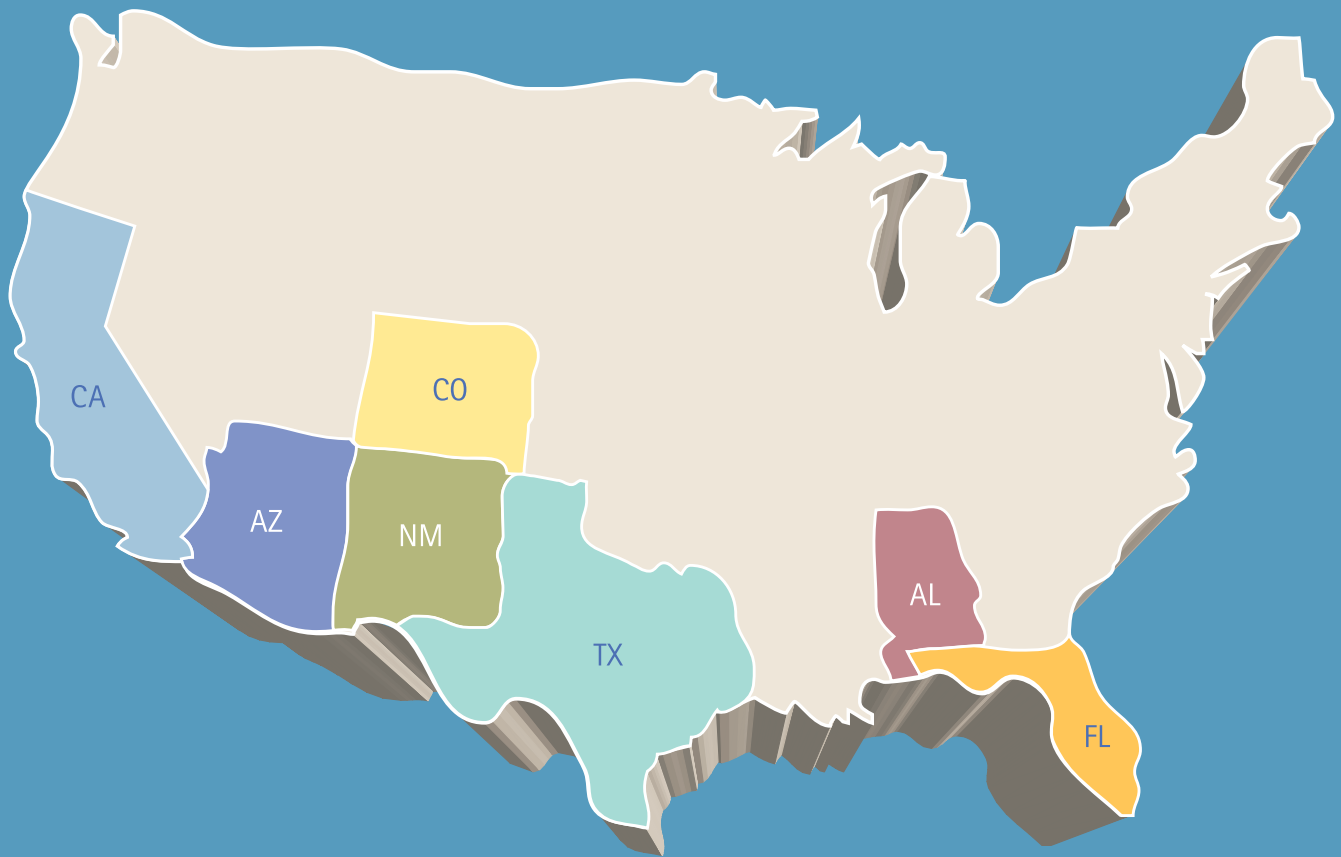


# US Regional Watch

Economic Research Department

First Quarter 2010

1	2	3	4
---	---	---	---



- The U.S. economy has shown signs of widespread improvement, but we are still far from a self-sustained recovery
- While Texas economic growth will outpace the U.S., other states will lag the recovery
- Industry watch: High potential in ambulatory services across the BBVA Compass Sunbelt Region
- Banks: Net interest margin expected to expand

# Contents

Closing date: March 10, 2010

## First Quarter 2010

Editorial	2
Global Outlook	3
U.S. Economic Outlook	5
Regional Economic Outlook	
Texas	6
Alabama	8
Focus on Alabama's Exports: Specialized Trade	9
BBVA Compass Sunbelt Region	10
Economic Impact of Unsung Heroes: Volunteerism in America	11
Focus on Ambulatory Healthcare Services	13
Box: Healthcare Across the States	17
Pollution Abatement Costs and Expenditures (PACE)	18
Recession Challenged Alabama's Automotive Industry	20
Forecasting Key Banking Indicators: Net Interest Margin	22
Fact Sheet	26
Forecasts	27

### U.S. Economic Research Department:

Nathaniel Karp	nathaniel.karp@bbvacompass.com
Ignacio San Martín	ignacio.sanmartin@bbvacompass.com
Marcial Nava	marcial.nava@bbvacompass.com
Jason Frederick	jason.frederick@bbvacompass.com
Jeff Herzog	jeff.herzog@bbvacompass.com
Hakan Danis	hakan.danis@bbvacompass.com
Kristin Lomicka	kristin.lomicka@bbvacompass.com

### Contributions:

Marcos J. Dal Bianco	marcosjose.dal@grupobbva.com
----------------------	------------------------------

Editorial assistance provided by BBVA Compass External Communications.

BBVA Compass is proud to partner  
with the following universities:



Recent data confirms that the economic recovery is gradually becoming more widespread. An improvement in financial stability and strong foreign demand are providing support to some industries and regions. Yet, we continue to expect a slower recovery than in previous post-recession periods. In fact, the economic upturn in the past nine months has been greatly dependent on the fiscal and monetary stimulus policies. Thus, the main uncertainty going forward is how well positioned the private sector is to lead the recovery in a context where banking conditions are far from running smoothly.

In our opinion, the biggest challenge is personal consumer spending, which accounts for more than two-thirds of overall gross domestic product. Households are already experiencing a deleveraging process that will allow them to improve their financial position by lowering their debt-to-income ratios and increasing their savings rate. These trends imply that private consumption growth will be more modest than before the crisis. Nonetheless, this correction will provide stronger and more sustainable economic conditions in the long-run.

In the business sector, financial conditions remain somewhat stable. Firms are experiencing the negative effects from weaker demand, declining real estate prices and excess capacity that remains at elevated levels. As a result, businesses continue increasing productivity and keeping unit labor costs low, while maintaining high cash balances and limiting their investment. Although we expect labor market conditions to improve in coming months, job creation will remain weak which will in turn limit the pace of personal spending. Nonetheless, the economic recovery abroad is providing some support for those businesses that rely on foreign sales.

In an environment of high unemployment, low capacity utilization and an economy operating below potential, price pressures will remain contained. As we continue to expect core inflation and inflation expectations to stay low, the Fed will keep interest rates low for a considerable period of time. Yet, with the improvement in the outlook for growth, the Fed will keep withdrawing extraordinary policy accommodations throughout the year using various policy tools. The main challenges for the Fed are to continue supporting the recovery by keeping interest rates low, avoiding mid-term inflationary pressures by gradually draining liquidity and smoothing the transition to more normal financial conditions.

At the regional level, the BBVA Compass state monthly activity indexes continue to improve confirming that output levels are beginning to increase. Yet, the strength of the recovery is not homogenous and performance in some states is likely to lag the overall economy. Within the BBVA Compass Sunbelt Region, the outlook remains solid - particularly in Texas which is benefiting from the recovery in manufacturing, foreign demand and the energy sector. In addition, we foresee a positive outlook in some key industries such as healthcare.

We hope you find our publication useful to your business.

Sincerely,  
Nathaniel Karp  
BBVA Compass U.S. Chief Economist

# Global Outlook

The world economy is gathering momentum in what is defined as a policy-induced multispeed recovery. In developed economies, the recovery is uncommonly weak by past standards. Private demand and personal income show little signs of solid improvement as the key driver of GDP growth, weighed down principally by rising deleveraging pressures, sky-high unemployment rates and sluggish bank lending to households and firms.

Indeed, many of these economies are still highly dependant on public support as the turn in the inventory cycle seems to be leading the recovery while private consumption lags behind. Therefore, the key question in most advanced economies remains how to manage the ambitious equilibrium between maintaining large public stimuli to sustain quarterly GDP growth while conserving the credibility of their governments when coping with rising deficit and debts under scaling political strain and lifting market pressure.

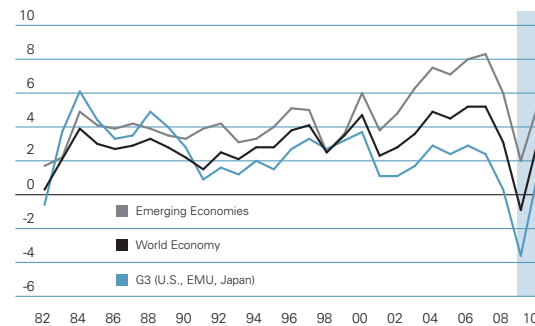
By region, the U.S. economy is performing better than EMU based on initial economic and financial conditions, the size of exogenous shocks affecting their economies and, more recently, the release of new macro data, all of which support the idea of a decoupling between the two areas. In Europe, there are still significant risks, particularly doubts in the sustainable upturn in private spending, Our projections for 2010 point to a 0.6% GDP growth, higher than the previous year, but still below pre-crisis levels.

In emerging economies, growth is spreading across the various countries primarily due to stronger-than-expected domestic demand, rising intra- and inter-regional exports and increasing capital inflows, with the latter having re-opened the old debate of capital controls. However, the build up of stronger economic frameworks during the previous expansionary cycle, along with rapid policy responses during the crisis, has helped these countries cope with an unprecedented fall in global output during the last two years.

China posted a yearly GDP growth of 10.7% during the fourth quarter of 2009, the highest rate of expansion in two years. All this has led the People's Bank of China to deploy some of its available tools with the aim of preventing a pick up in inflation and abating the risk of potential asset price bubbles.

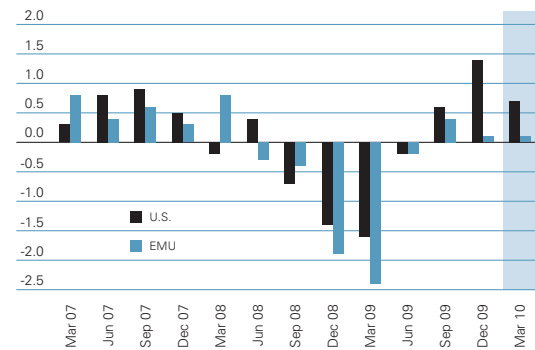
However, excess capacity in most economies is still large by historical standards and inflation figures are below most central bank's targets thus, monetary policies will remain accommodative for a long period. In Latin America, most countries' economies are also gathering steam. Nonetheless, real output remains, at this stage of the cycle, well below the pre-crisis levels. Eastern European countries, on the contrary, face a more complicated situation, with significant financial and macroeconomic imbalances yet to be fixed.

## World Economy: GDP Growth Forecast (YoY %)



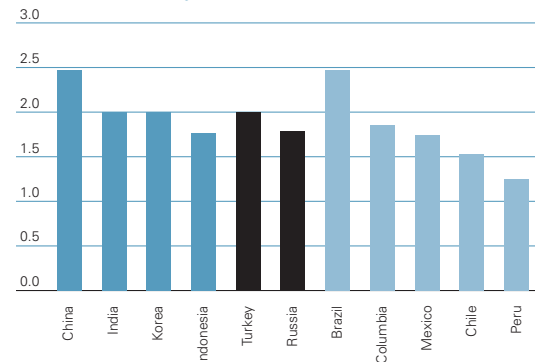
Source: BBVA ERD

## U.S. & EMU: GDP Growth (YoY %)



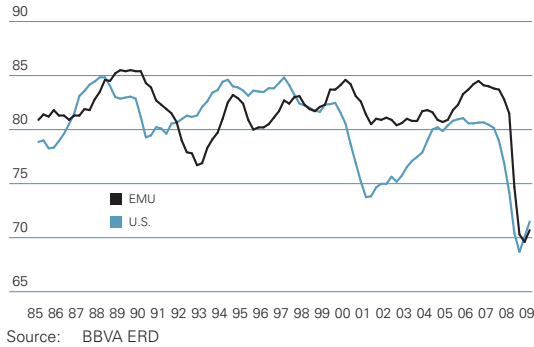
Source: BBVA ERD

## Emerging Economies: Exit Strategies Index (monetary index)

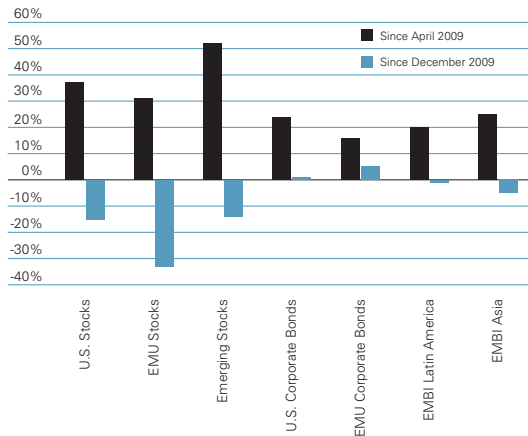


Source: BBVA ERD

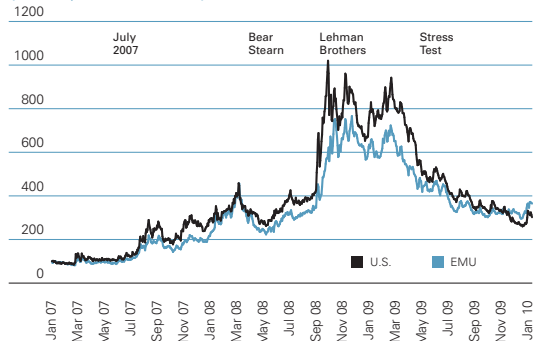
### U.S. & EMU: Capacity Utilization (%)



### Broad Risk-Assets Index: Annualized Return



### U.S. & EMU: Financial Tensions Index (Index, Jan 07=100)



First normalized principal component of the following series: OIS spread, implicit volatility, and banking and corporate CDS spread.

The global recovery will face important challenges going forward. The most relevant has to be the phasing out of the extraordinary supportive policies implemented during the crisis. A premature exit from those policies when there are still few signs that in key economies domestic demand that has not been induced by policy is gaining momentum could hamper the recovery. Nonetheless, rising concerns about the sustainability of soaring deficit and debts, particularly in some advanced economies, could trigger unwanted effects in financial markets also damaging the recovery in progress.

Furthermore, the most recent episodes in sovereign markets has stressed the need for credible fiscal adjustments in some economies with the aim of reining in their public balance sheets and to restore much of the confidence lost. Monetary policy, by contrast, should remain accommodative for an extended period as excess capacity is still large by past standards, inflation pressures are under control and inflation expectations continue well anchored.

Global financial markets improved modestly across a wide range of asset classes. Uncertainty about the recovery and the exit strategy of exceptional policies are undermining the confidence of investors who remain in a cautious approach. The widespread risk in sovereign markets is a cause for concern as growing worries about some countries' debt re-emerge.

Financial tensions have abated progressively as monetary conditions in some key regions continue to be supportive and interest rates are expected to remain low for an extended period. Nonetheless, most banks in core regions are still reliant on central bank liquidity programs and emerging facilities. For these reasons tensions in some markets are likely to remain high by historical standards.

In foreign exchange markets, the dollar appreciated against the euro spurred by its safe-heaven status and the release of weak macro data in many European economies. By contrast, it decreased against most emerging market's currencies where growth picked up strongly. The latter trends are likely to continue in the months to come as the decoupling across regions and countries will continue and the sovereign risk remains.

# U.S. Economic Outlook

Moving into 2010, the U.S. economy is slowly pulling itself out of the severe recession that began in December 2007. The economy started to recover in the second half of 2009 with GDP growing at an average annual rate of 4.1%. Consumer demand began to pick-up, as did business investment in equipment and software. Furthermore, residential investment grew in 3Q09 for the first time since 1Q06 and economic growth in emerging markets, particularly Asia, stimulated demand for exports. The economy has shown signs of widespread improvement, but concern lies in the pace of recovery.

Consumer spending will be essential in determining the speed of the economic recovery. Consumption grew for three of the four quarters in 2009 and recent retail sales and personal consumption expenditure (PCE) data indicates that it will rise in 1Q10 as well. Nevertheless, consumer spending will face two main challenges: household deleveraging and unemployment. Consumer credit has dropped for the eleventh straight month, limiting consumers' purchasing power. Furthermore, even amid some positive signals in the labor market, such as job creation in the temporary help services sector, the economy is still experiencing net job losses. This could be because businesses are addressing the recent increase in demand by raising productivity of current workers. If the rising trend in productivity persists, it could slow the recovery of the labor market and, in turn, income growth and consumption.

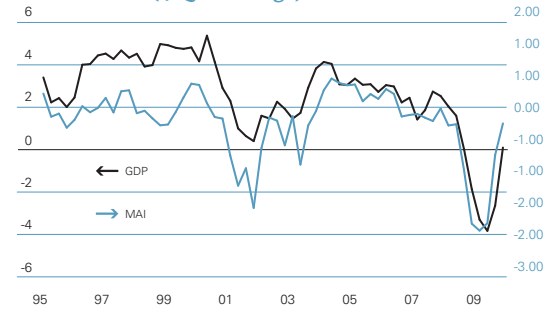
Business investment in equipment and software has driven non-residential investment's recovery. With the upturn in corporate profits and an increase in demand, companies are now making replacement and cost-saving equipment purchases. However, deteriorating fundamentals in the commercial real estate market will pose challenges to the structures component. Residential investment, on the other hand, will increase further, but at a slow pace. Low prices and mortgage rates will continue to attract demand, which will stimulate new construction.

Exports are also expected to provide fuel for the economic recovery. Emerging markets are leading the global recovery, particularly those of Asia and Latin America, and their demand is driving export growth.

Inflationary pressures are expected to remain contained in 2010. Inflation expectations are well anchored and even though the improvement in economic activity has eased downward price pressures, the economy is emerging from levels so low that there is still significant underutilization of resources. Consequentially, we maintain our forecast of a low fed funds rate for a prolonged period of time.

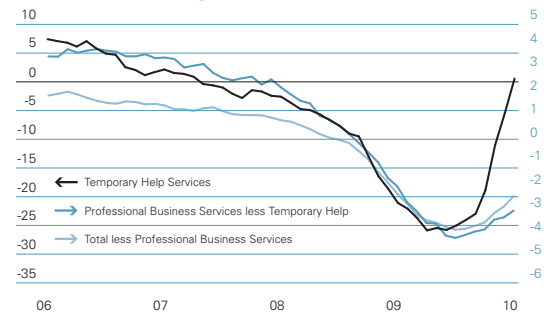
Demand for inter-bank borrowing has diminished due to the elevated levels of excess reserves on bank balance sheets. The Fed's primary challenge in 2010 will be to reduce the level of these reserves using novel tools to maintain control of the money supply. These tools include paying interest on reserves, reverse repurchase agreements and term deposit facilities. The Fed is expected to be transparent in its communication of the exit strategy, but it has yet to specify exact timing due to the uncertainty surrounding the pace of the economic recovery.

## BBVA U.S. Monthly Activity Index & Real GDP (4-Q % change)



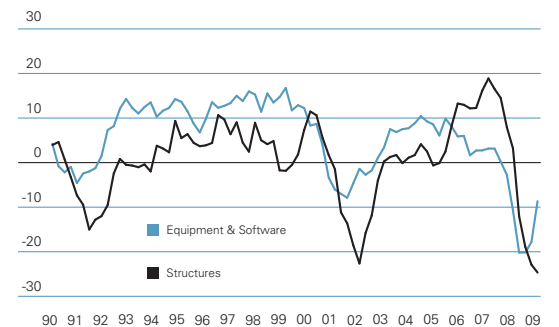
Source: BBVA ERD & BEA

## Non-Farm Payrolls (12 month % change)



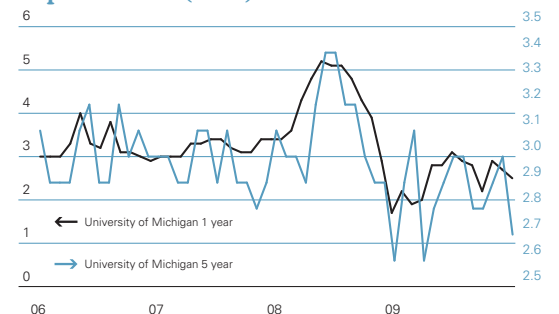
Source: BLS

## Non-Residential Investment (quarterly annualized % change)



Source: BEA

## University of Michigan Inflation Expectations (index)



Source: University of Michigan

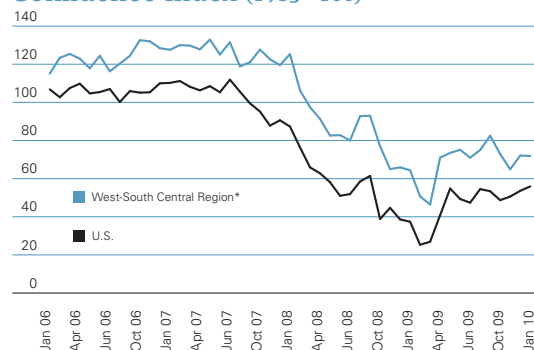


**BBVA State Monthly Activity Index: Texas (3mma)**



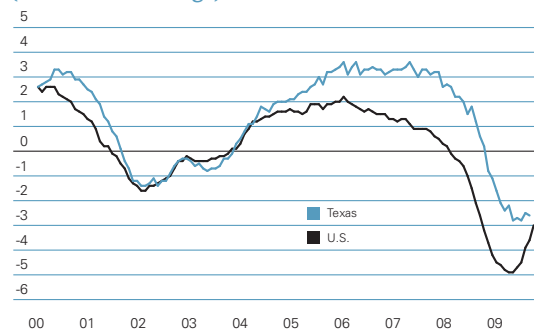
Source: BBVA ERD

**Conference Board Consumer Confidence Index (1985=100)**



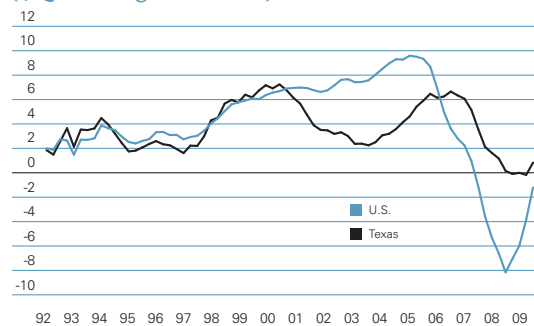
\* Includes Texas, Arkansas, Louisiana and Oklahoma  
Source: <http://www.texasahead.org/economy/>

**Non-Farm Payroll (12-month % change)**



Source: BLS

**FHFA Home Prices Index (4-Q % Change 1991=100)**



Source: FHFA

Economic activity improved in 4Q09. The three month moving average (3mma) of the Texas State Monthly Activity Index (SMAI) rose to -1 in December 2009, the highest figure in one year. Nevertheless, economic activity remains below its long-term trend as the index is still negative. The SMAI is consistent with the Philadelphia Fed Coincident Index for Texas, which too increased in December. In addition, the Dallas Fed Leading Index is higher than it was a year ago, although it remains well below pre-recession levels. Together, these indices confirm the beginning of the recovery. This recovery, however, will occur at a gradual pace.

Texas retail sales are still declining on a year-over-year (YoY) basis, but at a slower pace. Available information suggests that on a quarterly basis, sales have stabilized in line with consumer confidence, which has experienced virtually no change since mid-2009. However, consumers in the South-West-Central region, which includes Texas, are more optimistic than the U.S. average.

There has been some good news in the Texas labor market. The number of mass layoff events is receding and unemployment rates appear to have stabilized, although they remain above pre-recession levels. The professional and business services, financial activities and mining and logging industries created jobs in 4Q09. Professional and business services employment typically leads a recovery. On average, employees in these sectors have higher incomes, which boost private consumption. Meanwhile, the increase in mining employment reflects an upturn in the energy industry.

Other sectors remain under considerable stress though, as employment in construction and manufacturing continue to fall sharply. In addition, the unemployment rate is the highest since 1987, although it is below the national average. We expect employment to recover at a modest pace in 2010, as in our baseline scenario for the U.S., due to households' deleveraging, lack of credit and tighter lending standards.

Helped by the home buyers' tax credit, activity in the housing sector picked up modestly. Sales of existing homes increased relative to the previous year for the first time in two years; however, residential building permits continued to decrease. Home prices exhibited a modest acceleration after following a downward trend for several months. The Fed's beige book for the 11th District noted that small builders are having trouble finding credit for new construction. The lack of credit for construction also reflects the negative situation in the commercial real estate market. Vacancy rates continue to increase significantly for offices, retail space and apartments, which is leading to a decline in rents.

International trade improved compared to last year. Exports of goods increased after falling four consecutive quarters. Growth was driven by exports to China and Mexico; the latter rebounding after three quarters of double-digit declines. Exports are likely to increase further as Mexico is expected to recover in 2010 and China maintains a strong pace of expansion.

Industrial activity has also improved, driven by an upturn in mining. The energy sector has gained momentum due to higher energy prices. The

rig count returned to early 2009 levels, while unusually cold weather boosted natural gas prices. This momentum in the oil and gas industry, however, could be limited by aggregate demand weakness.

Although manufacturing remains feeble, the Texas Manufacturing Outlook Survey suggested that the downward adjustment has ended. Moreover, prospects are optimistic and point to an increase in new orders six months ahead. The high-tech industry is in better shape now than it was a year ago mainly due to fast growth overseas; nationwide production of goods has rebounded and will continue on this path according to recent data for new orders.

From a regional perspective, the Dallas Fed's Coincident Indexes indicate that recovery is on track, particularly in the biggest metro areas such as Dallas, Houston and Austin. Meanwhile, the border areas of McAllen and Laredo, which were severely affected by the recession, have shown recent signs of stabilization. Expected growth in Mexico and increased bilateral trade will boost economic activity in these border areas in the near future.

**The strongest economy in the BBVA Compass Sunbelt Region**

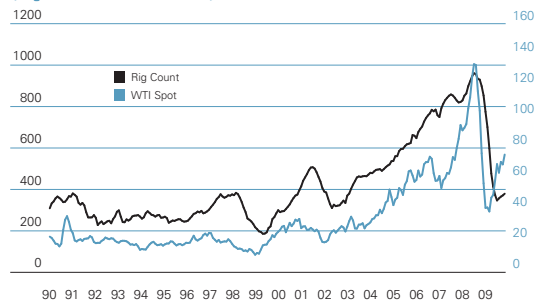
Despite the negative impact caused by the recession, we maintain that Texas will outperform the rest of the country. Our GDP forecast points to a 2.4% growth in 2010 vs. 1.9% expected for the U.S. Yet, while economic indicators suggest that domestic demand is picking up, it will be at a slow pace. In 2010, the economy will continue to benefit from the fiscal stimulus; in fact, 56.3% out of the \$16.95 billion awarded to Texas under the American Recovery and Reinvestment Act of 2009 has not yet been received. In addition, Texas is better positioned than other states to benefit from tax incentives to home buyers because it did not suffer a huge housing bubble and thus home prices have room to continue their upward trend. Rising prices could help trigger residential construction in the coming months.

Besides the fiscal stimulus, the primary engines of growth in the short-term are energy and exports, which have been driven by fervent economic growth overseas. These engines will not lose steam as emerging economies are expected to grow faster than developed economies over the next five years. Foreign demand for exports has helped lead the Texas economic recovery, as Texas is the second largest state exporter in the nation.

Over time we should expect higher U.S. domestic demand to spur economic activity in the state; however, the timeline and magnitude of rising demand are still uncertain. Thus, on balance, the risks remain tilted to the downside. Indeed, there is only so much that Texas' inherent strengths can do during a prolonged period of sluggish economic growth in the U.S. Likewise, slower-than-expected growth overseas and a decreased demand for Texas' exports could weigh on the recovery. Furthermore, potential new Federal energy regulation could alter hiring and investment decisions.

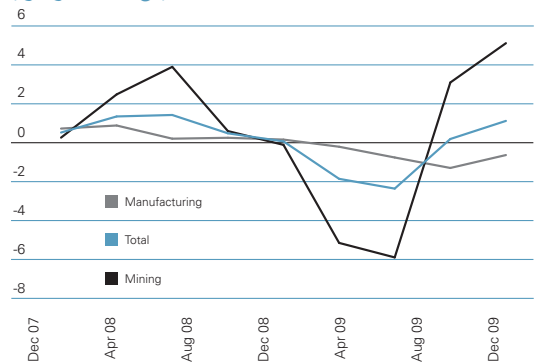
Texas, however, continues to be the strongest economy in the BBVA Compass Sunbelt Region. In the long-term, structural factors such as population growth, a business friendly environment and diversification will keep Texas' potential GDP growth well above the U.S.

**Oil Prices & Rotary Rig Counts**  
(\$ per barrel & units)



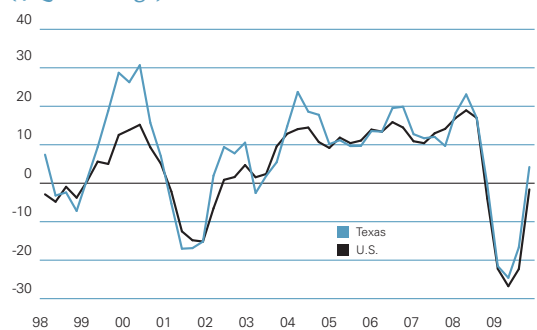
Source: Federal Reserve Bank of Dallas with data provided by Baker Hughes

**Industrial Production**  
(QoQ % change)



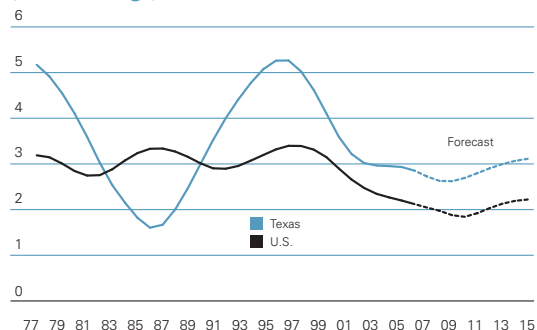
Source: Federal Reserve Bank of Dallas

**Exports of Goods**  
(4-Q % Change)



Source: Wiserstrade

**Potential GDP Growth**  
(YoY % change)

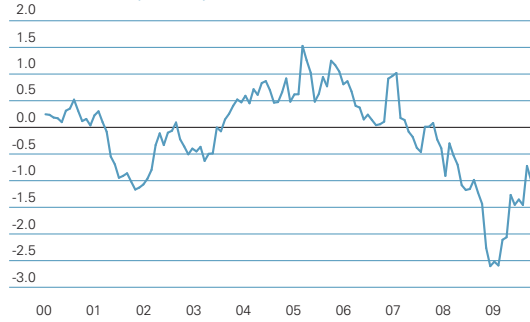


Source: BBVA ERD



**BBVA State Monthly Activity Index:**

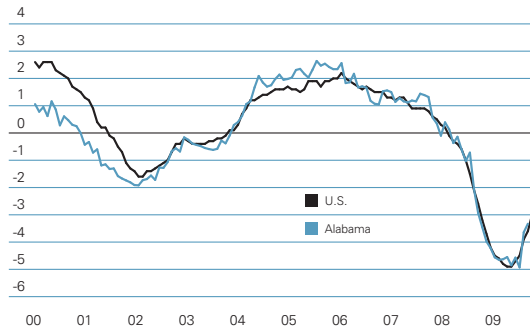
**Alabama (3mma)**



Source: BBVA ERD

**Non-Farm Payroll**

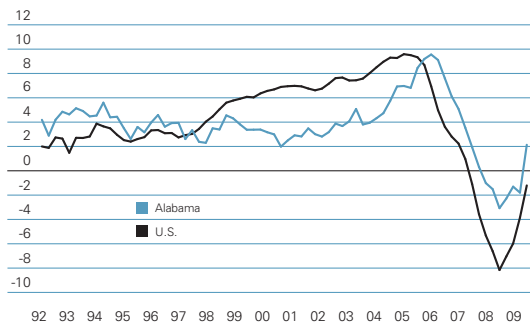
**(12-month % change)**



Source: BLS

**FHFA Home Prices Index**

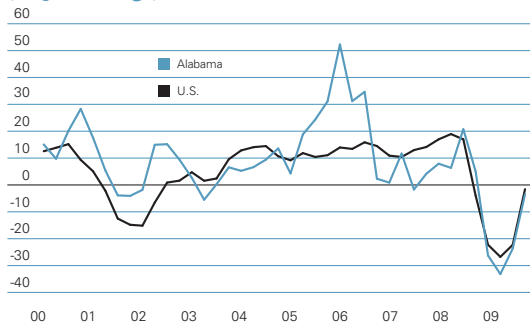
**(Purchase only, 4-Q % Change, 1991 = 100)**



Source: FHFA

**Exports of Goods**

**(4-Q % Change)**



Source: Federal Reserve & Wisetrade

Economic conditions improved modestly in 4Q09. The State Monthly Activity Index (SMAI) advanced for the second consecutive quarter; but, as it's still negative, economic activity remains below its long-term trend.

The increase in this index stems from improvements in the labor market. Job losses slowed considerably as the number of mass layoffs declined from the previous year. Moreover, the transportation and utilities and professional and business services sectors added jobs in 4Q09 after more than a year of continuous declines. According to Fed's Beige Book, gains in professional and business services most likely reflect an increase in hiring of temporary jobs. Despite isolated growth in these industries, a total employment decline similar to the U.S. and an unemployment rate that remains above the U.S. average clouds the overall picture.

In early 2010, production of motor vehicles and parts increased substantially, as companies rebuilt inventories depleted during the Cash for Clunkers program. However, a sustained increase in capacity utilization seems unlikely in the short-term due to weak sales. In our baseline scenario, auto sales are expected to improve slowly as consumers continue to deleverage and face tighter credit standards. Productivity gains caused by the recession will also reduce the pace of hiring. As a result, the auto industry is expected to gradually create jobs in 2010.

Conditions in the housing market are also getting better. The YoY rate of existing home sales rebounded strongly after being negative for thirteen consecutive quarters. This was largely the result of government aid in the form of tax credits to first-time home buyers. In addition, home prices rose on a YoY basis for the first time in six quarters. Yet, building permits continued to decline. Activity in the commercial real estate market is low due to excess supply, although the adjustment has been milder in Alabama when compared to the national average.

The contraction in exports has bottomed out. On a YoY basis, total exports of goods decreased at the slowest pace in four quarters. Top state export commodities were products in the computer and electronics, plastics and rubber, machinery and agricultural industries. Each product category exhibited a strong increase in 4Q09; however, this was more than offset by declines in exports of transportation equipment, chemicals, primary metal manufacturing and minerals and ores. Among trading partners, exports to Mexico and Germany remain subdued while exports to Canada and China rebounded significantly.

Recovery is underway, but it is occurring at a slow pace. In the short-term, a jobless recovery seems likely as firms adapt production capacity to reach a higher level of output per unit of labor. The housing market could give a boost to the state economy as the downward adjustment was milder than in other states. Although domestic demand for autos is projected to remain weak in 2010, the industry will benefit from faster economic growth overseas, which will boost Alabama's exports of transportation equipment. Overall, Alabama's GDP growth is expected to be lower than that of the U.S. in 2010.

## Focus on Alabama's Exports: Specialized Trade

In our baseline scenario, faster economic growth abroad (particularly in Asia) will support the recovery. This growth will stimulate international trade within the BBVA Compass Sunbelt Region. We expect states with export-oriented industries will greatly benefit from rising global demand. International trade bolsters domestic employment and real wages as it increases labor demand for highly-skilled workers. Furthermore, trade increases competition, which encourages firms to adopt technology and invest in human capital. Growth in exports tends to augment aggregate productivity because exporting firms tend to be the most productive in an industry, while the least productive firms will cease to operate.

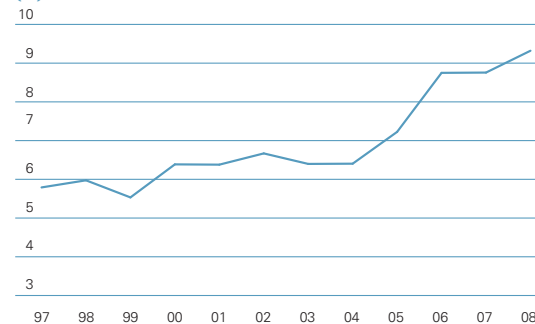
Exports are becoming integral to Alabama's economy. Between 1997 and 2008, exports' share of state GDP increased from 6% to 9.3%, and they registered average growth of 9.4% per year to total \$15.8 billion in 2008. The recession decreased exports by 22% between 2008 and 2009, but they will rebound with the global recovery to pre-recession levels. In 2008, the top 25 products comprised over 60% of the state's total exports. This large share reflects the high value added and specialization of Alabama's exports. Some of the state's top export products are diesel and gasoline motor vehicles, bituminous coal, civilian aircraft, chemical products and frozen poultry products.

To assess the impact of trade expansion in Alabama, we considered growth in GDP per capita and exports of goods from 2002-2007. Our analysis suggests that relatively higher export growth contributed to higher growth in per capita wealth when compared to the U.S. Therefore, a continued rise in Alabama's exports will speed convergence of the state's GDP per capita to the U.S. average.

The agglomeration of the auto industry in Alabama in the early 2000s explains the recent surge in exports. Auto products' share of total exports jumped from 6% in 1997 to 33% in 2009.<sup>1</sup> Reliance on single industry for export growth has advantages and disadvantages. On the plus side, the most productive automotive firms will co-locate in Alabama and attract high-skill workers and capital investment. Additionally, positive spillover effects will occur as part suppliers and related service companies flourish to support leading manufacturers. On the downside, the export sector and statewide economic growth becomes susceptible to industry-specific shocks. (See the separate article on the development of Alabama's auto industry). Indeed, in 2009, the 28% decline in transportation equipment exports exceeded the average decline of total exports.

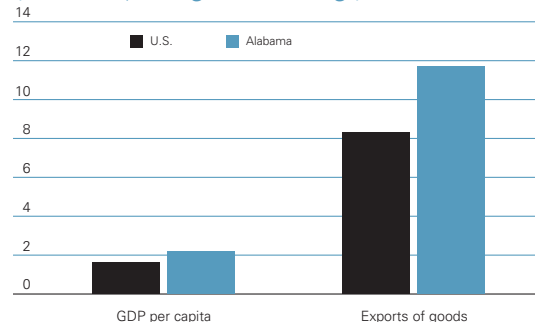
Once foreign demand for U.S. exports improves, Alabama's top firms will be the first to ramp up production and satisfy higher demand. Our analysis suggests that as exports of transportation equipment return to pre-recession levels, this upturn will add 1.0 percentage points (pp) to Alabama's GDP growth rate in 2010 and 0.6 pp in 2011. If transportation equipment exports remain near current levels due to tepid foreign demand, they will contribute a modest 0.1 pp and 0.3 pp to the state GDP growth rate in 2010 and 2011, respectively.

### Alabama Exports to GDP Ratio (%)



Source: Wisertrade & BEA

### Growth of Exports & GDP Per Capita (2002-2007, average YoY % change)



Source: Wisertrade & BEA

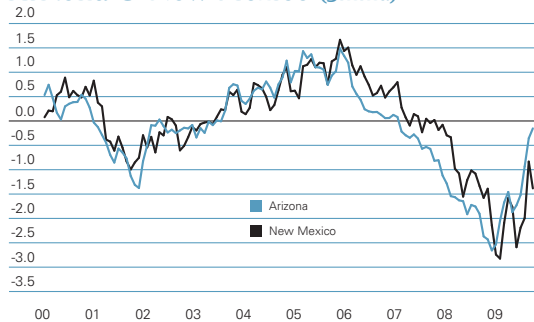
### Alabama: Top 16 Export Products (Share of total state exports, Average 07-08 (%))

Other vehicles, spark-ignition larger engine	12.6
Other vehicles, spark-ignition smaller engines	10.2
Other vehicles, diesel engine	8.1
Bituminous coal	5.8
Polycarbonates	3.0
Civilian aircraft and parts	3.0
Optical equipment-lenses, prisms, mirrors	2.3
Paper products	1.6
Products and residuals of chemical industry	1.6
Coniferous woodpulp products	1.5
Nonconiferous woodpulp products	1.3
Cotton	1.1
Phenol (hydroxybenzene) and its salts	1.1
Maize	1.0
Frozen chicken cuts	1.0
Plates, sheets and strips of aluminum	0.6

Source: Census Bureau

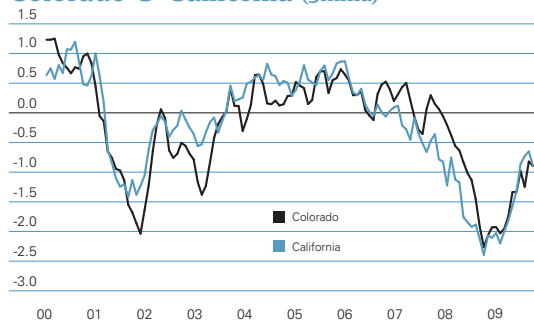
1 Assuming BBVA Compass ERD 2009 GDP forecast

**State Monthly Activity Index:  
Arizona & New Mexico (3mma)**



Source: BBVA ERD

**State Monthly Activity Index:  
Colorado & California (3mma)**



Source: BBVA ERD

**State Monthly Activity Index: Florida (3mma)**



Source: BBVA ERD

**Bottom line:** The BBVA Compass Sunbelt Region will experience gradual recovery. Our state monthly activity indexes (SMAI) improved in 4Q09, although they remain below zero. A negative value suggests that overall economic activity is below historical trend. In our region, positive developments in the housing market, exports and employment in professional and business services have caused the state indexes to increase.

**Arizona:** The SMAI has increased to its highest reading since 1Q07. Our index suggests a V-shape rebound. Relative to the U.S., home sales accelerated in 4Q09 and building permits recently registered a YoY uptick after fifteen quarters of decline. We project mild job losses to continue through early 2010; however, job gains in professional and business services, wholesale trade, education and mining sectors suggest overall net employment growth is on the horizon. Although Arizona appears to be recovering, we forecast slower growth than the U.S. due to home prices that continue to decline and its exceptionally high unemployment rate.

**California:** The SMAI remained virtually unchanged in 4Q09; however, it has improved substantially since the end of 2008. The state faces significant challenges: continued fallout from its sizable housing meltdown, a fiscal crisis that could stall the recovery and the 5th highest unemployment rate in the nation will limit growth. With approximately 2.2 million unemployed workers, and a 9% decline in its labor force during the recession, California will experience slower recovery than the U.S. Nevertheless, the state's strengths such as industrial diversity, a large volume of international trade and high value-added industries support a V-type recovery as our SMAI suggests.

**Colorado:** The SMAI improved in 4Q09, and the index suggests a V-type recovery. In 2010, Colorado will leverage its relatively stable housing market and lower-than-average unemployment rate to produce solid GDP growth. Recent modest employment gains in professional and business services and leisure and hospitality industries support the resurgence of activity. While Colorado's housing market did not experience a bubble as in other states, building permits remain weak and housing prices continue to decline slowly on a YoY basis. They should stabilize in the first half of 2010.

**Florida:** The SMAI continued to increase in 4Q09, reaching its highest level in two years; our index suggests a U-shape recovery due to high unemployment and weak but improving housing market. Florida entered the recession before other states, and thus we envision higher GDP growth than the U.S. average this year. Its economy will benefit from robust growth throughout Latin America, as these countries are its top trading partners. Tourism will also rebound with the global recovery.

**New Mexico:** The SMAI exhibited improvement in 4Q09. The index suggests a U-shape recovery as signs of a significant and stable return to growth remain unclear. The large share of government employment has limited the increase in the unemployment rate and impact of the recession. A recent turnaround in building permits and existing home sales along with a positive net increase in total employment suggest growth will resume in the first half of 2010.

# Economic Impact of Unsung Heroes: Volunteerism in America

*Never doubt that a small group of committed people can change the world. Indeed, it is the only thing that ever has.*

– Margaret Mead

Volunteer service directly benefits many people by providing public goods: volunteers construct houses, clean parks, collect and distribute food and mentor and inspire young people. If all volunteers quit tomorrow, many organizations would find themselves with a shortage of labor, and thus the people that they serve would have to turn to the government. With additional public programs to replace volunteers, we would all have to pay higher taxes to finance these services.

In the U.S., 26.4% of adult residents report engaging in volunteer work. These 61.3 million people provide over 8.1 billion hours of valuable service that directly benefit people in need, and indirectly benefit everyone. Across age groups, Baby Boomers comprise over one-third of the total number of volunteers, and their participation rate is the highest among age groups at 30%. The rate for young adults (ages 16-24), however, hovers around 21%. The lowest rates are among those aged 65+.

Furthermore, volunteer rates are not the same across demographic groups. Only 23% of men engage in volunteer service, compared to more than 29% of women. There are 4.7 million Hispanics who volunteer; however, the adult Hispanic participation rate stands at only 14%. This rate is only half that of non-Hispanics, and indicates significant cultural differences and perceptions of volunteer service.

Participation rates ebbed after 2005, and the risk is that the number of volunteers and rates will decline in future years. As the Baby Boomers age and volunteer less, hopefully young adults will feel the drive to serve others.

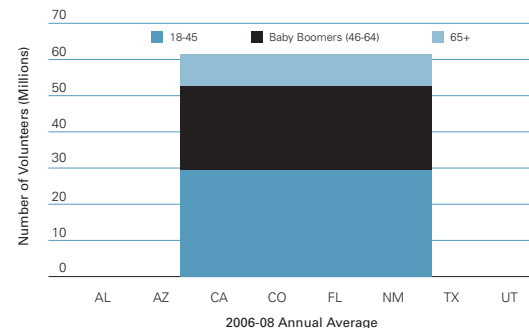
## The Economic Value of Volunteerism

On average, each volunteer provides 132 hours per year – only 22 minutes per day. Estimates put the total value of these services at \$165 billion. While this might seem minor in a \$14 trillion economy, let’s examine the tax implications of new government programs that increase federal spending by \$165 billion. This exercise assumes that the government can provide the same services as efficiently as volunteers. For 2010, the federal government is projected to collect approximately \$915 billion from personal income taxes.

The value of volunteers’ labor, therefore, amounts to roughly 18% of total income tax revenue. Assuming that the government financed the increased expenditures with higher tax rates, we would all need to pay an average tax rate that is 18% higher. For less than ½ an hour per day per volunteer, we all enjoy fewer taxes. Their work leaves us with more money in our pockets to spend or save how we please.

Within the U.S., there are large differences in participation rates across states. Utah ranks first with 43.5%, while New York ranks at the bottom with 18.7%. The intensity of volunteer activity can be measured in the number of hours per state resident. Volunteers

## Volunteer Composition (by age group)



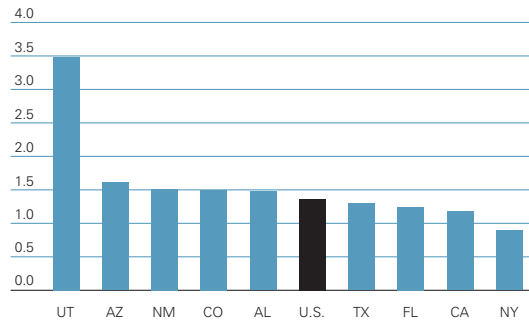
Source: [volunteeringinamerica.gov](http://volunteeringinamerica.gov)

## Volunteer Participation Rates Top & Bottom 10 States (incl. DC)

Top 10		
1	Utah	43.5%
2	Nebraska	38.9%
3	Minnesota	38.4%
4	Alaska	38.0%
5	Iowa	37.1%
6	Montana	36.6%
7	South Dakota	36.4%
8	Kansas	36.2%
9	Vermont	35.6%
10	North Dakota	35.0%
Bottom 10		
42	California	23.8%
42	Arizona	23.8%
44	Arkansas	23.5%
44	Hawaii	23.5%
46	New Jersey	21.1%
47	Mississippi	20.9%
48	Louisiana	20.1%
49	Florida	19.6%
50	Nevada	18.8%
51	New York	18.7%

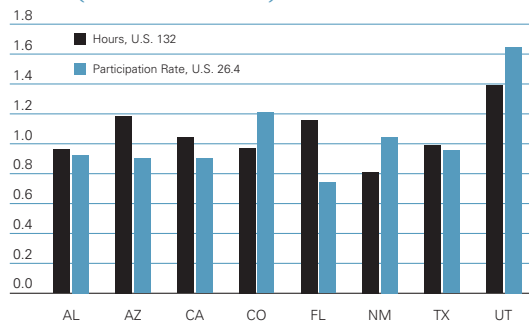
Source: [volunteeringinamerica.gov](http://volunteeringinamerica.gov)

**Value of Volunteer Time**  
(as a % of state personal income)



Source: volunteeringinamerica.gov & BEA

**Hours Per Volunteer & Participation Rate**  
(relative to the U.S.)



Source: volunteeringinamerica.gov

**Simulation: Added Value of Increased Volunteerism in the Sunbelt Region**

	Current Hours per Volunteer	Part. Rate	Total Value (Billions)	Scenario (1) (Billions)	Scenario (2) (Billions)
UT	184	43.5	3.0	-	-
AL	127	24.4	2.3	+1.8	+3.6
AZ	157	23.8	3.5	+2.9	+3.9
CA	138	23.8	18.4	+15.2	+26.1
CO	128	31.9	3.1	+1.1	+2.9
FL	154	19.6	8.7	+1.1	+1.4
NM	107	27.6	1.0	+0.6	+1.7
TX	131	25.2	11.7	+8.5	+16.3
			48.7	+40.7	+68.9

Source: volunteeringinamerica.gov & BBVA ERD

Scenario (1): Additional value of increasing each state's volunteer participation rate to that of Utah

Scenario (2): Additional value of increasing each state's volunteer participation rate to that of Utah and increasing the hours per volunteer in each state to 30 minutes per day (183 hours per year)

contribute nearly 4 times the number of hours per resident in Utah (80.1) as in Louisiana (21.9). In major metropolitan cities, Minneapolis tops the list of participation rates with 38.4%, while Miami is at the bottom with 14.3%. From the BBVA Compass Sunbelt Region, Austin and Denver are among the top 10 highest cities.

The seven states in our region generate 30% of the total value of volunteer services. Colorado leads the participation rate in the region, followed by New Mexico, Texas, Alabama, California, Arizona, and finally Florida. There is some cause for concern in Texas and Alabama, as the data suggest a declining number of volunteers and a declining participation rate from 2002-2008. In contrast, Colorado, Arizona and New Mexico have registered significant increases in their participation rates and double digit growth in excess of 20% in the number of volunteers during this period. Similarly, the number of volunteers in California has climbed nearly 15%.

As an illustration, let's suppose that we raise the participation rate in each of the seven BBVA Compass Sunbelt Region states to the level of the highest state: Utah. With 43.5% of state residents volunteering between 18 and 25 minutes per day (current state averages), we would generate an additional \$41 billion worth of volunteer labor services – roughly \$550 per adult resident. If each volunteer contributed the same number of hours as Utah's volunteers (approximately 30 minutes per day), we would realize nearly \$70 billion in added value, or approximately \$950 per adult resident.

**Get Motivated, Start Helping**

Finding an organization or group of people whose interests are aligned with yours is paramount to derive personal enrichment through volunteer service. There are many ways to volunteer, and there are an increasing number of websites to match volunteer interests with organizations. Volunteering is a social activity: many hours alone sorting cans of food or donated clothes provide little enjoyment and personal growth opportunities. The volunteer, the organization and the beneficiaries of the service should all benefit together. By joining forces with friends, family, a church, or like-minded individuals, our volunteer experience can be positive. More than 60% of volunteers serve others through their church or local school systems.

In the long term, this collective action benefits everyone. Volunteer service, however, requires us to prioritize our time and sacrifice leisure activities, neither of which is easy. But, when private citizens come together to help each other in lieu of government action, we may indeed have it all: fulfillment, pleasure and more money in our pockets.



## Focus on Ambulatory Healthcare Services

The rapidly rising costs of healthcare services have brought the industry to the forefront of public debate, as both public and private expenditures on medical care consume larger shares of their respective budgets. The healthcare industry's slower growth in productivity (relative to manufacturing industries) during the past decades partially explains the rising costs. As manufacturing firms find ways to make more widgets per hour, medical professionals can only see a maximum number of patients per day.

As wages in other sectors rise due to technological improvements, wages must also rise in the healthcare sector to attract workers. However, because the sector must add labor to expand output, the healthcare industry experiences increasing total costs and prices that outpace general inflation. As the public sector seeks to reduce entitlement spending, insurance companies negotiate for lower costs and healthcare companies seek to maximize profit, pressure from each of these agents to reduce costs will aid the transformation of the healthcare services industry to a customer-centric, technologically-advanced industry.

Two broad forces are affecting demand and supply: demographics and technological change. An aging population will demand more medical services, while technology will streamline the interaction between providers and patients to increase productivity and curb cost increases. The combination of these factors make investment in healthcare service sectors attractive, as high projected employment growth will necessitate complementary capital expenditures to increase services to satisfy growing demand. Our general vision of this transformation includes the following trends.

First, patient treatments will increasingly be handled on an outpatient basis both at hospitals and specialized centers. This trend increases patient access to care and lowers costs, as outpatient procedures do not require overnight stays. Second, as medical capital goods become less expensive relative to labor inputs, there will be increased demand for diagnostic testing for preventive purposes. Third, more services will be rendered in the home through home healthcare aides and nursing professionals. Fourth, doctors are increasingly forming group practices of specialists outside of hospitals that will enable increased access. Fifth, mid-size and large firms will continue to reduce overhead costs by replicating establishments (single business locations) across markets to serve more people. Finally, there is increasing demand to measure medical service quality and track patient outcomes to determine cost effective treatments. This trend will require large information technology capital investments.

Our assessment of the future landscape of healthcare is based on observed growth in healthcare industries, our forecasts and new technology trends that will help to limit cost increases.

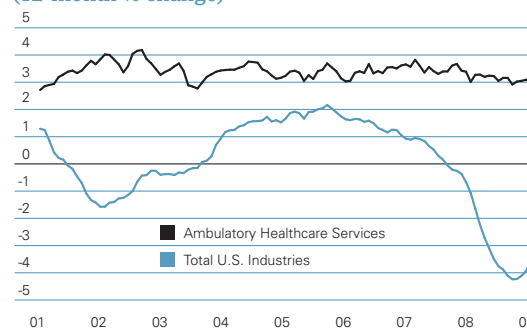
While the healthcare regulation debate continues in Washington D.C., any new regulation must be consistent with the above trends and foster capital investment and technology adoption. Regulation that increases overhead costs or limits rates of return in the sector will stifle and delay productivity enhancing investments.

### 1998-2007 Productivity Growth (CAGR, %)

Computer & electronic products	22.5
Information	5.2
Manufacturing	4.0
Computer systems design & related services	3.3
<b>Ambulatory healthcare services</b>	<b>1.1</b>
<b>Hospitals, nursing &amp; residential care facilities</b>	<b>-1.1</b>
Educational services	-1.4

Source: BBVA ERD & BEA Industry Accounts

### Employment Growth (12-month % change)



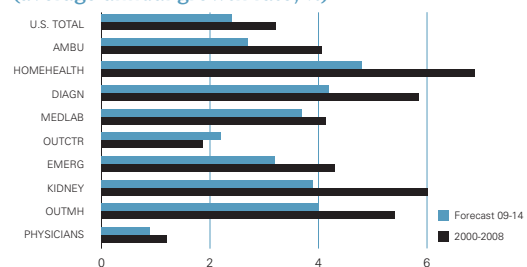
Source: Bureau of Labor Statistics

### Labor Productivity (Revenue per hour worked)

Industry	Abbreviation	2007	Change 97-07*
		\$	%
Nominal U.S. GDP	U.S.	58.2	4.3
Ambulance Services	AMBU	39.8	5.9
Medical Laboratories	MEDLAB	86.7	4.9
All Other Outpatient Care	OUTCTR	67.5	4.1
Office of Physicians	PHYSICIANS	92.9	3.8
Diagnostic Imaging Centers	DIAGN	99.6	3.0
Home Healthcare Services	HOMEHEALTH	32.0	3.0
Kidney Dialysis Centers	KIDNEY	92.1	2.9
Mental Health and Substance Abuse	OUTMH	37.6	2.3
Freestanding Surgical and Emergency Centers	EMERG	85.7	1.7

Source: BBVA ERD, Census Bureau, BEA & BLS

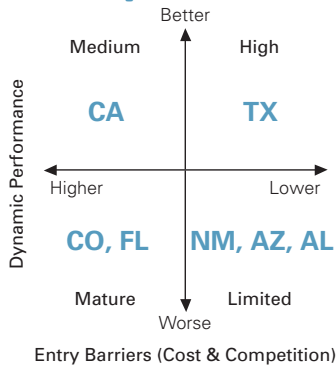
### Employment Growth & Forecasts (average annual growth rate, %)



Source: BBVA ERD & BLS QCEW

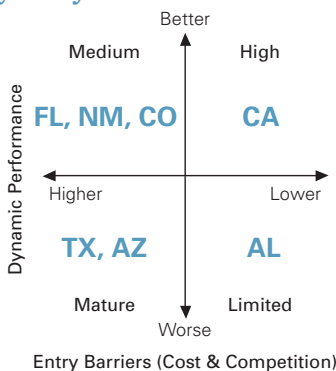


### Specialized Outpatient Care Centers



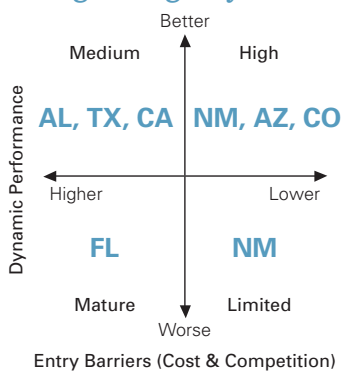
Source: BBVA ERD

### Kidney Dialysis Centers



Source: BBVA ERD

### Freestanding Emergency Centers



Source: BBVA ERD

In official data, industries are classified according to the North American Industry Classification System. In general, this system divides the principal healthcare services into hospitals, ambulatory care services and nursing care centers. While hospitals have experienced large employment and revenue growth over the past decade, and they are currently poised to harness technology, an initial hospital investment requires a large outlay that generates returns over a longer horizon. We focus this article on ambulatory healthcare services which serve patients close to home through many offices. A labor-intensive industry, ambulatory services have experienced sustained job creation rates that outpaced the U.S. average over the past decade. We expect continued employment growth.

The growth rate in revenue per hour worked aids our selection of high-performing sub-sectors (see table). Growth in revenue per hour worked reflects an industry's dynamism. This growth arises from a confluence of technology adoption, process and organizational changes, capital deepening and price increases due to high demand or rising input prices. Industries that have a higher level of revenue per hour worked and experience increased growth may be able to pay higher returns on investments in land, capital and human capital. Analyzing data from the 1997, 2002 and 2007 economic censuses, we found that top ambulatory care industries include Physician Offices, Medical Labs, Diagnostic Imaging, Ambulance Services, Home Healthcare and Outpatient Care.

Consistent with our observed trends, we present an assessment of top healthcare industries across the BBVA Compass Sunbelt Region. Please see the accompanying box that explains our classification of industry potential in each state as high, medium, limited or mature.

#### Trend: Increased treatment at outpatient care and surgery centers

**Specialized Outpatient Care Centers** provide biofeedback, infusion therapy, pain therapy and sleep disorder treatment services in community health centers and group practice centers and clinics. In general, this industry will see continued growth in more establishments with fewer employees. Firms that have many establishments across markets will need capital to finance additional business locations. Alabama has realized superior growth rates in this industry, while Arizona appears to have the most room for expansion with the fewest number of establishments per capita and moderate growth.

**Kidney Dialysis Centers** continue to expand with the replication of establishments by large firms. Competition in this industry is high and is primarily with hospitals. Alabama, California and Florida combine fast employment and wage growth relative to the U.S., which indicate more rapid generation of real income. Texas exhibits signs of a more mature market with lower relative growth and average establishments per capita. New Mexico and Arizona have far fewer establishments per capita than the U.S., but have registered low growth rates.

**Freestanding Emergency Centers** have proliferated in recent years. This sector comprises single and multi-specialty centers and has registered strong employment growth. Our analysis indicates that this sector will continue adding services and employment at individual locations

prior to adding more establishments. Texas and California appear best poised for further expansion as they have fewer centers per capita, while Colorado and Florida have generated relatively high growth.

**Trend: Declining relative prices of medical capital goods and increased testing and demand for measurable patient outcomes will aid the expansion of medical labs and testing services**

**Diagnostic and Medical Laboratories** comprise medical and blood pathology, bacteriological, forensic, toxicology health and genetic testing labs. This sector will benefit from high technology adoption and replication of labs across markets. Increased preventive testing and demand from individuals for specific tests support growth. As sector wages are similar across states, employment growth and relative establishment intensity differentiate state performance. Texas, Arizona and New Mexico have fewer establishments per capita and lower relative wages in this sector. The markets in Colorado and Florida exhibit more maturity, as they have more establishments per capita and lower growth.

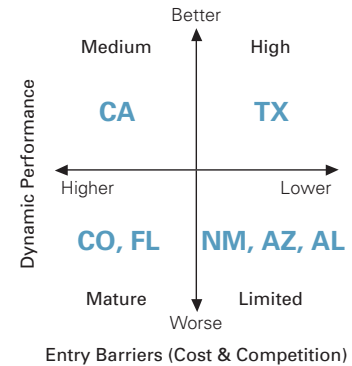
**Diagnostic Imaging Centers** exhibit similar fundamentals as medical labs and have experienced high employment growth in the preceding 10 years. This sector includes both medical and dental X-ray laboratories, magnetic resonance and computed tomography imaging. Overall, this industry is well positioned across the BBVA Compass Sunbelt Region. California and Florida are likely to continue growing. California has fewer establishments per capita and high wage growth, while Florida has low relative wages and higher employment growth.

**Trend: More provision of healthcare services at home will demand more home health aides and ambulance transport services**

**The Home Healthcare** sector provides companionship and skilled nursing services in the home. This sector comprises healthcare for the elderly, visiting nurse associations and in-home hospice care services. It also offers a wide range of personal care services such as homemaker and companion services as well as physical therapy and medical social services. New Mexico and Arizona have experienced double digit employment growth in this sector during the 2000s. Additionally, these states, along with Colorado, benefit from fewer establishments per capita and lower relative wages in this sector. California shows promise as it has fewer employees per capita, however, it has elevated relative wages. The Alabama, Texas and Florida markets appear highly competitive.

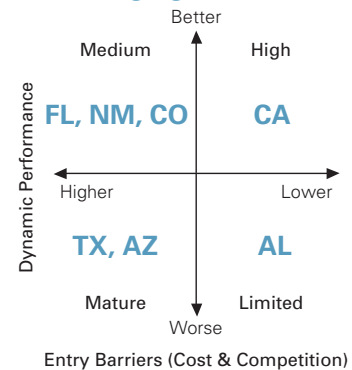
**Ambulance Services** comprise ground and air transportation as well as rescue services. It also includes emergency as well as non-emergency transportation. This sector has strong growth prospects in Arizona, California and Florida where the number of establishments per capita is lower than the national average. While Arizona has experienced high growth rates in this sector, California and Florida have remained at the U.S. average. Thus, we expect acceleration in these markets. Alabama, New Mexico and Texas appear more competitive; however, growth has remained slightly above or close to the U.S. average. Colorado registers fewer establishments per capita, but higher wages and low growth.

**Medical Laboratories**



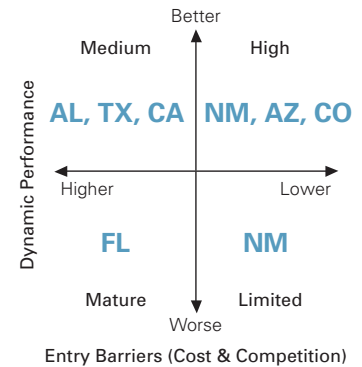
Source: BBVA ERD

**Diagnostic Imaging Centers**



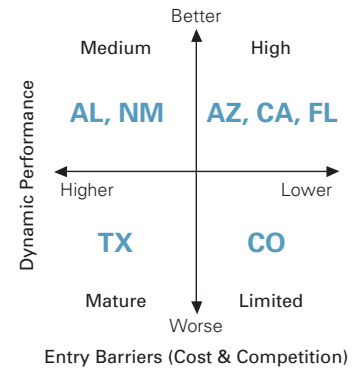
Source: BBVA ERD

**Home Healthcare Services**



Source: BBVA ERD

**Ambulance Services**



Source: BBVA ERD

## Healthcare Technology to Watch\*

We present selected examples of new technology currently in development. We believe these technologies will help to transform healthcare services in the coming decade.

### Telemedicine

*Industries: Physician offices, home healthcare*

*Products: Wireless Devices, Smart Pills*

The proliferation of networks and increased internet-connectivity at home means that diagnoses and monitoring can occur away from medical offices. A new generation of wireless medical devices will be hidden in daily life in clothing, watches, and mobile phones. Additionally, smart pills that send information directly to a doctor's office after ingestion may proliferate. Home health professionals can make visits to maintain devices and facilitate remote interactions between doctors and patients. Patients benefit from being able to receive individualized routine medical care at home.

### Electronic Medical Records

*Industries: Physician offices, medical labs, outpatient and emergency care centers*

*Products: Software, radio-frequency identification, barcode scanners*

Electronic medical records will further individualize treatment and reduce overhead costs that hospitals, doctors' offices and other providers must incur to maintain paper-based records. This technology will enhance communication between service providers. These records could be accessed easily from consumer electronic devices which will make e-mail and telephone consultations easier and more common. Consequently, electronic records will improve efficiency, as doctors would be able to attend to more people in less time and offer more accurate diagnoses and treatments.

### Genome Decoding

*Industries: Medical Labs, Testing Services, Physician Offices*

While expensive and not standardized today, in the future, genome decoding at birth may allow people to know their predisposition to chronic diseases and other health ailments. These technologies and processes will create new diagnostic testing and medical laboratory services, and further enhance specialized, individual treatments.

\* "Special Report on Healthcare and Technology", The Economist (April 16, 2009).

## Trend: Group practices are impacting the organization of physicians as they associate to share overhead costs.

**Offices of Physicians** operate privately or in group practices. Competition is high and typically favors specialists. There is an increasing trend for specialists to join forces in a group practice or become an employee of a firm that manages the overhead and administrative tasks. Long term trends indicate a reduction in the number of establishments and increased employment per establishment. Employment growth is faster than the U.S. in Arizona, Florida and Texas. Colorado and Alabama exhibit growth near the U.S. average, while California stands below it. California, Florida, Arizona and Texas have elevated levels of establishments per capita, and we expect further consolidation in these states. Companies that provide support services to doctors' offices are likely to benefit from the organizational changes underway in this sector as physicians adopt new technology.

## Revenue and Technology Adoption Risks

A principal risk concerns revenue sources and the influence of government regulation in determining rates. In healthcare, private insurance companies, Medicare and Medicaid primarily foot the bills. Medicare and Medicaid expenditures are projected to increase significantly over the next decades, and thus the government is pushing to reduce costs which will affect healthcare companies' cash flow.

Another risk is the pace at which healthcare firms adopt new technology. New technologies, particularly in biotech and genomics, are still expensive and may take some years to become standardized and less costly. Secondly, innovators must prove to insurance companies, patients, doctors and regulatory agencies that new technologies render benefits that exceed their costs. This process could slow the pace of industry transformation.

## Conclusions

Top ambulatory healthcare services will adopt and adapt to new technology once regulatory uncertainty is resolved. Going forward, we expect sustained high employment growth in ambulatory care services. Sub-sectors such as home healthcare, office of physicians, outpatient care centers and medical and diagnostic laboratories are likely to grow above the healthcare industry average over the next ten years. An aging population assures sustained demand for these services, while incoming technological change such as digitization and telemedicine promises to boost productivity and profit growth.

Our analysis of healthcare sectors across states indicates that Arizona and California have additional room for expansion, although we did not consider certain state specific factors in our conclusions. These state specific factors are likely to be important, as Florida will have higher demand due to its larger elderly population. Finally, particularly in California, the influence of state regulations must also be examined. Overall, the BBVA Compass Sunbelt Region is well positioned to harness healthcare industry expansion.

## Healthcare Across the States

With data from the Quarterly Census of Employment and Wages program at the Bureau of Labor Statistics, we assessed the dynamic and static performance of ambulatory healthcare services across states, relative to the U.S. This dataset provides employment, establishment and wage data at the North American Industrial Classification System 6-digit level for all 50 states and the U.S. since 1990. Establishments are the individual locations where business is conducted. Using these data and official population estimates from the Census, we compute employment and establishments per capita and average wages in each industry and state.

Because we desire to compare industrial performance across states, we divided each of these measures by their U.S. averages in that industry to gauge the state's performance relative to the U.S.

Our classifications of "High", "Medium", "Mature" and "Limited" potential are derived from our assessment of the dynamic and static performance of an industry across states.

Relative to U.S.	Potential			
	High	Medium	Mature	Limited
Growth	▲	▲	▼	▼
Barriers	▼	▲	▲	▼

States that have high potential in an industry have low entry barriers and have realized high growth. States with medium potential have displayed high growth rates, but show signs of maturity with higher barriers (perhaps for state-specific reasons). We classified states as mature if they exhibit high barriers and lower growth rates. Finally, we classify states as limited if they have lower than average barriers, but have exhibited low, zero or negative growth. We recommend additional assessment for states with a limited classification, as it is possible that an omitted state-specific factor obscures our analysis.

To characterize entry barriers, we considered the static performance of the industry in 2008. In this measure, we considered an industry's levels of employment and establishments per capita and the average wage, relative to the U.S. We view relatively high average wages and establishments per capita as negative contributions. Although these measures can be high or low due to idiosyncratic state factors such as geography, climate, regulation and the elderly population that affect demand and production in each state, higher establishments per

capita is a proxy measure for competitive pressure and relative wages benchmark labor costs.

From a dynamic perspective, we computed the annual growth in employment per capita, establishments per capita and the average wage in each industry from 2000-2008. Positive growth in employment per capita reflects a larger amount of service provision per state resident, and high growth in the industry's average wage translates into real income. High growth reflects the influences of labor and consumer demands, as high demand can lead to increasing prices and subsequent wage growth. High relative growth in employment per capita and average wage growth are positive contributions, as these metrics reflect a state's dynamic ability to create jobs and income in an industry.

Growth in establishments per capita reflects the production and organization of the industry. In many service industries, such as healthcare, existing firms serve new customers by replicating establishments across markets. Industries with high establishment growth usually have large firms that operate in many or several states. Some industries, however, may register negative establishment growth per capita. Physicians, for example, are joining forces in a single establishment to expand services through co-location and reducing costs by sharing overhead.

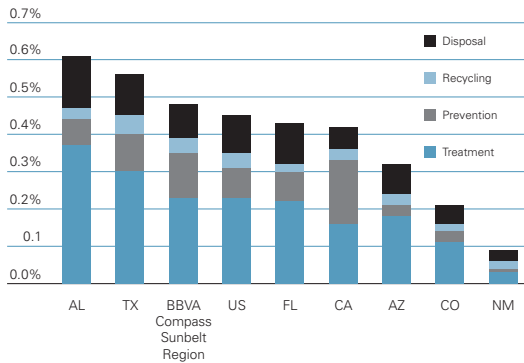
To help predict growth rates across states into the future, we ask whether states that had low initial levels of the per-capita variables in 2000 experienced higher growth rates. This hypothesizes that states will eventually look like the U.S. average in the long-run. A low level of establishments or employees per capita relative to the U.S. today may signify that the industry has room to grow.

We constructed a state fixed effects regression using the 2000-2008 long term growth rates of the per capita variables relative to the U.S. and their initial relative levels. This regression attempts to control for unobservable factors in each state that remain constant over time. The results offer us evidence of convergence, as we find a negative relationship between the long-term growth rates and their initial levels. Thus, states with relatively lower levels of establishments per capita and average wages today may experience higher growth rates in the future as they catch up with the rest of the U.S.



By Hidemichi Fujii, Research Fellow, Hiroshima University and Visiting Scholar, IC<sup>2</sup> Institute and Bruce Kellison, Associate Director, Bureau of Business Research, IC<sup>2</sup> Institute, The University of Texas at Austin

## Pollution Abatement Costs (as a share of total product value)



Source: U.S. Census Bureau, 2008 "Pollution Abatement Cost and Expenditures, 2005."

The Obama Administration has made clean energy development a targeted priority in federal stimulus spending in hopes of generating job growth and reducing U.S. reliance on fossil fuels. Analysts believe that pollution abatement and conservation measures, together with clean energy generation, will have a profound and immediate impact in the fight against global climate change and environmental remediation. There is a growing body of evidence, however, that PACE (Pollution Abatement Costs and Expenditures) negatively affects economic performance at the firm level in the short term. On the other hand, there is evidence that PACE results in longer-term profits for firms that invest in certain types of pollution abatement. What does PACE data show for firms in the BBVA Compass Sunbelt states?

There are two types of pollution abatement strategies that firms follow. One is "End-of-Pipe" (EOP), where steps are taken to ameliorate the effects of pollutants being emitted from production or refining operations (think "smokestacks"). The other is "Cleaner Production" (CP) or pollution prevention, where firms re-engineer their production processes to reduce the amount of waste and harmful emissions generated by production in the first place. Most academic studies on firm productivity and expenditures on pollution abatement find that CP investments have positive economic benefits for the firm in the long-run but not in the short term because they first address environmental conditions, and only later do they improve the competitive advantages of the firm. EOP-type investments are not as expensive as CP, but they come with higher operation costs, such as filters and disposable materials, and have a negative short- and long-term effect on firm financial performance.

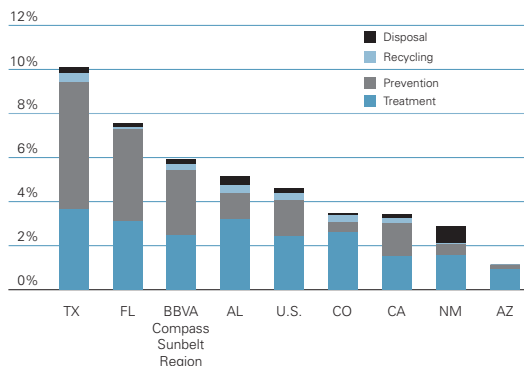
## Abatement Trends in BBVA Compass Sunbelt States

Data from the Census Bureau shows that the average U.S. firm spends just over 0.4 percent of its operational costs on pollution abatement. Firms in the BBVA Compass Sunbelt states, however, average just under 0.5 percent. In Alabama and Texas, firms spend more than the regional and national averages, with Alabama companies topping 0.6 percent of total revenue spent on pollution abatement. Of the four types of abatement, two are considered CP (recycling and prevention) and two are considered EOP (disposal and treatment). The states in our sample spend the most on EOP strategies, and treatment is by far the largest operational cost among the four types, perhaps because southern states historically have had relatively lax environmental standards among all U.S. states. The exceptions are California, where firms spend the most of any state in the sample on prevention, and Texas, where firms seem to be spending more on recycling than other BBVA Compass Sunbelt states, a CP strategy that can positively affect not only long-term financial performance but short-term profits, as well.

## Capital Expenditures on Pollution Abatement

Capital expenditures spent by firms on pollution abatement, as a share of all capital expenditures, is higher among BBVA Compass Sunbelt states than the national average. Firms in these states are

## Capital Expenditure for Pollution Abatement (as a share of total new capital expenditure investment)



Source: U.S. Census Bureau, 2008 "Pollution Abatement Cost and Expenditures, 2005."

more aggressive than those in other states in investing in machinery to reduce pollution. Texas firms' capital expenditures on disposal, recycling, prevention, and treatment are 10 percent of their total new capital expenditures (an extremely high figure) and twice the share of overall capital investment than the national average. Firms in Texas and Florida invest heavily in machinery for pollution prevention, in particular; in the case of Texas, pollution prevention in refining operations attracts most of this investment. In Florida, paper manufacturing absorbs most of the capital investment in pollution abatement, to preserve water quality. On the other hand, firms in Arizona, Colorado and New Mexico invest preponderantly in capital equipment and machinery for pollution treatment.

### PACE and Industry Type

Capital expenditures are not the only investments firms make in pollution abatement. Investments and expenditures in operations, as well, are made to ameliorate the environmental impact of production. Across the BBVA Compass Sunbelt states in which industries are most PACE investments made? Table 1 shows the ranking of industrial sectors that draw PACE spending. Not surprisingly, chemicals manufacturing and computers attract the most investments both in capital expenditures and operations in the highest number of states.

### Eco-Efficiency in the Manufacturing Sector

The last decade witnessed a blossoming of environmental awareness by firms eager to control toxic emissions and participate in the "green revolution." Most firms, however, are not producing clean energy and are not based on "clean tech," two industries that are attracting huge private and public investments. When they spend money on "greening" their operations, most manufacturing firms are making investments in pollution abatement. Figure 3 is an index that models eco-efficiency among manufacturing firms in the BBVA Compass Sunbelt states since 2000 (using Year 2000 prices). By examining the ratio of manufacturing sector state gross domestic product (GDP) to toxic chemical emissions from manufacturing, we control for differences in the size of states' population and manufacturing output and can roughly compare states on economic performance and environmental efficiency.

### Conclusion

It's difficult to draw definitive conclusions about firm profitability when discussing pollution abatement costs and expenditures. Generally, the cleaner production approach negatively affects capital productivity because it first affects environmental outcomes and only later improves firm productivity, while end-of-pipe investments have negative returns to profitability in both the short and long term. Our analysis shows that firms in Texas and Florida are moving ahead with cleaner production investments, while firms in Alabama, Arizona, Colorado and New Mexico are investing in EOP-type measures that may not boost productivity in the long term. (California, the state with the strictest environmental regulations in the U.S., already imposed strong mandates on manufacturing in the 1990s, so firms in our sample do not show unusually high expenditures in 2005.) Manufacturing companies in these states might be wise to focus more on CP-type investments that both provide immediate environmental benefit and produce long-term payoffs for firm profitability.

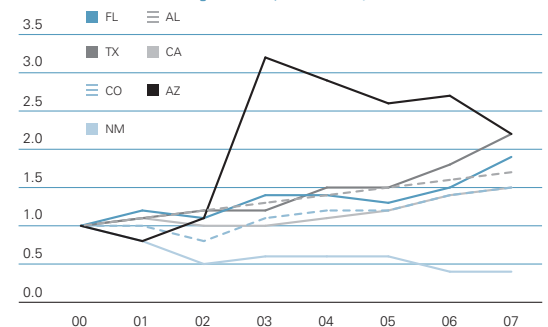
Table 1: PACE and Industry Type

	1st	2nd	3rd	Top 3 Share
AL	Chemical	Primary metal	Paper	60.4%
AZ	Computer	Transportation	Chemical	61.8%
CO	Chemical	Food	Nonmetallic mineral	55.9%
FL	Chemical	Paper	Food	68.7%
NM	Computer	Food	Chemical	73.3%
TX	Chemical	Petroleum & coal	Primary metal	85.1%
CA	Petroleum & coal	Computer	Food	67.8%

	1st	2nd	3rd	Top 3 Share
AL	Chemical	Paper	Primary metal	66.4%
AZ	Printing	Nonmetallic mineral	Beverage & tobacco	66.9%
CO	Primary metal	Beverage & tobacco	Chemical	83.0%
FL	Paper	Chemical	Food	94.8%
NM	Computer	Food	Chemical	89.7%
TX	Petroleum & coal	Chemical	Computer	91.3%
CA	Petroleum & coal	Food	Computer	67.8%

Source: U.S. Census Bureau, 2008 "Pollution Abatement Cost and Expenditures, 2005."

Manufacturing Eco-Efficiency Index in Sunbelt States, 2000-2007  
(Manufacturing sector GDP in millions of U.S. dollars/manufacturing sector chemical substances release amount in pounds; 2000=1)

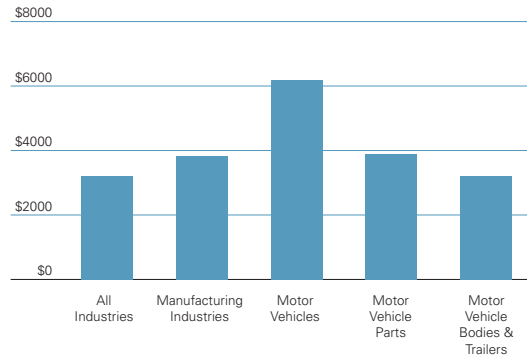


Source: Bureau of Economic Analysis, U.S. Department of Commerce (for state GDP data); U.S. Environmental Protection Agency, Toxic Chemical Inventory Program (for chemical release data)



By Ahmad Ijaz and Carolyn Trent, Center for Business and Economic Research, The University of Alabama

## Alabama Average Monthly Earnings 2008



Source: U.S. Census Bureau, Local Employment Dynamics

Alabama's automotive industry launched and grew during an era when light trucks (pickups, minivans, and SUVs) were king, and U.S. sales were relatively steady at approximately 17 million passenger vehicles annually. The state's first auto manufacturing was established in 1997 at Mercedes-Benz U.S. International in Tuscaloosa County. In addition, Honda Manufacturing of Alabama began building Odyssey vans and V-6 engines at its Lincoln, Alabama plant in November 2001. Midway through the decade, expansions at Mercedes and Honda added the manufacturing of Mercedes R-Class crossover and Honda Pilot. Hyundai Motor Manufacturing Alabama kicked off the Sonata sedan and engine production at its new Montgomery plant in May 2005.

## Employment

1Q09	Number	Percent Change from 1Q08	1Q08
1,795,241	-85,834	-4.6	1,881,075
270,257	-27,716	-9.3	297,973
13,385	-410	-3.0	13,795
14,990	-3,121	-17.2	18,111
4,284	-493	-10.3	4,777

Source: Census Bureau, Local Employment Dynamics

Total unit output of the state's three original equipment manufacturers (OEMs) stood at close to 480,000 vehicles for 2005, as expansions at Honda and Mercedes helped increase total capacity to 760,000 cars and light trucks annually. The addition of the Mercedes GL-Class and the Hyundai Santa Fe in 2006 pushed production among Alabama's three OEMs in 2007 to 739,000 vehicles, resulting in a 5th place U.S. ranking. The state is also home to two major engine producers, Navistar Diesel of Alabama and Toyota Motor Manufacturing Alabama, both in Huntsville. Combined engine capacity at these plants, Honda, and Hyundai stood at 1.2 million in 2007.

## Average Monthly Earnings

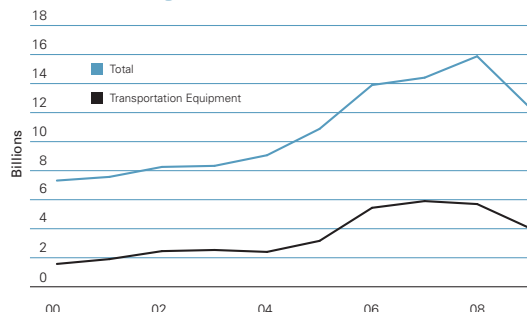
1Q09	Number	Percent Change from 1Q08	1Q08
\$3,120	-\$38	-1.2	\$3,158
3,606	-164	-4.4	3,770
4,803	-912	-16.0	5,715
3,133	-827	-20.9	3,960
2,829	-316	-10.0	3,145

Source: Census Bureau, Local Employment Dynamics

Establishment of the three OEMs generated a large number of Tier 1, 2, and 3 suppliers in the state to service one or more of the plants, adding to a modest pre-existing supplier presence. Today more than 90 automotive suppliers do business in Alabama. Altogether, a total of 285 automotive-related plants employed 48,457 workers in 2007. These jobs supported another 85,769 jobs indirectly through purchases and expenditures. The 134,226 direct and indirect jobs resulted in a total 2007 payroll estimated at \$5.2 billion.

Development of the automotive sector provided an important increase to the state's economy at a time when long-standing textiles and apparel manufacturing industries were in decline. From 1997 to 2007, the automotive industry invested over \$7 billion in plants and equipment and created more than 35,000 jobs. While a modest share of suppliers and auto-related factories lost their textiles and/or apparel base, those who did not still provided a source of jobs and workers maintained their current residence and commute to work.

## Alabama Export Trends



Source: U.S. Department of Commerce, Office of Trade and Industry Information

The industry's high level of productivity and relatively high skill demands allow it to pay above-average wages. For both 2007 and 2008, wages in the motor vehicle manufacturing sector were more than 1.6 times the average for other manufacturing industries and almost twice the average Alabama wage. Real output of the state's automotive industry amounted to \$5.075 billion in 2007 and accounted for 3.7 percent of total Alabama GDP. The industry generated 18.4 percent of goods and services produced by manufacturers in 2007, up from 5.6 percent 10 years earlier.

As the largest exporter in the state, automotive manufacturing has been a major factor in export sector growth. Transportation equipment exports increased from \$1.6 billion in 2000 to \$5.7 billion in 2008, 35.9 percent of the total.

After 10 years of expansion, the state's light truck-heavy automotive industry fortunes began to slide in 2008 as high fuel prices and the deepening recession cut into new vehicle purchases and increased interest in more fuel-efficient cars. Nationally, light vehicle sales fell 18.0 percent from 2007 to 2008. The number of motor vehicles built in Alabama declined by 9.0 percent during the year, with manufacturers only seriously beginning to cut production (and hours) after midyear. This was the first recession experienced by Honda and Hyundai's Alabama operations and the first time that Mercedes had been forced to curtail hours and reduce its workforce since its 1997 startup.

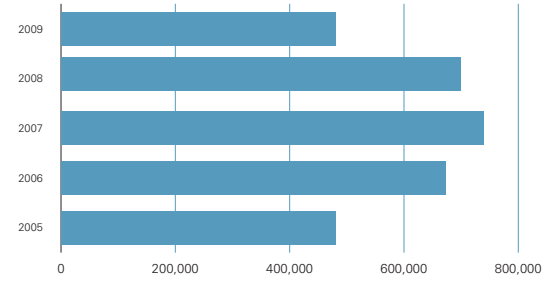
Conditions worsened for Alabama's industry in 2009 as inventories piled up and manufacturers struggled to bring supply in line with demand. Production fell from 672,100 vehicles in 2008 to around 480,000 in 2009, a drop of 40 percent. Among the manufacturers, Mercedes saw the steepest reduction in workforce, dropping from around 4,000 employees at the start of the downturn to about 2,800 early in 2010. Honda released its temporary workers, but managed to maintain its employment at about 4,000, while Hyundai stayed at over 3,000 workers. From the first quarter of 2008 to the first quarter of 2009, motor vehicle manufacturers shed 410 workers, a loss of 3 percent. The supplier network was hit much harder, cutting employment by over 3,100—a decline of 17.2 percent during the same period.

The recession's impact on the economic well-being of still-employed automotive sector workers was even more pronounced. Production cutbacks led to reduced hours and unpaid downtimes at many plants, with a 32-hour workweek the new norm. There was a societal benefit, however, as a number of companies encouraged employees to work in community service when production hours were not needed. Average monthly earnings slipped just 1.2 percent across all Alabama industries from first quarter 2008 to first quarter 2009 and 4.4 percent for manufacturing industries. However, earnings at the motor vehicle manufacturing plants fell 16 percent and workers at parts manufacturers saw their incomes plummet by 20.9 percent.

Although knocked down by the recession, Alabama's automotive industry passed the 3 million vehicle mark in 2009 and is poised for a comeback. The flexibility afforded by modern technology and the self-examination forced by changing business and consumer environments are leading to improved processes and new and improved products across the three OEMs and the supporting supplier network.

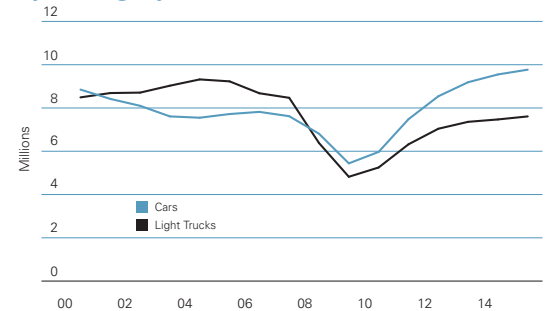
While several plants closed their doors in the past year, a growing supplier network will contribute to the rebound. Hyundai-subsi-diary Kia's factory just over the Alabama line in West Point, Georgia came online last November, bringing a number of new Alabama plants and ex-palnsions. The state's proximity to VW's future Chattanooga, Tennessee factory will add to the supplier mix, and an expansion at Toyota's engine plant is in progress.

### Alabama Car & Light Truck Production



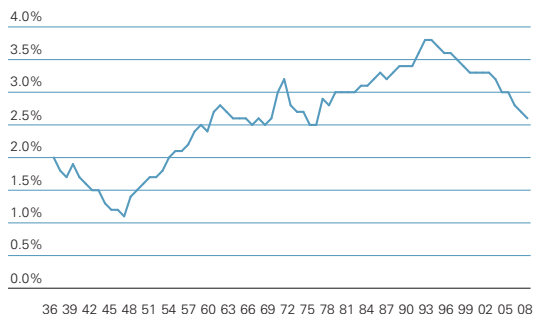
Source: Alabama OEM reports  
Note: 2009 is an estimate.

### U.S. Lightweight Vehicle Sales by Category



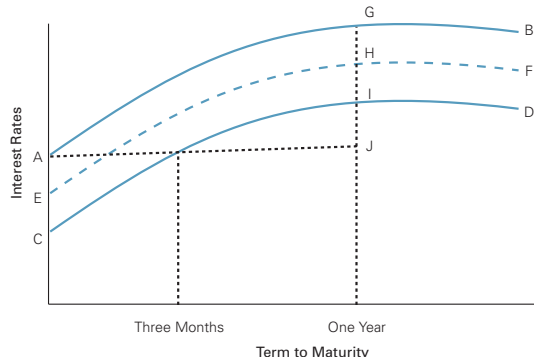
Source: IHS Global Insight  
Note: Light trucks include pickups, minivans, and sport utility vehicles.

## Net Interest Margin, 1934-2008 calculated as % of assets



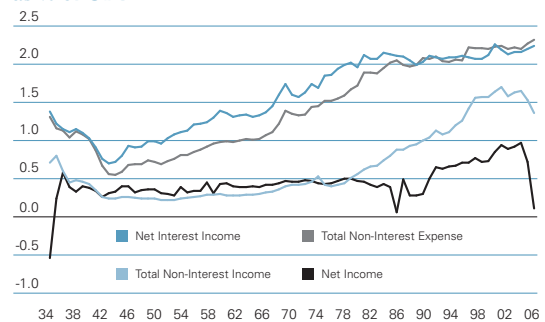
Source: FDIC

## Figure 1: Net Interest Margin & Interest Rate Mismatching



Source: Kimball (1997)

## U.S. Banking Income, 1937-2008 as % of GDP



Source: FDIC

The banking industry's operating environment is often constrained by both past and forward-looking decisions. For example, a swath of impaired loans causes a bank to tighten its lending standards in order to limit its intake of additional risk. At the same time, the bank may become concerned about the direction of interest rates in the future and the direction's effect on the bank's funding and lending. Many of these decisions, both past and present, are wrapped into the conception of the net interest margin, which is a gauge of many different influences on a bank's operations and represents a widely-watched indicator of banking activity. This article outlines the different elements of net interest margin and provides forecasts for its likely evolution.

### Understanding the Net Interest Margin

Observers of the banking industry focus on net interest margin because it represents one of the prime components of bank cash flow. Net interest margin is the total interest income less total interest expense over total earning assets. Some researchers also use total assets instead of earning assets; however, the use of total assets may fluctuate due to valuation effects.<sup>1</sup> One notable feature of net interest margin arises from the fact that net interest income should increase in the same proportion as assets. In other words, banks cannot rely on growth to increase net interest margin. Managers of banks need to deftly manage their asset and liability composition, costs from operations and asset quality to boost net interest margin higher than in previous quarters.

In order to better understand the components of net interest margin, Figure 1 illustrates three different yield curves. Lines AB, EF and CD represent curves for a bank's asset origination, external capital markets, and liability sources, respectively. The distance GH represents the bank's spread from asset origination, while the distance HI shows the bank's spread from liability origination. Given the bank's forecast for the yield curve, the bank can engage in internal transfer pricing that takes its current structure of asset and liability funding and alters it to generate additional margin. The distance IJ represents the spread generated from this asset-liability "mismatch," which is when assets of a particular maturity are funded by liabilities of a different maturity. Total net interest margin is considered the whole distance GJ.<sup>2</sup> The funding sources of the bank and the bank's actions to position itself relative to the yield curve generate the possibility of interest rate risk. As the Federal Reserve shifts the direction of interest rates, banks become increasingly wary of their position relative to the yield curve, which affects their ability to generate spreads and their net interest margin.

However, interest rates represent only one part of what influences net interest margin.<sup>3</sup> As we will discuss below, completely interest rate-based models comprehensively explain the yield on loans and the cost of funds, but they are not as strongly predictive for net interest margin. This is partially because banks today are able to hedge some of their exposure to interest rates. More specifically, this is the result

- 1 Peng, W, Lai, K, Leung, F, Shu, C, (2003) "The Impact of Interest Rate Shocks on the Performance of the Banking Sector," *Hong Kong Monetary Authority Quarterly Bulletin*, June.
- 2 Kimball, R, (1997) "Innovations in Performance Measurement in Banking," *New England Economic Review*, May/June, 23-38.
- 3 Maudos, J, Guevara, J, (2002) "Factors Explaining the Interest Margin in the Banking Sectors of the European Union," *Instituto Valenciano de Investigaciones Economicas Working Paper*.

of other influences on the net interest margin such as operating costs, asset quality, competition, the volatility of interest rates and implicit interest payments. We will discuss each of these factors in turn.

One aspect of the decline of net interest margin over the past decade is the steady elimination of costs implemented by the banking system over the years. Deregulation, technological innovation and shifting business models allowed gradual cost reduction in the banking industry, enabling banks to offer lower prices to customers and therefore lowering the interest margin. Next, during times of weak asset quality, net interest margin must increase as banks charge a higher risk premium for loans given the challenged state of the economy. However, it is important to point out that very large losses on loans can actually create large declines in net interest margins, as witnessed in 4Q08. Extrapolating beyond crisis situations, however, asset quality declines are related to increases in net interest margin.

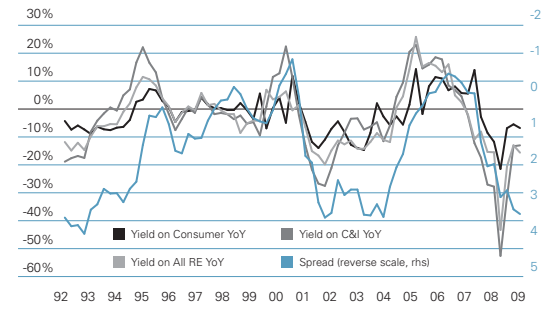
Competitive pressures, in terms of industry concentration, also affect the net interest margin. A more concentrated banking industry will fuel less competitive pressure to lower prices and can sustain a higher net interest margin.<sup>4</sup> Concentration represents one possible conception of competitive conditions in an industry. Historical data on the banking industry's structure remains difficult to decipher. Some researchers measure concentration by the share of assets of the three largest banks as a percentage of total banking assets. For this indicator, recent studies show different levels for the same time span. For example, Beck et al (2003) data suggests for the U.S. banking industry in 1993 a .15 three-firm concentration ratio, while Beck et al (2000) suggests a .32 three-firm concentration ratio for the same year.<sup>5</sup> An alternative to this three-firm ratio is the Herfindahl index, which measures concentration as the sum of squares of market share for each firm in the banking system. This measure requires even more information than the three-firm concentration ratio. Another useful alternative is to calculate a Lerner index, which represents the degree of industry price markup power, although it is typically used with panel data of firms rather than aggregate time series data.

Another influence on the net interest margin is the volatility of interest rates. As interest rate volatility increases, market and interest rate risk increases, thereby motivating banks to charge a higher premium. A related idea is the repricing horizon of banks. High levels of funding via short-term instruments cause banks to face more frequent repricing points for their funding, raising interest rate risk.

Lastly, implicit interest payments represent noninterest income, which for banks increased in importance over the past two decades.<sup>6</sup> If banks generate fees from a customer, then they may charge a lower interest rate to compensate for the customer's second stream of income to the bank. This is part of the rationale of universal banking: it represents a business model that generates income from a variety of activity from one customer. If this idea of implicit income is true,

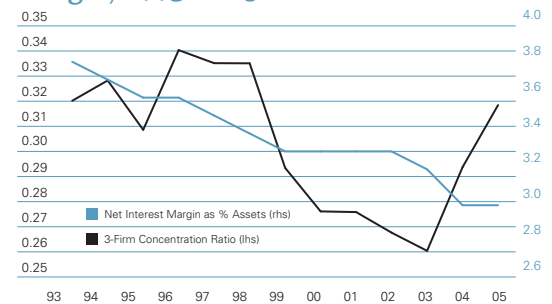
4 Jones, K, Critchfield, T, (2005) "Consolidation in the US Banking Industry: Is the 'Long, Strange Trip' About to End?" *FDIC Banking Review*, 17:4  
 5 Beck, T, Demirguc-Kunt, A, Levine, R, (2003) "Bank Concentration and Crises" *World Bank Policy Research Paper* 3041. Beck, T, Demirguc-Kunt, A, Levine, R, (2000) "A New Database on Financial Development and Structure," *World Bank Economic Review* 14:597-605.  
 6 DeYong, R, Rice, T, (2003) "Noninterest Income and Financial Performance at US Commercial Banks," *Federal Reserve Bank of Chicago Working Paper*.

### Yield on Loans & Slope of Yield Curve



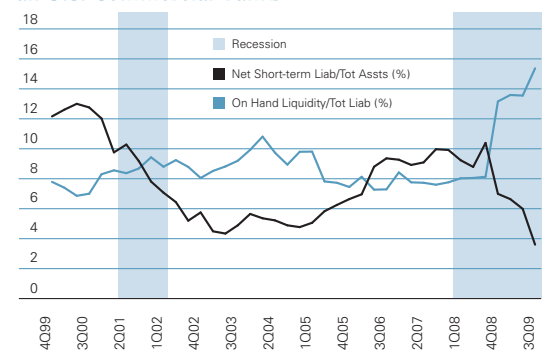
Source: BBVA ERD

### Bank Concentration & Net Interest Margin, 1993-2005



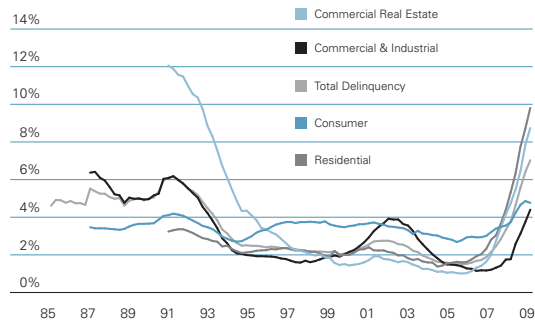
Source: Beck (2000) & FDIC

### Bank Liquidity Funding Regimes all U.S. Commercial Banks



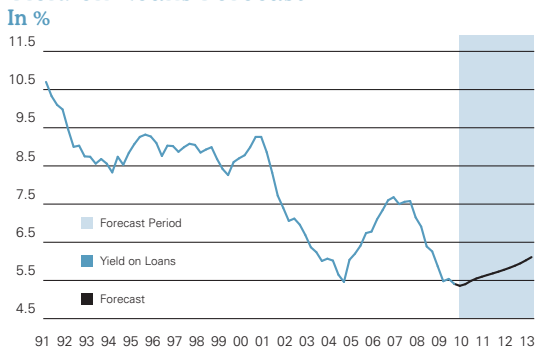
Source: SNL Financial

### U.S. Delinquency Rates



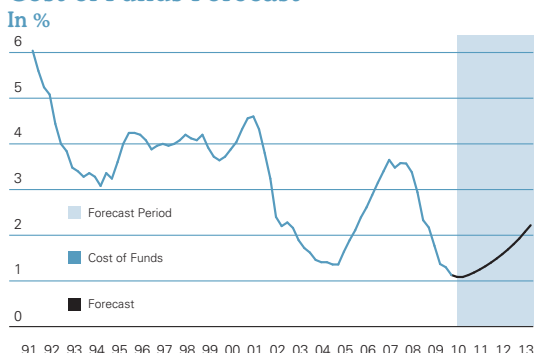
Source: Federal Reserve

### Yield on Loans Forecast



Source: BBVA ERD

### Cost of Funds Forecast



Source: BBVA ERD

then banks' net interest margin would decline as noninterest income increases. In the next section we describe our modeling approach to differentiate between these influences on the net interest margin.

### Forecasting the Net Interest Margin

In order to investigate the most important influences on net interest margin, we gather a number of variables and different modeling approaches to understand the dynamics of net interest margin, the yield on loans and the cost of funds. The yield on loans consists of a bank's total interest income divided by its average loans. The cost of funds consists of a bank's total interest expense divided by its average interest-bearing liabilities and noninterest-bearing deposits. These two indicators are part of the yield-cost spread or the difference between income on loans and the cost of lending. We use the yield on loans and the cost of funds to demonstrate that models for these indicators do not fit well for net interest margin and then determine a model for net interest margin itself.

A general framework for understanding the yield on loans and the cost of funds for banks would begin with the term structure of interest rates. The sources and uses of funds for loans at banks are arguably strongly-related to the rate of the three-month Treasury bill and the ten-year government bond rate, which are the short-term rate and the long-term rate, respectively. We expect a long-term relationship to exist between these two interest rates and our target variables, the cost of funds and the yield on loans.<sup>7</sup> As such, we construct a simple vector error-correction model (VECM) relating each target variable against the two interest rates with a part of the model expressing the long-term relationship between all the variables. We condition the model based on the BBVA baseline forecast for interest rates. The results of the model fit strongly with the data, suggesting that both the yield on loans and the cost of funds will trend upwards in the next few years. However, the yield-cost spread will increase and then begin to decline after 3Q10. This suggests that the spread of the yield curve – the difference between the short-term rate and the long-term rate – will continue to provide a wide margin to banks' lending operations until the end of the year.

Although the interest rates provide a strong basis for forecasting the yield on loans and the cost of funds, we find that a similar simple VECM model does not satisfactorily explain the net interest margin. We construct a vector auto-regression (VAR) model relating the net interest margin to the following variables: noninterest expense as percentage of average assets, noninterest income as percentage of average assets, total delinquency, the standard deviation of the two year government bond rate, the risk premium and the three-month London interbank offering rate (LIBOR). LIBOR represents the influence of interest rates on net interest margin. Noninterest expense as a percentage of assets represents a quick measure of banks' operating costs. Noninterest expense itself consists largely of salaries, fixed asset expenditures and other expenses. Noninterest income as a percentage of assets represents the payment of implicit interest through fees. Volatility of interest rates is proxied through the standard deviation of the two-year government bond interest rate.<sup>8</sup>

7 English, W, (2002) "Interest Rate Risk and Bank Net Interest Margins," *BIS Quarterly Review*, December.

8 Hanweck, G, Ryu, L, (2004) "The Sensitivity of Bank Net Interest Margins to Credit, Interest Rate and Term Structure Shocks," *FDIC Working Paper No. 05-02*



The total delinquency of the banking system provides a measure of asset quality. Lastly, the risk premium is calculated as the difference between the interest rate on BAA-rated corporate bonds and the ten year government bond rate, which represents the risk-free rate.

The results of the model suggest some interesting trends for the banking system going forward. We conjecture that noninterest income as a percentage of average assets will remain roughly constant over the next three years, mostly as a result of increased regulation of fee income and consumer protection laws. We also conjecture noninterest expense as a percentage of average assets will increase over the next few years, perhaps to levels last seen in 2003. We also expect the risk premium and total delinquency to decline over the forecast period, but the volatility of interest rates will increase as the Federal Reserve enacts its exit strategy. Our forecast for LIBOR is based on the BBVA baseline forecast for interest rates. As a result of these elements, we predict that the net interest margin will increase to roughly 4% by 1Q13, which would correspond with the net interest margin of 2001.

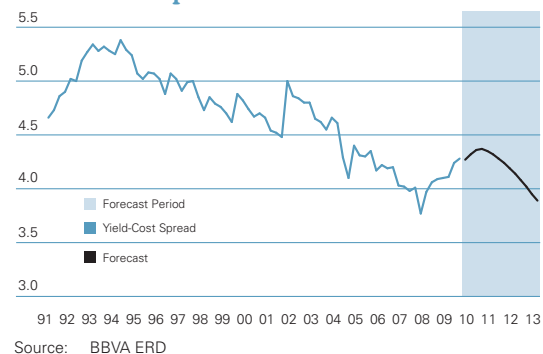
### Future regulatory changes and their implications for margins

One factor unaccounted for in the forecast for net interest margin is the role of regulation reform currently underway in the U.S. and expected to be completed by the middle of 2010. It is possible for increases in regulation to lower competitive pressures and therefore increase net interest margin. Alternatively, deregulation would generally have the effect of increasing competitive pressures and lowering net interest margin. However, the likely course of regulation reform in the U.S. will tend to revolve around increasing capital requirements, consumer protection and activity restrictions. During the first month of 2010, all of these regulatory initiatives remained in flux, with the Obama administration proposing a tax on bank liabilities and also activity restrictions. In particular, the administration proposed the "Volcker Rule," named after former Federal Reserve Chairman Paul Volcker, which is designed to limit large banks' proprietary trading, hedge funds and private equity operations. As discussed above, part of the downward trend in net interest margin and upward trend in non-interest income may relate to the fermentation of the universal banking business model. Activity restrictions related to consumer protection and the Volcker rule may limit the efficiency of universal banking, as these activity restrictions follow the spirit of the Glass-Steagall Act of 1933, which built barriers between commercial and investment banking.

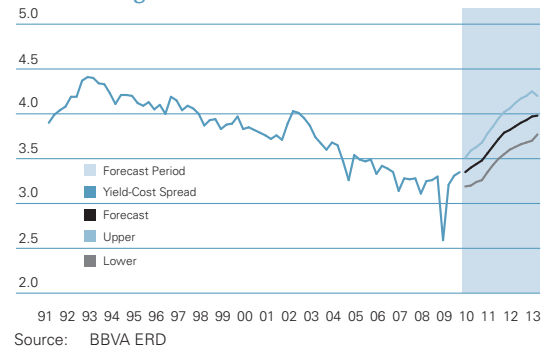
### Bottom line

The importance of net interest margin as a key indicator of banking performance demonstrates the competing influences of interest rates, asset quality, Federal Reserve actions and business models on the banking industry. The main implication of our analysis is that given our expectation that noninterest income will be limited by regulation and market conditions, net interest margin will increase in order to compensate for the diminished role of this implicit interest. Although the term structures of interest rates strongly determine the cost of funds and the yield on loans, they only partly explain the net interest margin. In contrast, operating costs as proxied through noninterest expense as a percentage of assets play a significant role in the determination of net interest margin.

### Yield-Cost Spread Forecast



### Net Interest Margin Forecast As % Earning Assets



### Banking Operational Assumptions & Forecast

	Noninterest Income as % Average Assets	Noninterest Expense as % Average Assets	Net Interest Margin
1Q08	1.91	2.78	3.25
2Q08	1.92	2.97	3.26
3Q08	1.92	2.90	3.30
4Q08	0.97	2.77	2.59
1Q09	2.12	2.89	3.21
2Q09	2.08	2.98	3.31
3Q09	1.92	2.84	3.35
4Q09	1.63	2.84	3.36
1Q10	1.64	3.04	3.40
2Q10	1.73	3.13	3.44
3Q10	1.71	3.19	3.48
4Q10	1.68	3.21	3.56
1Q11	1.63	3.24	3.64
2Q11	1.61	3.29	3.72
3Q11	1.58	3.33	3.79
4Q11	1.53	3.37	3.82
1Q12	1.51	3.40	3.86
2Q12	1.50	3.41	3.90
3Q12	1.49	3.44	3.93
4Q12	1.53	3.46	3.97
1Q13	1.53	3.48	3.98

Source: BBVA ERD  
 Note: NIM calculated as % earning assets



## Fact Sheet

### How do Americans spend their time?

Selected results from the 2008 American Time Use Survey

	Daily hours per person (average)			Percent engaging in activity			Daily hours for those engaging		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
<b>Personal care activities</b>	<b>9.4</b>	<b>9.2</b>	<b>9.6</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>9.4</b>	<b>9.2</b>	<b>9.6</b>
Sleeping	8.6	8.6	8.6	100	100	100	8.6	8.6	8.6
<b>Eating and drinking</b>	<b>1.2</b>	<b>1.3</b>	<b>1.2</b>	<b>96</b>	<b>97</b>	<b>96</b>	<b>1.3</b>	<b>1.3</b>	<b>1.2</b>
<b>Household activities</b>	<b>1.7</b>	<b>1.3</b>	<b>2.1</b>	<b>74</b>	<b>64</b>	<b>83</b>	<b>2.3</b>	<b>2.0</b>	<b>2.6</b>
Housework	0.6	0.2	0.9	36	20	50	1.6	1.2	1.8
Food preparation and cleanup	0.5	0.3	0.7	52	38	65	1.0	0.8	1.1
Lawn and garden care	0.2	0.3	0.1	9	11	8	2.0	2.4	1.6
<b>Shopping</b>	<b>0.8</b>	<b>0.6</b>	<b>0.9</b>	<b>45</b>	<b>39</b>	<b>50</b>	<b>1.7</b>	<b>1.5</b>	<b>1.9</b>
<b>Caring for and helping household members</b>	<b>0.5</b>	<b>0.4</b>	<b>0.7</b>	<b>26</b>	<b>21</b>	<b>31</b>	<b>2.0</b>	<b>1.7</b>	<b>2.2</b>
<b>Caring for and helping nonhousehold members</b>	<b>0.2</b>	<b>0.2</b>	<b>0.3</b>	<b>13</b>	<b>11</b>	<b>16</b>	<b>1.7</b>	<b>1.7</b>	<b>1.7</b>
<b>Working and work-related activities</b>	<b>3.7</b>	<b>4.5</b>	<b>3.0</b>	<b>47</b>	<b>54</b>	<b>40</b>	<b>8.0</b>	<b>8.4</b>	<b>7.4</b>
<b>Educational activities</b>	<b>0.5</b>	<b>0.4</b>	<b>0.5</b>	<b>8</b>	<b>7</b>	<b>9</b>	<b>5.9</b>	<b>6.2</b>	<b>5.8</b>
<b>Organizational, civic, and religious activities</b>	<b>0.3</b>	<b>0.3</b>	<b>0.4</b>	<b>15</b>	<b>12</b>	<b>17</b>	<b>2.3</b>	<b>2.4</b>	<b>2.2</b>
Religious and spiritual activities	0.1	0.1	0.2	9	8	11	1.6	1.5	1.6
Volunteering	0.2	0.1	0.2	7	6	8	2.2	2.4	2.0
<b>Leisure and sports</b>	<b>5.2</b>	<b>5.5</b>	<b>4.9</b>	<b>96</b>	<b>96</b>	<b>96</b>	<b>5.4</b>	<b>5.7</b>	<b>5.1</b>
Watching television	2.8	3.0	2.6	81	82	80	3.4	3.7	3.2
Participating in sports, exercise, and recreation	0.3	0.4	0.2	18	21	15	1.6	1.9	1.3
<b>Telephone calls, mail, and e-mail</b>	<b>0.2</b>	<b>0.1</b>	<b>0.3</b>	<b>26</b>	<b>20</b>	<b>32</b>	<b>0.8</b>	<b>0.7</b>	<b>0.9</b>
<b>Other activities, not elsewhere classified</b>	<b>0.2</b>	<b>0.2</b>	<b>0.2</b>	<b>15</b>	<b>13</b>	<b>17</b>	<b>1.4</b>	<b>1.3</b>	<b>1.4</b>

### State Snack and Soda Sales Tax Data - 2009

Rates expressed in percentages

	Alabama	Arizona	California	Colorado	Florida	New Mexico	Texas
State Sales Tax	4.0	5.6	6.25	2.91	6	5	6.25
State Food Tax (Point of sale purchase)	4.0	0	0	0	0	0	0
<b>Tax on product at grocery store / Tax on products sold through vending machines</b>							
Candy	4 / 4	0 / 0	0 / 6.25	0 / 0	6 / 6	0 / 5	6.25 / 6.25
Gum	4 / 4	0 / 0	0 / 6.25	2.91 / 2.91	0 / 6	0 / 5	6.25 / 6.25
Chips/Pretzels	4 / 4	0 / 0	0 / 6.25	0 / 0	0 / 6	0 / 5	0 / 6.25
Ice Cream	4 / 4	0 / 0	0 / 6.25	0 / 0	6 / 6	0 / 5	0 / 6.25
Popsicle	4 / 4	0 / 0	0 / 6.25	0 / 0	6 / 6	0 / 5	0 / 6.25
Milkshakes and Baked Goods	4 / 4	0 / 0	6.25 / 6.25	0 / 0	0 / 6	0 / 5	0 / 6.25
Soda	4 / 4	0 / 0	6.25 / 6.25	0 / 0	6 / 6	0 / 5	6.25 / 6.25

### Gallup-Healthways Well-Being Index - 2010

#### AHIP's Bridge for Well-Being, Health and Fitness

(Rank out of 50 states; 1=Best, 50=Worst)

	Alabama	Arizona	California	Colorado	Florida	New Mexico	Texas
Well-Being Index (Overall)	33	10	9	4	30	17	21
Life Evaluation	13	8	11	5	28	17	6
Work Quality	31	15	7	20	30	8	14
Basic Access	36	31	33	25	40	44	45
Healthy Behavior	41	18	5	9	16	1	29
Physical Health	44	18	16	4	26	29	17
Emotional Health	28	12	30	22	23	25	20

Source: 1) American Time Use Survey, Census

2) Bridging the Gap Program, University of Illinois at Chicago, 2009. Available at: <http://www.impactteen.org/obesitystatedata.htm>

3) American Health Insurance Plans, March 2010. Available at: <http://www.ahiphewire.org/WellBeing/Default.aspx>

## Forecasts

Year-over-year % change      Forecasts in bold

	2008	1Q09	2Q09	3Q09	4Q09	2009	2010	2011		2008	1Q09	2Q09	3Q09	4Q09	2009	2010	2011
<b>US</b>									<b>Alabama</b>								
Real GDP	1.3					<b>-2.4</b>	<b>1.9</b>	<b>2.2</b>	Real GDP	0.3					<b>-2.3</b>	<b>1.4</b>	<b>2.1</b>
Employment	-0.6	-3.7	-4.7	-4.8	-4.0	-4.3	<b>-0.6</b>	<b>1.2</b>	Employment	-0.5	-3.9	-4.6	-4.7	-4.0	-4.3	<b>-0.7</b>	<b>1.2</b>
Personal Income	2.9	-1.6	-2.6	-1.6	<b>-0.2</b>	<b>-1.5</b>	<b>3.5</b>	<b>3.9</b>	Personal Income	1.3	-2.9	-3.2	-1.3	<b>-0.7</b>	<b>-2.0</b>	<b>2.2</b>	<b>2.3</b>
Home Price Index	-5.1	-7.0	-6.0	-3.8	-3.0	-5.0	<b>1.2</b>	<b>3.1</b>	Home Price Index	2.4	1.1	0.1	-1.1	-2.2	-0.5	<b>1.6</b>	<b>2.0</b>
Home Sales	-16.6	-10.2	-5.1	4.2	24.2	2.9	<b>1.4</b>	<b>5.6</b>	Home Sales	-28.8	-25.3	-21.0	-9.6	23.4	-8.1	<b>4.8</b>	<b>4.3</b>
<b>Arizona</b>									<b>California</b>								
Real GDP	-1.4					<b>-3.6</b>	<b>1.2</b>	<b>2.9</b>	Real GDP	-0.2					<b>-3.1</b>	<b>1.4</b>	<b>2.2</b>
Employment	-2.1	-6.6	-7.3	-7.5	-5.7	-6.8	<b>-0.9</b>	<b>1.8</b>	Employment	-1.1	-3.8	-4.9	-5.0	-4.2	-4.5	<b>-0.3</b>	<b>0.7</b>
Personal Income	-0.1	-4.3	-4.5	-3.1	<b>-2.6</b>	<b>-3.6</b>	<b>0.6</b>	<b>1.7</b>	Personal Income	-0.1	-3.6	-4.6	-3.6	<b>-2.5</b>	<b>-3.6</b>	<b>2.4</b>	<b>1.0</b>
Home Price Index	-12.2	-13.8	-15.7	-13.6	-14.4	-14.4	<b>-1.2</b>	<b>2.4</b>	Home Price Index	-17.3	-15.9	-12.6	-8.4	-5.8	-10.7	<b>-0.3</b>	<b>2.0</b>
Home Sales	13.4	50.2	41.5	10.4	31.0	33.3	<b>5.1</b>	<b>7.3</b>	Home Sales	28.2	66.2	20.7	3.9	-7.0	21.0	<b>5.5</b>	<b>3.0</b>
<b>Colorado</b>									<b>Florida</b>								
Real GDP	2.0					<b>-0.5</b>	<b>1.8</b>	<b>3.4</b>	Real GDP	-2.0					<b>-2.2</b>	<b>2.3</b>	<b>3.6</b>
Employment	0.8	-2.5	-4.1	-4.7	-4.0	-3.8	<b>0.1</b>	<b>2.3</b>	Employment	-3.2	-5.0	-5.0	-4.8	-3.7	-4.6	<b>0.9</b>	<b>2.9</b>
Personal Income	1.1	-3.4	-4.3	-3.5	<b>-2.5</b>	<b>-3.4</b>	<b>1.6</b>	<b>2.6</b>	Personal Income	-1.3	-4.3	-4.7	-3.1	<b>-2.4</b>	<b>-3.6</b>	<b>2.5</b>	<b>2.7</b>
Home Price Index	0.6	0.4	-1.1	-1.7	-2.2	-1.2	<b>0.5</b>	<b>2.0</b>	Home Price Index	-14.9	-14.7	-13.9	-12.4	-11.0	<b>-13.0</b>	<b>-2.8</b>	<b>3.4</b>
Home Sales	-11.0	-17.0	-18.2	-14.1	10.3	-9.8	<b>-1.0</b>	<b>3.6</b>	Home Sales	-7.2	25.0	20.8	36.8	59.3	35.5	<b>3.0</b>	<b>4.3</b>
<b>New Mexico</b>									<b>Texas</b>								
Real GDP	1.7					<b>-1.8</b>	<b>2.0</b>	<b>2.5</b>	Real GDP	1.9					<b>-0.4</b>	<b>2.4</b>	<b>3.3</b>
Employment	0.4	-1.4	-2.7	-3.8	-3.0	-2.7	<b>-0.7</b>	<b>0.5</b>	Employment	2.1	-0.5	-2.0	-2.6	-2.6	-1.9	<b>1.2</b>	<b>2.1</b>
Personal Income	2.8	-1.4	-2.1	-0.7	<b>-0.8</b>	<b>-1.2</b>	<b>-0.1</b>	<b>0.2</b>	Personal Income	2.5	-2.5	-3.7	-2.3	<b>-2.3</b>	<b>-2.7</b>	<b>3.4</b>	<b>3.6</b>
Home Price Index	-0.3	-2.8	-3.8	-3.5	-3.9	-3.5	<b>2.2</b>	<b>2.6</b>	Home Price Index	3.1	2.2	1.2	0.5	-0.5	0.8	<b>1.7</b>	<b>4.4</b>
Home Sales	-25.6	-29.0	-15.9	3.8	38.6	-0.6	<b>-1.6</b>	<b>1.5</b>	Home Sales	-15.4	-22.1	-17.1	-2.1	19.1	-5.6	<b>1.0</b>	<b>5.1</b>

Source: BBVA ERD, BEA, BLS, NAR, Census Bureau & FHFA

### Economic Structure

	US	AL	AZ	CA	CO	FL	NM	TX
GDP (2008, \$ Billions)	14,441	170	249	1,847	249	744	80	1,224
Population (2008, Thousands)	304,060	4,662	6,500	36,757	4,939	18,328	1,984	24,327
Labor Force (4Q09, Thousands)	153,544	2,068	3,143	18,304	2,660	9,191	961	12,082
NonFarm Payroll (4Q09, Thousands)	129,626	1,895	2,414	14,180	2,239	7,342	819	10,364
Unemployment Rate (4Q09)	10.0	10.8	9.1	12.4	7.1	11.5	8.0	8.2
Building Permits - 1 Fam. (2009 Mo. Rate)	35,431	1,008	1,189	2,772	790	3,010	380	6,842
Change in Building Permits Rate (08-09 %)	-25.0	-20.2	-42.4	-45.2	-51.4	-42.3	-21.5	-34.8
Home Ownership Rate (2008)	67.4	66.8	68.5	68.4	70.5	70.9	69.1	65.4
Home Price (4Q09, YoY Change (%))	-6.5	-2.4	-14.2	-5.7	-2.4	-11.0	-4.2	-0.7
Exports of Goods (2009, \$ Billions)	1,056.9	10.9	12.5	128.0	8.1	47.1	1.2	126.8
Change in Exports (08-09 Change (%))	-18.7	-20.9	-29.4	-15.9	-17.8	-9.0	-14.8	-17.1

Source: BEA, BLS, Census Bureau & FHFA

**For further information please contact:**

U.S. Economic Research Department 5 Riverway Suite 320 Houston TX 77056 Tel. (713) 881 1235 www.bbvacompass.com

**Economic Research Department BBVA Group**

**Chief Economist**

José Luis Escrivá

**Unit Heads**

Spain and Europe: Rafael Doménech  
 Spain: Miguel Cardoso  
 Europe: Miguel Jiménez

U.S. and Mexico: Jorge Sicilia  
 U.S.: Nathaniel Karp  
 Mexico: Adolfo Albo  
 Macroeconomic Analysis Mexico: Julián Cubero

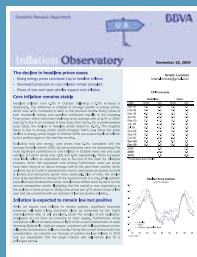
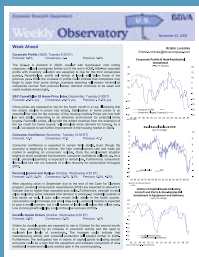
Economic and Financial Scenarios and Regulation: Mayte Ledo  
 Financial Systems: Ana Rubio  
 Financial Scenarios: Daniel Navia

Emerging Markets: Alicia García-Herrero  
 Pensions: David Tuesta  
 South America: Joaquín Vial  
 Argentina: Gloria Sorensen  
 Chile: Alejandro Puente  
 Colombia: Juana Téllez  
 Peru: Hugo Perea  
 Venezuela: Oscar Carvalho

Asia: Stephen Schwartz

Cross Country Analysis: Sonsoles Castillo

**Other publications**



This document was prepared by Banco Bilbao Vizcaya Argentaria's (BBVA) U.S. Economic Research Department on behalf of itself and its affiliated companies (each BBVA Group Company) for distribution in the U.S. and the rest of the world and is provided for information purposes only. Within the U.S., BBVA operates primarily through its subsidiary Compass Bank. The information, opinions, estimates and forecasts contained herein refer to the specific date and are subject to changes without notice due to market fluctuations. The information, opinions, estimates and forecasts contained in this document have been gathered or obtained from public sources, believed to be correct by the Company concerning their accuracy, completeness, and/or correctness. This document is not an offer to sell or a solicitation to acquire or dispose of an interest in securities.