



# Breaking Out of Recession: Gauging Texas' Response to Fed Stimulus

By David Luttrell and Harvey Rosenblum

*The Federal Reserve's Eleventh District has been more responsive to monetary stimulus than other regions.*

From the time the U.S. recession began in December 2007 through the subsequent recovery, Texas and the Eleventh Federal Reserve District have outperformed the nation.<sup>1</sup> While economic activity is better in Texas, it remains far from robust. And though Texas employment hasn't fully reclaimed levels reached before the crisis (*Chart 1*), the other 11 Federal Reserve districts remain 3 to 8 percent below predownturn employment peaks as a postrecessionary disquiet lingers.

This sluggish national performance has occurred despite the enormous fiscal and monetary firepower unleashed to combat the financial crisis and accompanying recession.<sup>2</sup> Why has Texas achieved a comparatively greater recovery than the nation (*Table 1*)? State economies respond differently to economic shocks and policy

actions reflecting regional variations in industry composition and the health of institutions. Texas, entering recession about eight months after the nation, emerged from the downturn in third quarter 2009 and outpaced the rest of the country in employment growth with the aid of its healthier banking sector, subdued housing boom (and subsequent bust) and global trade competitiveness.

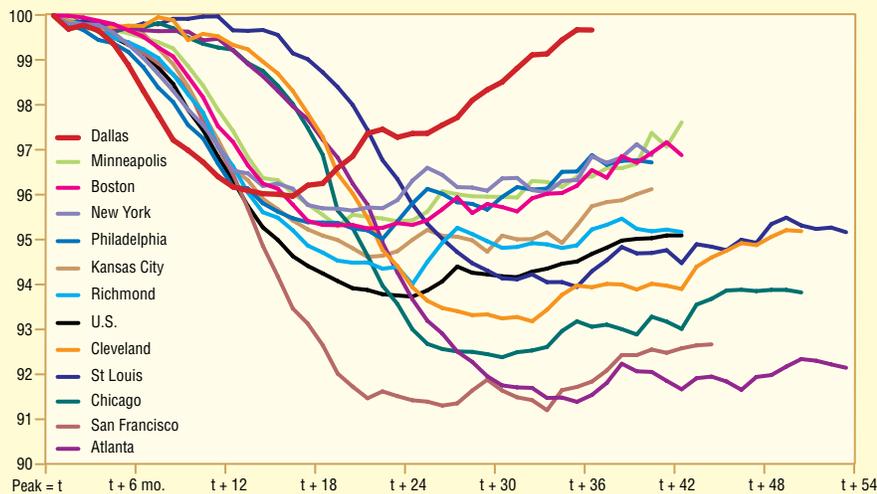
Economists Kenneth Rogoff and Carmen Reinhart suggest that recoveries from recessions associated with financial crises tend to be sluggish, drawn-out episodes. This generalization applies to dozens of countries.<sup>3</sup> Through midyear, the recent U.S. recovery appears to be no exception, despite monetary and fiscal authorities' relatively large and timely policy responses based on the real-time data at their disposal.<sup>4</sup> The recent U.S. experience underscores Rogoff and Reinhart's "Second Great Contraction" label for the U.S. slow-growth predicament rather than the often used "Great Recession" tag.

## Sizeable Stimulus

The first large legislative policy response was the \$700 billion Troubled Asset Relief Program (TARP), enacted in October 2008 and mostly used to recapitalize the banking and financial system. A second major fiscal policy effort, the \$787 billion American Recovery and Reinvestment Act, took effect in February 2009, 14 months after the recession began. It provided tax cuts, extended unemployment benefits, increased federal funds for education and health care, and promised "shovel-ready" infrastructure projects. The time lag associated with implementing fiscal stimulus prompted Stanford professor Robert Hall, the outgoing American Economic Association president, to say: "The government is incapable of executing a rapid and large increase in purchases."<sup>5</sup>

**Chart 1**  
**Employment Peaked Later and Rebounded Quicker in Dallas Fed District**

Index, each district's payroll employment peak = 100



NOTE: The timing of employment peaks varied across Federal Reserve districts. For example, Atlanta district employment peaked in April 2007; Dallas peaked in August 2008.

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

**Table 1**  
**Recovery Appears Stronger in Texas Relative to Nation**

	U.S.	Texas	As of (2011)
<b>Percent change from respective business cycle peak (%)*</b>			
Employment	-5.0	-0.3	August
Real personal income	1.1	3.8	First quarter
Real per capita personal income	-1.8	-0.7	First quarter
Labor force participants	-0.2	4.9	August
Population	3.5	5.6	Second quarter
<b>Most recent measure (%)</b>			
Unemployment rate	9.1	8.5	August
Labor force participation rate	64.0	65.3	August
Home price change from peak	-25.2	-2.6	June

\* Peak-to-current percent change: the U.S. business cycle peak is dated December 2007 or fourth quarter 2007, and the Texas cycle peak is August 2008 or third quarter 2008.

SOURCES: Bureau of Economic Analysis; Haver Analytics; Bureau of Labor Statistics; authors' calculations.

Federal Reserve monetary policy, the focus here, provided channels of economic support. Two inherent aspects of Fed policymaking—a relatively small number of decisionmakers and the ability to meet frequently—enable a timely response. But such action does not guarantee an immediate or sizeable impact. The Fed undertook policies aimed at stimulating aggregate demand and reducing the effects of deleveraging and the prospects of deflation. These moves included:

- A series of reductions in the Fed's traditional policy instrument, the federal funds rate, to near-zero, where it has remained since December 2008;
- Encouraging banks to borrow in large amounts and for extended maturities directly from the Fed through the discount window;
- Creation of a wide range of special and temporary credit facilities for lending to banks, nonbank primary dealers (which handle sales of Treasury securities), credit intermediaries and other central banks;<sup>6</sup>
- Reduction of long-term interest rates through Fed purchases of more than \$1.8 trillion of mortgage-backed bonds and Treasuries.

### Monetary Policy and Healthy Banks

Fed policy moves stimulated economic growth through four primary avenues: a) the bank loan channel; b) the securities market channel; c) the asset prices and wealth channel; and d) the exchange-rate channel (*Chart 2*). Regional economic factors account for significant differences in the functioning of bank lending, wealth effects and trade competitiveness. Only the securities market channel is

generally dominated by national economic and financial market developments.

These four channels influenced the real economy during much of the quarter century preceding 2007 because banks generally held enough capital to safeguard against bad loans and other risks. The transmission mechanism connecting monetary policy and the macroeconomy depended on a well-oiled banking and financial sector that during the recent financial crisis became conspicuous by its absence.

The bank capital linkage, which completes the financial market architecture of effective monetary policy, is a function of both regulatory policy and the economic

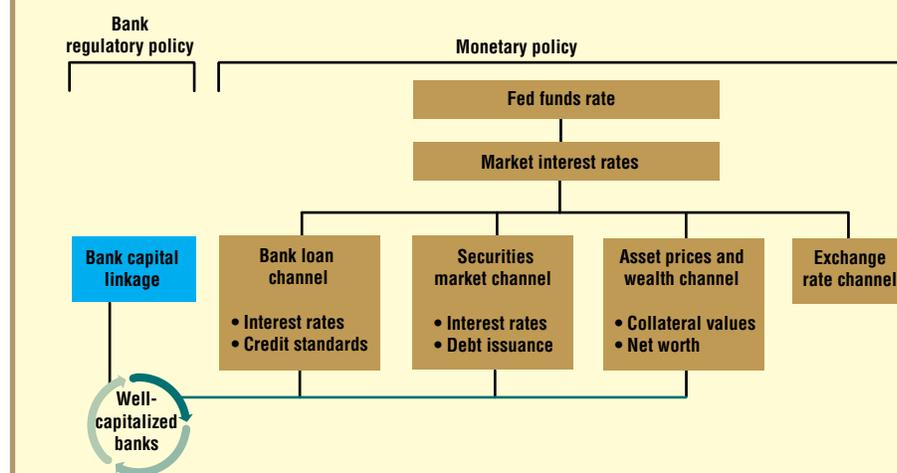
shocks affecting the health and vitality of the banking sector.<sup>7</sup> The well-being of the banking system—not entirely within the power of the Fed—varied across the country and helped account for differences in monetary policy impact between regions.

Throughout the recession and subsequent recovery, Eleventh District banks experienced a smaller percentage of problem loans than banks in the nation as a whole (*Chart 3*). Noncurrent loans (generally 90 days past due) and loan write-offs erode bank capital, often prompting an institution to reduce its loan portfolio. This can create broader economic issues as decreased lending diminishes local economic growth, ultimately affecting the ability of other businesses and households to repay their loans and forcing further loan write-downs and capital reductions, accompanied by still more slowing. Texas banks entered the recession with a reasonably strong capital position and, subsequently, maintained much of it.<sup>8</sup>

### Texas Banks and Lessons Learned

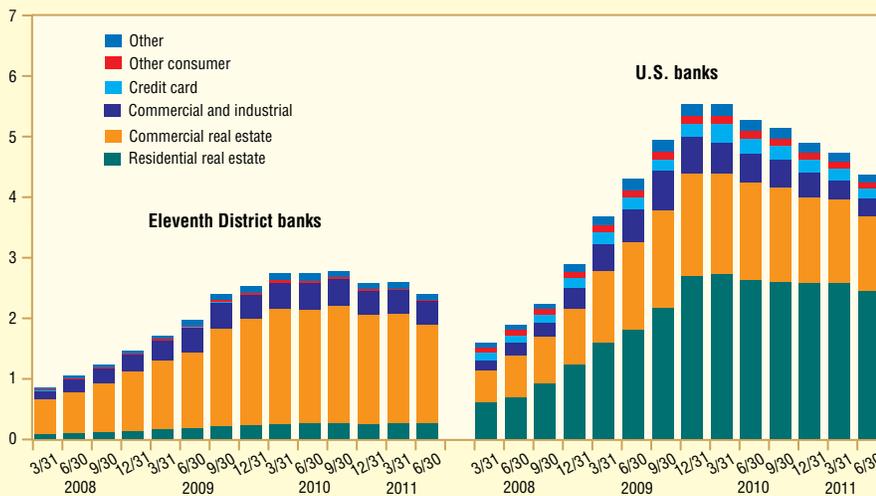
Plunging oil prices and a real estate crisis left Texas in near-depression condition and at the center of the savings-and-loan collapse of the late 1980s. From 1987 through 1991, Texas experienced 729 bank failures, representing 38 percent of national bank closures. By comparison, Federal Deposit Insurance Corp. data reveal that from 2007 through August 2011, only eight Texas banks failed, comprising just 2 percent of the period's U.S. closures. The state's less-pronounced housing market boom and bust is a key reason for this performance.

**Chart 2**  
**Architecture of Effective Monetary Policy**



**Chart 3**  
**Noncurrent Loan Burden Lighter for Eleventh District than U.S. Banks**

Noncurrent loans as a percent of total loans



NOTE: Noncurrent loans are defined as loans past due 90 days or more, plus loans on nonaccrual status.  
 SOURCE: Second quarter 2011 Report of Condition and Income, Federal Financial Institutions Examination Council.

One frequently used gauge of overall banking-sector distress is the so-called Texas ratio, which attempts to assess banks' ability to withstand losses. A Texas ratio above 100 percent suggests the potential for troubled assets—principally noncurrent loans and real estate owned—to wipe out an institution's capital base. In the 1980s crisis, 20 percent of Eleventh District banks had a Texas ratio exceeding 100 percent—thus, the origin of the ratio's name. Suggesting that Texas banks learned some difficult lessons during the 1980s, slightly more than 1 percent of district banks were at this danger threshold in second quarter 2011, compared with a bit more than 5 percent of U.S. banks (Chart 4).

Further, recapitalization and economic reconciliation during the 1980s helped district banks fare comparatively well in the current period along with much of the Northeast, whose regional banking crisis occurred in the early 1990s (Chart 5).

Economic expansion remains sluggish in many Fed districts (as noted in Chart 1). Some of the worst performers in terms of employment growth, such as the Atlanta and San Francisco districts, confront still-troubled commercial and residential real estate markets. Significant losses and capital write-downs on residential construction and commercial land development loans pressure banking capital, limiting the ability to lend. In some states in these re-

gions, housing prices fell 30 to 50 percent, engendering negative household wealth effects. The Atlanta and San Francisco districts consequently attracted fewer new residents and saw some of the country's highest unemployment. Reflecting housing wealth declines, overextended consumer mortgage debt and high-risk home equity lending, many homeowners in these re-

gions owe more on their mortgages than their houses are worth. Negative-equity issues remain severe in Nevada (63 percent of mortgaged properties), Arizona (50 percent), Florida (46 percent) and California (31 percent).<sup>9</sup>

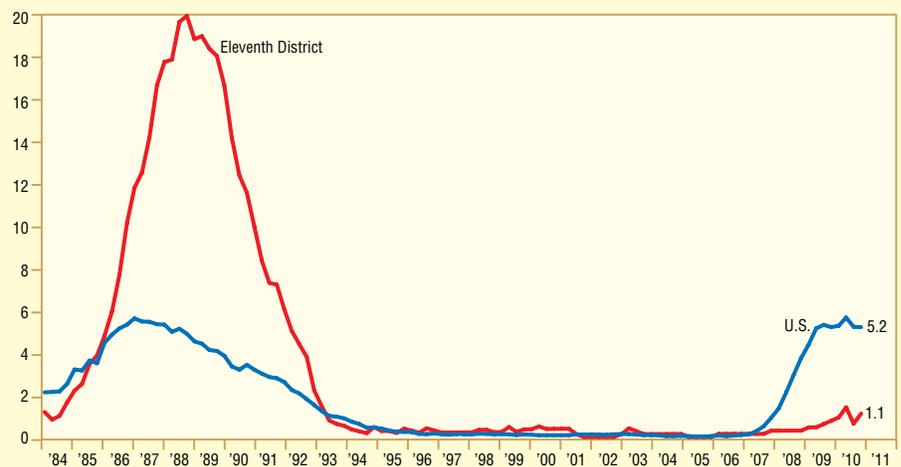
Following the 1980s collapse, Texas regulators bolstered rules governing loan-to-value ratios on residential real estate loans and limited or delayed implementation of home-equity lending, reverse mortgages and home-equity lines of credit. Given this oversight and other factors such as ample land availability and fewer development and zoning restrictions, Texas housing stock increased during the national boom without the rapidly rising home prices and lax lending standards found elsewhere.<sup>10</sup> Burdened by less housing fallout, and consequently less household leverage, the Texas economy remained relatively healthy, with greater job-creating capability.<sup>11</sup> The state also avoided a major wealth shock and loss of collateral value underpinning loans, allowing the asset-price and wealth channel of monetary policy to remain relatively unblocked. Additionally, Texas sustained relatively fewer credit card and other consumer loan delinquencies.

**Trade Boosts Growth**

The impact of lower interest rates on the value of the dollar is an indirect but

**Chart 4**  
**Eleventh District Banks Show Less Distress than U.S. Counterparts**

Percent of banks with Texas ratio > 100 percent

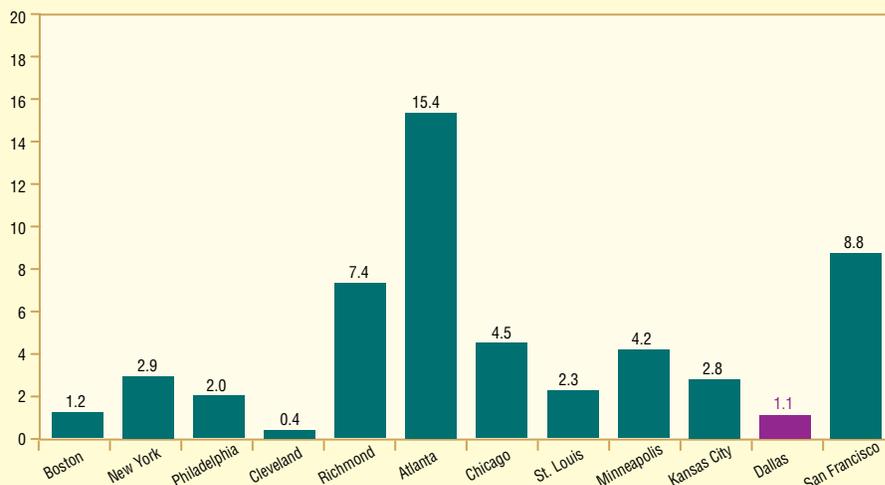


NOTE: The Texas ratio is defined as noncurrent loans plus other real estate owned as a percentage of tangible equity capital plus loan loss reserves.  
 SOURCE: Second quarter 2011 Report of Condition and Income, Federal Financial Institutions Examination Council.

*The key drivers of Texas' favorable response to monetary policy stimulus were its relatively healthy and well-capitalized banks, the absence of a boom-and-bust cycle in housing and internationally competitive export industries.*

**Chart 5**  
**Eleventh District Relatively Less Encumbered by Potential Bank Asset Problems**  
 (Second quarter 2011)

Percent of banks with Texas ratio > 100 percent by Federal Reserve district



SOURCE: Second quarter 2011 Report of Condition and Income, Federal Financial Institutions Examination Council.

important monetary policy transmission channel. A weaker dollar spurs exports, and Texas is the country's largest exporter, comprising almost one-sixth of the nation's total by origin of movement. The state's top exporting industries in 2010 were chemicals, computers and electronics, petroleum and coal, and machinery and transportation equipment.<sup>12</sup> After the North American Free Trade Agreement took effect in January 1994, real (inflation-adjusted) Texas exports to Mexico and Canada grew 12 percent annually through 2000. Further, Texas exports to China have expanded 25 percent annually following admission of China into the World Trade Organization in December 2001.

Mexico remained the state's largest trading partner last year, accounting for 35 percent of Texas exports, followed by Canada, 9 percent, and China, 5 percent. Texas is the nation's leading producer of crude oil, natural gas and lignite coal. Petroleum and coal exports have increased more than fourfold since 2005, making up 17 percent of total state exports in 2010. While the Texas economy is less dependent on oil and gas than in the 1970s and early 1980s, energy price increases remain generally beneficial, an advantage over most other states whose economies tend to slow when energy prices rise.<sup>13</sup>

Differences in products states sell and where those exports go produce ef-

fective exchange-rate shifts reflecting a state's trade-weighted value of the dollar.<sup>14</sup> In the case of Texas, the real value of the Mexican peso relative to the dollar especially influences export attractiveness. Differences in relative foreign currency prices for Texas products and the nation at large are depicted in Chart 6. Underlying the weakening real trade-weighted values of the dollar in Texas and the U.S. are the appreciating currencies of the largest U.S. trading partner, Canada, and the largest foreign buyer of Texas products, Mexico. Texas trade-competitiveness has increased, contributing to higher demand for its exports, boosting manufacturing output and buttressing the state economy through the exchange-rate channel of monetary policy.

### Other Contributing Factors

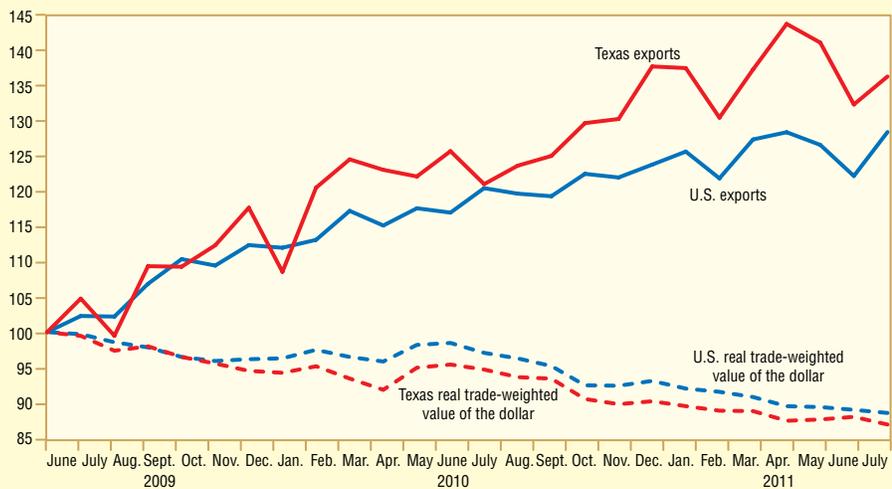
Even in the absence of extraordinary monetary and fiscal policy intervention, the Texas economy likely would have outperformed the nation during the recovery. Since 1990, the state's average annual job growth has exceeded the nation's by about a percentage point. Year to date through August, that advantage has increased to about 1.3 percentage points, providing a potent lure to prospective workers.

Data from the 2010 census show Texas' population expanded 48 percent since 1990, twice the national rate. Net births (births minus deaths) accounted for

Chart 6

## Texas' Weaker Effective Exchange Rate Boosts State Exports

Index, June 2009 = 100



SOURCES: Census Bureau; Bureau of Labor Statistics; Federal Reserve Board; Dallas Federal Reserve Bank; authors' calculations.

60 percent of the growth; migration from other countries and states accounted for 40 percent.<sup>15</sup> Domestic inflows rose significantly in 2007–09, perhaps reflecting the relatively strong state economy before the recession and the shorter business-cycle contraction. In the long term, a relatively low cost of living, including no state income tax, and the availability of jobs attract workers.

In-migration from abroad often hinges on conditions in countries of origin. Recent violence in Mexico has produced an influx of middle- to high-income immigrants, bringing their human and financial capital across the border to El Paso, Houston, San Antonio and Austin.<sup>16</sup>

Texas has benefited from structural advantages such as natural resources, Gulf ports and geographic proximity to its largest trade partner. Additionally, regional economic drivers have contributed to the functioning of the bank loan, asset price/wealth and exchange-rate channels of monetary policy. Factors such as the relative health of the Texas banking sector and housing market and strong export industries helped promote national policy effectiveness and allowed the state to outperform the nation.

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## Notes

Thanks to Pia Orrenius, John Duca, Jackson Thies and Tom Siems for their contributions.

<sup>1</sup> The Eleventh Federal Reserve District consists of Texas, northern Louisiana and southern New Mexico. Texas accounts for 95 percent of the Eleventh District's output.

<sup>2</sup> The Fed's ability to lower real interest rates was greatly inhibited by the zero bound and falling inflation rates during the recession.

<sup>3</sup> See *This Time Is Different: Eight Centuries of Financial Folly*, by Carmen Reinhart and Kenneth Rogoff, Princeton, N.J.: Princeton University Press, 2009, or subsequent work, "After the Fall," by Carmen and Vincent Reinhart, paper presented at the Kansas City Economic Symposium, Jackson Hole, Wyo., Aug. 27, 2010, [www.kansascityfed.org/publicat/sympos/2010/2010-08-17-reinhart.pdf](http://www.kansascityfed.org/publicat/sympos/2010/2010-08-17-reinhart.pdf).

<sup>4</sup> Policymakers had to work with real-time data that, in this case, underestimated the extent and seriousness of the downturn. The initial estimate of real GDP performance was subsequently lowered to –8.9 percent for fourth quarter 2008 (from –3.8 percent) and to –6.7 percent for first quarter 2009 (from –6.1 percent) in the latest GDP revisions, released in July 2011. Indeed, the Business Cycle Dating Committee at the National Bureau of Economic Research (NBER) did not officially date the beginning of the recession until December 2008, a full year after the recession was deemed to have begun in December 2007.

<sup>5</sup> The American Economic Association is the world's largest organization for economists. See "The Long Slump," by Robert Hall, AEA presidential address, *American Economic Review*, April 2011, p. 467.

<sup>6</sup> See "Federal Reserve Liquidity Programs: An Update," by Niel Willardson and LuAnne Pederson, Federal Reserve Bank of Minneapolis *The Region*, June 2010.

<sup>7</sup> See "Regulatory and Monetary Policies Meet 'Too Big to Fail,'" by Harvey Rosenblum, Jessica J. Renier and Richard Alm,

Federal Reserve Bank of Dallas *Economic Letter*, vol. 5, no. 3, 2010, [www.dallasfed.org/research/ecllett/2010/el1003.html](http://www.dallasfed.org/research/ecllett/2010/el1003.html).

<sup>8</sup> This analysis abstracts from the fact that Texas is home to branches of some of the nation's largest banks, a few of which required extraordinary federal government assistance during the financial crisis. See note 7. For earlier analysis at the regional level, see "What Reforms Are Needed to Improve the Safety and Soundness of the Banking System?" Harvey Rosenblum, Federal Reserve Bank of Atlanta *Economic Review*, vol. 92, nos. 1–2, 2007, pp. 101–13.

<sup>9</sup> For data on negative equity, see CoreLogic first quarter 2011 negative equity report, June 7, 2011, [www.corelogic.com/about-us/news/asset\\_upload\\_file726\\_7102.pdf](http://www.corelogic.com/about-us/news/asset_upload_file726_7102.pdf).

<sup>10</sup> For more Texas housing details, see "Texas Housing on Bumpy Road After Stimulus Effects Fade," by D'Ann Petersen and Adam Swadley, Federal Reserve Bank of Dallas *Southwest Economy*, Second Quarter 2011, [www.dallasfed.org/research/swe/2011/swe1102b.cfm](http://www.dallasfed.org/research/swe/2011/swe1102b.cfm).

<sup>11</sup> For more on Texas household debt burdens and the outlook for Texas' relative strength, see "Texas Economy to Ride Higher in the Saddle in 2011," by Keith R. Phillips and Emily Kerr, Federal Reserve Bank of Dallas *Southwest Economy*, First Quarter 2011, [www.dallasfed.org/research/swe/2011/swe1101b.cfm](http://www.dallasfed.org/research/swe/2011/swe1101b.cfm).

<sup>12</sup> See "Industry Clusters Shape Texas Economy," by Laila Assanie and Mine K. Yücel, Federal Reserve Bank of Dallas *Southwest Economy*, no. 5, 2007, [www.dallasfed.org/research/swe/2007/swe0705b.cfm](http://www.dallasfed.org/research/swe/2007/swe0705b.cfm).

<sup>13</sup> See "Oil and Gas Rises Again in a Diversified Texas," by Mine K. Yücel and Jackson Thies, Federal Reserve Bank of Dallas *Southwest Economy*, First Quarter 2011, [www.dallasfed.org/research/swe/2011/swe1101g.cfm](http://www.dallasfed.org/research/swe/2011/swe1101g.cfm).

<sup>14</sup> See "New Tool Gauges Impact of Exchange Rates on States," by Keith R. Phillips, Steve Brzezinski and Barbara Davalos, Federal Reserve Bank of Dallas *Southwest Economy*, Fourth Quarter 2010, [www.dallasfed.org/research/swe/2010/swe1004b.pdf](http://www.dallasfed.org/research/swe/2010/swe1004b.pdf).

<sup>15</sup> See "Keys to Economic Growth: What Drives Texas?" by Jason Saving, Federal Reserve Bank of Dallas *Southwest Economy*, First Quarter 2009, [www.dallasfed.org/research/swe/2009/swe0901c.cfm](http://www.dallasfed.org/research/swe/2009/swe0901c.cfm).

<sup>16</sup> See "Life on the Line," by Andrew Rice, *New York Times Magazine*, July 28, 2011.