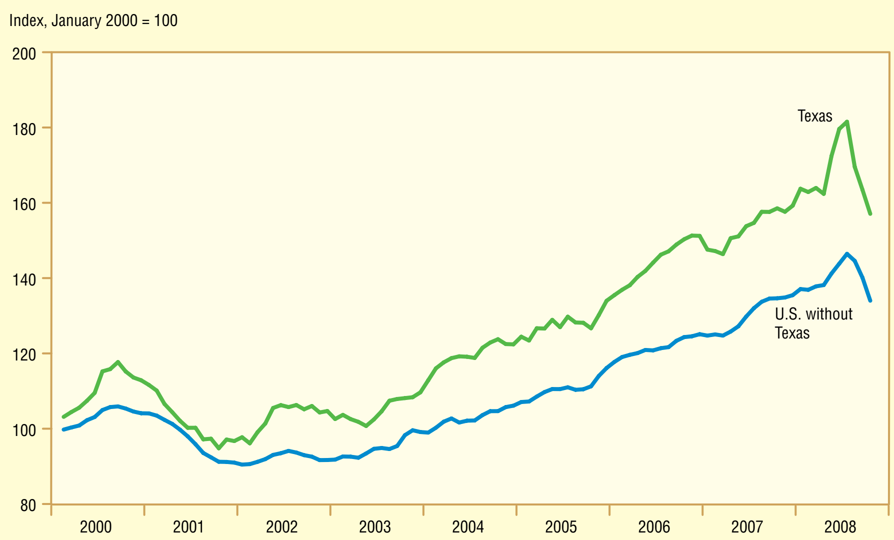
Partly due to ebbing overseas sales, Texas manufacturers have experienced steep declines in business. Production, shipments, new orders and capacity utilization measures all fell sharply the final three months of the year, according to the Dallas Fed's Texas Manufacturing Outlook Survey. High-tech manufacturing output data aren't available at the state level, but national measures show this sector was hit hard the second half of 2008.

In the housing market, inventories, foreclosures and delinquencies all rose last year—but less in Texas than in the nation. Key to the divergence was home prices. They declined nationally but continued to rise in Texas on a year-over-year basis through the third quarter, according to the Federal Housing Finance Agency's measure of resold homes. Appreciation was broad based across Texas metro areas.

However, these price gains narrowed throughout the year, fading to 0.45 percent from the second to third quarter. More broadly, the state's housing markets weakened, with new home construction falling sharply last year. Most likely, prices will dip slightly in 2009.

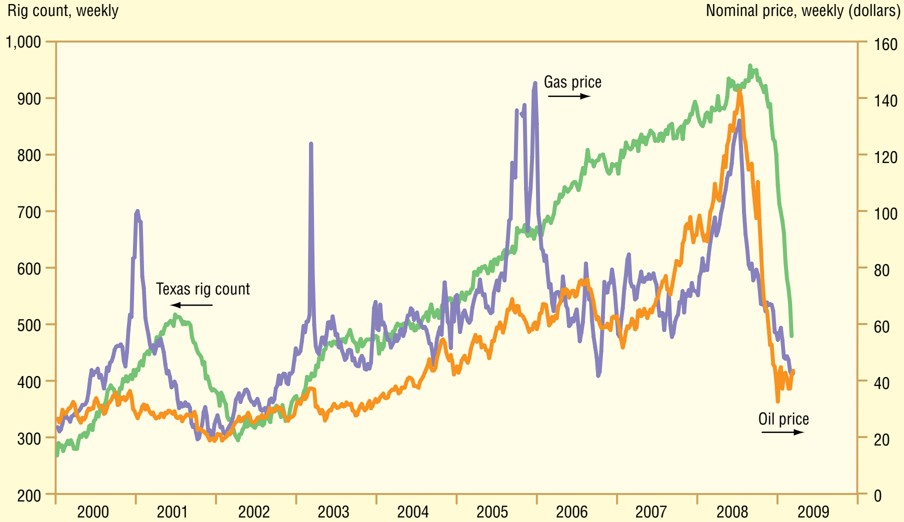
The energy industry was a key factor in the Texas economy's relative strength in the first half of 2008. Texas produces nearly a third of all U.S. natural gas, and it employs almost half the workers in the U.S. oil and gas extraction industry. Primarily

Chart 3
Texas Exports Drop Sharply



NOTES: Index based on seasonally adjusted data. Three-month moving averages shown.
SOURCES: U.S. Census Bureau; WISERTrade; seasonal and other adjustments by the Federal Reserve Bank of Dallas.

Chart 4
Rapidly Falling Energy Prices Lead to Contraction in Drilling



NOTES: Gas price is multiplied by 10. Oil price is West Texas Intermediate.
SOURCES: Henry Hub; the *Wall Street Journal*; Baker Hughes.

Table 1
Major Metros Differ in Exposure to Recession

Cyclical industries	Austin	Dallas	Fort Worth	Houston	San Antonio	El Paso
Natural resources and mining	.4	.4	1.1	2.6	.5	.3
Construction	1.2	1.0	1.1	1.4	1.1	1.0
Manufacturing	.8	1.0	1.1	.9	.6	.8
Trade, transportation and utilities	.9	1.0	1.2	1.0	.9	1.1
Wholesale trade	1.2	1.4	1.1	1.2	.8	.9
Retail trade	.9	.9	1.1	.9	1.0	1.2
Information	1.3	1.6	.8	.7	1.2	.9
Financial activities	1.0	1.5	.9	.9	1.3	.7
Finance and insurance	.9	1.6	.9	.8	1.3	.6
Real estate and rental and leasing	1.1	1.4	1.0	1.3	1.2	1.0
Professional and business services	1.1	1.3	.9	1.1	1.0	.9
Noncyclical industries						
Education and health services	1.0	.8	.9	.9	1.1	1.2
Leisure and hospitality	1.0	.9	1.0	.9	1.2	1.0
Public administration	1.3	.5	.6	.5	.8	1.1

NOTE: Figures expressed as location quotients. A quotient of 1 means the city's share of jobs matches the nation's in that industry.
SOURCE: Texas Workforce Commission Covered Employment and Wages.

because of high prices for natural gas, the Texas rig count by the middle of 2008 was at its highest level since the early 1980s.

The energy stimulus has deteriorated as oil and gas prices have plummeted. As a result, the Texas rig count fell by 410, or 50 percent, from the end of August to the first week of March (*Chart 4*).

The brunt of the decline has been borne by the land-based natural gas industry. The Beige Book, the Federal Reserve's anecdotal report on economic conditions, found that relatively expensive, nonconventional drilling in North Texas' Barnett Shale and the Permian Basin's tight sands led the upturn—and these areas will lead the downturn as well. Offshore and international activity have held up better and should continue to do so, largely because of the involvement of companies with longer-term perspectives and deeper pockets.

As drilling activity slows, layoffs are becoming widespread in the energy industry and are expected to grow in 2009. Related manufacturing activity is experiencing cutbacks, especially among producers of bits, pipe and tools.

Meanwhile, Texas' financial sector has expanded over the past several years, adding jobs while the industry has shrunk nationally. However, the current financial crisis will likely impact all regions significantly. Texas' financial-sector job growth has recently declined, and the trend is expected to continue.

In addition, troubled bank loans are increasing in the state, just as they are across the nation. Beige Book respondents continue to warn that a sharp tightening in lending will soon lead to a drop-off in commercial building. The Eleventh Federal Reserve District, which includes Texas and parts of New Mexico and Louisiana, has a high exposure to commercial real estate, at 29.4 percent of loans, compared with 13.9 percent for the nation. (*See "Noteworthy" on page 15.*)

A Metro View

According to the Dallas Fed's business-cycle indexes for Texas' major metro areas, the Austin and Dallas economies have slowed the most in recent months, while Houston has continued to grow.

In 2009, all the major metro areas in Texas will likely experience recessions. Their relative performance depends upon their industrial structures as well as local firms' competitiveness.

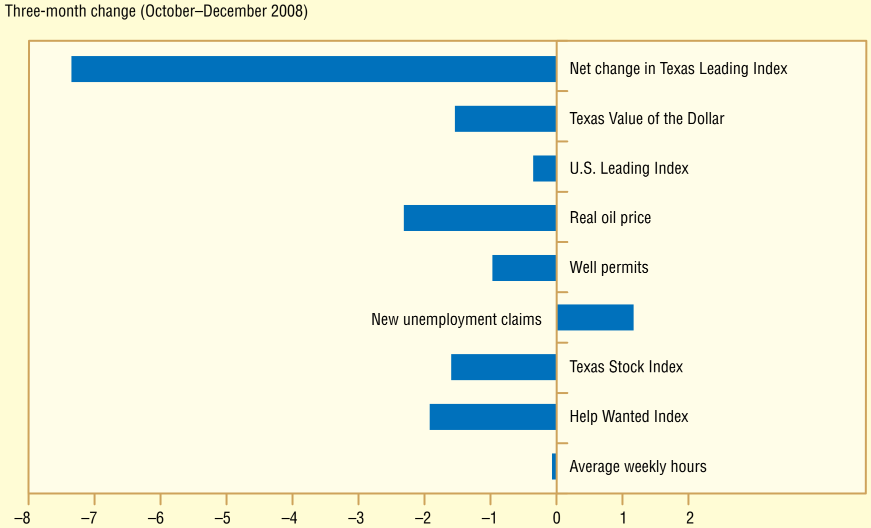
Location quotients based on jobs provide a way of looking at metro areas' vulnerability. Each quotient divides the local economy's share of jobs in an industry by the industry's share nationally.

A quotient equal to 1 indicates that a metro area matches the national average for jobs in an industry. If the metro's share is 40 percent larger, the figure is 1.4. Texas metros with high quotients in cyclically volatile industries are likely to be hardest hit in a recession.

Dallas has larger shares of jobs in the finance and insurance and real estate industries, which are at risk in the downturn (*Table 1*). It also has large shares in such cyclically sensitive industries as wholesale trade, information, and professional and business services. Dallas has small shares in noncyclical industries such as health, leisure and government. Austin has large shares in such cyclically sensitive industries as construction, wholesale trade and information.

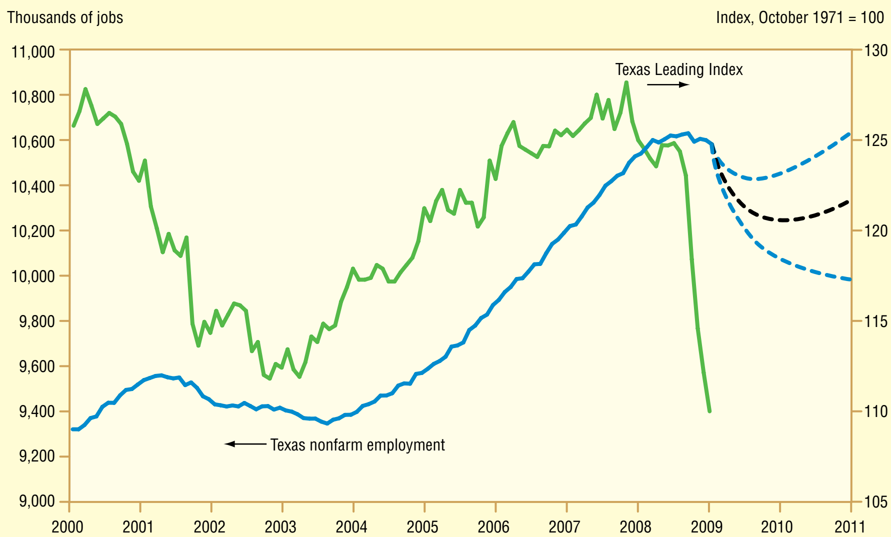
Based on Beige Book comments, past cyclical swings and the location quotients, Dallas and Austin will probably be hurt the most this year. If energy prices drop much

Chart 5
Texas Leading Index Components Decline Sharply and Broadly



SOURCE: Federal Reserve Bank of Dallas.

Chart 6
Falloff in Texas Leading Index Suggests Job Losses Highly Likely



NOTE: Broken lines represent the nonfarm employment forecast based on TLI, with an 80 percent confidence band.
SOURCE: Federal Reserve Bank of Dallas.

further, then Houston, with its heavy share of activity in natural resources and mining, will likely decline sharply as well.

The Forecast

The Texas Leading Index (TLI), the Dallas Fed's barometer of future economic activity, has weakened significantly in recent months. All but one of its eight indicators—new unemployment claims—declined the last three months of 2008 (*Chart 5*).

The biggest negative contributors have been the slide in real oil prices, sharp decline in help-wanted advertising, increase in the Texas export-weighted value of the dollar and decline in the stock index of Texas-based companies.

The stock index tumbled 37 percent from June to January, compared with a 35 percent decline in the Standard & Poor's 500. The performance likely reflects the steep drop in energy stock prices, which have a heavier weight in the Texas index.

Based on TLI forecasts, Texas' nonfarm employment will decrease through March 2010—with the worst of it coming in the first six months of this year. The model estimates that jobs will recede at an annual rate of 3.9 percent through June, then improve to a 1.6 percent decline in the second half (*Chart 6*).

For all of 2009, the forecast is for employment to fall 2.8 percent, the equivalent of 296,000 jobs. Based on historical observation, this job loss is consistent with a rise in the unemployment rate to about 8 percent.

In sum, 2009 will be a difficult year in Texas as the state deals with the repercussions of the deep financial crisis plaguing the national and global economies.

Energy prices are hard to predict, and big movements could change the state's short-term outlook. At the same time, improvements in world financial markets and overall economic growth would enhance the state's growth prospects, particularly in the second half of the year.

While the short-term Texas outlook is weak, longer-term prospects remain healthy. Job growth, low business and living costs, and a young, fast-growing labor force remain positives that will help in recovery.

Phillips is a senior research economist and advisor in the San Antonio Branch of the Federal Reserve Bank of Dallas, and Cañas is an associate economist based in the El Paso Branch.

Notes

The authors thank Mike Nicholson, Jackson Thies and Michelle Hahn for research assistance.

The business cycle and other indicators mentioned in this article can be found on the Federal Reserve Bank of Dallas website at http://dallasfed.org/research/index.html.

Texas Subprime Mortgages

Metros Vary on Risky Loans—and Delinquencies

The Dallas–Fort Worth area leads Texas' major metros in exposure to subprime mortgages—the high-risk loans that triggered the global financial crisis.

In second quarter 2008, the two North Texas cites and their suburbs, with 29 percent of the state's metro housing units, accounted for 37 percent of Texas' metro subprime mortgages (*Chart 1*).

The Houston area had about 24 percent of the subprime mortgages, a share slightly less than its 27 percent of housing units. Like Houston, Austin–Round Rock had fewer subprime mortgages relative to housing units. San Antonio had a share of subprime mortgages almost equal to its share of Texas' housing units, while El Paso had a slightly higher subprime share relative to housing units.

We classify mortgages as seriously delinquent when they're more than 60 days past due or in foreclosure. Dallas–Fort Worth led the major metros with about 19 percent of its subprime loans seriously delinquent, closely followed by Houston–Sugar Land with 18 percent (*Chart 2*).[1] San Antonio had about 15 percent, and Austin–Round Rock had 14 percent.

Looking at the smaller metros, the data show Wichita Falls led the state with about 20 percent of subprime loans in serious delinquency, while Odessa had the lowest proportion, with less than 10 percent.

Overall, Texas relied more than the nation on commercial subprime mortgages from mid-2003 to mid-2007—the period when such lending flourished. Yet in second quarter 2008, the state had less-severe problems with delinquencies and foreclosures than the nation did. Key to these trends were Texas' higher ratio of homeowners' equity in subprime loans and lower shares of highly risky adjustable-rate mortgages (ARMs) and cash-out refinancings.[2]

These factors vary widely among Texas metros. Loan-to-home-value ratios ranged from 82 percent in Austin–Round Rock to 88 percent in Odessa, with most metros reporting average home equity just shy of 85 percent.

The share of subprime loans including cash-out features was about 38 percent among Texas cities. It was as low as 24 percent in Laredo and as high as 47 percent in Victoria. ARMs accounted for about 40 percent of total subprime mortgages in Texas metros, but Abilene had as high as 48 percent and San Antonio just 34 percent.

The current financial crisis has brought a severe decline in subprime mortgage lending. Like the nation, Texas and its metros still have exposure to existing loans. Housing prices, unemployment and overall economic activity will play a significant part in determining how many of them run into trouble.

—Wenhua Di and Anil Kumar

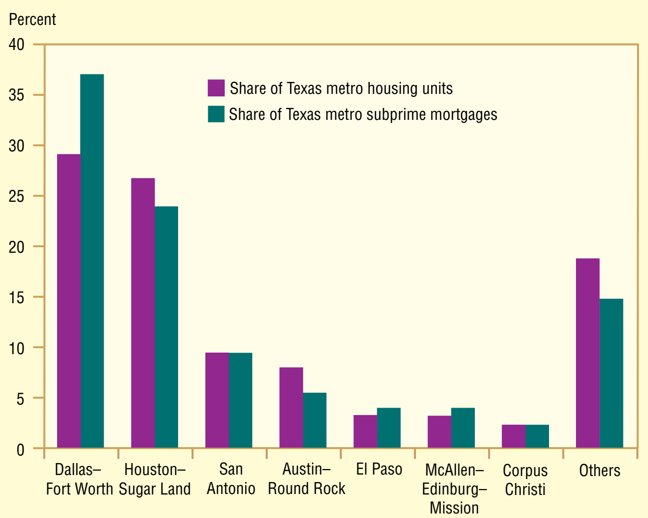
Notes

[1] For metro-level analysis of subprime mortgages in Texas, also see "Subprime Mortgage Performance by Metro Area," by Wenhua Di, Federal Reserve Bank of Dallas *e-Perspectives*, vol. 8, no. 2, 2008, dallasfed.org/ca/epersp/2008/2_3.cfm.

[2] See "Why Texas Feels Less Subprime Stress than U.S.," by Anil Kumar, Federal Reserve Bank of Dallas *Southwest Economy*, no. 6, 2008.

Chart 1

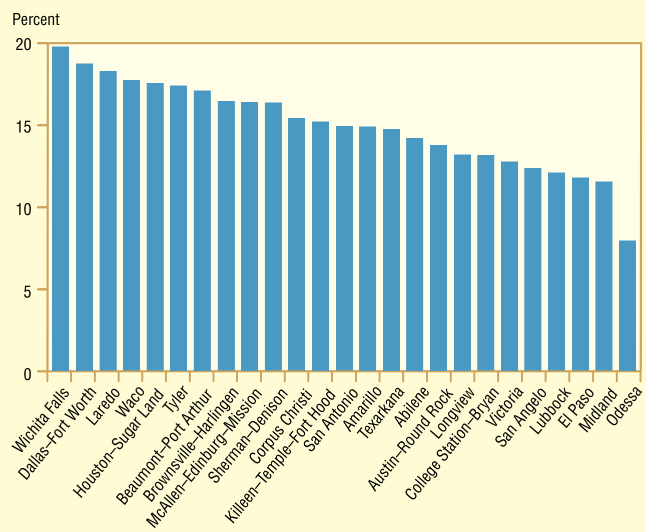
Subprime Mortgages Highest in Dallas–Fort Worth



SOURCE: First American LoanPerformance data from Federal Reserve Board, April 2008; Texas metro housing units from 2007 American Community Survey 1-Year Estimates; authors' calculations.

Chart 2

Metros Differ in Subprime Delinquency Rates



SOURCE: First American LoanPerformance data from Federal Reserve Board, April 2008; authors' calculations.

OnTheRecord

A Conversation with **Nathan Sheets**

Facing Financial Troubles in an Era of Globalization

Economist Nathan Sheets, director of the Federal Reserve Board's Division of International Finance, puts a global perspective on the current economic crisis and the Fed's response to it.

Q. For more than a year, we've been trying to contain a global financial crisis. What went wrong?

A. The global economy has sustained the most intense and far-reaching financial shock in at least 50 years, a truly phenomenal financial shock. A number of factors have contributed to it. Most important, our major financial institutions weren't managing risk in a careful and prudent way. There's plenty of blame to go around. We should also include credit rating agencies, the regulators, corporate boards and investors. There was a breakdown in the capacity to analyze and understand the risk in the system.

A lot of folks see this crisis as first and foremost about housing. I see housing being more of a trigger that brought this failure of risk management to light.

Q. What does all this mean for your bailiwick—international finance?

A. The implications for the financial system are profound. We've seen a huge increase in risk aversion among investors. We've seen marked stresses in various kinds of financial markets, ranging from very short-term interbank markets all the way to longer-term debt markets. Equity prices have fallen significantly. There aren't many markets that have escaped the blow.

We're now seeing those financial shocks having a real impact on spending, production and GDP across the globe. I see this occurring through three important channels.

First, banks' willingness to lend has significantly deteriorated, so firms and individuals aren't getting the credit they need.

Second, we've seen a huge adverse wealth shock. With stock markets down as much as 50 percent and housing prices falling in a number of countries, people don't have the balance sheets to sustain spending.

Third, the financial developments have

hit consumer and business confidence. It's true in the U.S., U.K. and euro area, where the financial shock has been intense, but it's also true in emerging-market economies, where they didn't have the financial exposure.

Q. How has the accelerating globalization of recent decades shaped this crisis?

A. The fact that we're more globalized now has been one of the extraordinary features of this crisis. You look at trends in many financial markets—the U.S. line, the U.K. line, the euro-area line, the Japan line—and they're all moving together more or less in lockstep. The degree of integration has been phenomenal.

Part of that is a reflection of the fact that our financial markets were highly integrated, so subprime loans issued here ended up on foreign balance sheets. We're also very integrated through trade channels, meaning that the slowdown that's occurred as a result of this financial shock has hit other economies and fed back into ours.

One way of framing this is the debate about decoupling. If the U.S. economy slows or U.S. financial markets encounter problems, what does that mean for the rest of the world? There really was quite an argument about decoupling until about six months ago, centered on the question of whether other countries could avoid the troubles brewing in the United States. Now, it's clear that we rise and fall together.

Given the degree of integration and similar failures of risk management across the world, I think this episode is in some sense deeper than it would have been otherwise.

That doesn't mean that there aren't many positive factors from globalization. There are important efficiency gains, for example, but we're seeing that we're tied together and that we have many common vulnerabilities and shortcomings. We need to work together to manage these challenges and the responses to them.

Q. How does the international dimension affect the Fed's analysis and actions?

A. Let me give you a concrete example. Many financial institutions outside the U.S. have had significant demand for short-term dollar funding. They made loans to corporations in dollars or bought U.S.-denominated assets, and they needed dollars to fund those assets. I can't think of a previous instance of financial stress associated with such pronounced demand for dollars outside our borders.

The interbank markets these institutions depended on for funding essentially froze up last fall, and it created huge excess demand for short-term dollar liquidity abroad. Many of these foreign institutions would come to New York or other U.S. markets in search of dollars, so it would at times spill over into our markets and create stresses.

In response, the Fed joined with other major central banks to create a network of swap facilities, where we provide foreign central banks dollar liquidity and they give us an equivalent amount of their currencies. They then lend these dollars to financial institutions in their economies that need them. There's very little risk for the Fed. We have claims on the foreign central banks as well

"The global stresses we've been facing have made it all the more important that central banks interact to keep each other informed and, where possible, even coordinate policy."

as holdings of their currencies to protect us.

We have had to extend the scope and influence of our liquidity facilities beyond our national borders, and that's been a new challenge.

Q. Has globalization put greater emphasis on cooperation with other central banks?

A. Absolutely. Central banks regularly communicated through mechanisms that were already in place, but the global stresses we've been facing have made it all the more important that central banks interact to keep each other informed and, where possible, even coordinate policy.

The swap agreements are an important example of this. Another is the coordinated interest rate cuts by the Fed and other central banks in early October. Easing monetary policy was in the interest of each of these economies, but there's a strong additional statement that's made when central banks show they're cooperating to address global problems.

Q. What else will help us deal with global financial threats?

A. These aren't just Fed issues but matters of the broader financial architecture. We need better mechanisms to address problems faced by very large institutions that can be seen as too big to fail. We also need a well-articulated resolution process for a wider range of financial institutions. We have a good mechanism for addressing commercial banks under stress, but there's nothing comparable for some other types of institutions.

Q. More broadly, has globalization affected the way the Federal Reserve does its job?

A. It's certainly different. These dollar-funding pressures I mentioned earlier are a manifestation of just how much things have changed. We see this increased interdependence among economies and the need for collaboration among central banks and regulators in various countries.

Some people have argued that the effectiveness of monetary policy is being diminished, and I don't see that. Globalization has shifted the range of variables and the things you need to think about. You need to focus not only on what's going on within your own borders and your own financial markets but also on what's going on in the rest of the world and in global financial markets. There are feedback effects that are significant for assessing economic conditions and making policy decisions.

We're constantly trying to expand our analytical tool kit and improve our understanding of how economies and policies work. It's not explicitly global, but one issue we're thinking hard about at the moment is the so-called financial accelerator effect, where sharp declines in asset prices hit the balance sheets of firms and individuals and make them less creditworthy. This can be a mechanism through which these kinds of financial shocks eat into the economy and become quite intense.

Another current issue is the zero lower bound. What are the implications for policy and the economy once short-term interest rates, the traditional tool for monetary policy, have been cut to nearly zero. What's the next step?

Q. How will this financial crisis affect the pace of globalization?

A. If anything, it may accelerate globalization in the sense that we're now very aware that we need to work closely together with other countries on such things as financial-sector supervision and rating assets. Major financial institutions are truly global in scope, and if we're approaching things one way and the French another and the Germans another and the British another, it creates dissonance in the global economy.

The leaders of the G-20 economies met in November in Washington, and they're going to meet again in early April in London. They're in the midst of addressing many of these issues in a global way, and I think we'll find that process has some staying power. We'll end up more integrated, more coherent and more consistent across countries than we were before this crisis erupted.

Along the way, there's risk of protectionism emerging. History teaches that we're more prosperous if we're open rather than closed—especially at times like this. Think about what happened in the Great Depression, when countries put up sizable tariffs and global trade collapsed. That can start a downward spiral for the global economy, so we have to guard very forcefully against protectionism.

Keys to Economic Growth: What Drives Texas?

By Jason L. Saving

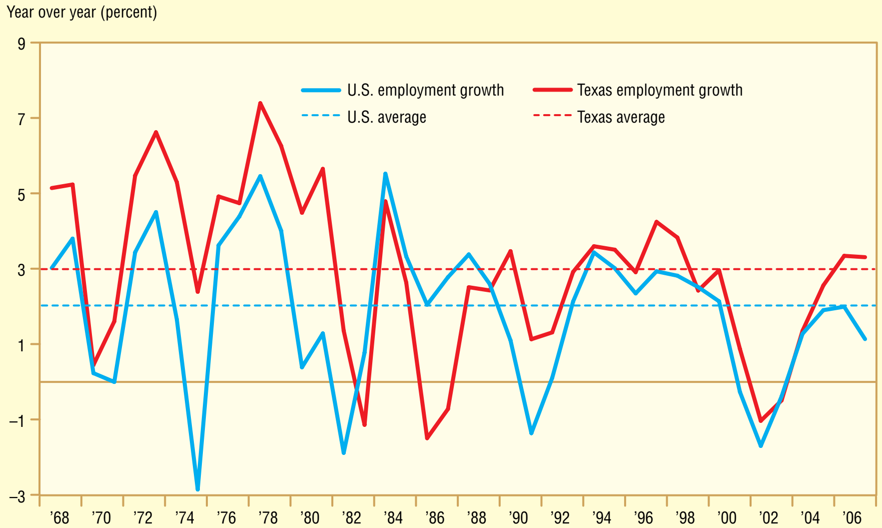
Can Texas preserve a business climate that has kept it ahead of other states?

Texas continued to grow after the nation sank into recession in December 2007. Staying up so long in down times adds to the state's reputation for superior economic performance. For the past 40 years, employment has consistently grown faster in Texas than the U.S.—by 1 percentage point a year on average (*Chart 1*).

In looking at the drivers of economic growth, recent research has put increasing emphasis on human capital and institutions, such as taxes and public spending. These factors partly explain why some U.S. states and regions have managed to maintain business climates conducive to faster growth.

Various studies have tied Texas' edge over the rest of the nation to such advantages as low tax burdens and flexible labor markets. The challenge will be to preserve these features while positioning the state to compete in a more knowledge-intensive economy.

Chart 1
Texas Job Growth Tops U.S. Pace



SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

Texas faces issues in public finance, education, changing demographics and infrastructure. How the state addresses them will help determine whether it can maintain its edge.

Factors Behind Growth

We can't dissect regional performance without first understanding some general principles of economic growth. Traditional theory suggests the most important factor is physical capital—tangible investments such as buildings and machinery.

Economies can permanently improve their long-run growth paths by investing resources in physical capital rather than consuming them. Saving more today in the name of greater growth tomorrow enables future generations to enjoy higher living standards.[1]

In this light, the industrialized West's economic success relative to the rest of the world is a simple story revolving around choices about investment and consumption. Yet this view can't account for lagging economic development in many countries—including China, which experienced anemic growth rates until recent times despite extremely high savings.

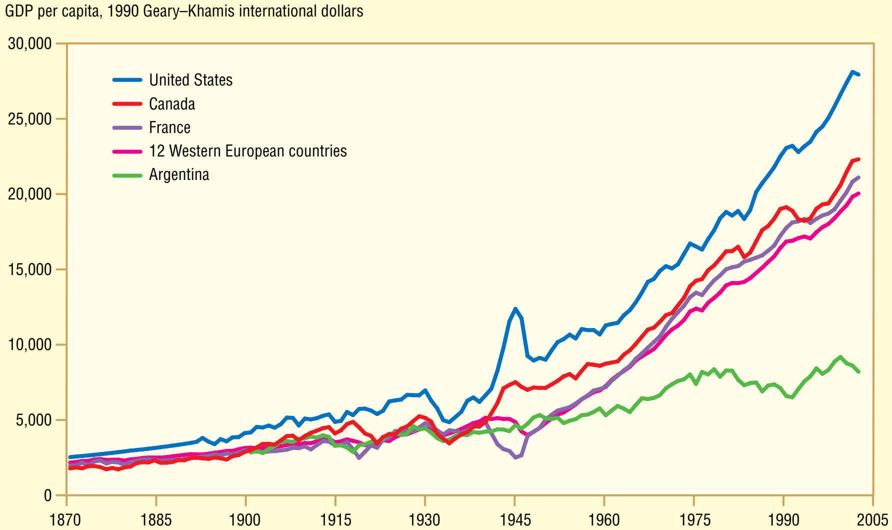
While investment in physical capital is important, economists eventually realized that it couldn't be the whole story. Two primary ideas arose to explain where traditional theory fell short.

One holds that the missing link is human capital. It came out of pioneering work by Paul Romer, which has been extended by Ed Glaeser.[2] These economists show that differences in education and skill levels across countries are strongly related to economic growth, with highly educated countries faring well even when their physical capital is low, and vice versa.

The human capital theory, too, has flaws. If skills and education were the missing link, how could countries like Argentina, with high levels of physical and human

Chart 2

Argentina Lags Behind Other Countries in Growth



NOTE: The 12 Western European countries are composed of Austria, Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland and the U.K.

SOURCE: *The World Economy: Historical Statistics*, by Angus Maddison, Paris: Organization for Economic Cooperation and Development, 2003.

What's clear to a growing number of researchers is that both human capital and institutions play important roles in creating the growth gaps we see today.

capital, suffer through decades of sluggish growth, falling from the world's seventh most prosperous country in 1914 to the 60th today (*Chart 2*)?

That brings us to the second idea—institutions. Pioneered by economic historian Douglass North and pushed most forcefully in recent times by development economist Daron Acemoglu, this theory holds that rules, laws, customs and regulations—what North called the "humanly devised constraints that shape human interaction," i.e., government—have profound effects on economic growth.[3]

If Argentina's growth didn't measure up to its physical and human capital endowments, it's in large measure because rules and laws shackled economic activity and slowed growth. And if China's economy expanded rapidly following Deng Xiaoping's endorsement of private enterprise and regulation, it's because customs changed in a way that unlocked the productive potential of the Chinese people.

Economists differ on which theory is correct. What's clear to a growing number of researchers, however, is that both human capital and institutions play important roles in creating the growth gaps we see today. Education and training certainly boost potential productivity, but the potential can be most effectively unleashed in economies with institutions that encourage rewarding higher productivity with higher compensation. In other words, the institutions should be market friendly.

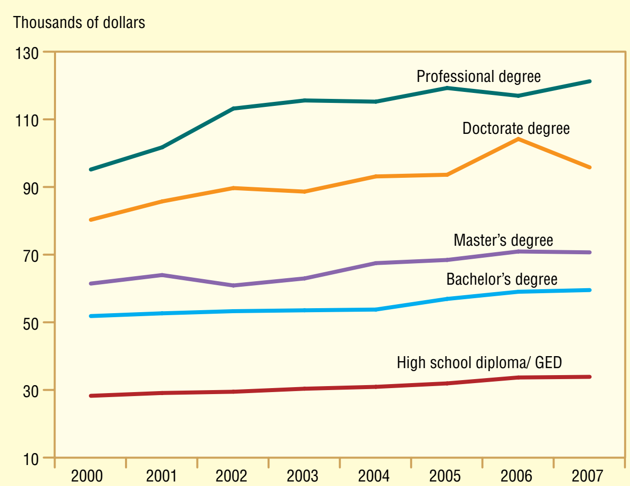
Business Climate

Looking beyond physical capital to human capital and institutions provides a more robust grasp of what matters for economic growth. But what do the theories look like in practice? What aspects of human capital have been shown to boost economic growth? And what specific institutional setups have had the greatest payoff?

Education improves human capital and makes people more productive, which pays dividends in the form of higher gross domestic product (GDP). Studies have shown that individuals with more years of schooling enjoy large lifetime earnings premiums (*Chart 3*). A college degree bestows an average of $20,000 a year in additional earnings over a high school education. A Ph.D. means $40,000 more a year, and a professional

Chart 3

Average Annual Earnings Rise with Level of Education



SOURCE: Census Bureau.

When we look at the U.S., we do see a strong correlation between favorable business climates and above-average economic growth, with Texas generally scoring high on both counts.

degree, such as law or medicine, an added $20,000.[4]

These facts suggest a justification for spending on education. However, more money for schools doesn't directly translate into an improved educational product and may not achieve a more skilled and educated citizenry.[5]

A 2005 Organization for Economic Cooperation and Development report, for example, finds that the U.S. spends more per pupil than any country except Switzerland. Yet the U.S. doesn't score particularly well on cross-country standardized tests.[6] Within the U.S., there's virtually no relationship between per capita state educational spending and workers' knowledge, let alone between those outlays and economic growth.

Part of the reason is that high-spending states devote a greater portion of their educational budgets to noneducators than low-spending states do, often asking schools to take on social-service roles. Clusters of households with low incomes or weak parental involvement require more public education dollars to achieve a desired level of student performance.

The key insight from this research is that productive schooling successfully bestows human capital, even when poorly funded, while unproductive schooling doesn't, even when amply funded.[7]

Why has the U.S. grown more quickly than other developed nations over the past few decades despite a middle-of-the-pack K–12 education system?

Two factors are especially relevant. First, the U.S. has an advanced university system characterized by strong competition and invested students, making it much more effective than the noncompetitive K–12 system. Second, the nation's market-friendly public policies enable residents to leverage their educational investments in ways few other countries can match.[8]

Researchers also find nuances in institutional arrangements. Marginal tax rates, for example, affect incentives to work.[9] Several recent studies conclude that a high tax rate, not a more sophisticated appreciation of art and culture or an innate preference for leisure, is the primary reason Europeans work fewer hours than Americans.[10] Less work means slower growth, supporting the idea that low marginal tax rates stimulate growth.

The conflict between high taxes and growth doesn't necessarily imply that government spending retards growth. About 20 years ago, a seminal paper found that government typically uses capital more productively than the private sector, suggesting that resource transfers from businesses and individuals to the public sector boost economic growth.[11] If true, this conclusion would justify large increases in the size of government, so this paper stimulated a vast amount of public finance research.

Economists, by and large, concluded that government could use capital effectively under some circumstances but would generally be expected to use it less productively than the private sector.[12]

Where Does Texas Rank?

The theories and practical applications suggest a potential for business climate differences to affect growth rates—both between nations and within a single country. And when we look at the U.S., we do see a strong correlation between favorable business climates and above-average economic growth, with Texas generally scoring high on both counts.

State business climates differ dramatically in terms of taxes, according to groups such as the nonpartisan Tax Foundation. The organization's most recent evaluation of state business-tax climates places Texas seventh, with top 10 rankings for individual income and unemployment-insurance taxes.[13]

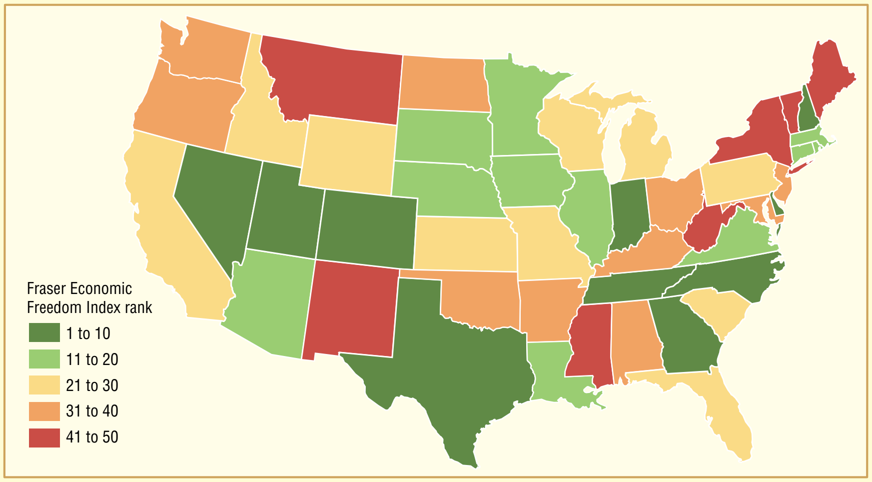
Texas has no individual income tax. At first blush, it may seem odd to put individual income taxes in a business ranking, but it's important to remember that sole proprietorships make up three-quarters of American enterprises. Their income almost always appears on individual rather than corporate returns.

Researchers have found that levies on individuals' incomes are among the worst in terms of distorting economic activity. They discourage production and savings as well as work. That's why onerous state income tax systems are among the biggest determinants of state economic growth.

Texas doesn't fare as well on sales and property tax burdens. It sinks to the middle of the pack, with fairly high rates offset by tax bases somewhat smaller than most other states. The sales tax rate of 8.25 percent for most of urban Texas is among the nation's highest, though still less than several large-city rates, including Chicago's 10.25 percent.

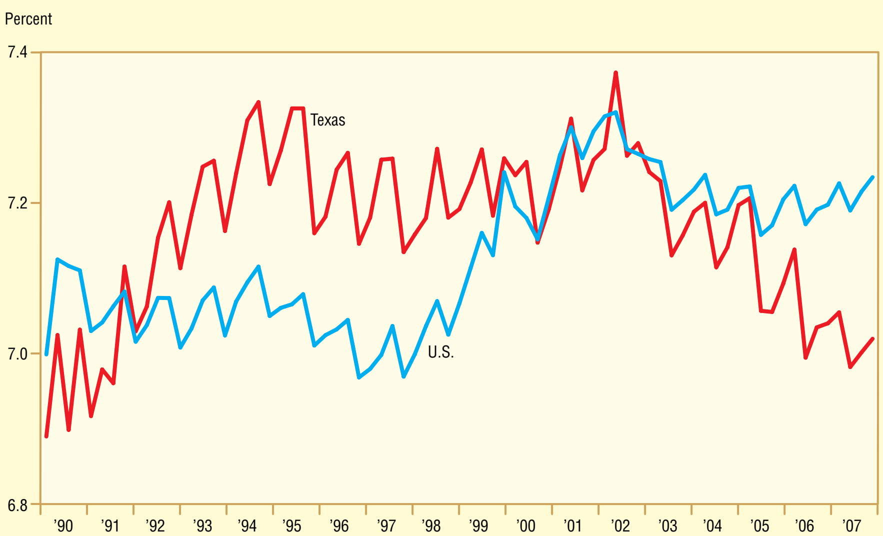
Texas' revised franchise tax has a top rate of 1 percent of gross receipts, the

Chart 4
Texas Ranks Highly in Business Climate



NOTE: Alaska and Hawaii are in the bottom 10.
SOURCE: Fraser Institute.

Chart 5
Nonmilitary Government Employment as a Percentage of Population



SOURCES: Bureau of Labor Statistics; calculations by the Federal Reserve Bank of Dallas.

country's highest. Deductions and exemptions ensure that most Texas businesses won't actually pay 1 percent, but the Tax Foundation's study takes these factors into account in finding Texas' business tax significantly more burdensome than the norm.

State tax revenue must come from somewhere, so it's inevitable that no state will fare well on every measure. For a broader look at business climates, we turn to the Fraser Institute's "Economic Freedom in North America" report and its state rankings (*Chart 4*). This publication shows that with the exception of tiny Delaware, Texas enjoys the nation's best business climate.

And the report cites Texas as one of seven states that combine exceptional economic-freedom scores with growth rates at least 1 percentage point above the national average over the past quarter century. The others are Colorado, Georgia, Delaware, New Hampshire, North Carolina and Tennessee.

Areas in which Fraser finds Texas particularly competitive include aggregate tax regime, overall tax burden and labor market flexibility. The latter involves the ease with which businesses can adjust their employment and individuals can move freely between jobs.

Only in government employment per capita does Texas rank in the middle, suggesting to Fraser that government may impose a larger burden on the economic activity of ordinary Texans than the overall tax environment suggests (*Chart 5*).

Another picture comes from the Beacon Hill Institute, which uses a broad and eclectic set of variables to identify states primed for growth.[14] Its study echoes Fraser in determining that Texas fares well relative to other states in taxation and spending.

But the study identifies significant weaknesses in Texas, including a low rate of health insurance coverage and low number of college degrees awarded per inhabitant (*Chart 6*). Beacon Hill also identifies infrastructure as a weakness, with commute times longer than the national average and growing.

While these negatives are partly due to factors beyond the state's control, continued demographic change and movement toward a knowledge-based economy suggest the issues could become more significant impediments to growth—if nothing is done to address them.

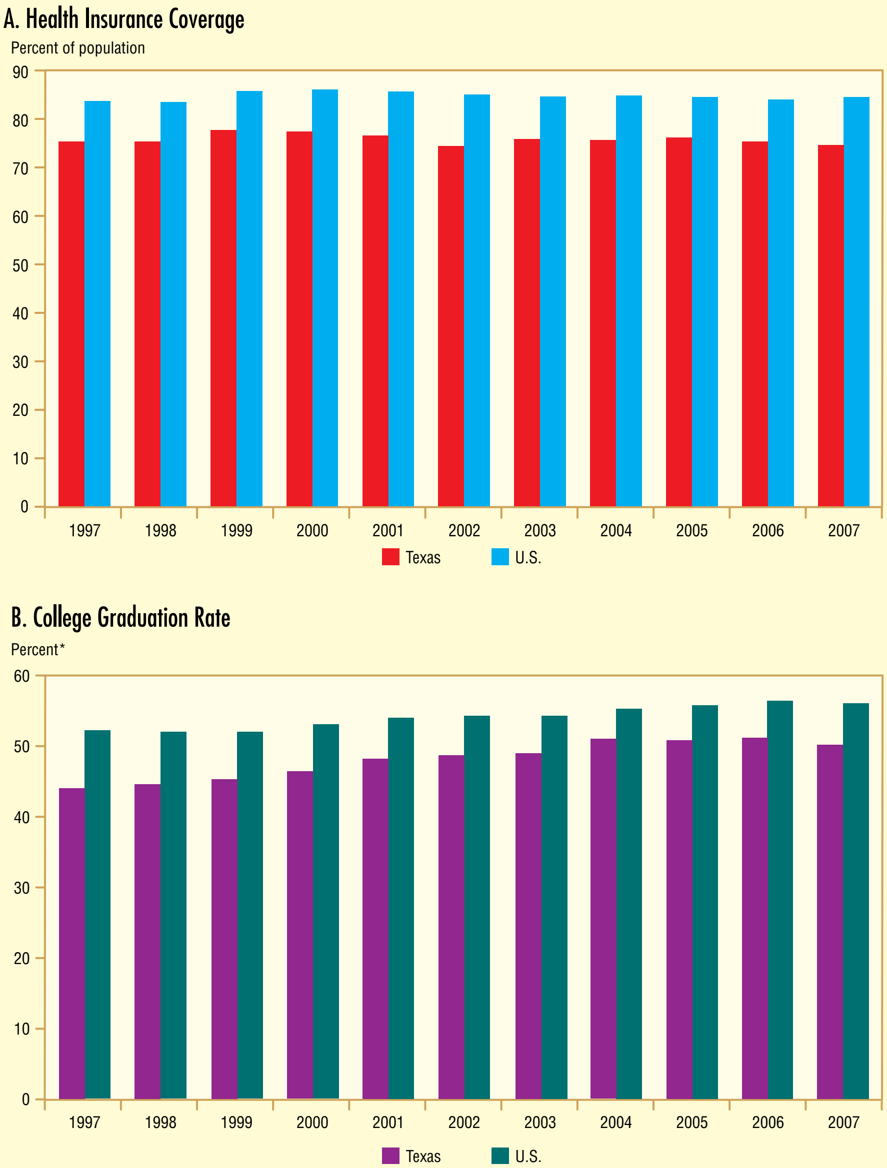
Two more direct measures define the business climate: whether individuals are moving into the state and whether the state tends to grow faster than others on a per capita basis.

Basic economic theory holds that individuals will, all else equal, move to areas with strong prospects and depart from areas with weak prospects. The 2000 census shows every state's population increased between 1990 and 2000. But Texas grew faster than all but seven and placed in the top third for per capita GDP growth. Part of Texas' attraction has been its low cost of living and doing business.

Texas' performance is even more impressive given the ever-present challenge of rapid demographic change. Much of the state's population growth has stemmed from the arrival of low-skilled workers from Mexico. These immigrants earn below-average wages and may bring down per capita GDP until they or their descendants acquire the skills to prosper in the information-age economy. However, they also foster business activity by reducing labor costs and

Chart 6

Texas Trails U.S. in Health Coverage and College Graduation



*Proportion of students who graduate within six years of enrollment in a bachelor's program.

SOURCES: Census Bureau; National Center for Higher Education Management Systems Information Center.

freeing the native-born to engage in more productive activities, which benefits natives and immigrants alike.

Challenges Facing Texas

At least three-quarters of U.S. states found themselves confronted with budget deficits over the last 12 months, either for fiscal 2009 or 2010 or both. By the middle of this fiscal year, the states faced a shortfall of $48 billion and needed to make $24 billion in further adjustments as the fiscal year unfolded, forcing governments to squeeze out more revenue or cut services.[15]

Texas began the fiscal year with a surplus, but the state's descent into recession has begun to worsen its financial picture. Increased spending on education and Medicaid will weigh on the state budget. Ongoing recession will likely take a toll on the revenue side, though the recently passed U.S. stimulus plan should help the state balance sheet.

Several public policy issues bear on Texas' ability to preserve its favorable business climate:

The tax environment. As policymakers debate whether and how to reform the newly revised franchise tax, they must evaluate how to lessen the burden without crippling government's ability to fulfill vital state needs. This ties into the infrastructure debate, which challenges the state to maintain and expand its road-and-rail system without jeopardizing its tax climate.

Education. Texas faces tough decisions on whether and how to facilitate greater private-sector involvement in K–12 schooling as well as foster the emergence of a fourth or even fifth tier 1 university. California has nine such institutions and New York seven. University of Texas at Dallas president David Daniel notes that more than 10,000 Texas teens leave the state each year to attend college, while only 4,000 teens enter the state for this purpose—a disparity that puts Texas at a disadvantage in developing and retaining top intellectual talent.[16] Physical capacity constraints ensure that the proportion of Texas students attending tier 1 universities will fall over time unless more of these facilities emerge.

Demographics. It seems certain Texas will continue to attract a large number of low-skilled Mexican immigrants. This trend will factor into the education system because the children of immigrants, by law, must be educated in public schools. Immigration could also dramatically impact health coverage because the uninsured population comes predominantly from the low-skilled ranks.

Infrastructure. Texas has lacked the resources to fully fund desired road and bridge work. Transportation experts generally foresee a gradual decline in infrastructure spending—and a not-so-gradual increase in urban road congestion—unless infrastructure investments are made. It isn't clear how they should be financed. Options include selling tollway rights to private firms, reducing funds for such programs as prisons and social services and increasing the state gasoline tax.

The list shows that Texas faces many public policy issues in the years ahead. But Texas has consistently grown faster than other large states confronted with similar challenges. Its strong business climate gives it a head start as it seeks to address these issues in ways that will help it continue to prosper in the 21st century.

Saving is a senior economist in the Research Department of the Federal Reserve Bank of Dallas.

(*Continued on back page*)

NoteWorthy

QUOTABLE: *"The Texas manufacturing sector has been consistently weak since mid-2008—with no signs of a bottoming out on the horizon."*

—Laila Assanie, Associate Economist

BANKING: District Outperforms U.S. on Profits

Banking industry indicators deteriorated in 2008—both in the Dallas Fed's district and nationwide.

In the Eleventh District, which encompasses Texas and parts of Louisiana and New Mexico, commercial banks' return on average assets—a measure of profitability—was 0.85 percent in 2008, compared with 1.27 percent a year earlier. Despite the decline, these banks exceeded the nation's return of 0.21 percent, which was down from 0.95 percent in 2007.

In 2008, 13 percent of Eleventh District banks lost money, compared with 22 percent for the nation. In the fourth quarter, banks across the U.S. suffered their first overall loss in almost 20 years.

Noncurrent loans—those 90 days or more past due, plus those no longer accruing interest—continued to increase. At Eleventh District banks, the noncurrent loan rate doubled in 2008 to 1.41 percent. Across the nation the rate more than doubled, reaching 2.85 percent. Less than 1 percent of mortgages held by the district's banks were noncurrent, compared with 4 percent for banks nationwide.

The write-off rate was 0.5 percent at Eleventh District banks, compared with 1.3 percent at U.S. banks. In the district and nationwide, however, the ratio of loan-loss reserves to noncurrent loans continued to decline.

—Kenneth J. Robinson

COMMERCIAL BUILDING: Texas Shows Signs of Weakening

Texas commercial construction held up relatively well throughout 2008—in the broad view, at least.

According to F. W. Dodge, nonresidential contract values increased 61 percent from the previous year. The nation saw a 2.5 percent decline. In the fourth quarter, Texas experienced just under 6 percent growth—no small feat in a year marked by unprecedented capital market volatility. The nation saw an 11 percent decline.

Further examination of the data tells a different story. Two large Texas projects accounted for more than \$8.5 billion of the \$31 billion in total spending in 2008—one of them the \$7 billion Shell Motiva refinery expansion in Port Arthur. Without these projects, year-over-year growth would have been 16 percent rather than 61 percent.

The breakdown also shows a gap between private and public construction projects in Texas. With lending activity receding, contract values for private projects such as stores, manufacturing facilities, warehouses and office buildings fell 11 percent in 2008. Public projects—schools, libraries and other government buildings—grew over 46 percent.

In the fourth quarter, the dichotomy was even more apparent. Private projects declined about 33 percent, while public projects grew over 45 percent.

Private-sector activity will probably continue to slow as long as credit is tight. It remains to be seen whether public projects will be able to fill the void.

—Jackson Thies

HURRICANE IKE: Six Months Later, Still Assessing the Damage

On Sept. 13, Hurricane Ike made landfall at Galveston. Six months later, many Texas Gulf Coast communities continue to struggle with debris and damage. Rebuilding is under way, but full recovery is likely to take years.

Preliminary damage estimates, published in January by the Federal Emergency Management Agency (FEMA), include \$3.4 billion for housing. About 8,000 housing units were destroyed, and FEMA approved housing assistance for more than 100,000 people.

The state estimates that repairs to waterways and ports—in particular, the heavily damaged Port of Galveston—will cost more than \$2.4 billion. Fixing water and wastewater plants and government buildings will take at least \$1.7 billion. More than \$1 billion will be needed to repair schools and universities.

The storm profoundly impacted the region's business climate. In Galveston County, more than 53,000 employees were put out of work and 18,000 businesses were damaged. In nearby Harris County, 67,000 businesses experienced interruptions in operations, some losing power for as long as a month. The region's agricultural sector was badly hurt, with losses reaching about \$434 million.

Many local businesses have now opened. The bulk of the region's economically vital shipping, refining and chemical facilities escaped major damage.

—Mike Nicholson

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Keys to Economic Growth: What Drives Texas

(*Continued from page 14*)

Notes

[1] See "A Contribution to the Theory of Economic Growth," by Robert M. Solow, *Quarterly Journal of Economics*, vol. 70, no 1, 1956, pp. 65–94.

[2] See "Increasing Returns and Long-Run Growth," by Paul M. Romer, 1986, *Journal of Political Economy*, vol. 94, no. 5, 1986, pp. 1002–37.

[3] See *Institutions, Institutional Change, and Economic Performance*, by Douglass C. North, New York: Cambridge University Press, 1990.

[4] This is the raw premium observed in the data. Sociodemographic factors help explain part of the gap, though the fundamental point that education raises lifetime income is true under virtually any model.

[5] An example is "Where Has All the Education Gone?" by Lant Pritchett, *World Bank Economic Review*, vol. 15, no. 3, 2001, pp. 367–91.

[6] See *Education at a Glance: OECD Indicators 2005*, Organization for Economic Cooperation and Development.

[7] See "The Failure of Input-Based Schooling Policies," by Eric A. Hanushek, *Economic Journal*, vol. 113, no. 485, 2003, pp. 64–98.

[8] See "Directly Unproductive Schooling: How Country Characteristics Affect the Impact of Schooling on Growth," by Mark Rogers, *European Economic Review*, vol. 52, no. 2, 2008, pp. 356–85.

[9] See "Interstate Business Differentials and New Firm Location: Evidence from Panel Data," by Leslie E. Papke, *Journal of Public Economics*, vol. 45, no. 1, 1991, pp. 47–68.

[10] For example, see "Why Do Europeans Work (Much) Less? It Is Taxes and Spending," by Tine Dhont and Freddy Heylen, *Economic Inquiry*, vol. 46, no. 2, 2008, pp. 197–207. Also see "Why Do Americans Work So Much More than Europeans?" by Edward C. Prescott, National Bureau of Economic Research, NBER Working Paper no. 10316, 2004.

[11] See "Is Public Expenditure Productive?" by David Alan Aschauer, *Journal of Monetary Economics*, vol. 23, no. 2, 1989, pp. 177–200.

[12] See "Public-Sector Capital and the Productivity Puzzle," by Douglas Holtz-Eakin, *Review of Economics and Statistics*, vol. 76, no. 1, 1994, pp. 12–21.

[13] The rankings are listed in "2009 State Business Tax Climate Index," by Joshua Barro, Tax Foundation, Background Paper no. 58, October 2008.

[14] See "State Competitiveness Report 2007," Beacon Hill Institute, Suffolk University, Boston.

[15] See "State Budget Troubles Worsen," by Elizabeth C. McNichol and Iris J. Lav, Center on Budget and Policy Priorities, November 2008.

[16] Refer to "Thoughts on Creating More Tier One Universities in Texas," by David E. Daniel, testimony before the 75th session of the Texas Senate, May 2008.

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