



ISSUE 6  
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# Southwest Economy

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## *In This Issue*

Why Texas Feels Less  
Subprime Stress than U.S.

How Much Will the  
Global Financial Storm  
Hurt Mexico?

Spotlight:  
Unemployment Trends

Richard W. Fisher  
On the Record:  
Working Our Way Through  
the Financial Crisis



# President's Perspective



*What is often left out of the formal job description is what I consider one of a Fed Bank president's most important roles—that of educator.*

**P**olicymaking is the part of a Federal Reserve Bank president's job that garners the most attention from the likes of Bloomberg reporters and *Wall Street Journal* editors.

Every six weeks, I travel to Washington to attend the Federal Open Market Committee meeting with the seven Federal Reserve System governors and 11 other regional Bank presidents; on occasion, we confer between scheduled meetings by videoconference. After lengthy discussion and debate, this committee sets the monetary policy necessary to deliver on the Fed's mandate of sustainable, noninflationary employment growth.

In addition to performing these headline duties, each president serves as chief executive officer of a key piece of our nation's financial infrastructure. Each regional Fed acts as a banker's bank that supplies billions of dollars in credit to depository institutions and provides vital financial services such as

check processing and currency and coin circulation.

We also supervise and regulate banks and bank holding companies in the region to support a safe and sound banking system. And we conduct and publish research on international, national and regional economies. To support all these activities, we run significant back-office operations that heavily depend on the most advanced IT systems and a superbly trained professional workforce.

What is often left out of the formal job description is what I consider one of a Fed Bank president's most important roles—that of educator. In speeches, interviews and publications, Fed officials have an implicit responsibility to explain our views and actions to help demystify the whys and wherefores of the Fed.

Fed presidents take this part of the job very seriously because every word we utter in public is parsed for hidden meaning about policy or the economy. We do not want to send the wrong signals. In writing speeches or preparing for interviews, I carefully consider the ideas I want to convey. I consult with teams of economists and researchers to fine-tune and perfect the message, checking and rechecking numbers, quotes and arguments along the way. I then do my level best to communicate in terms that are understandable to the public.

I do all of this because I appreciate the power of information and its ability to educate, to motivate and to reassure. And in times like these, I think we could all use a little reassurance. In this issue's "On the Record," I answer questions about the financial system as we see it today. Hopefully, readers will find it informative and, perhaps, reassuring.

A stylized, handwritten signature in dark ink that reads "Richard W. Fisher".

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



# Why Texas Feels Less Subprime Stress than U.S.

By Anil Kumar

*Differences in economic factors and mortgage characteristics give the state a lower delinquency rate.*

Subprime loans and other high-risk mortgages grew rapidly for several years before falling U.S. housing prices and steep increases in defaults and foreclosures touched off the global economy's most severe financial crisis in decades. Except for a brief period, Texas homebuyers relied more heavily than borrowers nationwide on subprime mortgages. Yet, troubles with these loans aren't as severe in Texas.

According to the Mortgage Bankers Association, the state matched the nation in 2005 with 8 percent of its subprime mortgages more than 60 days past due or in foreclosure. By the second quarter of 2008, the nation's rate had risen to 20 percent, well above Texas' 14 percent.

Broad economic factors explain part of Texas' better subprime loan performance.<sup>1</sup> Texas has grown faster than most other states in recent years, and housing prices have held steady. Worst hit in the subprime fallout have been California, Florida, Nevada and Arizona, states in which housing prices have plunged after soaring earlier in this decade.

Subprime mortgage characteristics may also shed light on the gaps in states' default rates. On average, Texas subprime borrowers have more equity in their homes than those in other states, providing larger cushions against default.

The state relies less on exotic mortgages, such as interest-only or negative-amortization loans. Texans with subprime loans are also less likely to take out adjustable-rate mortgages (ARMs), which are subject to sharply higher monthly payments when interest rates reset.

Due to the state's strong predatory lending laws and restrictions on mortgage equity withdrawals, a smaller share of Texas' subprime loans involve cash-out refinancing, which reduces homeowner equity and makes default more likely when mortgage payments become unaffordable.

## Ascent and Decline

Homebuyers with good credit ratings and well-documented sources of income usually finance through what the mortgage industry calls conventional loans, offering the lowest interest rates fixed over 15 or 30 years. Those who can't qualify for conventional financing often turn to two types of higher-interest loans—subprime mortgages for buyers with low credit scores and Alt-A mortgages for borrowers with inadequate income documentation.

As the housing boom gained momentum earlier in this decade, mortgage originators relied more on new types of loans. Such products as interest-only and negative-amortization loans allowed lenders to extend credit to more households and investors with low incomes and poor credit histories.<sup>2</sup> Subprime loans with ARMs often carried enticingly low teaser rates.

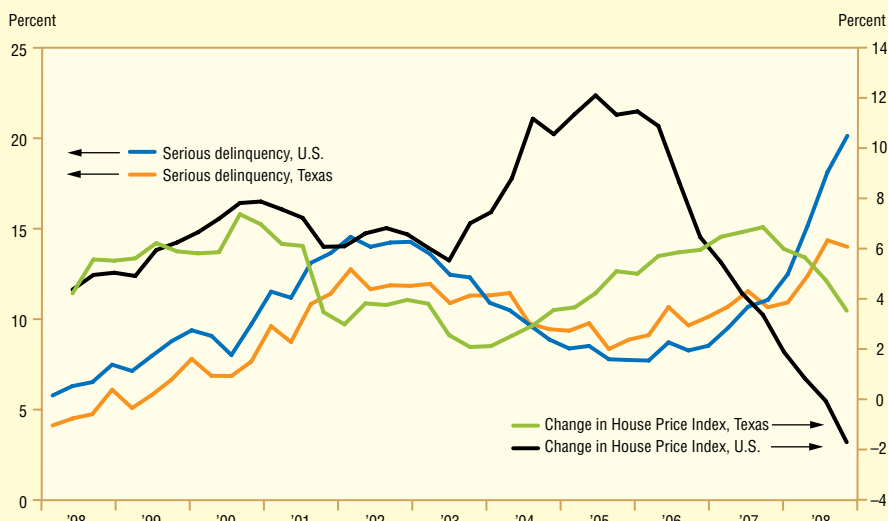
For both Texas and the U.S., subprime mortgage growth took off in 2003 (*Chart 1*). For the state, the category rose from 6 percent of home loans in mid-2003 to 11 percent by year's end. The share peaked at 18 percent in mid-2007 before declining to 16 percent in August. Both before and after the 2003 surge, the U.S. generally trailed Texas, with the gap widening somewhat in the past two years.

Two key reasons for Texas' relatively high subprime use are income and credit scores. The state's median per capita household income was \$47,548 in 2007, compared with \$50,740 for the U.S.<sup>3</sup> About 48 percent of subprime borrowers in Texas had FICO credit scores of 600 or less, compared with 39 percent for the nation.

While Texas and the U.S. had parallel growth paths, the state's share of U.S. subprime mortgages retreated from 7 percent in 2001 to 5 percent in 2004. Higher rates of expected housing price appreciation in California, Florida and elsewhere may have fueled faster growth of subprime mortgages in those states. After 2005, when the housing

*In Texas, prices have been relatively stable, and the state's subprime delinquencies increased at a much slower rate.*

**Chart 2**  
**Subprime Delinquency Rises More Slowly in Texas**



NOTE: Serious delinquencies are mortgages more than 60 days past due or in foreclosure.  
SOURCES: Mortgage Bankers Association; Federal Housing Finance Agency; Haver Analytics; author's calculations.

market started cooling elsewhere, Texas' housing prices held steady and its share of subprime mortgages crept back up to about 7 percent.

When the housing bubble burst in parts of the country, an increasing number of borrowers found it hard to stay current on their mortgages, leading to a rise in subprime delinquencies and a meltdown in the housing market. The residential real estate troubles spread to financial markets and the overall economy because most loans were

packaged into mortgage-backed securities, tying their values to homeowners' ability to make monthly payments.

According to the Mortgage Bankers Association, seriously delinquent mortgages began rising nationally in the second half of 2005, when housing prices peaked on their way to a steep slide (*Chart 2*). In Texas, prices have been relatively stable, and the state's subprime delinquencies increased at a much slower rate.

Another measure of mortgage troubles tells the same story. First American LoanPerformance (FALP) data from the New York Fed show that about 7 percent of Texas subprime loans were 90 days past due in August 2008, compared with 10 percent for the nation. Subprime foreclosures in Texas were 4 percent, significantly lower than the nation's 11 percent.<sup>4</sup>

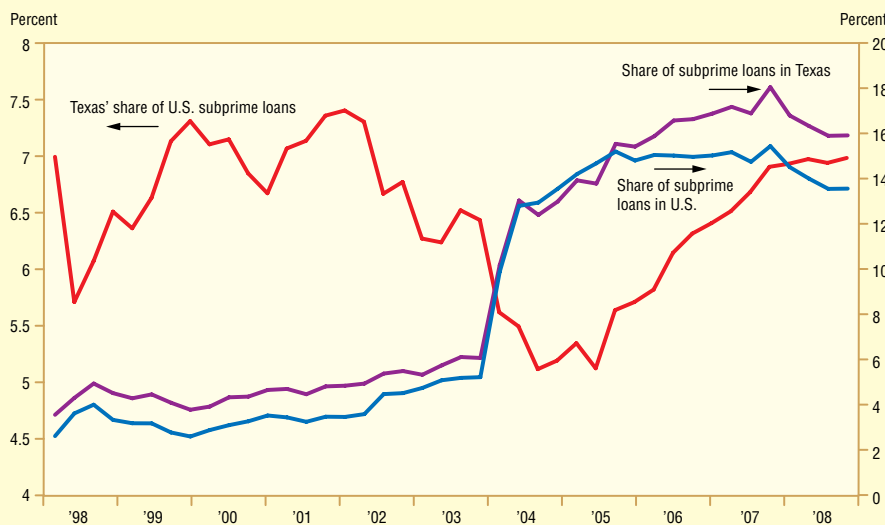
### How Texas Differs

Housing prices and economic conditions provide a good start in explaining Texas' milder subprime troubles.

Rapidly falling housing prices erode equity and reduce homeowners' incentives to avoid foreclosure, particularly for those who find their mortgage balances exceed their home's value. These considerations are less important in Texas, where housing prices increased only modestly and haven't fallen much.

A weak economy can trigger defaults through falling incomes and job losses.

**Chart 1**  
**Texas' Share of Subprime Mortgages Fluctuates**



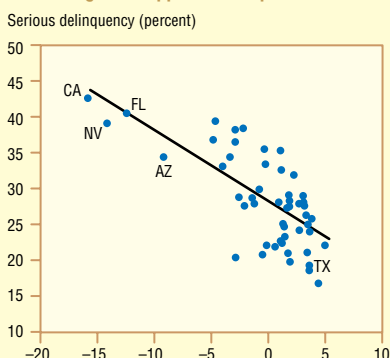
SOURCES: Mortgage Bankers Association; Haver Analytics; author's calculations.



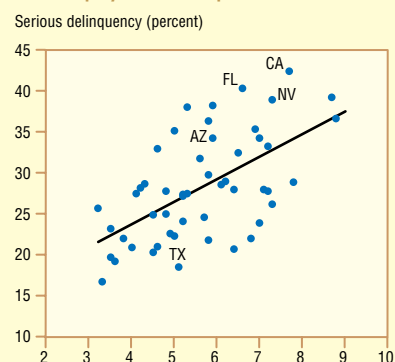
Chart 3

# Housing Prices, Unemployment Affect Subprime Delinquency (2007:Q2 to 2008:Q2)

## A. Housing Price Appreciation (percent)



## B. Unemployment Rate (percent)



SOURCE: First American LoanPerformance data from Federal Reserve Bank of New York, August 2008.

High subprime default states had relatively higher unemployment rates. Texas had lower delinquency and unemployment rates.

Overall, state data indicate a strong negative correlation between August 2008 delinquency rates and housing-price fluctuations from second quarter 2007 to second quarter 2008 (*Chart 3A*). At the same time, the data show a significant positive relationship between delinquencies and state unemployment rates (*Chart 3B*).

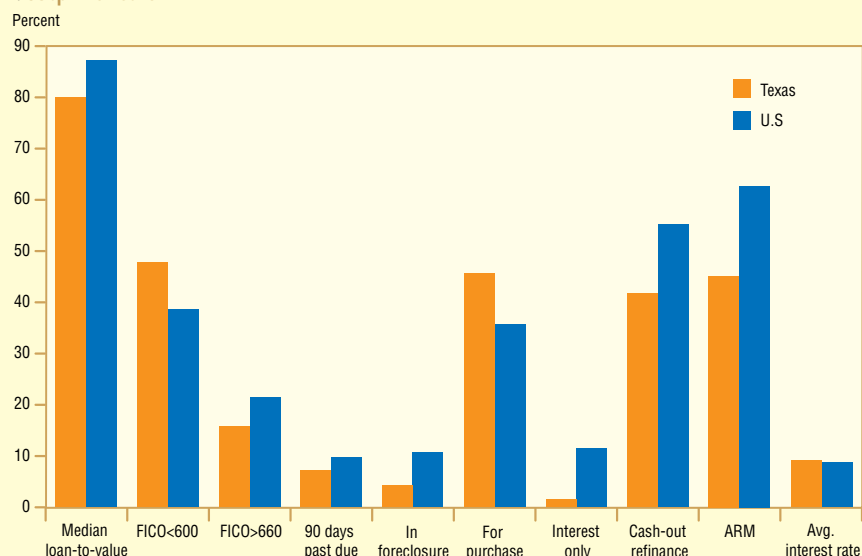
Texas' delinquency rate was less than would be predicted by its housing price appreciation and unemployment rate, suggesting that other factors likely are important in explaining differences in subprime delinquency across states. One factor might be subprime mortgage characteristics. FALP data show Texas subprime mortgages are different in many respects from U.S. loans of this type (*Chart 4A*).<sup>5</sup>

While lower credit scores increase the riskiness of Texas subprime mortgages, several other factors make the state's subprime

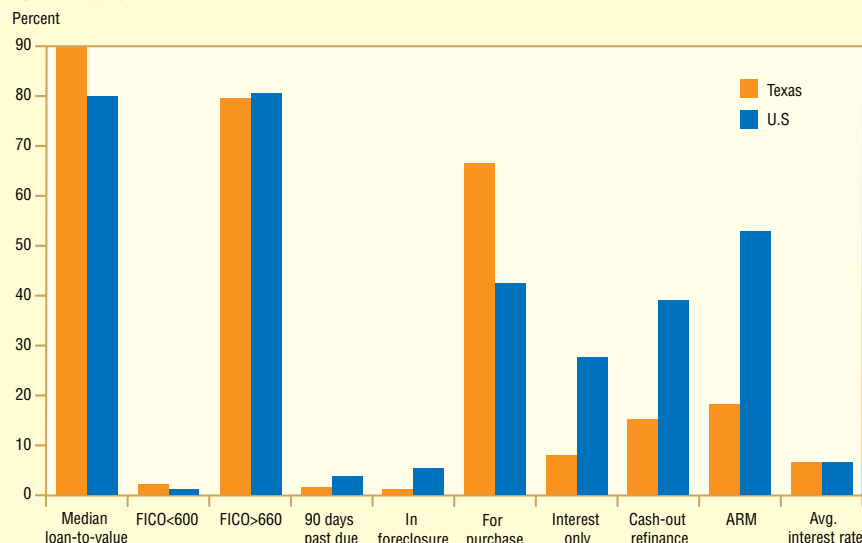
Chart 4

# Texas Differs from U.S. in Mortgage Characteristics

## A. Subprime Loans



## B. Alt-A Loans



SOURCE: First American LoanPerformance data from Federal Reserve Bank of New York, August 2008.

mortgages less likely to run into trouble.

Texas subprime borrowers have more equity in their homes, with a median loan-to-value (LTV) ratio of 80 percent, lower than the nation's 87 percent ratio.

At just 1 percent, Texas' use of interest-only loans as of August 2008 was less than the nation's 11 percent. Since borrowers delay payment of only the principal on these loans for a specified period, the initial interest is higher than for traditional mortgages. After the interest-only period expires, mortgage payments can rise sharply.

In addition, the state has relied less on negative-amortization loans, another cat-

egory particularly vulnerable to default.

Forty-five percent of Texas borrowers had ARMs, compared with 65 percent for the U.S. The state also has a much smaller share of subprime ARMs scheduled to reset in the next year. Many subprime borrowers default because interest rates on ARM loans reset to higher rates and increase payments.<sup>6</sup> As a result, ARMs are more likely to default than fixed-rate loans.

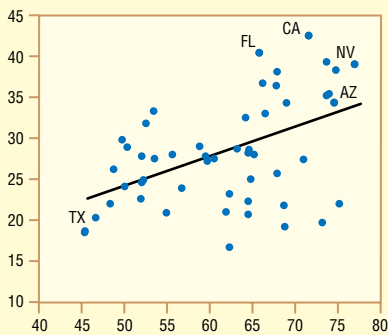
Texas has a lower incidence of subprime loans for cash-out refinancing. Forty-two percent of Texas subprime borrowers used cash-out refinancing, compared with 55 percent for the nation.

**Chart 5**

## Mortgage Characteristics Explain States' Subprime Delinquency

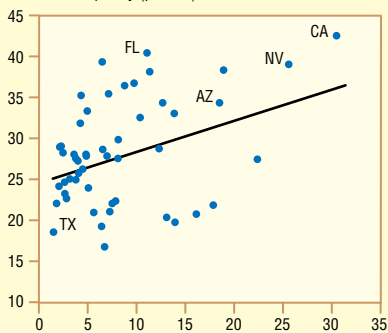
### A. Adjustable-Rate Mortgages (percent)

Serious delinquency (percent)



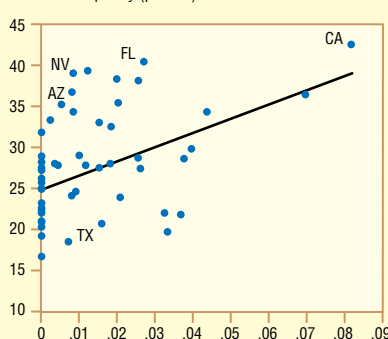
### B. Interest-Only Mortgages (percent)

Serious delinquency (percent)



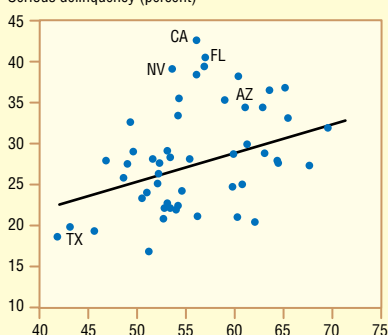
### C. Negative-Amortization Mortgages (percent)

Serious delinquency (percent)



### D. Cash-Out Refinancings (percent)

Serious delinquency (percent)



SOURCE: First American LoanPerformance data from Federal Reserve Bank of New York, August 2008.

A lower incidence of this type of loan is hardly surprising in a state with strong predatory lending laws.<sup>7</sup> In Texas, a borrower's home equity can't be less than 20 percent of the home's value in order to qualify for an equity loan or line of credit.

What about Alt-A loans?<sup>8</sup> According to FALP data, these mortgages financed 1 percent of the state's total housing units as of August 2008, compared with 2 percent for the nation.

Texas' Alt-A borrowers differ from the nation's in many of the same ways as their subprime counterparts. They have higher LTV ratios and lower incidences of interest-only mortgages, negative-amortization loans, ARMs and cash-out refinancings (*Chart 4B*). Unlike subprime mortgages, a larger share of Alt-A ARMs are scheduled to reset over the next two years in Texas than in the nation.

Some of these key subprime characteristics are strongly correlated with delinquency rates among states. Positively sloped regression lines indicate that default rates tend to rise with the incidence of mortgages with ARMs, interest-only payments, negative amortization and cash-out refinancing (*Chart 5*).

Although housing prices, unemployment rates and subprime mortgage attributes are individually correlated with default rates, many of these factors may interact with one another, making relationships more complex.

For example, subprime borrowers may have resorted to ARMs to purchase unaffordable homes. For many of them, incomes couldn't keep pace with rising mortgage payments as interest rates reset. When housing prices were rising, borrowers could refinance their way out of default. However, housing price growth decelerated in parts of the country with high incidences of subprime mortgages, compromising homeowners' ability to keep their homes.

A model for subprime delinquencies that accounts for many factors simultaneously explains nearly 75 percent of the overall variation in subprime delinquencies. Four factors stand out: the unemployment rate, the percentage of cash-out refinancings, the percentage of ARMs and housing price appreciation (*Table 1*). Other factors aren't statistically significant.

Most important, housing price appreciation and the unemployment rate each have an economically large impact on delinquency. A 1 percentage point increase in

price appreciation reduces delinquencies 0.82 percentage point. If the unemployment rate rises 1 percentage point, troubled loans go up more than 1 percentage point. A percentage-point increase in cash-out refinancings pushes delinquencies 0.35 percentage point higher, and the same increase in ARMs sends delinquencies 0.15 percentage point higher.

As the model predicts, Texas has a lower delinquency rate because its housing prices appreciated modestly. In addition, the economy has been stronger in Texas than in most states and its unemployment rate has been lower. The state also has a lower incidence of ARMs and mortgages for cash-out refinancing.

State data on subprime mortgage delinquencies suggest that housing prices and local economic factors are still the primary drivers of subprime default rates. Even so, mortgage characteristics also matter—from the incidence of ARMs to the purpose for which the loan was taken out. In general, cash-out refinancing loans are more prone to delinquency than loans for outright purchases.

Recent tightening of credit standards in the mortgage market has put a lid on the growth of subprime and exotic mortgages. Nevertheless, a sharply deteriorating economy, weak home sales and a continued downward trend in housing prices suggest

(Continued on back page)

**Table 1**  
**Determinants of Subprime Delinquency**

Characteristic	Coefficient
Percent lagged unemployment rate	1.43**
Percent cash-out refinance loans	.35**
Percent ARM loans	.15*
Percent lagged housing price appreciation	-.82**
Whether negative amortization in state	1.34
Percent average loan-to-value	.21
Percent interest-only loans	-.05
Average FICO score	-.10

\*Significant at 10 percent.

\*\*Significant at 5 percent.

SOURCES: First American LoanPerformance data from Federal Reserve Bank of New York, August 2008; author's calculations.

The U.S. housing market's troubles have spread to financial markets, and news reports have focused on broad indicators of Wall Street's distress, such as stock market indexes and interbank lending rates. However, the pinch on Main Street has been impacting low-wage workers for more than two years. High-wage workers are just beginning to feel the heat.

The unemployment rate of workers with less than a high school diploma began to rise shortly after U.S. home prices peaked in the second quarter of 2006. Between October 2006 and November 2008, the rate rose 4.7 percentage points from 5.8 percent to 10.5 percent (*Chart 1*).

In contrast, the rate for college-educated workers was mostly flat until last summer, when it jumped from 1.9 percent to 3.1 percent.

Recent trends in unemployment by educational level follow the pattern of a typical downturn. In general, low-skilled workers are more sensitive to business cycles than high-skilled workers, partly as a result of the industries in which they're employed and partly because low-skilled employees are easier to recruit and train, making them cheaper to lay off in bad economic times

and rehire when growth resumes.

As in previous downturns, cyclical industries this time have included construction and manufacturing, sectors with large shares of low-skilled workers.

### Tech Bust Revisited

The current slowdown differs markedly from the previous U.S. recession. The 2001 tech bust that centered on such industries as telecommunications and electronics was unusual in that it had a disproportionate impact on the unemployment rate of college-educated workers.

The December 2000 to January 2003 time frame spans the tech bust, the September 11 terrorist attacks and the ensuing jobless recovery.

Over that period, the unemployment rate of college-educated workers doubled, rising from 1.5 percent to 3 percent (*Chart 2*). Workers with less than a high school diploma experienced a much smaller increase in unemployment. Those with some college and high school graduates were in the middle.

Telecommunications and dot-com firms went under during the 2000–03 period. Many highly skilled information technology workers were left without jobs. Others took

jobs at lower wages.

Employment in the information sector declined 11.9 percent over that time. To make things worse, economic weakness spilled over into the transportation and hospitality industries following the terrorist attacks.

Texas' job-loss patterns were probably similar to the nation's in 2000–03, suggesting that the burdens of state unemployment were skewed toward more educated workers. The state had above-average employment shares in high tech and transportation, serving as headquarters for many technology companies and three major airlines.

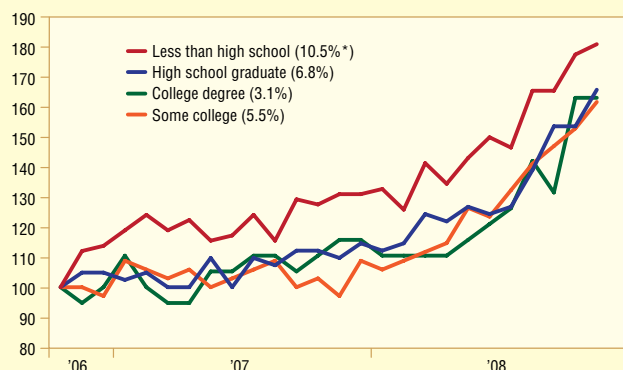
In the current slowdown, less-educated workers have fared better in Texas than in the U.S. State construction employment grew 1.9 percent from January to October, compared with a decline of 6.9 percent for the U.S. from January to November.

Overall, employment rose 1.7 percent in the state through October, while it fell 1.5 percent in the U.S. through November. Even so, sluggishness spread through Texas' labor market this year, with growth down from its 2007 pace for all major job categories except natural resources and mining.

—Pia Orrenius and Mike Nicholson

**Chart 1**  
**Unemployment Surges Among Less-Educated Workers**

Index, October 2006 = 100

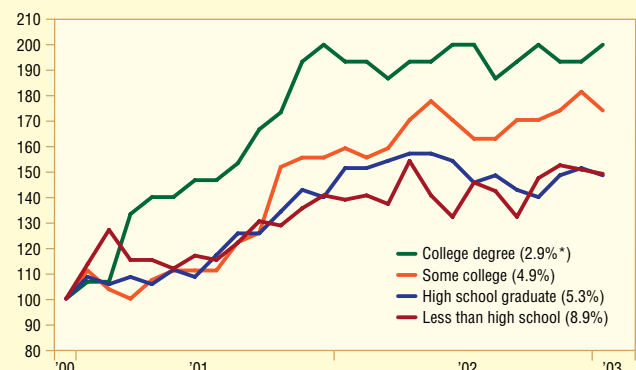


\*Unemployment rate, seasonally adjusted.

SOURCE: Bureau of Labor Statistics.

**Chart 2**  
**Tech Bust Dealt Hardest Blow to Educated Workers**

Index, December 2000 = 100



\*Unemployment rate, seasonally adjusted.

SOURCE: Bureau of Labor Statistics.

## Working Our Way Through the Financial Crisis

Dallas Fed President Richard W. Fisher looks at the causes of the current financial troubles and examines the policies aimed at restoring the system to good working order.

**Q. What's going on in the nation's financial markets right now?**

**A.** The financial industry is facing many headwinds. Even the more heavily regulated commercial banks and thrifts are now looking at some major challenges. We are all well aware of how the bursting housing bubble impacted banks' balance sheets and spilled over into what banks once regarded as off-balance-sheet activities.

Earnings suffer as writedowns continue, leaving some banks and other financial firms in dire need of capital. The FDIC's list of problem banks continues to grow, and we are beginning to see a rise in bank failures, though to a lesser degree than many would have expected.

The federal government now possesses a majority stake in one of the country's largest insurance firms, acts as conservator for two of the biggest players in the nation's mortgage markets and is actively injecting capital into financial institutions across the country. An ancient Chinese curse condemns one to live in interesting times. I think we can all agree that a little boredom would be a welcome relief right now.

**Q. So, what went wrong?**

**A.** Most everyone agrees that risk appetites, fed by innovations in ways to measure, calibrate, repackage and sell risk, became excessive during the boom years. These innovations—otherwise known as “securitization” and the “originate-to-distribute” model of banking—are by no means new, but they certainly took on some new and uncharted dimensions in this decade.

Structured credit products became all the rage and gave us an alphabet soup of new acronyms like ABS, CDS, CLO and CMO. These new instruments allowed financiers to slice and dice the risk associated with mortgages and other credits, presumably reducing risk by spreading it around to those most



willing to hold it. In retrospect, they compounded risk to the financial system.

New and sophisticated statistical models, made possible in part by advances in computer technology, assured us that all this new risk was being properly and accurately measured. And the ratings agencies further comforted us by giving many of the new securities their seal of approval—often, their highest triple-A seal.

I am firm in my view that financial markets remain prone to risk overshooting, and we see an elevated level of risk aversion when the inevitable correction comes. That is what happened in the summer of 2007, when willingness to take on risk seemed to dry up overnight, leading to significant liquidity squeezes and funding pressures at banks and other creditors.

**Q. At first, it seemed that the largest losses occurred in the U.S. Why was that?**

**A.** Our country's financial system is the most advanced in the world. One reason the most advanced financial system may not neces-

sarily be the safest, or most stable, is that innovation and structural advancement yield additional byproducts besides stability. To illustrate this point, let me refer to another banking phenomenon: diversification.

Suppose a bank's ability to diversify its loan portfolio suddenly increases. How does it react? Does it simply enjoy its newfound stability? Not necessarily. Experience tells us that such a bank will typically increase its lending activity or hold less capital. As a result, financial stability, originally enhanced by greater diversification, will fall back to its previous level. What has changed is that more lending is possible, or less capital is required. Neither reduces risk.

Often, the most innovative and advanced financial systems are also the boldest. They expand more aggressively than their less advanced peers into new products and areas. As a result, they may also find themselves exposed to greater losses once global risk appetites decline.

**Q. This particular financial episode seems unique. Is it?**

**A.** After all that has happened since the summer of 2007, it seems fair to ask whether the so-called new financial system—despite its emphasis on securitization, structured credit products, value-at-risk statistical modeling, credit derivatives and off-balance sheet activity—is really all that new and different.

In the end, commercial banks suffered losses because of errors in judgment. Some financial institutions attempted to reduce required capital and shield activity from regulators' view. Poor judgment compounded by capital arbitrage and accounting gimmickry has been the cause of innumerable financial crises throughout history.

**Q. So, there is nothing fundamentally new or different this time?**

**A.** One of the issues at the heart of this particular episode is the interconnected nature of financial market participants. Unfortunately, while everyone knows that interconnectedness is important, it is difficult to tell exactly how and to what extent things are woven together—sort of like the “butterfly effect.”



*"Our problems are not new. But they have been magnified by a certain type of hubris that viewed statistical modeling as infallible."*



A butterfly's wings disturb the air around it, setting off a chain of events that ends with a major storm in some remote part of the world. A small catalyst results in large—and sometimes catastrophic—consequences.

The crisis spreading through the global financial system can be thought of as a butterfly effect. Take credit default swaps, for example. These instruments and the institutions they connect are quite complex. In principle, though, these swaps provide a fairly simple service: Properly utilized, they are a form of insurance against the risk of the default of an underlying asset.

While that might sound appealing, the value of the insurance is only as good as the person providing the guarantee. When that individual's viability is called into question—when heightened uncertainty enters the mix—the whole network will suffer the consequences. It all comes down to what we say all the time—what is really common sense, but is nevertheless often ignored—"know your counterparty."

The most striking and truly new part of the recent financial cycle was the mistake of replacing sound judgment with the mathematization of risk. An immense array of statistical gadgetry wielded by a new generation of quantitative minds, themselves emboldened by unprecedented computer power, managed to squelch the wisdom of longtime bankers and seasoned financiers. Our problems are not new. But they have been magnified by a certain type of hubris that viewed statistical modeling as infallible.

**Q. What sort of changes do you see for banking in the aftermath of our current difficulties?**

**A.** I think we can expect to see a more back-to-basics approach to banking, one that relies on a stable, core deposit base with ample capital. Here in Texas, we have witnessed how such a basic approach can be quite profitable as a banking business model. In part reflecting our strong economy, Texas banks continue to outperform their counterparts across the country. However you measure it—whether by return on assets, noncurrent loans or charge-offs—Texas banks, while experiencing their own recent

setbacks, remain a notch above many of their national peers.

**Q. What about the Fed's response?**

**A.** We have responded to the current crisis in both traditional and fairly innovative ways. In addition to lowering the federal funds rate, the Fed has also introduced several new facilities that represent a brand new approach to addressing liquidity problems.

Our term auction facility was introduced in December 2007 as a market-oriented mechanism that allows banks to bid for longer-term funds. In March 2008, we established the term securities lending facility and primary dealer credit facility to further enhance liquidity for primary dealers and investment banks.

In September and October 2008, we established backstops for commercial paper issuance and money market mutual funds through the creation of the asset-backed commercial paper money market mutual fund liquidity facility, the commercial paper funding facility and the money market investor funding facility. We entered into swap agreements with 14 other central banks to provide dollars in international lending markets. And, on Nov. 25, we began supporting the issuance of various consumer lending instruments with the introduction of the term asset-backed securities loan facility.

The expectation is that this innovative packaging of liquidity support and backstops, combined with additional capital provided by the U.S. Treasury's Troubled Asset Relief Program, or TARP, plus regulatory oversight, should reinforce financial stability and set the stage for a recovery of the credit markets.

**Q. Are these responses enough?**

**A.** In the near future, we will have to consider more fundamental reform of our financial infrastructure. In addition to the usual calls for greater transparency and accountability,

policymakers would do well to establish and follow several main principles of reform.

For example, they should seek to avoid situations that privatize profits and socialize losses. Institutions and investors that are free to make money in the financial system should also be free to lose it. That is the only way to maintain some degree of market discipline in the system. In addition, policymakers should continue to stress the importance of capital adequacy at financial institutions. To be blunt, leverage got out of hand. It certainly is not an easy job, but supervision and regulation needs to make capital levels reflect the risks taken by an institution.

**Q. Will we be able to resolve our current difficulties?**

**A.** If financial markets are prone to overshooting and undershooting, we may find ourselves wondering what we have to be optimistic about. In the fearful and uncertain aftermath of bursting bubbles, we too soon forget the euphoric booms that fund our purchases, expand our businesses and generally afford us the rich opportunities we enjoy in this country.

We should always be mindful that this dynamic system—or, as the economist Joseph Schumpeter called it, this "creative gale of destruction"—has given us the highest standard of living in recorded history. Something must be right about it.

But, make no mistake: We have been here before. Corrections from periods of excess are painful and disruptive. Our present difficulties may be trying, but they present us with a host of opportunities. I think we will use those opportunities wisely.

# How Much Will the Global Financial Storm Hurt Mexico?

*The credibility earned by prudent policymaking over the past decade should help Mexico weather the current financial storm without devastating effects on real economic activity.*

**By Erwan Quintin and Edward Skelton**

Once inward-looking and crisis-prone, Mexico has transformed itself into a nation that thrives on foreign investment and trade and displays a steadfast commitment to monetary and fiscal discipline.

Largely as a result of this transformation, Mexico has been crisis-free since 1995. The country has now weathered two potentially turbulent presidential transitions without experiencing significant financial difficulties—a remarkable achievement, given its economic history.

Now, this newfound resiliency is being put to its biggest test yet as Mexico confronts the consequences of a global shock of a magnitude not seen in decades. Financial turmoil around the world is reducing the availability of credit, hurting consumer confidence and spending, and depressing external demand, especially from the ailing U.S. manufacturing sector. Mexico's prospects for economic growth have been notably downgraded.

Two decades ago, these shocks almost surely would have pushed Mexico into financial chaos. Fortunately, the country's recent transformation makes such a collapse a remote possibility. The credibility earned by prudent policymaking over the past decade should help Mexico weather the current financial storm without devastating effects on real economic activity.

## Mexico's Transformation

Between the mid-1970s and the mid-1990s, sharp devaluations in the peso's exchange rate against the dollar invariably occurred around presidential transitions. In several cases, these currency collapses were accompanied by debt defaults and banking crises, which took massive tolls on the economy.

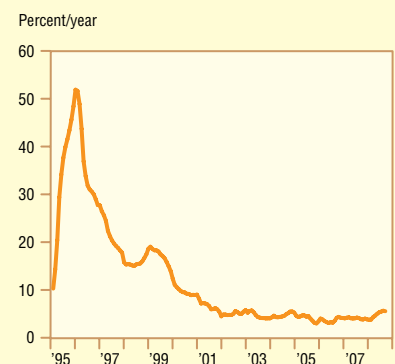
The 1982 crisis prompted Mexico to begin opening its economy to foreign trade

and investment. These reforms, however, proved insufficient to insure against another crisis. Political uncertainty surrounding the 1994 presidential contest and doubts about the nation's commitment to macroeconomic discipline fed speculative attacks against the peso. In December 1994, authorities were forced to announce yet another drastic devaluation, throwing the recently privatized banking sector into turmoil. In 1995, Mexico experienced its largest fall in GDP since the 1930s.<sup>1</sup>

The 1995 Tequila Crisis became a turning point in Mexico's economic history. The nation no longer tries to defend a fixed dollar-peso exchange rate, a policy that frequently led to disaster during turbulent times. Since 1995, Mexico has managed to keep budget deficits within a reasonable range and has staunchly targeted inflation with remarkable results (*Chart 1*).

Investors have grown increasingly confident in the country's commitment to macroeconomic discipline, allowing Mexico to greatly improve its public debt manage-

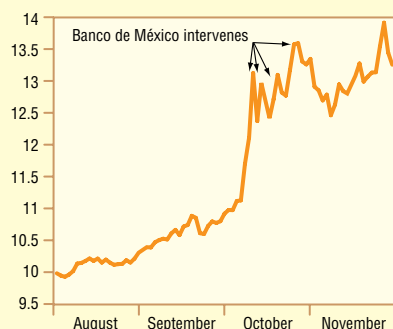
**Chart 1**  
**Mexico Conquers Inflation**



SOURCE: Banco de México.

## Chart 2 Central Bank Supports Peso

Peso/U.S. dollar (daily close)



SOURCE: Banco de México.

ment. The government ran into trouble a decade ago in part because most of its debt was in foreign hands, dollar-denominated and short-term.

The external share of total public debt has fallen from a high of 85 percent before the Tequila Crisis to 40 percent today. In 1995, Mexico's longest bond had a maturity of one year. Today, the nation issues 30-year, peso-denominated bonds.

This deep change in the composition of debt became possible because of disciplined policymaking and has greatly bolstered Mexico's ability to deal with short-term fluctuations in interest rates or exchange rates.<sup>2</sup>

## Not Crisis-Proof

Through September 2008, the volatility in developed countries' financial markets wasn't seen as a threat to Mexico's financial stability. The situation began to change in early October as international investors' quest for liquidity and safety led them to reduce their exposure to emerging markets.

The peso reached a six-year high against the dollar in early August but then began to falter. On Oct. 8, this weakening intensified as the peso dropped by 13.8 percent on the day (*Chart 2*).

The fall was exacerbated when several large Mexican companies started selling pesos to cover speculative bets on the exchange rate (see box titled "Playing with Derivatives Burns Mexican Companies"). Mexico hadn't experienced such a currency depreciation since the Tequila Crisis.

The premium Mexico must pay on its debt relative to comparable U.S. instruments also spiked in October and reached

its highest level in over 10 years (*Chart 3*).

There have also been some signs of stress within Mexico's financial system. The cost of short-term funding has risen over the past three months. Some corporations are reporting difficulties rolling over their commercial paper. Moreover, corporate bond rates have been under pressure recently as mutual fund managers scramble to sell some of their holdings to meet clients' redemptions.

Still, as a result of the steps taken since the Tequila Crisis, Mexico continues to be viewed as a relatively safe haven, and the spread on Mexican bonds remains lower than that of the rest of Latin America and of global emerging markets.

## Fast Foreign Exchange Response

In an effort to moderate volatility, the Banco de México has intervened in the foreign exchange market in two ways. First, the central bank has orchestrated four separate extraordinary offerings of U.S. dollars (*Chart 2*). Second, the central bank has re-instituted daily dollar sales.<sup>3</sup>

Through these two facilities, more than US\$13 billion of Mexico's international reserves have been spent to ease peso volatility. As of Dec. 5, US\$84 billion in international reserves remained for any necessary future interventions. Should that large cushion not suffice, the Federal Reserve has established a US\$30 billion line of credit with

the Banco de México, authorized through April 30, 2009, to support dollar liquidity.

Foreign exchange market interventions are a temporary fix. The hope is that, in the long run, Mexico's disciplined policymaking, sound macroeconomic conditions and solid financial fundamentals will assuage investor concerns about the peso.

## Government Helps Debt Markets Too

Mexican authorities have also taken a number of preemptive measures to support liquidity in debt markets.

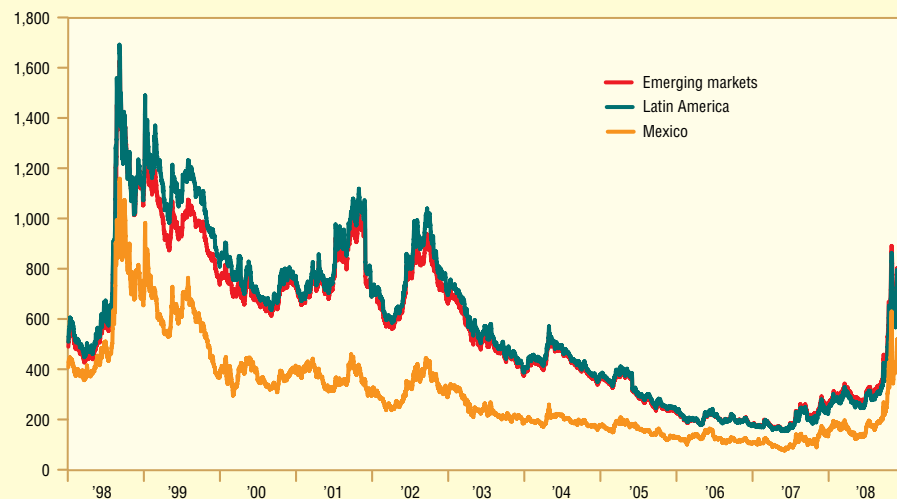
The Banco de México announced a new measure allowing commercial banks to use their required reserves as collateral for short-term funding through guaranteed loans. Banks can also access short-term funding through repurchase agreements with the central bank in exchange for a wide range of government and corporate debt instruments.

As for nonbank financial institutions, the Secretaría de Economía has set up a guarantee fund of 2.5 billion pesos to improve their access to liquidity. It bears mentioning that, to date, no institution has taken advantage of these liquidity measures.

For its part, the Hacienda (Finance Ministry) announced a 50 billion peso loan guarantee program designed to help companies roll over short-term debt or commercial paper. The loan guarantees will be provided via development banks

## Chart 3 Country Premium Rises (Emerging Markets Bond Index yield spreads over U.S. interest rates)

Basis points



SOURCES: CTRB J.P. Morgan Chase Bond Indexes; Bloomberg.

*Mexico is much better  
equipped to deal with  
adverse economic shocks  
today than at any point  
in its recent history.*

Nafin and Bancomext. Companies using the guarantees—which are for a maximum of 500 million pesos per issuance and for a maximum term of six months—are required to provide collateral.

Although there have been anecdotal reports of liquidity shortfalls in Mexico's mortgage market, data indicate that this market hasn't yet been significantly affected by the credit crisis. Mortgages originated rose modestly year-over-year through October.

Nevertheless, Mexico's housing development bank Sociedad Hipotecaria Federal will preemptively offer over 40 billion pesos to shield the country's 985 billion peso mortgage industry from the external crisis. This includes 20 billion pesos in credit lines, guarantees for mortgage finance companies, and more than 20 billion pesos for mortgage finance companies to fund individual mortgages and bridge loans to homebuilders.

Finally, the Banco de México, the Comisión Nacional Bancaria y de Valores and the Hacienda introduced a series of measures aimed at alleviating pressures in the local bond market.

The initiatives include a reduction of 10-, 20-, and 30-year government bond issuances for the remainder of 2008 in favor of treasury bills; credit lines of up to US\$5 billion to the government from multilateral lenders through 2009; a reduction of the

size of the weekly auction of debt securities issued by deposit insurance agency IPAB; and the establishment of a program that will enable the Banco de México to repurchase IPAB securities.

These measures are all designed to improve liquidity and short-term funding and alleviate pressure in the local fixed income market. Once liquidity conditions improve, government authorities will return to standard borrowing practices.

## Mexico's Outlook

Mexico is much better equipped to deal with adverse economic shocks today than at any point in its recent history. Nevertheless, the global financial crisis will impact the economy in several key respects.

Domestic credit contraction and increased uncertainty about future growth will dampen domestic spending for the short term. Mexican consumers are reporting that their situation has worsened compared with 12 months ago and that they expect it to deteriorate further in the next few months. The fraction of households reporting plans to make a large purchase over the next 12 months has collapsed. In September, retail sales showed their weakest growth in over five years.

Another damper on consumer spending comes from a weak U.S. economy, which means less growth in remittances to Mexico over the next few quarters.

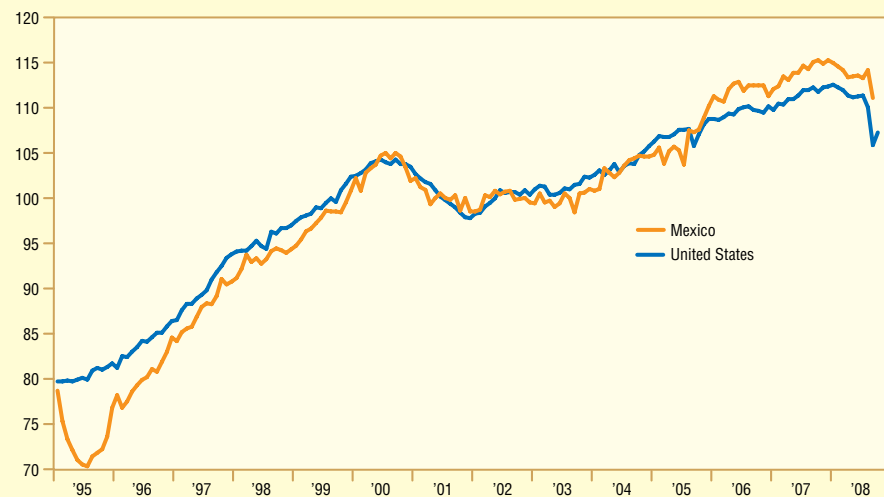
The global slowdown is taking a toll on external demand as well. Mexico depends on the U.S. manufacturing sector for about 80 percent of its exports, and the two nations' industrial sectors are closely synchronized (*Chart 4*). In light of this dependence, the latest data hint that the worst is yet to come for Mexico's industrial sector.

A drastic contraction of U.S. manufacturing is under way. History suggests this will cause Mexico's manufacturing output to weaken. Losses are particularly severe in the U.S. auto sector—a leading destination for Mexican exports—which hurts Mexico's short-term prospects.

These headwinds have caused analysts and government agencies to revise down projections for economic performance over the next two years. As of November, real growth was expected to be below 2 percent this year. For 2009, private analysts surveyed monthly by the central bank of Mexico expect growth to be below 0.5 percent, less than one quarter the rate they expected as recently as two months ago (*Chart 5*).

**Chart 4**  
**Together, for Better or Worse**  
(Industrial production index, seasonally adjusted)

Index, 2002 = 100



SOURCES: Instituto Nacional de Estadística, Geografía e Informática; Federal Reserve Board.

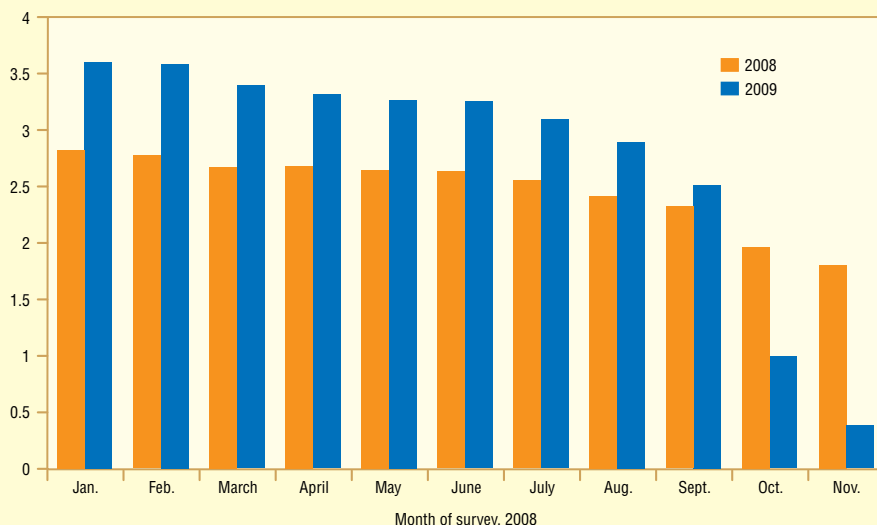


Chart 5

## Growth Expectations Have Plummeted in 2008

(Private growth forecasts by vintage)

Expected annual growth in real GDP (percent)



SOURCE: Banco de México.

Real growth fell to its weakest rate in five years during the third quarter. The industrial sector is already contracting. So far, the service sector is showing sufficient resiliency to keep the economy growing. Growth could weaken further once the

crisis' toll on consumer spending becomes more pronounced.

The full impact of the global turmoil on Mexico will depend on how quickly the world financial system can return to normal and on the depth and length of the U.S.

manufacturing contraction—factors that are eminently difficult to predict. However, for the time being, the biggest external shock in decades is causing analysts to forecast only a slowdown in growth rather than utter collapse, demonstrating how far Mexico has come over the past two decades.

If anything, the adverse global environment is making the need for additional structural reforms even more urgent. Mexico has managed to greatly reduce its vulnerability to homegrown shocks. Better functioning domestic markets will provide the best possible form of insurance against external shocks.

*Quintin is a senior research economist and advisor in the Research Department and Skelton is a business economist in the Financial Industry Studies Department at the Federal Reserve Bank of Dallas.*

## Notes

<sup>1</sup> The economic slowdowns in Mexico arising from past financial crises, along with the impact on the labor market, are studied in "Labor Markets in Turbulent Times: Some Evidence from Mexico" by Sangeeta Pratap and Erwan Quintin, Federal Reserve Bank of Dallas *Southwest Economy*, no. 5, 2008.

<sup>2</sup> For more details on Mexico's recent economic history, see "Mexico's Financial Vulnerability: Then and Now," by José Joaquín López and Erwan Quintin, Federal Reserve Bank of Dallas *Economic Letter*, no. 6, 2006.

<sup>3</sup> Policymakers had originally implemented daily dollar sales of US\$40 million in 2003 to curtail the growth in foreign reserves. However, the peso's strength and a decline in international reserves led to the suspension of dollar sales in July 2008. The current auction facility offers up to US\$400 million a day. For more information on the new auction facility, see Banco de México Circular 47/2008, published Oct. 8, 2008, <http://www.banxico.org.mx/tipo/disposiciones/bancos/47-2008.html>.

## Playing with Derivatives Burns Mexican Companies

The Comisión Nacional Bancaria y de Valores is investigating Mexican corporations' use of financial derivatives after losses on these contracts caused the country's third largest supermarket chain, Controladora Comercial Mexicana, to declare bankruptcy.

In its bankruptcy filing, Comercial Mexicana cited more than US\$2 billion in liabilities, some tied to a \$1.4 billion loss in peso derivatives. Other nonfinancial firms—hotel and resort company Grupo Posadas; steel, paper and consumer product conglomerate Alfa; tortilla maker Gruma; and glass producer Vitro—also disclosed large trading losses tied to financial derivatives.

These firms all took unexpected and unusual currency risks having little direct relationship with their core businesses. Because they had bet that the peso would be stable or rise, they were caught exposed when the peso began to weaken. As these bets began to go bad, the companies had to buy dollars to cover their exposure, which aggravated peso weakness in an already illiquid global market.

In addition, concerns about companies' exposure to derivatives have compounded existing fears for Mexico's corporate sector, whose core operations had already begun to be adversely impacted by the U.S. downturn and financial crisis.

It should be pointed out that the list of Mexican corporations threatened by speculative positions on currency derivatives isn't expected to grow further. Mexican companies with large dollar-denominated debt are generally exporters to the U.S., which provides them with a natural hedge against exchange-rate volatility. Exporters also tend to have long-term debt and, therefore, are less exposed to short-term currency fluctuations.

**QUOTABLE:** “Throughout the first half of this year, the energy states have managed to avoid the recession that has plagued much of the nation. This is beginning to change.”

— Keith R. Phillips, senior research economist



## TEXAS HIGH TECH: Feeling the Bite of the U.S. Recession

The recession that began in December 2007 is hitting the U.S. high-tech sector.

Many leading companies cut employment, reported declining third-quarter sales and reduced fourth-quarter revenue projections. The Semiconductor Industry Association reports that worldwide sales dropped 2.4 percent in the 12 months ending in October. It predicts global sales will decline another 5.6 percent in 2009, the first annual decrease since the 2001 tech bust.

Texas high-tech companies aren't immune. Dallas-based AT&T has announced 12,000 job cuts. Following its acquisition of Plano-based EDS in September, Hewlett-Packard said it would cut employment 7.5 percent as part of a three-year restructuring plan.

Texas Instruments announced layoffs after third-quarter sales declined. After months of faltering sales, Dell shut its Austin plant in March; its employment fell 9 percent year-over-year in the third quarter.

Computer and peripheral equipment manufacturing is suffering more in Texas than the nation. October employment fell from last year's levels by 11.5 percent in Texas and 0.1 percent in the U.S.

Texas is faring better than the nation in some sectors. State employment in semiconductor manufacturing declined 2.1 percent, less than the nation's 3.8 percent. Texas telecommunications jobs were down 0.9 percent, compared with 1.6 percent nationwide.

—Mike Nicholson



## ENERGY: Oil, Gasoline Price Spikes Unlikely in 2009

The global economic slowdown has taken a toll on energy prices. West Texas Intermediate recently dropped under \$41 per barrel, well below the all-time high of \$147 set in early July. Despite the drastic decline, oil prices will average \$100 per barrel for 2008.

World oil consumption is expected to decrease for the first time since 1982, according to the U.S. Energy Information Administration (EIA). With demand subdued, oil prices are expected to remain low. The EIA's recently revised forecast calls for an average of \$51 per barrel in 2009.

Gasoline prices have tracked oil's decline. The national average recently fell below \$1.70 a gallon, with the year's

average at \$3.27. U.S. gasoline consumption has declined 3.4 percent in 2008. The EIA predicts an average price of \$2.03 a gallon for 2009. At that price, consumers will save \$172 billion at the pump, or about \$1,500 per household.

While motorists rejoice over plunging oil prices, another supply crunch could be down the road. Current prices are high enough to maintain production but won't spur capacity expansion. Today's low prices threaten investment in unconventional resources like the Canadian oil sands. New production capacity will grow more slowly, leading to upward pressure on prices when demand rebounds.

—Jackson Thies



## TRANSPORTATION: Texas Highway Investment Falls Short

Texas has been underinvesting in roads and highways and spending too small a share of its funds on projects in urban areas, according to a recent study by David Luskin, Erin Mallard and Isabel Victoria-Jaramillo in the *Annals of Regional Science*.

The authors determine efficient spending levels by using the Highway Economic Requirements System, a Federal Highway Administration model based on cost-benefit analysis. The model considers three types of benefits: highway users' gains valued according to the average hourly wage across all occupations, the highway managing agency's cost savings and decreases in vehicle emissions. All are given monetary values.

The model finds Texas' optimal investment would

have been \$38 billion during 2000–04—\$25 billion more than what the Texas Department of Transportation actually spent on roads and highways.

In addition, the model recommends allocating 70 to 80 percent of all Texas highway funds to urban roads. But the state's metros received only 56 percent of state highway funds in 2000–04.

Some of the funding shortage is attributed to the decreasing real value of available funds. Most of Texas' highway funding comes from motor fuel taxes, which haven't risen since the early 1990s. While tax revenues have increased with the population, they haven't kept up with the rising cost of highway construction.

—Michelle Hahn

## U.S. Slowdown Reaches Texas

Texas continued to do well after the U.S. went into recession in December 2007. As we end 2008, mounting evidence suggests that the state's economy has begun to falter.

The Dallas Fed's Texas Business-Cycle Index flashed a warning of possible recession in October, posting a negative monthly change for the first time since July 2003 (*Chart 1*).

The statewide index moves in tandem with its three components—Texas employment, unemployment and gross domestic product. Its recent movements reflect a slow-down in job growth and a jump in the unemployment rate from 5 percent in August to 5.6 percent in October.

Beige Book, the Dallas Fed's anecdotal report on regional economic activity, revealed broad and sometimes deep deterioration in November. Almost all respondents noted declining business conditions and worsening prospects for the economy.

Since firms often cut temporary jobs before permanent staff, demand at staffing

firms often falls before overall jobs decline. In the Beige Book, staffing firms reported a falloff in demand for personnel and a large number of layoffs across many industries, including manufacturing, financial services, information technology and accounting.

The Dallas Fed's Texas Manufacturing Outlook Survey suggests that production, shipments, new orders and capacity utilization measures all declined sharply in November. Many respondents said tightening credit conditions were impacting their businesses.

Texas exports have declined on net over the past three months due to the dollar's rising value and faltering growth overseas.

Housing inventories, foreclosures and delinquencies continue to look better in Texas than the nation. Home prices, which grew year-over-year in the third quarter, helped boost the state's relative performance (*Chart 2*). Even so, Texas housing markets continue to erode. Homebuilding and residential construction employment are likely to remain weak for some time.

Energy prices have plunged in recent months, and the rig count has begun to respond. These declines will likely put downward pressure on Texas job growth in the months ahead.

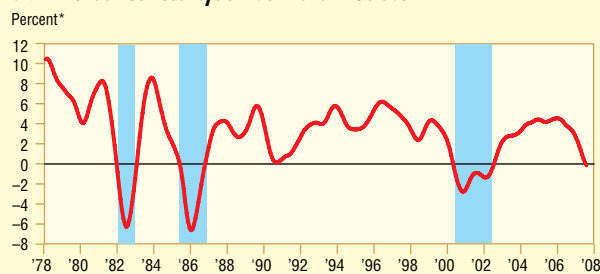
Financial-sector employment has been shrinking nationally for almost two years; in Texas, it has flattened out and will likely decline in coming months (*Chart 3*). Troubled bank loans are increasing in the state.

The Texas Leading Index, a gauge of economic prospects for the next three to six months, has fallen broadly and sharply in recent months (*Chart 4*). Six of the index's eight components have declined.

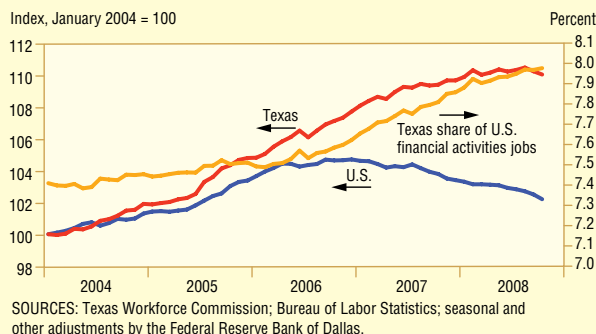
Despite these unsteady signs, Texas will likely continue to outperform the nation. Its housing sector is in better shape, the cost of living and doing business is lower, and energy still plays a positive role in the economy. Continuing declines in oil and natural gas prices, however, could erode the state's relative strength.

—Keith R. Phillips and Mike Nicholson

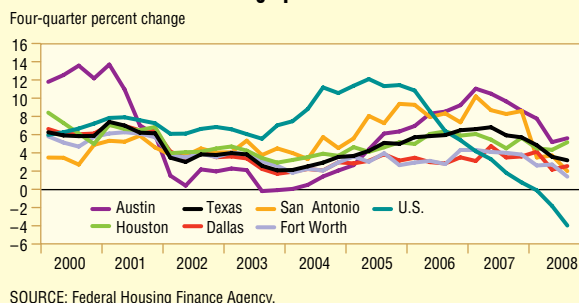
**Chart 1 Texas Business-Cycle Index Falls in October**



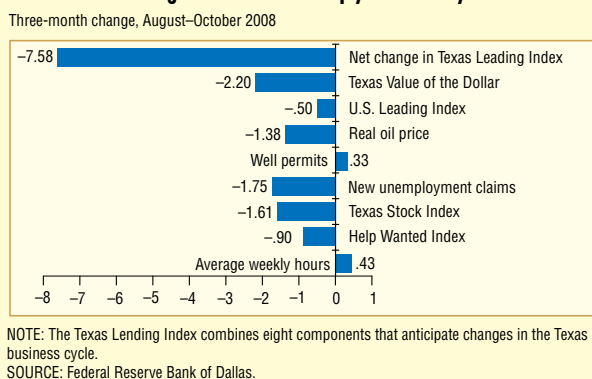
**Chart 3 Texas Finance Jobs Contract in October**



**Chart 2 Home Prices Still Holding Up in Texas**



**Chart 4 Texas Leading Index Declines Sharply and Broadly**



# Why Texas Feels Less Subprime Stress than U.S.

(Continued from page 6)

that delinquencies and foreclosures will continue at a high level.

The Texas housing market has shown substantial weakening in 2008, even though the state's housing prices have held up better than the nation's.<sup>9</sup> The financial turmoil and credit crisis, coupled with low energy prices, have made it more likely that the region will follow the nation in an economic downturn. This suggests that Texas will inch closer to the U.S. in subprime delinquency.

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

## Notes

The author thanks Keith Phillips and Wenhua Di for comments and helpful discussion.

<sup>1</sup> See "Mortgage Delinquencies and Foreclosures," speech by Ben S. Bernanke, chairman of the Board of Governors of the Federal Reserve System, at Columbia Business School's 32nd Annual Dinner, New York, May 5, 2008.

<sup>2</sup> Interest-only mortgages are adjustable-rate mortgages with the option of paying only the interest for a specified period rather than interest plus part of the principal, as in traditional mortgages. Mortgage payments would typically increase sharply on such loans after the specified period because borrowers would have to start paying a principal amortized over a much shorter period than usual. Negative-amortization loans go a step further and allow borrowers to pay interest on an amount lower than the principal for a specified period. The remaining interest is added to the principal amount and becomes due after the specified period. With negative-amortization loans, mortgage payments in later years rise even more sharply than with interest-only loans. See "Making

Sense of the U.S. Housing Slowdown," by John V. Duca, Federal Reserve Bank of Dallas *Economic Letter*, vol. 1, no. 11, 2006.

<sup>3</sup> Data are from the census bureau's American Community Survey.

<sup>4</sup> For a more detailed analysis of differences between national and state trends, see "Residential Foreclosures in Texas Depart from National Trends," by Wenhua Di, Federal Reserve Bank of Dallas *e-Perspectives*, vol. 8, no. 2, 2008.

<sup>5</sup> It's worth noting that FALP data on subprime mortgages cover about 47 percent of all active owner-occupied subprime loans in the U.S. Although FALP is one of the most comprehensive data sources and has been used in numerous studies on subprime mortgage conditions, it's by no means perfect. In using the data for state-level studies, it must be further assumed that the data are broadly representative of state-level subprime mortgages. For a more detailed description of the data, see "Technical Appendix: Nonprime Mortgage Conditions in the United States," Federal Reserve Bank of New York, [www.newyorkfed.org/regional/techappendix\\_spreadsheets.html](http://www.newyorkfed.org/regional/techappendix_spreadsheets.html).

<sup>6</sup> For a different point of view on resets, see "Subprime Facts: What (We Think) We Know About the Subprime Crisis and What We Don't," by Christopher L. Foote, Kristopher Gerardi, Lorenz Goette and Paul S. Willen, Federal Reserve Bank of Boston Public Policy Paper no. 08-2, 2008.

<sup>7</sup> For a more detailed discussion of such restrictions in Texas, see "Will Texas Voters See Equity in Home Equity Lending?" by Edward C. Skelton, Federal Reserve Bank of Dallas *Financial Industry Issues*, Third Quarter, 1997.

<sup>8</sup> FALP data cover about 90 percent of all active owner-occupied securitized Alt-A loans in the U.S.

<sup>9</sup> For a Texas housing sector outlook, see "Hot Housing Market Catching Cold in Texas," by D'Ann Petersen, Federal Reserve Bank of Dallas *Southwest Economy*, no. 1, 2008, pp. 11-14.



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