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June 2018 Report

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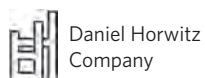
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September 26, 2018  
December 2018  
March 2019  
March 2019  
March 2019  
June 2019

## THE UCLA ANDERSON FORECAST FOR THE NATION AND CALIFORNIA

June 2018 Report

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## THE UCLA ANDERSON FORECAST FOR THE NATION

JUNE 2018 REPORT

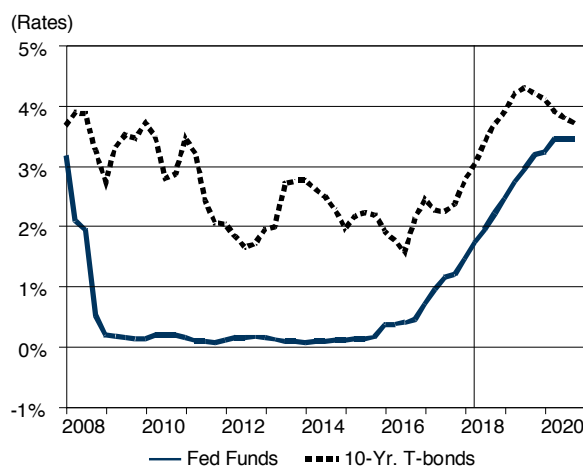
The Best of Times and the Worst of Times for Housing

# Interest Rates Move to the Center Stage

David Shulman  
Senior Economist, UCLA Anderson Forecast  
June 2018

The era of ultra-low interest rates is behind us. With the yield on the 10-year U.S. Treasury Note surpassing 3% and with the Federal Reserve set to push up the Fed Funds rate above 2%, interest rates are well on their path to normalization. (See Figure 1) To be sure, we are not forecasting yields to reach their pre-crisis levels of 5%+ for both short-term and long-term rates, **but a Fed Funds rate north of 3% and a 10-Year Treasury yield north of 4% for late 2019 will seem awfully high compared to the past decade.**

Figure 1 Federal Funds vs. 10-Year U.S. Treasury Bonds, 2008Q1-2020Q4F



Sources: Federal Reserve Board and UCLA Anderson Forecast

The rise in rates is being propelled by high inflation, higher wages, an exploding federal deficit and the quantitative tightening policy adopted by the Federal Reserve. An added wrinkle is the sale of fixed income securities by corporations utilizing their newly repatriated cash to buy back stock.

## The Italian Job

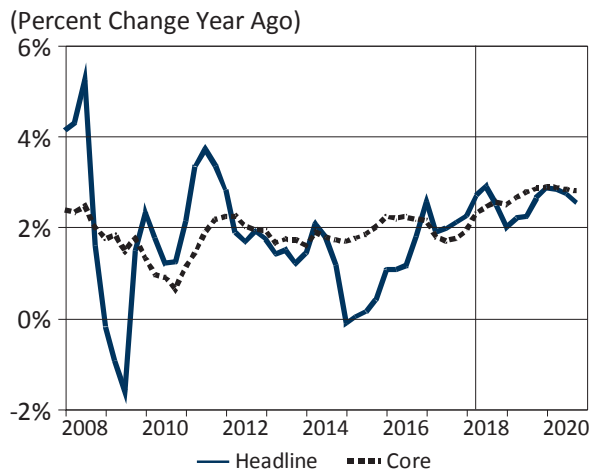
Our interest rate forecast is largely based on domestic considerations. Now, all of a sudden, a political crisis involving the Euro in Italy along with monetary problems in Argentina and Turkey has triggered a flight to quality causing 10-Year treasury yields to plummet 30 basis points from 3.1% to 2.8% over a two-week period. **The flight to quality can best be seen in the Euro-area bond markets where over a four-week period ending May 29, Italian 10-Year yields spiked by 138 basis points from 1.8% to 3.18% while German yields were cut in half dropping from 58 basis points to 26 basis points. However, markets calmed down the next day.** At this point we do not know how this will work out and it will largely be dependent on the Italian electorate's position on the Euro. If the electorate decides to leave, we will face a currency/solvency crisis in the heart of Europe bringing with it even lower yields. While if the Italians decide to stay, yields will quickly snap back to where they were before. Because we do not view ourselves as experts on Italian politics we will stick to our U.S. interest rate forecast based on domestic considerations. Recall post-Brexit after dropping precipitously in the summer of 2016, markets quickly normalized.

## INTEREST RATES MOVE TO THE CENTER STAGE

### The Domestic Backdrop for Higher U.S. Interest Rates

With year-over-year inflation as measured by the consumer price index already exceeding 2% and likely to be in the 2.5%-3% range over the forecast period, real bond yields, instead of being negative, will run in the 1%-2% range. (See Figure 2) Further, with the economy operating at full employment, wage increases will break out of the 2.5% recent growth rate to approach 4%. (See Figure 3)

Figure 2 Consumer Price index vs. Core CPI, 2008Q1 -2020Q4F



Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

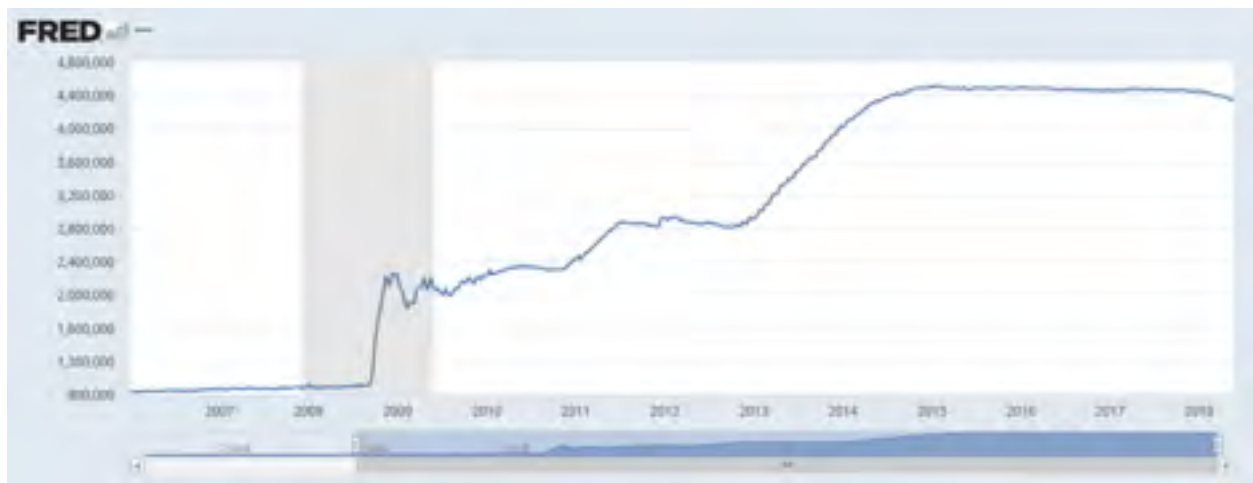
Figure 3 Employee Compensation, 2008Q1 - 2020Q4F



Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

Further upward pressure on interest rates will come from the Fed's policy of quantitative tightening as it continues its course to reduce its balance sheet from approximately \$4.4 trillion to about \$2.8 trillion over the next few years. Thus, instead of buying bonds as it did during 2008 – 2015, the Fed has become a net seller. (See Figure 4) Adding to the supply is the Trump Administration's all-out fiscal policy of spending hikes and tax cuts layered on a fully employed economy. As a consequence, the federal deficit is forecast to increase from \$666 billion in 2017 to **\$1.06 trillion in 2020**. (See Figure 5)

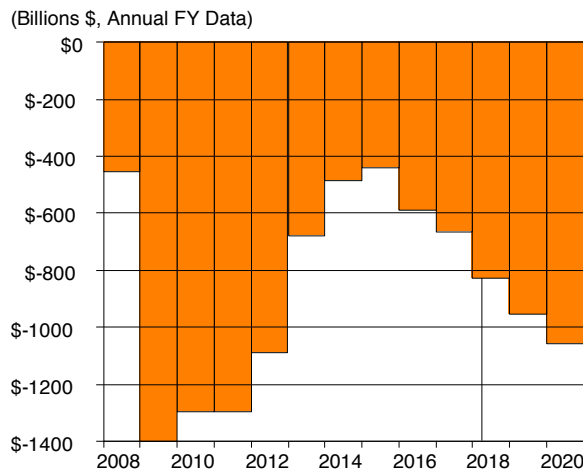
Figure 4. Federal Reserve Assets, 2006 - 23May2018, In \$Billions



Source: Federal Reserve Board



Figure 5 Federal Deficit, FY 2008 - FY 2020F

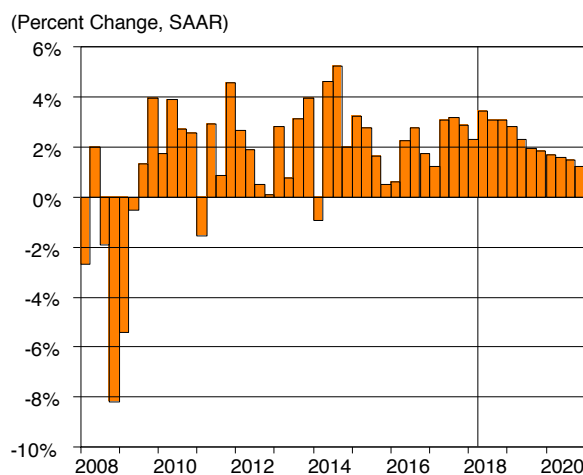


Sources: Office of Management and Budget and UCLA Anderson Forecast

### The 3-2-1 Economy

Although we expect real GDP growth to pick up to 3%+ for the balance of the year, up from the first quarter's 2.3% pace, we expect growth to fade in 2019 and 2020 as higher interest rates take their toll. In round numbers on a fourth quarter-to-fourth quarter basis, think of the economy growing at 3% in 2018, 2% in 2019 and 1% in 2020. (See Figure 6) Another way of looking at it is that a fully employed economy has difficulty growing without substantial increases in productivity.

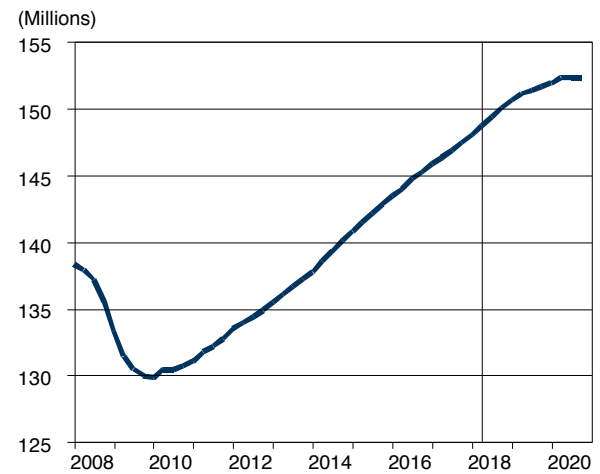
Figure 6. Real GDP Growth, 2008Q1 -2020Q4F



Sources: Department of Commerce and UCLA Anderson Forecast

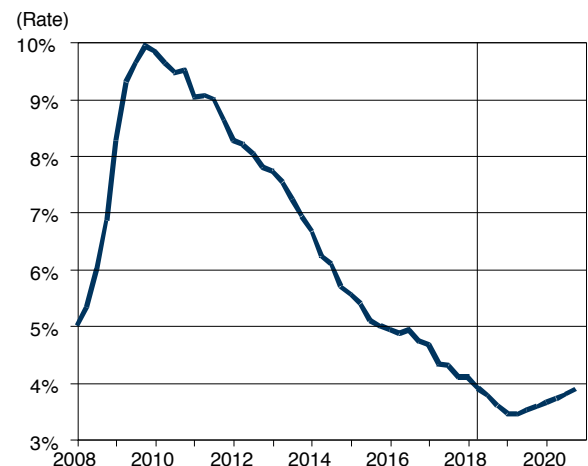
As the economy bumps against its full employment ceiling, job growth will noticeably decelerate over the forecast horizon. For example, employment growth averaged 200,000 jobs/month in 2017; it will average 133,000/month for the remainder of this year and then decline to 85,000/month and 60,000/month in 2019 and 2020, respectively. (See Figure 7) Concomitantly, the unemployment rate will decline from its current 3.9% to 3.4% in mid-2019 and then gradually return to 3.9% by the end of 2020. (See Figure 8)

Figure 7 Payroll Employment, 2008Q1 - 20120Q4, In Millions, SA



Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

Figure 8 Unemployment Rate, 2008Q -2020Q4F, SAAR



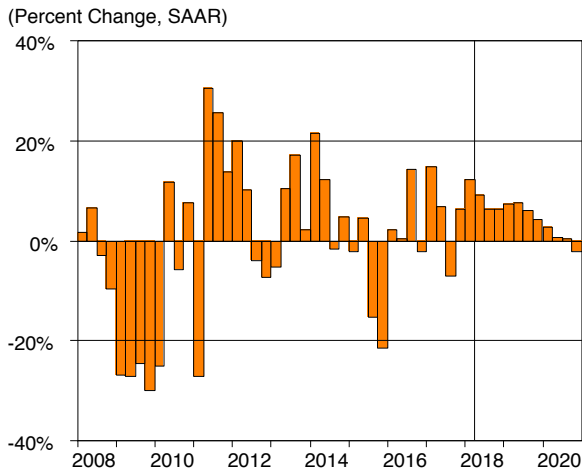
Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

## INTEREST RATES MOVE TO THE CENTER STAGE

### Business Investment Drives the Bus

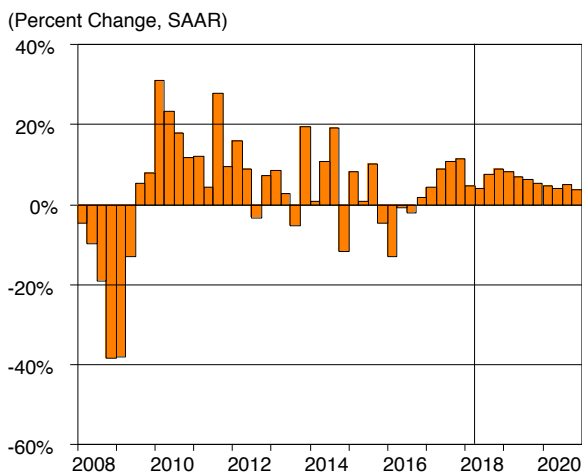
Spurred by a major reduction in corporate tax rates, 100% expensing for equipment purchases and deregulatory policies coming out of Washington, D.C., we forecast business investment to continue to be the driving force in the economy. For both 2018 and 2019, we forecast real investment in both business equipment and structures to increase at an approximate 7% clip. (See Figures 9 and 10) However, growth will slow in 2020 as the effects of 100% expensing wane.

Figure 9 Real Equipment Spending, 2008Q1 - 2020Q4F



Sources: U.S. Department of Commerce and UCLA Anderson Forecast

Figure 10 Real Investment in Business Structures, 2008Q1 - 2020Q4F

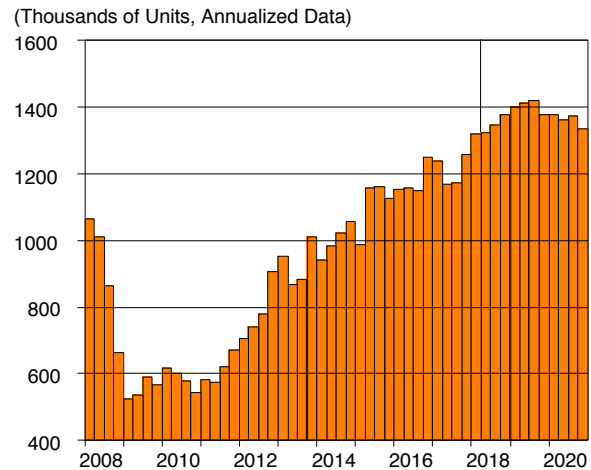


Sources: U.S. Department of Commerce and UCLA Anderson Forecast

### Housing Activity Growing, but Less than Robust

Housing activity has been the great disappointment of the economic recovery and expansion that began in 2009. To be sure, housing starts have more than doubled off their moribund lows of 2009-2011, but still remain well below their long-term average and a far cry from the earlier boom periods.<sup>1</sup> Specifically, we are forecasting housing starts to increase from 1.21 million units in 2017 to 1.34 million units and 1.40 million units in 2018 and 2019, respectively. (See Figure 11) However, we see housing starts declining in 2020 to 1.36 million units as the lagged effects of higher interest rates and a slowing economy inhibit new construction.

Figure 11 Housing Starts, 2008Q1 - 2020Q4F



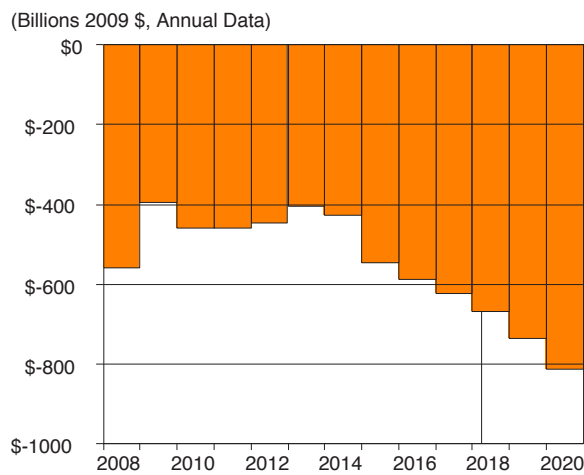
Sources: Bureau of the Census and UCLA Anderson Forecast

### Trade Remains the Biggest Downside Risk

**Despite all of the bluster, some of which is legitimate, coming out of the Trump Administration decrying the U.S. trade deficit, the trade deficit, in terms of real net exports, is forecast to increase from \$622 billion in 2017 to \$814 billion in 2020. (See Figure 12) Why? The trade deficit is the result of the U.S. consuming more than it produces which is the result of a very low national savings rate. Thus, in order to reduce the deficit, the U.S. has to save more and/or produce more domestically. Over the near-term it is hard to produce more, but the high deficit fiscal policy of the Trump Administration reduces national savings requiring**

1. See Shulman, David, "The Best of Times and the Worst of Times for Housing," UCLA Anderson Forecast, June 2018

Figure 12 Real Net Exports, 2008Q1 -2020Q4F



Source: U.S. Department of Commerce and UCLA Anderson Forecast

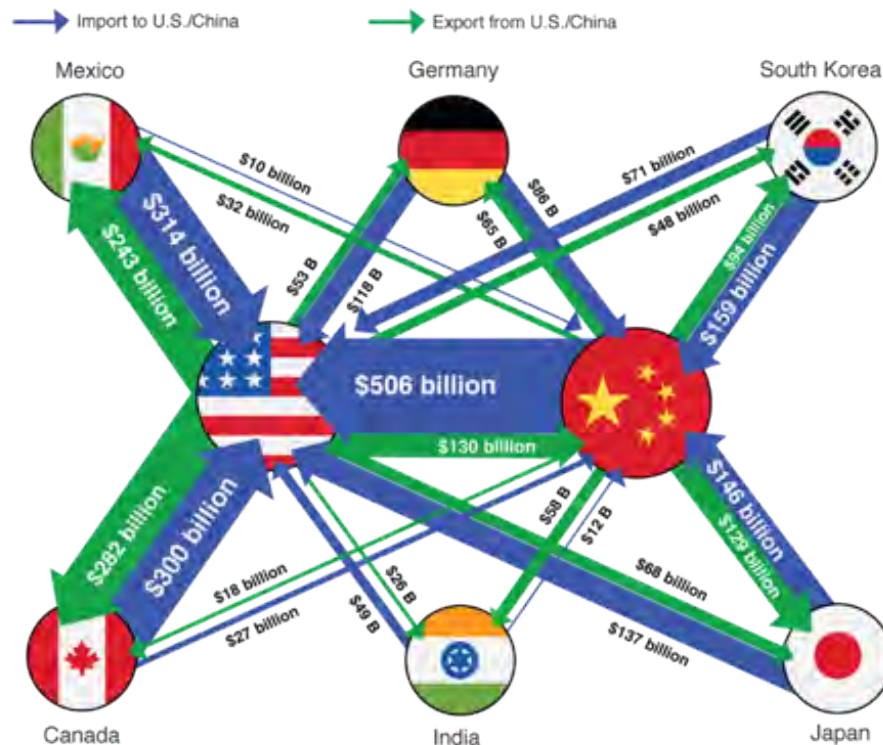
us to import more. All the Trump Administration can do is move around the trade deficit among our import partners.

The risk to the forecast is that with all of the talk about a trade war with China and repealing NAFTA, we can sleepwalk into a serious economic accident. For example, in 2017 the U.S. imported a total of over \$1.3 trillion dollars of goods from China, Mexico, Canada, Japan and Germany. (See Figure 13) A trade war implies higher tariffs and non-tariff barriers that work as a tax on the American people that would raise prices and restrict output. That is hardly the recipe for economic growth. And because it is hard for import using industries to shift sources in the short-run, there exists the threat of very real economic dislocations. **Put bluntly, the administration is playing with fire** and the recent nervousness in the stock market is beginning to reflect the risks associated with a trade war.

Figure 13

### Major Trade Partners With the U.S. and China

Line width represents value of traded goods



Sources: U.S. International Trade Commission (U.S. 2017 data); UN Comtrade Database (China 2016 data)

Source: Barrons

## INTEREST RATES MOVE TO THE CENTER STAGE

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### Conclusion

**The U.S. economy is leaving behind a very long period of ultra-low interest rates. Interest rates are in the process of normalizing with 10-year U.S Treasury yields reaching 4% and the Fed Funds rate surpassing 3% as economic growth accelerates and inflation exceeds the Fed's magic 2% level.** High fiscal deficits and the Fed's quantitative tightening policy will put upward pressure on interest rates. Meantime, the economy, spurred by strong business investment, should grow 3% this year. However,

growth will slow as the economy bumps against its full employment ceiling and high interest rates work to slow housing in late 2019 and 2020. Our simplified view is that we are in a 3-2-1 economy with growth on a fourth quarter-to-fourth quarter basis will be roughly 3% in 2018, 2% in 2019 and 1% in 2020. **The two major downside risks to the forecast is the potential for a trade war to break out with one or more of our major trading partners and for the uncertainty around Italian politics to broaden into a full-blown Euro-area crisis.**

■

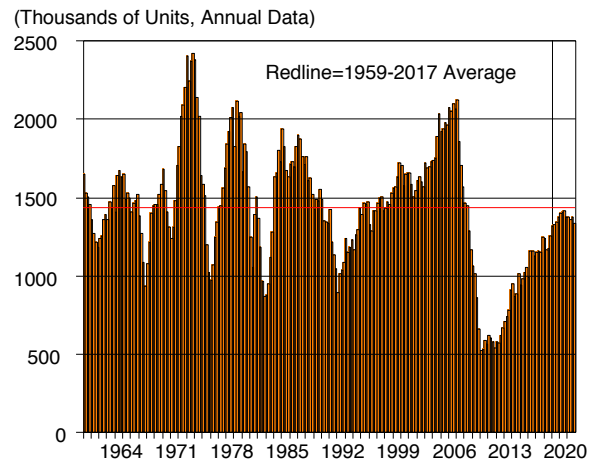
# The Best of Times and the Worst of Times for Housing<sup>1</sup>

David Shulman  
Senior Economist, UCLA Anderson Forecast  
June 2018

**The outlook for housing over the next few years depends upon where you live and how you live.** If you are a homeowner in coastal California, the Pacific Northwest, parts of the coastal northeast and such fast growing cities of Denver, Nashville and Austin you are sitting pretty enjoying rapidly increasing house prices. On the other hand, if you are a potential middle-class home buyer or a struggling renter in those areas you are facing a very personal affordability crisis. From the supply side, although housing starts remain significantly below the boom years of 2004-2006, well-capitalized homebuilders, apartment owners and construction workers find their products in great demand.

At its very essence, in contrast to historical experience, the core issue is that housing starts haven't fully recovered from their nadir of just under 600,000 units a year during 2009-2010. In 2017 housing starts amounted to 1.21 million units and we are forecasting moderate increases to 1.34 million and 1.40 in 2018 and 2019, respectively and a modest decline to 1.36 million units in 2020. (See Figure 1) Although starts more than doubled off their recession lows, the current and forecast levels remain below the 59 year average from 1959-2017 of 1.435 million units a year. Forget about the two million starts a year we experienced several times during the housing booms of the past. Simply put, the housing shortage is for real.

Figure 1 Housing Starts, 1959 - 2020F



Sources: U.S. Department of Commerce and UCLA Anderson Forecast

## Prices Rising

In response to the shortage housing prices are rising rapidly and have more than recovered from the housing crash of 10 years ago. The national Case-Shiller Home Price Index is up 47% from the low in February 2012, is now 7% above the previous peak in 2006 and is now up 97% since

1. With apologies to Charles Dickens

# THE BEST OF TIMES AND THE WORST OF TIMES FOR HOUSING

Figure 2 Case-Shiller National Home Price Index 2000 - February 2018, Monthly

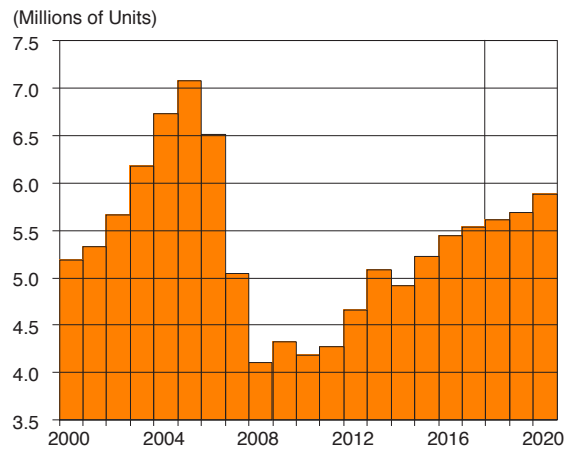


Sources: Standard and Poor's via FRED

2000. (See Figure 2) However, by way of comparison, the gains since 2000 for such hot cities as Los Angeles, Seattle, and Denver amount to 178%, 138% and 111%, respectively. Contrast that with the meager gain of 42% reported for Chicago and Atlanta. As we said at the outset, it depends where you live.

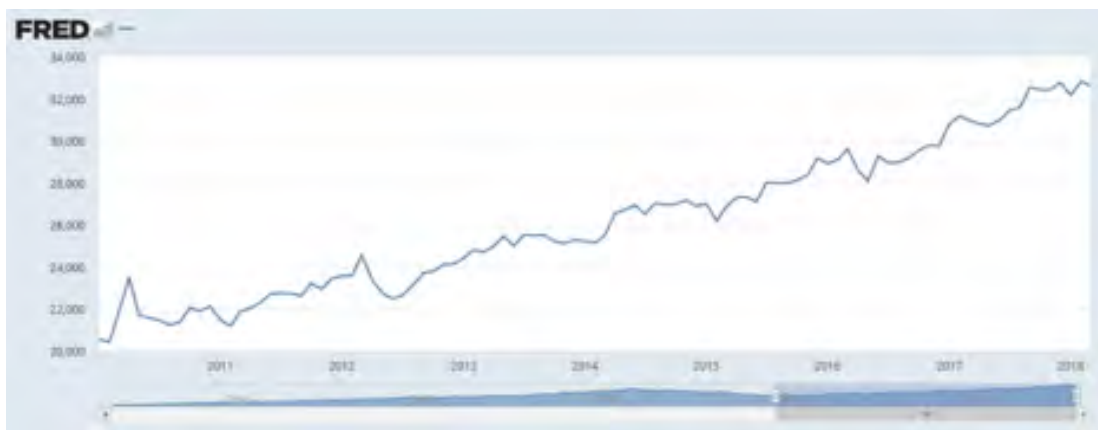
Consistent with the sluggishness in housing starts, the growth in existing homes sales remains tepid. Existing home sales in 2018 are estimated to be 5.6 million units, well below the 7.0 million peak recorded in 2005. (See Figure 3) In part, the slowdown is due to an older society aging in place and a change in retirement patterns where grandparents have been reluctant to move away from grandchildren. However, with less moving around, homeowners have chosen to invest in remodeling engendering a boom in that sector. (See Figure 4)

Figure 3 Existing Home Sales, 2000 - 2020F, Annual Data



Sources: National Association of Realtors and UCLA Anderson Forecast

Figure 4 Building Material and Garden Supply Retail Sales, 2010 - April 2018, In \$ millions, Monthly Data

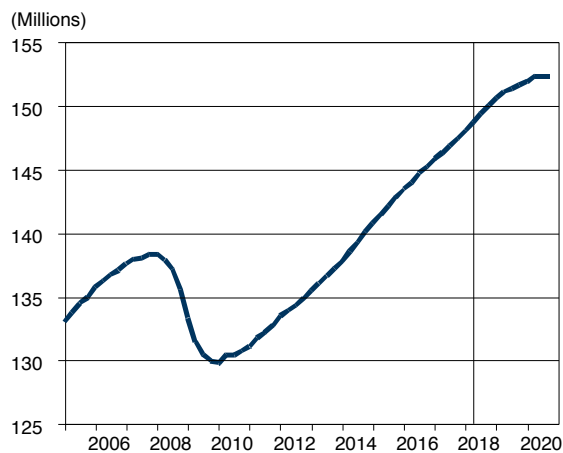


Sources: U.S. Department of Commerce via FRED

## Positive Demand Fundamentals

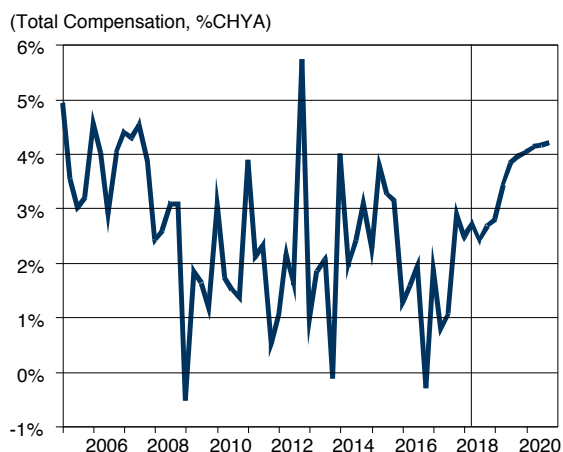
By most conventional measures housing activity should be soaring. As noted above we have witnessed a decade of under-building which has given rise to a huge pent up demand. Employment growth has been strong and employee compensation is on the rise and until very recently mortgage rates have been extraordinarily low. (See Figures 5 and 6) With delays in major lifestyle events (marriage

Figure 5 Payroll Employment, 2005Q1 - 2020Q4F



Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

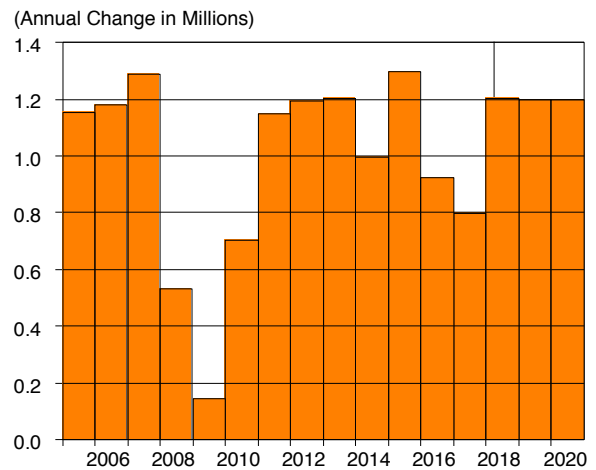
Figure 6 Employee Compensation, 2005Q1 - 2020Q4



Sources: Bureau of Labor Statistics and UCLA Anderson Forecast

and childbirth) net new household formations declined to 800,000 in 2017. Nevertheless with the economy strengthening we forecast the pace to return to a more normal 1.2 million over the 2018-2020 time frame. (See Figure 7)

Figure 7 Net Household Formations, 2005 - 2020



Sources: Bureau of the Census and UCLA Anderson Forecast

## Negative Demand Fundamentals

As strong as the demand fundamentals mentioned above are, there remains strong headwinds that are working to limit the demand for housing. As mentioned at the outset, housing affordability is a major issue in the metropolitan areas where job growth is booming. For example the median home price in Los Angeles as of March 2018 was \$585,000, while median household income in 2016 was only \$58,000. Simply put, the numbers don't work. Similarly rents remain high relative to income with approximately 50% of the nation's renters paying more than 30% of their income to keep a roof over their heads.

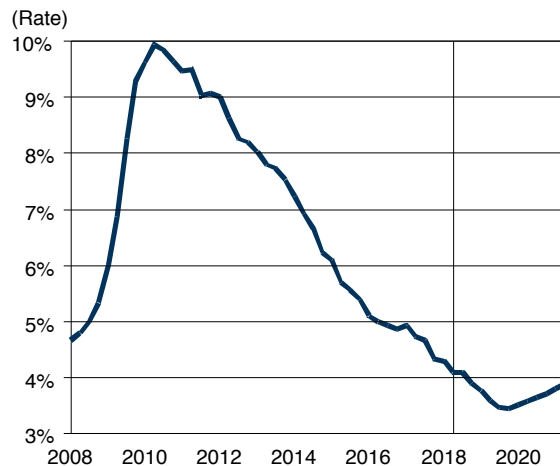
Further, the interest rate environment which has been extraordinarily friendly is turning more hostile. The rate on the 30-year fixed rate mortgage has risen approximately 100 basis points since mid-2016 to 4.5% and is likely to approach 6% by 2020. (See Figure 8) That will be quite the headwind especially when we recognize that Fannie and Freddie are guaranteeing loans with down payments as low as 3% and allowing home buyer (total debt payment)/income ratios of up to 50%. Indeed in the second half of 2017 about 20%



## THE BEST OF TIMES AND THE WORST OF TIMES FOR HOUSING

of Freddie and Fannie loans were to borrowers whose debt payment/income ratio exceeded 45%.<sup>2</sup> **Reminiscent of the prior boom, non-prime loans have emerged to finance consumers with low credit scores.**

Figure 8 30-Year Conventional Mortgage Rate, 2005Q1 - 2020Q4



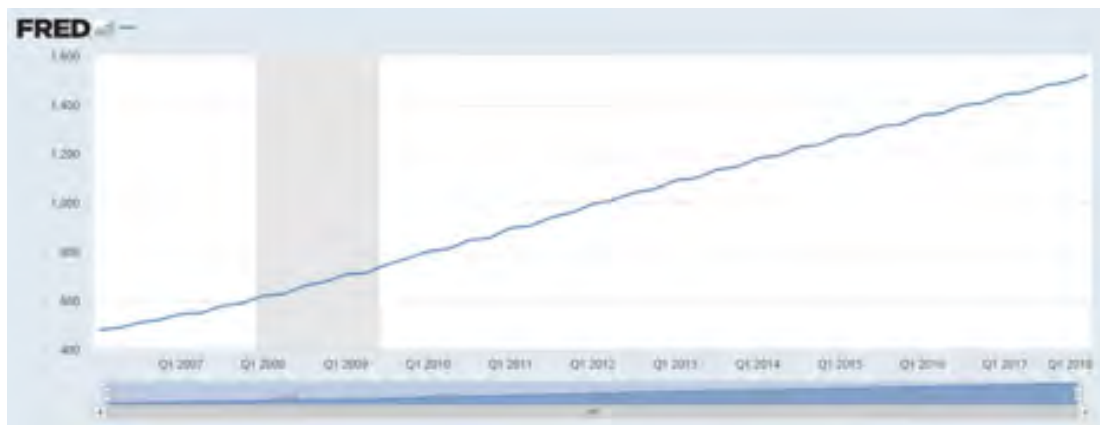
Sources: Fannie Mae and UCLA Anderson Forecast

One of the reasons for lenders raising the debt/income ratio has been the explosive growth of student debt. Student loan debt has tripled from just under \$500 billion in 2006 to \$1.5 trillion early 2018. (See Figure 9) Although this debt is not solely due to young people borrowing money for their educations, it will remain a ball and chain holding back the millennial generation from buying homes.

Although household formation remains strong, a major impetus for home purchase, especially single-family homes, is the birth of children. On that score, the birthrate remains at multi-decade lows and is roughly half of what it was in 1960. (See figure 10)

One last negative demand factor will be the influence of the recently passed tax reform which limits the deductibility of state and local taxes to \$10,000. In high tax states it is not unusual for upper-middle class tax payers to pay \$20,000 - \$30,000 a year in such taxes. As a result, one of the critical tax advantages, that being the ability to fully deduct property taxes, will be reduced. How this tax change will affect future demand remains to be seen, but it is certainly not a positive.

Figure 9 Student Loans Outstanding, 2006Q1 - 2018Q1, in \$ Millions

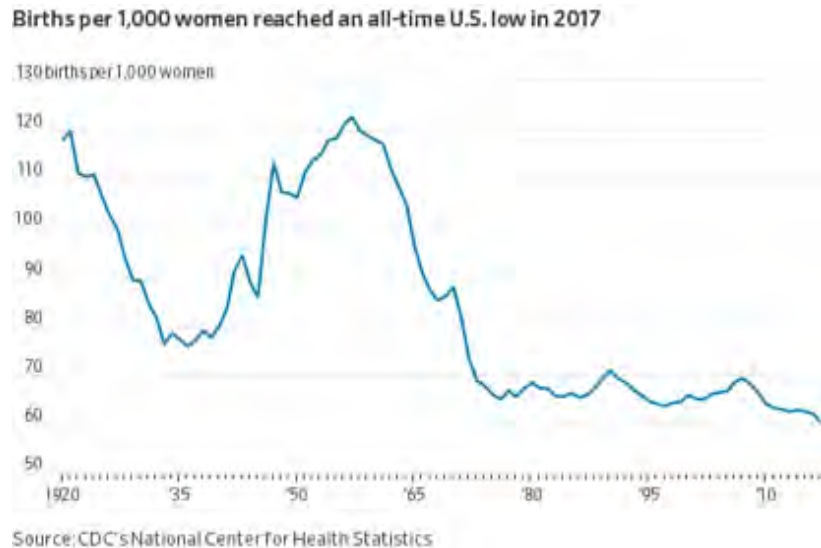


Sources: Federal Reserve via FRED

2. Kusisto, Laura and Christina Rexroad, "As House Prices Rise, Strains Emerge," *The Wall Street Journal*, April 11, 2018, p. B6



Figure 10 Births per 100 Women 15-44, 1920 - 2017



Sources: Via The Wall Street Journal

## Negative Supply Fundamentals

On the supply side, housing activity is plagued by excessive zoning constraints in the hot employment markets of the Pacific Coast and the Northeast. Although there have been attempts to relax those constraints in California and Massachusetts, local opposition to new developments especially those of a higher density remains fierce. Zoning constraints along with high impact fees severely burden the ability of builders to deliver housing anywhere near an affordable price range.

Further exacerbating the land situation the market remains tight for construction labor and lumber prices have surged 50% partially in response to the Trump Administration's imposition of a 20% tariff on Canadian lumber in January 2018. (See Figure 11) That said, because housing remains in short supply, builders have been able to pass along cost increases to consumers evidenced by the strong gross margins reported by the publicly traded homebuilders. **Simply put, the larger homebuilders have learned to profit from the tight zoning controls as regulation works to reduce competition.**

Figure 11 Lumber Prices, \$/1000 Board Feet, May 2017 - May 2018



Sources: BigCharts.com

## THE BEST OF TIMES AND THE WORST OF TIMES FOR HOUSING

Figure 12 Homeownership Rate, 1965Q1 - 2018Q1, Percent



Sources: U.S. Bureau of Census via FRED

Nevertheless, despite all of the negatives the homeownership rate has begun to rise after a long six percentage point decline that began in 2004. We anticipate that the homeownership rate will level off somewhat above its current level of 64.2%. (See Figure 12) The demand fundamentals have, at least recently, overcome the supply impediments for ownership housing.

### The Boom Continues in Multi-Family Housing

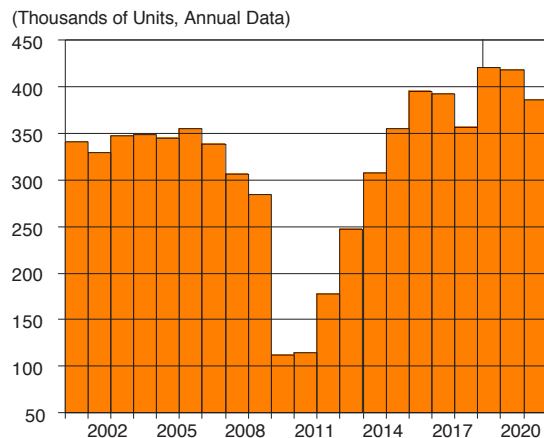
The demand for multi-family housing continues to be strong as millennials (less so recently) and empty nesters seek a more urban lifestyle. In response, multi-family housing starts have approximated 350,000 - 400,000 units

a year for the past several years. Indeed, we forecast that starts, which amounted to 357,000 units in 2017, will average 407,000 units/year over the 2018-2020 time period. (See Figure 13) However, because much of the construction has been at the high-end of the market, the vacancy rate has recently increased from 4.5% to 4.8% in the first quarter. (See Figure 14)

The decline in vacancy rates has brought higher rents with rent growth approximating 3.5% -4.0% a year since 2015. (See Figure 15) **In fact, from 2010 to 2018Q1, the cumulative increase in rents has amounted to 27%, well above the increase in the overall consumer price index of 15% and the 19% in employee compensation.** It is no wonder that renters feel stressed. Indeed, as of 2016 roughly half of all renters were paying in excess of 30% of their incomes on rent and that in turn has engendered new calls for such self-defeating policies as rent control.

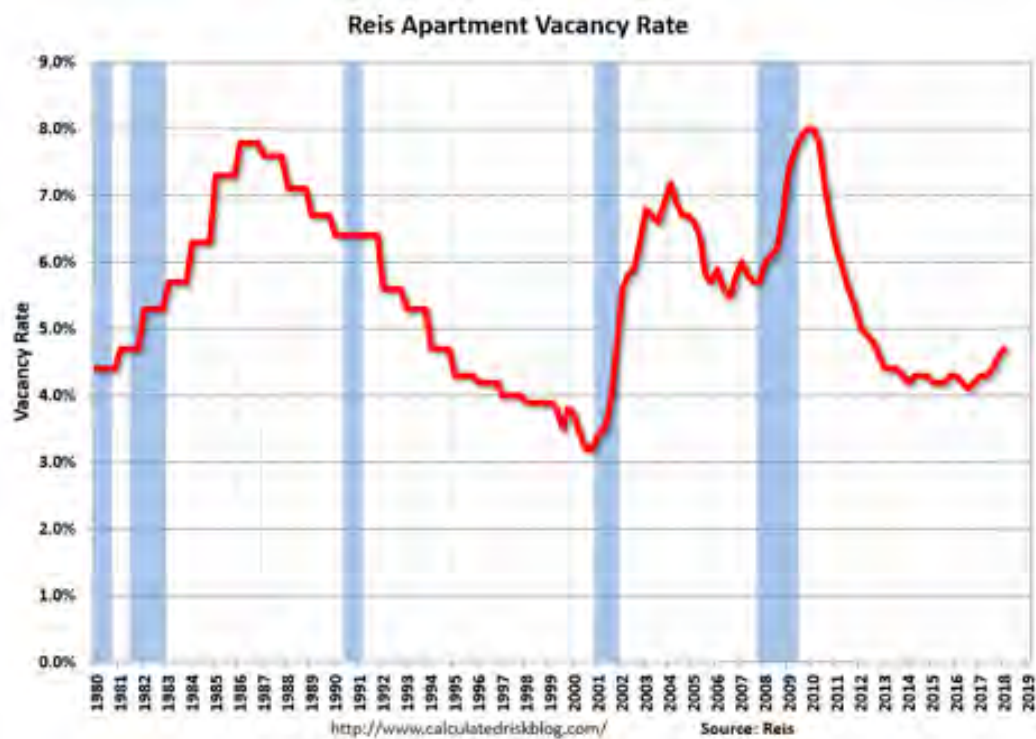
Nevertheless, despite rising interest rates, real estate investors remain enamored with investing in rental apartments. It appears that these investors are willing to look through what they perceive to be temporary softness in the high-end apartment market. We would note that the publicly traded apartment REITs are reporting rent increases well below that reported by the consumer price index. Why? The REITs apartment assets are concentrated at the high end of the market. Despite this, investor demand is being sustained by default because retail real estate looks challenged and the industrial property market remains way too hot. Simply put, apartment investing remains one of the few games in town for real estate investors. Thus, the supply of rental apartments will keep coming.

Figure 13 Multi-Family Housing Starts, 2000-2020F



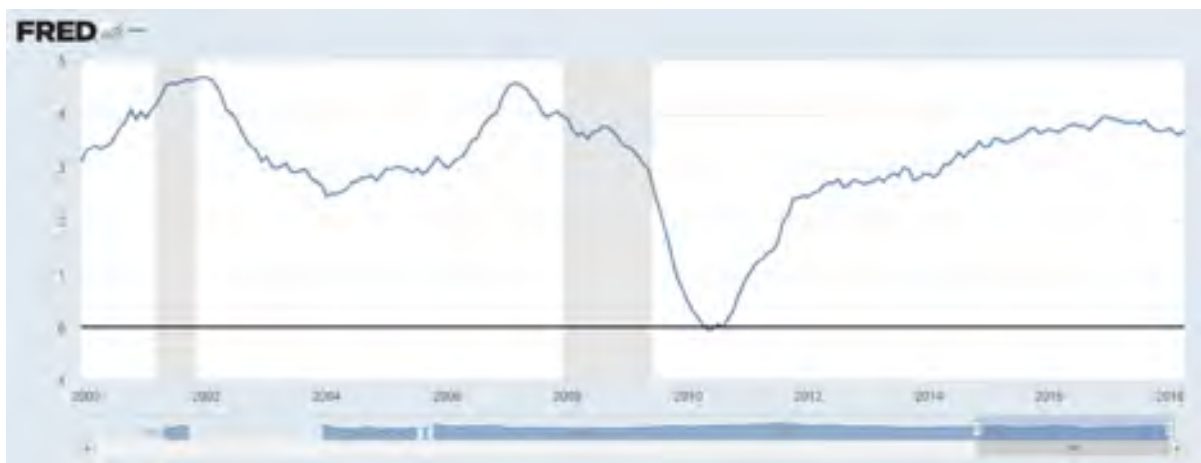
Sources: U.S. Department of Commerce and UCLA Anderson Forecast

Figure 14 Apartment Vacancy Rate, 1980 - 2018Q1, Percent



Sources: REIS via CalculatedRisk.com

Figure 15 Consumer Price Index, Tenant Paid Rent, Dec 99 - Apr 18, Percentage Change Year Ago



Sources: U.S. Bureau of Labor Statistics via FRED

THE BEST OF TIMES AND THE WORST OF TIMES FOR HOUSING

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Conclusion

In terms of prices, the housing market is booming, especially on both coasts and selected booming cities in the interior. However, in terms of housing activity the market is muddling through with very mediocre levels of housing starts and home sales. Despite easier mortgage terms, consumers are being held back by high prices in areas where job growth has been strong. Meantime, lower income

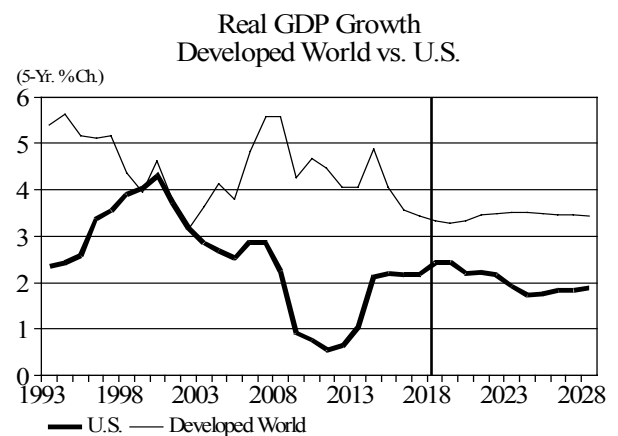
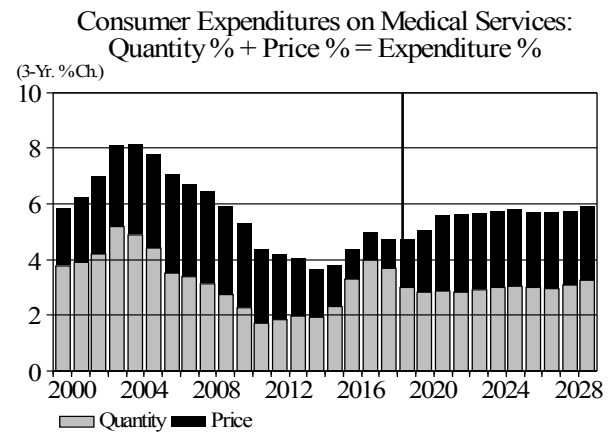
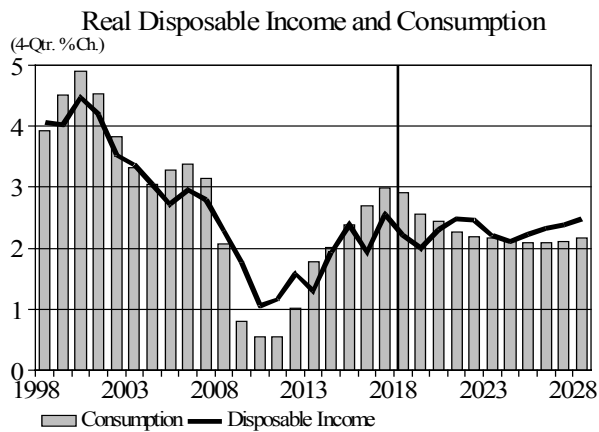
renters are struggling with high rent burdens where rents have risen well above the overall price index and income growth. The pricing problem is being aggravated by strict zoning controls that limit increases in supply. In contrast, the multi-family housing sector is benefitting from higher rents and despite growing vacancy rates at the high-end of the market, investor demand is keeping construction activity strong. **As we said at the outset, your view on the housing market depends on where you live and whether you are an owner or a renter.** ■

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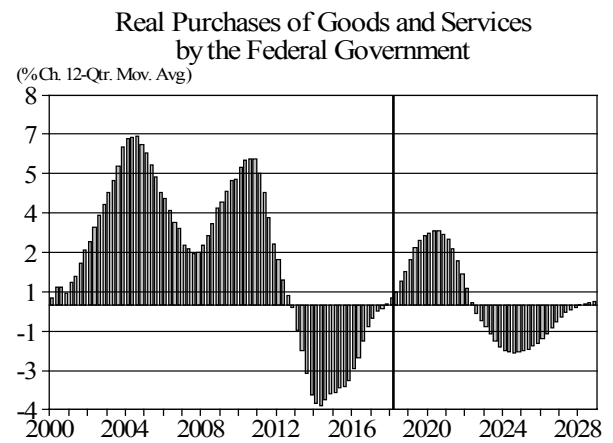
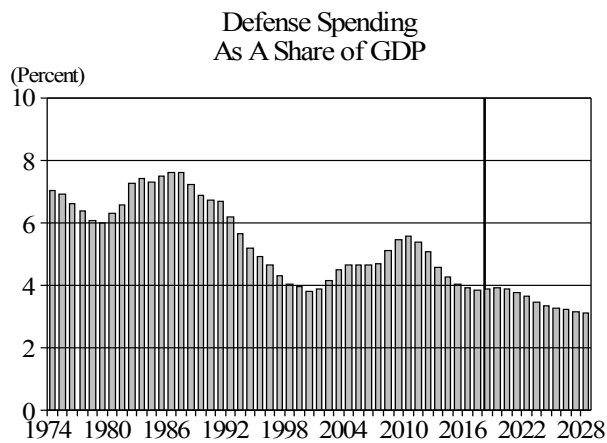
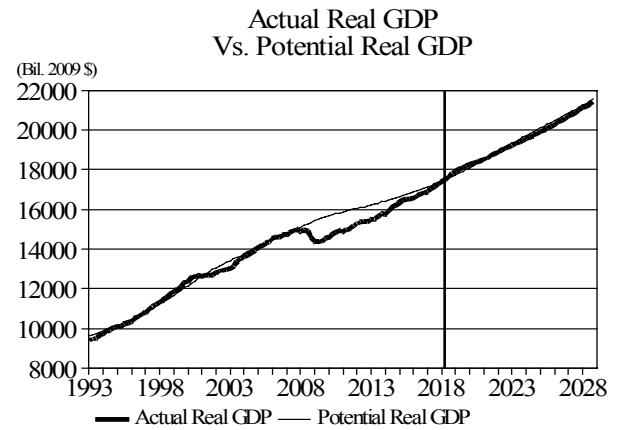
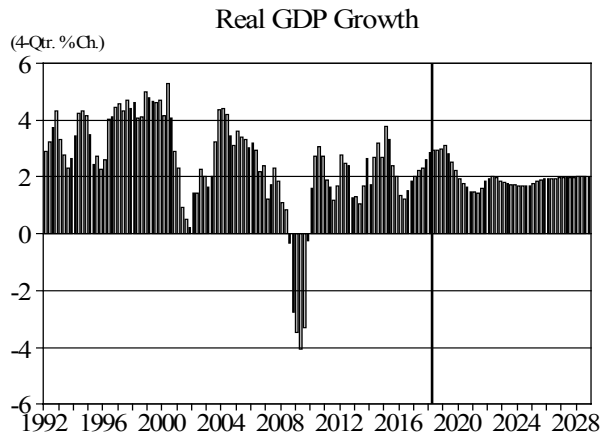
## THE UCLA ANDERSON FORECAST FOR THE NATION

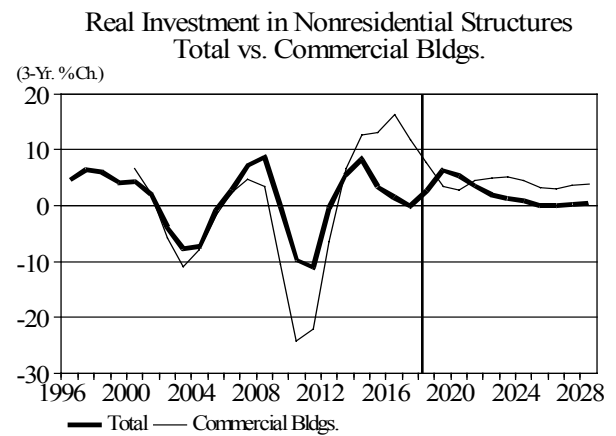
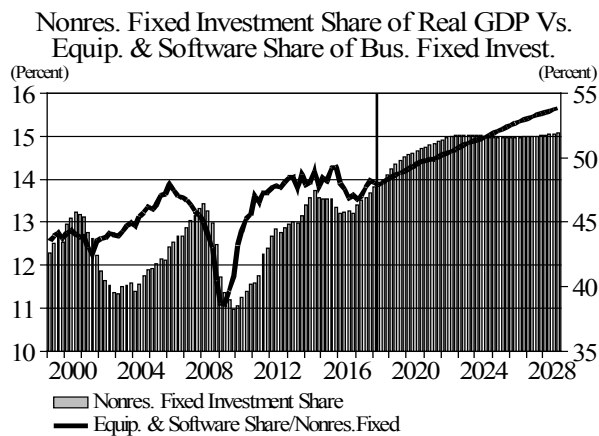
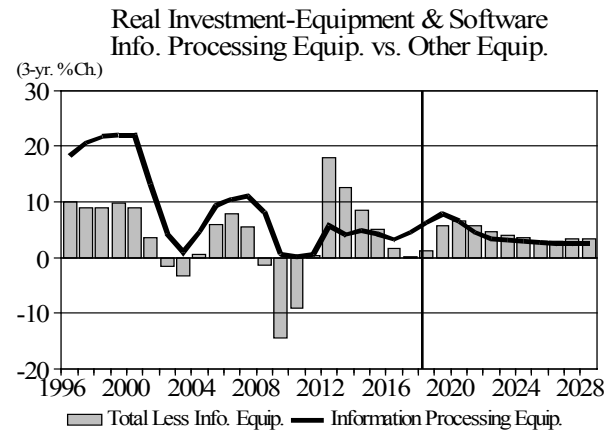
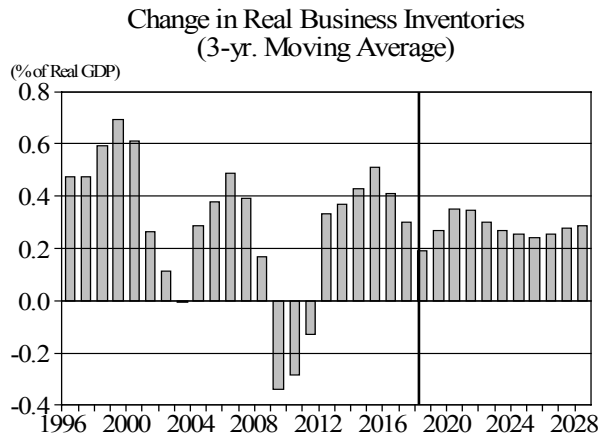
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Charts



CHARTS - FORECAST

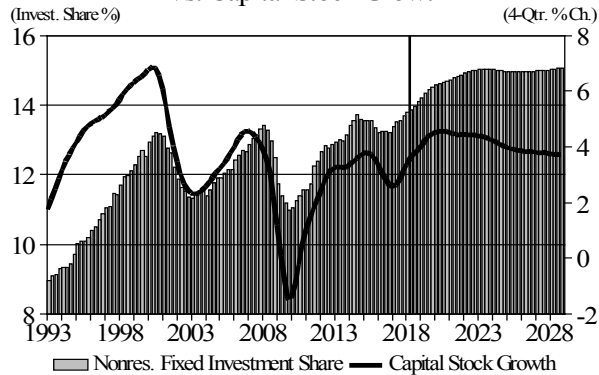




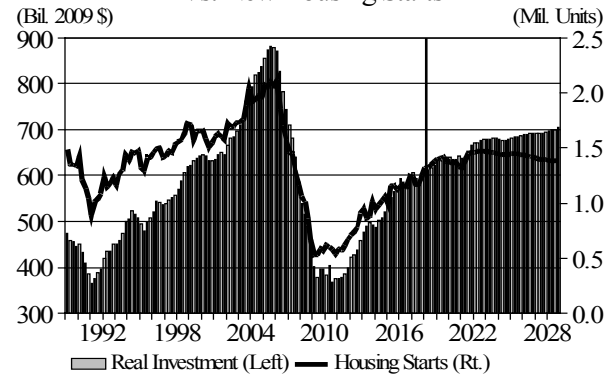


CHARTS - FORECAST

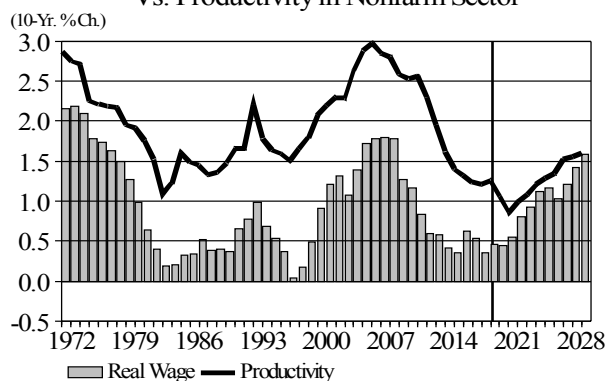
Nonresidential Fixed Investment Share of Real GDP  
Vs. Capital Stock Growth



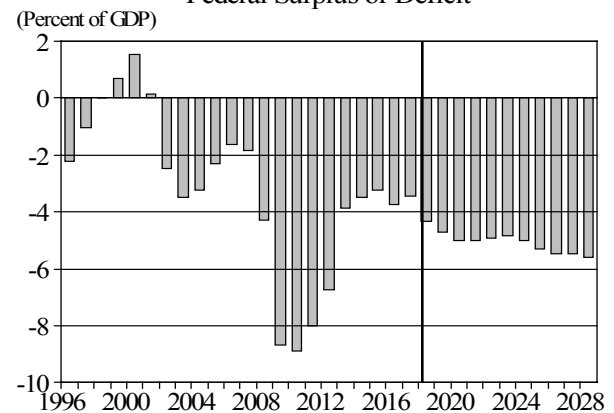
Real Investment in Residential Structures  
Vs. New Housing Starts



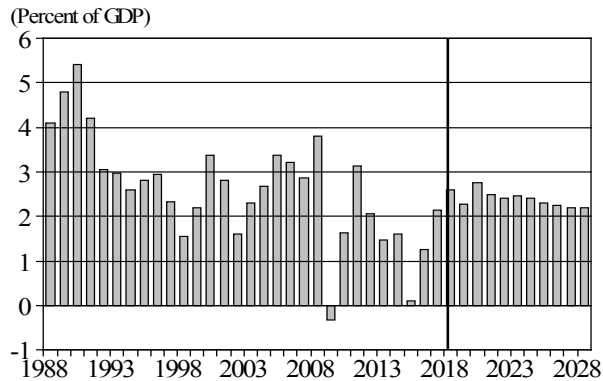
Real Hourly Wage Compensation  
Vs. Productivity in Nonfarm Sector



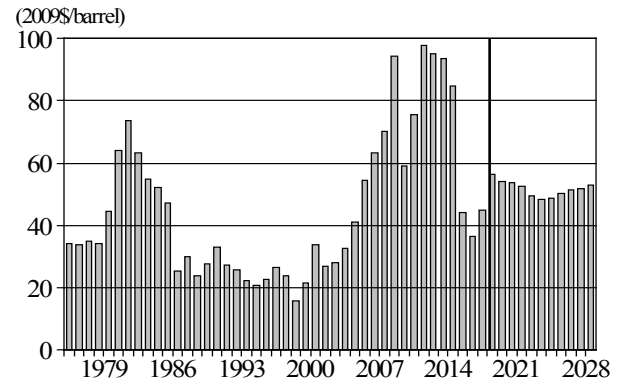
Federal Surplus or Deficit



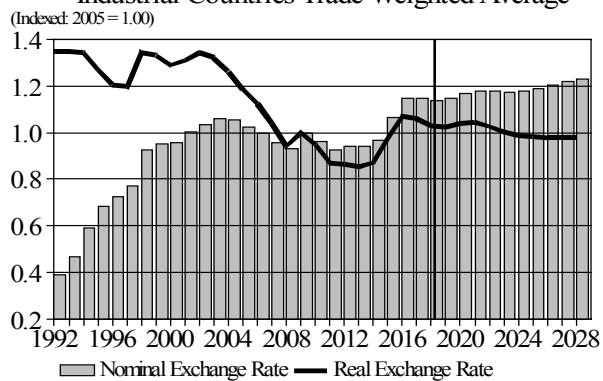
Consumer Price Index Inflation



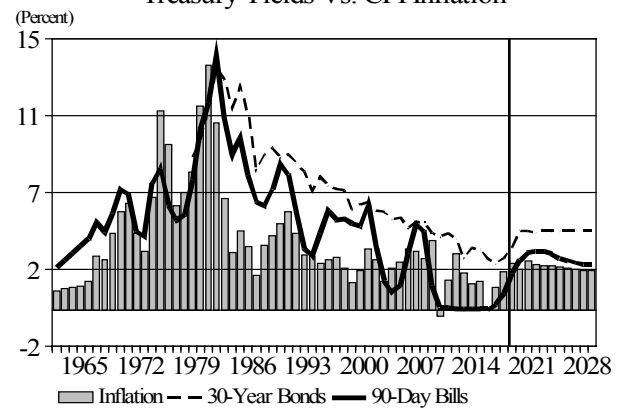
Real Refiner's Cost of Crude Oil



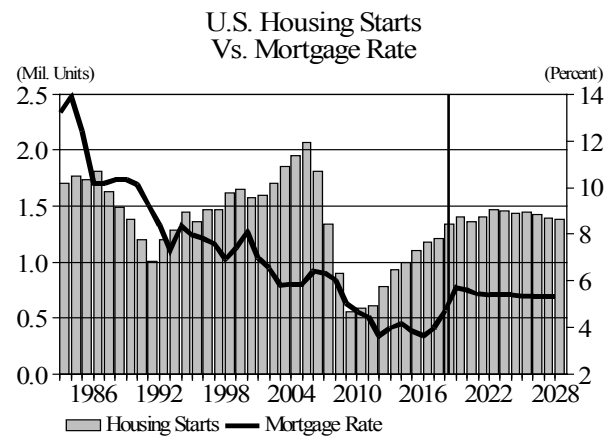
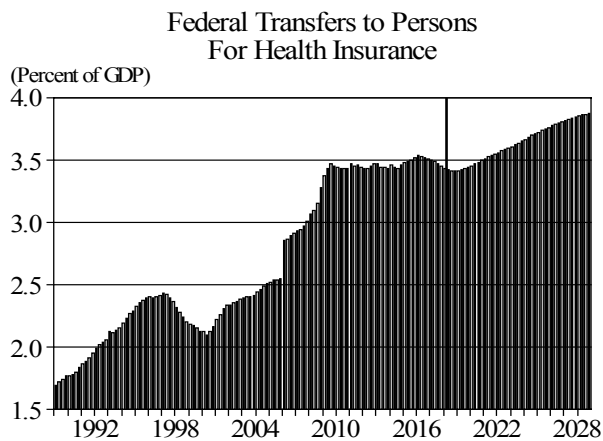
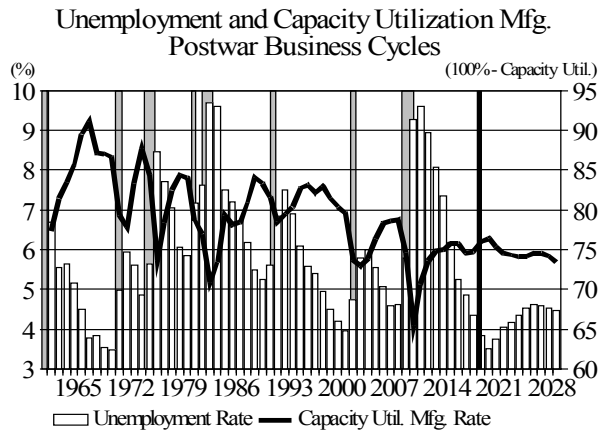
Real and Nominal Exchange Rate  
Industrial Countries Trade Weighted Average

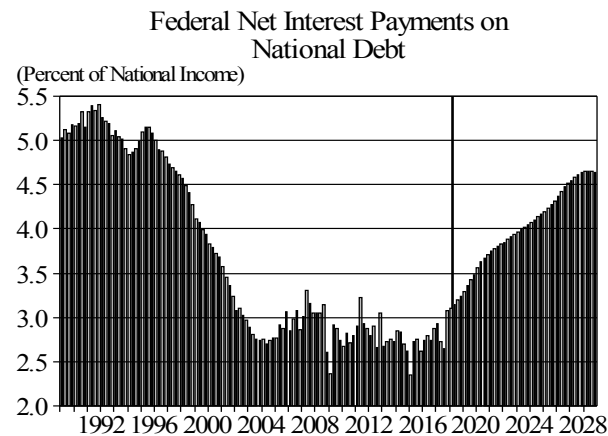
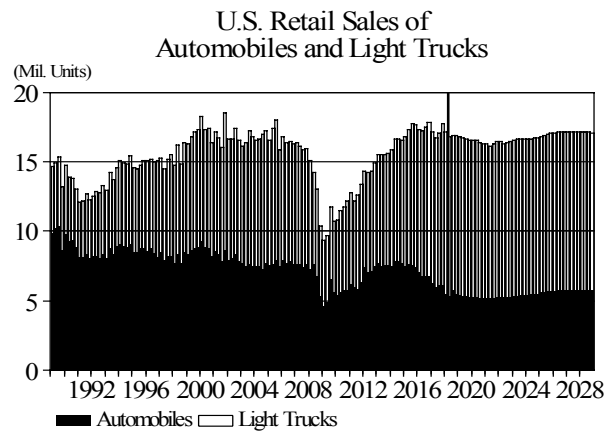


Treasury Yields Vs. CPI Inflation



CHARTS - FORECAST





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## THE UCLA ANDERSON FORECAST FOR THE NATION

JUNE 2018 REPORT

Tables

Table 1. Summary of the UCLA Anderson Forecast for the Nation

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Monetary Aggregates and GDP (% Ch.)</b>												
Money Supply (M1)	14.2	6.4	15.4	15.2	10.1	10.4	7.3	7.6	7.8	5.2	3.0	2.4
Money Supply (M2)	8.1	2.5	7.3	8.6	6.7	6.2	5.8	6.8	5.6	3.5	2.9	2.3
GDP Price Index	0.8	1.2	2.1	1.8	1.6	1.8	1.1	1.3	1.8	2.0	2.8	3.0
Real GDP	-2.8	2.5	1.6	2.2	1.7	2.6	2.9	1.5	2.3	2.9	2.7	1.7
<b>Interest Rates (%) on:</b>												
Federal Funds	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.4	1.0	1.8	2.8	3.4
90-day Treasury Bills	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.3	0.9	2.0	2.8	3.2
10-year Treasury Bonds	3.3	3.2	2.8	1.8	2.4	2.5	2.1	1.8	2.3	3.2	4.2	3.9
30-year Treasury Bonds	4.1	4.3	3.9	2.9	3.4	3.3	2.8	2.6	2.9	3.4	4.4	4.3
Moody's Corporate Aaa Bonds	5.3	4.9	4.6	3.7	4.2	4.2	3.9	3.7	3.7	4.2	5.3	5.1
30-yr Bond Less Inflation	4.1	2.6	1.5	1.0	2.1	1.8	2.5	1.4	1.2	1.2	2.0	1.8
<b>Federal Fiscal Policy</b>												
Defense Purchases (% Ch.)												
Current \$	4.5	5.6	0.5	-2.3	-6.2	-2.8	-1.9	-0.4	2.1	6.3	6.6	3.5
Constant \$	5.4	3.2	-2.3	-3.4	-6.8	-4.0	-2.2	-0.7	0.2	4.3	4.1	1.1
Other Expenditures (% Ch.)												
Transfers to Persons	13.0	8.9	-0.3	-1.1	2.0	4.4	5.1	2.9	2.3	3.3	5.7	5.2
Grants to S&L Gov't	23.5	10.3	-6.5	-6.0	1.4	9.9	7.5	4.4	0.7	4.5	3.3	3.3
<b>Billions of Current Dollars, Unified Budget Basis, Fiscal Year</b>												
Receipts	2104.4	2161.7	2302.5	2449.1	2774.0	3020.4	3248.7	3266.8	3314.9	3344.3	3477.7	3637.6
Outlays	3520.1	3455.9	3599.3	3538.3	3454.2	3503.7	3685.2	3854.1	3980.7	4173.0	4430.0	4693.3
Surplus or Deficit (-)	-1415.7	-1294.2	-1296.8	-1089.2	-680.2	-483.6	-439.1	-587.4	-665.8	-828.7	-952.3	-1055.7
<b>As Shares of GDP (%), NIPA Basis</b>												
Revenues	15.5	16.3	16.6	16.7	18.8	18.9	19.0	18.5	18.5	17.6	17.4	17.3
Expenditures	24.2	25.2	24.6	23.5	22.7	22.4	22.2	22.3	21.9	21.9	22.1	22.3
Defense Purchases	5.5	5.6	5.4	5.1	4.6	4.3	4.0	3.9	3.8	3.9	3.9	3.9
Transfers to Persons	14.9	15.6	15.0	14.2	14.1	14.1	14.2	14.2	14.0	13.7	13.8	13.8
Surplus or Deficit (-)	-8.7	-8.9	-8.0	-6.7	-3.9	-3.5	-3.2	-3.7	-3.4	-4.3	-4.7	-5.0
<b>Details of Real GDP (% Ch.)</b>												
Real GDP	-2.8	2.5	1.6	2.2	1.7	2.6	2.9	1.5	2.3	2.9	2.7	1.7
Final Sales	-2.0	1.1	1.7	2.1	1.5	2.7	2.7	1.9	2.4	2.7	2.5	1.8
Consumption	-1.6	1.9	2.3	1.5	1.5	2.9	3.6	2.7	2.8	2.5	2.2	2.2
Nonres. Fixed Investment	-15.6	2.5	7.7	9.0	3.5	6.9	2.3	-0.6	4.7	6.0	5.9	3.5
Equipment	-22.9	15.9	13.6	10.8	4.6	6.6	3.5	-3.4	4.8	7.4	7.3	5.0
Intellectual Property	-1.4	1.9	3.6	3.9	3.4	4.6	3.8	6.3	3.9	3.6	3.2	2.0
Structures	-18.9	-16.4	2.3	12.9	1.4	10.5	-1.8	-4.1	5.6	6.6	6.8	2.7
Residential Construction	-21.4	-2.7	0.5	13.8	12.0	3.4	10.3	5.5	1.7	2.6	3.3	0.6
Exports	-8.8	11.9	6.9	3.4	3.5	4.3	0.4	-0.3	3.4	5.5	6.6	6.3
Imports	-13.7	12.7	5.5	2.2	1.1	4.5	5.0	1.3	4.0	5.9	7.4	7.3
Federal Purchases	5.7	4.3	-2.7	-1.9	-5.8	-2.4	-0.1	0.0	0.2	3.6	4.1	0.5
State & Local Purchases	1.6	-2.7	-3.3	-1.9	-0.8	0.5	2.3	1.2	0.1	0.9	1.2	0.9
<b>Billions of 2009 Dollars</b>												
Real GDP	14418.7	14783.8	15020.6	15354.6	15612.2	16013.3	16471.5	16716.2	17096.2	17595.8	18063.2	18371.0
Final Sales	14566.3	14725.6	14983.0	15300.0	15533.5	15945.5	16371.0	16682.8	17081.0	17545.5	17984.4	18310.6
Inventory Change	-147.6	58.2	37.6	54.7	78.7	67.8	100.5	33.4	15.2	50.3	78.8	60.4

FORECAST TABLES - SUMMARY

Table 2. Summary of the UCLA Anderson Forecast for the Nation

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Industrial Production and Resource Utilization</b>												
Industrial Prod. (% Ch.)	-11.5	5.5	3.1	3.0	2.0	3.1	-1.0	-1.9	1.6	3.9	3.2	1.8
Capacity Util. Manuf. (%)	65.5	70.7	73.6	74.9	75.0	75.8	75.8	74.6	74.8	76.0	76.4	75.4
Real Bus. Investment as % of Real GDP	14.0	13.9	14.6	15.6	16.1	16.7	16.9	16.8	17.1	17.4	17.9	18.1
Nonfarm Employment (mil.)	131.3	130.4	131.9	134.2	136.4	138.9	141.8	144.3	146.6	149.1	151.2	152.2
Unemployment Rate (%)	9.3	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.8	3.5	3.8
<b>Inflation (% Ch.)</b>												
Consumer Price Index	-0.3	1.6	3.1	2.1	1.5	1.6	0.1	1.3	2.1	2.6	2.3	2.7
Total less Food & Energy	1.7	1.0	1.7	2.1	1.8	1.7	1.8	2.2	1.8	2.3	2.7	2.9
Consumption Chain Index	-0.1	1.7	2.5	1.9	1.3	1.5	0.3	1.2	1.7	2.2	2.4	2.6
GDP Chain Index	0.8	1.2	2.1	1.8	1.6	1.8	1.1	1.3	1.8	2.0	2.8	3.0
Producers Price Index	-8.8	6.8	8.8	0.5	0.6	0.9	-7.2	-2.7	4.4	4.7	2.5	2.2
<b>Factors Related to Inflation (% Ch.)</b>												
Nonfarm Business Sector												
Wage Compensation	1.0	1.9	2.2	2.6	1.2	2.9	3.1	1.1	1.7	2.6	3.5	4.1
Productivity	3.2	3.3	0.1	0.9	0.3	1.0	1.2	0.0	1.3	1.3	1.2	1.2
Unit Labor Costs	-2.0	-1.3	2.1	1.7	0.9	1.9	1.8	1.1	0.3	1.3	2.3	2.9
Farm Price Index	-16.5	12.2	23.6	3.2	1.4	1.1	-12.0	-9.6	3.0	0.9	4.0	4.0
Crude Oil Price (\$/bbl)	61.7	79.4	95.1	94.2	97.9	93.3	48.7	43.2	51.0	67.0	66.8	70.9
New Home Price (\$1000)	214.5	221.2	224.3	242.1	265.1	283.2	293.7	306.5	321.6	327.9	331.1	340.3
<b>Income, Consumption and Saving (% Ch.)</b>												
Disposable Income	-0.5	2.7	5.0	5.1	-0.1	5.1	4.5	2.6	2.9	4.4	5.6	5.3
Real Disposable Income	-0.4	1.0	2.5	3.1	-1.4	3.6	4.2	1.4	1.2	2.2	3.1	2.6
Real Consumption	-1.6	1.9	2.3	1.5	1.5	2.9	3.6	2.7	2.8	2.5	2.2	2.2
Savings Rate (%)	6.1	5.6	6.1	7.6	5.0	5.7	6.1	4.9	3.4	3.0	3.9	4.2
<b>Housing and Automobiles--millions of units</b>												
Housing Starts	0.554	0.586	0.612	0.784	0.928	1.001	1.107	1.177	1.208	1.342	1.402	1.361
Auto & Light Truck Sales	10.4	11.6	12.7	14.4	15.5	16.5	17.4	17.5	17.2	17.0	16.7	16.5
<b>Corporate Profits</b>												
Billions of Dollars												
Before Taxes	1472.6	1840.7	1806.8	2130.8	2156.1	2249.1	2158.5	2158.9	2247.7	2178.0	2285.9	2364.6
After Taxes	1203.1	1470.1	1427.7	1683.2	1688.4	1743.8	1651.1	1687.9	1781.0	1765.8	1860.7	1934.1
Percent Change												
Before Taxes	6.5	25.0	-1.8	17.9	1.2	4.3	-4.0	0.0	4.1	-3.1	5.0	3.4
After Taxes	12.1	22.2	-2.9	17.9	0.3	3.3	-5.3	2.2	5.5	-0.9	5.4	3.9
<b>International Trade Factors</b>												
Nominal												
U.S. Dollar--% change												
Industrial Countries	4.3	-3.0	-5.9	3.8	3.2	3.3	16.0	0.7	-0.6	-5.0	0.9	-2.0
Developing Countries	7.1	-4.1	-3.5	2.0	-0.4	3.0	10.0	7.7	-0.1	-0.8	0.7	1.9
Exports	-13.8	16.7	13.7	4.4	3.6	4.3	-4.6	-2.2	5.8	8.5	8.6	8.1
Imports	-22.7	19.3	13.6	2.9	0.2	4.1	-3.3	-1.9	6.6	10.0	5.8	6.5
Net Exports (bil. \$)	-395	-513	-580	-566	-492	-510	-524	-521	-572	-666	-633	-629
Real												
U.S. Dollar--% change												
Industrial Countries	7.9	-0.5	-7.9	4.0	4.6	4.3	19.3	4.2	-0.6	-5.3	1.6	-2.7
Developing Countries	6.2	-5.2	-8.3	-0.6	-1.2	2.1	11.8	9.7	-1.1	-2.7	-0.6	1.4
Exports	-8.8	11.9	6.9	3.4	3.5	4.3	0.4	-0.3	3.4	5.5	6.6	6.3
Imports	-13.7	12.7	5.5	2.2	1.1	4.5	5.0	1.3	4.0	5.9	7.4	7.3
Net Exports (bil. '09\$)	-395	-459	-459	-447	-405	-428	-545	-586	-622	-667	-735	-814

FORECAST TABLES - QUARTERLY SUMMARY

Table 3. Quarterly Summary of the UCLA National Anderson Forecast for the Nation

	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4
<b>Monetary Aggregates and GDP (% Ch.)</b>											
Money Supply (M1)	3.4	3.8	2.8	2.8	2.9	2.8	2.7	2.4	1.9	2.1	1.7
Money Supply (M2)	3.2	3.0	3.2	3.3	2.7	2.4	2.2	2.4	2.2	2.3	2.3
GDP Price Index	1.8	2.2	2.6	3.1	3.1	3.1	3.0	3.1	2.9	2.8	2.8
Real GDP	3.4	3.1	3.1	2.8	2.3	2.0	1.8	1.7	1.6	1.5	1.2
<b>Interest Rates (%) on:</b>											
Federal Funds	1.7	1.9	2.2	2.5	2.7	3.0	3.2	3.2	3.5	3.5	3.5
90-day Treasury Bills	2.0	2.2	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.2	3.2
10-year Treasury Bonds	3.0	3.4	3.7	3.9	4.2	4.3	4.2	4.1	3.9	3.8	3.7
30-year Treasury Bonds	3.2	3.5	3.9	4.1	4.4	4.6	4.5	4.5	4.4	4.3	4.3
Moody's Corporate Aaa Bonds	4.0	4.4	4.7	4.9	5.3	5.4	5.4	5.3	5.1	5.0	4.9
30-yr Bond Less Inflation	1.3	0.9	1.8	2.0	1.8	1.8	1.7	2.0	1.9	1.8	1.8
<b>Federal Fiscal Policy</b>											
Defense Purchases (% Ch.)											
Current \$	7.4	8.3	7.0	10.4	3.7	2.8	2.6	6.4	4.1	0.4	0.9
Constant \$	5.9	6.6	5.2	5.5	1.9	1.1	1.0	1.2	2.4	-0.6	-0.6
Other Expenditures (% Ch.)											
Transfers to Persons	2.5	2.9	4.9	10.4	4.4	4.6	5.0	6.9	4.5	4.4	4.7
Grants to S&L Gov't	0.5	3.9	4.3	3.2	3.3	3.3	3.2	3.5	3.4	3.4	3.4
<b>Billions of Current Dollars, Unified Budget Basis, NSA</b>											
Receipts	1004.0	843.4	815.5	770.1	1028.1	864.0	838.6	811.2	1077.4	910.4	881.8
Outlays	1006.1	1070.3	1080.8	1129.0	1092.0	1128.2	1147.3	1196.9	1168.6	1180.4	1208.5
Surplus or Deficit (-)	-2.1	-226.9	-265.3	-359.0	-63.9	-264.2	-308.7	-385.8	-91.3	-270.0	-326.7
<b>As Shares of GDP (%), NIPA Basis</b>											
Revenues	17.6	17.6	17.5	17.5	17.4	17.4	17.3	17.3	17.3	17.3	17.3
Expenditures	21.9	21.9	21.9	22.2	22.1	22.1	22.1	22.3	22.4	22.3	22.3
Defense Purchases	3.9	3.9	3.9	4.0	3.9	3.9	3.9	3.9	3.9	3.9	3.8
Transfers to Persons	13.8	13.7	13.7	13.8	13.8	13.7	13.7	13.8	13.8	13.8	13.8
Surplus or Deficit (-)	-4.4	-4.3	-4.4	-4.7	-4.7	-4.8	-4.8	-5.0	-5.0	-5.0	-5.0
<b>Details of Real GDP (% Ch.)</b>											
Real GDP	3.4	3.1	3.1	2.8	2.3	2.0	1.8	1.7	1.6	1.5	1.2
Final Sales	3.0	3.0	2.8	2.5	2.2	2.0	2.0	1.8	1.8	1.6	1.3
Consumption	3.2	2.4	2.3	2.0	2.2	2.1	2.3	2.3	2.4	2.3	1.7
Nonres. Fixed Investment	5.2	6.6	6.6	6.5	5.6	4.8	3.9	3.3	2.5	3.2	2.1
Equipment	4.0	7.6	9.0	8.2	6.8	6.1	5.4	4.7	4.0	5.0	3.8
Intellectual Property	4.1	5.2	3.6	3.4	2.5	1.8	1.7	1.7	2.0	2.7	3.1
Structures	9.1	6.5	6.2	7.5	7.5	6.2	4.2	2.7	0.7	0.4	-2.3
Residential Construction	3.8	4.3	2.8	5.4	1.1	2.3	2.6	0.4	-3.6	0.5	4.4
Exports	6.0	7.0	7.2	5.8	6.5	7.0	7.7	6.4	5.5	5.1	4.7
Imports	7.0	6.8	7.6	7.3	7.6	7.8	8.0	7.6	6.8	6.5	5.9
Federal Purchases	5.1	6.9	7.2	4.4	2.2	1.1	-0.1	0.4	2.7	-2.0	-1.4
State & Local Purchases	0.2	0.5	1.4	1.6	1.3	1.0	0.8	1.0	0.9	0.9	0.9
<b>Billions of 2009 Dollars</b>											
Real GDP	17532.5	17665.0	17799.8	17922.9	18024.3	18111.6	18194.1	18269.2	18341.7	18408.9	18464.2
Final Sales	17483.4	17610.9	17735.0	17844.3	17941.8	18031.5	18120.1	18200.6	18280.0	18351.7	18410.0
Inventory Change	49.1	54.0	64.9	78.7	82.4	80.1	74.0	68.6	61.7	57.2	54.1



FORECAST TABLES - QUARTERLY SUMMARY

Table 4. Quarterly Summary of The UCLA National Anderson Forecast for the Nation

	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4
<b>Industrial Production and Resource Utilization</b>											
Production--% change	3.8	2.5	3.9	3.7	2.8	2.6	2.1	2.1	1.1	0.9	1.2
Capacity Util. Manuf. (%)	76.0	76.1	76.4	76.5	76.5	76.4	76.2	75.9	75.6	75.3	75.0
Real Bus. Investment as % of Real GDP	17.4	17.5	17.6	17.7	17.8	17.9	18.0	18.1	18.0	18.1	18.1
Nonfarm Employment (mil.)	148.7	149.4	150.0	150.6	151.1	151.4	151.6	151.9	152.3	152.3	152.3
Unemployment Rate (%)	3.9	3.8	3.6	3.5	3.4	3.5	3.6	3.7	3.7	3.8	3.9
<b>Inflation--% change</b>											
Consumer Price Index	1.9	2.9	1.6	1.6	2.7	3.1	3.3	2.4	2.6	2.6	2.5
Total less Food & Energy	2.3	2.4	2.6	2.7	2.8	2.9	2.9	2.9	2.8	2.8	2.8
Consumption Deflator	1.9	2.6	2.0	2.1	2.6	2.8	2.8	2.4	2.5	2.5	2.4
GDP Deflator	1.8	2.2	2.6	3.1	3.1	3.1	3.0	3.1	2.9	2.8	2.8
Producers Price Index	1.5	4.8	1.4	1.6	2.6	3.4	3.8	1.1	1.1	2.1	1.9
<b>Factors Related to Inflation--%change</b>											
Nonfarm Business Sector											
Wage Compensation	1.4	2.4	3.5	3.9	3.9	4.0	4.0	4.2	4.2	4.2	4.2
Productivity	1.9	1.5	1.3	1.0	1.0	1.2	1.3	1.2	1.2	1.4	1.2
Unit Labor Costs	-0.4	0.9	2.2	2.8	2.9	2.8	2.7	2.9	3.0	2.7	3.0
Farm Price Index	-6.5	4.5	4.6	4.9	5.2	4.7	4.3	4.6	3.3	3.1	2.5
Crude Oil Price (\$/bbl)	66.6	71.8	66.7	63.7	65.2	67.4	71.0	70.6	70.8	71.0	71.1
New Home Price (\$1000)	330.1	328.2	323.4	323.9	342.7	331.6	326.3	328.8	356.1	338.4	337.8
<b>Income, Consumption and Saving--%change</b>											
Disposable Income	4.6	3.8	5.6	6.7	5.7	5.6	5.4	5.6	5.1	4.5	4.4
Real Disposable Income	2.6	1.2	3.5	4.5	3.0	2.7	2.5	3.1	2.6	2.0	1.9
Real Consumption	3.2	2.4	2.3	2.0	2.2	2.1	2.3	2.3	2.4	2.3	1.7
Savings Rate (%)	3.0	2.8	3.1	3.6	3.8	4.0	4.0	4.2	4.2	4.2	4.2
<b>Housing and Automobiles--millions of units</b>											
Housing Starts	1,324	1,347	1,379	1,400	1,411	1,419	1,376	1,376	1,361	1,372	1,334
Auto and Light Truck Sales	16.8	16.9	16.9	16.8	16.7	16.6	16.6	16.6	16.5	16.4	16.3
<b>Corporate Profits</b>											
Billions of Dollars											
Before Taxes	2156.1	2217.7	2234.4	2251.9	2271.9	2297.2	2322.7	2340.6	2352.3	2376.1	2389.5
After Taxes	1745.6	1799.1	1813.7	1829.7	1848.0	1870.8	1894.3	1910.8	1923.1	1944.7	1957.9
Percent Change											
Before Taxes	10.3	11.9	3.0	3.2	3.6	4.5	4.5	3.1	2.0	4.1	2.3
After Taxes	10.0	12.8	3.3	3.6	4.1	5.0	5.1	3.5	2.6	4.6	2.7
<b>International Trade</b>											
Nominal											
U.S. Dollar--% change											
Industrial Countries	2.6	-0.9	1.9	2.9	1.7	-2.2	-3.6	-1.9	-1.4	-1.9	-2.4
Developing Countries	6.0	3.5	0.1	-0.3	-0.8	0.4	1.8	2.8	2.6	1.8	1.7
Exports--% change	7.1	7.8	9.4	8.4	8.7	9.0	9.3	8.3	7.4	6.9	6.8
Imports--% change	9.2	9.5	5.1	3.5	4.9	6.4	7.9	6.7	6.0	5.9	5.8
Net Exports (bil. \$)	-664.4	-689.3	-672.4	-647.7	-631.7	-625.1	-627.6	-627.2	-627.0	-629.0	-631.1
Real											
U.S. Dollar--% change											
Industrial Countries	2.2	-1.4	2.5	4.7	2.6	-1.5	-4.2	-3.4	-2.7	-2.9	-2.6
Developing Countries	3.2	0.9	-1.8	-1.4	-1.5	-0.1	1.3	2.3	2.3	1.6	1.6
Exports--% change	6.0	7.0	7.2	5.8	6.5	7.0	7.7	6.4	5.5	5.1	4.7
Imports--% change	7.0	6.8	7.6	7.3	7.6	7.8	8.0	7.6	6.8	6.5	5.9
Net Exports (bil. '09\$)	-662.3	-672.4	-687.5	-707.7	-726.7	-745.1	-761.7	-782.6	-803.7	-825.6	-845.4

FORECAST TABLES - DETAILED

Table 5. Part A. Gross Domestic Product

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Billions of Current Dollars												
Gross Domestic Product	14418.7	14964.4	15517.9	16155.3	16691.5	17427.6	18120.7	18624.5	19390.6	20365.9	21496.6	22512.6
Personal Consumption Expenditures	9847.0	10202.2	10689.3	11050.6	11361.2	11863.7	12332.3	12820.7	13395.5	14037.6	14690.4	15404.4
Durable Goods	1023.3	1070.7	1125.3	1191.9	1241.7	1296.4	1367.1	1411.0	1473.8	1521.1	1577.8	1642.8
Autos and Parts	317.1	342.0	363.5	395.8	416.1	441.9	472.2	480.8	498.2	499.3	512.6	535.3
Nondurable Goods	2175.1	2292.1	2471.1	2547.2	2592.8	2674.1	2666.0	2710.4	2821.5	2944.4	3030.2	3147.1
Services	6648.5	6839.4	7092.8	7311.5	7526.7	7893.2	8299.1	8699.3	9100.2	9572.2	10082.4	10614.5
Gross Private Domestic Investment	1878.1	2100.8	2239.9	2511.7	2706.3	2916.4	3093.6	3057.2	3212.8	3490.2	3764.6	3923.4
Residential	392.2	381.1	386.0	442.2	519.5	570.2	645.4	705.9	747.6	806.0	862.0	897.2
Nonres. Structures	438.2	362.0	381.6	448.0	463.6	537.5	537.5	516.2	560.2	615.3	676.7	717.5
Equipment	644.3	731.8	838.2	937.9	982.8	1046.5	1081.9	1043.9	1098.4	1185.6	1268.5	1336.5
Intellectual Property	550.9	564.4	592.2	621.7	647.9	684.3	716.8	756.2	791.0	826.0	865.5	900.1
Change In Inv.	-147.6	61.5	41.8	61.8	92.4	78.0	111.9	35.1	15.7	57.4	91.9	72.0
Net Exports	-395.4	-512.7	-580.0	-565.7	-492.0	-509.5	-524.0	-521.2	-571.6	-666.0	-633.1	-628.6
Exports	1587.7	1852.3	2106.4	2198.2	2276.6	2373.6	2264.9	2214.6	2344.0	2542.1	2760.7	2985.4
Imports	1983.2	2365.0	2686.4	2763.8	2768.6	2883.2	2789.0	2735.8	2915.6	3208.1	3393.8	3614.0
Government Purchases	3089.1	3174.0	3168.7	3158.6	3116.1	3157.0	3218.9	3267.8	3353.8	3504.0	3674.6	3813.4
Federal	1217.7	1303.9	1303.5	1292.5	1229.5	1218.1	1224.0	1231.5	1260.7	1333.0	1419.2	1459.9
Defense	788.3	832.8	836.9	817.8	767.0	745.6	731.6	728.9	744.4	791.0	843.0	872.7
Other	429.4	471.1	466.5	474.7	462.5	472.5	492.4	502.6	516.2	541.9	576.2	587.3
State and Local	1871.4	1870.2	1865.3	1866.1	1886.6	1938.9	1994.9	2036.3	2093.2	2171.0	2255.5	2353.5
Billions of 2009 Dollars												
Gross Domestic Product	14418.7	14783.8	15020.6	15354.6	15612.2	16013.3	16471.5	16716.2	17096.2	17595.8	18063.2	18371.0
Personal Consumption Expenditures	9847.0	10036.3	10263.5	10413.2	10565.4	10868.4	11264.3	11572.1	11890.7	12191.8	12464.5	12742.8
Durable Goods	1023.3	1085.7	1151.5	1236.2	1312.7	1403.1	1511.8	1595.1	1701.6	1791.1	1875.8	1957.0
Autos & Parts	317.1	323.4	333.8	359.1	375.7	398.7	426.0	438.5	459.3	464.9	476.1	492.0
Nondurable Goods	2175.1	2223.5	2263.2	2277.5	2316.1	2373.0	2446.8	2514.3	2575.0	2634.7	2676.4	2713.2
Services	6648.5	6727.6	6851.4	6908.1	6951.3	7115.5	7340.1	7507.3	7675.2	7841.3	8001.7	8175.1
Gross Private Domestic Investment	1878.1	2120.4	2230.4	2465.7	2616.5	2761.7	2905.4	2858.3	2952.3	3142.9	3336.1	3409.0
Residential	392.2	382.4	384.5	436.5	488.3	505.2	556.9	587.4	597.9	613.5	633.8	637.7
Nonres. Structures	438.2	366.3	374.7	423.1	428.8	474.0	465.4	446.4	471.5	502.5	536.9	551.4
Equipment	644.3	746.7	847.9	939.2	982.3	1047.4	1084.5	1047.8	1098.1	1179.9	1266.0	1329.0
Intellectual Property	550.9	561.3	581.3	603.8	624.5	653.1	677.8	720.4	748.8	775.5	800.4	816.6
Change In Inv.	-147.6	58.2	37.6	54.7	78.7	67.8	100.5	33.4	15.2	50.3	78.8	60.4
Net Exports	-395.4	-458.8	-459.4	-447.1	-404.9	-427.7	-545.3	-586.2	-621.8	-667.0	-735.3	-814.3
Exports	1587.7	1776.6	1898.3	1963.2	2031.5	2118.4	2127.1	2120.1	2191.4	2310.9	2464.1	2618.3
Imports	1983.2	2235.4	2357.7	2410.2	2436.4	2546.1	2672.4	2706.3	2813.2	2977.9	3199.5	3432.7
Government Purchases	3089.1	3091.4	2997.4	2941.6	2857.6	2839.1	2878.5	2900.2	2903.3	2958.2	3025.9	3048.9
Federal	1217.7	1270.7	1236.4	1213.5	1142.8	1115.0	1114.1	1114.6	1116.4	1156.5	1204.2	1210.3
Defense	788.3	813.5	795.0	768.2	715.7	686.8	672.0	667.0	668.6	697.6	726.2	734.0
Other	429.4	457.1	441.4	445.3	427.0	427.9	441.6	447.0	447.2	458.4	477.6	476.0
State and Local	1871.4	1820.7	1761.0	1728.1	1714.1	1723.0	1762.8	1783.6	1785.0	1800.6	1821.4	1838.2

## FORECAST TABLES - DETAILED

Table 5. Part B. Gross Domestic Product

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Annual Rates of Change of Current Dollar GDP Components (%)											
Gross Domestic Product	-2.0	3.8	3.7	4.1	3.3	4.4	4.0	2.8	4.1	5.0	5.6	4.7
Personal Consumption												
Expenditures	-1.7	3.6	4.8	3.4	2.8	4.4	3.9	4.0	4.5	4.8	4.7	4.9
Durable Goods	-7.2	4.6	5.1	5.9	4.2	4.4	5.5	3.2	4.5	3.2	3.7	4.1
Autos and Parts	-6.6	7.9	6.3	8.9	5.1	6.2	6.9	1.8	3.6	0.2	2.7	4.4
Nondurable Goods	-4.3	5.4	7.8	3.1	1.8	3.1	-0.3	1.7	4.1	4.4	2.9	3.9
Services	0.2	2.9	3.7	3.1	2.9	4.9	5.1	4.8	4.6	5.2	5.3	5.3
Gross Private Domestic												
Investment	-22.5	11.9	6.6	12.1	7.7	7.8	6.1	-1.2	5.1	8.6	7.9	4.2
Residential	-24.0	-2.9	1.3	14.6	17.5	9.7	13.2	9.4	5.9	7.8	6.9	4.1
Nonres. Structures	-20.7	-17.4	5.4	17.4	3.5	15.9	-0.0	-4.0	8.5	9.8	10.0	6.0
Equipment	-21.9	13.6	14.5	11.9	4.8	6.5	3.4	-3.5	5.2	7.9	7.0	5.4
Intellectual Property	-2.2	2.4	4.9	5.0	4.2	5.6	4.8	5.5	4.6	4.4	4.8	4.0
Exports	-13.8	16.7	13.7	4.4	3.6	4.3	-4.6	-2.2	5.8	8.5	8.6	8.1
Imports	-22.7	19.3	13.6	2.9	0.2	4.1	-3.3	-1.9	6.6	10.0	5.8	6.5
Government Purchases	2.9	2.7	-0.2	-0.3	-1.3	1.3	2.0	1.5	2.6	4.5	4.9	3.8
Federal	5.4	7.1	-0.0	-0.8	-4.9	-0.9	0.5	0.6	2.4	5.7	6.5	2.9
Defense	4.5	5.6	0.5	-2.3	-6.2	-2.8	-1.9	-0.4	2.1	6.3	6.6	3.5
Other	7.0	9.7	-1.0	1.8	-2.6	2.2	4.2	2.1	2.7	5.0	6.3	1.9
State and Local	1.3	-0.1	-0.3	0.0	1.1	2.8	2.9	2.1	2.8	3.7	3.9	4.3
	Annual Rates of Change of Constant Dollar GDP Components (%)											
Gross Domestic Product	-2.8	2.5	1.6	2.2	1.7	2.6	2.9	1.5	2.3	2.9	2.7	1.7
Personal Consumption												
Expenditures	-1.6	1.9	2.3	1.5	1.5	2.9	3.6	2.7	2.8	2.5	2.2	2.2
Durable Goods	-5.5	6.1	6.1	7.4	6.2	6.9	7.7	5.5	6.7	5.3	4.7	4.3
Autos & Parts	-7.0	2.0	3.2	7.6	4.6	6.1	6.9	2.9	4.8	1.2	2.4	3.3
Nondurable Goods	-1.8	2.2	1.8	0.6	1.7	2.5	3.1	2.8	2.4	2.3	1.6	1.4
Services	-0.9	1.2	1.8	0.8	0.6	2.4	3.2	2.3	2.2	2.2	2.0	2.2
Gross Private Domestic												
Investment	-21.6	12.9	5.2	10.6	6.1	5.5	5.2	-1.6	3.3	6.5	6.1	2.2
Residential	-21.2	-2.5	0.5	13.5	11.9	3.5	10.2	5.5	1.8	2.6	3.3	0.6
Nonres. Structures	-18.9	-16.4	2.3	12.9	1.4	10.5	-1.8	-4.1	5.6	6.6	6.8	2.7
Equipment	-22.9	15.9	13.6	10.8	4.6	6.6	3.5	-3.4	4.8	7.4	7.3	5.0
Intellectual Property	-1.4	1.9	3.6	3.9	3.4	4.6	3.8	6.3	3.9	3.6	3.2	2.0
Exports	-8.8	11.9	6.9	3.4	3.5	4.3	0.4	-0.3	3.4	5.5	6.6	6.3
Imports	-13.7	12.7	5.5	2.2	1.1	4.5	5.0	1.3	4.0	5.9	7.4	7.3
Government Purchases	3.2	0.1	-3.0	-1.9	-2.9	-0.6	1.4	0.8	0.1	1.9	2.3	0.8
Federal	5.7	4.3	-2.7	-1.9	-5.8	-2.4	-0.1	0.0	0.2	3.6	4.1	0.5
Defense	5.4	3.2	-2.3	-3.4	-6.8	-4.0	-2.2	-0.7	0.2	4.3	4.1	1.1
Other	6.2	6.4	-3.4	0.9	-4.1	0.2	3.2	1.2	0.1	2.5	4.2	-0.3
State and Local	1.6	-2.7	-3.3	-1.9	-0.8	0.5	2.3	1.2	0.1	0.9	1.2	0.9

Table 6. Employment

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Employment (Millions)</b>												
Total	139.9	139.1	139.9	142.5	143.9	146.3	148.8	151.4	153.3	155.8	158.0	159.1
Nonagricultural	131.3	130.4	131.9	134.2	136.4	138.9	141.8	144.3	146.6	149.1	151.2	152.2
Natural Res. & Mining	0.7	0.7	0.8	0.8	0.9	0.9	0.8	0.7	0.7	0.7	0.8	0.8
Construction	6.0	5.5	5.5	5.6	5.9	6.1	6.5	6.7	7.0	7.2	7.5	7.8
Manufacturing	11.8	11.5	11.7	11.9	12.0	12.2	12.3	12.4	12.4	12.7	12.9	12.9
Trans. Warehouse. Util	4.8	4.7	4.9	5.0	5.0	5.2	5.4	5.6	5.7	5.9	5.9	5.9
Trade	20.1	19.9	20.2	20.5	20.8	21.2	21.5	21.7	21.8	21.9	22.1	22.0
Financial Activities	7.8	7.7	7.7	7.8	7.9	8.0	8.1	8.3	8.5	8.6	8.7	8.8
Information	2.8	2.7	2.7	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.8	2.8
Professional & Busi.	16.6	16.7	17.3	17.9	18.5	19.1	19.6	20.0	20.5	21.1	22.2	22.7
Education & Health	19.6	20.0	20.3	20.8	21.1	21.4	22.0	22.6	23.2	23.6	23.8	23.8
Leisure & Hospitality	13.1	13.0	13.4	13.8	14.3	14.7	15.2	15.7	16.1	16.3	16.5	16.5
Other Services	5.4	5.3	5.4	5.4	5.5	5.6	5.6	5.7	5.8	5.8	5.8	5.7
Government	22.6	22.5	22.1	21.9	21.8	21.9	22.0	22.2	22.3	22.3	22.5	22.7
Federal	2.8	3.0	2.9	2.8	2.8	2.7	2.8	2.8	2.8	2.8	2.8	2.9
State & Local	19.7	19.5	19.2	19.1	19.1	19.1	19.3	19.4	19.5	19.5	19.7	19.8
<b>Population and Labor Force (Millions)</b>												
Population aged 16+	242.2	244.7	247.1	249.4	251.6	253.9	256.2	258.5	260.7	263.1	265.3	267.5
Labor Force	154.2	153.9	153.6	155.0	155.4	155.9	157.1	159.2	160.3	162.1	163.8	165.3
Unemployment (%)	9.3	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.8	3.5	3.8

Table 7. Personal Income and Its Disposition

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Billions of Current Dollars</b>												
Personal Income	12094.8	12477.1	13254.5	13915.1	14073.7	14818.2	15553.0	15928.7	16427.3	17127.4	18072.8	19010.0
Wages & Salaries	6251.4	6377.5	6633.2	6930.3	7116.7	7476.8	7858.9	8085.2	8351.2	8743.6	9207.7	9655.5
Other Labor Income	1077.5	1114.6	1142.0	1165.3	1199.0	1231.7	1278.0	1309.8	1345.8	1381.3	1451.0	1529.5
Nonfarm Income	937.5	986.7	1068.1	1179.8	1197.0	1247.7	1265.1	1298.7	1350.9	1421.7	1529.4	1580.0
Farm Income	35.5	46.0	75.5	61.6	87.8	68.1	53.7	43.2	35.1	27.5	43.5	70.8
Rental Income	333.7	402.8	485.3	525.3	567.1	611.7	662.5	707.3	743.9	773.8	803.5	809.3
Dividends	553.7	544.6	682.2	834.9	794.4	941.9	1019.8	962.5	965.3	1001.6	1026.6	1060.4
Interest Income	1264.3	1195.0	1231.6	1288.8	1261.6	1303.3	1367.3	1415.3	1477.1	1557.7	1656.8	1819.4
Transfer Payments	2147.5	2324.7	2360.5	2366.3	2428.0	2544.4	2684.4	2768.4	2850.1	2942.9	3106.5	3271.3
Personal Contributions												
For Social Insurance	506.3	514.7	423.9	437.2	577.8	607.3	636.6	661.7	692.1	722.5	752.2	786.0
Personal Tax and Nontax												
Payments	1152.3	1239.3	1453.2	1511.4	1677.8	1785.6	1937.9	1960.1	2048.3	2112.4	2219.0	2321.4
Disposable Income	10942.5	11237.9	11801.4	12403.7	12395.8	13032.6	13615.0	13968.6	14379.0	15015.0	15853.8	16688.6
Consumption	9847.0	10202.2	10689.3	11050.6	11361.2	11863.7	12332.3	12820.7	13395.5	14037.6	14690.4	15404.4
Interest	273.9	250.8	241.4	240.6	243.9	253.7	268.7	278.4	300.5	321.9	336.3	359.1
Transfers To Foreigners	70.7	71.0	75.1	74.7	77.3	77.9	80.2	80.1	82.4	88.1	90.6	93.3
Personal Saving	667.4	630.0	710.1	946.7	620.1	738.8	828.4	680.6	485.9	448.7	612.9	702.9
Personal Saving Rate(%)	6.1	5.6	6.1	7.6	5.0	5.7	6.1	4.9	3.4	3.0	3.9	4.2

FORECAST TABLES - DETAILED

Table 8. Personal Consumption Expenditures By Major Types

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Billions of Current Dollars												
Personal Consumption	9847.0	10202.2	10689.3	11050.6	11361.2	11863.7	12332.3	12820.7	13395.5	14037.6	14690.4	15404.4
Durable Goods	1023.3	1070.7	1125.3	1191.9	1241.7	1296.4	1367.1	1411.0	1473.8	1521.1	1577.8	1642.8
Autos and Parts	317.1	342.0	363.5	395.8	416.1	441.9	472.2	480.8	498.2	499.3	512.6	535.3
Nondurable Goods	2175.1	2292.1	2471.1	2547.2	2592.8	2674.1	2666.0	2710.4	2821.5	2944.4	3030.2	3147.1
Services	6648.5	6839.4	7092.8	7311.5	7526.7	7893.2	8299.1	8699.3	9100.2	9572.2	10082.4	10614.5
Billions of 2009 Dollars												
Personal Consumption	9847.0	10036.3	10263.5	10413.2	10565.4	10868.4	11264.3	11572.1	11890.7	12191.8	12464.5	12742.8
Durable Goods	1023.3	1085.7	1151.5	1236.2	1312.7	1403.1	1511.8	1595.1	1701.6	1791.1	1875.8	1957.0
Autos and Parts	317.1	323.4	333.8	359.1	375.7	398.7	426.0	438.5	459.3	464.9	476.1	492.0
Nondurable Goods	2175.1	2223.5	2263.2	2277.5	2316.1	2373.0	2446.8	2514.3	2575.0	2634.7	2676.4	2713.2
Services	6648.5	6727.6	6851.4	6908.1	6951.3	7115.5	7340.1	7507.3	7675.2	7841.3	8001.7	8175.1
Annual Rates of Real Growth												
Personal Consumption	-1.6	1.9	2.3	1.5	1.5	2.9	3.6	2.7	2.8	2.5	2.2	2.2
Durable Goods	-5.5	6.1	6.1	7.4	6.2	6.9	7.7	5.5	6.7	5.3	4.7	4.3
Autos and Parts	-7.0	2.0	3.2	7.6	4.6	6.1	6.9	2.9	4.8	1.2	2.4	3.3
Furniture	-8.7	7.0	5.8	4.4	5.9	8.3	8.4	7.2	7.1	6.5	5.5	4.8
Other Durables	-5.0	4.2	5.5	3.7	4.4	5.4	6.7	2.8	4.9	5.9	6.8	5.5
Nondurable Goods	-1.8	2.2	1.8	0.6	1.7	2.5	3.1	2.8	2.4	2.3	1.6	1.4
Food and Beverages	-1.5	2.1	1.1	0.1	-0.1	1.3	0.6	2.7	2.6	2.3	0.9	1.1
Gasoline and Oil	-0.8	-0.1	-2.0	-0.9	2.0	-1.3	4.4	0.9	-1.0	-1.0	0.4	-0.6
Fuel	15.0	-7.9	-12.4	-10.7	1.9	5.8	6.7	4.8	-7.6	0.5	-1.2	-1.8
Clothing and Shoes	-4.9	5.3	3.9	1.1	1.8	3.2	3.8	2.4	2.2	0.9	1.9	1.8
Other Nondurables	-1.7	2.3	3.6	2.0	3.1	4.5	4.6	3.3	3.3	3.7	2.3	2.0
Services	-0.9	1.2	1.8	0.8	0.6	2.4	3.2	2.3	2.2	2.2	2.0	2.2
Housing	1.3	1.1	1.8	0.6	0.3	1.6	2.2	1.7	1.2	1.3	1.5	1.7
Transportation Serv.	-9.8	-0.9	2.4	1.7	3.2	5.7	4.3	3.7	1.8	2.2	2.2	1.4
Health Care	1.8	1.3	2.5	2.2	0.5	3.0	5.1	3.8	3.0	3.0	2.6	2.9
Recreational Service	-3.3	1.3	2.3	2.0	1.7	2.3	2.4	2.1	2.4	0.7	0.7	1.9
Food Svcs. Accom.	-4.1	1.5	2.6	2.6	1.7	3.3	4.3	2.4	1.3	1.6	4.0	3.6
Financial Services	-2.5	2.1	1.8	-5.5	0.1	1.7	3.0	-1.6	3.2	3.8	1.6	2.1
Other Services	-2.2	0.2	1.3	1.7	-1.0	2.6	2.2	4.1	3.5	0.7	1.5	1.2

Table 9. Residential Construction and Housing Starts

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Housing Starts (Millions of Units)												
Housing Starts	0.554	0.586	0.612	0.784	0.928	1.001	1.107	1.177	1.208	1.342	1.402	1.361
Single-family	0.442	0.471	0.434	0.537	0.620	0.647	0.712	0.784	0.851	0.921	0.984	0.975
Multi-family	0.112	0.114	0.178	0.247	0.308	0.355	0.395	0.393	0.357	0.421	0.417	0.385
Residential Construction Expenditures (Billions of Dollars)												
Current Dollars	392.2	381.1	386.0	442.2	519.5	570.2	645.4	705.9	747.6	806.0	862.0	897.2
2009 Dollars	392.2	382.4	384.5	436.5	488.3	505.2	556.9	587.4	597.9	613.5	633.8	637.7
% Change	-21.2	-2.5	0.5	13.5	11.9	3.5	10.2	5.5	1.8	2.6	3.3	0.6
Related Concepts												
Treas. Bill Rate	0.15	0.14	0.05	0.09	0.06	0.03	0.05	0.32	0.93	2.02	2.76	3.19
Conventional 30-year Mortgage Rate	5.04	4.69	4.46	3.66	3.98	4.17	3.85	3.65	3.99	4.76	5.73	5.59
Median Sales Price of New Homes (Thous \$)	214.5	221.2	224.3	242.1	265.1	283.2	293.7	306.5	321.6	327.9	331.1	340.3
Real Disp. Income	10942.5	11237.9	11801.4	12403.7	12395.8	13032.6	13615.0	13968.6	14379.0	15015.0	15853.8	16688.6
% Change	-0.4	1.0	2.5	3.1	-1.4	3.6	4.2	1.4	1.2	2.2	3.1	2.6

Table 10. Nonresidential Fixed Investment and Inventories

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Billions of Current Dollars												
Nonres. Fixed Investment	1633.4	1658.2	1812.1	2007.7	2094.4	2268.3	2336.2	2316.3	2449.6	2626.8	2810.7	2954.2
Equipment	644.3	731.8	838.2	937.9	982.8	1046.5	1081.9	1043.9	1098.4	1185.6	1268.5	1336.5
Intellectual Property	550.9	564.4	592.2	621.7	647.9	684.3	716.8	756.2	791.0	826.0	865.5	900.1
Nonresidential Structures	438.2	362.0	381.6	448.0	463.6	537.5	537.5	516.2	560.2	615.3	676.7	717.5
Buildings	249.1	173.7	170.2	191.6	203.8	234.4	280.8	311.5	321.0	338.8	376.1	404.3
Commercial	95.4	64.7	66.8	75.6	84.2	102.9	116.8	141.0	152.0	155.1	167.2	177.5
Industrial	56.3	39.8	39.0	45.8	48.8	57.0	77.7	73.1	65.4	67.8	85.1	95.1
Other Buildings	97.4	69.2	64.5	70.2	70.7	74.6	86.3	97.4	103.6	115.8	123.8	131.7
Utilities	104.3	93.3	90.7	112.2	108.9	126.3	125.5	129.6	126.1	127.5	131.8	136.8
Mining Exploration	75.0	86.2	112.3	134.1	139.4	163.1	118.4	63.4	101.7	136.9	155.5	162.3
Other	9.9	8.9	8.4	10.1	11.6	13.6	12.8	11.8	11.4	12.1	13.2	14.1
Billions of 2009 Dollars												
Nonres. Fixed Investment	1633.4	1673.8	1802.3	1964.1	2032.9	2172.7	2223.5	2210.4	2314.2	2453.2	2598.0	2689.1
Equipment	644.3	746.7	847.9	939.2	982.3	1047.4	1084.5	1047.8	1098.1	1179.9	1266.0	1329.0
Intellectual Property	550.9	561.3	581.3	603.8	624.5	653.1	677.8	720.4	748.8	775.5	800.4	816.6
Nonresidential Structures	438.2	366.3	374.7	423.1	428.8	474.0	465.4	446.4	471.5	502.5	536.9	551.4
Buildings	249.1	179.3	172.3	188.8	196.0	218.2	256.3	279.0	278.1	281.1	305.9	320.6
Commercial	95.4	66.6	67.3	73.9	80.5	95.9	106.7	126.7	133.4	131.9	139.8	145.0
Industrial	56.3	40.8	39.1	44.9	46.7	52.8	70.7	66.2	57.7	57.6	70.1	75.8
Other Buildings	97.4	71.9	65.9	70.0	68.6	69.4	78.7	85.8	86.6	91.0	95.7	99.4
Utilities	104.3	89.8	82.8	99.1	95.1	108.8	106.4	109.4	103.1	102.2	103.9	100.5
Mining Exploration	75.0	87.8	110.9	123.8	126.0	134.2	95.9	54.5	86.2	113.0	120.9	124.2
Other	9.9	9.2	8.6	10.1	11.2	12.5	11.3	10.0	9.3	9.5	10.1	10.5
Percent Change in Real Nonresidential Fixed Investment												
Nonres. Fixed Investment	-15.6	2.5	7.7	9.0	3.5	6.9	2.3	-0.6	4.7	6.0	5.9	3.5
Equipment	-22.9	15.9	13.6	10.8	4.6	6.6	3.5	-3.4	4.8	7.4	7.3	5.0
Intellectual Property	-1.4	1.9	3.6	3.9	3.4	4.6	3.8	6.3	3.9	3.6	3.2	2.0
Nonresidential Structures	-18.9	-16.4	2.3	12.9	1.4	10.5	-1.8	-4.1	5.6	6.6	6.8	2.7
Buildings	-21.7	-28.0	-3.9	9.6	3.8	11.3	17.5	8.8	-0.3	1.1	8.8	4.8
Commercial	-37.1	-30.2	0.9	9.8	9.0	19.0	11.3	18.8	5.3	-1.1	6.0	3.7
Industrial	4.6	-27.5	-4.2	14.8	4.1	13.0	33.8	-6.4	-12.7	-0.2	21.6	8.2
Other Buildings	-13.7	-26.2	-8.3	6.2	-2.0	1.1	13.5	9.0	0.9	5.1	5.1	3.9
Utilities	0.7	-13.9	-7.8	19.8	-4.1	14.4	-2.1	2.8	-5.8	-0.9	1.6	-3.3
Mining Exploration	-28.6	17.1	26.4	11.7	1.8	6.5	-28.5	-43.2	58.2	31.1	7.0	2.7
Other	-21.3	-7.4	-5.9	17.4	10.3	11.7	-9.4	-11.6	-6.7	2.2	6.0	3.5
Related Concepts												
Annual Growth-Price Deflator For:												
Producers Dur. Equip.	1.3	-2.0	0.9	1.0	0.2	-0.1	-0.1	-0.1	0.4	0.5	-0.3	0.4
Structures	-2.2	-1.2	3.0	4.0	2.1	4.9	1.8	0.1	2.7	3.0	2.9	3.3
Moody's AAA Rate(%)	5.3	4.9	4.6	3.7	4.2	4.2	3.9	3.7	3.7	4.2	5.3	5.1
Capacity Utilization in Manufacturing(%)	65.5	70.7	73.6	74.9	75.0	75.8	75.8	74.6	74.8	76.0	76.4	75.4
Final Sales(Bil. 2009 \$)	14566.3	14725.6	14983.0	15300.0	15533.5	15945.5	16371.0	16682.8	17081.0	17545.5	17984.4	18310.6
Change in Business Inventories												
Current Dollars	-147.6	61.5	41.8	61.8	92.4	78.0	111.9	35.1	15.7	57.4	91.9	72.0
2005 Dollars	-147.6	58.2	37.6	54.7	78.7	67.8	100.5	33.4	15.2	50.3	78.8	60.4

FORECAST TABLES - DETAILED

Table 11. Federal Government Receipts and Expenditures

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Billions of Current Dollars											
Unified Budget Basis, Fiscal Year												
Receipts	2104.4	2161.7	2302.5	2449.1	2774.0	3020.4	3248.7	3266.8	3314.9	3344.3	3477.7	3637.6
Outlays	3520.1	3455.9	3599.3	3538.3	3454.2	3503.7	3685.2	3854.1	3980.7	4173.0	4430.0	4693.3
Surplus or Deficit (-)	-1415.7	-1294.2	-1296.8	-1089.2	-680.2	-483.6	-439.1	-587.4	-665.8	-828.7	-952.3	-1055.7
National Income & Products Accounts Basis, Calendar Year												
Current Receipts	2238.4	2443.3	2574.1	2699.1	3138.4	3291.2	3441.4	3452.1	3587.4	3582.9	3742.7	3898.5
Current Tax Receipts	1171.1	1352.7	1553.8	1661.1	1824.3	1995.4	2126.9	2100.2	2159.4	2136.5	2219.5	2306.8
Personal Current Taxes	864.5	941.6	1129.1	1164.7	1302.0	1403.0	1528.5	1540.5	1603.5	1614.8	1692.9	1771.9
Taxes - Corporate Income	200.4	298.7	299.4	363.1	378.1	436.6	437.1	401.2	401.3	342.6	351.3	353.7
Taxes - Production/Imports	91.4	96.8	108.6	115.1	124.8	135.4	140.2	137.0	132.3	155.9	151.3	156.1
Contributions for Soc. Ins.	950.8	970.9	904.0	938.1	1091.3	1140.9	1193.4	1230.2	1287.3	1341.2	1399.0	1462.0
Income Receipts on Assets	48.5	54.6	56.4	52.6	163.3	75.1	48.9	46.8	58.5	33.7	48.5	50.6
Current Transfer Receipts	67.2	68.1	67.1	56.1	70.7	87.8	77.0	78.3	86.5	76.3	78.7	81.9
Surplus of Gov't. Enterprises	0.7	-3.1	-7.1	-8.9	-11.1	-8.0	-4.7	-3.5	-4.3	-4.7	-3.0	-2.7
Current Expenditures	3487.2	3772.0	3818.3	3789.1	3782.2	3901.4	4028.0	4149.4	4252.5	4468.3	4759.5	5024.5
Consumption Expenditures	933.7	1003.9	1006.1	1007.8	961.0	954.5	960.0	964.5	977.8	1026.1	1086.0	1121.2
Defense	613.3	653.2	662.3	653.9	613.7	600.0	588.2	585.2	588.7	620.1	659.1	682.5
Nondefense	320.4	350.7	343.8	353.9	347.3	354.5	371.8	379.4	389.1	406.0	426.9	438.6
Transfer Payments	2142.9	2333.2	2327.0	2300.8	2346.2	2448.7	2572.8	2648.4	2709.0	2798.9	2958.0	3111.6
Government Social Benefits	1616.2	1757.9	1779.9	1783.6	1823.5	1881.9	1967.2	2018.4	2074.5	2139.0	2274.6	2404.5
To the Rest of the World	16.0	16.5	17.1	18.0	18.9	19.3	20.2	20.9	21.9	22.5	23.5	25.3
Grants-in-Aid												
To S&L Governments	458.1	505.3	472.5	444.0	450.0	494.8	532.1	555.5	559.6	584.8	604.4	624.6
To the Rest of the World	52.7	53.5	57.6	55.3	53.8	52.8	53.3	53.6	53.0	52.6	55.5	57.3
Interest Payments	353.6	380.6	425.7	422.9	416.2	440.6	438.4	475.1	504.9	582.0	652.6	730.1
Subsidies	56.9	54.3	59.5	57.6	58.8	57.6	56.7	61.3	60.8	61.3	62.7	61.7
Surplus or Deficit (-)	-1248.8	-1328.7	-1244.1	-1090.1	-643.8	-610.2	-586.7	-697.3	-665.1	-885.5	-1016.8	-1126.0

Table 12. State and Local Government Receipts and Expenditures

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Billions of Current Dollars											
Receipts	1268.1	1305.6	1368.3	1416.1	1481.4	1526.7	1584.1	1628.7	1696.9	1813.7	1898.8	1983.4
As Share of GDP	8.8	8.7	8.8	8.8	8.9	8.8	8.7	8.7	8.8	8.9	8.8	8.8
Personal Tax and Nontax												
Receipts	287.8	297.6	324.1	346.7	375.9	382.6	409.4	419.6	444.8	497.6	526.1	549.5
Corporate Profits	45.6	47.7	50.2	52.5	55.5	57.8	59.2	58.1	54.3	58.4	62.4	64.8
Indirect Business Tax and												
Nontax Accruals	934.8	960.4	994.0	1016.9	1050.1	1086.2	1115.6	1151.0	1197.8	1257.7	1310.3	1369.1
Contributions For Social												
Insurance	18.6	18.1	18.2	18.0	18.5	19.6	19.8	20.3	20.5	21.2	22.2	23.2
Federal Grants-In-Aid	458.1	505.3	472.5	444.0	450.0	494.8	532.1	555.5	559.6	584.8	604.4	624.6
Expenditures	2191.2	2235.8	2246.4	2277.9	2327.3	2405.6	2497.0	2583.7	2669.2	2757.3	2861.4	2987.7
As Share of GDP	15.2	14.9	14.5	14.1	13.9	13.8	13.8	13.9	13.8	13.5	13.3	13.3
Purchases	1871.4	1870.2	1865.3	1866.1	1886.6	1938.9	1994.9	2036.3	2093.2	2171.0	2255.5	2353.5
Transfer Payments	492.6	523.8	530.4	540.0	563.4	616.9	664.0	692.6	716.1	740.8	766.0	798.1
Interest Received	114.3	123.0	125.9	141.4	141.8	121.3	122.3	136.6	137.0	136.6	140.3	145.9
Net Subsidies	22.8	21.4	17.9	10.8	10.3	10.4	10.1	7.1	7.3	4.3	1.1	-1.9
Dividends Received	2.1	2.3	2.6	3.3	3.6	3.8	4.2	4.6	4.7	4.9	5.2	5.4
Net Wage Accruals												
Surplus Or Deficit	-271.9	-237.3	-215.9	-220.8	-190.5	-168.9	-146.4	-167.4	-178.8	-112.7	-97.5	-103.1

Table 13. U.S. Exports and Imports of Goods and Services

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Billions of Current Dollars												
Net Exports-Goods & Serv.	-395.4	-512.7	-580.0	-565.7	-492.0	-509.5	-524.0	-521.2	-571.6	-666.0	-633.1	-628.6
Current Account Balance	-372.5	-430.7	-444.6	-426.2	-349.5	-373.8	-434.6	-451.7	-466.2	-605.7	-664.3	-695.7
Merchandise Balance	-525.2	-670.2	-777.9	-779.8	-738.8	-778.1	-793.3	-778.2	-834.9	-948.0	-979.6	*****
Exports-Goods & Services	1587.7	1852.3	2106.4	2198.2	2276.6	2373.6	2264.9	2214.6	2344.0	2542.1	2760.7	2985.4
Merchandise	1065.1	1279.6	1466.9	1526.0	1562.7	1617.9	1497.2	1446.0	1546.8	1699.6	1829.3	1960.1
Food, Feeds & Beverages	93.9	107.7	126.2	133.0	136.2	143.7	127.7	130.6	136.5	142.3	149.3	160.1
Industrial Supplies	293.5	388.6	485.3	483.2	492.4	500.7	417.4	386.8	454.9	539.0	581.0	633.6
Motor Vehicles & Parts	81.7	112.0	133.0	146.2	152.7	159.8	151.9	150.3	158.1	173.2	186.4	193.0
Capital Goods, Ex. MVP	316.7	375.9	413.8	433.1	429.8	438.6	420.3	398.9	412.6	445.0	478.7	522.3
Computer Equipment	37.7	43.8	48.5	49.2	48.1	48.8	46.8	45.1	46.1	51.0	53.7	57.8
Other	279.0	332.1	365.4	383.9	381.7	389.8	373.4	353.8	366.5	394.0	424.9	464.5
Consumer Goods, Ex. MVP	149.3	164.9	174.7	181.0	188.1	198.4	197.4	193.4	197.8	195.8	214.2	222.1
Other	55.2	58.6	53.4	55.1	58.6	63.6	62.9	65.1	65.8	73.7	80.1	85.8
Services	522.6	572.7	639.5	672.2	713.9	755.7	767.7	768.5	797.1	842.4	931.4	1025.4
Imports-Goods & Services	1983.2	2365.0	2686.4	2763.8	2768.6	2883.2	2789.0	2735.8	2915.6	3208.1	3393.8	3614.0
Merchandise	1590.3	1949.8	2244.7	2305.8	2301.5	2396.1	2290.5	2224.2	2381.8	2647.6	2808.9	3003.2
Foods, Feeds & Beverage	82.9	92.5	108.3	111.1	116.0	126.8	128.8	131.0	139.2	137.2	134.4	146.2
Petroleum & Products	267.7	353.6	462.1	434.3	387.8	353.6	197.2	159.6	200.7	254.5	252.4	254.1
Indus Supplies Ex. Petr	196.6	249.4	292.7	288.8	291.3	316.2	290.5	277.2	306.8	356.6	369.8	409.4
Motor Vehicles & Parts	159.2	225.6	255.2	298.5	309.6	329.5	350.0	351.0	360.4	370.4	368.0	373.9
Capital Goods, Ex. MVP	343.4	419.1	477.9	511.6	512.0	545.5	551.6	543.9	593.2	655.2	714.8	780.0
Computer Equipment	94.2	117.3	119.7	122.3	121.2	122.0	120.3	114.5	128.4	132.8	134.7	140.7
Other	249.2	301.9	358.2	389.4	390.8	423.5	431.3	429.4	464.8	522.4	580.2	639.3
Consumer Goods, Ex. MVP	429.9	485.1	515.9	518.8	532.9	558.7	596.6	585.4	605.9	682.3	730.2	765.3
Other	80.0	93.1	97.1	102.4	105.0	112.4	120.7	126.1	124.2	137.6	177.6	210.2
Services	392.9	415.2	441.6	458.0	467.1	487.1	498.5	511.6	533.8	560.4	584.9	610.8
Billions of 2009 Dollars												
Net Exports-Goods & Serv.	-395.4	-458.8	-459.4	-447.1	-404.9	-427.7	-545.3	-586.2	-621.8	-667.0	-735.3	-814.3
Exports-Goods & Services	1587.7	1776.6	1898.3	1963.2	2031.5	2118.4	2127.1	2120.1	2191.4	2310.9	2464.1	2618.3
Imports-Goods & Services	1983.2	2235.4	2357.7	2410.2	2436.4	2546.1	2672.4	2706.3	2813.2	2977.9	3199.5	3432.7
Exports and Imports -- % Change												
Current Dollars												
Exports	-13.8	16.7	13.7	4.4	3.6	4.3	-4.6	-2.2	5.8	8.5	8.6	8.1
Imports	-22.7	19.3	13.6	2.9	0.2	4.1	-3.3	-1.9	6.6	10.0	5.8	6.5
Constant Dollars												
Exports	-8.8	11.9	6.9	3.4	3.5	4.3	0.4	-0.3	3.4	5.5	6.6	6.3
Imports	-13.7	12.7	5.5	2.2	1.1	4.5	5.0	1.3	4.0	5.9	7.4	7.3
Production Indicators - % Change												
U.S. Industrial Production	-11.5	5.5	3.1	3.0	2.0	3.1	-1.0	-1.9	1.6	3.9	3.2	1.8
Real GDP -- Industrial Countries	-3.5	2.8	2.3	1.1	1.6	2.2	1.8	1.6	2.6	2.1	2.0	1.8
Real GDP -- Developing Countries	-0.3	7.4	5.4	4.2	3.8	3.7	3.3	2.9	3.5	3.3	3.4	3.6
Price Indicators												
Price Deflators (% Ch)												
Exports	-5.5	4.3	6.4	0.9	0.1	-0.0	-5.0	-1.9	2.4	2.8	1.8	1.8
Imports	-10.4	5.8	7.7	0.6	-0.9	-0.3	-7.8	-3.1	2.5	3.9	-1.5	-0.8
Crude Oil Prices (\$/barrel)	61.7	79.4	95.1	94.2	97.9	93.3	48.7	43.2	51.0	67.0	66.8	70.9
Real U.S. Dollar												
Ex. Rate-Indust. Countries	1.00	0.99	0.92	0.95	1.00	1.04	1.24	1.29	1.28	1.22	1.24	1.20
%Change	7.9	-0.5	-7.9	4.0	4.6	4.3	19.3	4.2	-0.6	-5.3	1.6	-2.7
Ex. Rate-Dev. Countries	1.00	0.95	0.87	0.86	0.85	0.87	0.98	1.07	1.06	1.03	1.02	1.04
%Change	6.2	-5.2	-8.3	-0.6	-1.2	2.1	11.8	9.7	-1.1	-2.7	-0.6	1.4



FORECAST TABLES - DETAILED

Table 14. Price Indexes for GDP and Other Inflation Indicators (Percent Change)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Implicit Price Deflators</b>												
GDP	0.8	1.2	2.1	1.8	1.6	1.8	1.1	1.3	1.8	2.0	2.8	3.0
Consumption	-0.1	1.7	2.5	1.9	1.3	1.5	0.3	1.2	1.7	2.2	2.4	2.6
Durables	-1.7	-1.4	-0.9	-1.3	-1.9	-2.3	-2.1	-2.2	-2.1	-1.9	-0.9	-0.2
Motor Vehicles	0.3	5.7	3.0	1.2	0.5	0.1	-0.0	-1.1	-1.1	-1.0	0.2	1.1
Furniture	-0.4	-4.2	-1.6	-0.3	-2.0	-3.5	-2.3	-2.6	-2.7	-2.1	-0.8	0.1
Other Durables	1.1	0.4	3.2	0.6	-0.2	-1.8	-2.5	1.2	0.3	0.3	1.0	1.3
Nondurables	-2.6	3.1	5.9	2.4	0.1	0.7	-3.3	-1.1	1.6	2.0	1.3	2.5
Food	1.2	0.3	4.0	2.3	1.1	1.8	1.1	-0.9	-0.1	0.6	1.9	2.0
Clothing & Shoes	0.9	-0.7	1.8	3.4	0.8	0.1	-1.3	-0.3	-0.5	0.6	-1.0	0.1
Gasoline	-27.2	18.1	26.4	3.4	-3.1	-2.7	-26.6	-11.3	12.7	13.0	-2.7	2.9
Fuel	-31.5	17.0	27.2	1.3	-1.2	-0.5	-29.0	-16.7	14.5	13.6	3.5	4.7
Motor Vehicle Fuel	-26.8	18.2	26.3	3.6	-3.2	-2.8	-26.5	-10.9	12.5	12.9	-3.2	2.8
Services	1.1	1.7	1.8	2.2	2.3	2.5	1.9	2.5	2.3	3.0	3.2	3.0
Housing	1.8	0.1	1.3	2.1	2.3	2.7	3.1	3.4	3.4	3.4	3.5	3.3
Utilities	-2.2	1.3	1.7	-0.2	3.3	4.2	-0.5	0.0	3.3	2.6	2.2	2.3
Electricity	3.0	0.2	1.7	-0.0	2.1	3.7	0.6	-1.1	2.1	2.2	2.0	2.2
Natural Gas	-21.9	-2.0	-3.0	-9.9	5.1	6.8	-11.8	-2.4	8.0	3.4	2.3	1.2
Water & Sanit.	6.1	6.3	5.2	5.6	4.5	3.7	4.5	3.7	3.4	2.9	2.5	3.2
Health Care	2.7	2.5	1.8	1.8	1.4	1.2	0.6	1.2	1.4	2.4	2.8	2.9
Transportation	3.1	2.0	2.7	1.9	1.4	1.1	0.4	1.1	1.7	2.1	2.7	2.1
Recreation	1.2	1.1	1.7	2.7	1.7	1.8	1.6	2.4	2.7	2.6	3.4	2.9
Food & Accom.	2.2	1.3	2.5	2.8	2.0	2.7	2.8	2.6	2.1	2.7	3.6	3.4
Financial & Insur.	-4.4	4.0	2.4	4.9	5.1	5.2	3.5	5.7	3.7	5.5	4.2	3.6
Other Services	2.8	3.0	2.5	2.5	2.7	2.3	1.8	1.9	1.8	2.5	2.8	3.0
Investment Deflators:												
Nonresidential	-0.3	-0.9	1.5	1.7	0.8	1.3	0.6	-0.3	1.0	1.2	1.0	1.5
Structures	-2.2	-1.2	3.0	4.0	2.1	4.9	1.8	0.1	2.7	3.0	2.9	3.3
Equipment	1.3	-2.0	0.9	1.0	0.2	-0.1	-0.1	-0.1	0.4	0.5	-0.3	0.4
Intellectual Prop.	-0.8	0.5	1.3	1.1	0.8	1.0	0.9	-0.7	0.6	0.8	1.5	1.9
Residential	-3.5	-0.4	0.8	0.9	5.0	6.1	2.7	3.7	4.1	5.1	3.5	3.5
Government Purchases	-0.3	2.7	3.0	1.6	1.6	2.0	0.6	0.8	2.5	2.5	2.5	3.0
Federal	-0.3	2.6	2.7	1.0	1.0	1.6	0.6	0.6	2.2	2.1	2.2	2.4
State & Local	-0.3	2.7	3.1	1.9	1.9	2.2	0.6	0.9	2.7	2.8	2.7	3.4
Exports	-5.5	4.3	6.4	0.9	0.1	-0.0	-5.0	-1.9	2.4	2.8	1.8	1.8
Imports	-10.4	5.8	7.7	0.6	-0.9	-0.3	-7.8	-3.1	2.5	3.9	-1.5	-0.8
<b>Other Inflation Related Indicators</b>												
Consumer Price Index												
All Urban	-0.3	1.6	3.1	2.1	1.5	1.6	0.1	1.3	2.1	2.6	2.3	2.7
Producers Price Index	-8.8	6.8	8.8	0.5	0.6	0.9	-7.2	-2.7	4.4	4.7	2.5	2.2
<b>Nonfarm Sector Indicators</b>												
Wage Compensation	1.0	1.9	2.2	2.6	1.2	2.9	3.1	1.1	1.7	2.6	3.5	4.1
Productivity	3.2	3.3	0.1	0.9	0.3	1.0	1.2	0.0	1.3	1.3	1.2	1.2
Unit Labor Costs	-2.0	-1.3	2.1	1.7	0.9	1.9	1.8	1.1	0.3	1.3	2.3	2.9
<b>Crude Oil Prices (dollars/barrel)</b>												
West Texas Intermediate	61.69	79.44	95.08	94.20	97.94	93.26	48.69	43.21	50.96	67.00	66.83	70.89

Table 15. Producers Price Indexes

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Annual Percent Change											
All Commodities	-8.8	6.8	8.8	0.5	0.6	0.9	-7.2	-2.7	4.4	4.7	2.5	2.2
Industrial Commodities	-9.0	7.0	8.0	0.0	0.4	0.6	-7.5	-2.3	5.0	5.3	2.5	2.0
Textiles & Apparel	0.5	1.7	7.6	0.3	0.8	1.5	-1.0	-0.5	1.2	2.1	1.3	1.4
Fuels	-25.8	17.1	16.0	-1.8	-0.2	-0.9	-23.5	-9.1	12.3	11.8	1.6	2.0
Chemicals	-6.5	7.5	11.5	0.5	0.9	0.6	-5.3	-0.3	6.0	5.3	3.9	3.2
Rubber & Plastics	-0.4	3.3	7.1	2.3	1.1	0.6	-1.7	-1.3	2.4	2.6	2.5	2.0
Lumber & Wood	-4.4	5.4	1.1	3.5	6.5	4.3	-1.0	0.4	3.5	4.1	-0.9	-0.2
Pulp & Paper	-0.5	5.0	3.5	-0.4	1.9	0.7	-0.7	-0.4	2.8	1.2	1.4	1.8
Metals & Products	-12.2	11.1	8.8	-2.7	-2.9	0.7	-6.9	-2.9	6.9	8.7	4.4	0.9
Equipment	1.2	-0.1	1.3	1.1	0.7	0.8	0.5	-0.1	0.7	1.3	1.8	1.6
Trans. Equipment	2.3	0.7	1.7	2.2	1.2	1.4	1.4	0.4	0.9	1.3	2.5	2.2
Farm	-16.5	12.2	23.6	3.2	1.4	1.1	-12.0	-9.6	3.0	0.9	4.0	4.0
Processed Foods & Feeds	-2.4	3.4	8.4	3.9	1.5	3.9	-3.4	-2.7	1.0	0.9	2.5	3.1
<b>By Stage of Processing</b>												
Crude Materials	-30.5	21.2	17.5	-3.2	2.1	1.1	-24.2	-8.3	10.1	6.2	3.1	1.6
Intermediate Materials	-8.2	6.3	8.9	0.5	0.1	0.5	-6.9	-3.1	4.7	4.6	2.3	1.4
Finished Goods	-2.6	4.2	6.0	1.9	1.2	1.9	-3.3	-1.0	3.2	3.3	1.9	2.4
Consumers	-3.8	5.5	7.6	1.9	1.4	2.1	-4.8	-1.5	4.0	4.0	2.4	2.8
Producers	1.8	0.4	1.5	1.9	0.9	1.4	1.2	0.4	1.0	1.6	1.7	1.3

Table 16. Money, Interest Rates and Corporate Profits

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	Billions of Dollars											
Money Supply (M1)	1638.1	1742.6	2010.5	2315.6	2549.6	2815.0	3021.7	3250.6	3505.6	3687.2	3796.8	3886.6
Money Supply (M2)	8403.7	8613.6	9243.5	10038.5	10715.0	11376.9	12034.0	12853.3	13571.1	14039.7	14450.4	14784.1
	Percent Change											
Money Supply (M1)	14.2	6.4	15.4	15.2	10.1	10.4	7.3	7.6	7.8	5.2	3.0	2.4
Money Supply (M2)	8.1	2.5	7.3	8.6	6.7	6.2	5.8	6.8	5.6	3.5	2.9	2.3
	Interest Rates (Percent)											
Short-term Rates												
3-Month Treas. Bills	0.15	0.14	0.05	0.09	0.06	0.03	0.05	0.32	0.93	2.02	2.76	3.19
Prime Bank Loans	3.25	3.25	3.25	3.25	3.25	3.25	3.26	3.51	4.10	4.90	5.90	6.45
U.S. Government Bond Yields												
5 Year Maturity	2.19	1.93	1.52	0.76	1.17	1.64	1.53	1.34	1.91	3.03	3.94	3.78
10 Year Maturity	3.26	3.21	2.79	1.80	2.35	2.54	2.14	1.84	2.33	3.22	4.15	3.88
30 Year Maturity	4.07	4.25	3.91	2.92	3.45	3.34	2.84	2.60	2.89	3.40	4.40	4.35
State and Local Governments Bond Yields												
Domestic Municipal Bonds	4.63	4.29	4.52	3.73	4.27	4.24	3.66	3.27	3.67	4.12	4.88	4.67
Corporate Bond Yields												
Moodys AAA Corp. Bonds	5.31	4.94	4.64	3.67	4.24	4.16	3.89	3.67	3.74	4.20	5.25	5.08
Conventional Mortgage Rate	5.04	4.69	4.46	3.66	3.98	4.17	3.85	3.65	3.99	4.76	5.73	5.59
	Corporate Profits (Billions of Dollars)											
Profits Before Taxes	1472.55	1840.69	1806.81	2130.81	2156.08	2249.08	2158.55	2158.92	2247.70	2178.00	2285.93	2364.63
Inventory Valuation Adj.	6.66	-41.01	-68.29	-14.19	3.32	4.08	52.38	2.72	-49.15	-45.73	-18.53	-24.58
Profits After Taxes	1203.11	1470.12	1427.71	1683.19	1688.39	1743.76	1651.13	1687.90	1780.97	1765.77	1860.72	1934.11

FORECAST TABLES - LONG-TERM SUMMARY

Table 1. Summary of the UCLA Anderson Forecast for the Nation

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Monetary Aggregates and GDP (% Ch.)</b>												
Money Supply (M1)	7.8	5.2	3.0	2.4	2.1	2.2	2.4	2.3	2.5	2.3	2.4	2.6
Money Supply (M2)	5.6	3.5	2.9	2.3	2.9	3.8	3.9	4.0	4.3	4.3	4.4	4.3
GDP Price Index	1.8	2.0	2.8	3.0	2.8	2.6	2.5	2.3	2.2	2.2	2.2	2.2
Real GDP	2.3	2.9	2.7	1.7	1.6	1.9	1.7	1.7	1.9	1.9	2.0	2.0
<b>Interest Rates (%) on:</b>												
Federal Funds	1.0	1.8	2.8	3.4	3.5	3.5	3.3	3.1	3.0	2.8	2.7	2.7
90-day Treasury Bills	0.9	2.0	2.8	3.2	3.2	3.2	3.1	2.9	2.7	2.6	2.5	2.5
10-year Treasury Bonds	2.3	3.2	4.2	3.9	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
30-year Treasury Bonds	2.9	3.4	4.4	4.3	4.3	4.4	4.4	4.4	4.4	4.4	4.4	4.4
Moody's Corporate Aaa Bonds	3.7	4.2	5.3	5.1	5.0	5.0	5.1	5.2	5.2	5.2	5.2	5.2
30-yr Bond Less Inflation	1.2	1.2	2.0	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.4
<b>Federal Fiscal Policy</b>												
Defense Purchases (% Ch.)												
Current \$	2.1	6.3	6.6	3.5	1.6	1.3	-0.6	0.4	2.1	2.1	2.3	2.9
Constant \$	0.2	4.3	4.1	1.1	-0.8	-1.2	-3.0	-2.0	-0.2	-0.2	0.1	0.7
Other Expenditures (% Ch.)												
Transfers to Persons	2.3	3.3	5.7	5.2	5.1	5.1	5.3	5.4	5.5	5.2	4.4	6.0
Grants to S&L Gov't	0.7	4.5	3.3	3.3	3.2	2.8	4.2	4.9	4.9	5.0	5.0	4.7
<b>Billions of Current Dollars, Unified Budget Basis, Fiscal Year</b>												
Receipts	3314.9	3344.3	3477.7	3637.6	3790.9	3990.2	4198.1	4374.9	4521.3	4721.7	4951.5	5232.4
Outlays	3980.7	4173.0	4430.0	4693.3	4916.9	5185.9	5342.0	5502.7	5833.4	6145.2	6432.3	6789.4
Surplus or Deficit (-)	-665.8	-828.7	-952.3	-1055.7	-1126.0	-1195.7	-1143.9	-1127.8	-1312.1	-1423.5	-1480.8	-1556.9
<b>As Shares of GDP (%), NIPA Basis</b>												
Revenues	18.5	17.6	17.4	17.3	17.4	17.5	17.6	17.6	17.5	17.5	17.6	17.7
Expenditures	21.9	21.9	22.1	22.3	22.4	22.4	22.4	22.6	22.8	23.0	23.1	23.3
Defense Purchases	3.8	3.9	3.9	3.9	3.8	3.7	3.5	3.4	3.3	3.2	3.2	3.1
Transfers to Persons	14.0	13.7	13.8	13.8	13.9	14.0	14.1	14.3	14.5	14.6	14.6	14.9
Surplus or Deficit (-)	-3.4	-4.3	-4.7	-5.0	-5.0	-4.9	-4.8	-5.0	-5.3	-5.5	-5.5	-5.6
<b>Details of Real GDP (% Ch.)</b>												
Real GDP	2.3	2.9	2.7	1.7	1.6	1.9	1.7	1.7	1.9	1.9	2.0	2.0
Final Sales	2.4	2.7	2.5	1.8	1.7	1.9	1.8	1.7	1.8	1.9	2.0	2.0
Consumption	2.8	2.5	2.2	2.2	2.1	2.2	2.2	2.0	2.0	2.1	2.2	2.3
Nonres. Fixed Investment	4.7	6.0	5.9	3.5	2.7	3.1	2.1	1.5	1.6	2.0	2.2	2.3
Equipment	4.8	7.4	7.3	5.0	3.8	4.1	3.4	2.5	2.8	3.2	3.2	3.2
Intellectual Property	3.9	3.6	3.2	2.0	2.6	2.2	1.6	1.3	1.3	1.6	1.9	2.4
Structures	5.6	6.6	6.8	2.7	1.1	2.2	0.5	-0.2	-0.3	0.3	0.5	0.6
Residential Construction	1.7	2.6	3.3	0.6	1.9	3.8	0.8	-0.3	0.9	0.9	0.4	1.0
Exports	3.4	5.5	6.6	6.3	4.5	4.5	4.2	3.7	3.4	3.2	3.1	2.8
Imports	4.0	5.9	7.4	7.3	5.4	4.6	3.2	2.4	2.3	2.4	2.5	2.5
Federal Purchases	0.2	3.6	4.1	0.5	-0.9	-1.3	-2.5	-1.6	-0.2	-0.1	0.0	0.4
State & Local Purchases	0.1	0.9	1.2	0.9	0.9	1.0	1.0	0.9	0.7	0.8	0.9	0.9
<b>Billions of 2009 Dollars</b>												
Real GDP	17096.2	17595.8	18063.2	18371.0	18663.4	19026.8	19358.9	19685.7	20050.2	20438.0	20840.7	21258.8
Final Sales	17081.0	17545.5	17984.4	18310.6	18613.2	18969.8	19311.8	19641.2	19998.4	20379.8	20781.0	21197.7
Inventory Change	15.2	50.3	78.8	60.4	50.2	57.0	47.1	44.5	51.8	58.2	59.7	61.1

Table 2. Summary of the UCLA Anderson Forecast for the Nation

	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Industrial Production and Resource Utilization</b>												
Industrial Prod. (% Ch.)	1.6	3.9	3.2	1.8	1.5	1.7	1.2	1.0	1.6	1.6	1.6	1.7
Capacity Util. Manuf. (%)	74.8	76.0	76.4	75.4	74.5	74.3	74.2	74.2	74.6	74.6	74.2	73.5
Real Bus. Investment												
as % of Real GDP	17.1	17.4	17.9	18.1	18.2	18.5	18.5	18.4	18.3	18.3	18.2	18.2
Nonfarm Employment (mil.)	146.6	149.1	151.2	152.2	152.7	153.4	154.0	154.4	154.9	155.5	156.4	157.3
Unemployment Rate (%)	4.4	3.8	3.5	3.8	4.1	4.2	4.4	4.5	4.6	4.6	4.5	4.5
<b>Inflation (% Ch.)</b>												
Consumer Price Index	2.1	2.6	2.3	2.7	2.5	2.4	2.5	2.4	2.3	2.2	2.2	2.2
Total less Food & Energy	1.8	2.3	2.7	2.9	2.8	2.8	2.7	2.5	2.4	2.4	2.3	2.3
Consumption Chain Index	1.7	2.2	2.4	2.6	2.4	2.4	2.4	2.2	2.1	2.1	2.0	2.0
GDP Chain Index	1.8	2.0	2.8	3.0	2.8	2.6	2.5	2.3	2.2	2.2	2.2	2.2
Producers Price Index	4.4	4.7	2.5	2.2	1.7	1.7	2.0	2.2	2.0	1.9	1.8	1.9
<b>Factors Related to Inflation (% Ch.)</b>												
Nonfarm Business Sector												
Total Compensation	1.7	2.6	3.5	4.1	4.2	4.2	4.2	4.1	4.0	4.0	3.9	3.8
Productivity	1.3	1.3	1.2	1.2	1.5	1.7	1.6	1.7	1.8	1.8	1.7	1.7
Unit Labor Costs	0.3	1.3	2.3	2.9	2.7	2.4	2.5	2.3	2.2	2.1	2.1	2.1
Farm Price Index	3.0	0.9	4.0	4.0	2.5	1.9	1.8	1.4	1.2	1.2	1.3	1.1
Crude Oil Price (\$/bbl)	51.0	67.0	66.8	70.9	70.8	68.0	67.9	69.6	72.4	75.1	77.2	80.4
New Home Price (\$1000)	321.6	327.9	331.1	340.3	345.1	355.7	369.8	384.1	399.0	413.9	428.7	444.5
<b>Income, Consumption and Saving (% Ch.)</b>												
Disposable Income	2.9	4.4	5.6	5.3	4.5	4.5	4.5	4.5	4.7	4.6	4.4	4.7
Real Disposable Income	1.2	2.2	3.1	2.6	2.0	2.1	2.1	2.2	2.5	2.5	2.4	2.6
Real Consumption	2.8	2.5	2.2	2.2	2.1	2.2	2.2	2.0	2.0	2.1	2.2	2.3
Savings Rate (%)	3.4	3.0	3.9	4.2	4.1	4.1	4.0	4.2	4.6	4.9	5.1	5.4
<b>Housing and Automobiles--millions of units</b>												
Housing Starts	1.208	1.342	1.402	1.361	1.407	1.467	1.461	1.441	1.445	1.426	1.397	1.385
Auto & Light Truck Sales	17.2	17.0	16.7	16.5	16.3	16.4	16.6	16.7	16.9	17.1	17.1	17.1
<b>Corporate Profits</b>												
Billions of Dollars												
Before Taxes	2247.7	2178.0	2285.9	2364.6	2472.8	2623.6	2779.1	2911.5	3077.4	3262.4	3437.1	3519.8
After Taxes	1781.0	1765.8	1860.7	1934.1	2030.5	2161.3	2300.0	2417.7	2562.1	2716.8	2861.7	2928.9
Percent Change												
Before Taxes	4.1	-3.1	5.0	3.4	4.6	6.1	5.9	4.8	5.7	6.0	5.4	2.4
After Taxes	5.5	-0.9	5.4	3.9	5.0	6.4	6.4	5.1	6.0	6.0	5.3	2.3
<b>International Trade Factors</b>												
Nominal												
U.S. Dollar--% change												
Industrial Countries	-0.6	-5.0	0.9	-2.0	-2.6	-2.3	-1.8	-1.3	-0.7	-0.3	0.1	-0.4
Developing Countries	-0.1	-0.8	0.7	1.9	1.0	0.1	-0.3	0.2	0.9	1.2	1.4	0.9
Exports	5.8	8.5	8.6	8.1	6.7	6.4	6.0	5.6	5.2	5.0	4.8	4.4
Imports	6.6	10.0	5.8	6.5	5.7	5.9	5.2	4.7	4.3	4.3	4.2	4.2
Net Exports (bil. \$)	-572	-666	-633	-629	-636	-660	-665	-664	-658	-660	-666	-682
Real												
U.S. Dollar--% change												
Industrial Countries	-0.6	-5.3	1.6	-2.7	-2.7	-2.1	-1.3	-0.8	-0.4	0.1	0.2	-0.4
Developing Countries	-1.1	-2.7	-0.6	1.4	0.6	-1.7	-2.2	-1.5	-0.7	-0.2	0.0	-0.4
Exports	3.4	5.5	6.6	6.3	4.5	4.5	4.2	3.7	3.4	3.2	3.1	2.8
Imports	4.0	5.9	7.4	7.3	5.4	4.6	3.2	2.4	2.3	2.4	2.5	2.5
Net Exports (bil. '09\$)	-622	-667	-735	-814	-880	-925	-928	-913	-896	-893	-895	-910

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## THE UCLA ANDERSON FORECAST FOR CALIFORNIA

JUNE 2018 REPORT

Affordability, Full Employment, and Economic Growth

Homelessness in the U.S., California, and Los Angeles

# Affordability, Full Employment, and Economic Growth

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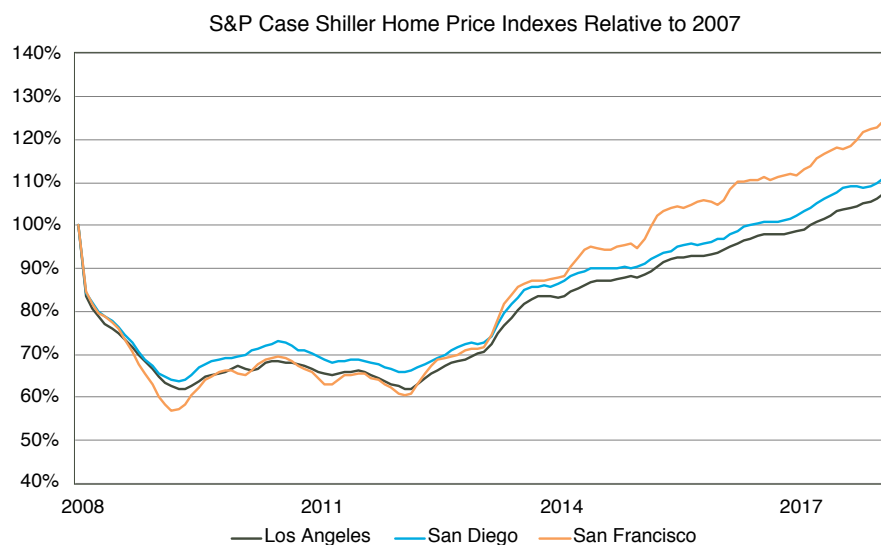
Affordable housing in California continues to be the subject of considerable discussion. In May, a Bloomberg article simplified it with the tagline “California affordable housing is not mystery, just build more homes<sup>1</sup>.” And it is true that if the supply is great enough, then the price will be low enough. But is that the entire story and if so what does current housing policy imply for the State’s economic outlook?

In this California report, we return to the question of affordable housing with an examination of both demand and supply. On the demand side, California employment has been growing more rapidly than the U.S. through the entire nine years of the expansion. This is the basis for organic household formation and an expansion of the demand for

housing. The first part of this article will review the employment growth in California and what it might say about the continued rise in housing prices. The second part of the article examines the potential reasons for the high price of homes in the State by focusing on the supply and asking what role zoning restrictions might play in home appreciation.

To set the stage, let’s consider the appreciation of homes in this expansion. The S&P Case Shiller Home Price Index measures prices based on same home sales. This measure takes homes that have sold twice and by adjusting for the time between the two sales infers the annual appreciation of the home. These data are then aggregated into an index for each of 20 cities. A limitation of the index is that it is restricted to three California cities: San Francisco, Los Ange-

Chart 1



Source: S&P

1. This is just one of many articles holding the view that it is all about supply: <https://www.bloomberg.com/view/articles/2018-03-14/california-affordable-housing-is-no-mystery-just-build-more> or see Joe Mathews satirical piece on how California housing out Kafka's Kafka <http://www.zocalopublicsquare.org/2018/05/28/even-kafka-couldnt-dream-californias-surreal-housing-crisis/ideas/connecting-california/>

les and San Diego. Nevertheless, this covers more than half of California's population and is instructive. Chart 1 shows the index for the three cities relative to their previous peak in 2007. For each of the three cities the index for March 2018 is above the previous peak. Home prices have rebounded from the recession crash, and they are appreciating at a rate considerably in excess of inflation.

Chart 2 converts the index to logarithms to better visualize the rate of change. In a logarithmic chart, straight lines represent constant percentage rates of change. It is clear that the current rate of change is slower than that in the late 80s, which was followed by a long correction and slower than the 00s which was followed by a deep correction.

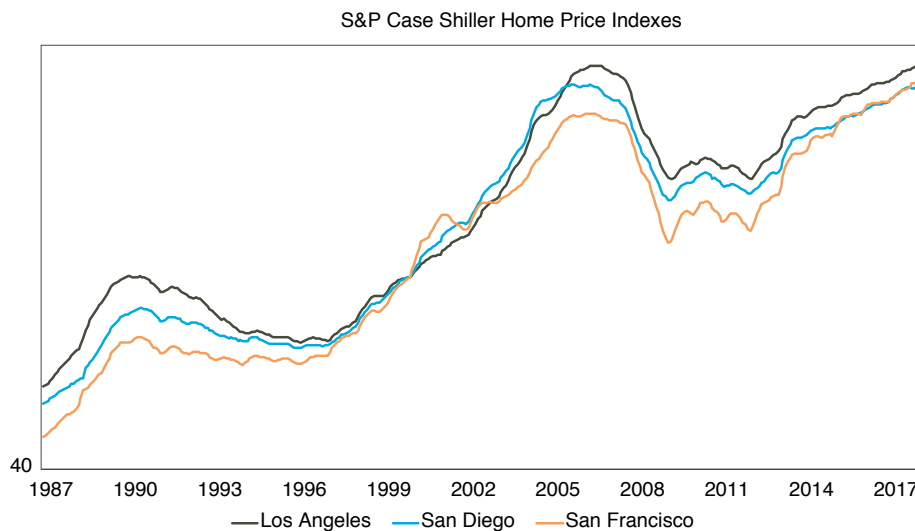
In Chart 3, we superimpose a straight line on the Los Angeles Index with a slope equal to the slope of the index over the past five years. What is striking from this exercise is that were the current rate of growth of home prices the rate of appreciation each year going back to 1987, home prices would have had to be lower in 1987 than they actually were. In other words, home price appreciation today, while lower than the run-ups to a correction are faster than the historical average from 1987. This suggests (though does not prove) that price increases ought to cool off, but are not speculative bubble increases. With continued economic growth projected over the forecast horizon, a correction in home prices is not indicated by the data.

## Employment Retrospective

California employment hit an all-time record high in April 2018. Non-Farm Payroll employment, which measures the number of jobs, has reached 17.1 million and it is 10.2 percent higher than its pre-recession peak. It is also 20.5 percent higher than employment at the depth of the recession. Total employment, which measures the number of people employed and includes farm workers and non-farm non-payroll sole proprietors is now at 18.5 million, also at an all-time high and 9.4 percent above its previous peak and 16 percent above its recession low (Chart 4).

Regionally, net payroll job formation in California exceeded the U.S. everywhere except for in the North Bay and Los Angeles County. The former is principally due to anemic job growth in Marin County, perhaps a direct consequence of slow growth policies and high housing costs. For Los Angeles, it is a case of an economy in transition as discussed in previous California reports; one with manufacturing moving out and technology driven services moving in. These make the aggregate numbers look worse than other parts of the State but hide the underlying transformation of the City. Some of the evidence relevant to the discussion of home prices and economic growth is the rampant gentrification of less affluent neighborhoods in the City—north and east of Downtown—and the Silicon Beach induced gentrification of Culver City, Inglewood and Venice.

Chart 2

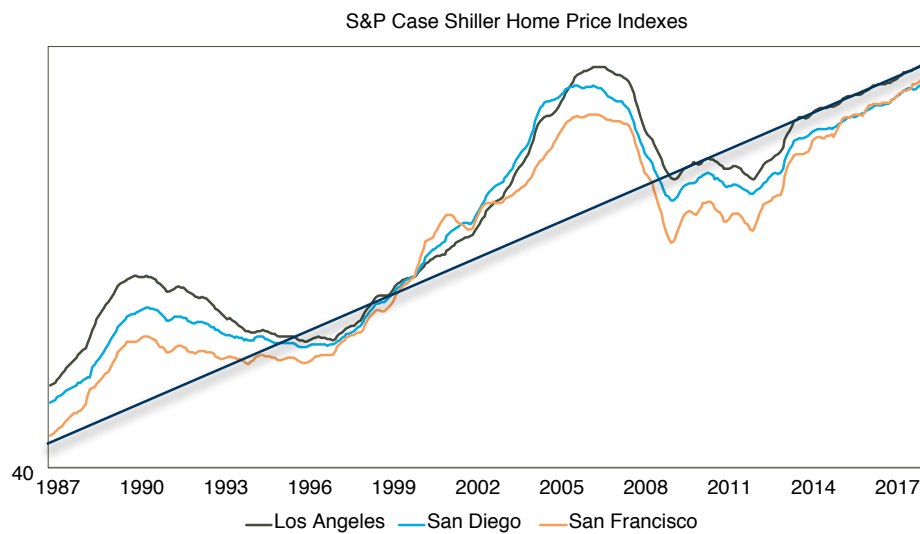


Source: S&P

Even more telling is the migration data compiled by Redfin.<sup>2</sup> It shows net out-migration from San Francisco, Silicon Valley and Los Angeles. The data have been touted as showing that people are leaving California because housing is too expensive. But we took Economics 101. If there is a reduction in demand, prices go down. But they are going up. If there are fewer people in the labor force because they are working elsewhere, then job growth, particularly in a sub-three percent national economy, should be slower than the U.S. But, the opposite is true.

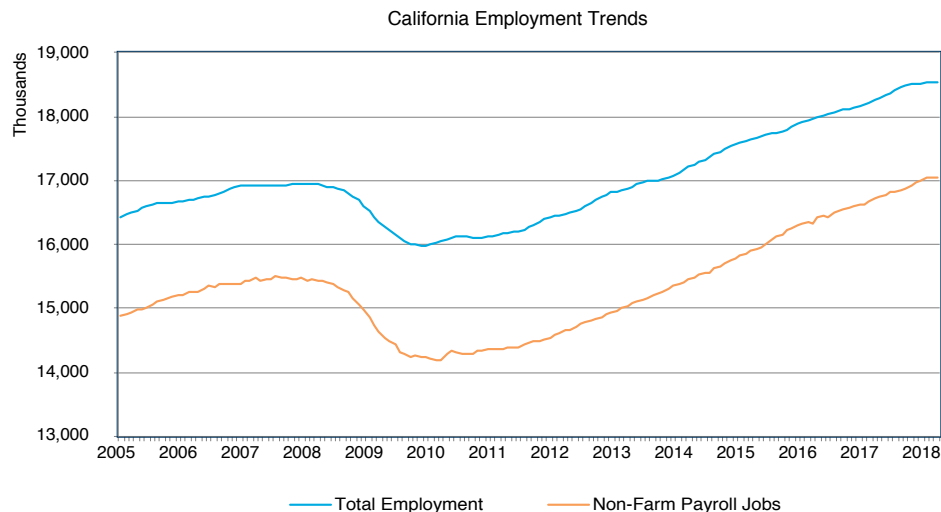
So, what is happening? First the net outflows are small. Second, there is evidence that some of the outflow is comprised of retirees who have not been in the labor markets these past years, but who have been waiting for the equity in their house to support the retirement lifestyle they desire. With home prices now at record levels they can sell and move out to less expensive locales. And third, there is a turnover of one-income-earner families to two-income-earner households, and of lower-productivity individuals priced out of the market to high-productivity individuals who can afford

Chart 3



Source: S&P, UCLA Anderson Forecast

Chart 4



Source: [www.edd.ca.gov](http://www.edd.ca.gov)



## AFFORDABILITY, FULL EMPLOYMENT AND ECONOMIC GROWTH

the higher prices. When you combine these observations, you get an explanation of the data. Increased demand for housing by higher income workers with smaller family sizes are pushing up prices, and a turnover from retirees to labor force participants creating jobs faster than the nation.

## Zoning and the Demand/Supply Equation

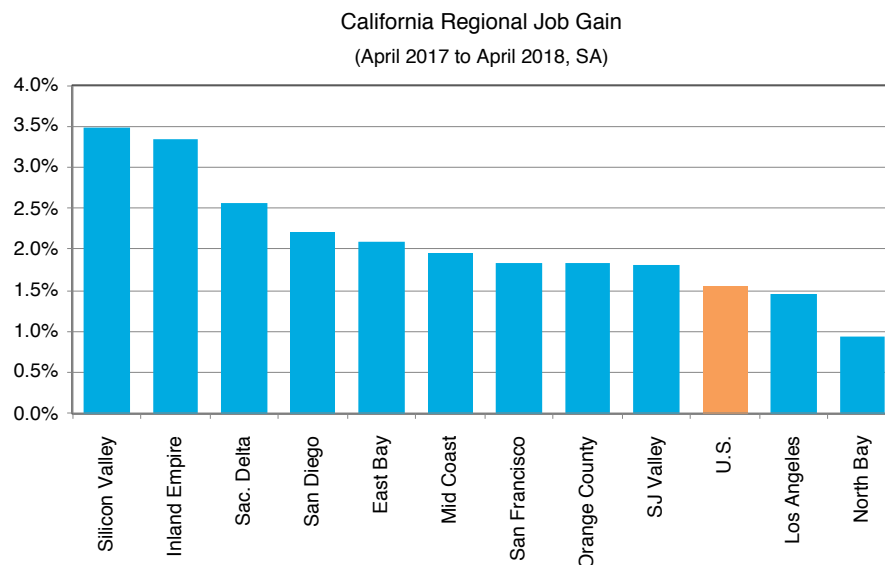
Robust job creation has been and will continue to put pressure on housing demand. Indeed, the increase in defense spending in the new Federal budget will keep the price trends in place—at least in the near term. But that is only the demand side. The problem is that California has not been building enough housing to achieve price stability. In the aforementioned Bloomberg article, they cite Tokyo as a city that has kept up with demand. The differences between Tokyo and California’s cities is that the population of Japan has been declining, there is virtually no international immigration, and the movement of people to Tokyo from outlying regions of the country has been at 0.3 percent per annum. In other words, lower prices do not increase the demand for housing very much.

To develop a picture of un-affordability we first look at world class cities which are defined as cities that are

exciting dynamic social and economic centers. There are many measures of “the best cities.” Taking an average of economic characteristics, human capital, attractiveness to international students, and a subjective measure of “best” as a way of comparing international cities we find that housing affordability is not generally associated with those cities that percolate to the top of the “best” list, however defined. For example, comparing Demographia’s<sup>3</sup> international survey of affordability with the affordability of Austin, Texas, a tech and education center becoming increasingly crowded and less affordable, we find that the “best cities” are two to three times less affordable than Austin (Chart 6). The exceptions are Chicago, a city which has been losing population even though it has many desirable characteristics, and Washington D.C. where government salaries moderate the demand for housing. There are also cities around the world that are extremely un-affordable but are not even close to being desirable. The lack of affordability in these cities clearly has more to do with zoning, geography, regional poverty driving rural migration and corruption than their success as cities.

In California, we consistently find that the demand for housing is very responsive to price and it is demand not just by Californians, but from all over the country and indeed all over the world. The reason is simple. California is blessed

Chart 5

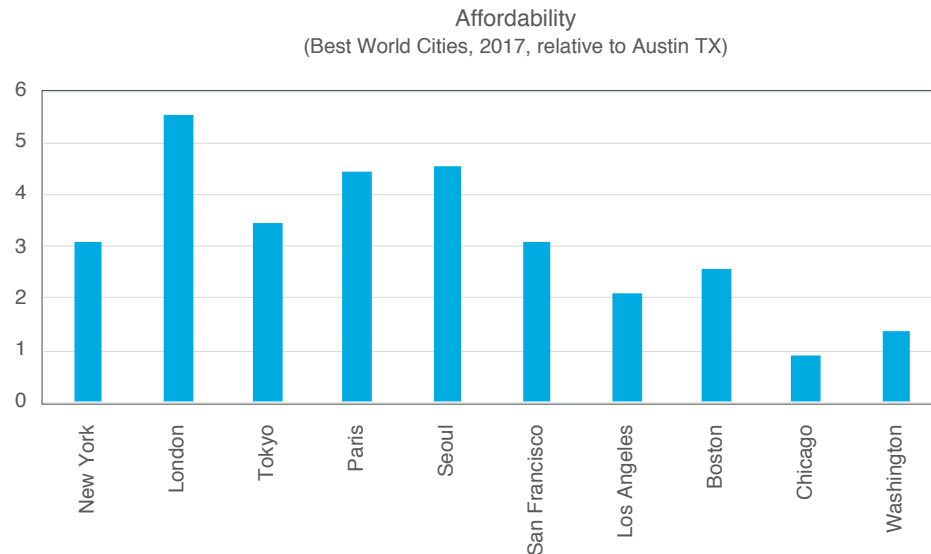


Source: [www.edd.ca.gov](http://www.edd.ca.gov)

2. <https://www.redfin.com/blog/2018/02/q4-migration-report.html>

3. <http://www.demographia.com/db-dhi-index.htm>

Chart 6



Source: *Demographia Numbeo, TopUniversities.org, Bestcities.org, IESE.edu, UCLA Anderson Forecast*

with natural features (amenities) that exist almost nowhere else, salubrious climate, soaring mountains, endless wilderness, and a long coastline of beautiful beaches. The question is, what premium are people willing to pay for land in the Golden State over land in less well-endowed areas? There has always been some, and that relates to the purchase of these life-style characteristics rather than homes themselves.

To answer this, we put together a scatter plot of affordability vs natural amenities for the top 100 MSA's in the U.S. plus a few California cities that did not quite make the top-100 cut. The natural amenity index is constructed by the USDA and is a combination of summer mean temperature, winter mean temperature, summer humidity, physical topography and water bodies. Affordability is measured for 2016 as the percentage of median income required to pay for an 80% conforming mortgage on the median home at 2016 average mortgage interest rates. In Chart 7, there is a clear relationship between the two variables with more amenities meaning less affordability. California homes are less affordable, but not completely out of line from what would be expected given the premium paid for amenities in more moderately endowed cities compared to less endowed cities.

However, this may not be the entire story. Residents of communities that are rich in amenities might also be prone to NIMBY zoning; policies that would restrict the size of the housing stock and create the correlation in Chart 7. To account for this, we used a measure of the relative restrictiveness of building for each of these cities.<sup>4</sup> Each dot on Chart 7 was resized to represent the restrictiveness with larger dots corresponding to more restrictive policies. This is represented in Chart 8.

It is clear that there are larger dots to the right—the amenity rich cities—than to the left, but the correlation is not particularly strong. Though the smallest dots correspond to more affordable, less endowed cities, there are plenty of cities which are affordable but are also characterized by a high degree of zoning and building code restrictions. Further investigation reveals that these tend to be more mature cities; cities that have grown to the point where their residents are concerned about unfettered growth, and for better or worse, have implemented zoning restrictions. Cities that are less concerned about the congestion and pollution associated with a lack of zoning tend to be less mature and more interested in rapid economic progress. Houston and Dallas

4. <http://real.wharton.upenn.edu/~gyourko/WRLURI/TheWhartonZoningRegulationIndex-July202,202007.pdf>

## AFFORDABILITY, FULL EMPLOYMENT AND ECONOMIC GROWTH

are the exception, but it remains to be seen if zoning and building restrictions will become more stringent in light of last year's devastating hurricanes.

While this is subjective, it does suggest that it is not all zoning, not all just build-baby-build, but also a case of the value of amenities in a growing population and the degree of maturation of the city. Optimal housing policy should take into account the impact of each when considering how to alleviate a lack of affordability or moderate the rate of increase of home prices.

For the forecast for California, these observations suggest two things. First, California housing will by far remain less affordable than elsewhere through the forecast horizon. In spite of the efforts to increase the stock of housing, the elastic demand for California housing will make these efforts successful only in the long-run. Second, the ability of Californians to move out of state, particularly those who wish to take advantage of the savings imbedded in their appreciated

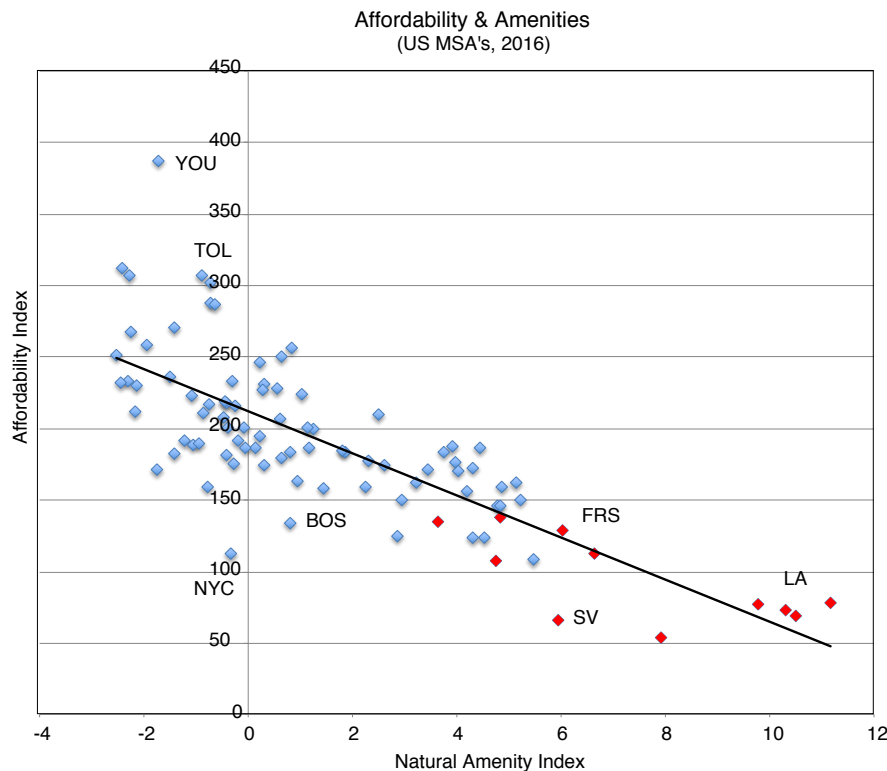
homes, will provide opportunities for an expansion of the work force with highly productive new Californians. Again, whether this is a good outcome or not is a socio-political question. But, it does mean that full employment is not the constraint in the Golden State as it is in the nation as a whole.

### The Forecast

Our current forecast is not much changed from the March forecast. The economy has been evolving much as expected to this point and there are no new surprises to alter the forecast. However, the NAFTA negotiations not reaching a conclusion in May and the likely victory of Andres Manuel Lopez Obrador (AMLO) in the Mexican presidential elections as well as the on again/off again tariff plans playing out between the U.S. and China mean there is elevated risk to the forecast compared to March.

We expect California's average unemployment rate to have its normal differential to the U.S. rate at 4.3% in

Chart 7



Source: USDA.gov, Realtor.org, UCLA Anderson Forecast

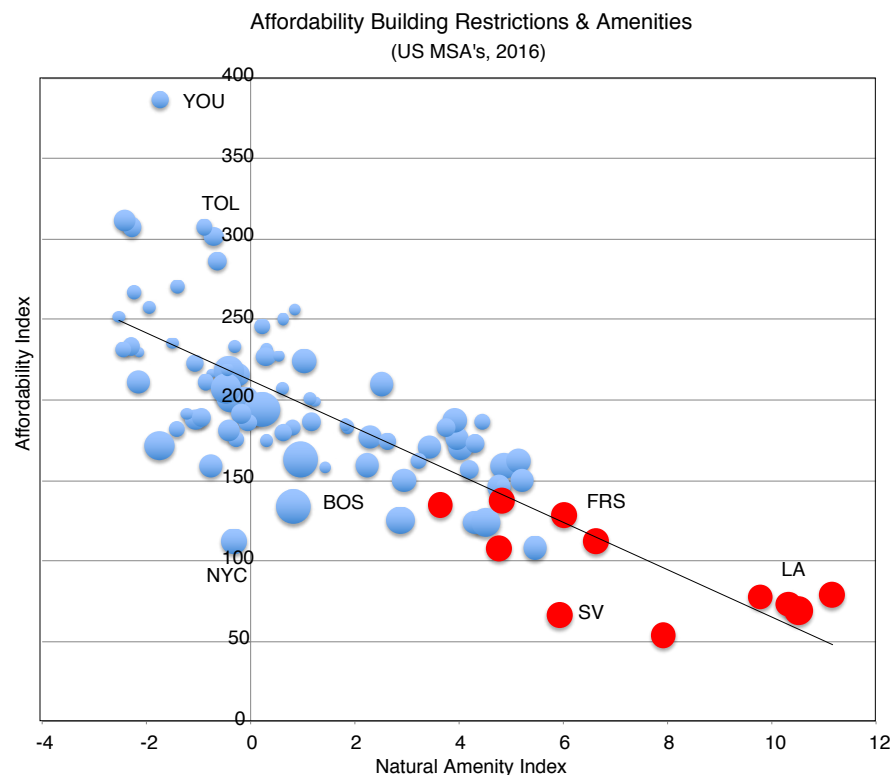
2020. While the overall forecast is not much different from that released in December 2017, some economic activity has been pulled forward into 2018 due to changed fiscal policy. This results in a weaker 2020 than was implied by our previous forecast.

Our forecast for 2018, 2019 and 2020 total employment growth is 1.7%, 0.8% and 0.8% respectively. Payrolls will grow at about the same rate over the forecast horizon. Real personal income growth is forecast to be 2.5%, 3.6% and 2.9% in 2018, 2019 and 2020 respectively. Homebuilding will accelerate to about 140,000 units per year by the end of the forecast horizon 2020.

The risks to the forecast remain elevated. The increase in the Federal deficit will put pressure on the international

trade deficit. That increases the likelihood of trade actions that would depress California's logistics and export industries. The forecast builds in increased investment from the incentives provided in the new tax law. Were the tax savings to go into dividends, stock buy-backs and mergers and acquisitions in a significantly greater way than we have predicted, demand for California-made technologically advanced equipment and software will be less strong than currently expected. The third important risk is the assumption in our forecast that State and local governments will continue to facilitate more home building in an effort to mitigate California's housing shortage. If this were to abate in 2019 or 2020, the forecast would be too optimistic. On the upside, we are not assuming a significant increase in visas for tech agricultural workers. Were this to change, it would increase California's workforce and our forecast would be too low.

Chart 8



Source: *FDA.gov, Realtor.org, UCLA Anderson Forecast, Wharton/Gyourko*

# Homelessness in the U.S., California and Los Angeles

William Yu  
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June 2018

America has a homelessness problem. We know it because we can see it from time to time when we walk down the street, when we drive through an underpass, or when we look out from the bus window. But how bad is it? This report will provide some data and statistics to understand the problem of homelessness, and we will try to address what causes it and what influences the problem differentially across the country.

Figure 1 displays the percentage of homeless people over the total population in the U.S., California, and Los Angeles County from 2012 to 2017. We can see that while the percentages of homeless people in the country and in California remain stable, the homeless percentage has been rising rapidly in L.A. County over the past several years. The homeless rate in the U.S. declined from 0.2% in 2012 to 0.17% in 2017, in California it increased from 0.32% to 0.34% while in L.A., it increased from 0.35% (35,500 people) in 2013 to 0.54% (55,000) in 2017.<sup>1</sup> The statistics in L.A. reflect what L.A. residents have experienced in daily life.

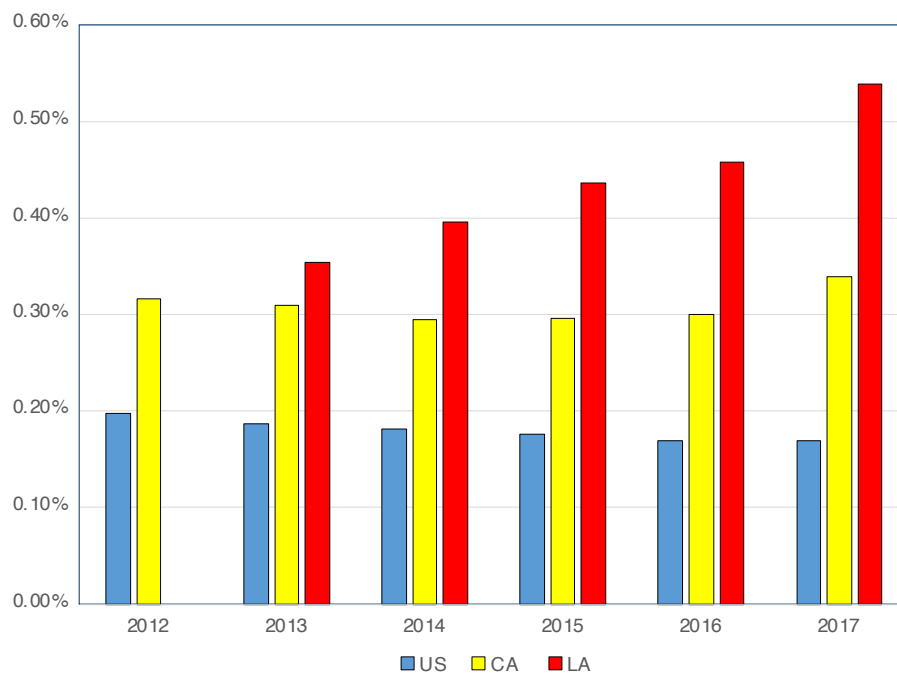
Figure 2 shows the percentage of the unsheltered homeless population over the total population in the U.S., California, and Los Angeles County. The U.S.'s unsheltered homeless rate decreased from 0.07% in 2012 to 0.06% in 2017, California's increased from 0.2% in 2012 to 0.23% in 2017, while L.A.'s increased from 0.23% (22,600) in 2013 to 0.39% (40,000) in 2017.<sup>1</sup> Similar to Figure 1, the unsheltered homeless population in L.A. has risen dramatically in the past several years. And L.A. and California have much higher unsheltered percentages than the nation: 73% in L.A. and 68% in California compared to 35% in the nation. In short, the homeless problem is quite bad in L.A.

Figure 3 presents the homeless percentages by state. The region with the highest rate of homelessness is Washington D.C. (1.08%) followed by Hawaii (0.51%), New York (0.45%), California (0.34%), Oregon (0.34%), and Washington (0.29%). Figure 4 lists the percentage of homeless people that are unsheltered. Hawaii has the highest percentage of unsheltered homeless (0.27%), followed by

1. The latest data for Los Angeles County in 2018 show that there are 53,000 homeless people (0.52% of the population), of which 40,000 are unsheltered (0.39%). By and large, the homeless problem remains severe.

## HOMELESSNESS IN THE U.S., CALIFORNIA, AND LOS ANGELES

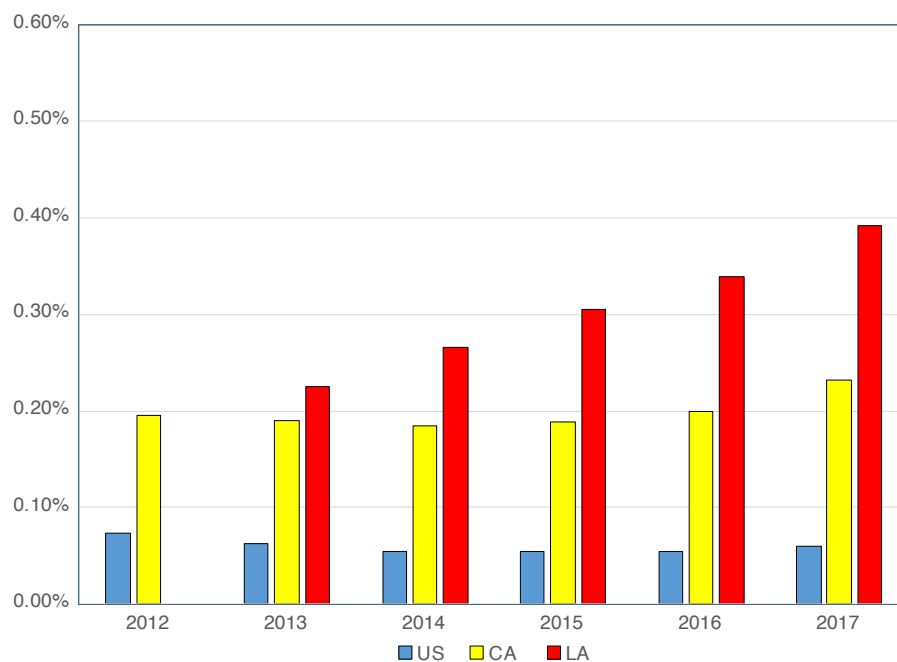
Figure 1 The Percentage of Homeless Over the Total Population in the U.S., California, and Los Angeles County



Source: HUD Continuum of Care Homeless Assistance Programs, Los Angeles Homeless Services Authority (LAHSA), U.S. Census, and California Department of Finance

Note: The percentage of homeless in L.A. in 2014 is an extrapolation from 2013 and 2015 because of the lack of data in 2014.

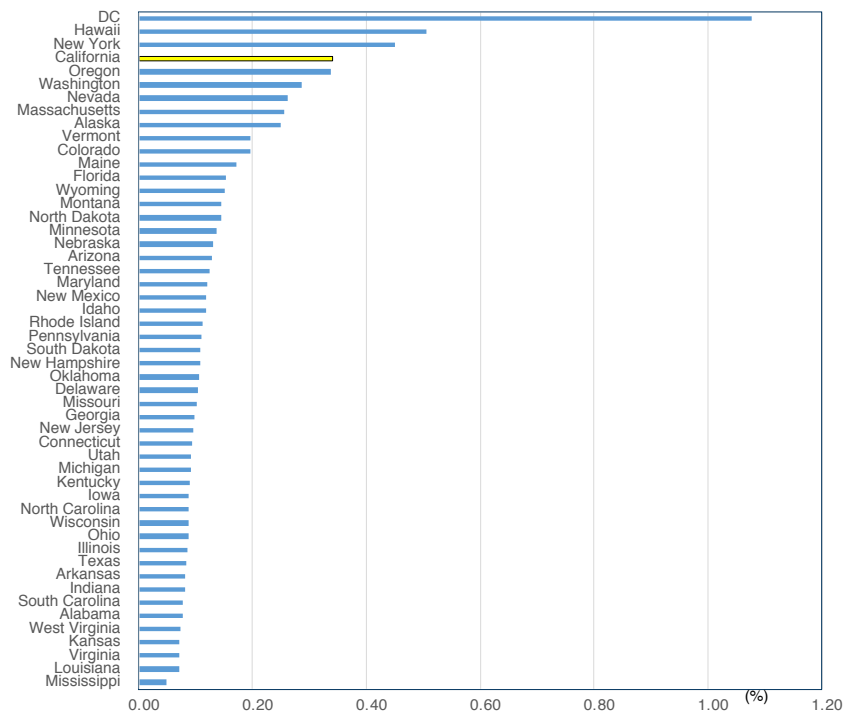
Figure 2 The Percentage of Unsheltered Homeless Over the Total Population in the U.S., California, and Los Angeles County



Sources: HUD Continuum of Care Homeless Assistance Programs, Los Angeles Homeless Services Authority (LAHSA), U.S. Census, and California Department of Finance

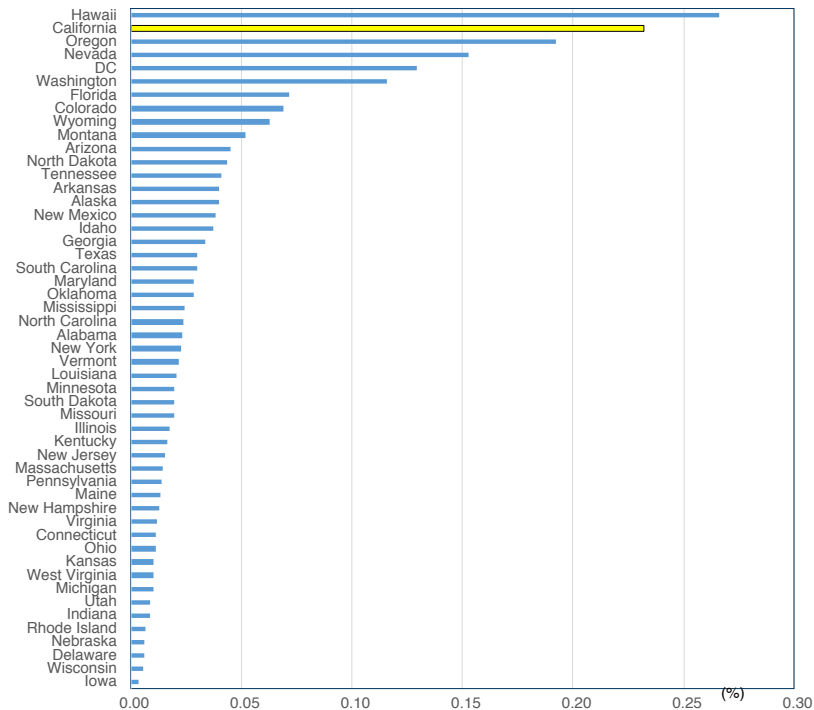
Note: The percentage of unsheltered homeless in L.A. in 2014 is an extrapolation from 2013 and 2015 because of the lack of data in 2014.

Figure 3 The Percentage of Homeless Over the Total Population by State, 2017



Sources: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

Figure 4 The Percentage of Unsheltered Homeless Population Over the Total Population by State, 2017



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

## HOMELESSNESS IN THE U.S., CALIFORNIA, AND LOS ANGELES

California (0.23%). In contrast, Iowa has the lowest percentage of unsheltered homeless (0.003%).

### What Causes the Disparity in Homeless Rates Across the Country?

If we can understand why there is a wide variation in the percentage of total homeless and unsheltered homeless as shown in Figures 3 and 4, we might better answer why there is a rising tide of homelessness in Los Angeles as shown in Figures 1 and 2.

### Literature Review

There are two kinds of empirical studies of American homelessness problems. The first focused on region-level data and found that housing market conditions have significant impact on the homelessness. For example, Quigley, Raphael, and Smolensky (2001)<sup>2</sup> argued that availability and pricing of housing and the growth in demand for the lowest-quality housing explain a large portion of the variation in homelessness among U.S. metropolitan housing markets. They suggest modest improvements in the affordability of rental housing or its availability can substantially reduce homelessness.

The second focused on individual-level data and found personal characteristics, such as the size of mentally ill population outside of state psychiatric facilities or poverty population. For instance, Dirk Early (1999)<sup>3</sup> argued that older males with low incomes and high levels of depression are more likely to be homeless. He suggests (1) cash transfers to the very poor to reduce the likelihood of becoming homeless and (2) a weakening of housing codes to increase the availability of inexpensive, low-quality rental housing.

Brendan O’Flaherty (2001)<sup>4</sup> argued that both reasons are important. He suggested that homelessness arises from a conjunction of bad circumstances—having the wrong kind of personal characteristics in the wrong kind of housing market.

### Empirical Results

We use the homeless data from HUD (Department of Housing and Development) for the 50 states<sup>5</sup> in 2012 and 2017. By using two periods of data with different values of variables such as median rent and median home value, we will be able to glean insights from these 100 observations. We identify five factors which are correlated with the homeless rates among 50 states in 2012 and 2017 with statistical significance in the following multivariate regression with a pretty good adjusted R-squared of 0.61.

Equation 1

Homeless percentage	=	$\alpha$	+ $\beta_1$ * Median home value	+ $\beta_2$ * Median rent	+ $\beta_3$ * Median household income	+ $\beta_4$ * Housing supply growth	+ $\beta_5$ * Population density
(estimator)		0.17	0.0008	0.0002	-0.006	-0.23	-0.0001
(t-stat)		(3.6)	(5.1)	(2.7)	(-5.2)	(-2.7)	(-4.3)
Adj. R squared = 0.61			Observation = 100		Equation 1		

2. John Quigley, Steven Raphael, and Eugene Smolensky (2001), “Homeless in America, Homeless in California,” *Review of Economics and Statistics*, 83(1): 37-51.
3. Dirk Early (1999), “A Microeconomic Analysis of Homelessness: An Empirical Investigation Using Choice-Based Sampling,” *Journal of Housing Economics*, 8: 312-27.
4. Brendan O’Flaherty, (2004) “Wrong Person and Wrong Place: For Homelessness, the Conjunction is What Matters,” *Journal of Housing Economics*, 13: 1-15.
5. We exclude D.C. because it is an urban city with a much higher homeless rate compared to 50 states. Nevertheless, the regression result is similar by including D.C.



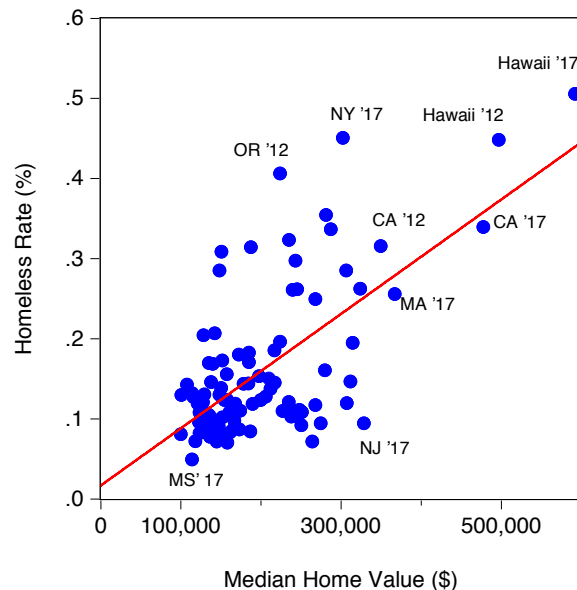
## Housing Market and Income Factors

### 1) Median Home Value

(Thousands \$; positively correlated)

It is not surprising to see a strong correlation between the median home value and the homeless rate. The more expensive a house is, the more likely people cannot afford it, and therefore we see an increasing chance for some to become homeless. As shown in Figure 5, high-home-price states such as Hawaii and California have higher homeless rates.

Figure 5 Correlation Between the Median Home Value and the Homeless Rate of States

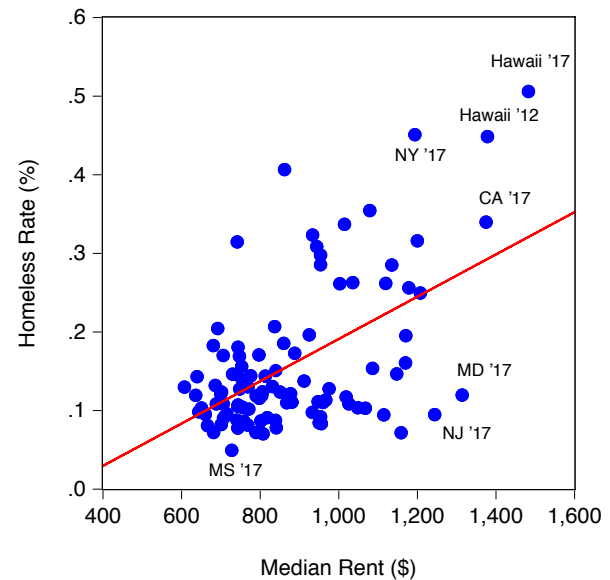


Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, and American Community Survey

### 2) Median Rent (\$; positively correlated)

It is interesting to see the median rent to be an additional predictor despite the fact that rent and home value are highly correlated. It still makes perfect sense that a state with higher rent will make rentals less affordable and increase the probability of becoming homeless. Figure 6 displays the positive correlation between the median rent and the homeless rate.

Figure 6 Correlation Between the Median Home Value and the Homeless Rate of States



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, and American Community Survey

### 3) Median Household Income

(Thousands \$; negatively correlated)

A higher median household income in a state indicates a smaller percentage of poor people and signifies that the state will have more resources to help the poor and less fortunate and prevent homelessness. If we replace this income factor with the poverty percentage in a state, we could get a statistical significance result as well (positively correlated).

### 4) Housing Supply Growth<sup>6</sup> (Negatively correlated)

Besides housing costs, such as housing value and rent as mentioned above, housing supply growth, or lack thereof, provides an additional correlation. The possible explanation is that a state with more housing supply will have more housing units available for those who might be at risk of being homeless. The literature documented that the rental vacancy explains the homelessness although we cannot find the evidence that rental vacancy is statistically significant in our regression. It is possible that housing supply growth is a better measurement than the rental vacancy for availability of affordable housing.

6. We use the percentage of new housing units from 2000 to 2009 over total housing units in 2009 of a state for the sample period of 2012 and the percentage of new housing units from 2000 to 2016 over total housing units of a state in 2016 for the sample period of 2017. Data is from American Community Survey.

## 5) Population Density (Negatively correlated)

Controlling for other factors, states with higher population densities have a lower rate of homelessness. Why? We suggest a possible reason is that a higher density state might have more resources and infrastructure to help the vulnerable from slipping into homelessness.

### Personal Characteristics Factors

In addition to the macroeconomic/housing market factors mentioned above, let's look at the personal factors/characteristics which are directly related to homelessness. Based on the data for California in 2017, we know the following statistics:

- 28% of homeless people are chronically homeless
- 26% are severely mentally ill
- 18% are in chronic substance abuse
- 9% are veterans
- 24% are victims of domestic violence
- 12% are unaccompanied youth (under 24 years old)
- 10% are in the age range of 18 to 24

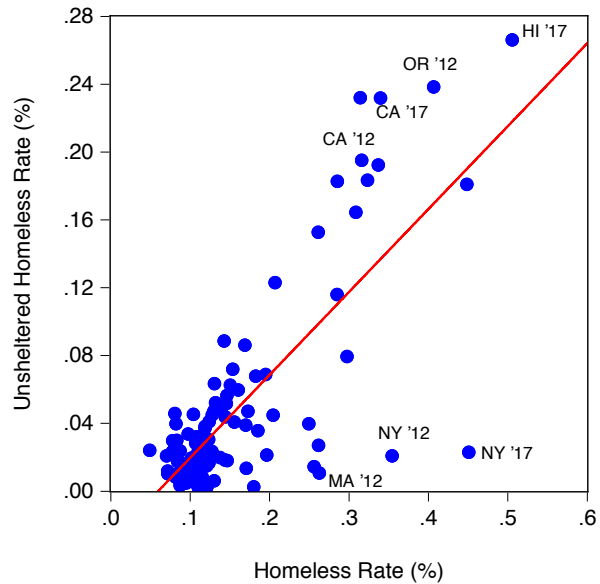
As mentioned in the literature, we believe that these individual at-risk factors interacting with the less affordable housing markets cause the rise of homelessness.

### Why Some States Have Higher Unsheltered Homeless Rates Than Others

A state with a higher homeless rate is expected to have a high unsheltered homeless rate as well. The positive relationship is presented with the red line (fitted line) in Figure 7. However, we can see some dispersion across the red line. For instance, New York State has a higher homeless rate but a much lower unsheltered homeless rate compared to California. There should be some policy or welfare program differences among states to explain the disparity, but this report will not examine those.

The most common sense reason for the difference in unsheltered population is the weather. Hawaii and California have milder winters than Illinois and New York, for example, and we see higher unsheltered homeless rates in the former states. Homeless people are more likely to stay outdoors rather than in a shelter in a mild Los Angeles January than in a bitter New York or Chicago winter. And local govern-

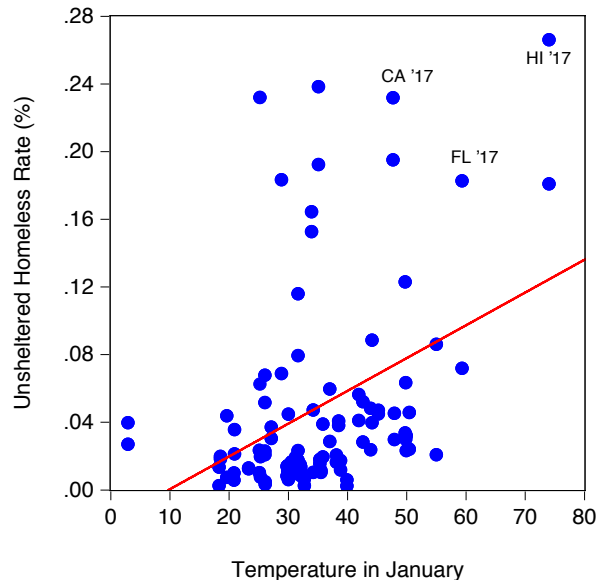
Figure 7 Correlation Between the Homeless Rate and Unsheltered Homeless Rate



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census

ments in warmer states might feel less urgency to provide shelters because they know homeless people will not be in imminent danger of freezing in the winter time.

Figure 8 Correlation Between the Average Temperature in January and Unsheltered Homeless Rate



Source: HUD Continuum of Care Homeless Assistance Programs, U.S. Census, NOAA

Equation 2

<i>Unsheltered Homeless percentage</i>	=	<b>α</b> +	<b>β1*Homeless rate</b>	+	<b>β2* Temperature in January</b>
(estimator)		-0.08	<b>0.46</b>		<b>0.002</b>
(t-stat)		(-7)	<b>(12.8)</b>		<b>(5.6)</b>
Adj. R squared = 0.69				Observation = 100	Equation 2

Figure 8 and Equation 2 confirm that average temperature indeed has a statistically significant positive correlation with the unsheltered homeless rate.

Conclusions

The takeaways of the report are as follows:

- California and Los Angeles County have a higher rate of homelessness as well as a higher rate of unsheltered homeless people compared to other states. The home-

less rate and unsheltered rate have been rising rapidly over the past several years in Los Angeles.

- High housing prices, high rent, and low household income explain why some states have a higher rate of homelessness.
- The unsheltered homeless rates are higher in states with warmer winters.
- High percentages of homeless people suffer from mental illness (26%), substance abuse (18%), and domestic violence (24%).

■

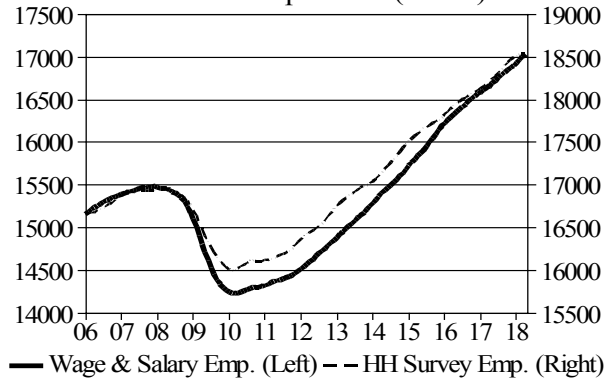
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## THE UCLA ANDERSON FORECAST FOR CALIFORNIA

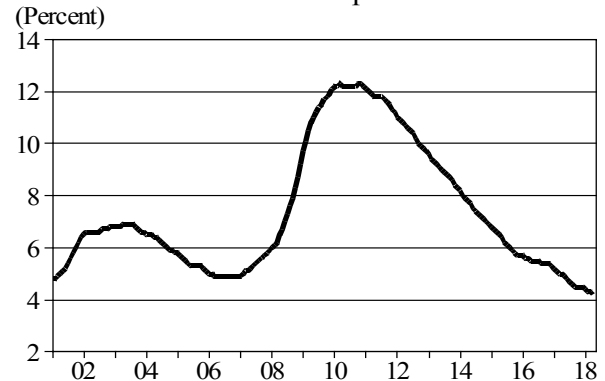
JUNE 2018 REPORT

Charts

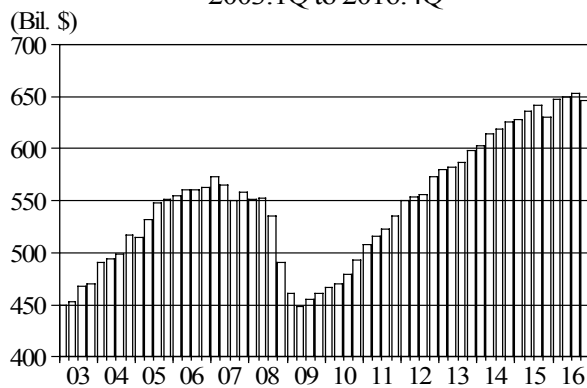
California Employment (6-mo. moving avg.)  
Jan. 2006 to April 2018 (Thous.)



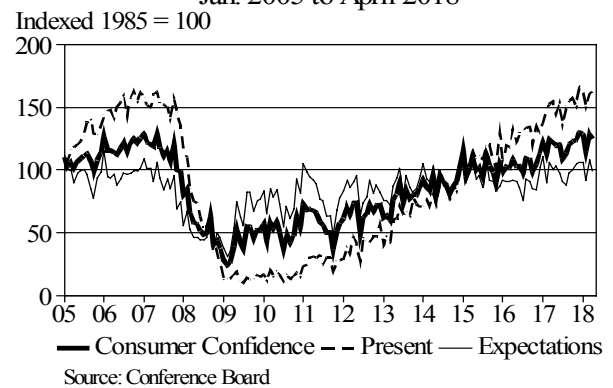
California Unemployment Rate  
Jan. 2001 to April 2018



Taxable Sales in California  
2003:1Q to 2016:4Q

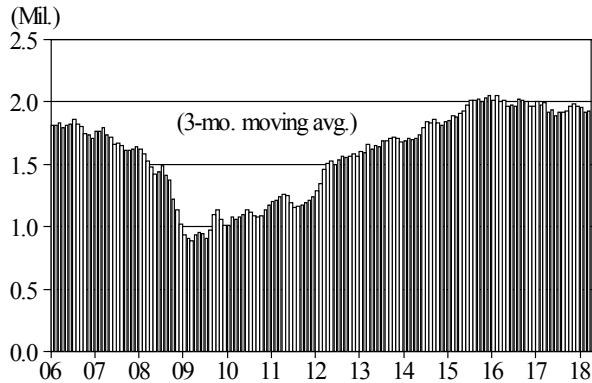


Indexes of Consumer Attitudes--Pacific Area  
Jan. 2005 to April 2018

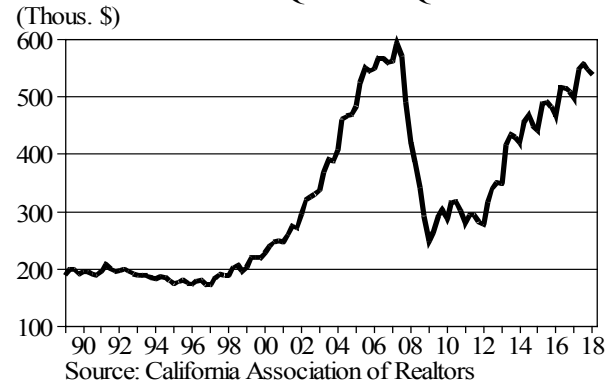


CHARTS - RECENT EVIDENCE

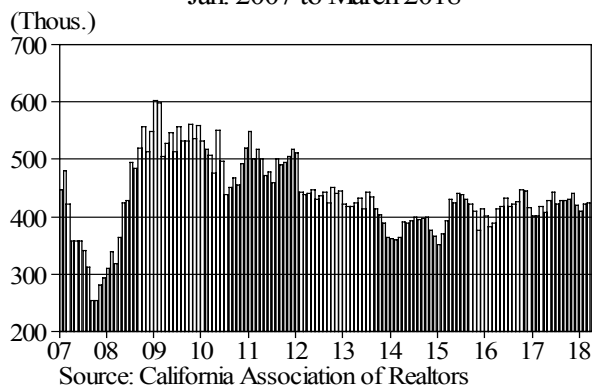
California New Car Registrations  
Jan. 2006 to March 2018



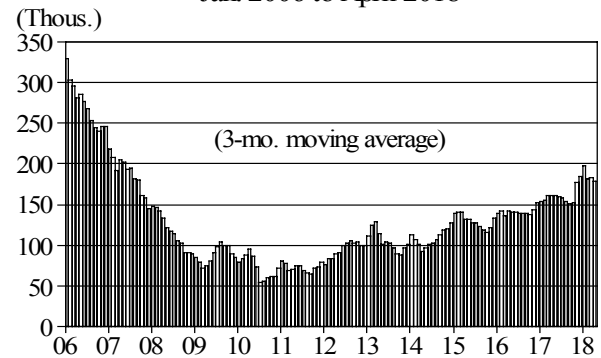
California Existing-Home Prices  
1989:Q1 to 2018Q1



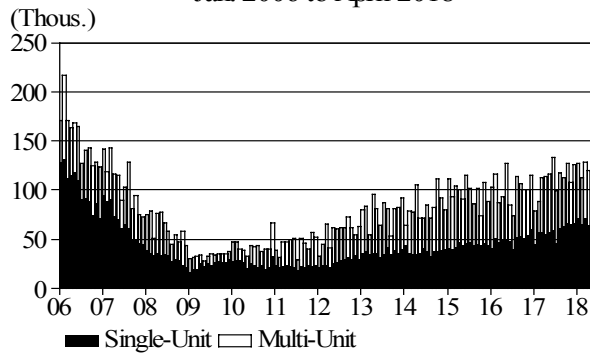
California Existing-Home Sales  
Jan. 2007 to March 2018



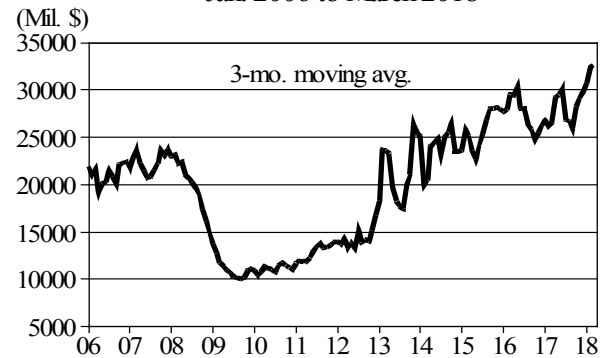
New One-Family Houses Sold  
Western Region  
Jan. 2006 to April 2018



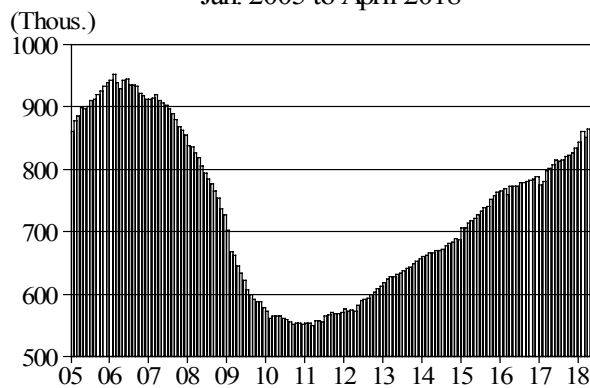
New Residential Units Through  
California Building Permits  
Jan. 2006 to April 2018



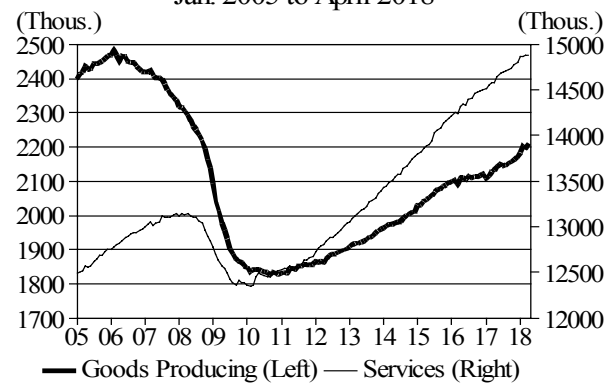
Building Permit Valuations  
Total Nonresidential  
Jan. 2006 to March 2018



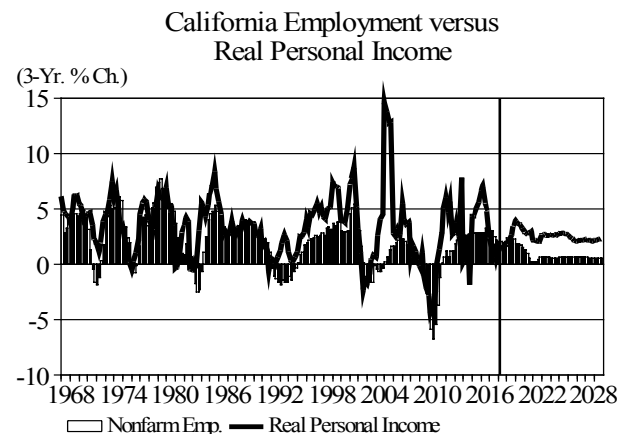
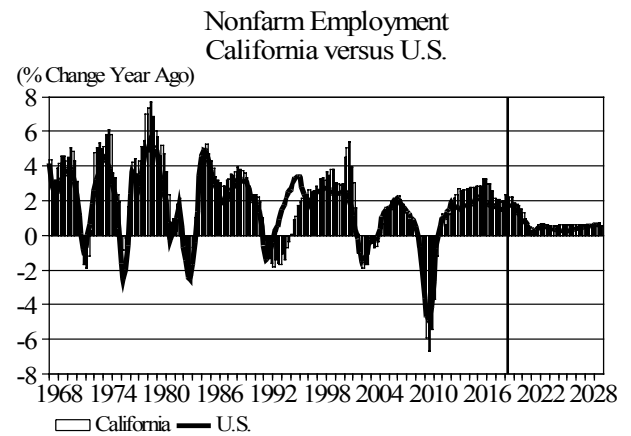
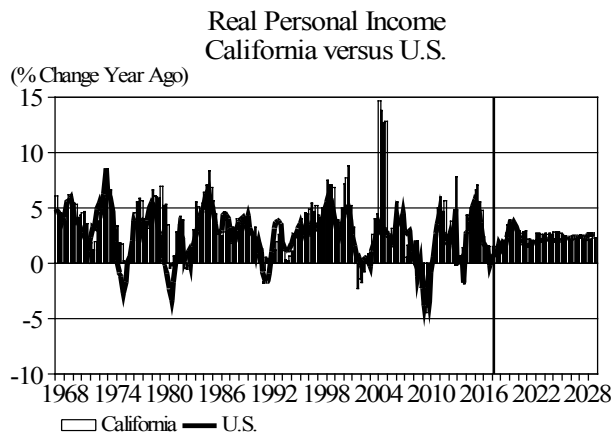
California Construction Employment  
Jan. 2005 to April 2018



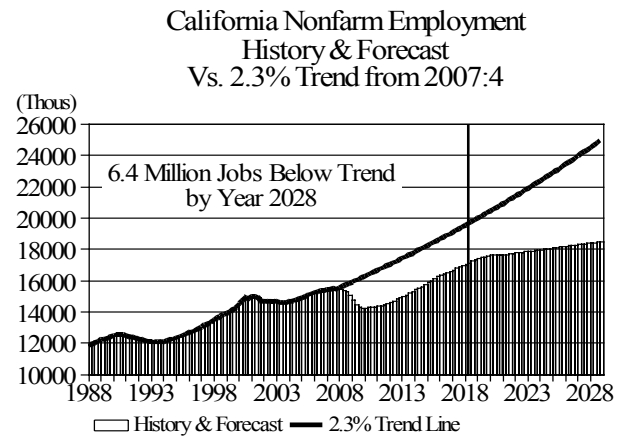
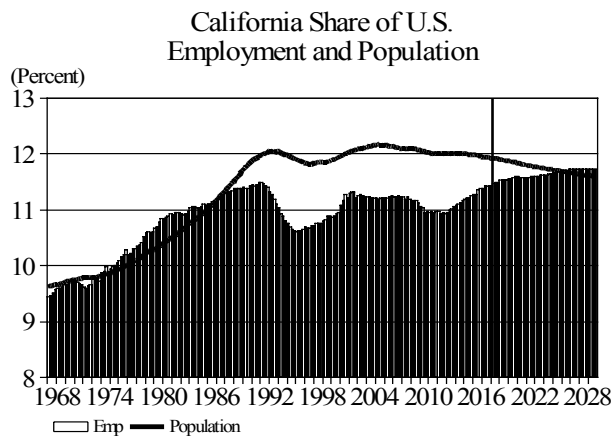
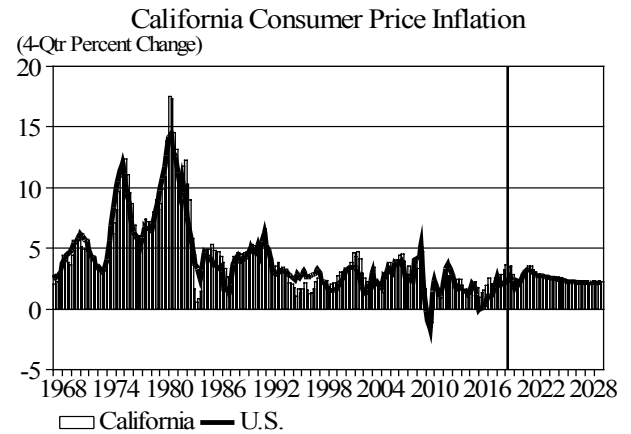
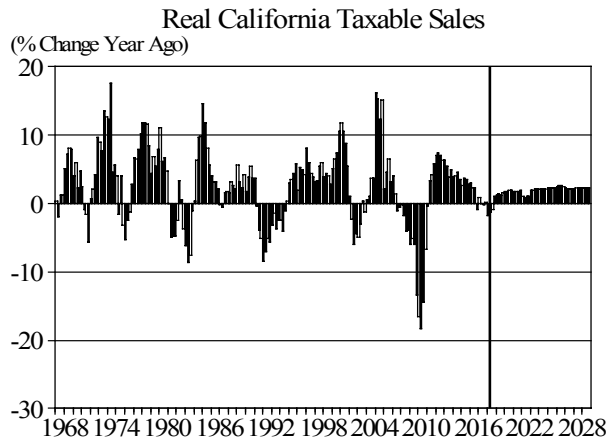
California Employment by Sector  
Jan. 2005 to April 2018



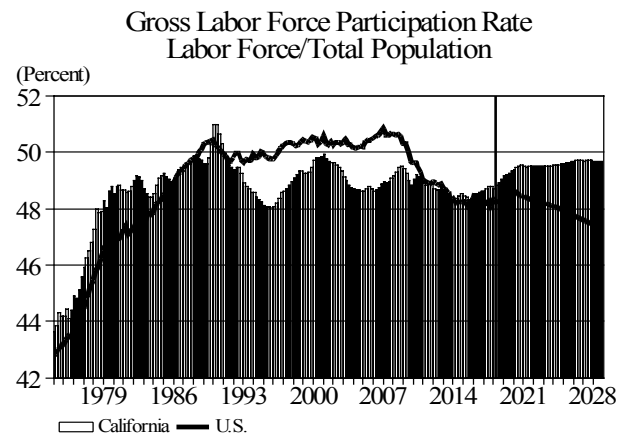
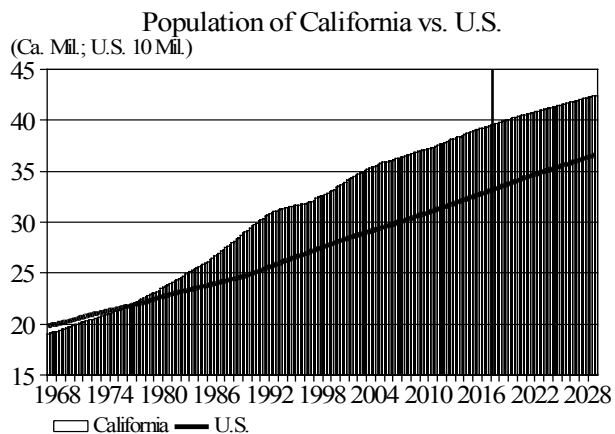
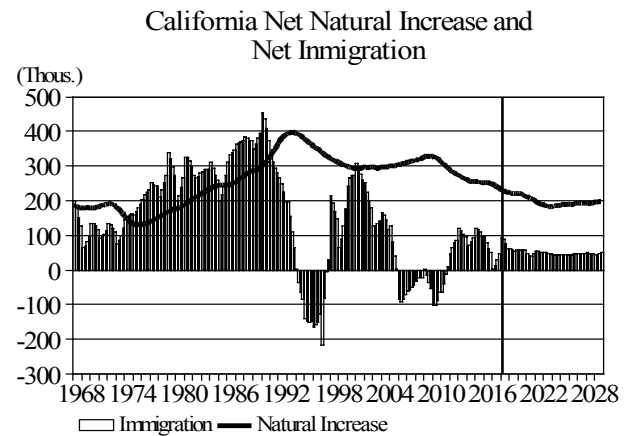
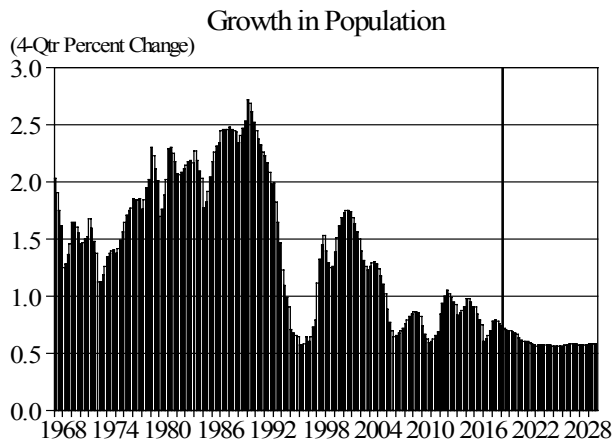
CHARTS - FORECAST

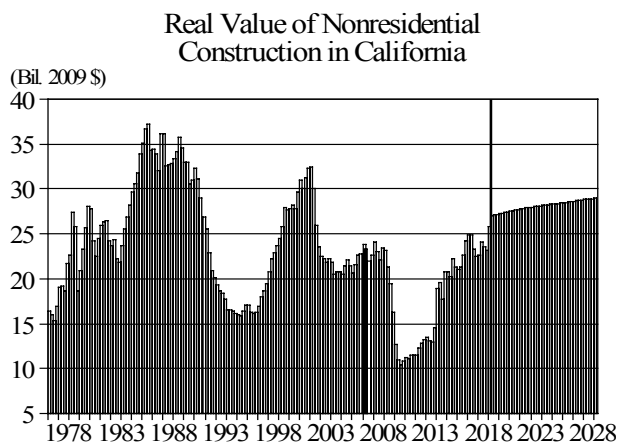
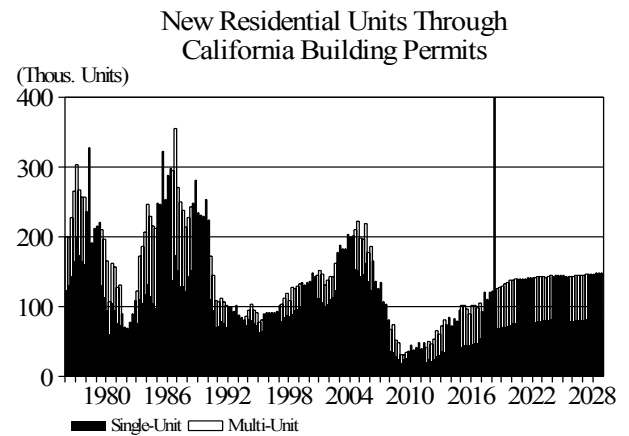
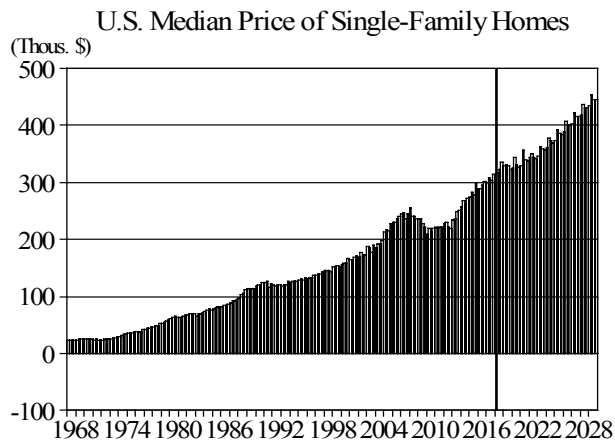




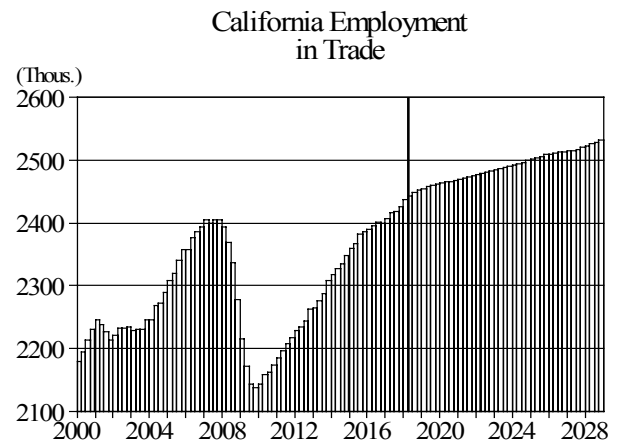
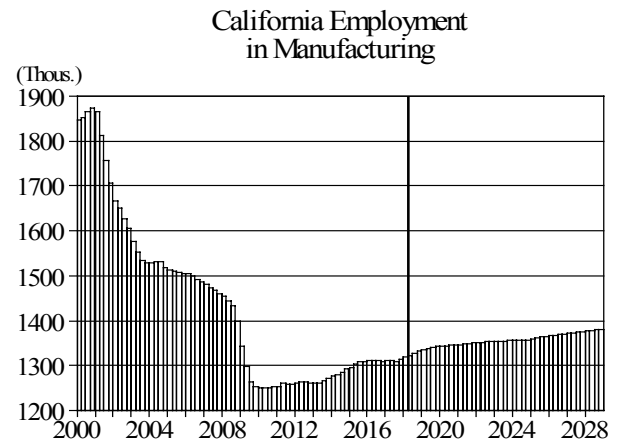
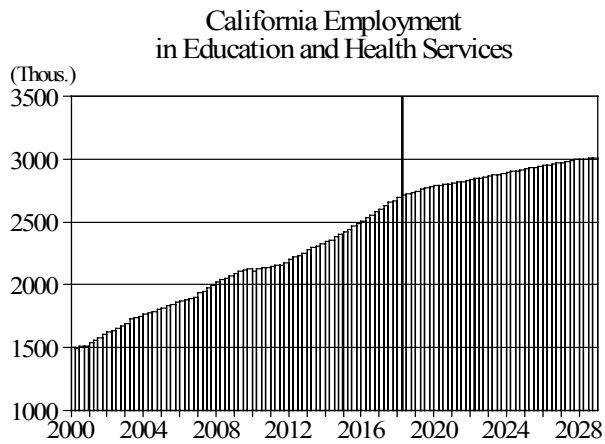


CHARTS - FORECAST

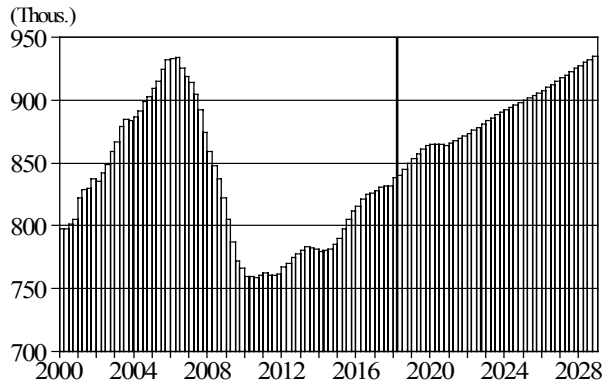




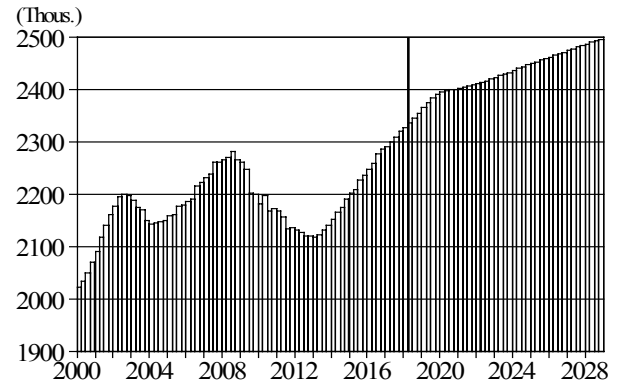
CHARTS - FORECAST



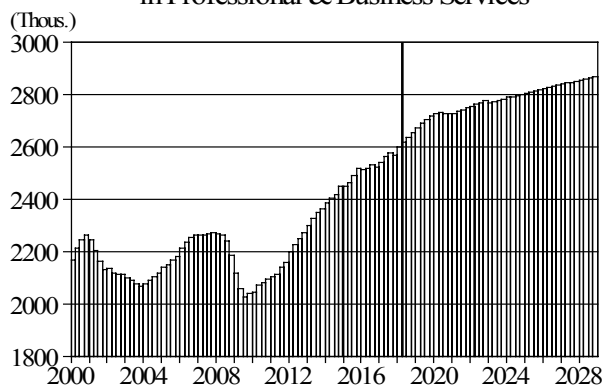
California Employment  
in Financial Activities



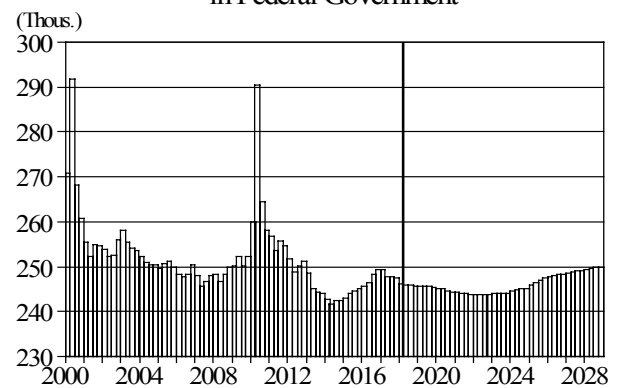
California Employment  
in State and Local Government



California Employment  
in Professional & Business Services



California Employment  
in Federal Government



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## THE UCLA ANDERSON FORECAST FOR CALIFORNIA

JUNE 2018 REPORT

Tables

Table 1. Summary of the UCLA Forecast for California

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Personal Income, Taxable Sales, and Price Inflation (%Change)</b>											
Personal Income (Bil.\$)	1617.1	1727.4	1838.6	1862.0	1986.0	2133.7	2212.7	2303.9	2428.4	2578.6	2730.0
Calif. (% Ch)	3.6	6.8	6.4	1.3	6.7	7.4	3.7	4.1	5.4	6.2	5.9
U.S. (% Ch)	3.2	6.2	5.0	1.1	5.3	5.0	2.4	3.1	4.3	5.5	5.2
Pers. Income (Bil. 2009\$)	1596.8	1672.0	1742.8	1744.7	1828.9	1938.0	1966.3	1996.7	2047.0	2120.6	2181.1
Calif. (% Ch)	2.3	4.7	4.2	0.1	4.8	6.0	1.5	1.5	2.5	3.6	2.9
U.S. (% Ch)	1.5	3.7	3.0	-0.2	3.7	4.6	1.2	1.4	2.0	3.1	2.6
Taxable Sales (Bil.\$)	477.0	520.2	558.0	586.6	615.5	633.9	649.1	660.7	687.9	717.8	751.4
(% Ch)	4.5	9.1	7.3	5.1	4.9	3.0	2.4	1.8	4.1	4.3	4.7
(Bil. 2009\$)	471.0	503.5	529.0	549.6	566.8	575.8	576.9	572.6	579.9	590.3	600.4
(% Ch)	3.2	6.9	5.1	3.9	3.1	1.6	0.2	-0.7	1.3	1.8	1.7
Consumer Prices (% Ch)	1.3	2.6	2.2	1.5	1.8	1.5	2.3	2.9	3.4	2.3	3.4
<b>Employment and Labor Force (Household Survey, % Change)</b>											
Employment	-0.6	1.0	2.1	2.1	2.3	2.2	1.8	1.9	1.7	1.8	0.8
Labor Force	0.6	0.4	0.6	0.5	0.7	0.7	1.0	1.1	1.0	1.4	1.1
Unemployment Rate (%)	12.2	11.7	10.4	8.9	7.5	6.2	5.5	4.8	4.1	3.8	4.1
U.S.	9.6	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.8	3.5	3.8
<b>Nonfarm Employment (Payroll Survey, % Change)</b>											
Total Nonfarm	-1.1	1.1	2.3	2.6	2.8	3.0	2.7	2.0	2.2	1.7	0.8
Calif.	-0.7	1.2	1.7	1.6	1.9	2.1	1.8	1.6	1.7	1.4	0.7
U.S.	-10.2	0.2	5.1	8.0	5.8	8.5	6.0	4.3	5.7	1.5	1.0
Construction	-3.0	0.5	0.4	0.2	1.4	1.7	0.5	0.1	1.1	1.1	0.4
Manufacturing	-2.4	-0.4	0.4	0.5	1.1	1.0	0.9	-0.6	-0.8	0.4	0.4
Nondurable Goods	-3.3	1.1	0.4	-0.0	1.5	2.1	0.2	0.4	2.2	1.4	0.4
Durable Goods	-1.7	1.7	2.8	3.2	4.1	6.2	6.7	5.5	4.6	2.7	0.7
Trans. Warehousing & Util	-0.3	2.0	1.8	1.9	2.1	1.8	1.0	0.8	1.2	0.6	0.3
Trade	-2.7	0.5	1.0	3.0	2.9	5.3	7.8	0.5	1.4	2.0	1.2
Information	-2.9	0.2	1.5	1.2	-0.1	2.5	2.6	1.0	1.5	1.8	0.7
Financial Activities	0.6	2.7	5.1	4.4	3.4	2.7	1.7	1.7	2.5	2.7	1.1
Professional Busi. Serv.	0.8	1.5	3.2	3.4	3.0	3.6	3.5	3.8	3.0	1.8	1.1
Edu. & Health Serv.	-0.1	2.3	4.1	4.9	4.8	4.1	4.0	2.7	2.7	1.5	0.4
Leisure & Hospitality	-0.3	1.8	2.2	2.4	3.8	1.7	1.9	1.4	1.5	4.7	1.6
Other Services	6.8	-4.9	-1.8	-2.0	-1.2	0.8	1.3	0.2	-0.9	-0.1	-0.3
Federal Gov't	-2.2	-1.4	-1.1	0.1	2.0	2.2	2.2	1.7	1.5	1.6	0.8
State & Local Gov't	<b>Nonfarm Employment (Payroll Survey, Thous.)</b>										
Total Nonfarm	14287	14438	14764	15153	15577	16052	16479	16812	17187	17485	17619
Construction	560	561	590	637	674	732	775	809	855	868	876
Manufacturing	1252	1258	1264	1266	1283	1305	1311	1312	1326	1340	1345
Nondurable Goods	473	471	473	475	481	486	490	488	484	486	488
Durable Goods	778	787	790	790	802	819	821	824	842	854	857
Trans. Warehousing & Util	466	474	487	503	524	556	593	626	655	672	677
Trade	2160	2202	2243	2285	2332	2374	2396	2417	2445	2459	2465
Information	431	433	437	450	464	488	526	529	536	547	553
Financial Activities	760	761	773	782	782	801	822	831	843	859	865
Professional Busi. Serv.	2074	2131	2238	2336	2415	2481	2522	2563	2627	2697	2727
Edu. & Health Serv.	2127	2158	2226	2301	2369	2455	2541	2637	2715	2764	2793
Leisure & Hospitality	1500	1534	1597	1674	1755	1827	1900	1951	2003	2034	2044
Other Services	485	494	505	517	536	545	555	563	572	599	609
Federal Gov't	268	255	250	245	242	244	248	248	246	246	245
State & Local Gov't	2180	2149	2125	2129	2171	2218	2267	2305	2341	2379	2398
<b>Population and Migration</b>											
Net Immigration(Thous)	-26	69	109	79	111	72	24	80	58	57	44
Population (Thous)	37318	37676	38043	38374	38740	39059	39312	39618	39903	40176	40425
(% Ch)	0.6	1.0	1.0	0.9	1.0	0.8	0.6	0.8	0.7	0.7	0.6
<b>Construction Activity</b>											
Residential Building											
Permits (Thous. Un.)	43.0	44.9	56.7	77.9	82.4	97.6	101.5	111.1	125.2	133.4	139.2
Nonres. Permits (Mil. '09\$)	11301	12806	13822	20189	20788	22794	23705	23643	27071	27388	27628

FORECAST TABLES - SUMMARY

Table 2. Quarterly Summary of the UCLA Forecast for California

	2018:1	2018:2	2018:3	2018:4	2019:1	2019:2	2019:3	2019:4	2020:1	2020:2	2020:3	2020:4
Personal Income, Taxable Sales, and Price Inflation (%Change)												
Personal Income (Bil.\$)	2375.8	2410.0	2445.1	2482.5	2523.7	2561.7	2597.2	2631.9	2670.8	2709.8	2749.9	2789.5
Calif.(% Ch)	6.4	5.9	6.0	6.3	6.8	6.1	5.7	5.4	6.0	6.0	6.0	5.9
U.S. (% Ch)	4.4	4.8	4.0	5.6	6.5	5.6	5.5	5.2	5.4	5.1	4.6	4.5
Pers. Income (Bil. 2009\$)	2018.9	2040.0	2054.8	2074.4	2097.0	2114.6	2128.9	2141.8	2157.3	2172.7	2189.1	2205.3
Calif.(% Ch)	2.7	4.3	2.9	3.9	4.4	3.4	2.7	2.4	2.9	2.9	3.0	3.0
U.S. (% Ch)	1.7	2.8	1.4	3.5	4.3	2.9	2.6	2.4	2.9	2.6	2.1	2.0
Taxable Sales (Bil. \$)	678.7	685.0	691.0	697.1	705.9	714.2	721.9	729.2	738.4	747.2	755.9	764.3
(% Ch)	5.4	3.8	3.6	3.6	5.1	4.8	4.4	4.1	5.1	4.9	4.7	4.5
(Bil. 2009\$)	576.7	579.8	580.7	582.5	586.5	589.5	591.8	593.4	596.4	599.1	601.7	604.2
(%Ch)	1.7	2.2	0.6	1.3	2.7	2.1	1.5	1.1	2.1	1.8	1.7	1.7
Consumer Prices (% Ch)	4.7	1.2	3.6	2.1	1.5	2.6	2.9	3.3	3.6	3.7	3.5	3.2
Employment and Labor Force (Household Survey, % Change)												
Employment	0.5	2.4	1.9	2.0	1.8	1.7	1.4	1.1	0.8	0.6	0.3	0.1
Labor Force	-0.1	1.6	1.7	1.7	1.5	1.3	1.1	1.1	1.1	1.2	1.0	0.9
Unemployment Rate (%)	4.3	4.1	4.1	4.0	3.9	3.8	3.8	3.8	3.8	4.0	4.2	4.3
U.S.	4.1	3.9	3.8	3.6	3.5	3.4	3.5	3.6	3.7	3.7	3.8	3.9
Nonfarm Employment (Payroll Survey, % Change)												
Total Nonfarm	3.1	1.8	2.0	2.1	1.6	1.7	1.5	1.4	0.6	0.4	-0.1	0.1
Calif.	1.7	1.7	1.9	1.8	1.6	1.2	0.7	0.7	0.7	1.1	-0.1	-0.0
U.S.	12.2	1.2	1.1	1.0	1.3	2.2	1.8	1.6	1.0	1.0	-0.8	-0.0
Construction	2.3	0.8	1.2	1.4	1.1	0.9	0.8	0.8	0.1	0.1	0.1	0.1
Manufacturing	-0.1	-0.4	-0.3	-0.2	1.2	0.9	0.3	0.5	0.4	0.3	0.3	0.3
Nondurable Goods	3.7	1.5	2.0	2.4	1.0	1.0	1.1	1.0	-0.1	-0.0	-0.0	-0.0
Durable Goods	3.4	4.9	5.4	4.7	1.4	1.5	1.4	1.4	0.4	0.3	0.3	0.1
Trans. Warehousing & Util.	2.0	0.8	0.8	0.6	0.5	0.5	0.4	0.4	0.2	0.2	0.2	0.1
Trade	-2.5	1.6	2.2	2.1	1.9	2.1	2.0	2.1	1.4	0.6	-0.4	0.3
Information	2.9	1.3	2.1	2.3	1.7	1.6	1.8	1.6	0.4	0.1	-0.3	-0.3
Financial Activities	5.1	2.4	2.6	3.4	2.7	2.6	2.2	1.9	1.0	0.7	-0.4	-0.2
Professional Busi. Serv.	4.7	2.0	1.8	1.9	1.8	1.8	1.6	1.6	1.0	0.6	0.4	0.6
Edu. & Health Serv.	2.6	2.2	2.2	2.1	1.1	1.4	1.2	1.0	0.4	-0.0	-0.4	-0.2
Leisure & Hospitality	-1.9	3.9	4.8	5.1	5.0	4.5	4.4	4.3	0.3	0.2	-0.6	-0.4
Other Services	-2.3	-0.4	-0.0	-0.2	-0.1	-0.1	-0.1	-0.1	-0.4	-0.1	-0.9	-0.5
Federal Gov't	0.8	1.7	1.7	1.6	1.7	1.5	1.4	1.4	0.6	0.5	0.2	0.1
State and Local Gov't												
Nonfarm Employment (Payroll Survey, Thous.)												
Total Nonfarm	17065	17143	17226	17314	17384	17456	17520	17581	17607	17625	17622	17624
Construction	852	854	857	859	862	866	870	874	876	878	876	876
Manufacturing	1321	1324	1327	1332	1336	1339	1341	1344	1345	1345	1345	1346
Nondurable Goods	485	484	484	483	485	486	486	487	487	488	488	489
Durable Goods	836	840	844	849	851	853	855	857	857	857	857	857
Trans. Warehousing & Util.	643	650	659	666	669	671	673	676	676	677	677	678
Trade	2438	2443	2448	2452	2455	2458	2460	2463	2464	2465	2466	2467
Information	532	534	537	540	542	545	548	551	553	554	553	553
Financial Activities	838	841	845	850	853	857	861	864	865	865	864	864
Professional Busi. Serv.	2602	2617	2634	2656	2674	2691	2706	2718	2725	2730	2727	2726
Edu. & Health Serv.	2696	2709	2721	2734	2747	2759	2770	2781	2788	2792	2795	2799
Leisure & Hospitality	1987	1998	2009	2019	2025	2032	2038	2043	2045	2045	2043	2042
Other Services	563	568	575	582	589	596	602	609	609	609	609	608
Federal Gov't	246	246	246	246	246	246	246	246	245	245	245	244
State and Local Gov't	2326	2336	2346	2355	2366	2375	2383	2391	2395	2398	2400	2400
Population and Migration												
Net Immigration(Thous)	61.1	58.5	54.9	57.1	56.7	56.3	56.0	57.2	48.3	38.1	40.9	46.8
Population (Thous)	39799	39869	39938	40007	40078	40145	40210	40273	40335	40394	40455	40517
(% Ch)	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Construction Activity												
Residential Building												
Permits (Thous. Units)	123.0	124.5	126.6	126.7	129.8	131.9	134.4	137.6	138.7	139.2	139.4	139.6
Nonres.Permits (Mil. '09\$)	26914	27050	27116	27203	27291	27356	27438	27467	27528	27592	27663	27729



Table 3. Personal Income, Taxable Sales, Construction and Population in California

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<b>Aggregates</b>											
<b>(Bil \$)</b>											
Personal Income	1617.1	1727.4	1838.6	1862.0	1986.0	2133.7	2212.7	2303.9	2428.4	2578.6	2730.0
Disposable Income	1446.6	1526.6	1621.6	1608.0	1727.2	1823.6	1894.4	1966.2	2069.6	2201.1	2352.1
<b>(Bil 2009\$)</b>											
Personal Income	1596.8	1672.0	1742.8	1744.7	1828.9	1938.0	1966.3	1996.7	2047.0	2120.6	2181.1
Disposable Income	1428.4	1477.6	1537.2	1506.7	1590.4	1656.3	1683.5	1704.1	1744.6	1810.0	1879.2
<b>(Nominal %Ch)</b>											
Personal Income	3.6	6.8	6.4	1.3	6.7	7.4	3.7	4.1	5.4	6.2	5.9
Disposable Income	3.1	5.5	6.2	-0.8	7.4	5.6	3.9	3.8	5.3	6.4	6.9
<b>(Real %Ch)</b>											
Personal Income	2.3	4.7	4.2	0.1	4.8	6.0	1.5	1.5	2.5	3.6	2.9
Disposable Income	1.8	3.4	4.0	-2.0	5.6	4.1	1.6	1.2	2.4	3.8	3.8
<b>Components of Personal Income (Bil \$)</b>											
Personal Income	1617.1	1727.4	1838.6	1862.0	1986.0	2133.7	2212.7	2303.9	2428.4	2578.6	2730.0
Wages & Salaries	814.5	848.5	903.7	934.4	992.2	1067.5	1116.9	1169.6	1244.3	1327.6	1398.1
Other Labor Income	203.2	219.0	221.0	231.1	241.4	253.6	261.3	272.1	289.0	312.3	336.6
Farm	6.3	9.3	10.0	11.8	13.3	12.4	9.5	7.2	6.9	7.8	8.2
Other Income	449.9	498.6	553.7	544.1	588.7	635.3	656.6	684.0	715.9	751.8	795.9
Transfer Payments	266.9	268.7	271.6	282.3	300.5	323.9	334.7	347.2	357.9	374.9	396.3
Social Insurance	121.8	114.7	119.3	139.5	147.6	156.5	163.5	173.3	182.6	192.6	202.0
<b>Taxable Sales</b>											
<b>Nominal</b>											
Level (Bil \$)	477.0	520.2	558.0	586.6	615.5	633.9	649.1	660.7	687.9	717.8	751.4
%Ch	4.5	9.1	7.3	5.1	4.9	3.0	2.4	1.8	4.1	4.3	4.7
<b>Real</b>											
Level (Bil. 2009\$)	471.0	503.5	529.0	549.6	566.8	575.8	576.9	572.6	579.9	590.3	600.4
%Ch	3.2	6.9	5.1	3.9	3.1	1.6	0.2	-0.7	1.3	1.8	1.7
<b>New Automobile Sales (Mil Un.)</b>											
New Registrations	1.11	1.21	1.52	1.67	1.80	1.98	1.99	1.94	1.91	1.81	1.81
U.S. Sales	11.55	12.74	14.43	15.53	16.45	17.40	17.46	17.17	16.96	16.68	16.46
<b>Construction Activity</b>											
<b>Residential Building Permits (Thous.)</b>											
Total	43.0	44.9	56.7	77.9	82.4	97.6	101.5	111.1	125.2	133.4	139.2
Single-Family	25.0	22.3	27.3	36.4	37.4	44.0	49.6	58.1	69.4	71.8	75.5
Multi-family	18.0	22.6	29.4	41.5	45.0	53.6	51.9	53.0	55.9	61.7	63.7
<b>Nonresidential Permit Valuation</b>											
Nominal (Mil. \$)	11170.9	13050.1	14636.5	21834.7	23583.9	26325.0	27406.3	28092.7	33141.2	34511.8	35950.7
%Ch	2.5	16.8	12.2	49.2	8.0	11.6	4.1	2.5	18.0	4.1	4.2
Real (Mil. 2009\$)	11301.2	12806.0	13821.8	20189.2	20788.0	22794.2	23704.9	23642.7	27070.8	27388.1	27627.9
%Ch	3.7	13.3	7.9	46.1	3.0	9.7	4.0	-0.3	14.5	1.2	0.9
<b>Population (Thous.)</b>											
Net Immigration	-26.0	69.0	109.0	79.0	111.0	72.0	24.0	79.8	57.9	56.6	43.5
Net Natural Increase	283.0	272.0	258.0	252.0	255.0	247.0	229.0	221.0	221.6	209.2	200.6
Population	37318.3	37676.0	38043.0	38374.0	38740.0	39059.0	39312.0	39617.8	39903.1	40176.5	40425.2

FORECAST TABLES - LONG-TERM SUMMARY

Table 1. Summary of the UCLA Forecast for California

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Personal Income, Taxable Sales, and Price Inflation (%Change)</b>											
Personal Income (Bil.\$)	2428.4	2578.6	2730.0	2864.6	3015.6	3170.7	3333.1	3487.2	3639.4	3799.1	3965.0
Calif. (% Ch)	5.4	6.2	5.9	4.9	5.3	5.1	5.1	4.6	4.4	4.4	4.4
U.S. (% Ch)	4.3	5.5	5.2	4.6	4.7	4.7	4.5	4.5	4.6	4.5	4.8
Pers. Income (Bil. 2009\$)	2047.0	2120.6	2181.1	2227.0	2285.6	2345.8	2410.8	2467.8	2520.4	2574.2	2631.1
Calif. (% Ch)	2.5	3.6	2.9	2.1	2.6	2.6	2.8	2.4	2.1	2.1	2.2
U.S. (% Ch)	2.0	3.1	2.6	2.2	2.3	2.3	2.2	2.3	2.5	2.4	2.7
Taxable Sales (Bil.\$)	687.9	717.8	751.4	779.7	815.4	852.4	891.2	933.3	973.5	1016.3	1060.4
(% Ch)	4.1	4.3	4.7	3.8	4.6	4.5	4.5	4.7	4.3	4.4	4.3
(Bil. 2009\$)	579.9	590.3	600.4	606.2	618.0	630.7	644.6	660.5	674.2	688.6	703.7
(% Ch)	1.3	1.8	1.7	1.0	2.0	2.1	2.2	2.5	2.1	2.1	2.2
Consumer Prices (% Ch)	3.4	2.3	3.4	3.0	2.7	2.6	2.5	2.3	2.3	2.2	2.2
<b>Employment and Labor Force (Household Survey, % Change)</b>											
Employment	1.7	1.8	0.8	0.4	0.5	0.4	0.5	0.6	0.5	0.5	0.5
Labor Force	1.0	1.4	1.1	0.6	0.6	0.6	0.6	0.7	0.7	0.5	0.5
Unemployment Rate (%)	4.1	3.8	4.1	4.3	4.3	4.5	4.7	4.8	5.0	5.1	5.1
U.S.	3.8	3.5	3.8	4.1	4.2	4.4	4.5	4.6	4.6	4.5	4.5
<b>Nonfarm Employment (Payroll Survey, % Change)</b>											
Total Nonfarm	2.2	1.7	0.8	0.4	0.7	0.5	0.6	0.6	0.6	0.6	0.6
Calif.	1.7	1.4	0.7	0.3	0.5	0.4	0.3	0.3	0.4	0.5	0.6
U.S.	5.7	1.5	1.0	-0.7	0.8	0.3	0.8	0.6	0.5	0.4	0.5
Construction	1.1	1.1	0.4	0.3	0.3	0.2	0.1	0.4	0.5	0.4	0.4
Manufacturing	-0.8	0.4	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4
Nondurable Goods	2.2	1.4	0.4	0.1	0.2	0.1	0.0	0.5	0.5	0.4	0.4
Durable Goods	4.6	2.7	0.7	0.2	0.2	0.3	0.4	0.3	0.4	0.3	0.2
Trans. Warehousing & Util	1.2	0.6	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.4
Trade	1.4	2.0	1.2	0.8	1.0	1.0	1.3	1.2	1.2	0.9	0.9
Information	1.5	1.8	0.7	0.5	1.0	1.1	0.9	0.9	0.9	1.1	1.1
Financial Activities	2.5	2.7	1.1	0.4	1.0	0.4	0.7	0.6	0.6	0.6	0.6
Professional Busi. Serv.	3.0	1.8	1.1	0.9	1.0	1.0	1.0	1.0	0.9	0.9	0.6
Edu. & Health Serv.	2.7	1.5	0.4	0.4	0.5	0.4	0.3	0.5	0.6	0.6	0.5
Leisure & Hospitality	1.5	4.7	1.6	0.5	1.1	1.3	1.0	1.0	1.1	1.2	1.2
Other Services	-0.9	-0.1	-0.3	-0.3	-0.1	0.1	0.3	0.7	0.6	0.3	0.3
Federal Gov't	1.5	1.6	0.8	0.3	0.4	0.5	0.6	0.5	0.5	0.5	0.5
State & Local Gov't	<b>Nonfarm Employment (Payroll Survey, Thous.)</b>										
Total Nonfarm	17187	17485	17619	17685	17802	17899	18010	18123	18234	18340	18445
Construction	855	868	876	870	877	880	887	892	896	899	904
Manufacturing	1326	1340	1345	1349	1353	1355	1357	1363	1369	1374	1380
Nondurable Goods	484	486	488	490	493	494	496	498	500	502	504
Durable Goods	842	854	857	858	860	860	861	865	869	872	876
Trans. Warehousing & Util	655	672	677	679	680	683	685	687	690	692	693
Trade	2445	2459	2465	2472	2480	2487	2495	2504	2512	2516	2527
Information	536	547	553	558	563	569	576	583	590	595	600
Financial Activities	843	859	865	869	877	887	895	903	911	921	931
Professional Busi. Serv.	2627	2697	2727	2738	2766	2776	2795	2811	2828	2845	2861
Edu. & Health Serv.	2715	2764	2793	2817	2845	2874	2903	2931	2957	2983	3002
Leisure & Hospitality	2003	2034	2044	2051	2060	2068	2075	2086	2098	2110	2122
Other Services	572	599	609	612	619	627	633	640	647	654	662
Federal Gov't	246	246	245	244	244	244	245	247	248	249	250
State & Local Gov't	2341	2379	2398	2406	2416	2428	2442	2454	2466	2479	2491
<b>Population and Migration</b>											
Net Immigration(Thous)	58	57	44	52	50	44	44	46	48	49	47
Population (Thous)	39903	40176	40425	40665	40897	41130	41364	41601	41843	42084	42331
(% Ch)	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
<b>Construction Activity</b>											
Residential Building											
Permits (Thous. Un.)	125.2	133.4	139.2	140.4	142.0	143.2	144.0	143.9	143.9	145.9	147.9
Nonres. Permits (Mil. '09\$)	27071	27388	27628	27879	28063	28220	28392	28562	28726	28873	29011

FORECAST TABLES - LONG-TERM SUMMARY

Table 3. Personal Income, Taxable Sales, Construction and Population in California

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
<b>Aggregates</b>											
<b>(Bil \$)</b>											
Personal Income	2428.4	2578.6	2730.0	2864.6	3015.6	3170.7	3333.1	3487.2	3639.4	3799.1	3965.0
Disposable Income	2069.6	2201.1	2352.1	2489.9	2636.6	2786.9	2942.4	3085.0	3226.6	3383.4	3539.8
<b>(Bil 2009\$)</b>											
Personal Income	2047.0	2120.6	2181.1	2227.0	2285.6	2345.8	2410.8	2467.8	2520.4	2574.2	2631.1
Disposable Income	1744.6	1810.0	1879.2	1935.6	1998.3	2061.9	2128.2	2183.2	2234.4	2292.5	2349.0
<b>(Nominal %Ch)</b>											
Personal Income	5.4	6.2	5.9	4.9	5.3	5.1	5.1	4.6	4.4	4.4	4.4
Disposable Income	5.3	6.4	6.9	5.9	5.9	5.7	5.6	4.8	4.6	4.9	4.6
<b>(Real %Ch)</b>											
Personal Income	2.5	3.6	2.9	2.1	2.6	2.6	2.8	2.4	2.1	2.1	2.2
Disposable Income	2.4	3.8	3.8	3.0	3.2	3.2	3.2	2.6	2.3	2.6	2.5
<b>Components of Personal Income (Bil \$)</b>											
Personal Income	2428.4	2578.6	2730.0	2864.6	3015.6	3170.7	3333.1	3487.2	3639.4	3799.1	3965.0
Wages & Salaries	1244.3	1327.6	1398.1	1452.6	1526.8	1606.0	1695.7	1787.9	1877.4	1969.8	2070.4
Other Labor Income	289.0	312.3	336.6	360.5	382.9	405.0	428.1	447.0	458.1	466.8	475.4
Farm	6.9	7.8	8.2	8.7	9.2	9.7	10.1	10.6	11.0	11.6	12.3
Other Income	715.9	751.8	795.9	835.6	873.9	910.8	942.8	969.6	1006.4	1050.6	1091.8
Transfer Payments	357.9	374.9	396.3	420.5	447.7	477.6	509.6	543.3	573.8	601.2	628.8
Social Insurance	182.6	192.6	202.0	209.9	221.7	235.2	249.8	267.9	284.0	297.7	310.4
<b>Taxable Sales</b>											
<b>Nominal</b>											
Level (Bil \$)	687.9	717.8	751.4	779.7	815.4	852.4	891.2	933.3	973.5	1016.3	1060.4
%Ch	4.1	4.3	4.7	3.8	4.6	4.5	4.5	4.7	4.3	4.4	4.3
<b>Real</b>											
Level (Bil. 2009\$)	579.9	590.3	600.4	606.2	618.0	630.7	644.6	660.5	674.2	688.6	703.7
%Ch	1.3	1.8	1.7	1.0	2.0	2.1	2.2	2.5	2.1	2.1	2.2
<b>New Automobile Sales (Mil Un.)</b>											
New Registrations	1.91	1.81	1.81	1.81	1.85	1.86	1.86	1.85	1.85	1.87	1.89
U.S. Sales	16.96	16.68	16.46	16.30	16.40	16.61	16.70	16.93	17.11	17.13	17.12
<b>Construction Activity</b>											
<b>Residential Building Permits (Thous.)</b>											
Total	125.2	133.4	139.2	140.4	142.0	143.2	144.0	143.9	143.9	145.9	147.9
Single-Family	69.4	71.8	75.5	76.8	78.5	81.6	81.7	79.6	80.3	81.8	82.2
Multi-family	55.9	61.7	63.7	63.5	63.5	61.6	62.3	64.3	63.6	64.1	65.7
<b>Nonresidential Permit Valuation</b>											
Nominal (Mil. \$)	33141.2	34511.8	35950.7	37408.7	38843.7	40219.4	41627.6	43062.0	44515.8	45964.4	47445.6
%Ch	18.0	4.1	4.2	4.1	3.8	3.5	3.5	3.4	3.4	3.3	3.2
Real (Mil. 2009\$)	27070.8	27388.1	27627.9	27879.2	28063.3	28219.7	28392.0	28562.3	28726.0	28872.7	29011.2
%Ch	14.5	1.2	0.9	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5
<b>Population (Thous.)</b>											
Net Immigration	57.9	56.6	43.5	52.2	49.5	44.4	44.1	45.7	48.2	48.5	46.8
Net Natural Increase	221.6	209.2	200.6	180.9	185.0	188.8	188.8	195.1	193.8	194.6	200.4
Population	39903.1	40176.5	40425.2	40664.5	40897.2	41130.4	41363.7	41601.1	41842.8	42084.1	42331.4



The Los Angeles Department of Water and Power (DWP), established at the beginning of the century is the largest municipally-owned utility in the nation. It exists under and by virtue of the Charter of the City of Los Angeles enacted in 1925.

With a work force in excess of 9,000, the DWP provides water and electricity to some 3.5 million residents and businesses in a 464-square-mile area.

DWP's operations are financed solely by the sale of water and electric services. Capital funds are raised through the sale of bonds. No tax support is received.

A five-member Board of Water and Power Commissioners establishes policy for the DWP. The Board members are appointed by the Mayor and confirmed by the City Council for five-year terms.



The Los Angeles County Metropolitan Transportation Authority (Metro) is unique among the nation's transportation agencies. It serves as transportation planner and coordinator, designer, builder and operator for one of the country's largest, most populous counties. More than 9 million people – one-third of California's residents – live, work, and play within its 1,433-square-mile service area.

Besides operating over 2,000 coaches in the Metro Bus fleet, Metro also designed, built and now operates over 73 miles of Metro Rail service. The Metro Rail system currently consists of 62 stations and several more are in the planning and/or design stage.

In addition to operating its own services Metro funds 16 municipal bus operators and funds a wide array of transportation projects including bikeways and pedestrian facilities, local road and highway improvements, goods movement, and the popular Freeway Patrol and Call Boxes.

Recognizing that no one form of transit can solve urban congestion problems, Metro's multimodal approach uses a variety of transportation alternatives to meet the needs of the highly diverse population in the region.

Metro's Mission is to insure the continuous improvement of an efficient and effective transportation system for Los Angeles County. In support of this mission, our team members provide expertise and leadership based on their distinct roles: operating transit system elements for which the agency has delivery responsibility, planning the countywide transportation system in cooperation with other agencies, managing the construction and engineering of transportation system components and delivering timely support services to the Metro organization.

Metro was created in the state legislature by Assembly Bill 152 in May 1992. This bill merged the Los Angeles County Transportation Commission (LACTC) and the Southern California Rapid Transit District (RTD) to become the Los Angeles County Metropolitan Transportation Authority. The merger became effective on April 1, 1993.

Metro is governed by a 13-member Board of Directors comprised of: the five Los Angeles County Supervisors, the Mayor of Los Angeles, three Los Angeles mayor-appointed members, four city council members representing the other 87 cities in Los Angeles County and one non-voting member is appointed by the Governor of California.



## Inland Empire Center for Economics and Public Policy

### Mission Statement

The mission of the Inland Empire Center for Economics and Public Policy (IEC) at Claremont McKenna College is to provide Inland Empire leaders with expert analysis of the region's unique political and economic landscape.

### Background

The IEC was founded in 2010 as a collaborative effort by the Rose Institute of State and Local Government and the Lowe Institute for Political Economy, both based at Claremont McKenna College. While the Inland Empire is one of California's fast growing areas, there was little political and economic analysis specific to the region. Recognizing this void and the increasing importance of the area to California's economy, the two research institutes saw the need for an organization that could deliver analysis on current issues impacting the Inland Empire.

The Rose Institute and the Lowe Institute were uniquely positioned to create the IEC because their staffs both specialized in political and economic analysis and were familiar with the Inland Empire. The IEC brings together experts from both founding institutions. Marc Weidenmier, Ph.D., director of the Lowe Institute, is a Research Associate of the National Bureau of Economic Research and a member of the Editorial Board of the Journal of Economic History. Andrew Busch, Ph.D., director of the Rose Institute, is an expert in American government and politics. Manfred Keil, Ph.D., an expert in comparative economics, has extensive knowledge on economic conditions in the Inland Empire. Kenneth P. Miller, J.D., Ph.D., is an expert in California politics and policy who studies political developments in the Inland Empire.

The primary ways that the IEC presents its analysis is through publications and conferences. The Inland Empire Outlook, which provides analysis on the Inland Empire's political and economic developments, is the IEC's predominant recurring publication. Its inaugural issue was published in Winter 2010. Besides publications, the IEC also hosts conferences throughout the Inland Empire. The conferences bring together panels of experts and business and political leaders in the Inland Empire to address current topics affecting the region. The annual economic forecast conference held at the Citizens Business Bank Arena in Ontario is in cooperation with the UCLA Anderson Forecast.

SEMINAR MEMBERS

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The nonpartisan Legislative Analyst's Office (LAO) has been providing fiscal and policy advice to the California Legislature for more than 65 years. It is particularly well known for its fiscal and programmatic expertise and nonpartisan analyses relating to the state budget, including making recommendations for operating programs in the most effective and cost-efficient manner possible. Its responsibilities also include making economic and demographic forecasts for California, and fiscal forecasts for state government revenues and expenditures. It also prepares fiscal analyses for all propositions that appear on the California statewide ballot, including bond measures.

For more information about the LAO, please visit our website at [www.lao.ca.gov](http://www.lao.ca.gov) or call us at 916-445-4656.

As the state's primary energy policy and planning agency, the California Energy Commission is committed to reducing energy costs and environmental impacts of energy use - such as greenhouse gas emissions - while ensuring a safe, resilient, and reliable supply of energy.

## City of Hermosa Beach



The Los Angeles Magazine has named Hermosa an "outstanding coastal town" praising many of our businesses and shops. From traditional Surf and Turf to more exotic cuisines, from Comedy to Jazz, Hermosa Beach has many fine dining and entertainment places from which to choose. Our hotel and lodging facilities offer breath taking ocean views and all the comforts of home which are surrounded by a Mecca of restaurants, upscale shops and tourist delights. Come to Hermosa Beach, relax and enjoy the warmth of our hospitality.

The State of California's Department of Finance is responsible for submitting to the State's fiscal year budget to the Governor in January of each year. The Department is part of the State's Executive Branch and part of the Governor's Administration. The Director of Finance is appointed by the Governor and is his chief fiscal advisor. The Director sits as a member of the Governor's cabinet and senior staff. Principal functions include:

- Establish appropriate fiscal policies to carry out the Administration's Programs.

- Prepare, enact and administer the State's Annual Financial Plan.

- Analyze legislation which has a fiscal impact.

- Develop and maintain the California State Accounting and Reporting System (CALSTARS).

- Monitor/audit expenditures by State departments to ensure compliance with approved standards and policies.

- Develop economic forecasts and revenue estimates.

- Develop population and enrollment estimates and projections.

- Review expenditures on data processing activities of departments.

In addition, the Department of Finance interacts with the Legislature through various reporting requirements, by presenting and defending the Governor's Budget and in the legislature.

The Department interacts with other State departments on a daily basis on terms of administering the budget, reviewing fiscal proposals, establishing accounting systems, auditing department expenditures and communicating the Governor's fiscal policy to departments.



## SEMINAR MEMBERS

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The energy industry is changing rapidly and dramatically. As global competition transforms the way companies do business, energy issues are no longer simply local, or even national. At the same time, it's clear that the importance of providing reliable local service has never been more important.

Our heritage at Southern California Edison is based on reliability. For more than 100 years we have provided high-quality, reliable electric service to more than 4.2 million business and residential customers over a 50,000 square mile service area in coastal, central, and southern California.

Of course, recent changes in the California's electric industry have affected us as well. In 1997, as part of the restructuring of the electric industry in our state, SCE sold its 12 fossil fuel generating stations and overhauled nearly every aspect of its business to prepare for the changing environment. While we still own and operate hydro and nuclear power facilities that serve our area, our main role is that of power transmission and distribution. The power needed for our customers is largely purchased from the California Power Exchange and provided by SCE to our customers without a price markup.

At SCE we want you to know that even in times of change, we retain our proven commitment to service, reliability, innovation, and the community.



The Labor Market Information Division (LMID) of the Employment Development Department is the official source for California's labor market information.

The LMID promotes California's economic health by providing information to help people understand California's economy and make informed labor market choices.

We collect, analyze, and publish statistical data and reports on California's labor force, industries, occupations, employment projections, wages, and other important labor market and economic data.

California's vast labor market includes over 1.5 million employers covered by Unemployment Insurance and over 19 million people in its civilian labor force.

For more information, visit our website at <http://www.labormarketinfo.edd.ca.gov/> or call

916-262-2162.

# Allen Matkins



From its Los Angeles base, Allen Matkins has conquered California, opening up offices in San Francisco, San Diego, Century City, and Irvine. With approximately 200 lawyers, the firm is known as a top real estate practice in the Golden State.

## Grown in the City of Angels

Allen Matkins has built its empire in the state where residents elect bodybuilders and shrug off earthquakes. Founded in Los Angeles in 1977, Allen Matkins has achieved notable success in corporate and hospitality work, as well as in the securities, employment, bankruptcy, and tax arenas. The firm has earned accolades from west coast publications like the Los Angeles Business Journal and the San Diego Business Journal. Its real strengths lie, however, in its real estate and litigation practices. The firm's litigation department has focuses in real estate, commercial, financial services, construction, environmental, and labor and employment litigation.

The firm has not only worked with local clients-like representing a public-private partnership to modernize the Los Angeles Air Force Base-but has also secured nationally known clients including Wells Fargo Bank, Sares-Regis Group, AT&T, Black & Decker, Met Life, The Home Depot, Blackstone Real Estate Advisors, and Capmark Finance.

## Buying and Selling Up the California Coast

Real estate is where the firm shines-Allen Matkins has ranked the No. 1 real estate law firm in California for a decade, according to Chambers & Partners. California Real Estate Journal has also placed Allen Matkins on the top of its real estate firm list, which was based on the number of real estate attorneys in each outfit. The firm's real estate practice handles all aspects of the real estate world, including litigation over construction, land use, landlord tenant, and condemnation issues.

And handling the real estate transactions of the present is not enough for the firm; Allen Matkins seeks to predict the future. The firm has developed a partnership with UCLA Anderson Forecast, an organization of economists who attempt to posit unbiased forecasts for California's economy and the nation's. Allen Matkins and the Anderson Forecast put out commercial real estate forecasts, covering rental and vacancy rates.

Irvine Company is a privately held real-estate investment company and master-planner, highly respected for its stewardship and master planning of The Irvine Ranch in Orange County, Calif. Donald Bren, Chairman of the Board of Irvine Company, has been deeply involved in California real estate as a master planner, master builder, and long-term investor for 50 years.

With diversified operations throughout coastal California, Irvine Company plans and brings to life balanced, sustainable communities with a full range of housing, job and retail centers, schools, recreation, and permanently preserved open space.

Irvine Company is committed to long-term ownership of a high-quality portfolio, the breadth and quality of which are unmatched in the industry. With each property positioned at the top of its class, the company's holdings include more than 500 office buildings, nearly 160 apartment communities, 43 retail centers, five marinas, three hotels and two golf clubs. These investment properties primarily lie in Orange County, with about a third of them in San Diego, West Los Angeles, Silicon Valley, Chicago and New York.

Irvine Company also maintains a long tradition of philanthropy and environmental stewardship, including its dedication of more than 57,000 acres—approximately 60% of the historic Irvine Ranch—for permanently preserved open space.

The company traces its roots to the 1860s with the formation of The Irvine Ranch from Mexican and Spanish land grants.

## SEMINAR MEMBERS

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State Controller Betty T. Yee was elected in November 2014, following two terms of service on the Board of Equalization. As Controller, she continues to serve the Board as its fifth voting member.

The State Controller is the Chief Fiscal Officer of California, the sixth largest economy in the world. She helps administer two of the largest public pension funds in the nation and serves on 78 state boards and commissions. These are charged with duties ranging from protecting our coastline to helping build hospitals. The Controller is the state's independent fiscal watchdog, providing sound fiscal control over more than \$100 billion in receipts and disbursements of public funds a year, offering fiscal guidance to local governments, and uncovering fraud and abuse of taxpayer dollars.

### The State Controller's Functions

- Account for and control disbursement of all state funds.
- Determine legality and accuracy of every claim against the State.
- Issue warrants in payment of the State's bills including lottery prizes.
- Administer the Uniform State Payroll System.
- Audit and process all personnel and payroll transactions for state civil service employees, exempt employees and California State University employees.
- Responsible for auditing various state and local government programs.
- Inform the public of the State's financial condition.
- Administer the Unclaimed Property Law.
- Inform the public of financial transactions of city, county and district governments.



The office of California State Treasurer has broad responsibilities and authority in the areas of investment and finance.

The Treasurer is elected statewide every four years. In addition to being the State's lead asset manager, banker and financier, the Treasurer serves as chairperson or a member of numerous State authorities, boards and commissions.

Below are some of the Treasurer's key responsibilities:

- The Treasurer's Office manages the State's Pooled Money Investment Account, which invests monies on behalf of state government and local jurisdictions to help them manage their fiscal affairs.
- The Treasurer serves on the boards of the Public Employees' Retirement System (CalPERS) and State Teachers' Retirement System (CalSTRS). CalPERS and CalSTRS are significant investors/stockholders in the American and global economies. The pension funds provide for the retirement of their members and also perform a variety of other services for them. As an example, CalPERS is the second largest purchaser of health care services in the country.
- The Treasurer's Office finances a variety of important public works needed for the State's future, including schools and higher education facilities, transportation projects, parks, and environmental projects.
- The Treasurer chairs authorities that finance a wide range of significant projects, including pollution clean-up, small businesses and health care facilities. The Treasurer chairs the State commission that awards low-cost, tax-exempt financing for various purposes such as housing, economic development, and student loans.
- The Treasurer plays a key role in statewide housing finance as Chair of the Tax Credit Allocation Committee that awards hundreds of millions of dollars in tax credits for affordable housing and as a member of the Board of the California Housing Finance Agency, which finances affordable housing.
- The Treasurer oversees the ScholarShare Investment Board (SIB), which administers the State's tax-advantaged college tuition savings plan.

Corporate 6

California Energy Commission

Corporate 4

ADP

City National Bank - Coscia

City of Los Angeles

HomeStreet Bank

IS Associates

MedPOINT Management, Inc.

Southern California Association of Governments

Corporate 3

Ameron International

Citizens Business Bank

City of Santa Monica

Five Point

Hanmi Bank

Los Angeles Police Federal Credit Union

Manufacturers Bank

McMaster-Carr

Metropolitan Water District

Pacific Western Bank

Pepperdine University

RPA

State Bank of India California

Supervalu, Inc.

University Credit Union

WCIRB

Individual Member

ALG Inc.

Alliance Bernstein

Austrian Trade Commission

Bank of Hope

Board of Equalization

Brand Management Inc

Cal Recycle

California Air Resources Board

California Association Of Realtors

California Department of Transportation

California Public Utilities Commission

California State Polytechnic University, Pomona

California State University, Sacramento

California Steel Industries, Inc

Cathay Bank

Chartwell Capital Solutions

Chicago Title

Chu & Waters, LLP

City of Carlsbad

City of Garden Grove

City of San Diego

City of San Jose

City of Torrance

Consulate General of Japan

County of San Diego

Desmond, Marcello & Amster

East West Bank

FDIC

Godshalk

Granite Rock Company

Harold Davidson & Associates Inc.

Heritage Bank of Commerce

HR and A Advisors, Inc.

KPMG LLP

Lehigh Southwest Cement Company

Lloyd Management Corporation

Los Angeles Public Library - Business Economics Dept

Maynard Consulting Services

Mitsubishi Cement Corp.

Newland Real Estate Group

Northern California Power Agency

Orange County Executive Office - Budget

Orange County Transportation Authority 2

Preferred Employers Insurance Company

San Diego Gas & Electric Co.

SANDAG

School Services of California Inc.

Shorenstein Properties

SMUD

Stanford University

State of Hawaii - Department of Taxation

TC Metal Co.

The Aerospace Corporation

The Olson Company

U.S. Court of Appeals - 9th Circuit

United Methodist F.C.U.

University of California Library, Berkeley

University of California San Diego

University of Cincinnati

University of Richmond

USS-POSCO Industries

Vulcan Materials

Warland Investments

Wells Fargo Securities

York University Libraries



An overhead view of four people in a meeting. A man stands at the top, gesturing with a red pen. Two people sit on the left, and one sits on the right. They are gathered around a large red table with a laptop, notebooks, and coffee cups. The background is a light-colored, textured floor.

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## UCLAAnderson FORECAST

Jerry Nickelsburg  
Director

Jerry Nickelsburg joined the UCLA's Anderson School of Management and The Anderson Forecast in 2006. Since 2017 he has been the Director of The Anderson Forecast. He teaches economics in the MBA program with a focus on Asian economies. As the Director of The Anderson Forecast he plays a key role in the economic modeling and forecasting of the National, and California economies. He has conducted research in the areas of labor economics, industrial organization, statistics, and international monetary economics, focusing on the development of new data and the application of economic theory and statistical methods to policy issues. His current academic research is on specific skills, structural unemployment, and on energy efficiency in transportation. He is a regular presenter at Economic Conferences and is cited in the national media including the Financial Times, Wall Street Journal, New York Times, Los Angeles Times, and Reuters.

He received his Ph.D. in economics from the University of Minnesota in 1980 specializing in monetary economics and econometrics. He was formerly a professor of Economics at the University of Southern California and has held executive positions with McDonnell Douglas, FlightSafety International, and FlightSafety Boeing during a fifteen-year span in the aviation business. He also held a position with the Federal Reserve Board of Governors developing forecasting tools, and has advised banks, investors and financial institutions.

From 2000 to 2006, he was the Managing Principal of Deep Blue Economics, a consulting firm he founded. He has been the recipient of the Korda Fellowship, USC Outstanding Teacher, India Chamber of Commerce Jubilee Lecturer, and he is a Fulbright Scholar. He has published over 100 scholarly and popular articles on monetary economics, economic forecasting and analysis, labor economics, and industrial organization and he is the author of two books on monetary economics and exchange rates.



## UCLAAnderson FORECAST

David Shulman  
Senior Economist

David Shulman is Distinguished Visiting Professor and a "Managing Director" at the Financial Leadership Program at Baruch College where he mentors students seeking front-office careers on Wall Street, and a Visiting Scholar/Senior Economist at the UCLA Anderson Forecast where he is responsible for U.S. Macro. In addition, he is currently Managing Member of his LLC where he is engaged in investment and litigation consulting. He comments on his blog, <http://shulmaven.blogspot.com>.

In June 2005, he retired from Lehman Brothers where he was Managing Director and Head REIT analyst. From 2001-04 he was voted on the Institutional Investor All Star Teams including First Team in 2002. Prior to joining Lehman Brothers in 2000 he was a Member and Senior Vice President at Ulysses Management LLC (1998-99) an investment manager of a private investment partnership and an offshore corporation whose total investment capital approximated \$1 billion at the end of 1999.

From 1986-1997, Mr. Shulman was employed by Salomon Brothers Inc in various capacities. He was Director of Real Estate Research from 1987-91 and Chief Equity Strategist from 1992-97. In the latter capacity he was responsible for developing the Firm's overall equity market view and maintaining the Firm's list of recommended stocks. Mr. Shulman was widely quoted in the print and electronic media and he coined the terms "Goldilocks Economy" and "New Paradigm Economy". In 1991, he was named a Managing Director and in 1990 he won the first annual Graaskamp Award for Excellence in Real Estate Research from the Pension Real Estate Association.

Prior to joining Salomon Brothers Inc., he was Vice President and Director of Research Planning at TCW Realty Advisors in Los Angeles. Earlier in his career Mr. Shulman was an academic. He was an Associate Professor of Management and Economics at the University of California at Riverside and Financial Economist at the UCLA Business Forecasting Project. In 2017, the David Shulman Endowed Excellence in Teaching Award Fund was established by a former student of his.

A graduate of Baruch College (1964), Mr. Shulman received his Ph.D. (1975) with a specialization in Finance and a M.B.A. (1966) from the UCLA Graduate School of Management. He is married and has three grown children.



SPEAKERS

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**UCLAAnderson**  
**F O R E C A S T**

William Yu  
Economist

William Yu joined the UCLA Anderson Forecast in 2011 as an economist. At Forecast he focuses on the economic modeling and forecasting of Los Angeles and other regional economies in California. He also conducts research and forecast on Asian emerging economies, especially China, and their impacts on the US economy. His research interests include a wide range of economic and financial issues, such as time series econometrics, stock, bond and commodity price dynamics, public health, human capital, higher education, and economic sustainability. He has published over a dozen research articles in Journal of Forecasting, International Journal of Forecasting, Journal of International Money and Finance, Journal of Health Care Finance, Journal of Education Finance, Economic Affairs, and Global Economic Review, etc. He has also served as a reviewer for various journals, such as Journal of Money, Credit, and Banking, Journal of Banking and Finance, Japan and the World Economy, and Energy Journal, etc.

He received his bachelor's degree in finance from National Taiwan University in 1995 and was an analyst in Fubon Financial Holding in Taipei from 1997 to 2000. In 2006, he received his Ph.D. degree in economics from the University of Washington where he was also an economics instructor and won two distinguished teaching awards. In 2006, he worked for the Frank Russell Investment Group for Treasury and corporate yields modeling and forecasting. From 2006 to 2011, he served as an assistant and an associate professor of economics at Winona State University where he taught courses including international economics, forecasting methods, intermediate macroeconomics, introductory macroeconomics, money and banking, and Asian economies.