

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

262



FROM: County Executive Office

SUBMITTAL DATE:
June 23, 2009

SUBJECT: Economic Forecast

RECOMMENDED MOTION: Receive and file the attached economic forecast prepared by the Institute for Economic and Environmental Studies, California State University, Fullerton (IEES) and direct staff to negotiate a multi-year contract with IEES for subsequent Board approval.

BACKGROUND: The County has prepared a multi-year budget projection for approximately eleven years. One of the critical elements in the preparation of such projections is forecast of projected revenue. Over the past three years the forecast of the County's discretionary revenue has been refined, but has primarily relied upon internally generated numbers. This past year the Treasurer's office engaged IEES to develop a forecasting model to improve the quality of the multi-year projection.

(Continued)

Paul McDonnell
County Finance Director

FINANCIAL DATA	Current F.Y. Total Cost:	\$	In Current Year Budget: Budget Adjustment: For Fiscal Year:
	Current F.Y. Net County Cost:	\$	
	Annual Net County Cost:	\$	

SOURCE OF FUNDS:	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION: APPROVE

BY:
Jay E. Orr

County Executive Office Signature

Policy

Consent

Dep't Recomm.:
Per Exec. Ofc.:

08/10/11 11:22

Utilizing their existing models, IEES prepared a forecast of the national and regional economies and then adapted those models to prepare a Riverside County specify forecast which not only forecasts economic indicators such as housing prices and sales tax activity, but also prepared a forecast of the primary discretionary revenue sources, such as property taxes, motor vehicle in lieu, sales taxes and documentary transfer taxes. IEES has prepared similar report for Orange County for a number of years.

In addition to be being a valuable tool for our own financial planning, the report is helpful to third parties evaluating our credit such as the rating agencies and institutional investors.

It is our belief that building upon the data incorporated in the model will improve its precision; accordingly we are requesting authorization to negotiate a multi-year agreement with IEES, which would be brought back to the Board for approval.

Attachment

CALIFORNIA STATE UNIVERSITY FULLERTON

Dr. Adrian R. Fleissig

Dr. Mira Farka

COUNTY OF RIVERSIDE

FORECASTS AND ECONOMIC OUTLOOK

for

COUNTY OF RIVERSIDE

30 April 2009
Revised 9 June 2009
Revised 12 June 2009

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A. RIVERSIDE BUDGETARY VARIABLES

A1. Property Tax Revenue

The County of Riverside provided the *Institute for Environmental and Economic Studies* (IEES) with data on 873,402 property parcels for the FY 2007-2008. This data differs from the Riverside County's Assessor's property tax records which had 877,424 parcels and include supplemental tax and teeter overflow revenue. Because the data set we were provided did not include these variables, both supplemental tax and teeter overflow revenue are excluded from our estimates. The ad valorem property tax revenue in FY 2007-2008 was \$2,244,824,036 compared to the County's total tax amount of \$3,004,452,144.

The parcels were classified into the following eight categories: residential, commercial, manufactured homes, time shares, agricultural, agricultural preserve, vacant and unassigned. The parcel data exclude supplemental taxes. Over 57% of the parcels are residential. Times shares and vacant land each account for over 9% of the parcels with manufactured homes totaling 6.3%. Commercial properties occupy 4.1% of the parcels and agricultural parcels account for 11.3%.

During the FY 2007-2008, the tax revenue from residential parcels totaled \$1,533,230,333 which accounts for 68.3% of all property taxes (Table 1). The next largest share of property taxes comes from commercial parcels which amounted to 17.83%. The remaining categories account for less than 14% of property taxes in Riverside County.

Table 1
Ad Valorem Property Taxes^a
Fiscal Year 2007-2008

Type of Parcel	Residential	Commercial	Manufactured Homes	Time Shares
Dollars	1,533,230,333	400,283,221	46,808,347	9,259,914
Share of Property Taxes	68.30%	17.83%	2.09%	0.41%
Type of Parcel	Agricultural	Agricultural Preserve	Vacant	Unassigned
Dollars	59,880,069	192,715	67,026,738	128,142,699
Share of Property Taxes	2.67%	0.01%	2.99%	5.71%

^a Data provided by the County of Riverside

During FY 2007-2008, the largest share of delinquencies (in dollar amounts) came from owners of residential parcels which failed to make either one or both property tax installments. The number of owners of residential parcels failing to make one or both property tax installments increased considerably. With the severe economic recession and financial crisis, delinquencies on property tax installments are likely to rise further over FY 2008-2009 and FY 2009-2010. In addition, the Riverside County Assessor reported that owners of almost one quarter (200,190) of parcels in 2008-09 had their assessments reduced in line with Proposition 8 which requires the assessor to enroll the lower of either the property's Factored-Base-Year Value (established under Proposition 13) or its market value as of the lien date (January 1). In line with Proposition 8, a relatively large number of parcels are likely to see a reduced assessment value in FY 2009-2010 and beyond as the assessor is

reviewing a total of 350,000 properties purchased between January 1, 2001 and January 1, 2009.

Our projections for Riverside County property taxes are based on econometric models that use a number of variables for forecasting purposes: data by type of property, failure to pay property tax installments, and property tax data from neighboring counties. Our forecasts are provided in Table 2. Note that projections are not based on parcel data for 2008-09 because this data was not available at the time of the study. We project a sharp decline in property taxes in 2009-2010 and a more moderate decrease in FY 2010-2011. The decline is largely attributed to the expected decreases in assessments from Prop 8, the impact of the severe economic recession, financial crisis in the housing market, slack housing demand, and higher unemployment rates. In the long term, property taxes are expected to rise modestly.

Table 2

Fiscal Year	Property Taxes ^a Dollars	Growth
Historical		
07-08	2,244,824,036	n/a
Forecast		
08-09	2,249,313,684 ^b	0.20%
09-10	2,071,617,903	-7.90%
10-11	2,021,899,074	-2.40%
11-12	2,027,964,771	0.30%
12-13	2,060,412,207	1.60%
13-14	2,116,043,337	2.70%
^a Data provided by the County of Riverside ^b Estimated growth rate of 0.2% is less than County Assessor's 1.45% rate as data differ.		

The property tax projections in Table 2 represent a baseline forecast. However, if downside risks increase such that consumer confidence remains low, the U.S. recession lingers longer than expected, the process of recovery is protracted with below-trend growth, delinquency rates rise, reduced property assessments due to Prop 8 increase further and the severity of the recession in Southern California exceeds that of the nation, another likely scenario shows a larger reduction in property taxes. Under this "increased-risk-scenario", our forecasts, which exclude supplemental tax and teeter overflow revenue, have the following growth rates: FY 2008-09 (.20%), FY 2009-10 (-9.76%), FY 2010-11 (-2.84%), FY 2011-12 (1.13%), FY 2012-13 (2.37%) and FY 2013-14 (3.44%).

A2. Motor Vehicle Licensing Fee (in Lieu)

Motor Vehicle Licensing Fee revenue is based on assessed property values (Table 3). In FY 2005-06, the state converted MVLF revenue into property taxes in lieu of MVLF. During FY 2005-06, there was an underestimate of MVLF for Riverside County. To correct for the underpayment, an additional payment was made in FY 2006-07. Consequently, the additional payments caused the MVLF revenue in FY 2006-07 to be higher than what the actual payment was. Thus while this source of revenue tends to grow and fall at a similar rate to assessed property taxes, the state adjustments for underpayments or overpayments distorts the underlying trend for MVLF revenue. We project a decline in this source of revenue over the next two fiscal years and a modest increase when economic conditions improve.

Table 3

Fiscal Year	Motor Vehicle Licensing Fees Dollars	Growth
Historical		
05-06	163,482,154	38.6%
06-07	188,888,320	15.5%
07-08	218,658,730	15.8%
Forecast		
08-09	220,626,659	0.9%
09-10	208,933,446	-5.3%
10-11	205,799,444	-1.5%
11-12	207,692,799	0.9%
12-13	211,638,962	1.9%
13-14	218,199,770	3.1%

A3. Taxable Sales Board of Equalization

The Taxable sales are from the California Board of Equalization and include incorporated cities, outside incorporated cities and unallocated (specific business that is not required to allocate local sales or use tax) which are included in Table 4. The County of Riverside only reports revenue derived from sales within the unincorporated area. Taxable sales are expected to decline by about 7.26% in FY 2007-2008 and are expected to post additional decreases during the current fiscal year. The severe economic recession should further depress taxable sale revenues in FY 2009-2010 as local residents and businesses further reduce their spending. In the long-term some modest growth is expected. Taxable sales growth should exceed 6% in FY 2014-2015.

Table 4^a

Fiscal Year	Taxable Sales (millions of dollars)	Growth
Historical		
05-06	29,646,438	11.26%
06-07	29,699,491	0.18%
07-08	27,543,420 ^b	-7.26%
Forecast		
08-09	27,113,743	-1.56%
09-10	26,769,398	-1.27%
10-11	27,636,727	3.24%
11-12	28,747,723	4.02%
12-13	30,164,986	4.93%
13-14	31,996,001	6.07%
a. Source: California Board of Equalization. Historical data are through 2008.1. b. Includes projections for 2008.2.		

A4. Proposition 172 Public Safety Sales Tax Projections

Proposition 172 was enacted in November 1993, the "Local Public Safety Protection and Improvement Act of 1993," which allocated a half-cent sales tax to public safety in cities and counties. The total sales tax revenue is distributed to cities in Riverside County as well as to the County of Riverside. The State distribution of Proposition 172 revenue to Riverside County depends on taxable sales in Riverside County as well as Riverside County's share of total tax

revenue. Forecasts for the Public Safety Sales Tax are determined using regression techniques and estimates from these models are in Table 5. For Riverside County, the public safety sales tax projections are forecasted to decline for fiscal years 2008-2009 and 2009-2010. In the long-term there should be moderate growth in this source of revenue for the county.

Table 5^a

Fiscal Year	Proposition 172 Public Safety Sales Tax (in thousands)	Growth
Historical		
05-06	139,623,796	14.93%
06-07	149,284,949	6.92%
07-08	150,185,307	0.60%
Forecast		
08-09	135,669,706	-9.67%
09-10	126,579,836	-6.70%
10-11	128,149,426	1.24%
11-12	130,622,710	1.93%
12-13	133,640,094	2.31%
13-14	137,956,669	3.23%
^a Data are from the State Controller's Office and include County and city totals.		

A5. Documentary Transfer Tax

Documentary transfer tax typically occurs upon a transfer of the ownership of real property and are in Table 6. The tax rate for the City of Riverside is \$1.10 for every \$500 of net consideration or

value conveyed; the tax rate for all other cities and the unincorporated areas of the County of Riverside is \$.55 for every \$500 of net consideration or value conveyed (www.riversideacr.com).

Documentary transfer tax is correlated with house sales, changes in interest rates which can trigger refinancing, changes in property values, changes in payroll employment, foreclosure rates, and other factors that cause a change in ownership. With the current decline in property values and the severe recession in the housing market, documentary transfer tax is likely to decline in 2008-2009 followed by moderate increases over time.

Table 6

Fiscal Year	Documentary Transfer Tax Dollars	Growth
	Historical	
05-06	35,163,852	13.4%
06-07	22,836,219	-35.1%
07-08	13,477,571	-41.0%
Forecast		
08-09	9,434,488	-30.0%
09-10	10,558,279	11.9%
10-11	10,682,414	1.2%
11-12	13,887,555	30.0%
12-13	19,862,381	43.0%
13-14	21,854,519	10.0%

B. RIVERSIDE COUNTY OVERVIEW FORECAST AND REPORT

The Riverside County economy has plunged into an even deeper recession than the national economy. The collapse in the housing market and in housing activity is one of the main factors behind the sharp deterioration of the County's economy. In addition, California's estimated budget shortfall of \$16 billion remains a major concern about the future prosperity of the state and of Riverside County in particular. Given that the state budget has reduced spending and is likely to continue to reduce future funding in almost all types of spending, the economic recession may linger longer in the Southern California region than in the U.S. economy. As a result, over the next 6-8 quarters, Riverside County is expected to experience further declines in payroll employment, higher unemployment rates, and an increase in the number of foreclosures. All of these factors will continue to place additional strains on consumer and business spending.

The sharp rise in housing activity which occurred during the 2004-2007 period in the Inland Empire caused a large house price appreciation in the region which lowered affordability. Though this occurred at a time when the two-county region was close to full employment, the housing boom was in an unsustainable trajectory on a long-term basis given that the average wage earner could not afford the typical mortgage. For example, in 2005 when the median home price in the region hovered around \$350,000 only 20 percent of the County's residents earned enough to qualify for a typical 30-year fixed mortgage with a 20 percent down payment. These imbalances became even

more troublesome in 2006 when the median price of a home in Riverside County averaged \$415,008.

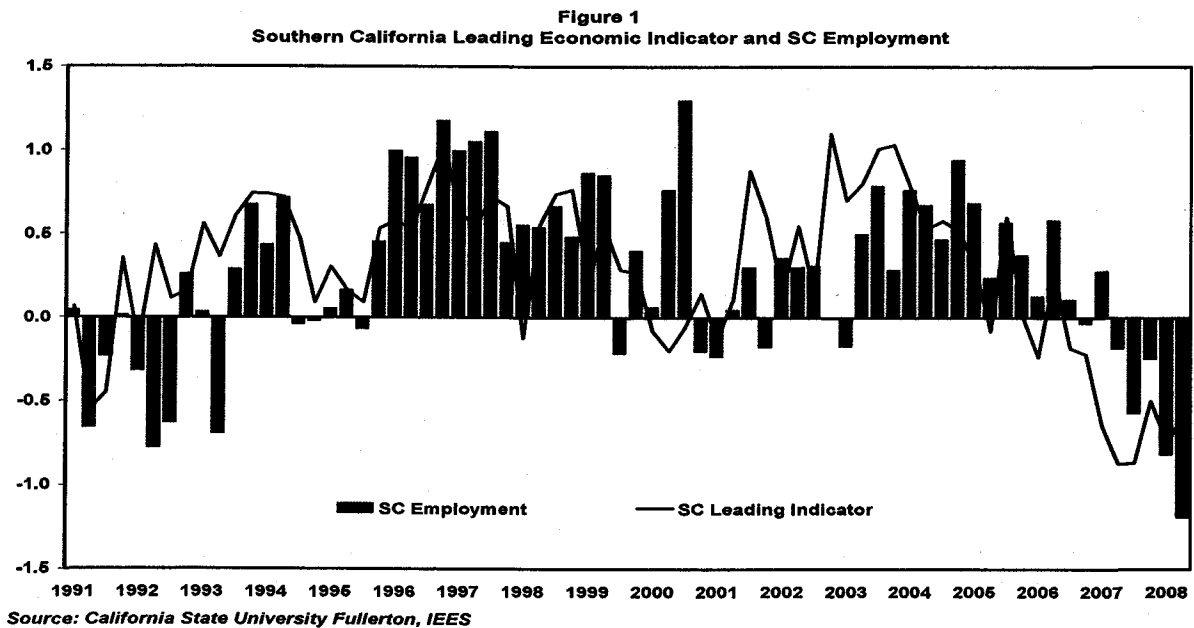
The U.S. economy has been in a recession since December 2007 and a sharp decline in economic activity is projected to continue for the remainder of the current year and well into 2010. In order to analyze short-term economic conditions, the *Institute for Economic and Environmental Studies (IEES)* at California State University Fullerton has developed a leading indicator which has proven to be a reliable predictor of economic activity for the region. Additionally, at the County level, employment data provide an important indicator of the overall regional economic conditions. The near and long term outlook for the Riverside County economy is discussed below using these measures, econometric models, and other data.

B1. NEAR TERM OUTLOOK AND FORECAST

The *IEES Southern California Leading Economic Indicator* is used to analyze the near term economic activity in Southern California, which includes Riverside County. The southern California region consists of Los Angeles County, Orange County, San Bernardino County, Riverside County, Ventura County and Imperial County. The *S.C. Leading Indicator* uses a combination of national and regional data to analyze economic activity in the southern California region. At the national level, macroeconomic indicators that are used in the index include the money supply adjusted for inflation, the interest rate spread and the Standard & Poor's 500 stock index. Regional variables include nonfarm employment changes, the unemployment rate, building

permits and the Pacific region consumer confidence index. An increase (decrease) in the SC Leading Indicator implies an increase (decrease) in economic activity in the Southern California region in the next 3 to 6 months. The indicator has been found to accurately predict turning points in economic activity for Southern California (Figure 1). The *S.C. Leading Indicator* has been on a downward spiral for eight consecutive quarters beginning with the first quarter of 2007.

This continued decrease suggests a sharp contraction in economic activity in the Southern California region over the next 3 to 6 month horizon.

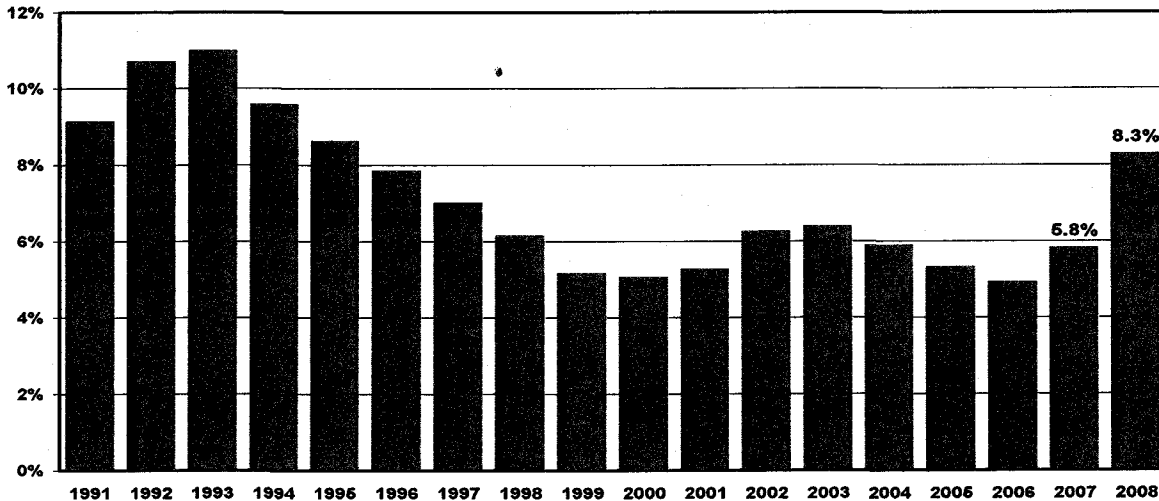


Unemployment

Unemployment poses a serious threat to the county's economy because of the additional strain on the already scarce economic resources. The unemployment rate for 2008 was 8.3% which is considerably higher than the 5.8% unemployment rate occurring in 2007.

(Figure 2). Using the recent monthly data, the current unemployment rate is relatively high: as of March 2009 it stood at 12.9% exceeding the highest level reached in the recession of early 1990s. The February unemployment rate of 12.4% was higher than the 11.9% rate recorded in January 2009. There are currently over 120,000 unemployed persons in the county and if we account for the underemployed and "discouraged workers" who have left the labor force, the unemployment

Figure 2
Civilian Unemployment Rate
Riverside-San Bernardino



Source: Employment Development Department

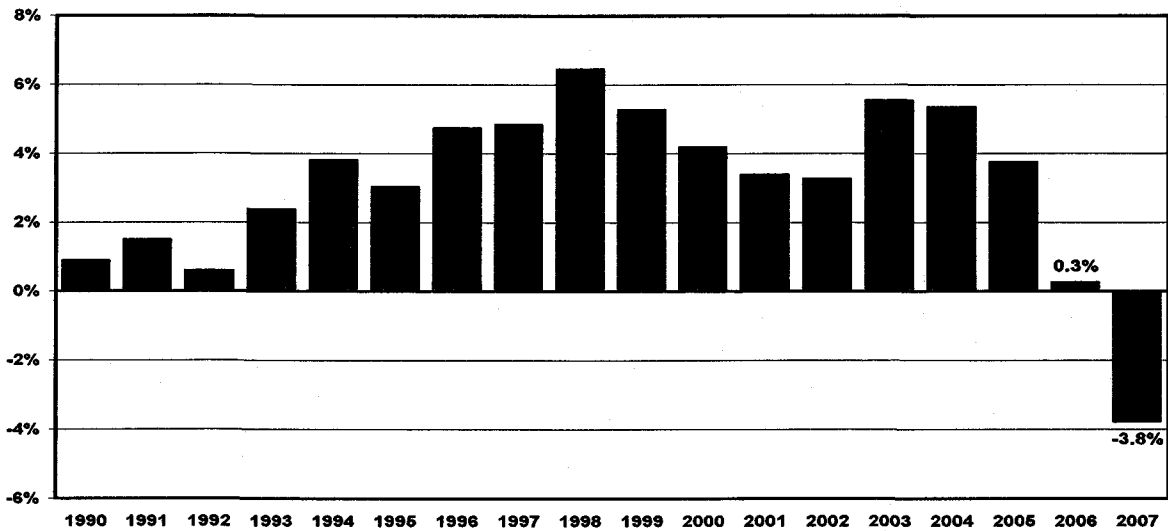
rate is closer 20 percent. In the short-term, unemployment is expected to continue to increase, though the pace of job layoffs should moderate in the fourth quarter of the year.

Payroll Employment

In terms of nonfarm payroll employment (Figure 3), the Riverside-San Bernardino MSA lost 48,400 jobs over the last twelve months which represents a 3.8% overall decline. Total nonfarm employment is now close to the 2005 level. The past twelve months have recorded sizable

job losses in construction (22,000), manufacturing (11,500), Trade, Transportation and Utilities (8,500) and Professional and Business Services (8,300). The only expanding sector was Educational and Health Services which added a total of 4,700 jobs over this period. This trend is expected to continue with most sectors (including education) losing jobs over the short-term.

Figure 3
Nonfarm Payroll Employment



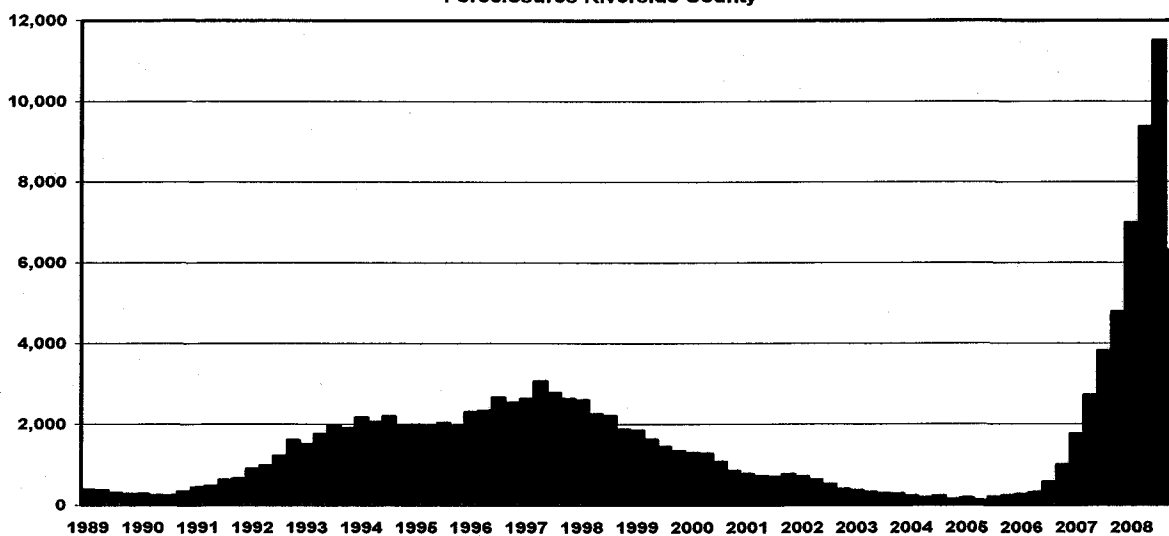
Source: Employment Development Department

The Housing Sector

The housing sector was one of the main factors that contributed to economic growth in Riverside County from 2003 through 2007. Single family median house prices in the County increased from \$132,459 in January 1990 to a record high of \$430,769 in February 2007. From 1992 through 2002, the rate of foreclosures was relatively high for Riverside compared to other neighboring counties, but declined substantially during the housing boom (Figure 4). The current recession and sharp deterioration in the housing market caused a

dramatic increase in foreclosures in 2007 which reached records highs in 2008. Furthermore, in 2010-2012 mortgage resets are expected to increase. These resets are likely to result in a second wave of foreclosures specifically related to Alt-A and option-adjustable rates loans that were issued during 2005-2007.

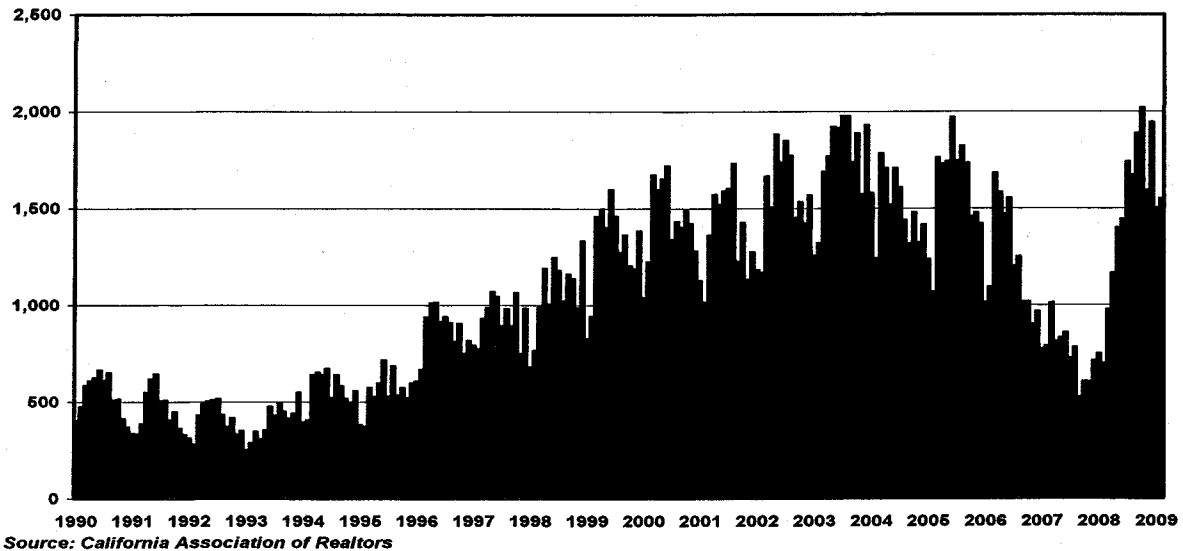
Figure 4
Foreclosures Riverside County



Source: Real Estate Research Council

Single family sales in Riverside County have increased by 91.4% in 2008 compared to 2007 (Figure 5). The vast majority of this increase is attributed to distressed sales, which means that despite large corrections, the housing market in Riverside County has yet to bottom out. Single family sales were 17,271 in 2008 which is lower than the peak of 21,199 units in 2003.

Figure 5
Single Family Sales Riverside
Monthly Units

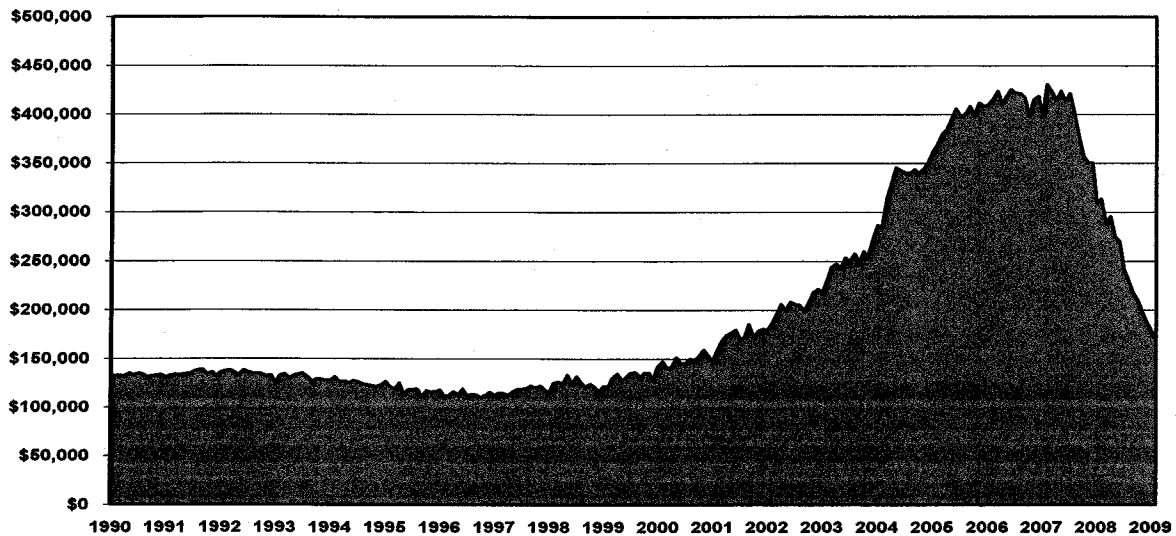


Source: California Association of Realtors

The housing crisis has caused a virtual collapse in house prices of Riverside County: in February 2009 the median house price stood at \$172,027 which represents a decline of 60.1% from the historically high level (Figure 6). From July 2007 through February 2009, single family median house price declined by over 40%. Though the peak was reached in February 2007, on an annual basis, single family house prices averaged a record-high of \$415,008 in year 2006.

Median house prices for new and attached homes also continue to decline. In 2008, there were 5,920 annual new housing permits representing a decrease of 52.5% from 2007. With the relatively large amount of unsold inventory and the tightening of mortgage and credit markets, the Riverside housing market is likely to see some signs of stabilization only in early to mid 2010.

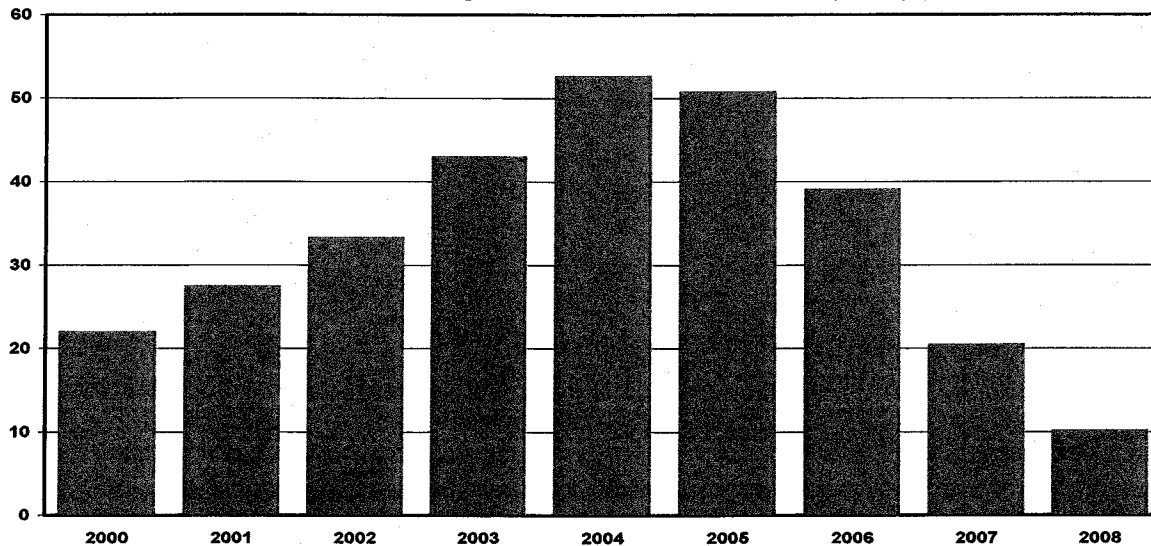
Figure 6
Median Price of Existing Detached Homes



Source: California Association of Realtors

New residential building permits in Riverside-San Bernardino were over 50,000 in 2004 but have declined significantly to just over 10,000 in 2008 (Figure 7). With the sharp decline in the housing sector in Riverside-San Bernardino region, residential building permits are expected to remain flat over the near term with cyclical variations in the trend.

Figure 7
Residential Building Permits Riverside-San Bernardino (1,000s)

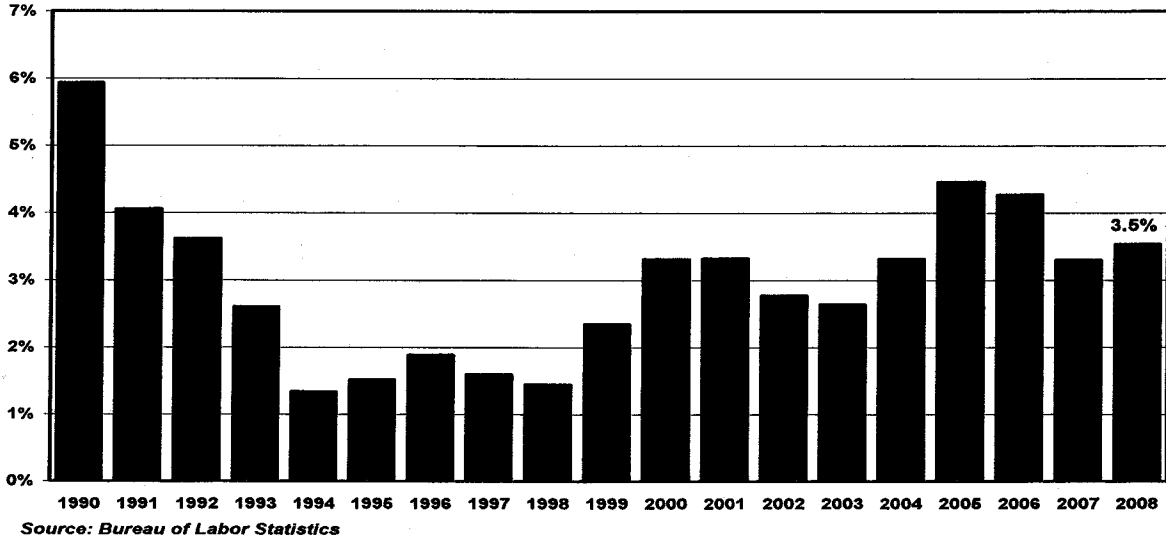


Source: Construction Industry Research Board

Inflation

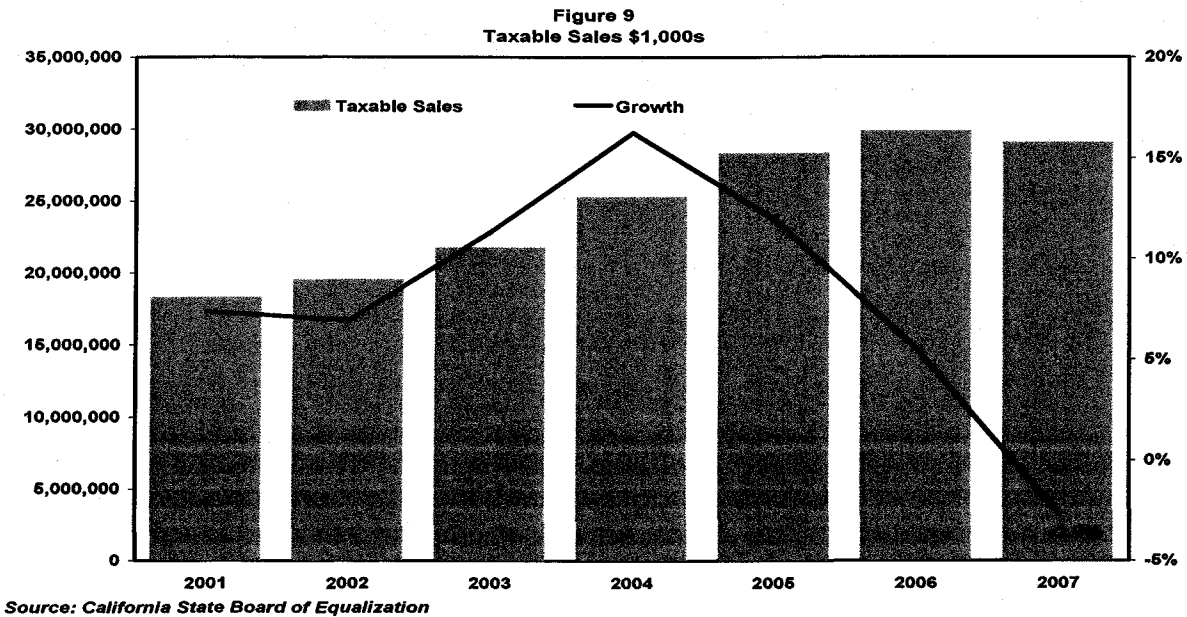
Headline inflation (which includes food and energy prices) in Riverside County as measured by the consumer price index for Los Angeles-Riverside-Orange Counties, was 3.5% in 2008. This is lower than the 4.5% rate recorded in 2005 and the 4.3% rate in 2006 (Figure 8). As the recession deepens in the U.S. and in the Southern California region, inflationary pressures are projected to decline in the short-term.

Figure 8
Los Angeles-Riverside-Orange County
Consumer Price Index



Taxable Sales

After years of growth, Riverside County taxable sales are expected to decrease by about 2.7% in year 2007. The current recession, which has hit the region harder than the national economy, will continue to have an adverse impact on consumer spending translating in sharp declines in taxable sales. With a rise in unemployment, a retrenchment in consumer spending and future projected budget cuts, taxable sales are projected to decline over the current year and in 2010 and grow modestly in the longer term.



In summary, Riverside County is expected to experience a continued decline in nonfarm payroll employment and higher unemployment rates over the near-term. The contraction in the labor market and significant cuts in both public and private consumption spending will result in a decline in taxable sales, falling house prices and minimal increases in residential building permits. Inflation is expected to decline in the near term, reflecting increased recessionary pressures.

B2. LONG TERM OUTLOOK AND FORECAST

The long term economic outlook for Riverside County will largely depend on the strength of the economic recovery in the U.S., southern California region and international trade. Some major projects will generate employment including the \$2 billion earmarked for upgrades and improvements of freeways over the next few years. Declining house

prices will help align the housing market with income growth, making Riverside County more affordable. In the long term, the Inland Empire will continue to attract new businesses and workers because the cost of living and office rental space is relatively more affordable compared to other regions in southern California. As the Inland Empire continues to grow and create local employment, the dependency of its residents to commute for work in Orange County, Los Angeles and San Diego will diminish which will generate more taxable revenues for Riverside County.

The slump in the Riverside housing sector will severely hamper economic growth over the short-term. While financial and mortgage markets have stabilized somewhat, the slowdown in the housing sector will continue to stifle consumer spending and employment resulting in lower tax revenue. A long lasting recovery in the Riverside housing market is likely to occur in mid 2010 to early 2011 but even then, the recovery will be very slow and accompanied by minimal price increases. Nonetheless, the current house price adjustment will make Riverside County more affordable compared to some of the other neighboring counties which will stimulate the demand for the current stock of housing.

Payroll employment is projected to decline in 2009. With a sluggish recovery that is likely to drag for around 24 months, payroll employment will grow moderately but at a slower pace than recent historical trends. Of special concern is the loss of construction jobs and a sharp decline in high-paying finance and real estate related jobs from the housing boom. Some sectors that are likely to

expand in terms of employment in the long term include health, tourism, education and leisure. We project a steady increase in the total County jobs over the longer forecast period, although there will be cyclical short-term fluctuations.

The recession has reduced consumer spending causing a decline in Riverside taxable sales which are expected to decrease during the FY 2008-2009. This decline is in sharp contrast with above 11% growth during 2005-2005. Taxable sales are expected to grow modestly in the long-run once the economy starts to turn around.

The central location of Riverside County makes it an attractive and affordable place for businesses and individuals that are willing to commute to work in nearby counties. There is thus a potential for the County to continue to grow in the long run.

B3. PROJECTIONS OF RIVERSIDE COUNTY MAIN ECONOMIC VARIABLES

Table 7 (continued on next page)
 Riverside County Forecasts¹
 Estimates from July/August 2008

Historical			
Year	Payroll Employment	Unemployment	Single Family Median House Prices
2006	3.7%	4.9%	\$416,562
2007	0.3%	5.8%	\$396,984
2008	-3.8%	8.3%	\$252,948
Forecast			
2009	-6.2%	12.1%	\$188,699
2010	-1.7%	11.3%	\$179,075
2011	1.2%	9.8%	\$183,194
2012	1.9%	8.4%	\$189,972
2013	2.7%	7.2%	\$198,521
2014	3.1%	6.6%	\$209,439

Table 7 (continued)
 Riverside County Forecasts
 Estimates from July/August 2008

Year	Consumer Price Index Los Angeles-Riverside- Orange Counties	Building Permits (in 1,000s)
Historical		
2006	4.3%	39.1
2007	3.3%	20.5
2008	3.5%	10.2
Forecast		
2009	0.4%	4.6
2010	2.2%	3.0
2011	4.9%	3.1
2012	4.4%	4.8
2013	3.2%	5.1
2014	3.4%	5.5

C. U.S. MACROECONOMIC OVERVIEW FORECAST AND REPORT

The U.S. economy is currently undergoing the most severe post-war recession. In mid-September, the very foundation of the global financial system was on the verge of collapse with the threat ominously spreading to all sectors of the economy. A full-blown financial crisis appears to have been averted, due in large part to a massive injection of liquidity from the government, though significant strains remain in the banking system as a whole.

The crisis has spread to virtually all sectors of the economy. The most significant negative factors are mounting job losses, sizable declines in economic activity, drastic cuts in consumer spending, an unstable and volatile financial sector, an illiquid and close-to-insolvent banking system, an unrelenting collapse of house values, and a continued deterioration of consumer and business confidence. There are only a handful of what one might consider relatively positive news: oil prices have dropped precipitously, inflation is no longer a concern (at least in the short term), and the policy response has been decidedly proactive and aggressive.

The outlook for the U.S. economy is bearish. The current recession is expected to last between 18-22 months. This is significantly longer than any other postwar recession, which lasted on average around 10 months. Real economic activity is expected to contract during the first three quarters of 2009, rebounding slightly in the fourth quarter and in early 2010. The recovery is expected to gain more momentum in the middle of 2010, but even then it will be

sluggish and stretch over 8-10 quarters with below-trend growth and above full-capacity unemployment numbers.

Below we provide an economic analysis and discuss our forecasts as they relate to some of the main components of the economy: (A) real economic activity, (B) inflation, (C) financial sector, (D) global environment and (E) projections of key national economic variables.

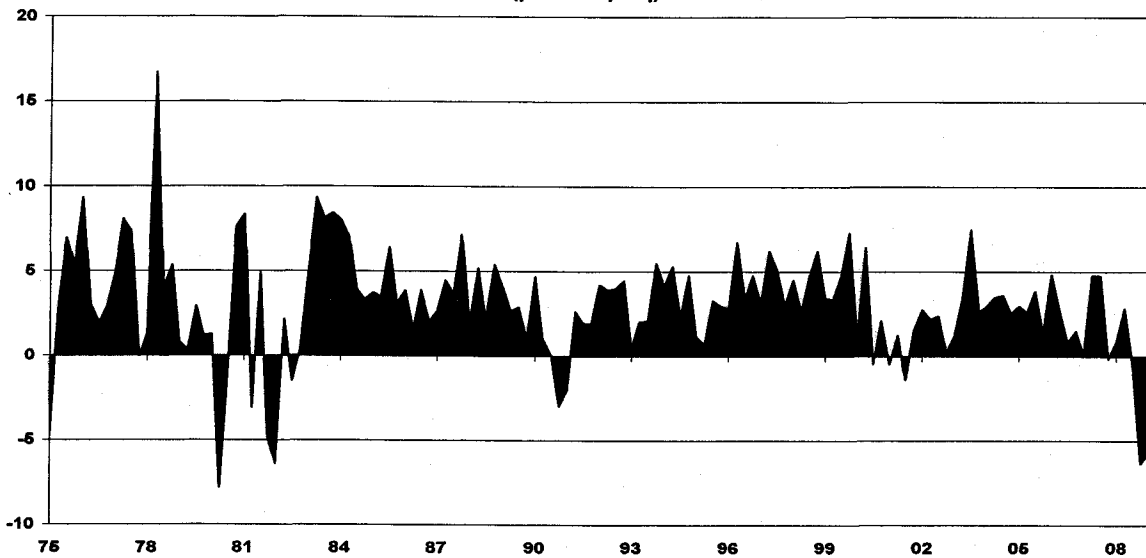
C1. Real Economic Activity

Economic growth as measured by real gross domestic product (RGDP) collapsed by 6.3 percent in the fourth quarter of 2008, posting the largest decline in 26 years (Figure 1). Overall, the economy grew by a modest 1.1 percent in 2008. The positive growth rate was largely due to a relatively robust performance in the second quarter of 2008 when the economy grew by 2.8 percent thanks in large part to tax rebates which propped up consumer spending and real economic activity.

The crisis in the financial sector spread relatively quickly to the real economy with both the third and fourth quarters of 2008 posting negative growth rates. Given the depth and the breadth of the meltdown, more contractions in real economic activity are expected. The current real GDP growth rate may not have fully absorbed all shocks to the economy, since it tends to be a lagging indicator, incorporating only partially the likely trends that shape the course of future economic developments. On average, an adverse financial shock filters through the economy with a lag of roughly six months. A

systemic financial crisis like the one of mid-September is likely to have a sharply more adverse impact on economic activity.

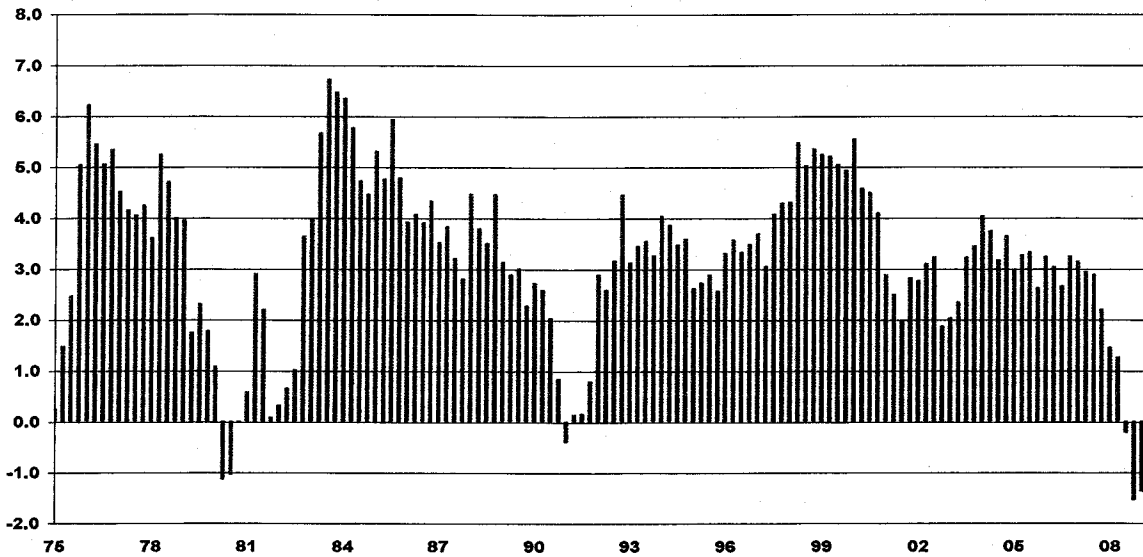
Figure 1
U.S. Real GDP Growth
(percent q-o-q)



Consumption Spending, Private Investment and Labor Market

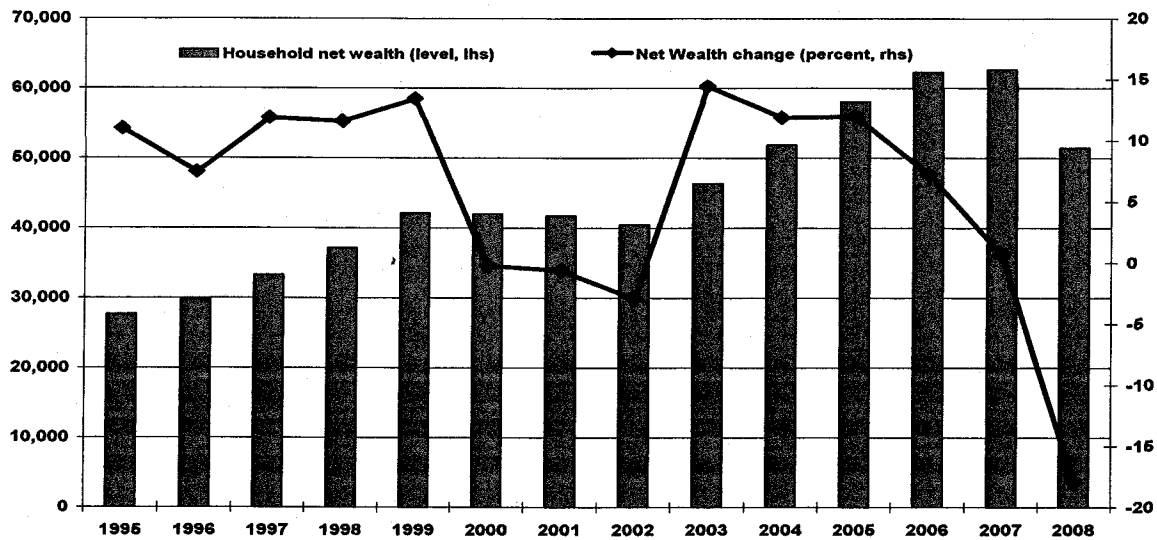
Consumer spending is a major part of the U.S. economy. It constitutes 71% of the real GDP while investment accounts for 14%, exports 13%, and government spending for 17%. Faced with mounting job losses, uncertainty about work over the near term, falling home prices, rising debt and a relentless erosion of wealth, consumers have scaled back substantially in their purchases. Consumer expenditures fell in the last two quarters of 2008, posting a decline of 3.8% (2008 Q3) and 4.3% (2008 Q4). The cumulative decrease is the largest since the recession of the early 80s (Figure 2).

Figure 2
U.S. Consumption Expenditures
(percent y-o-y)



Recent data shows that the median net worth of American households, which increased by a healthy 17% between end-2004 and end-2007, was completely wiped out during 2008 (Figure 3). Estimates indicate that the median family was 3.2 percent poorer in October 2008 compared to the end of 2004. Households lost an estimated \$12 trillion in net wealth during 2008, half of which occurred in home values and the other half from investment in the financial sector. We anticipate that the process of consumer deleverage will continue throughout 2009 as households increase saving rates to make up for some of the lost wealth. The decrease in consumer expenditure will place additional strains in the economy given the large impact of consumer spending in real economic activity.

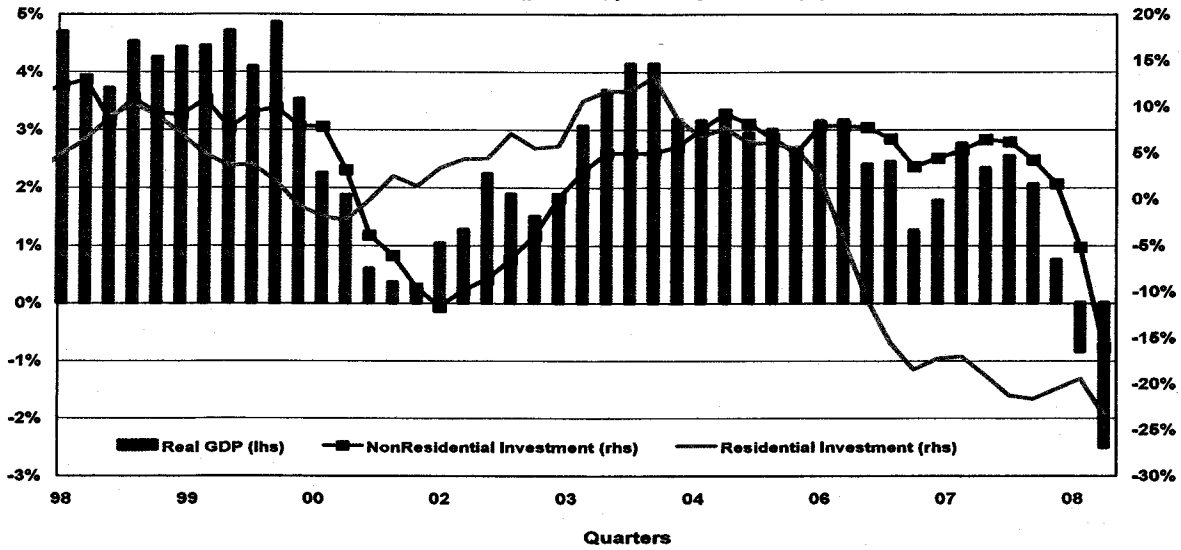
Figure 3
Household Net Wealth
 (billions of dollars and percent changes)



Private investments have declined for the ninth straight quarter (on a year-over-year basis) reflecting decreased activity in residential and non-residential construction, lack of investment opportunities and increased caution on the part of businesses to embark on new projects. Residential investments declined by 20.6% and 19.4% in the last two quarters of 2008. Given the large inventory of unsold homes, residential investment is expected to continue its current downtrend well into 2009. Non-residential investments, which comprises the larger portion of private investments and includes expenditures on structures (commercial buildings, retail stores, industrial plants, warehouses) and durable equipments (computers, information processing industrial and other equipments), posted the first decline in five years in the fourth quarter of 2008. Non-residential investments are a good leading indicator of future economic performance with a sluggish pace in non-residential

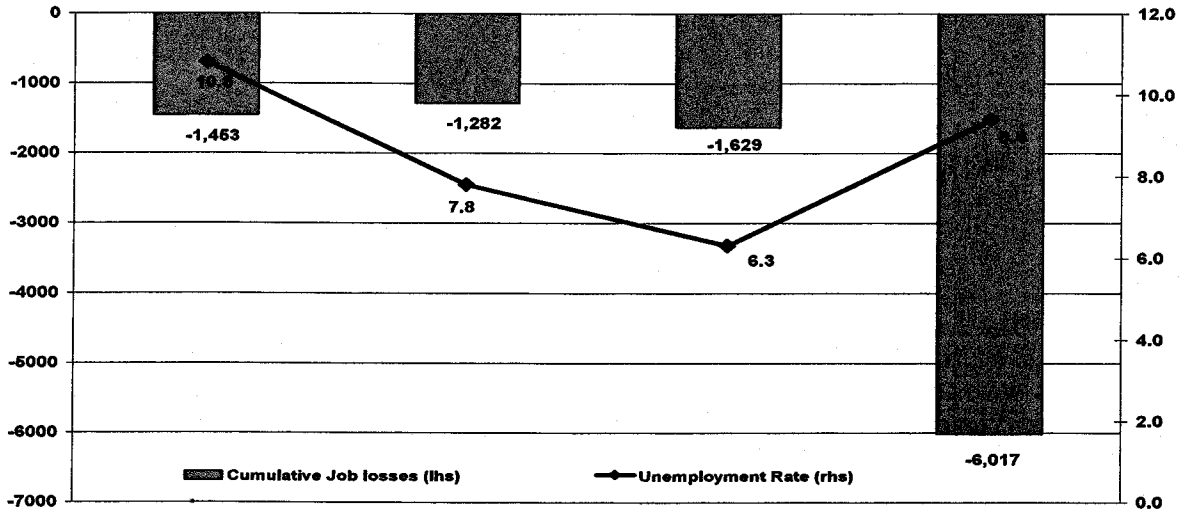
investments usually followed by lower growth rates in real GDP (Figure 4).

Figure 4
Real GDP, NonResidential and Residential Investments
(percent, year-on-year change)



An even bleaker picture emerges in the labor market where the last five months have shown record-breaking job losses of above 600,000 per month. Since the start of the recession (December 2007), the economy has lost a total of 5.1 million jobs, over 2 million of which occurred in the first quarter of 2009. This is the deepest and fastest pace of job destruction compared to previous postwar recessions (Figure 5).

Figure 6
 Historical Cumulative Job losses and Unemployment Rate
 (thousands of employees)



Job losses are widespread across all sectors and the only large sector currently adding jobs is health care. The employment diffusion index has hovered around 20% since December which indicates that for every business adding jobs, five are cutting. The numbers beneath the headline are even more alarming. A total of 8.2 million full-time jobs have been lost since the beginning of recession which is around 3 times as much as most of the previous recessions. Some of the individuals losing a full-time job were pushed into the part-time category which has increased by 2.3 million since December 2007. The unemployment rate rose to 8.5%, a 25-year high. If we look at the long-term unemployment rate which includes marginally attached workers, discouraged workers, and part-time workers for "economic reasons," the unemployment rate is as high as 15.6%. Initial jobless claims and unemployment claims continue to rise indicating that the pressure in the labor market is unlikely to ease up in the near

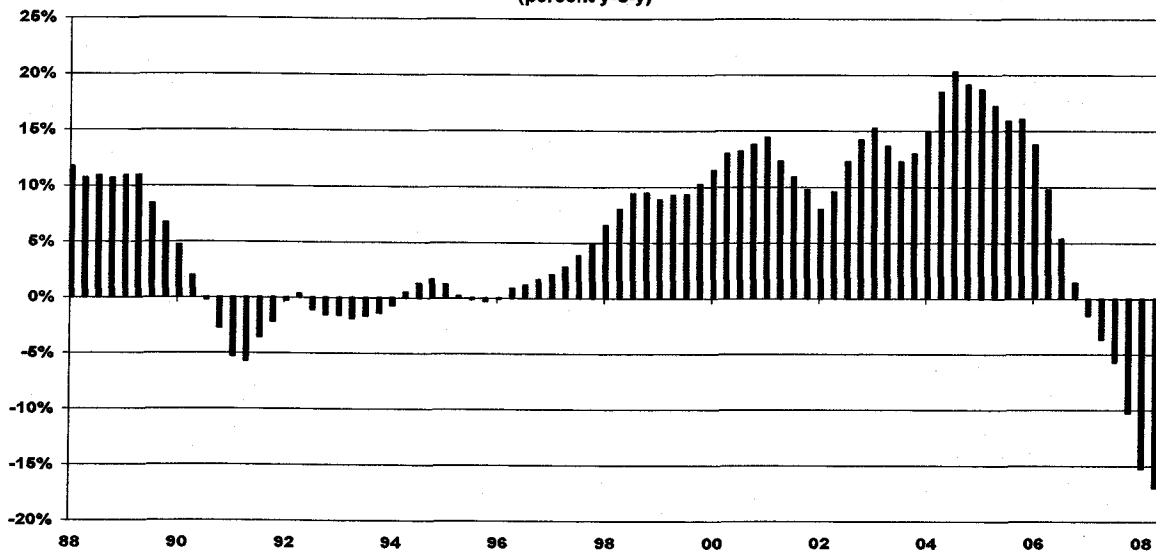
future. This trend is expected to continue for the remainder of this year and in early 2010, though the pace of job destruction should moderate in the coming months.

Over the near-term, the forecast for the U.S. economy is bearish. U.S. real GDP is expected contract by 2.3 percent in 2009 and grow by a modest rate of 1 percent in 2010. The economy is expected to shed between 3.8 to 4.2 million jobs in the current year, with the pace of job losses moderating during the second half of 2009 and in early 2010. The unemployment rate is forecasted to reach 9.5 percent by year-end and hit double digits in the first half of 2010. Recovery should be long and protracted and will likely stretch over 2011 and 2012 with real output expanding below capacity-level. In the long-run, based on historical cyclical trends, our overall assessment of the U.S. economy is positive with long-run growth at roughly 3 percent.

Housing Market

Housing market has continued to deteriorate and has not yet reached a bottom. As of January 2009, average home prices are at the same level as in the third quarter of 2003. From the peak of mid-2006, house prices have fallen by 19.5% which implies a decrease in real terms of 27 percent (Figure 6).

Figure 6
National House Prices: Case/Shiller Index
(percent y-o-y)



Massive job losses, mortgage resets and a continued collapse in house values have increased the foreclosure rate, which as of December 2008, stood at 3.3% close to triple the historical average. In fact, 7.88% of all mortgages outstanding are now delinquent. Mortgage resets are expected to increase during the 2010-2012 period averaging around \$35-\$40 billion per month. Resets are likely to affect Alt-A and option-adjustable rates loans issued during 2005-2007 placing additional strains in the housing sector and resulting in a second wave of foreclosures. In addition, existing home sales are currently at the same level as in 1998, which is quite remarkable considering that the population has increased by 25 million people since then.

Despite historically low mortgage rates, the imbalance between supply and demand for housing persists. Tougher credit standards, uncertainty about job and income prospects, and expectation of further house price declines has sidelined buyers leaving the inventory of

unsold homes at record-high levels. Housing starts dropped from an annual rate of 2.1 million in mid 2005 to 0.6 million in February 2009. Roughly 12 million homes have negative equity which means these homes cannot be refinanced. The main indices compiled by the National Association of Homebuilders (NAHB) - homebuilder sentiment, single family sales and buyer floor traffic - continue to set new low-levels reflecting a widespread sentiment that the housing market correction has still a ways to go.

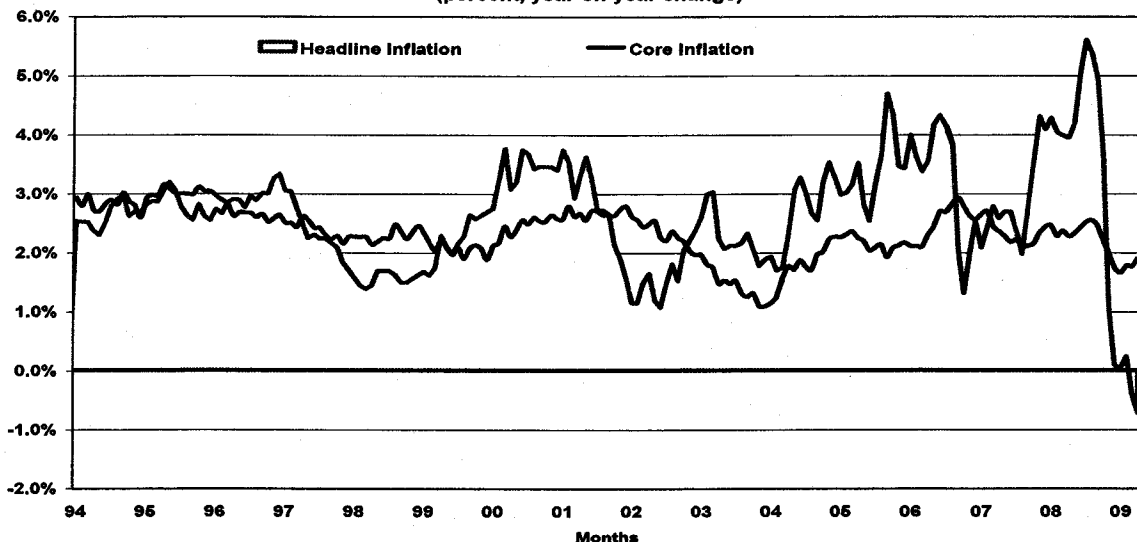
The bottom of the current housing downturn is likely to occur in late 2009-early 2010 with home prices likely to decline an additional 8-10 percent from their current levels. Our forecasts suggest that the recovery will be a rather sluggish process as financial institutions face further losses and the need to raise more capital, lenders implement tighter standards, and housing demand remains sluggish in the face of mounting job losses.

C2. INFLATION

In the span of less than one year the economy has swung from one extreme of high oil prices and escalating inflation to a scenario where deflation is one of the main risk factors. The consumer price index (CPI), which includes both food and energy prices dropped by 0.4% on a year-to-year basis in March 2009 (Figure 7). For core inflation, which excludes volatile prices such as food and energy, the average annualized rate during the current year is 1.8%, well below the 2.3% rate that prevailed in 2008. Deflationary forces are gaining steam also in the labor market: in March the average weekly earnings -

a proxy for wage income - slipped 0.1% dragging the year-over-year trend to 1.5% from 2.1% in February and 2.5% in January.

Figure 7
U.S. Headline vs Core Inflation
(percent, year-on-year change)



As economic activity continues to deteriorate and demand slumps, the risk of deflation becomes a bigger concern. The US economy is deflating for the first time in more than half a century. Deflation can further destabilize the economy since it increases the value of debt and it allows little room for effective monetary policy. The Federal Reserve has taken unprecedented steps to stem the deflationary tide by injecting massive amounts of liquidity into the financial sector. Nonetheless, headline inflation is expected to average only around 0.1 percent in the current year and around 1.3 percent in 2010, well below the historical average of around 3 percent.

Oil prices had collapsed from a July peak of \$147 to around \$30 towards the end of 2008, and have currently settled at slightly below the \$50 mark. Crude oil is expected to range between \$45-\$55 for the

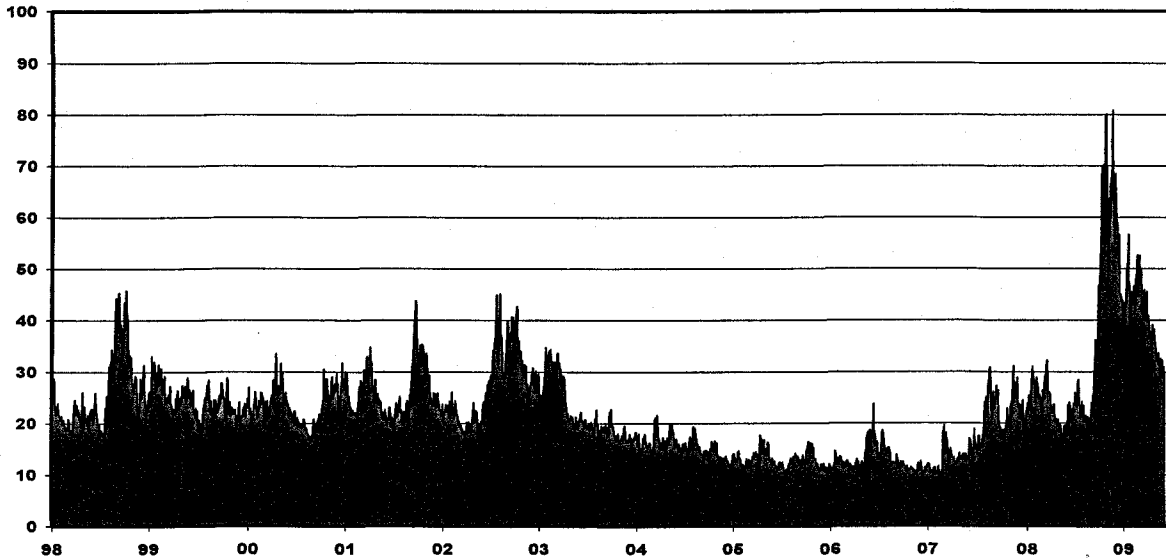
rest of the year as domestic demand continues to remain weak, global economic growth stalls, and the demand for oil from emerging economies decreases significantly reflecting the current slowdown in economic growth.

While deflation seems to be the major concern over the next six to eight quarters, the risks of a future inflationary surge are high. The unprecedented liquidity that is currently being injected in the market by central banks around the globe to shore up the financial sector and the broader economy is likely to increase inflationary pressures when economic conditions start to turn around.

C3. FINANCIAL MARKETS AND GOVERNMENT INTERVENTION

After the near-system collapse of mid-September 2008, the financial sector continues to remain in crisis-mode which is exacerbated by the adverse feedback loop that links the real economy and the financial sector. From the peak of October 2007 to the lowest value recorded in mid-March 2009, share prices have plunged by 53 percent, the deepest and fastest pace of decline since the Great Depression (Figure 8). This translates to wealth destruction in the neighborhood of \$8.5 trillion.

Figure 9
Volatility Index



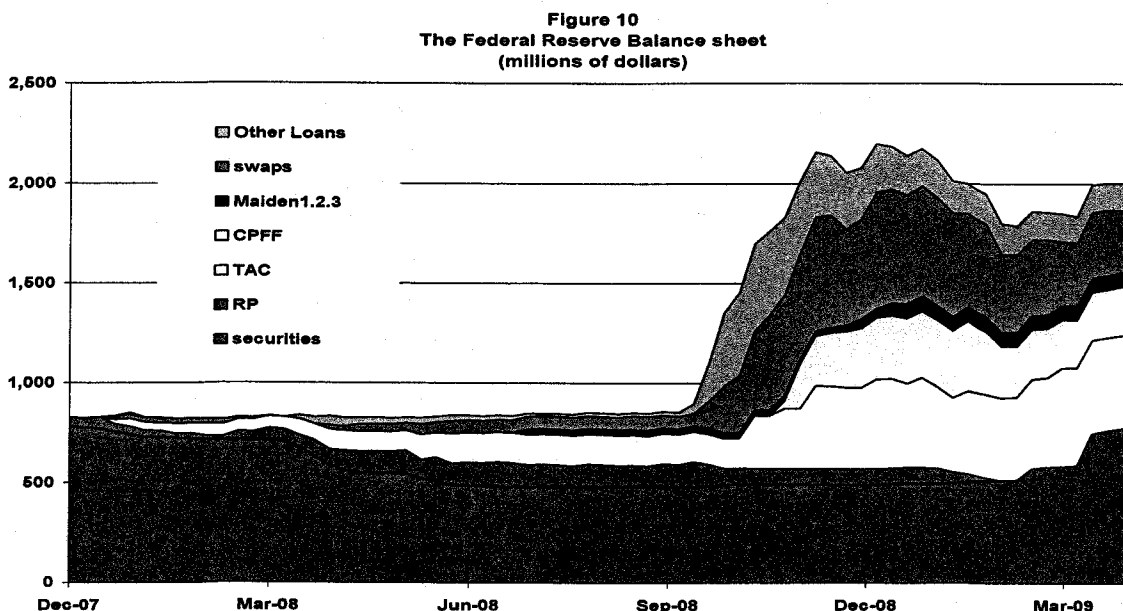
Despite these positive news, the financial sector is likely to experience further shockwaves during this year. Banks are still highly exposed to "toxic" loans and securities. The number of delinquent loans is expected to increase as unemployment rises and tight credit market makes it difficult for people to refinance or purchase new homes. As the quality of loans and mortgage-backed securities deteriorates, banks' balance sheets weaken further, placing additional structural strains in the financial sector leading to undercapitalization and insolvency.

Losses from the "toxic" assets originated in the U.S. are estimated to spiral upward to around \$3-3.5 trillion over the next few quarters, half of which will accrue to the U.S. banking system and the other half abroad. So far, U.S. banks and insurers have owned up to \$800 in write-downs which puts the remaining aggregate charge-off for all U.S. banks in the neighborhood of around \$1 trillion. The entire

U.S. banking system has roughly \$1.5 trillion in capital, which means that new equity (public or private) is needed to recapitalize the banking sector.

The U.S. government has taken unprecedented actions to prevent a systemic collapse and stabilize the economy. The total amount of money that has been injected into the system so far through various government entities (the Federal Reserve, Treasury, administration, FDIC, and FHA) is in excess of \$4 trillion. This amounts to a little more than one third of the entire U.S. real economic output produced in one year.

The Federal Reserve (Fed) has been perhaps the most active of all government agencies during the current crisis. After lowering the target federal fund rate close to the zero bound, the Fed has abandoned all traditional tools of policy-making engaging in what is now known as "credit easing." To improve the functioning of the credit markets and provide additional support to the economy, the Fed has established and expanded a number of liquidity programs ranging from underwriting commercial paper to guaranteeing certain money market funds, expanding currency-swap agreements with foreign central banks, and lending directly to market participants. As a result of these actions, the Federal Reserve's balance sheets have swollen from \$870 billion before October 2008 to upwards \$2.3 trillion (Figure 10).



Given the severity of this recession, the Fed is likely to leave its target federal funds rate unchanged well into 2010. We expect the Fed to continue its credit easing over the current year and slowly remove the accommodative bias in late 2010 to early 2011 as signs of economic stability materialize.

Other branches of the government have also provided support for the economy. The Treasury has unveiled some details of a plan for removing the toxic securities from banks' balance sheets. The Public-Private Investment Program (PPIP) plan, as the name suggests, proposes that private and public funds be used to purchase these securities with the FDIC guaranteeing the major portion of the purchase. When calculated, the real risk to the private investor is about 7 percent, which makes this a very lucrative opportunity for investment funds. While the subsidy to investors provides a powerful incentive to bid up prices in a competitive auction, banks that own particularly toxic

assets or have thin capital buffers may still find a potential write-down at market-clearing prices prohibitive and some may need to be recapitalized after realizing the loss.

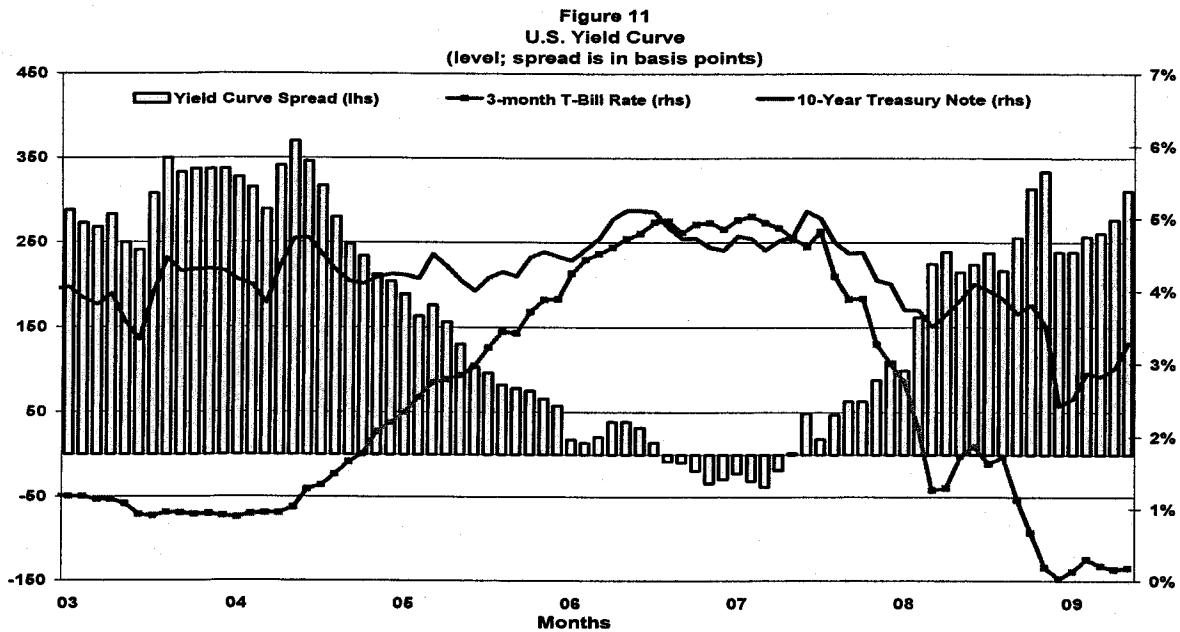
Simultaneously, the Treasury is also performing "stress tests" on the largest 19 U.S. banks with the aim of evaluating the overall health of their balance sheets. Reports from the stress tests are expected by early May, at which time banks that are found undercapitalized have six months to raise private capital. Estimates so far indicate that the test may reveal deep structural weaknesses for some banks, which may require additional capital infusion from the government or even placing these financial institutions in temporary receivership.

In February 2009, Congress passed the American Recovery and Reinvestment Act with a 10-year price tag of \$787 billion. The massive stimulus bill contains \$288 billion in tax relief to individuals and businesses, \$144 billion to state and local governments, and \$347 billion to federal spending programs and federal social programs. Around \$100 billion of the federal spending is allocated to high-impact infrastructure projects.

The stimulus bill should have an impact on the economy but this effect may be overstated for three reasons. First, the stimulus package is relatively back-loaded with less than 20% of the overall impact occurring in the current fiscal year. Second, tight credit markets may limit the "multiplier" effect of the government spending because businesses who employ workers for a designated project may still have trouble expanding their capital base due to tighter lending

standards. Third, as net wealth declines, the propensity to consume diminishes and consumers are likely to save much of the coming tax cuts.

The continued decrease in policy rates by the Fed have significantly lowered the short end of the yield curve with the 3-month T-Bill remaining below the 1% level since October 2008, currently settling at 0.10%. The 10-year note has also declined significantly staying below 3% since the beginning of the crisis (Figure 11). The spread between the 10-year and 3-month rates has continued to remain relatively large, most likely reflecting uncertainty about future inflation and a continued accommodative stance in monetary policy. The 3-month rates are expected to stay around 0.2 to 0.5% in 2009. Long term bond yields are likely to maintain their current levels for the remainder of the year as deflationary pressures are slightly offset by decreased foreign purchases of U.S Treasuries.



C4. GLOBAL ENVIRONMENT

The world economy, particularly developed nations, has performed worse than the U.S. economy since the beginning of the crisis. Troubles in the US financial sector sent shockwaves around the world crippling both industrialized and emerging economies' equity markets. There are many reasons for this financial contagion. First, financial markets have become much more interdependent during the globalization process. Second, the "toxic" assets that have become the major liability for US financial institutions were sold to international investors, spreading the risk across the globe. China alone holds \$376 billion of Freddie Mac and Fannie Mae's long-term debt. Third, neither Europe nor Asia were immune to the housing bubble; Europe in particular (Great Britain, Spain and Ireland) have had excesses in the housing sector that parallel those of the United States. Fourth, a U.S. slowdown spells trouble for export-growth economies such as Japan

and China which receive much of their economic boost from American consumers.

The global economic slump is expected to continue for the remainder of the year and in early to mid-2010. A few emerging countries (such as China and India) should post positive growth rates in the neighborhood of 5-6 percent. This marks a sharp decline in the pace of economic growth for these nations, which has averaged 9-10 percent over the last few years.

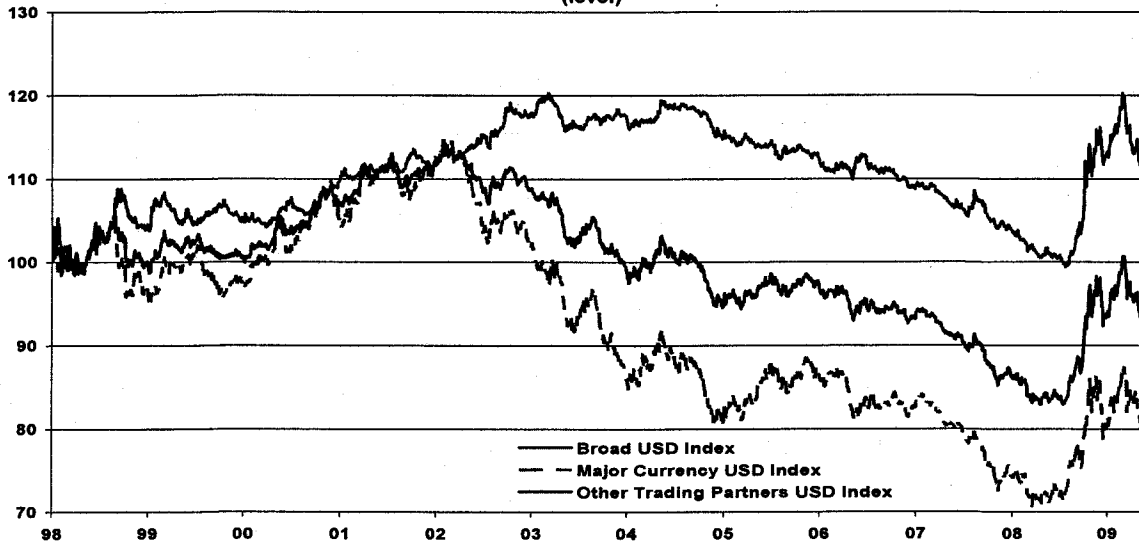
The decline in U.S. consumption has brought forth adjustments in the international trade sector. In 2008, exports grew by 6.2 percent while imports declined by 3.5 percent. Export growth is expected to exceed the rate of imports over the forecast horizon as the US economy grows at a slower pace than its emerging market counterparts (China and India in particular). Nonetheless, our models forecast short-term trend reversals (such as the decline in export growth rate in 2013), reflecting trends in the global economy, changing patterns in the terms of trade, and exchange rate adjustments.

These structural changes have a positive impact on the U.S. current account deficit, which has declined from a high of \$825 billion (6.23% of RGDP) in the third quarter of 2006 to \$502 billion (3.5% of RGDP). Our forecasts indicate that while the U.S. current account will remain negative over the next 5 years, the deficit should continue to decrease.

The current economic landscape has broad implication for the U.S. dollar. From February 2002 to October 2008, the dollar declined by 33% against industrialized currencies and 4% against emerging markets.

The dollar has appreciated steadily since the onset of the financial crisis against all trading partners (Figure 12). The appreciation of the dollar can be attributed to the current global economic landscape. Asian central banks hold vast amounts of U.S. debt and a depreciation of the dollar would translate in sizable investment losses. Europe and Japan cannot afford sharp currency appreciation against the dollar since this would add more woes to their already anemic economies.

Figure 12
US Dollar Indices
(level)



For the remainder of 2009, we expect the dollar to post marginal gains against both industrialized and emerging economies as the former struggle to avoid recession and the latter attempt to maintain growth. During 2010, the dollar is expected to depreciate at a modest rate of 3-4% against emerging market economies but appreciate against developed nations, reflecting adjustments in these currencies that align with economic fundamentals.

C5. Projections of Key National Economic Variables

Table 8a
National Economic Variables
Real Gross Domestic Product
(percent)

Year	RGDP	Consumption	Residential Inventory	Non Residential Inventory	Exports	Imports
Historical						
2006	2.8	3.0	-7.1	7.5	9.1	6.0
2007	2.0	2.8	-17.9	4.9	8.4	2.2
2008	1.1	0.2	-20.8	1.6	6.2	-3.5
Forecast						
2009	-2.34	-1.92	-18.6	-2.4	1.32	-5.24
2010	1.25	0.83	-3.52	1.68	2.56	-3.25
2011	2.53	1.62	1.33	4.72	4.65	1.57
2012	2.98	3.35	3.12	7.82	5.83	3.86
2013	3.90	2.78	6.27	5.23	3.25	3.72
2014	2.89	3.58	8.12	5.52	6.84	4.56

Table 8b
National Economic Variables
Inflation and Labor Market
(percent)

Year	Headline CPI	Core CPI	Wage/Costs Labor Compensation	Unemployment	Payroll Employment	Labor Productivity
Historical						
2006	3.24	2.51	3.80	4.62	1.79	0.95
2007	2.85	2.33	4.14	4.63	1.11	1.43
2008	3.85	2.30	3.75	5.81	-0.40	2.83
Forecast						
2009	0.10	1.58	2.58	8.9	-3.24	0.95
2010	1.56	1.72	3.25	10.1	-1.79	1.54
2011	4.63	2.24	3.68	8.8	0.32	2.14
2012	4.17	3.25	4.02	7.6	1.13	1.78
2013	2.95	2.87	4.25	6.9	1.56	2.08
2014	3.28	2.55	3.82	6.2	1.76	2.16

Table 8c
National Economic Variables
Financial Assets, Current Account, Exchange Rate
(percent)

Year	Federal Funds	3 Month T-bill	10-Year Note	30-year Mortgage	Current Account % of GDP	US Dollar Index percent change
Historical						
2006	4.96	4.73	4.79	6.41	-5.86	-1.98
2007	5.02	4.35	4.63	6.34	-5.21	-4.72
2008	1.93	1.37	3.67	6.04	-4.58	-3.45
Forecast						
2009	0.22	0.27	2.68	4.98	-3.38	2.84
2010	0.85	0.79	3.28	5.20	-2.56	0.83
2011	1.56	1.35	4.05	5.78	-2.35	-3.94
2012	2.86	2.47	4.86	6.12	-1.94	-4.69
2013	4.03	3.96	4.92	6.82	-2.18	-2.16
2014	3.88	4.02	5.26	6.65	-1.72	-1.45