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The U.S. Economy
Is Showing Signs of Accelerating Growth

U.S. economic activity has not yet shown consistent signs of shifting from a path of sluggish growth to one of accelerating growth since the Great Recession ended in July 2009. The U.S. economy saw growth rates of -2.7 percent, 2.5 percent, 1.6 percent, 2.3 percent and 2.2 percent in 2009, 2010, 2011, 2012 and 2013, respectively.

The views expressed are those of the authors and do not necessarily represent those of the University of Nevada, Las Vegas or the Nevada System of Higher Education.
The three quarters of 2014 were no more auspicious. In first quarter, U.S. real gross domestic product (GDP) declined at a 2.1 percent annual rate before rebounding to 4.6 percent and 3.5 percent annual rates in second and third quarters, respectively (Figure 1). Combined these quarterly figures add up to an annualized growth rate of 2.0 percent for the first three quarters of 2014. Nonetheless, the U.S. economy is finally showing consistent signs of stronger growth across a wide range of measures. We expect the continuation of stronger growth will push the U.S. economy toward full capacity by the end of 2016.

1. A Strengthening U.S. Economic Activity

As of third quarter 2014, U.S. real GDP stands 3.5 percent below potential (Figure 2). At the trough, U.S. real GDP was 7.2 percent below potential. With U.S. real GDP growing only a little faster than potential since the recession’s end, the gap has been slow to close. Accelerating economic growth will close the gap between U.S. real GDP and its potential.

Most other U.S. economic indicators are showing favorable signs. We are seeing healthy job creation and falling unemployment rates. The housing market remains reasonably strong. Uncertainty about economic policy remains high, consumer confidence remains moderate, but investment remains relatively weak.

Figure 1. Growth Rate of U.S. Real GDP

Source: U.S. Bureau of Economic Analysis
1.1 Composition of the Growth in Real GDP

As shown in Table 1, consumer spending weakened considerably in third quarter 2014 after bouncing back sharply in second quarter 2014. Business fixed investment and government purchases made sizable contributions. Residential investment fell to a slower pace, and there was a strong drawdown in inventories. The large increase in net exports partially offset the sharp losses seen in the first half of the year.

Table 1. Contributions to the Growth of U.S. Real GDP

<table>
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<td>Final Domestic Sales</td>
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<td>Residential Investment</td>
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<td>-0.28</td>
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<td>Government Purchases</td>
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<td>Net Exports</td>
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<td>Exports</td>
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<td>0.41</td>
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<td>-1.30</td>
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<td>Imports</td>
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<td>-0.22</td>
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<td>Inventory Investment</td>
<td>0.15</td>
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<td>1.49</td>
<td>-0.34</td>
<td>-1.16</td>
<td>1.42</td>
<td>-0.57</td>
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</tbody>
</table>

Note: Data are reported at seasonally adjusted annual rates. Source: U.S. Bureau of Economic Analysis
1.2 Employment Growth Strong; Unemployment Falling

Although GDP growth hasn’t been consistently strong, job growth has been (Figure 3). Over the past year, the U.S. economy added an average of 220,000 jobs per month. The growth of the U.S. economy has been uneven across the states, with oil-producing states and the West showing some of the strongest growth (Figure 4).

With job growth, the U.S. unemployment rate generally has been falling, reaching 5.8 percent in October (Figure 5). Initial claims for unemployment also have been on a general downward trend, which means the economy is doing more to create jobs than destroy them.

Figure 3. Total Nonfarm Employment

Figure 4. 48 States Added Jobs in 2014

Sources: U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV

Figure 5. Unemployment and Initial Claims for Unemployment

1.3 U.S. Housing Market Remains Tight

The Case-Shiller home price index shows that U.S. housing prices are slipping (Figure 6). As shown in Figure 7, however, the U.S. housing supply is fairly tight. Based on recent sales, the current houses listed on the market provide only 5.3 months of supply, which is well below the historical average of 6.1 months. As long as supply remains below average, prices can be expected to resume rising, and construction will be stimulated.

Delinquencies on real estate loans are falling (Figure 8), which is an indication that we are seeing a continuing resolution of the real estate crisis. As shown in the figure, improvements are stronger in commercial real estate than the overall real estate market. The residential real estate market is finally showing signs of improvement.

Figure 6. U.S. Housing Prices Slipped Recently

![Graph showing U.S. Housing Prices Slipped Recently](source: Standard and Poor’s)
Figure 7. U.S. Housing Market Remains Tight

Figure 8. Delinquencies on Mortgages Falling

Sources: U.S. Census Bureau; National Bureau of Economic Research

Sources: Board of Governors of the Federal Reserve System; National Bureau of Economic Research
With improvements in the overall real estate markets, prices for shares in Real Estate Investment Trusts (REITs) generally have been rising (Figure 9). Higher long-term interest rates likely contributed to slower growth in some recent months.

1.4 Uncertainty Has Declined

Even four years since the recession’s end, economic uncertainty remains a major factor impeding the consumer and investment spending that is necessary to drive strong economic growth. U.S. economic uncertainty has been fairly high since the Great Recession.

One factor contributing to elevated uncertainty is the political debates in the nation’s capital about the direction of economic policy (Figure 10). With resolution of the debates about fiscal policy, economic uncertainty declined. The shift in control of the U.S. Senate has increased economic policy uncertainty to some degree, but uncertainty remains below the historical average.

As shown in Figure 11, consumer confidence and sentiment have continued on their general upward trends.

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**Figure 9. REIT Prices Rebounding from Recent Low**

Source: Wilshire; National Bureau of Economic Research
Figure 10. U.S. Economic Policy Uncertainty Index

Sources: Scott Baker, Nicholas Bloom and Steven J. Davis at www.PolicyUncertainty.com; National Bureau of Economic Research

Figure 11. Consumer Sentiment and Confidence

Sources: University of Michigan; The Conference Board; National Bureau of Economic Research
Businesses and individuals generally have improved their balance sheets by “deleveraging”—that is, spending less than their incomes (Figure 12). As a result, they are now in a better position to undertake the spending necessary to support strong economic growth.

Financial institutions have mostly recovered. As a result, commercial loans are expanding rapidly and are near their prerecession levels (Figure 13). On the other hand, we are still not seeing much use of commercial paper to support investment (Figure 14).

Figure 12. Private-Sector Surplus

Sources: U.S. Bureau of Economic Analysis; National Bureau of Economic Research; Center for Business and Economic Research, UNLV
Figure 13. U.S. GDP and Commercial Lending

Sources: U.S. Bureau of Economic Analysis; Board of Governors of the Federal Reserve System; National Bureau of Economic Research

Figure 14. U.S. GDP and Commercial Paper Outstanding

Sources: U.S. Bureau of Economic Analysis; Board of Governors of the Federal Reserve System
1.5 International Economic Outlook

Much of Europe has remained in recession, and the Asian economies are slowing down. These developments led to world economic growth for 2013 that was only 3.2 percent (Figure 15). For 2014, the International Monetary Fund (IMF) expects world economic activity to expand at about the same rate. The IMF expects accelerating economic activity in 2015 and beyond, but this may be wishful thinking.

1.6 World Oil Prices

As the result of a growing realization of weak international demand and increased oil supplies (particularly from the United States), world oil prices have dropped by about 25 percent since June (Figure 16). Consequently, U.S. gasoline prices are the lowest that they have been in several years.

The reduction in oil prices provides U.S. consumers what amounts to an annual increase in disposable income of $173 billion (about $1,400 for the average U.S. household). Because the United States now produces about two-thirds of its oil consumption, only $57 billion of that increased spending power comes from foreign oil producers. The rest comes from domestic oil producers. The effects of lower oil prices will be uneven across the United States (Figure 17).

Figure 15. Global Economy Remains Weak

Source: International Monetary Fund
Figure 16. Oil Prices Have Dropped Sharply

![Chart showing oil prices from 1947 to 2012 with recession periods indicated.](chart16)

Sources: Bureau of Labor Statistics; New York Mercantile Exchange; National Bureau of Economic Research; Center for Business and Economic Research, UNLV

Figure 17. Lower Oil Prices Will Boost Economic Activity in 42 States

![Map showing economic activity in 42 states.](chart17)

1.7 Monetary Policy Remains Accommodative

Over recent years, the Federal Open Market Committee (FOMC) has taken a number of steps to ease monetary policy. It has lowered the target rate of federal funds well below 0.25 percent. It has provided forward guidance that economic conditions are likely to require exceptionally low federal funds rates through mid-2015. It also undertook three quantitative easings to lower long-term rates, but it is now in the process of tapering off from its quantitative easing.

All of these monetary policy actions have been successful in holding interest rates below historically normal levels (Figure 18). They have also assured that monetary policy is not impeding economic growth. What they have not been able to do is provide the impetus to economic growth.

As the Fed has boosted liquidity, the money multiplier and the velocity of money have both declined (Figure 19).

Monetary easing initially led to fears of rapid inflation, which translated into sharply higher gold prices (Figure 20). Nonetheless, we have seen little evidence of actual inflation (Figure 21), and gold prices have dropped downward.

Figure 18. Selected U.S. Interest Rates

Source: Board of Governors of the Federal Reserve System
Figure 19. Money Multiplier and M2 Velocity

Sources: Board of Governors of the Federal Reserve System; Federal Reserve Bank of St. Louis; Center for Business and Economic Research, UNLV

Figure 20. U.S. Inflation Remains Subdued

Sources: Board of Governors of the Federal Reserve System; Federal Reserve Bank of St. Louis; Center for Business and Economic Research, UNLV
2. U.S. Economic Outlook

The U.S. economy seems likely to accelerate through 2016. Everything is in place for a stronger recovery, and we are seeing signs of an acceleration. The Index of U.S. Leading Economic Indicators has been rising (Figure 22), which signals continued economic growth. One concern with this indicator is that it is being distorted by monetary ease.

Real GDP. As shown in Figure 23, U.S. real GDP is likely to show a continued bounce back from the first quarter decline, with an annualized growth rate of 3.2 percent in fourth quarter 2014. As uncertainty gradually lifts, gains in consumer and investment spending will result in stronger growth of about 3.3 percent in 2015 and 2016. We currently project that that U.S. real GDP will close to within 1.9 percent of potential by the end of 2015 and 0.8 percent of potential by the end of 2016. We look for no gap by the end of 2017.
Figure 22. Index of U.S. Leading Economic Indicators

Sources: The Conference Board; National Bureau of Economic Research

Figure 23. U.S. Real GDP to Rise toward Potential

Sources: U.S. Bureau of Economic Analysis; Congressional Budget Office; Center for Business and Economic Research, UNLV
As shown in Table 2, we look for steady gains in consumer spending through the end of 2016. We expect stronger gains in business fixed investment and residential investment in 2015 and 2016 than in recent years. After an inventory drawdown in the three quarters of 2014, inventory investment should become relatively normal.

Nearly all the easy and tough cuts have been made in government spending. With an improving economy generating increased tax revenue, look for government spending to show moderate growth through 2016. After net exports return to normal in second quarter 2014, a gradually strengthening U.S. economy will boost foreign investment into the United States, and net exports will gradually become more negative.

**Table 2. Forecast Contributions to the Growth of U.S. Real GDP**

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<thead>
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<td>3.4</td>
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<td>Final Domestic Sales</td>
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<td>3.3</td>
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<td>3.5</td>
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<tr>
<td>Personal Consumption</td>
<td>1.8</td>
<td>1.9</td>
<td>1.9</td>
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<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
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<td>Business Fixed Investment</td>
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<tr>
<td>Residential Investment</td>
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<td>0.5</td>
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<td>0.6</td>
<td>0.6</td>
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<tr>
<td>Government Purchases</td>
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<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
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<tr>
<td>Net Exports</td>
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<td>-0.1</td>
<td>-0.2</td>
<td>-0.2</td>
<td>-0.2</td>
<td>-0.3</td>
<td>-0.4</td>
<td>-0.5</td>
</tr>
<tr>
<td>Inventory Investment</td>
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<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
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Note: Data are reported at seasonally adjusted annual rates. Source: Center for Business and Economic Research, UNLV

**Industrial Production.** With natural gas prices at relatively low levels and U.S. industrial production undergoing a recovery, U.S. industrial production should continue growing a little faster than overall economic activity in the near future (Figure 25). After mid-2015, the growth of industrial production could be a little slower than overall economic activity.

**Interest Rates.** The outlook for interest rates is dominated by monetary policy. With the economy operating below potential, the FOMC can be expected to hold short-term interest rates at extremely low levels through about mid-2015 (Figure 24). By mid-2015, the economy should be strong enough for the FOMC to gradually permit short-term rates to rise.

Quantitative easing is currently holding long-term interest rates at relatively low levels. The Fed has begun tapering off its quantitative easing, which will let long-term interest rates rise. A variety of long rates, such as those for 10-year Treasury bills and conventional mortgages, can be expected to rise.
Figure 24. Interest Rates to Rise

Sources: Board of Governors of the Federal Reserve System; Center for Business and Economic Research, UNLV

Figure 25. U.S. Industrial Production

Sources: Board of Governors of the Federal Reserve System; Center for Business and Economic Research, UNLV
Employment. As shown in Figure 26, a slowly expanding economy has generated fairly robust employment growth in recent years. Over the past year, we saw employment growth of about 220,000 jobs per month. In 2015 and 2016, we look for average monthly employment growth of about 225,000 and 220,000 jobs, respectively.

Figure 26. Total U.S. Employment

Sources: U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV
Unemployment. Even as the economy adds jobs at a strong rate, we can expect to see only moderate reductions in the unemployment rate. Workers returning to the labor force will boost the number of new jobs required to bring down the unemployment rate (Figure 27). By the end of 2015, a rate just below 6.0 percent is likely. An unemployment rate of about 5.4 percent is likely at yearend 2015. Sustained economic growth will gradually reduce the U.S. unemployment rate toward 5.0 percent in 2016, which we currently calculate as the natural rate of unemployment.\(^1\)

\(^1\) In our view, the sharp reduction in labor force participation since the Great Recession has reduced the natural rate of unemployment, which prior estimates placed in the range of 5.4-5.6 percent.

An Overall Assessment. To summarize, the U.S. economy is showing signs of accelerating growth. A strengthening economy, reduced uncertainty, increased confidence, financing and strong consumption and investment spending go together. As one makes gains, so will the others. As that happens, economic growth will improve, and output will close with potential.
3. Risks to the U.S. Economic Outlook

The outlook assumes that the economy has entered a phase in the cycle where the considerable strength of private balance sheets will allow an increase in consumer and business confidence to feed accelerating spending and GDP growth. If uncertainty remains high, sluggish economic growth can be expected. Among the uncertainties are labor force participation, the effect of private-sector balance sheets, the weak European and Asian economies, oil prices, fiscal policy and monetary policy.

Labor Force Participation. One of the less visible uncertainties is labor force participation. We have assumed that workers will return to the labor force as the economy improves, which will increase the number of people working or seeking work. As that happens, more hiring will be necessary to achieve a given reduction in the unemployment rate. If workers do not return to the labor force as the economy accelerates, however, the unemployment rate will drop more quickly than we have forecast, but employment and real GDP will grow more slowly than we have forecast.

Improved Private-Sector Balance Sheets. On the plus side, consumers and businesses have greatly improved their balance sheets since the recession—gradually replacing debt with assets. As uncertainty lifts, the improved balance sheets could drive sharp gains in consumption and investment spending that will contribute big gains in economic activity.

Lower Oil Prices. Sharply lower oil prices are a mild stimulus to U.S. economic activity, but they are also indicative of international economic weakness.

Continuing Weakness in the International Economy. The European and Asian economies have been weak in the first half of 2014. The effects of weak global economic growth have been evident in oil prices and U.S. trade, but the overall impact on the U.S. economy has been mild because the U.S. economy is not highly dependent on international trade. Nonetheless, prolonged or greater economic weakness abroad could slow the U.S. economic recovery. On the other hand, weak global economic activity has helped push down commodity prices, which has helped the U.S. economy. A sudden acceleration in economic activity, particularly in China, could lead to renewed upward pressure on some commodity prices.

Fiscal Policy. As of this writing (early November), the exact direction of U.S. economic policy remains somewhat uncertain. Republican control of the House and Senate may result in greater willingness for shared governance between the President and the legislative branch, or both sides may dig into their positions.

Monetary Policy. As part of its easing, the FOMC has greatly increased the monetary liquidity in the economy. As U.S. real GDP closes in on potential and unemployment falls to its natural rate, the FOMC will need to recalibrate its policy to reduce monetary liquidity. If the FOMC reduces the liquidity too soon or too quickly, a mild recession could result. If the FOMC reduces the liquidity too late or too slowly, accelerating inflation is likely.\(^2\)

Nevada Economy
Returning to Long-Term Trends

As is well known, the Nevada economy has not yet fully recovered from the Great Recession. As of September 2014, employment in the Silver State was 6.1 percent below its prerecession peak. Yet, recovery is underway, and Nevada has been among the fastest-growing states in recent years.
1. A Reemergence of Old Patterns

Prior to the Great Recession, Nevadans had grown accustomed to strong economic growth. From January 1990 to December 2007, the latter date being when the U.S. economy peaked prior to the Great Recession, Nevada employment grew at a 4.28 percent annual rate (Figure 1). In contrast, U.S. employment grew at a 1.33 percent annual rate.

In fact, Nevada was the fastest-growing state during the 18 years prior to the Great Recession (Figure 2). Arizona was second with an annual growth rate of 3.39 percent, and Utah was third with an annual growth rate of 3.30 percent. In general, U.S. growth was strongest in the Intermountain West, Texas and the Southeast.

In 2014, we see a reemergence of the patterns established from 1990-2007 (Figure 3). Growth is the fastest in North Dakota, Texas, the West and the Southeast. So far in 2014, U.S. employment has grown at an annualized rate of 2.00 percent, and Nevada is fifth with an annualized rate of 2.78 percent. Only Alaska and Vermont have seen job losses.

Figure 1. U.S. and Nevada Employment

Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation
Figure 2. January 1990 – December 2007: Nevada #1 in Growth Rate

Sources: U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV

Figure 3. 2014: 49 States Added Jobs: Nevada #5 in Growth Rate

Sources: U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV
2. Economic Growth Widespread Across Nevada Economy

As shown in Figure 4, Nevada employment has been accelerating. In 2010, the state lost 7,300 jobs (0.6 percent). In 2011, 2012 and 2013, Nevada saw job gains of 12,000 (1.1 percent), 22,400 (2.0 percent) and 39,500 (3.4 percent), respectively. In the first nine months of 2014, the state saw job gains of 24,800 (2.8 percent annualized rate).

Of the major areas in the state, only Las Vegas mirrored the overall state pattern (Figure 5). Reno/Sparks saw employment losses in 2011 but strengthening economic activity in 2012, 2013 and 2014. Carson City saw declining employment from 2010 through 2013 but employment gains in 2014 thus far.

Nevada saw a steady improvement from falling employment in 2010 to strong growth in early 2014, but no industry mirrored the overall state pattern (Figure 6). Nonetheless, employment growth was widespread across the state’s industries in 2013 and so far in 2014. In 2013, all industries except other services saw employment gains. Construction and Professional and Business Services were particularly strong. In the first nine months of 2014, all industries saw employment gains. Construction, Financial Activities, Education and Health Services and Other Services were particularly strong.

Figure 4. Nevada Employment

Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation
Figure 5. Nevada Employment by Region, 2010-2014

Figure 6. Nevada Employment by Industry, 2010-2014

Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation; Center for Business and Economic Research, UNLV
As the result of these gains, the Nevada unemployment rate has fallen sharply. The seasonally adjusted Nevada unemployment rate is 7.3 percent (Figure 7), which is 2.3 percentage points below last year’s September unemployment rate. Some of the decline is due to a shrinking labor force.

3. Nevada Reemerges as a Leader in Economic Growth

Over a nearly 25-year period from January 1990 through September 2014, including the Great Recession, the United States saw job gains at a 1.01 percent average annual rate. Nevada employment grew nearly three times faster with an average annual rate of 2.84 percent, the highest average rate of any state in the nation during that time period.

Recessions often bring about new patterns of economic growth. Yet, for Nevada, other parts of the West and the Southeast the current pictures are substantially similar to those before the recession. The Great Recession brought about a substantial departure from Nevada’s normal high growth rate, but the Silver State has reemerged as one of the fastest-growing states in the nation. Moreover, Nevada’s economic growth is now widespread across its industries and regions.

Figure 7. Nevada Unemployment Rate

Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation
4. Nevada Economic Outlook

We have seen general favorable economic trends in Nevada and the West. We expect those trends to continue into 2015 and 2016.

4.1 Recovery Accelerating in the West

Most of the western states experienced equal or weaker economic conditions in 2011 than the nation as a whole. In 2012 and 2013, most western states saw employment gains at a faster rate than the nation as a whole (Figure 8). In 2013, the United States saw an employment gain of 1.7 percent; Arizona, 2.1 percent; California, 2.6 percent; Colorado, 2.9 percent; New Mexico, -0.2 percent; Oregon, 2.8 percent; Utah, 2.8 percent; Washington, 2.0 percent and Nevada, 3.4 percent.

In 2014 and 2015, economic conditions are generally expected to remain stronger throughout the West than the country as a whole. According to the Western Blue Chip Economic Forecast, a survey of experts conducted by the W. P. Carey School of Business at Arizona State University, Arizona will see employment growth of 2.5 and 2.8 percent in 2014 and 2015, respectively; California will see 2.3 and 2.4 percent in 2014 and 2015, respectively; Colorado will see 2.6 and 2.8 percent in 2014 and 2015, respectively; New Mexico will see 1.3 and 0.8 percent in 2014 and 2015, respectively; Oregon will see 2.6 and 2.5 percent in 2014 and 2015, respectively; Utah will see 3.0 and 3.1 percent in 2014 and 2015, respectively; Washington will see 2.3 and 2.4 percent in 2014 and 2015, respectively and Nevada will see 2.7 and 2.8, respectively.

Figure 8. Western States Employment Growth

Sources: U.S. Bureau of Labor Statistics; Western Blue Chip Economic Forecast
Based on our assessment of national and regional trends, we believe that the Nevada economy will continue to see improvement in 2015 and 2016 (Figure 9). The gains should be stronger in 2015 than in 2014, and the gains in 2016 should be stronger than in 2015.

Both CBER and the Western Blue Chip Forecast (the latter incorporates CBER’s outlook for Nevada) see Nevada’s economic conditions improving in 2014 and 2015 (Table 1). Compared to the Western Blue Chip Forecast, the CBER forecast is somewhat more optimistic about the Nevada economy, expecting an acceleration that builds on gains in previous years.

Figure 9. Nevada Economic Outlook

![Graph showing economic indicators for Nevada]

Sources: Nevada Commission on Tourism; Nevada Gaming Control Board; U.S. Census Bureau; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; U.S. Bureau of Economic Analysis; Center for Business and Economic Research, UNLV

Table 1. Western Blue Chip Forecast for Nevada Economic Growth (Percent Change)

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<tr>
<th>Year</th>
<th>Personal Income</th>
<th>Gross Gaming Revenue</th>
<th>Employment</th>
<th>Population</th>
<th>Single-Family Housing Permits</th>
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<tr>
<td>2010 Actual</td>
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<td>0.1</td>
<td>-2.6</td>
<td>0.7</td>
<td>-5.3</td>
</tr>
<tr>
<td>2011 Actual</td>
<td>2.5</td>
<td>2.8</td>
<td>0.7</td>
<td>0.5</td>
<td>-6.2</td>
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<tr>
<td>2012 Actual</td>
<td>3.7</td>
<td>1.5</td>
<td>1.7</td>
<td>1.3</td>
<td>48.9</td>
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<tr>
<td>2013 Actual</td>
<td>3.0</td>
<td>2.6</td>
<td>2.6</td>
<td>1.3</td>
<td>24.3</td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBER</td>
<td>3.3</td>
<td>2.7</td>
<td>2.5</td>
<td>1.4</td>
<td>5.0</td>
</tr>
<tr>
<td>Consensus</td>
<td>3.2</td>
<td>2.0</td>
<td>2.7</td>
<td>1.8</td>
<td>8.8</td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBER</td>
<td>3.7</td>
<td>3.3</td>
<td>3.5</td>
<td>2.1</td>
<td>12.0</td>
</tr>
<tr>
<td>Consensus</td>
<td>3.6</td>
<td>2.7</td>
<td>2.8</td>
<td>1.8</td>
<td>14.9</td>
</tr>
</tbody>
</table>

Sources: U.S. Bureau of Labor Statistics; State of Nevada Gaming Control Board; U.S. Census Bureau; Federal Reserve Bank of St. Louis; Western Blue Chip Forecast; Center for Business and Economic Research, UNLV
4.3 Risks to the Nevada Outlook

Our outlook for the Nevada economy is based on the idea that improving economic conditions in the United States, particularly in the West, will benefit the Nevada economy. We also look for continued growth in mining. As the growth of the U.S. economy accelerates, the Nevada economy will further strengthen. The Nevada economy could see slower growth if the U.S. economy proves weaker than we have forecast.
Southern Nevada
Economy to Continue Strengthening

The good news is that the Southern Nevada economy is continuing to improve (Figure 1). The great news is that the growth is widespread across Southern Nevada’s industries. Leisure and hospitality, construction and real estate are doing well. So are manufacturing; trade, transportation and utilities; financial activities; professional and business services; education and health services and other services. Financial conditions also are improving, and visitor volume is once again rising after a year of stagnation.

If one must find bad news, at least it’s old and no longer very informative. A few observers always seem to point out that Las Vegas has a ways to go before it reaches its prerecession level of economic activity. As far as employment is concerned, that goal is within sight; we can expect Las Vegas to reach its prerecession levels of employment in early 2016.

1. Southern Nevada Economic Indicators

CBER’s Southern Nevada Index of Coincident Indicators shows general gains for 2014 so far (Figure 2). CBER’s Southern Nevada Index of Leading Economic Indicators, which provides a four- to six-month lead on economic activity, shows that the Southern Nevada economy can be expected to continue growing through first quarter 2015.

CBER’s Clark County Business Activity Index generally shows gains for 2014 as well (Figure 3). The index is a composite of gaming revenues, employment and taxable sales.

---

Figure 1. Nevada and Las Vegas Job Growth

Sources: Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV
Figure 2. Southern Nevada Leading and Coincident Indexes

Source: Center for Business and Economic Research, UNLV

Figure 3. Clark County Business Activity Index

Source: Center for Business and Economic Research, UNLV
2. Southern Nevada Economic Conditions Improving

In 2013, the Las Vegas metropolitan area saw an increase in employment of 24,500 jobs (2.9 percent) over the previous year (Figure 4). In the first nine months of 2014, the Las Vegas metropolitan area saw another increase in employment of 17,100 jobs (at a 2.7 percent annual rate).

The gains in employment are broad based (Figure 5). All other sectors are showing gains for 2014, with construction, manufacturing, and education and health services showing particularly strong growth.

As the result of these gains, the Las Vegas unemployment rate has fallen sharply. The seasonally adjusted Las Vegas unemployment rate is 7.2 percent (Figure 6), which is 2.4 percentage points below last year’s September unemployment rate. Some of the decline is due to a shrinking labor force.

Figure 4. Nevada and Las Vegas Employment

Sources: Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics
Figure 5. Las Vegas Employment Growth by Industry

Figure 6. Las Vegas Unemployment Rate

Sources: Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Federal Reserve Bank of St. Louis
Taxable sales continue to be strong (Figure 7). Clark County taxable sales were 9.6 percent higher in the first eight months of 2014 than in the same period in 2013. Increased visitor spending and rising personal income in Las Vegas are two factors contributing to the strong gains in taxable sales.

One piece of evidence of improving economic conditions in Nevada and Las Vegas is the continued growth in sales of automobiles and parts. There is still considerable room for improvement as automobile sales in Nevada and Las Vegas are still well below prerecession levels (Figure 8).

Figure 7. Nevada and Clark County Taxable Sales

![Graph showing taxable sales for Nevada and Clark County](image)

Sources: Nevada Department of Taxation; Center for Business and Economic Research, UNLV

Figure 8. Automobile and Part Sales

![Graph showing automobile and part sales for United States, Nevada, Clark County, and Washoe County](image)

Sources: Nevada Department of Taxation; U.S. Census Bureau; Center for Business and Economic Research, UNLV
3. What Drives the Southern Nevada Economy?

A region’s economic base is determined by which of its sectors export goods or services to other parts of the country. Tourism is a little different in that the industry brings its customers into a region to provide them with services.

Economists typically measure the sectors forming a region’s economic base by using location quotients. A location quotient provides information about whether the region has more or less of a particular industry than is the national average.1 With the idea that people across the country generally consume similar items, industries that are present in a region above the national average are expected to export to the rest of the country. These industries have a location quotient greater than one and form the region’s economic base.

As shown in Table 1, the industry that most stands out in Southern Nevada is leisure and hospitality. Various aspects of the transportation industry—the result of tourism—also stand out.

After tourism-related activities, next come real estate and construction. In 2006, the construction industry also stood out with location quotients of 1.88 and 1.96 in Nevada and Clark County, respectively. Now, both location quotients are closer to one.

What is striking about location quotients greater than one for construction and real estate is that construction cannot be exported. To an economist, construction is the result of economic growth rather than the driver. High location quotients in construction and real estate result from building fueled by strong population growth. High location quotients for construction can only be sustained when the population is growing at a relatively rapid pace.

Over the past 50 years, the United States has seen a general trend of the population moving to the West. As the U.S. economy regains its footing, the resumption of that trend should benefit Southern Nevada construction.

1 A location quotient for a given industry in a region is calculated as \( L_{ij} = \left( \frac{E_{ij}}{E_j} \right) \left( \frac{E_{i,US}}{E_{US}} \right) \) where \( E_{ij} \) represents employment in industry \( i \) in region \( j \), \( E_j \) is total employment in region \( j \) and \( E_{US} \) refers to U.S. employment.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Location Quotients</th>
<th>Nevada</th>
<th>Las Vegas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Resources and Mining</td>
<td>0.97</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Mining, Except Oil and Gas</td>
<td>7.07</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>1.09</td>
<td>1.07</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.38</td>
<td>0.26</td>
<td></td>
</tr>
<tr>
<td>Trade, Transportation and Utilities</td>
<td>0.96</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>Air Transportation</td>
<td>1.51</td>
<td>2.00</td>
<td></td>
</tr>
<tr>
<td>Transit and Ground Transportation</td>
<td>3.71</td>
<td>4.96</td>
<td></td>
</tr>
<tr>
<td>Scenic and Sightseeing Transportation</td>
<td>4.95</td>
<td>6.76</td>
<td></td>
</tr>
<tr>
<td>Support Activities for Transportation</td>
<td>1.14</td>
<td>1.16</td>
<td></td>
</tr>
<tr>
<td>Information</td>
<td>0.53</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>Financial Activities</td>
<td>0.79</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>Real Estate, Rental and Leasing</td>
<td>1.33</td>
<td>1.49</td>
<td></td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Labor Statistics
Another sector that stands out is management of companies and enterprises. This sector captures corporate headquarters—that is, the brains of interstate and international operations. Employment in this sector includes headquarters for the gaming industry, energy companies, bank-holding companies and other similar activities. As shown in Figure 9, this sector has contributed to the growth of the Las Vegas economy. It has increased by an annual rate of 8.0 percent since 1990, while total employment increased at a 3.6 percent annual rate.

In recent years, however, employment in the management of companies and enterprises has somewhat stagnated in Las Vegas. To some extent that stagnation reflects trends in the United States and California.

4. Tourism and Gaming

Activity in the tourism sector, as measured by CBER’s Clark County Tourism Index, shows a general upward trend for 2014 thus far (Figure 10). The index is composed of three components—Clark County gross gaming revenues, the Las Vegas hotel/motel occupancy rate and total passengers enplaned/deplaned at McCarran Airport.

In 2013, Clark County visitor volume was 0.4 percent lower than in 2012, marking the first decline in Clark County visitors since 2008 (Figure 11). For the first nine months of 2014, Clark County visitor volume averaged 4.2 percent higher than for the same time period in 2013. With continued growth, Clark County visitor volume for 2014 could exceed the previous high-water mark of 43,915,649 set in 2007.
Figure 10. Clark County Tourism Index

Source: Center for Business and Economic Research, UNLV

Figure 11. Clark County Visitor Volume

Sources: Las Vegas Convention and Visitors Authority; Center for Business and Economic Research, UNLV
The visitor picture is similar for Las Vegas. In 2012, Las Vegas visitor volume hit a new high of 39,668,221 (1.2 percent higher than the 2007 figure). In 2013, Las Vegas visitor volume dropped by 0.1 percent (Figure 12). For the first nine months of 2014, however, Las Vegas visitor volume averaged 3.8 percent higher than for the same period in 2013.

As shown in Figure 13, gaming revenues are not back to prerecession levels. As of September 2014, Nevada, Clark County and Las Vegas Strip gaming revenues were 14.1, 11.9 and 6.1 percent below their respective peaks.

Las Vegas gaming revenues saw greater percentage losses than U.S. real gross domestic product (GDP), U.S. personal income and U.S. gambling during the Great Recession (Figure 14). Since its trough in 2009, however, Las Vegas Strip gross gaming revenue has increased by 17.2 percent. In contrast, U.S. gambling has increased 10.8 percent over the same period. U.S. GDP and personal income have increased by 16.5 percent and 17.0 percent, respectively. Despite recent gains, Las Vegas gaming is lagging well behind its national counterpart. U.S. gambling is above its prerecession peak, but Las Vegas Strip gross gaming revenue is still 4.7 percent below its prerecession peak.

Sources: Las Vegas Convention and Visitors Authority; Center for Business and Economic Research, UNLV
Figure 13. Gross Gaming Revenue

Sources: Nevada Gaming Control Board; Center for Business and Economic Research, UNLV

Figure 14. U.S. Gambling and Las Vegas Gaming

Sources: U.S. Bureau of Economic Analysis; Nevada Gaming Control Board
Visitor spending on nongaming activities in Las Vegas is more than three times that of gaming revenue. During the Great Recession, visitor spending on non-gaming activities in Las Vegas dropped much more sharply than U.S. GDP, U.S. personal income and U.S. spending on food and accommodations (Figure 15). Since reaching bottom in 2009, U.S. spending on food and accommodations has risen by 22.7 percent and is above its prerecession peak. Las Vegas visitor nongaming spending increased by 28.2 percent over the same period, but it remains 2.5 percent below its prerecession peak.

5. Southern Nevada Real Estate and Construction

According to the Case-Shiller index, housing prices in the Las Vegas metropolitan area and the United States both hit bottom in January 2012 (Figure 16). Las Vegas house prices have risen by 49.7 percent since then. U.S. housing prices have risen by 23.6 percent during that same time period.

Of course, the big difference was in the decline. Las Vegas housing prices fell by 61.1 percent from January 2007 to January 2012. During that period, U.S. housing prices fell by only 32.9 percent.

As shown in Figure 17, redeemed drivers’ licenses from other states (a proxy measure for population growth in the Las Vegas metropolitan area) have outpaced new home sales, which suggests upward pressure on housing prices.

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1 The Case-Shiller index is considered one of the better measures of housing prices because it uses prices from repeat sales, which more accurately captures quality than a more commonly used measure, such as median home prices.
Figure 16. Case-Shiller Home Price Indexes

Source: Standard and Poor's

Figure 17. Las Vegas Population Growth and New Home Sales

Sources: Nevada Department of Motor Vehicles; Home Builders Research, Inc.
In fact, a lack of available supply is pushing up prices for single-family homes in Las Vegas (Figure 18). For listed homes, the months of supply is now about 6.1. In addition, only 44.3 percent of the listings are vacant.

In 2006, prices didn’t begin slipping until months of supply rose above 7.3. Probably, the built-up momentum carried Las Vegas home prices upward even after excess supplies were becoming evident. Prices began rising in Las Vegas when the months of listed supply fell below 6.2, with prices showing strong gains in late 2012 and early 2013. Price increases slowed in late 2013, when the months of listed supply reached the vicinity of 6.2.

Estimates that combine past due mortgages, foreclosures and homeowners with negative equity show about 12 months of shadow inventory. Undoubtedly, some of this shadow inventory is listed. Moreover, we see little evidence that this shadow inventory is affecting the recent movement in house prices.

As of second quarter 2014, 26.3 percent of the homeowners in Nevada had negative equity (Figure 19). Another 3.1 percent were close to a negative equity position. These developments represent a slight improvement over the previous year. In fourth quarter 2012, 52.4 percent of the homeowners in Nevada had negative equity, and another 4.8 percent were close to a negative equity position.

Nevada remains the state with the highest percentage of homeowners in a negative equity position (Figure 20). Other states rounding out the top eight include Florida, Arizona, Illinois, Rhode Island, Ohio, Michigan and Georgia.

Figure 18. Las Vegas Months of Supply and House Prices

Sources: Standard & Poor’s; Greater Las Vegas Association of Realtors; Residential Resources; Home Builders Research, Inc.; Center for Business and Economic Research, UNLV
Figure 19. Nevada Homeowners with Negative Equity

Source: CoreLogic

Figure 20. Negative Equity Mortgages: Top Seven States (Second Quarter 2014)

Source: CoreLogic
Las Vegas housing remains very affordable when compared to the rest of the United States, according to the Housing Opportunity Index (Figure 21). The Housing Opportunity Index takes into account incomes and housing prices within a region. In the 1990s and early 2000s, Las Vegas had housing that was quite affordable by national standards—which helped propel its growth. By 2006, Las Vegas lost that advantage.

Although we tend to think of low housing prices as indicative of a depressed market, low housing prices will help the Nevada economy grow. That is one of the primary reasons that many long-term forecasts show strong population gains for the region, some of which are driven by projected retirements.

Apartment rents are also quite affordable in Las Vegas (Figure 22). The affordability index is calculated by comparing the rental rates with per capita personal income.

Since bottoming out in late 2012, CBER’s Clark County Construction Index has been on a general upward trend (Figure 23). The index is composed of Clark County construction employment, residential permits and commercial permits.

![Figure 21. Housing Opportunity Indexes](source: Wells Fargo/National Association of Home Builders)
Figure 22. Las Vegas Apartment Vacancies and Affordability

Source: Center for Business and Economic Research, UNLV

Figure 23. Clark County Construction Index

Source: Center for Business and Economic Research, UNLV
Despite rising home prices, construction activity remains low in Clark County (Figure 24). Housing permits for Clark County reached a peak in mid-2006, averaging 3,613 permits per month. After that point, the number of permits per month fell drastically due to the collapse of the housing market. The series bottomed out in mid-2011, falling by about 90 percent in the five-year period. Since the trough, Clark County housing permits have increased by 86.3 percent. Although these gains are encouraging, residential construction is still far below its prerecession peak.

Prices on existing homes are not yet high enough to stimulate much construction (Figure 25). Currently, they are 30.9 percent lower than new home prices. From 2000 to 2005, existing home prices averaged 15.0 percent lower than new home prices. A low supply of lots also is contributing to the lack of new home construction.

Figure 24. Clark County Housing Permits

![Figure 24](image)

Sources: Various Permitting Agencies; Center for Business and Economic Research, UNLV

Figure 25. Clark County Median Home Prices

![Figure 25](image)

Source: Home Builders Research, Inc.
6. Southern Nevada Economy Shows Continuing Growth

The U.S., Nevada and Southern Nevada indexes of leading economic indicators all have upward trends (Figure 26). These indexes show that Southern Nevada economic conditions can be expected to continue improving at a steady rate.

CBER’s Southern Nevada Business Confidence Index also provides a favorable picture (Figure 27). Although there is some seasonality in the index, the index has reached a post-recession high of 156. Any value above 100 means that more respondents are optimistic about the outlook for business conditions than are pessimistic.

Figure 26. Leading Indexes of Economic Activity

![Figure 26: Leading Indexes of Economic Activity](image)

Sources: The Conference Board; Nevada Department of Employment, Training and Rehabilitation; Center for Business and Economic Research, UNLV

Figure 27. CBER Southern Nevada Business Confidence Index

![Figure 27: CBER Southern Nevada Business Confidence Index](image)

Source: Center for Business and Economic Research, UNLV
The index consists of five components—business expectations for sales, profits, hiring, capital investment and overall economic conditions—all of which are measured by a survey of Southern Nevada business leaders. For fourth quarter 2014, only two of the components, sales and profits, were below 100.

Credit conditions in Southern Nevada seem to be improving. As shown in Figure 28, U.S. small business credit conditions have improved since 2010, when they were at their worst. In third quarter 2014, 36 percent of U.S. small businesses were seeking credit. Of those seeking credit in third quarter 2014, 83 percent found their credit needs satisfied.

In Southern Nevada, 23 percent of small businesses report that they are seeking credit, which is down 1 percentage points from 2010. Of those seeking credit in Southern Nevada, 82 percent found their credit needs satisfied in third quarter 2014.

### 6.1 Southern Nevada Economic Outlook for 2015 and 2016

Based on our assessment of national and regional trends, we believe that the Southern Nevada economy will continue to see improvement in 2015 and 2016 (Figure 29). The gains will be stronger in 2015 than in 2014 and stronger in 2016 than in 2015.

**Tourism and Hospitality.** We expect Clark County visitor volume and gross gaming revenue to continue rising. Visitor volume has experienced robust growth in 2014 thus far. We expect gains in 2015 and 2016 as well, albeit at a slower rate. Gains in gaming revenue are likely to be a little stronger than the growth of visitor volume in 2015 and 2016.

As visitor volume continues to grow, the hospitality industry will gradually shake off the effects of its excess capacity. Southern Nevada hotel/motel capacity has increased very slightly in 2014. The scheduled opening of several properties in Las Vegas will add more rooms in 2015 and 2016.

**Real Estate and Construction.** The residential real estate market has been characterized by relatively little available supply and rising prices.
With housing prices well below replacement costs and relatively few developed lots on which to build, we expect housing prices to continue rising.

The number of housing units permitted increased in 2014, but at a much slower rate than in 2013. Permitting is likely to show continued gains in 2015 and 2016 at rates similar to those in 2014.

**Employment and Unemployment.** Consistent with our expectations for growth in leisure and hospitality and construction, we expect accelerating gains in employment in 2014.

With increased employment, we will see a falling unemployment rate. We are likely to see an unemployment rate around 6 percent by the end of 2016.

**Population.** We expect population growth to strengthen with employment. With relatively affordable housing in Las Vegas, we also expect employment gains to continue driving population growth. Over the next few years, we may see a transition to population growth returning as a driver of economic growth that it was throughout much of Las Vegas’ history.

Table 2 provides the details of our forecast in levels.

To summarize, the Southern Nevada economy is in its fourth year of an accelerating recovery. Because the Southern Nevada economy is heavily dependent on tourism, its outlook is tied to the growth of the U.S. and western states’ economies. Southern Nevada is getting some help from real estate and construction. A wide range of industries are also growing.

### 6.2 Risks to the Southern Nevada Economic Outlook

Our outlook for the Southern Nevada economy is based on the idea that improving economic conditions in the United States, particularly in the West, will benefit the Southern Nevada economy. As the growth of the U.S. economy accelerates, the Southern Nevada economy will further strengthen. The Southern Nevada economy could see slower growth if the U.S. economy proves weaker than we have forecast.
Table 2. Southern Nevada Economic Indicators

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor Volume</td>
<td>39,727,022</td>
<td>39,668,219</td>
<td>41,016,938</td>
<td>41,878,294</td>
<td>42,925,252</td>
</tr>
<tr>
<td>Gross Gaming Revenue ($ millions)</td>
<td>$9,400</td>
<td>$9,673</td>
<td>$9,876</td>
<td>$10,103</td>
<td>$10,406</td>
</tr>
<tr>
<td>Las Vegas Hotel Rooms</td>
<td>150,481</td>
<td>150,593</td>
<td>152,548</td>
<td>154,531</td>
<td>155,149</td>
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<tr>
<td>Case-Shiller Home Price Index</td>
<td>102.44</td>
<td>128.63</td>
<td>139.69</td>
<td>152.82</td>
<td>168.41</td>
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<tr>
<td>Housing Units Permitted</td>
<td>7,496</td>
<td>8,554</td>
<td>9,341</td>
<td>10,163</td>
<td>11,250</td>
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<tr>
<td>Employment</td>
<td>835,400</td>
<td>861,400</td>
<td>885,519</td>
<td>919,169</td>
<td>958,693</td>
</tr>
<tr>
<td>Unemployment Rate</td>
<td>10.8%</td>
<td>9.2%</td>
<td>7.1%</td>
<td>6.6%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Personal Income ($ millions)</td>
<td>$73,379,837</td>
<td>$75,581,232</td>
<td>$77,999,832</td>
<td>$80,573,826</td>
<td>$83,313,336</td>
</tr>
<tr>
<td>Population (Thousands)</td>
<td>1,988</td>
<td>2,031</td>
<td>2,070</td>
<td>2,113</td>
<td>2,158</td>
</tr>
</tbody>
</table>

Sources: Las Vegas Convention and Visitors Authority; State of Nevada Gaming Control Board; Standard and Poor’s; Clark County permitting agencies; U.S. Bureau of Labor Statistics; U.S. Census Bureau; Nevada State Demographer; Center for Business and Economic Research, UNLV
CBER’s Long-Term Forecast for the Southern Nevada Population

Each year, the Regional Transportation Commission (RTC), the Southern Nevada Water Authority (SNWA), the Southern Nevada Regional Planning Coalition (SNRPC), the Center for Business and Economic Research (CBER) at the University of Nevada, Las Vegas and a group of community demographers and analysts work together to provide a long-term forecast of economic and demographic variables influencing Clark County. The primary goal is to develop a long-term forecast of the Clark County population that is consistent with the structural economic characteristics of the county. Toward this end, we employ a general-equilibrium demographic and economic model developed by Regional Economic Models, Inc. (REMI), specifically for Clark County.

1. The REMI Model

The REMI model is a state-of-the-art econometric forecasting model that accounts for dynamic feedbacks between economic and demographic variables. Special features allow the user to update the model to include the most current economic information. CBER calibrates the model using information on recent local employment levels, the most recent national Gross Domestic Product (GDP) forecast, spending on local capital projects and adjustments for amenities related to local population growth.

The model employed divides Nevada into five regions: Clark County, Nye County, Lincoln County, Washoe County and the remaining counties, which are combined to form a fifth region. These regions are modeled using the U.S. economy as a backdrop. The model contains over 100 economic and demographic relationships that are carefully constructed to concisely represent the Clark County economy. The model includes equations to account for migration and trade between Nevada counties and other states and counties in the country.

1.1 Recalibrating the Model

The economic data for the most recent version of the model (REMI PI+ v1.5) are consistent with the North American Industry Classification System (NAICS). The most recent data for REMI PI+ v1.5 are from 2011 because the Bureau of Labor Statistics (BLS) personal-income data are reported with a two-year lag. Over the years, the availability of the income data has been the key in setting the last year of history in the model. To guarantee that the most current data are used in the forecast, we make a series of adjustments to the model. In this way, we ensure that the forecast model includes the best available information at the time the forecast is made.

1.1.1 Adjustment of the national GDP forecast

The REMI model relies on a baseline national GDP forecast from the University of Michigan’s Research Seminar in Quantitative Economics (RSQE). The current REMI model, PI+ v1.5, utilizes the March 2013 GDP forecast from RSQE. We adjust the model’s national GDP forecast using the March 2014 national GDP forecast from RSQE. Overall, we adjusted the national GDP components downward by about $498 billion in 2014 and $591 billion in 2015. The adjusted national forecast is used to generate a new baseline forecast for Clark County. The baseline forecast is then used for the subsequent adjustments.

1.1.2 Employment adjustment

One of the most noteworthy updates we make to the REMI model is the employment adjustment. The industry-level employment data used by REMI are the sum of the BLS wage and salary estimates for Clark County and REMI’s BLS-based estimate of the number of proprietors. The most recent historical year in the model data is 2011. However, more recent wage and salary employment data are available from the Nevada DETR for 2012 and 2013. Thus, we update the model to account for the more recent information.
1.1.3 Transportation and infrastructure improvements

Clark County has continued to invest in transportation infrastructure such as roads, highways and mass transit. The model assumes that public-infrastructure investment will continue at a pace consistent with the model history. Thus, some local spending on public infrastructure, such as road building and additional services, is built into the model. However, one-time monies tend to come from outside the region (for example, federal transportation funding). These large, special projects need to be accounted for in the forecast.

1.1.4 Amenity adjustments

For over a decade, the Las Vegas metropolitan area has been one of the fastest-growing communities in the United States. This has helped maintain a vibrant economy, but research has shown that rapid urban expansion is frequently correlated with a diminishing quality of life as congestion, deteriorating air quality and a shortage of public services take their toll on local populations. These “negative externalities” arising from rapid growth impose costs on local residents, making the county less attractive to those living here and potential in-migrants. As a result, people are more likely to relocate to areas with a higher quality of life, all else being equal.

To account for the rising social costs of negative externalities from growth, we include an amenity factor in the model. We assume that the social costs of growth rise by 0.033 percent each year. The amenity factor is introduced in the model through the wage equations, effectively causing real wages to fall relative to other regions. Falling wages means less economic migration, and population growth slows as the desirability of Clark County falls.

1.1.5 Rebasing the population forecast

We rebase the population forecasts using the population update feature in the REMI model. We update the population in 2013 based on the most recent information available for use from the SNRPC. The SNRPC consensus population estimate for Clark County in 2013 is 2.06 million. In addition, we update the population levels in 2014 and 2015 to reflect the population growth-rate forecast from CBER’s 2014 Economic Outlook, which was published in December 2013. The latter adjustment is intended to incorporate the views of local economic experts at CBER in the short-term population forecasts. CBER predicts that the Clark County population will grow by 2.0 percent in 2014 and 2.1 percent in 2015. These population growth-rate forecasts translate to a forecasted population of 2.10 million in 2014 and 2.15 million in 2015. We also predict that the Clark County population growth rate will decline by roughly 0.2 percent per year from 2016 to 2018. These population growth-rate forecasts translate to a forecasted population of 2.19 million in 2016, 2.23 million in 2017 and 2.26 million in 2018. We use these forecasted population levels to update the population in the REMI model.

2. Analysis of the Population Forecast

In the short term, the current forecast predicts moderate rates of population growth in Southern Nevada. The population in Clark County is predicted to grow at a rate of 2.0 percent in 2014 and 2.1 percent in 2015. The population growth rate declines in the medium term as the Clark County economy moves closer to maturity. By 2020, the population growth rate falls to 1.1 percent as the Clark County economy is expected to mature; and it reaches 1.0 percent, roughly twice the projected1 long-term national population growth rate, by 2050. This pattern of long-term growth is expected as our economy matures and is very similar to previous forecasts.

Clark County is forecasted to add roughly 41,000 new residents in 2014. CBER’s 2014 Southern Nevada Economic Outlook predicted that population growth will strengthen with employment in the near term, and it will not be a driver of economic growth as it was throughout much of Las Vegas’ history. Rather, economic growth will drive population in the next few years. The population forecast predicts that the Clark County population will be roughly 3.18 million by 2050.

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1 Source: http://www.census.gov/population/projections/data/national/2012.html
3. Risks to the Forecasts

Our Southern Nevada population forecasts rest on economic and demographic models set in the context of a structured framework. This structure keeps our long-term forecasts consistent with our objectives. We have separated the long-term trend from the noise that one finds in time-series data. These noise factors include the business cycle and seasonal and irregular events.

The main risks to the population forecasts arise from short-term fluctuations in both U.S. and Southern Nevada economic conditions. The recovery of the Southern Nevada economy is based on the idea that improving economic conditions in the United States, particularly in the West, will benefit the Southern Nevada economy. The Southern Nevada economy could see slower growth if the U.S. economy proves weaker than we have forecast. If and when growth of the U.S. economy suddenly accelerates, the Southern Nevada economy will be much stronger. A stronger Southern Nevada economy could mean a return of the Hispanic migrant population which left as a result of the economic recession. This would result in higher population growth rates than those we are seeing in the current forecast.

Therefore, although we feel the population forecasts are sound, there are significant risks to the forecasts that could lead to either over- or underestimated growth. We say again, however, that these risks tend to arise from short-term uncertainty; whereas, our forecasts are primarily meant to be long-term planning tools.
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