2024 OUTLOOK REPORT

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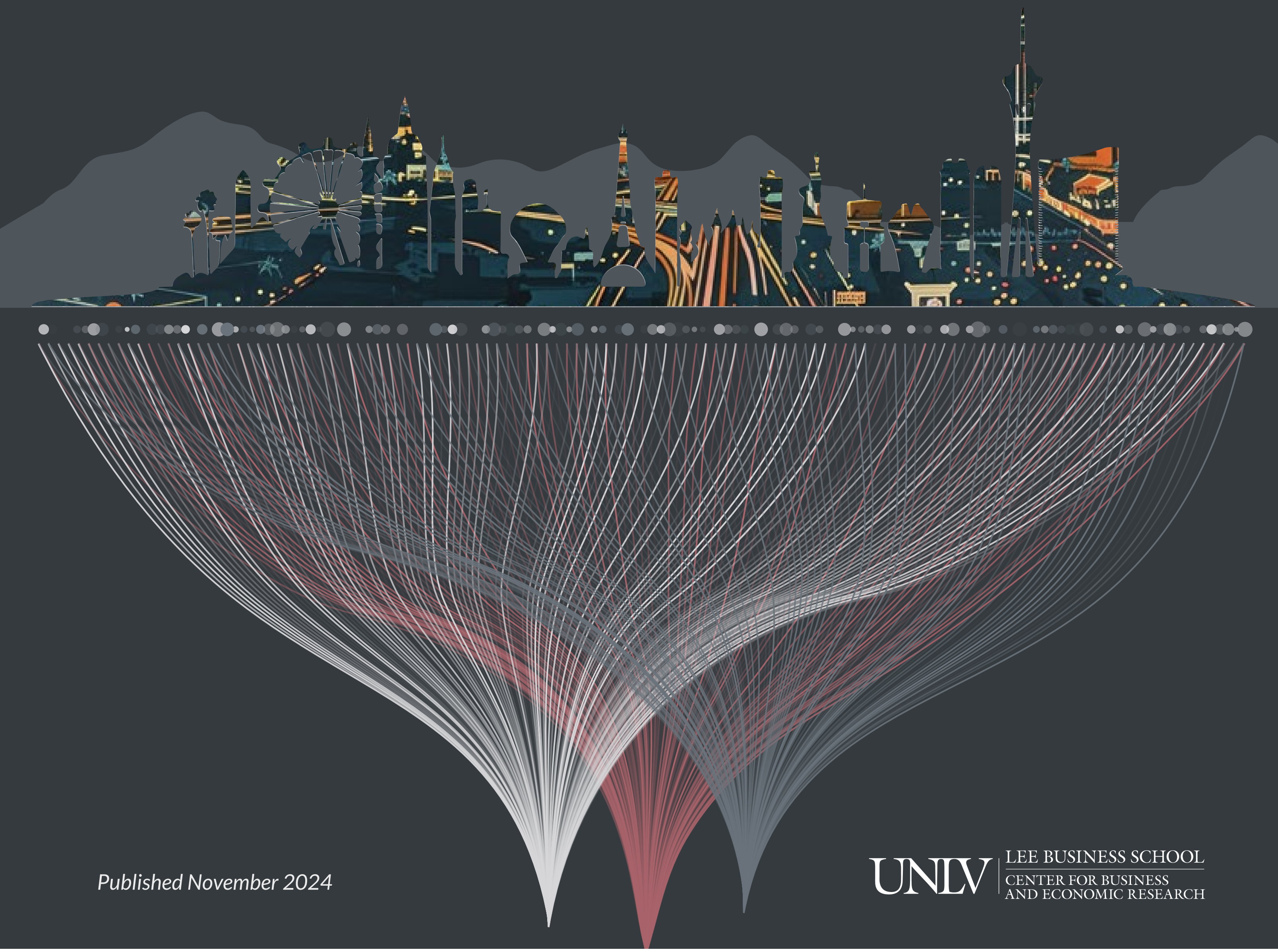
Center for Business and Economic Research



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U.S. ECONOMIC OUTLOOK FOR 2024-2026

CENTER FOR BUSINESS AND ECOMIC RESEARCH

Inflation Lingers on the Stage in Response to the Federal Reserve's Aggressive Monetary Policy

We start the discussion of the current economic outlook with a reminder of where we left off. In CBER's November 2023 Outlook report, we summarized the economic forecast going forward as follows:

> "In sum, disruptions to supply chains, combined with a shift in demand from services toward durable goods during the beginning of the pandemic recession and now back from goods to services, resulted in mismatches of supply and demand and bottlenecks in the delivery of goods and services, leading to shortages in goods and then services and rising prices. This inflation is not permanent. Rather, it should slow down and for food and energy end products prices will eventually fall. The remaining issue on the table is whether the Fed can engineer a soft landing. That is, can the Fed reduce inflation to its two-percent target without starting a recession?"

Well, we, and nearly everyone else, missed the persistence of inflation over the last four years. With 20-20 hindsight, it appears that the fiscal and monetary stimulus applied to the economy probably lengthened the inflations sojourn in the economy. That is, to prevent he pandemic recession from leading to a depression, the fiscal and monetary authorities acted quickly and strongly to boost demand in the economy through government spending programs, additional unemployment compensation, and lower interest rwates.

Nevertheless, we nailed the recession question. In that November 2023 report, we also stated as follows:

> "That is, CBER does not forecast a recession in 2023 or 2024, but does predict a slowdown in economic activity as the Fed tightens monetary policy to reduce inflation. In other words, , CBER still predicts a "soft landing" but there is increasing uncertainty that such an event can be achieved."

The Headline definition of a recession is two consecutive quarters of downward movement in real GDP, which we initially experienced in the first two quarters of 2022. Subsequently revised data posted 0.3 percent real GDP growth in the second quarter. By that measure, we already had our recession. That is, the Bureau of Economic Analysis (BEA) reported annualized real GDP fell for the first and second quarters of 2022 by 1.6 and 0.6 percent, respectively. U.S. employment statistics, however, suggest that we did not experience a recession. When the economy operates with an extremely low unemployment rate of 3.5 percent, on average, over the first six months of 2022 and the economy adds 3.3 million jobs to the economy, that does not sound like a recession. In addition, the unemployment rate dropped marginally to 3.4 percent in January 2023, the lowest unemployment rate in over 50 years. It is difficult to argue that the economy is in recession with such low unemployment rates.

At least one major question remains partially unanswered. How does the ongoing restructuring of the labor market affect our understanding of the business cycle? The Federal Reserve has brought down the inflation rate without triggering significant weakness in the labor market, an unusual outcome based on our current understanding of the macroeconomy. It appears, however, that our understanding will require a major revision going forward.

The latest wrinkle in the macroeconomy is the upswing in union activity, confirming the shift in bargaining power from management to labor. The ultimate effect on the economy depends on the extent and duration of such strike activity and labor negotiations. The more widespread and the longer the activity the bigger the effect on the economy.

Some important preliminary information emerged in August 2024 as a part of the benchmark revision process that will finish, as usual, in March 2025. To wit, the employment numbers overstated total employment gains from March 2023 to April 2024 by 818,000 jobs. Viewed differently, the originally reported average total of 242,000 new jobs per month actually turned out to total 174,000 jobs per month, representing a decline of around 68 percent per month. In sum, the employment numbers turned out to be less robust than originally thought.

Nonetheless, the labor market remains strong, if not as strong as originally believed. Moreover, the unemployment rate numbers were not affected by this significant downward adjustment in employment, since two different data collection efforts generate the employment and unemployment rate numbers. That is, employment comes out of the Current Establishment Survey (CES) that surveys firms on the number of jobs they have on their payrolls. The unemployment rate numbers come from the Correct Population Survey (CPS) that surveys individual households about their experience in the labor market.

The national unemployment rate until recently remained near a 50-year low and still holds a low rate of 4.1 percent in September. The inflation rate continues to edge downward, albeit at a slower pace than hoped for. Since May of 2023, wages have risen faster than prices, raising the purchasing power of households. While the wage increases have not been equal across all industries (at least initially), businesses and households are continuing to spend, as the excess saving winds down and eventually disappears in the near term. Or has it already been liquidated? In sum, the inflation rate indeed moves lower month to month and yet, the labor market still remains strong and supply-chain effects, with hiccups here or there, dissipate.

In September 2024, much uncertainty remained about the path for the economy. The Federal Open Market Committee (FOMC) lowered its target federal funds rate after a substantial pause at the end of their lengthy and significant tightening of monetary policy to "slay the inflation dragon." Market watchers and investors hope for more interest rate cuts at future FOMC meetings. In the not too distant future, we shall learn if the Fed maneuvered correctly or if they waited too long to lower rates and caused a recession.

Many economic analysts still anticipate a slowdown but have pushed the onset further into the future such as sometime during 2025. Yet, economic expansion does not die of old age. If, and when, a recession occurs it will be because of something endogenous within the economy. We had a scare with the potential banking crisis in March 2023 concerning Silicon Valley Bank and Signature Bank. Moreover, concern is still expressed as large amounts of commercial property and corporate debt will come due in the next 12-18 months, which will hurt bottom lines as the low-interest-rate debt is refinanced at higher rates. Risks also exist of interest rates not falling as fast as some predict, which could cause turmoil in the debt markets when companies go to refinance next year.

The FOMC's federal funds target rate range went from 0.0 to 0.25 in March 2022 to 5.25 to 5.5 percent where the Fed paused further interest rate hikes for a year. In September 2024, the Fed pivoted and began cutting rates by 50 basis points, establishing a new range of 4.75 to 5.00 percent. Higher interest rates typically do not bode well for the housing markets. We did see the Case-Shiller housing price indexes falling in the latter half of 2022 into the first quarter of 2023, but more recently those indexes have turned up again.

The 50 basis point cut surprised markets at the margin as more analysts predicted a 25 basis point cut for the first FOMC downshift in interest rates. Chair Powell argued that the committee wanted to get a good start in rate cuts. More cuts are now anticipated before the end of the year and into next year. It appears the FOMC wants to achieve a rate in the 3+ percent level (what they believe to be the neutral rate) with their 2 percent inflation target.

The Fed now feels that the inflation rate is mostly under control and headed toward their 2-percent target with some stickiness in services and housing. The labor market has been softening for some time and the Fed must decide on how quickly to lower rates and by how much to fend off any possibility of a recession. CBER still believes that the Fed is following the correct path and will engineer a soft landing. Of course, CBER (and the Fed) could be wrong.

1. Will the U.S. Economy Experience a Recession or a Soft Landing?

In February 2020, the U.S. economy had grown for 128 months in a row without any significant decline in economic activity. In addition, no signal existed to mark the beginning of a recession under the criteria used by the National Bureau of Economic Research (NBER), the recognized arbiter of business-cycle dating. The 2009-2020 expansion established the longest in the recorded history of NBER dating, which goes back to the 1850s. The sharp contraction in economic activity arising from the pandemic ended the U.S. economic expansion in February 2020.

The annualized growth rates in the first, second, third and fourth quarters of 2020 equaled -5.5, -28.1, 35.2, and 4.4 percent, respectively, while the annual growth rate equaled -1.0 percent. The annualized growth rates of real GDP in 2021, 2022, and 2023 equaled 5.7, 1.3, and 3.2 percent, respectively. As noted above, the NBER Business Cycle Dating Committee did not call a recession based on the negative growth in the first two quarters of 2022. Revised data overturned the two negative quarters of real GDP growth when the second quarter was recalculated at 0.3 percent. CBER believes that the conditions in the labor markets weighed against a recession call based on the original unrevised data.

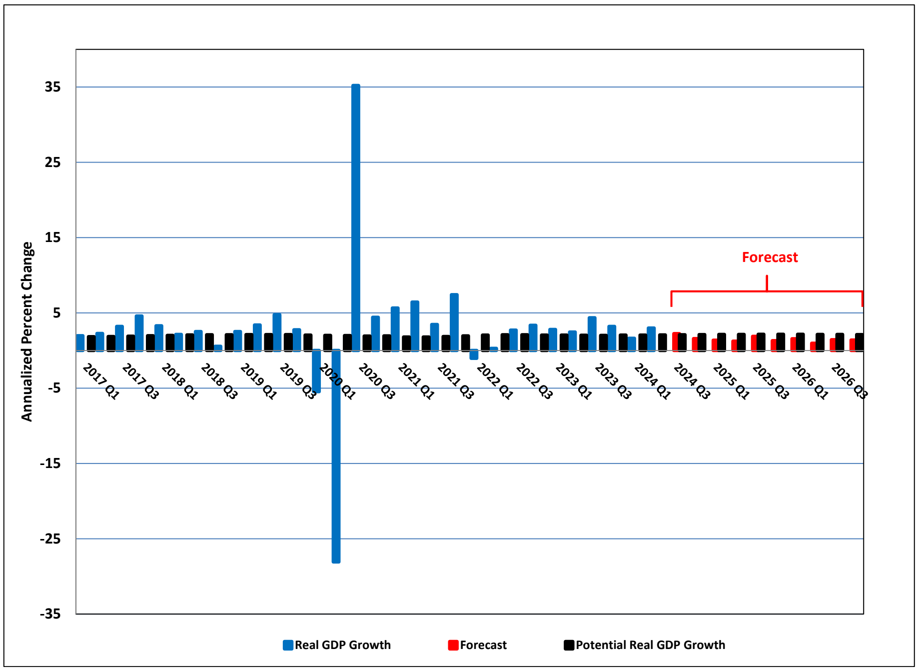
Our current forecast (See Figure 1) of the annualized real GDP growth rate reflects the ability of the national economy to push through some of the ongoing problems thrown up by the war in Ukraine, the upturn in strike activity, and the unprecedented and aggressive Fed policy to lower inflation back to their two-percent target.

Strong support from consumer spending facilitated such strength in the national economy. Consumers understood that the government income support programs during the pandemic recession were only temporary measures whereas the problem of inadequate income was a longer-term issue. Conclusion? They increased the personal saving rate to accumulate spending power to ride out the recession "storm." For example, the San Francisco Federal Reserve Bank estimates about $2.1 trillion of excess saving emerged from March 2020 until August 2021.

Consumers saved, on average, 15.1 percent of their disposable income in 2020 with a peak of 32.0 percent in April at the bottom of the pandemic crash. In 2021, consumers saved on average, 10.9 percent of their disposable income with a peak of 25.9 percent in March, well above the average level of 8.5 percent from 1959 to 2019, right before pandemic restrictions in most states were lifted. In 2022, the saving rate fell to, on average, 3.0 percent with a peak of 3.7 percent in December and a trough of 2.0 percent in June. In 2023, the personal savings rate averaged 4.7 percent with a peak of 5.3 percent in March. So far in 2024, the personal saving rate fell to 5.2 percent with a peak of 5.5 percent in January. This extra spending power from accumulated excess saving helped keep the recovery underway from the pandemic recession, at least through mid-2024. Now, the economy faces a probable slowing of consumer spending in the near term. The last of the accumulated excess savings probably ran off by the end of last year, though it continues to circulate in the economy.[1]

1 For the San Francisco Federal Reserve Bank research, see https://www.frbsf.org/research-and-insights/blog/sf-fed-blog/2024/05/03/pandemic-savings-are-gone-whats-next-for-us-consumers/

Figure 1. The National Economy Avoided a Recession, … so far



Sources: U.S. Bureau of Economic Analysis; Congressional Budget Office; Center for Business and Economic Research, UNLV

Now, where does support for consumer spending come from. The strong labor market is adding more workers to payrolls and nominal wage growth has exceeded inflation for the last seven quarters, boosting household's standard of living. Real wage growth has averaged 1.0 percent per quarter for the last two years. It is noticeable that since May, real wage growth has broadened beyond just a few industries (leisure and hospitality and financial activities) and now almost every industry sees wage growth outpace inflation (with the exception of mining, logging, and information).

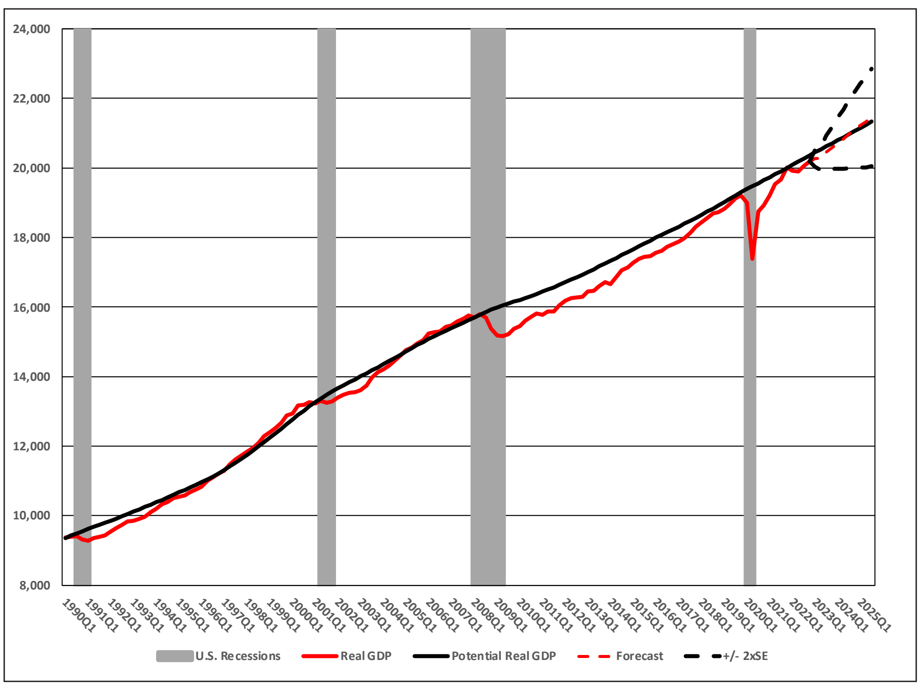
The real GDP growth rate hit 5.7 percent in 2021 because of the prior additional fiscal relief coming from Congress as well as the looseness of monetary policy with an effectively zero short-term interest rate. The real GDP growth rate slowed to 1.3 percent in 2022 as the macro stimulus eased only to rebound surprisingly to 3.2 percent in 2023. **For 2024, 2025, and 2026, CBER forecasts lower growth of real GDP going forward at 2.1, 1.5, and 1.3, percent, respectively.** This new CBER forecast lowers our previous forecast from the summer for 2024, 2025, and 2026, which predicted growth rates of 2.3, 1.7, and 1.7 percent, respectively. That is, CBER still projects no recession in the next two plus years, if the strength of the labor market continues to hold or weaken slightly; no additional fiscal policy emerges from Washington D.C., but what has been passed continues to work its way into the economy; monetary policy continues on a reasonable path of lower interest rates; no major foreign crises that shock the global economy; and no major public health emergencies.. At the moment, we still do not forecast a recession in the near term.

Reversals of the Output Gap. These forecasts have significant implications for the output gap, a CBO measure of the difference in real terms between the actual output of an economy and its potential output as a percentage of potential output. Potential output is the maximum amount of goods and services an economy can produce when it is most efficient—that is, at full capacity. In other words, potential output occurs where the economy employs its resources at capacity. The economy runs neither too hot, nor too cold. Rather, the economy runs at its optimal long-run speed, a "Goldilocks" equilibrium, so to speak.

U.S. economic activity now exceeds potential. At the bottom of the Great Recession in 2009Q2, U.S. real GDP fell 5.3 percent below its potential (See Figure 2). Since then, the gap between actual and potential real GDP narrowed slowly during the lengthy recovery from the Great Recession. The gap remained negative through 2017Q4 and then turned positive in the first three quarters of 2018. After positive values in the last three quarters of 2019, the pandemic outbreak quickly reversed the recovery process from the Great Recession between real and potential GDP. The output gap was negative in all four quarters of 2020, standing at -0.81 percent in the first quarter, -9.1 percent in the second quarter, -2.5 percent in the third quarter, and -1.9 percent in the fourth quarter. The first quarter of 2021 also post negative output gaps of -0.96, however, the rest of the year produced positive output gaps, ending in the fourth quarter at 1.8 percent

The output gap became positive in 2021Q2 and remained positive until the present, including our forecast period ending in 2026Q4. Currently, 2024Q2 is the most recent peak with real GDP 2.4 percent above potential real GDP. Then, CBER's forecast documents a declining output gap through the end of our forecast period, ending with real GDP 0.8 percent above potential real GDP. CBER still predicts a "soft landing at the national level.

Figure 2. Real GDP Forecast Exceeds Potential



Sources: U.S. Bureau of Economic Analysis; National Bureau of Economic Research; Congressional Budget Office; Center for Business and Economic Research, UNLV

Figure 2 shows our forecast of real GDP from 2024Q23 through 2026Q4, along with the 95-percent confidence bands. (Note that CBER"S forecast was completed before the release of the first estimate2024Q3 real GDP came in at 2.8 percent or 0.5 percentage points higher than our forecast of 2.3%.) In 2017 dollars, real GDP reached $20.99 trillion in 2019Q4. Real GDP falls to $19.06 trillion in 2020Q2 and recovers in 2020Q4 to $20.77 trillion and then $21.96 trillion in 2021:Q4 and $22.25 trillion in 2022Q4. **CBER forecasts real GDP at $22.96 trillion in 2024Q4, $23.45 trillion in 2025Q4, and finally, $24.10 trillion in 2026Q4.** In comparison, the Congressional Budget Office (CBO) estimates real GDP at $23.13, $23.60, and $24.02 trillion in 2024Q4, 2025Q4, and 2026Q4, respectively. Since the CBO projections slightly exceed CBER's forecasts except for 2026Q4, the CBO by implication shows that the national economy currently operates above potential.

On a quarterly basis, CBER expects GDP growth in the final two quarters of 2024 to stand at 2.3 and 1.6 percent. In 2025, CBER's quarterly forecasts remain positive, at 1.4, 1.2, 1.9, and 1.3 percent. Finally, CBER projects real GDP growth at 1.6, 1.0, 1.4, and 1.4 percent in 2026. Note the 95-percent confidence bands on our forecast in Figure 2. A significant amount of uncertainty exists in this forecast going forward. The U.S. economy could fall into recession in the latter half of 2025 or 2026 based on the standard errors in our forecasts as shown by the 95-percent confidence bands.

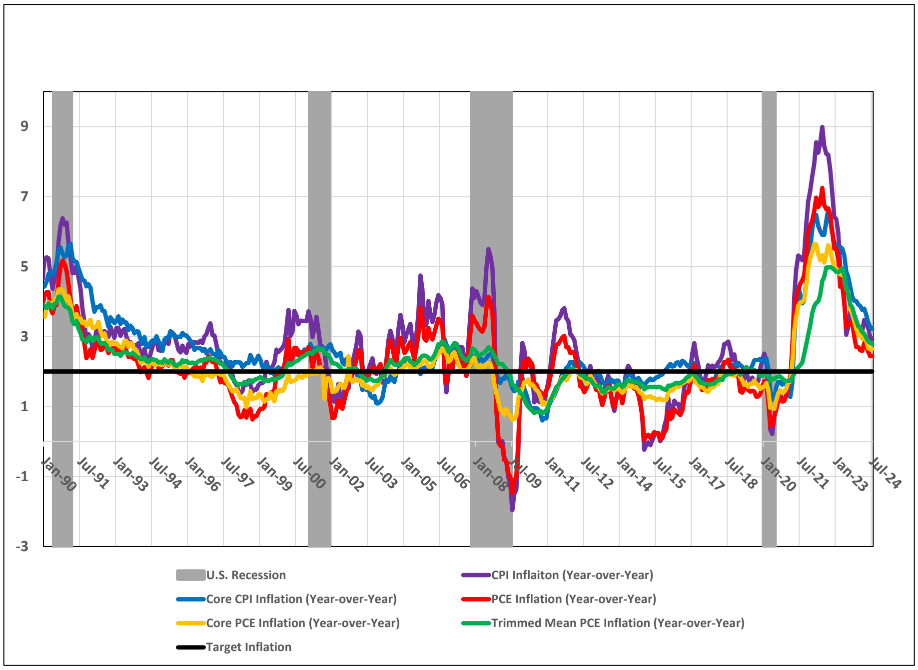
2. Inflation Rates and Monetary Policy: Chair Powell and the FOMC

In recent months, a slowing has occurred in the various measures of inflation—the CPI and PCE inflation rates peaked in June 2022 at 9.0 and 7.2 percent, respectively. The core CPI and core PCE inflation measures peaked in March and February, respectively, at 6.5 and 5.6 percent. (See Figure 3). Note that the CPI and PCE inflation rates exhibit more ups and downs than their core counterparts. Remember that the core indexes take out the more volatile food and energy prices. That said, inflation may have a long tail (long persistence), meaning it stays elevated for a longer period of time than originally anticipated. After the 2008/2009 Great Recession, the Fed had a similar problem, but the reverse. For several years, it could not generate enough inflation and had to keep interest rates at record lows. We have dealt with the other side of the coin now.

The FOMC, however, does not target the CPI or its core value. Rather, the Fed currently targets the core personal consumption expenditure (PCE) inflation rate. By core, the "bean counters" strip the PCE index of its food and energy components, since these two components tend to exhibit the most volatility in the overall PCE (and CPI) series. That is, the Fed focuses on controlling the trend of inflation in the long run and is not so concerned about the short-run ups and downs of the inflation rate around its long-run trend. The PCE and core PCE inflation rates posted values of 2.2 and 2.7 percent, respectively, in August 2024, down 1.2 and 1.1 percentage points, respectively, from their August 2023 readings.

In the last two Outlook reports, CBER argued that Chair Powell and his colleagues on the FOMC lay between a "rock and the hard place." That position has improved as the space between the rock and the hard place has widened somewhat, based on CBER's reading of economic events. To bring inflation down and stabilize it around two percent risks a recession. Not lowering inflation risks accelerating inflation and creating a rerun of the 1970s and early 1980s. In Chair Powell's recent press conferences, he made it clear that the FOMC intended to adopt an aggressive policy and that if they did error, it would be on the side of a too aggressive policy, read this as a recession.

Figure 3. CPI, Core CPI, PCE, Core PCE, and Trimmed Mean PCE Inflation Rates Waned over the Last Two Years



Source: U.S. Bureau of Economic Analysis; National Bureau of Economic Research

Chair Powell and the FOMC members moved the target range of the federal funds rate to 5.25 to 5.5 percent in September 2023. They paused further rate increases for the next seven meetings and only lowered the target range to 5.0 to 5.25 percent at the September 2024 meeting, 12 months later. As we argued in our Outlook report of November 2023:

> "CBER expects the Fed to hold rates constant with a possible 25 basis point hike before the end of the year. Rates will not fall until at least the latter half of 2024 or maybe longer."

The saga now shifts to what we termed a sidebar in our last Outlook report. To wit, this inflation story can possibly transition into a recession story, if the FOMC keeps the brakes on too hard and/or for too long. The stagflation story in the 1970s provides an important backdrop to current FOMC policy making. The Fed, however, appears to have weathered the storm and inflation now poses much less of a threat to the economy than it did two years ago, though consumers seem more focused on prices rather than inflation .

Initially, economists and other experts differed on how long inflation would last. Some experts thought that higher inflation was an ongoing problem, while others thought that it was a side effect of the pandemic that would dissipate as the pandemic subsided. Fed officials, along with many other economists, originally described the uptick in inflation as transitory, driven by supply-chain issues related to the re-opening of the economy. But the persistence and the magnitude of inflation over the latter half of 2021 and well into 2022 changed minds.

What went wrong? The effects of the pandemic when combined with the government shutdowns and restrictions on economic activity created the deepest and shortest recession in our recorded history, extending back to the 1850s. The stop-go pattern of economic activity generated by government regulation played havoc with inventory management. The resulting supply-chain issues exacerbated the problems of recovery from the recession. Initially, the pandemic caused a shift in demand from services to goods as consumers stayed at home and purchased many more items online. Thus, more price increases appeared in goods than in services. More recently, consumers switched their demand back from goods to services, reversing the initial shift. Now, many more price increases appear in services than in goods. This switch necessitated significant adjustment in inventories, leading to supply-chain issues. Russia's invasion and ongoing war with Ukraine disrupted energy and food markets with the impeding and blocking vital international flows from Ukraine and Russia to world markets.

Finally, and probably most importantly, substantial fiscal and monetary stimulus boosted aggregate demand in the United States as well as in other countries around the world. "Twenty-twenty hindsight" suggests that both the fiscal and monetary stimuli were too much for too long and led into the subsequent inflationary episode. Of course, one difficulty faced by the monetary and fiscal authorities was that their policy tools did not address supply-chain or supply shortage issues. Their tools affected the demand side of the economy and not the supply side.

The Fed ended the purchase of assets (QE) with the March 2022 FOMC meeting and instituted, at that time, the first in a series of anticipated 25-basis point (0.25 percent) federal funds rate hikes. We now know that the Fed actually instituted seven interest rate hikes in 2022 of 25, 50, 75, 75, 75, 75, and 50 basis points for a total of 425 basis points in nine months, the sharpest rise in interest rates in nearly four decades. Then we got three additional 25 basis point increases in 2023. In sum, the federal funds rate target range went from 0.25 to 0.50 percent at the beginning of 2022 to 5.25 to 5.50 percent at the time of the Fed's pausing further rate changes in November 2023.

The Fed took the "punch bowl" away from the economy, but the economy continued to show positive signs. Unlike the experience of the 1970s, this time the FOMC kept to the task of tighter monetary policy and engineered a slowing of inflation and a return of the economy to a more normal pattern of growth.

Another "shot across the bow" of the economic recovery was the Russian invasion of Ukraine. The extent of this event's effect on the world and U.S. economies is ongoing as is the war. What we can say is as follows: According to the IMF in 2024, the Russian economy is not that large by world standards comprising about 2.06 trillion in GDP (1.8 percent of world GDP), ranking it as the 11th largest economy just behind Canada. Ukraine ranks 58th in the world in GDP, just behind Hungary and Ethiopia, at 0.19 trillion in GDP (0.2 percent of world GDP). Nevertheless, Russia exports significant amounts of oil and gas, where they rank as the number one exporter, as well as wheat, corn, fertilizer, and metals. Ukraine also exports significant amounts of food products that many other countries depend on such as barley, wheat, and sunflower meal. Thus, the war has affected energy and food prices, which are determined in world markets. Of course, any increase in food or energy prices will benefit some in the supply chain for those products but will penalize end consumers through higher prices.

Note, however, that the price increases are not in and of themselves inflationary. That is, one-time price increases do not generate an on-going inflation, which requires price increases to continue to occur over time. One-time price increases, however, do contribute to the current inflation rate. They just do not contribute to inflation on a long-term basis.

Disruptions to supply chains, combined with a shift in demand from services toward durable goods during the beginning of the pandemic recession and then back from goods to services, resulted in mismatches of supply and demand and bottlenecks in the delivery of goods and services, leading to shortages in goods and then services and rising prices. This inflation is not permanent. Rather, it should slow down and for volatile goods, such as food and energy end products', prices will eventually fall. For nonvolatile goods, such as medical services and auto prices, prices will remain elevated, but minus any economic shocks that reawaken the inflation dragon, prices should no longer continue to grow as they once did (with the exception of housing).

Inflation rates by all measures have been declining since February (core PCE), March (core CPI), and June (PCE and CPI) of 2022. The Fed hopes to continue the decline of inflation toward its 2 percent target, albeit while it loosens policy to boost the labor market sufficiently to prevent unemployment from rising much further and to keep employment growing at a respectable rate. That is, the Fed continues its engineering of a soft landing. In other words, can the Fed reduce inflation to its two-percent target without causing a recession?

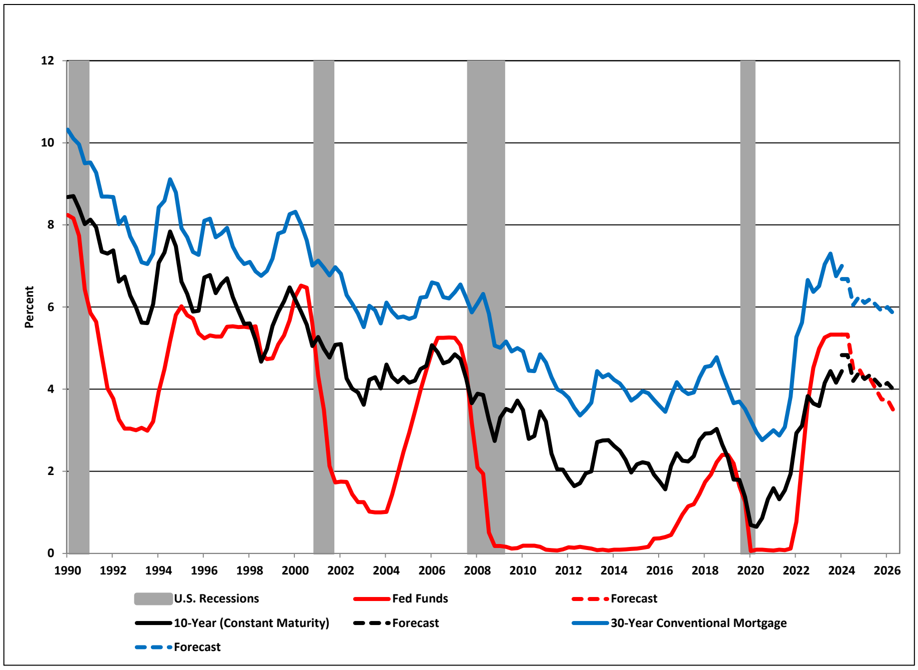
3. Interest Rates and Monetary Policy: The Fed Reverses Course and Begins Loosening

Prior to the current inflation problem, the Fed faced the pandemic recession and its aftermath. What did the Fed do when confronted with the unprecedented crisis brought on by the pandemic recession? The Fed's Chair Powell's answer: "whatever it takes." The Fed took unprecedented measures to support the U.S. economy and its financial markets. The scale of the economic assistance of the Fed was massive compared to anything previously seen. We now summarize a couple of main actions taken by the Fed during the month of March 2020 (See Figure 4).

First, the Fed cut its target for the federal funds rate, the interest rate banks pay to borrow from each other overnight, by a total of 1.50 percentage points or 150 basis points, bringing it down to a range of 0 percent to 0.25 percent. The federal funds rate provides the benchmark for many other short-term rates and also affects long-term rates. Lower interest rates stimulate economic activity by encouraging borrowing to build houses and factories and to buy cars, furniture, and machinery. Lower interest rates, moreover, increase the prices of equities and real estate, making households feel wealthier and more willing to spend. Finally, lower interest rates reduce the value of the dollar in foreign markets, making exports and imports more and less attractive, respectively. That is, a lower dollar promotes more exports, since they become more competitive in world markets, and less imports, since they become less competitive in our domestic markets. These effects all contribute to raising overall demand in the economy.

Second, the Fed resumed purchasing massive amounts of securities (i.e., quantitative easing or QE). Treasury and mortgage-backed securities markets had become dysfunctional since the beginning of the pandemic outbreak and the Fed's actions aimed to restore smooth market functioning. At the end of September 2021, the Fed's balance sheet stood at well over $8 trillion, rising to nearly $9 trillion in February 2022. But the Fed ended QE beginning in March 2022 and replaced it with quantitative tightening (QT). QT involved selling long-term Treasuries into the market, increasing their supply, lowering their price, and, thus, raising the long-term interest rate at the margin.

Figure 4. The FOMC Began Cutting Rates in September 2024



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

The inflation rate overshot what the Fed hoped for and stayed at elevated levels for longer than the Fed bargained for. The FOMC has reached a target range for the federal funds rate from 5.25 to 5.50 percent and paused it at that level for the last seven meetings or 12 months. The FOMC just lowered the rate to 4.75 to 5.00 percent in September. **CBER projects the upper bound on the benchmark rate for the end of 2024 at 4.50 percent, 4.00 percent by the end of 2025, and 3.50 percent by the end of 2026.** The Federal Reserve's median projections based on the responses from members of FOMC are a benchmark rate of 4.4 percent in 2024, 3.4 percent by the end of 2025, and 2.9 percent by the end of 2026,2 The effects of monetary policy are known to have long and variable lags. But as we know from watching FOMC's past actions, their plans are subject to change based on ever evolving economic conditions, particularly around the labor market.

The real GDP growth rate hit a 6.0 percent annualized rate in the first half of 2021. It slowed somewhat to an annualized rate of 5.4 percent in the second half of 2021. These robust growth rates and the fiscal stimulus in the pipeline caused some analysts to argue for interest rate hikes on a faster schedule than the Fed proposed. As noted above, the FOMC delivered 425 basis point increase in the federal funds ratee in 2022 and a total increase since March 2020 of 525 basis points. Real GDP growth slowed to -0.3 percent in the first half of 2022 and recovered to 3.0 percent in the second half of 2022. Real GDP growth continued at 2.6 and 3.8 percent in the first and second halves of 2023 and at 2.3 percent in the first half of 2024.

4. Global Economic Activity

According to the October 2024 World Economic Outlook (WEO) prepared by the International Monetary Fund (IMF), the global economy in 2020 suffered the worst financial crisis since the Great Depression,

2 U.S. Federal Open Market Committee and Federal Reserve Bank of St. Louis. "FOMC Summary of Economic Projections for the Fed Funds Rate, Median [FEDTARMD]." Retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/FEDTARMD. Accessed on October 29, 2024.

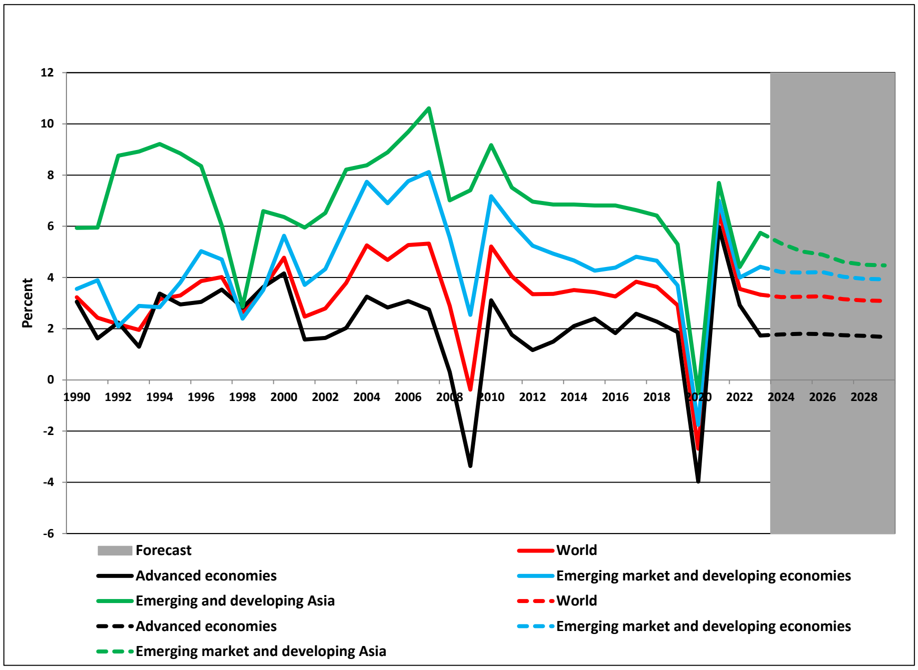
as governments worldwide grappled with the pandemic. The global economy contracted by 2.7 percent in 2020. The recovery in 2021 more than doubled the decline, reaching 6.6 percent real GDP growth at the world level. This recovery benefited from the roll out of the COVID-19 vaccines and significant additional fiscal stimulus offset the immediate challenge posed by the possible resurgence of the pandemic. Note that 2024 numbers are estimates, since the data for 2024 3 are still not all in when the estimate was made, and the 2025 to2029 numbers are forecasts. (See Figure 5).

World economic growth equaled 3.6 percent in 2018 and 2.9 percent in 2019. As noted above, the global growth rate hit a minus 2.7 percent in 2020 and rebounded smartly in 2021, 2022, and 2023 by a positive 6.6, 3.6, and 3.3 percent, respectively. **The IMF's global forecast sees nearly constant growth rates in 2024, 2025, and 2026 of 3.2, 3.2, and 3.3 percent, respectively.** This falls somewhat below the 20 year historical average of 3.5 percent. The pandemic exacerbated inequality with likely close to 80 million falling into extreme poverty in 2020 and 2021 relative to the pre-pandemic projected levels. The newest factors affecting future projections and these forecasts are the effects of the Russian invasion of Ukraine and the hostilities in the Middle East on world economic conditions and growth, especially inflation. **In the longer run, the IMF forecasts 3.2, 3.1, and 3.1 percent growth rates in 2027, 2028, and 2029, respectively.**

For the advanced economies group (the United States, the Euro Area, Japan, the United Kingdom, and Canada), growth was 2.3 and 1.9 percent in 2018 and 2019, respectively. The growth rate posted a minus 4.0 percent in 2020 but rebounded in 2021, 2022, and 2023 by a positive 6.0, 2.9, and 1.7 percent, respectively. **More modest growth is projected in 2024, 2025, and 2026 of 1.8, 1.8, and 1.8 percent, respectively. Similar modest growth rates of 1.7, 1.7, and 1.7 percent are forecasted for 2027, 2028, and 2029, respectively.**

For the Euro Area, growth was 1.8 and 1.6 percent in 2018 and 2019, respectively. The growth rate posted a minus 6.1 percent in 2020 but rebounded in 2021, 2022, and 2023 by a positive 6.2, 3.3, and 0.4 percent, respectively. Weak growth is projected in 2024, 2025, and 2026 of 0.8, 1.2, and 1.5 percent, respectively. Similar weak growth rates of 1.4, 1.3, and 1.2 percent are forecasted for 2027, 2028, and 2029, respectively.

Figure 5. Global Economic Growth Plummets due to the Pandemic, Quickly Recovers, and Now Slows



Source: International Monetary Fund

The emerging market and developing economies (EMDE) group (which includes East Asia and the Pacific, Eastern Europe and Central Asia, Latin America and the Caribbean, South Asia, and the Middle East and North and Sub-Saharan Africa) grew at a rate of 4.7 and 3.7 percent in 2018 and 2019, respectively. The growth rate hit minus 1.8 percent in 2020 and rebounded by a positive 7.0, 4.0, and 4.4 percent in 2021, 2022, and 2023, respectively. **Growth is expected to slow slightly to 4.2, 4.2, and 4.2 percent in 2024, 2025, and 2026, respectively. In 2027, 2028, and 2029, the IMF projects growth rates of 4.0, 3.9, and 3.9 percent, respectively.**

The emerging and developing Asia (EDA) group (which includes East Asia and the Pacific, and South Asia) grew at a rate of 6.4 and 5.3 percent in 2018 and 2019, respectively. Growth dipped negative in 2020 to minus 0.5 percent and then rebounded significantly to 7.7, 4.4, and 5.7 percent in 2021, 2022, and 2023, respectively. **The IMF forecast for 2024, 2025, and 2026 equals 5.3, 5.08, and 4.9 percent, respectively. Longer term, the IMF forecasts 4.6, 4.5, and 4.5 percent growth rates in 2027, 2028, and 2029, respectively.**

For China, growth was 6.7 and 6.0 percent in 2018 and 2019, respectively. Then, China experienced a positive growth rate of 2.2 percent during the pandemic in 2020, recovering to 8.4, 3.0, and 5.3 percent in 2021, 2022, and 2023, respectively. **The IMF forecast expects growth rates of 4.8, 4.5, and 4.1 percent in 2024, 2025, and 2026, respectively.** China is one of a small group of countries in the WEO October 2022 report that exhibits a positive growth rate in 2020, albeit significantly smaller compared to its 6 to 7 percent range of recent years. (Only 35 of the 195 countries reported positive growth rates in 2020.) **The longer term forecasts are 3.6, 3.4, and 3.3 percent growth rates, respectively, in 2027, 2028, and 2029, showing a downward trend. China's size makes it difficult to maintain fast growth going forward.**

For Germany, growth was 1.1 and 1.0 percent in 2018 and 2019, respectively. Then, Germany experienced a negative growth rate of minus 4.1 percent during the pandemic in 2020, recovering to

3.7, 1.4, and minus 0.3 percent in 2021, 2022, and 2023, respectively. **The IMF forecast expects weak growth rates of 0.0, 0.8, and 1.4 percent in 2024, 2025, and 2026, respectively. The longer term forecasts continue on the weak side at 1.1, 0.8, and 0.7 percent growth rates, respectively, in 2027, 2028, and 2029.**

For the United States, growth was 3.0 and 2.6 percent in 2018 and 2019, respectively, within the IMF calculations. Then, the United States experienced a negative growth rate of minus 2.2 percent during the pandemic in 2020, recovering to 6.1, 2.5, and 2.9 percent in 2021, 2022, and 2023, respectively. **The IMF forecast expects growth rates of 2.8, 2.2, and 2.0 percent in 2024, 2025, and 2026, respectively. The longer term forecasts are 2.1, 2.1, and 2.1 percent growth rates, respectively, in 2027, 2028, and 2029.**

5. Indicators of Economic Activity and Confidence

The last expansion, which began in July 2009 at the end of the Great Recession, became the longest on record in July 2019. The pandemic recession caught all analysts by surprise, ending the expansion in February 2020 after 10 years and eight months. This section examines a few important indicators that can provide signals of recovery and recessions. The duration of the pandemic recession, two months, is the shortest recession ever recorded by the NBER Business Cycle Dating Committee. The focus has quickly turned to whether we are on the verge of a recession again or, if not, when a recession might occur.

The FOMC's actions during the pandemic of driving interest rates to zero and the Congress's and Administration's passage of relief packages, for example, the CARES Act, the Consolidated Appropriations Act, and the American Rescue Plan Act, bolstered the economy in a time of need. Some, now, argue that the policies bolstered the macroeconomy by too much and for too long. Thus, we experienced record low unemployment rates and record inflation rates (based on the CPI). For those of us who have been around the block a few times, this all seems familiar.

The Phillips curve was identified in the late 1950s and although it has been beat up and adjusted by economists, the short-run tradeoff between the unemployment and inflation rates still remains a part of the larger model. That is, as policy makers drive the unemployment rate to lower and lower levels, such as our current unemployment rate of 4.1 percent, up from the 50-year record low rate of 3.4 percent, inflation tends to increase.

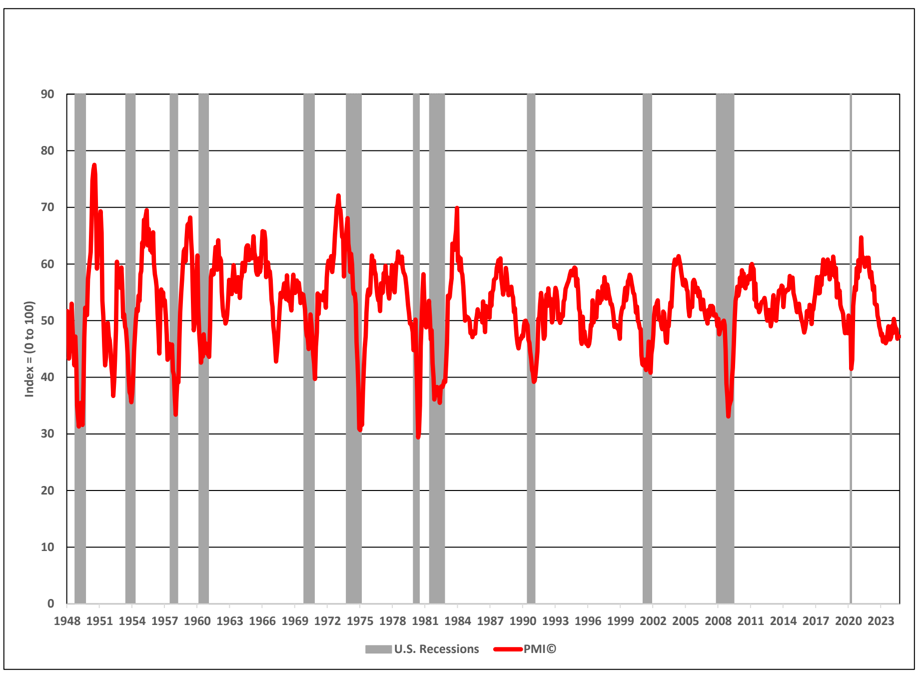
The U.S. economy experienced an unemployment rate under 4 percent from February 2022 through May 2024 or more than two years. So, high inflation with a low unemployment rate is not a new situation. We have seen this picture before. That is why you hear the following statements about the Fed's policy plans. To wit, they are aggressively increasing interest rates to lower the inflation rate with the side effect of raising the unemployment rate. It is an old story.

The Fed hopes to engineer a soft landing, as noted above. The strength of the labor markets and their historically low unemployment rate offers the FOMC some operating room. They can raise interest rates and lower aggregate demand with some modest increase in the unemployment rate from its current extremely low level in an effort to put a lid on inflation and lower it back to their 2-pecent target. That policy ended with the pause in interest rate increases by the FOMC just about one year ago and now starting to cut interest rates toward the neutral (Goldilocks) level, which appears to be around 3+ percent.

Institute for Supply Management (ISM) Manufacturing: Purchasing Manager's Index (PMI)©. Many analysts follow the PMI© as an important signal about the current and future state of the economy. Index values above 50 indicate a positive (expanding) outlook for manufacturing. Index values below 50 indicate a negative (contracting) outlook. Looking at its history, the index correctly called all the recessions since WWII. It also produced around ten false signals of contraction, depending on the rules for noting false signal (See Figure 6).

Since September 2016 the index remained above 50 until August 2019 when it dropped to 49.1, remaining below 50 for five months ending in December 2019, preceding the pandemic recession that began in March 2020. The index fell to 41.5 in April and then it quickly rose to 52.6 in June and has remained above 50, rising to its most recent peak of 64.7 in March 2021. It continued to move in the range of 58 to 60 until trending downward in 2022 and passing below 50 in November 2022. In sum, recessions typically involve a movement of the PMI Composite Index © below 50. The U.S. economy has been below 50 for22 of the last 23 months. Falling below 50 does not always mean a recession, as we noted 10 false negative signals but this measure is flashing red. Is it another false signal?

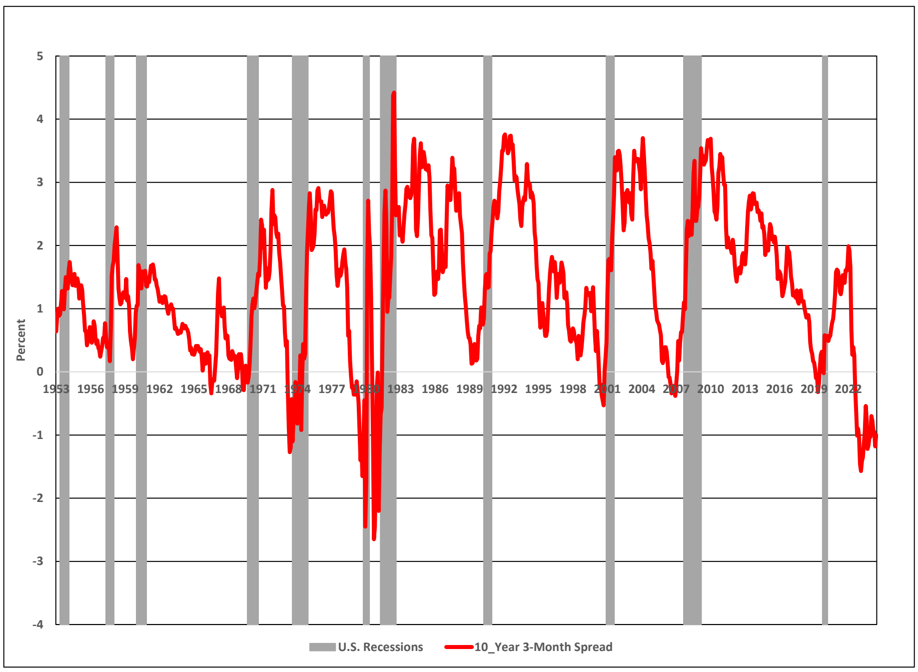
Figure 6. ISM Manufacturing: PMI Composite Index© Crossed into Below 50 Territory Nearly Two Years Ago



Sources: Institute for Supply Management; St. Louis Federal Reserve Bank (FRED); National Bureau of Economic Research

Ten-Year Three-Month Treasury Yield Spread. The term structure of interest rates, which considers the differences in interest rates at a point in time for different maturities of U.S. Treasury issues (bills, notes, and bonds), provides a strong indicator of recession. Figure 7 shows the time-series properties of the term structure of nominal interest rates, as measured by the difference between the 10-year Treasury note and the 3-month Treasury bill. Note that prior to recessions, this interest rate spread inverts. That is, the spread becomes negative as the 3-month rate rises above the 10-year rate. This typically happens when the inflation rate rises, causing the nominal interest rate to go up. But, when the current inflation rate is "high," the markets do not expect the inflation rate to continue at an elevated level. Thus, long-term interest rates incorporate a lower inflation premium into their rates, leading to an inverted term structure.

Figure 7. 10-Year 3-Month Treasury Yield Spread Inverted in November 2022



Sources: St. Louis Federal Reserve Bank (FRED); National Bureau of Economic Research

High inflation relative to the Fed's desires usually associates with the Fed taking away the "punch bowl" of the economic party and creating a recession by raising interest rates. Once the Fed feels that it controls the inflation rate and that it is headed toward the target federal funds rate, then the Fed begins loosening policy and lowering the federal funds rate to its desired, non-inflationary level. This accurately describes the Fed's recent actions as they have raised the federal funds rate 11 times during March 2022 through July 2023, adjusting the target range from 0.00 to 0.25 percent to 5.25 percent to 5.50 percent. Then they paused interest rate changes through the September 2024 meeting when they instituted a 50 basis point cut in the federal funds rate. During this tightening and continuing into the near future is the effort to reduce the size of the Fed's balance sheet by reducing their holding of government Treasury debt and mortgage-backed securities.

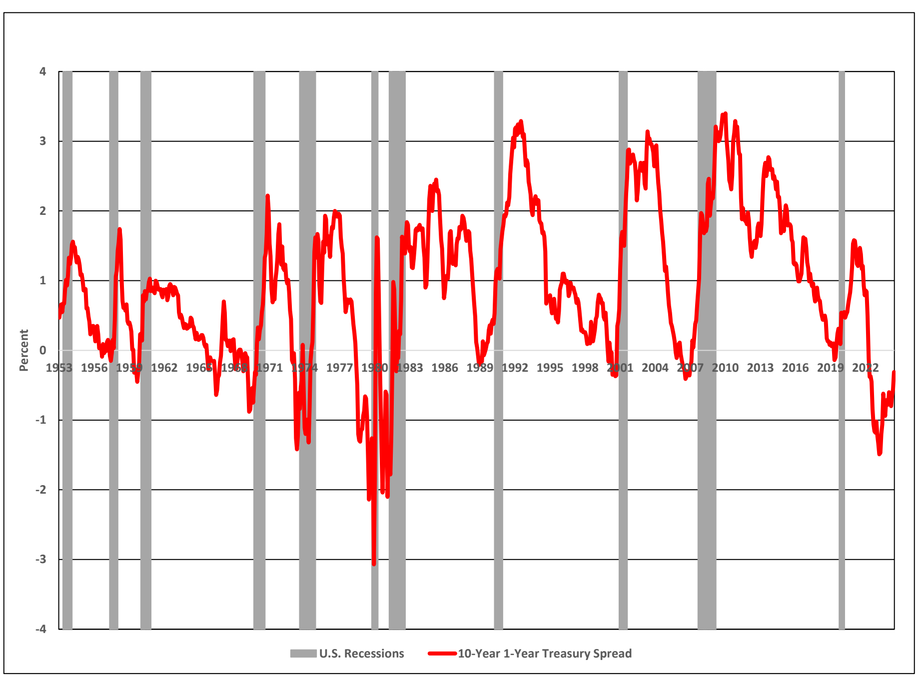
This spread turned negative from June to September 2019. The cut in the federal funds rate target range, however, reversed the inversion of the term structure, pushing it above zero from October 2019 onward and rising to a peak of 1.99 percent in April 2022. (Note that we use monthly averages of rates rather than daily rates. So, the inversion must last, on average, for one month.) This spread did not go negative prior to the pandemic recession. It turned negative in November 2022 and has remained negative through the present. The higher inflation that started in March 2022 coupled with low nominal interest rates caused the real 3-month Treasury bill and ten-year Treasury note rates to become negative late in 2019 through early in 2023 with troughs of -7.76 and -6.86 for the 3-month and ten-year rates, respectively, in March 2022. The real interest rate equals the nominal interest rate minus the inflation rate.

For monetary policy to affect the inflation rate the real interest rate needs to be positive on an expected basis. That is, the nominal interest rate going forward needs to exceed the expected inflation rate. In September 2024, the one-, five-, and ten-year forward (expected) inflation rates equal 2.2, 2.1, and 2.1 percent, respectively. That is, the expected inflation rates in the future hover just above the Fed's target inflation rate of 2 percent.

Recently, when the core PCE inflation rate popped well-above the Fed's target of 2 percent the Fed ended the post-pandemic recession "expansion party." The Fed began to aggressively "pump the policy brakes." That is, the Fed began lowering its holding of Treasury debt and mortgage-backed securities and raising the federal funds rate throughout 2022 and 2023. Now, the Fed waited with the federal funds rate on pause and it has begun to accelerate the economy with a series of yet to be determined interest rate cuts.

Ten-Year One-Year Treasury Yield Spread. In the U.S. Treasury markets, the 10-year Treasury note 1 year Treasury bill spread, however, tells a slightly more pessimistic story (See Figure 8). This spread turned negative beginning in July 2022 through the present or 27 months and counting. Comparing Figures 7 and 8, the movements in the two spreads significantly mirror each other. The 10-year 3-month spread signaled a possible recession more recently than did the 10-year 1-year Treasury spread. The 10-year 3-month and 10-year 1-year spreads equal -1.00 and -0.31 percent, respectively, in September 2024.

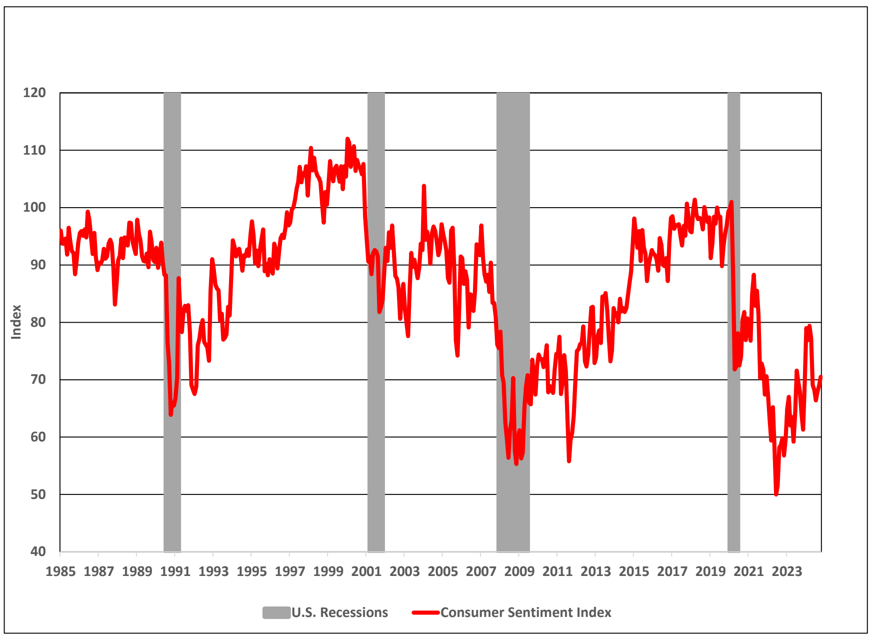
Figure 8. 10-Year 1-Year Treasury Yield Spread Inverted in July 2022



Sources: St. Louis Federal Reserve Bank (FRED); National Bureau of Economic Research

Consumer Sentiment (Confidence) Index. The University of Michigan's measure of consumer sentiment (confidence) has followed a bumpy upward and then downward path since the Great Recession, where it bottomed out in the 50s (See Figure 9). In February 2020, the index peaked at 101 at the beginning of the pandemic recession, which lasted only two months. In April 2020, the index had fallen to 71.8. From that trough, the index recovered through April 2021 when it peaked again at 88.3. Then, the index has moved much lower with choppy movements up and down in the index as it fell to 50.0 in June 2022. Since then, the index has moved generally upward but not breaking through 70 except for July 2023 , January to April 2024, and more recently, September and October 2024. The index currently sits at 70.5 in October 2024.

Figure 9. University of Michigan Consumer Sentiment Dropped Precipitously to 50 in June 2022 and Has Partially Recovered



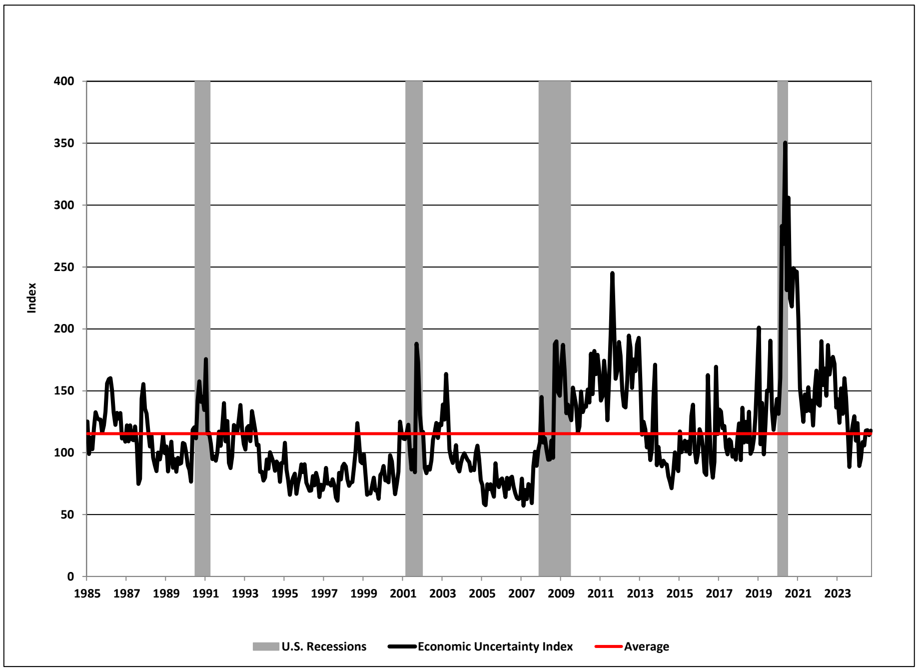
Sources: University of Michigan Survey Research Center; National Bureau of Economic Research

Economic Policy Uncertainty.3 Since the end of the Great Recession, many analysts argue that uncertainty about U.S. economic policy has impeded business investment (See Figure 10), which, in turn, has slowed the economy. Nonetheless, uncertainty about U.S. economic policy fell below its historical average in November 2013 and remained below this average until January 2015. This suggested that policy uncertainty was not much of an impediment to increased investment and accelerating economic activity at that time. Other issues, such as business confidence in the economy and weak Chinese and European economies, continued to pose impediments to robust investment and an accelerating economy. The election of Donald Trump was associated with a jump in the policy uncertainty index from 92.5 in October 2016 to 169.4 in November 2016. Then, the index hovered largely just below its average until January 2018, when the index moved a bit higher and hovered above its average of 115 until just before the pandemic recession. The advent of the pandemic recession, however, drove economic policy uncertainty to levels higher than seen in its entire history, averaging

3 This measure of economic policy uncertainty incorporates three components. The first component quantifies newspaper coverage of policy-related economic uncertainty. The second component includes the number of federal tax code provisions set to expire in future years. The third component uses disagreement among economic forecasters as a proxy for uncertainty.

well above 200 from March 2020 to January 2021 with a peak of 350.5 in May 2020. In February 2021, the index reached around 150, where it has remained between 190 and 120 through June 2023 with a slight upward trend, reaching 186 in July 2022. A downward trend ensued through February 2023, dropping to124, only to jump higher to 145 in June and July 2023. The March 2022 release popped up to 190, probably reflecting increased risk associated with the Russian invasion of Ukraine. Most recently, the index has decreased, hovering around or below its average of 115.

Figure 10. U.S. Economic Policy Uncertainty Index Jumps Much Higher during the Pandemic Recession and Drops Back to Its Long-run Average



Sources: Baker, Scott R., Bloom, Nick and Davis, Stephen J., Economic Policy Uncertainty Index for United States [USEPUINDXM], retrieved from FRED, Federal Reserve Bank of St. Louis, https://fred.stlouisfed.org/series/USEPUINDXM. National Bureau of Economic Research

In sum, the various indicators that usually provide signals about the future path of the economy tell a consistent negative story at the moment. The strength of the labor market to date as well as the methods employed by the NBER Business Cycle Dating Committee suggest, however, that the economy was and is not in recession. The PMI Composite Index©, and the 10-Year 3-Month and 10-Year 1-Year Treasury Yield spreads do signal a recession. The U.S. Economic Policy Uncertainty Index suggests that economic policy risks are at the average for this series. Consumer and business confidence also do not suggest a strong economy. Nonetheless, CBER still projects a soft landing and no recession at the national level, albeit a slowing of economic activity and uncertainty about black-swan type of events that can upset the global and U.S. economies.

6. Indicators of Economic Performance

Summary. The employment sector continues to produce strong numbers, although the evidence does support some slowing in employment as the economy experiences near record low unemployment rates. In September 2024, the overall level of employment has recovered 131.0-percent of the jobs lost between February and April 2020. This benchmark, however, does not include any growth in employment that might have been expected had the pandemic not occurred. For example, the average growth rate in employment over the 2011 to 2019 period was 1.66 percent. If we apply that growth rate to the employment level in February 2020, we generate total nonfarm employment of 162.6 million in February 2024 rather than the actual 157.8 million. That is, in February 2024, we were almost 5.0 million jobs short of the adjusted employment level in February 2024, adding in a 1.66 growth rate.

The unemployment rate, however, fell to a 50 year low of 3.4 percent in January and April 2023. The current national unemployment rate at the time of this writing is 4.1 percent in September, having drifted upward from its 3.4 percent lows and still low by historical standards. Nearly all economists would call this beyond full (Goldilocks) employment, as we saw potential output below actual output.. The explanation for the shortage of employment and the full employment unemployment rate requires knowing the movement in the labor force participation rate, which fell dramatically in the pandemic recession and has only recovered about half of its loss.

The housing sector continued its robust recovery from the Great Recession until he Fed began its aggressive tightening of interest rates, where evidence of significant cooling in the market has occurred. More and more first-time home buyers are being squeezed out because of rising home prices due to supply shortages coincided with relatively high mortgage interest rates, which make it more expensive to purchase a home. Moreover, many families who purchased a home during the recent episode of low mortgage interest rates, or any time since the Great Recession are locked-into their existing home. They are reluctant to sell and lose the low interest mortgage that they now hold. At the time of this writing, the current 30-year fixed-mortgage rate on a conventional mortgage is 6.7 percent with FHA and VSA loans at 6.4 and 6.3 percent, respectively, on October 30, 2024.[4]

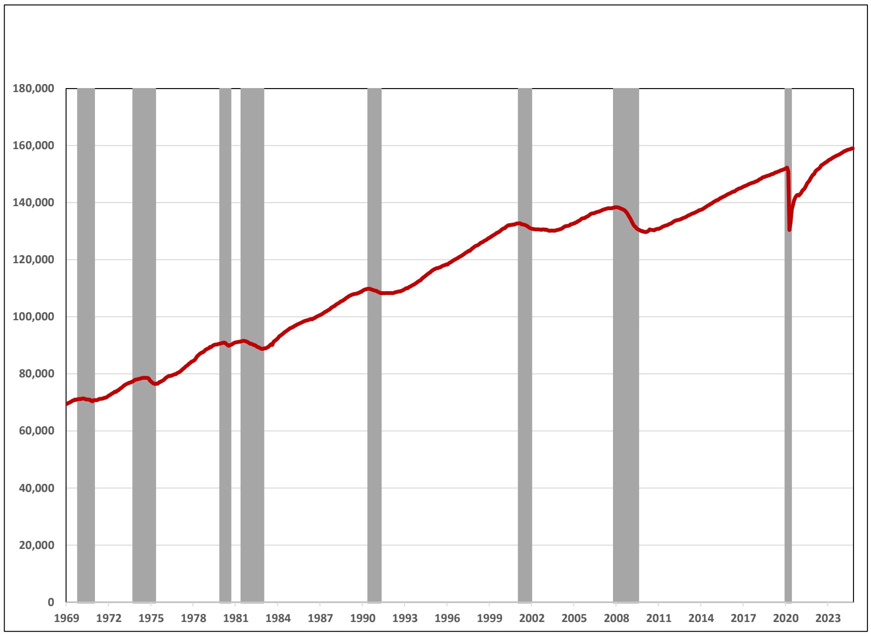
Finally, the pandemic played havoc with commodity prices, especially crude oil prices. On April 20, 2020, the May WTI contract traded for one day at minus $37.63 per barrel. The April 2020 average price came to $18.40 per barrel. Since then, the price generally rose with some pauses of sideways movement. The crude oil price experienced shocks due to the Russians invasion of Ukraine. The Brent price peaked in June 2022 at $123.7 per barrel, a monthly and not daily price. Since this peak, it fell to $67.55 per barrel in October 2024 at the time of this writing and is expected to fall further through the remainder of the year due to oversupply.

Employment Remains Strong. As shown in Figure 11, U.S. non-farm employment grew smoothly with downturns during recessions. Since employment tends to be a coincident indicator, the peaks and troughs of employment closely match the beginning and ending of recessions. The Great Recession of 2007 to 2009 was particularly severe in its effect on employment. But the pandemic recession proved much more dramatic, being the shortest recession in our recorded history of only two months and dropping so far in such a short period of time. Moreover, the recovery was also swift. The employment peaked before the Great Recession in December 2007 and January 2008 at 138.4 million jobs. We exceeded this prior peak with 138.5 million jobs in May 2014. Employment growth continued with job gains of 2.11 million jobs (1.5 percent) in 2017 and 2.28 million jobs (1.5 percent) in 2018. The year-over-year job gain in 2019 slowed somewhat to 1.99 million jobs (1.3 percent). The peak employment before the pandemic in the United States occurred in February 2020 at 152.3 million jobs. It fell to 130.4 million jobs in April 2020, a loss of 22 million jobs or a 14.4 percent decline. Since then, it exceeded its February 2020 peak in July 2022 and has now 130.6 percent of the lost jobs by October 2024, posting 159.0 million jobs. The last jobs report for October 2024 posted a surprisingly low 12,000 new jobs, much below expectations of 100,000 new jobs, along with downward revisions in job growth in August and September. Mitigating factors include hurricane effects and the ongoing Boeing strike

4 Source: https://fred.stlouisfed.org/categories/114.

(Boeing just announced a settlement and a union ratification vote on November 4). Nonetheless, the unemployment rate remained unchanged at 4.1 percent in October.

Figure 11. U.S. Nonfarm Employment Exceeds Its Previous Peak before the Pandemic Recession

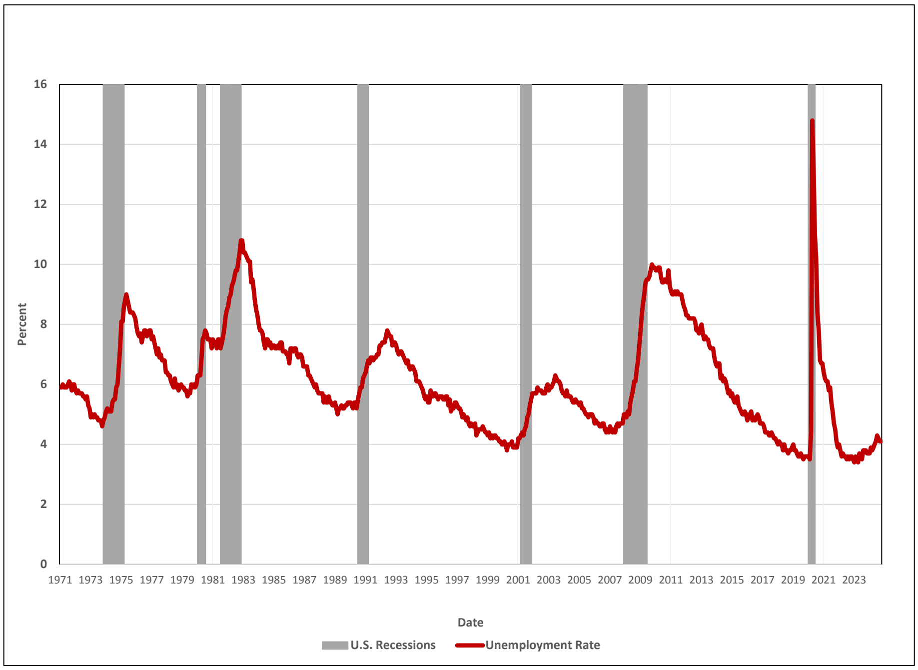


Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research

The pandemic recession and the government extra relief to unemployed workers gave these workers the ability to reconsider their options in the labor market. Some decided to retire rather than wait for the pandemic's effects to end. Thus, the labor force participation rate dropped significantly from 63.3 percent to 60.1 percent between February and April 2020 and has only recovered to 62.6 percent in October 2024. Other workers decided to seek employment in other sectors, extending their search times. Still other workers required higher wages and/or improved benefits to return to their old jobs.

After the Great Recession ended, the U.S. economy began its longest recorded expansion in history, 10 years and 8 months. With job growth, the U.S. unemployment rate fell sharply from 10.0 percent in October 2009 to 4.2 percent in October 2017 (See Figure 12) to 3.8 percent in October 2018. Finally, it fell to 3.5 percent in January and February 2020. As the job market tightened with employment growth and a lower unemployment rate, analysts expressed concern about the slow growth in wages. Then, after some delay, wages experienced accelerated growth, exceeding three percent beginning in August 2018 in year-over-year growth through October 2019. Initial claims for unemployment also followed a downward trend, which means the economy has created more jobs than it destroyed. Then, the economy was hit by the pandemic recession and the unemployment rate climbed and peaked in two months at 14.8 percent in April. Since then, the unemployment rate fell, reaching 3.4 percent in January and April 2023. The unemployment rate ticked higher to fell below 4.0 percent and stayed below 4.0 percent from February 2022 through April 2024 and now stands at 4.1 percent in October 2024. For workers, the recovery from the pandemic has led to improving wages and benefits as the labor markets experience significant adjustment in bargaining power favoring workers relative to employers. Note ,again, that the increase in union strike activity or threats of strikes confirms this shift in relative bargaining power. The short three-day East and Gulf Coast strike of dock workers in early October is but the one addition to the accumulating evidence on this switch in bargaining power. The dock workers are still in negotiations but agreed to return to work as negotiations continue. At the time of this writing, 33,000 striking workers at Boeing have rejected now multiple offers for pay increases over 4 years as the airplane maker hedges cash and hopes to find a satisfactory deal with its machinist's union.

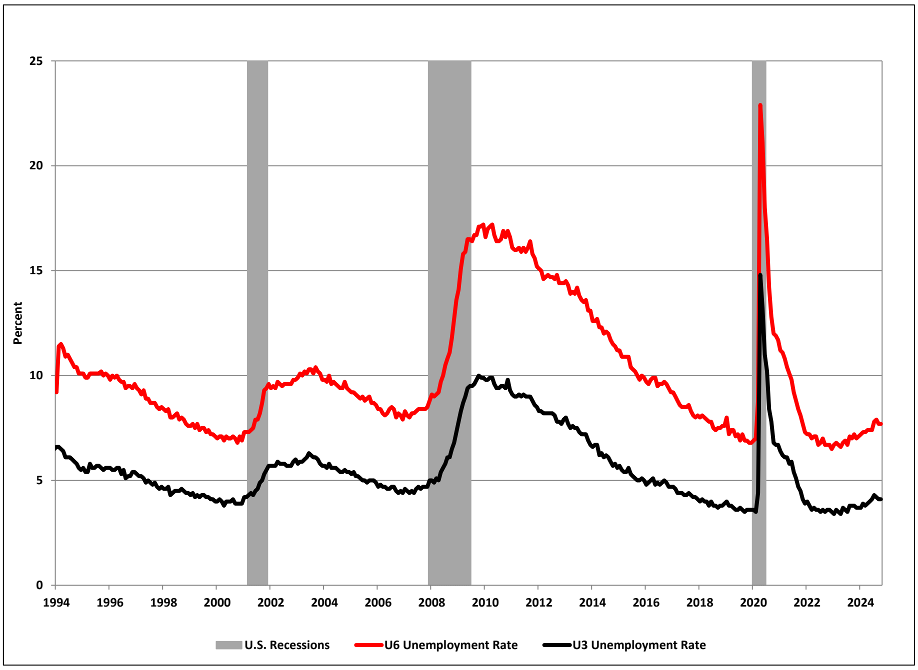
Figure 12. Unemployment Rate Was Four Percent or Under from February 2022 to April 2024



Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research

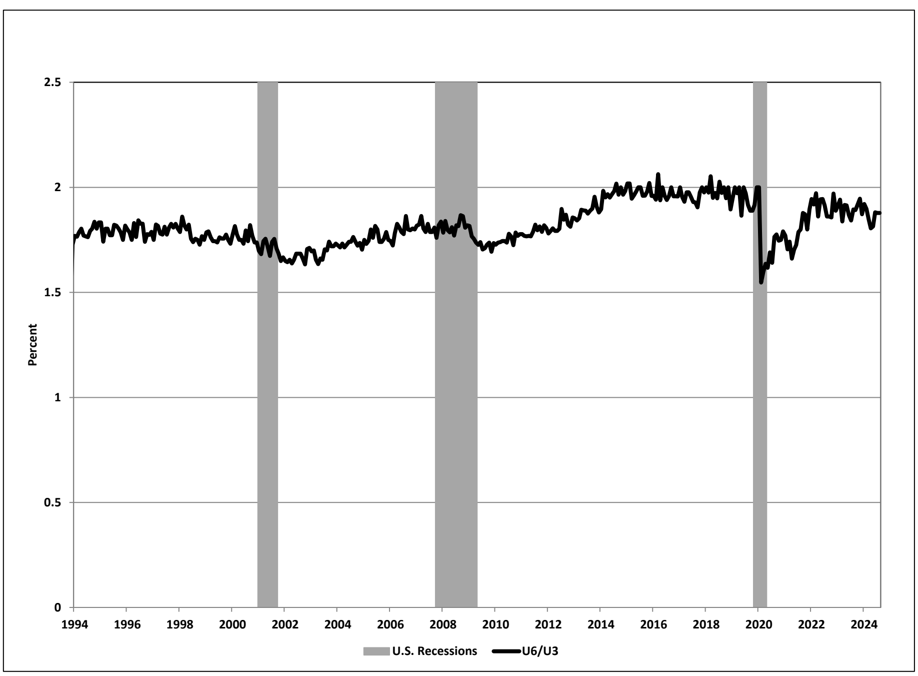
A broader measure of unemployment, the U6 unemployment rate, includes those that want to work more hours than they currently do or are marginally attached to the labor force. It gives us the most pessimistic picture of the unemployed than the official U3 unemployment rate. The U3 and U6 unemployment rates move together, although the U6 rate exceeds the U3 rate (See Figure 13). Historically, the ratio of U6 to U3 unemployment rates generally falls in the range of one-and-a-half to two (See Figure 14). Thus, the value of the U3 unemployment rate gives a good signal that the U6 unemployment rate is around one-and-a-half times to twice as big. The pandemic dropped the ratio from the top of the range (i.e., two) to the bottom of the range (i.e., 1.5) in one month or March to April 2020. Since then, the ratio has moved back toward the top of the range.

Figure 13. U6 and U3 Unemployment Rates Move Together Like Dancers



Sources: U.S. Bureau of Labor Statistics

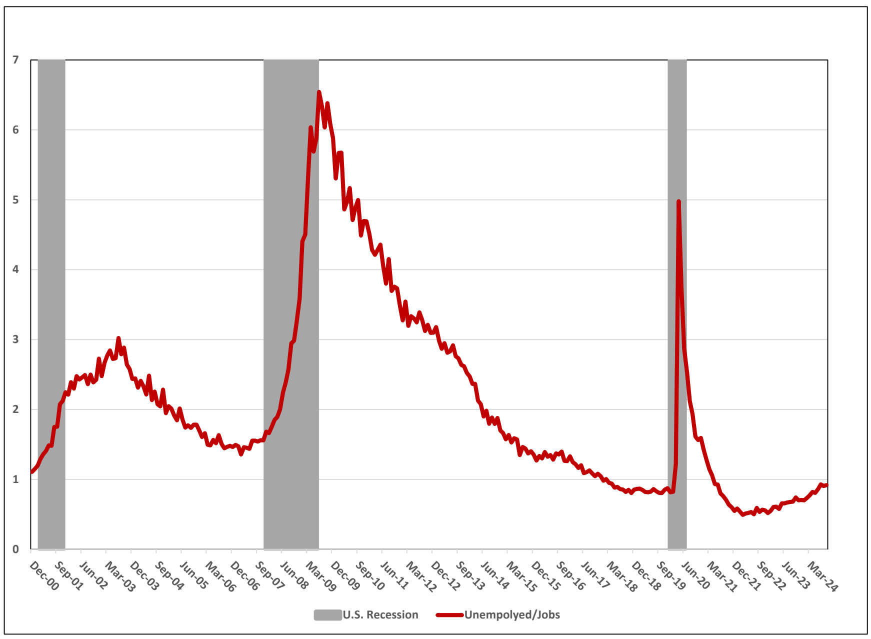
Figure 14. The U6 to U3 Ratio Falls into the 1.5 to 2.0 Range



Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research

Another measure of the condition in the labor market considers the number of unemployed workers and the number of job openings. The ratio of the number of unemployed to the number of jobs computes the average number of workers available for each job. As this ratio falls, fewer workers are available for each job and the lower ratio signals a tightening of the labor market. Figure 15 plots monthly data from December 2000 to the present. The labor market loosens during recessions as the number of workers per job rises. Note that the Great Recession and the pandemic recession loosened the labor market quickly as compared to the dotcom or 9/11 recession at the beginning of this century. We also note that the recovery from the pandemic recession occurred much more quickly with respect to the workers per job measure, which now equals 0.92 workers per job opening in September 2024, well below its average since the end of the Great Recession of around 1.54, signaling an extremely tight labor market. . This measure fell below one from May 2021 through the present, reaching a low of 0.49 ion March 2022. This helps to explain the difficulty employers face in hiring workers and why wages and benefits are rising.

Figure 15. Labor Market Tightens and Fell Below 1.0 since April 2021



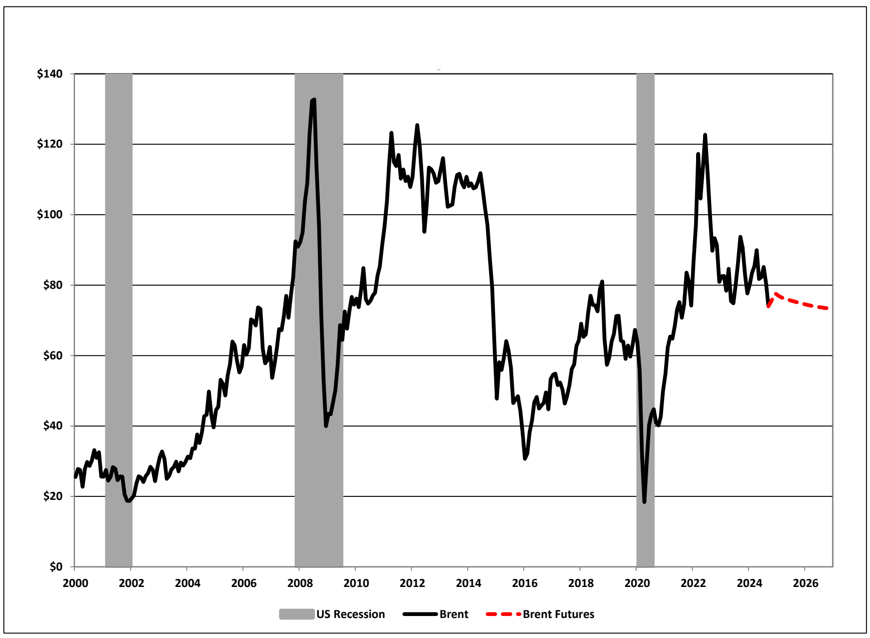
Sources: U.S. Bureau of Labor Statistics; National Bureau of Economic Research

Higher Crude Oil Prices. As the result of fracking, conservation, fuel switching, increased oil production, the removal of the U.S. export ban in 2015, and weakness in the Chinese and European economies, oil prices fell dramatically since mid-summer 2014 (See Figure 16). Note that this Figure plots monthly average prices and not daily prices. The fall in the crude oil price to the $30 per barrel and then the rise back to the $45-$55 per barrel range made some of this investment no longer economically viable. The run-up in crude oil prices into the $70 plus range due to stronger demand and production cuts by OPEC put much of this prior investment back to work, boosting the United States to become a world leader in crude oil production. While higher crude oil prices could slow world growth, this event boosted economic activity in the U.S. oil sector.

The invasion of Ukraine by Russia most recently seemed to represent another huge structural break in the pricing of crude oil. And, coupled with OPEC+'s decision to cut production further by 2 million barrels per day, added increased uncertainty to crude oil pricing. The initial shock pushed crude prices near the $125 per barrel level, but the price backed off from that peak in the months that followed. The chart currently ends with September 2024 data at $74.0 per barrel and, thus, incorporates significant effects of the war. The futures markets project further declines in crude prices. OPEC would like to keep the crude oil price near the $100 per barrel price point and, thus, may restrict supply in future meetings.

If the world economy avoids a slowdown, then additional upward pressure on crude oil prices will occur. If the world economy experiences a slowdown or recession, then this will further ease pressures for higher oil prices. In this later case, OPEC+'s decision to cut production will facilitate the reduction in crude oil demand that results from a world economic slowdown. In sum, ongoing announcements by OPEC+ to cut production levels as they try to manipulate the supply and price of crude oil introduces more uncertainty about the future path of crude oil's price and its effect on the global economy.

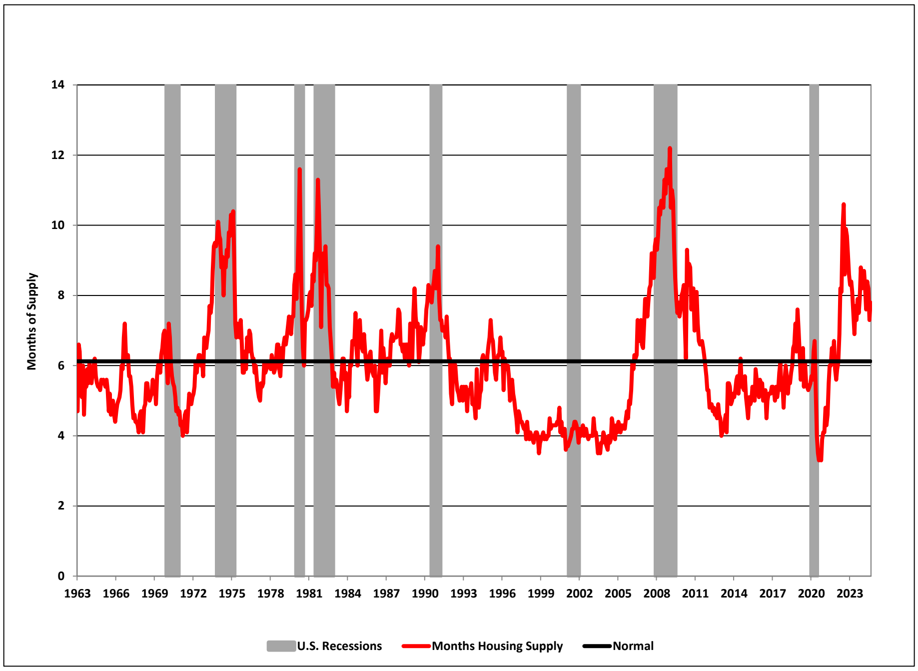
Figure 16. Brent Crude Oil Price Falls after It Was Driven Higher by the Russian War against Ukraine



Sources: U.S. Energy Information Administration; National Bureau of Economic Research; https://www.cmegroup.com/trading/energy/crude-oil/brent-crude-oil.html; Center for Business and Economic Research, UNLV

U.S. Housing Market Slowing in Recent Months. As shown in Figure 17, the U.S. housing supply tightened during the pandemic, though it was already depressed in the after effects of the Great Recession. The shortage of supplies in various markets after the pandemic recession produced an uptick in new construction and local home prices rose due to the shortage of new products. Since the early months of 2021, the number of months housing supply has returned to the long-term average of 6.1 months and now shot significantly above that level. Based on recent sales, the number of months of supply in the market grew from 5.6 months in December 2021 to a peak of 10.6 months in July 2022. The month's supply fell from a peak reaching 7.9 months in August 2024. The national average for the number of months' supply of housing in the United States is 4.2 and 7.8 months for existing and new homes, respectively. The housing market is tighter in Southern Nevada, however, with around 3- to 3.5-month's supply of housing on the market in recent months. We will discuss the local housing market later in this report.

Figure 17. Months Housing Supply Has Remained above Normal since March 2022



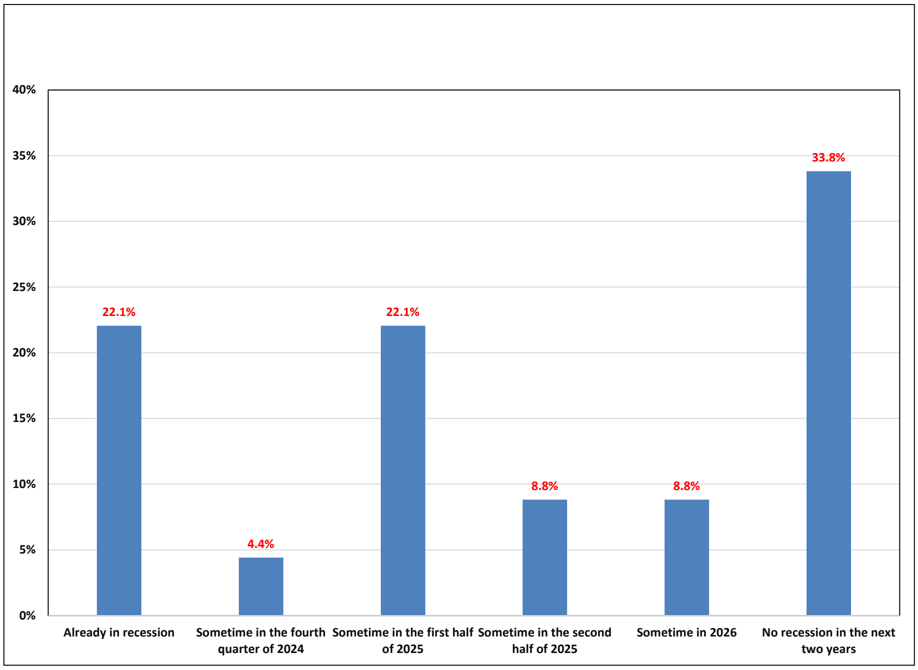
Sources: U.S. Census Bureau; National Bureau of Economic Research

7. Southern Nevada Business Survey: Responses on U.S. Economic Conditions

CBER conducts a quarterly survey of Southern Nevada business leaders on their outlook for the next quarter. The last survey was conducted in September 2024 with business leaders asked about their outlook for the fourth quarter of 2024. You may have received the September 2024 survey. If you did receive the survey, we hope that you responded. The next survey will run in December 2024.

We asked our survey respondents when they expected the next recession to hit the national economy. The survey found that 22.1 percent of respondents indicated that we are already in recession. (See Figure 18). Participants also believed that the fourth quarter of 2024 was the least likely (4.4 percent of respondents surveyed). The largest number of respondents chose no recession in the next two years (33.8 percent). CBER's own view is that we will not experience a recession in the next wo years, although an economic slowdown is in the cards. Of course, this requires the Fed to continue to do their job of combating inflation without lowering interest rates too fast or too slow, but rather just right. To borrow a phrase that the Fed used in fighting the pandemic recession, "whatever it takes." Comparing the results of the June 2024 and September 2024 surveys, 27.1 percent of respondents thought that no recession would occur in the next two years in June. Moreover, 20.8 percent of respondents thought that we were already in recession in June. Now, the no recession in the next two years responses rose by 6.8 percent and the already in recession responses increased by 1.3 percent.

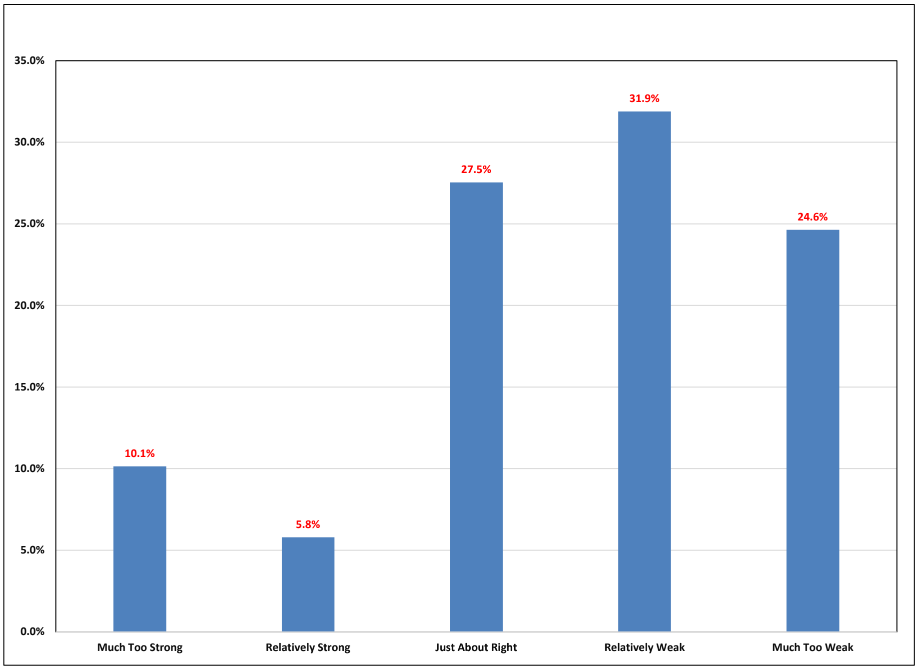
Figure 18. When do you believe that the next recession will occur in the national economy? (September 2024)



Source: CBER Quarterly Business Confidence Survey.

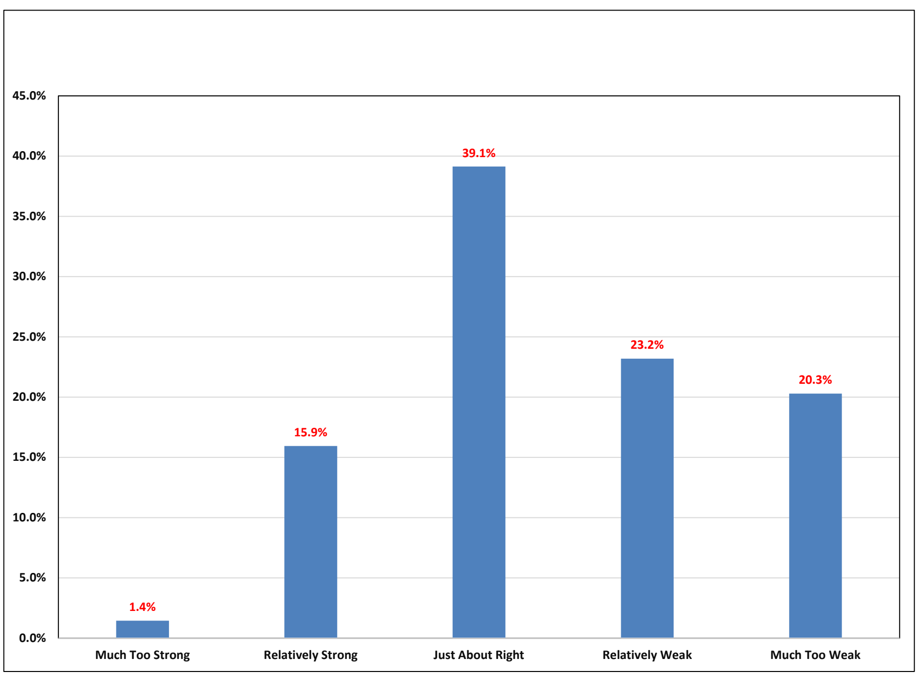
We also asked participants their view on the efficacy of fiscal and monetary policies (See Figures 19 and 20). On the fiscal policy side, a majority of survey participants felt the fiscal policy was relatively or much too weak (56.5 percent of respondents), an increase of 8.7 percent from the June 2024 survey. Many fewer respondents leaned toward much too or relatively strong, receiving support from 15.9 percent of respondents. On the monetary policy side, the plurality of respondents felt that monetary policy was just about right at 39.1 percent, which was lower from a majority of 52.1 percent of survey participants in June. Respondents chose relatively or much too weak at 43.5 percent. Other respondents also leaned toward relatively or much too strong, which received the least support at only 17.3 percent of respondents.

Figure 19. How would you rate current national fiscal policy? (September 2024)



Source: CBER Quarterly Business Confidence Survey.

Figure 20. How would you rate current national monetary policy? (September 2024)



Source: CBER Quarterly Business Confidence Survey.

8. Risks to the Outlook

A little more than month into the pandemic crisis, the coronavirus pandemic had already transformed the U.S. economy for the worst. At that time, the main risk to the economy was that the worst would become much worse than we expected and that we had underestimated the negative effects on the economy. The great unknowns remained "when" and "how": when would this crisis end and how long would the recovery take. We now know the answers to those questions.

Of course, the uncertainty surrounding future projections is immense. With events changing rapidly, the assumptions and conditional expectations and forecasts could well be out of date by the time this report is read. CBER believes that our forecast of the U.S. economy represents an optimistic or "high" estimate within the wide 95-percent level confidence band. If events unfold that ameliorate (exacerbate) our assumptions, our forecast may be too optimistic (pessimistic), and the cost imposed by the pandemic virus on the U.S. economy could increase (decrease). As we just noted, we feel that if we are wrong, the forecast will be on the high side of actual outcomes as a significant downside (recession) risk exists within our confidence bands. That is, the risk to the forecast is on the downside and not the upside.

Fiscal and monetary policies have preserved the ability of consumers and businesses to spend, but none of that really matters if consumers and businesses are not willing to spend. That willingness comes down to one word: confidence. Consumers need confidence that their sources of income are safe, and their bank deposits are safe. Businesses need confidence that they can finance their liabilities. Confidence has strengthened over time, but shocks to the economy can shake that confidence. The abrupt shift from recession concerns to inflation concerns is a recent example of how confidence can be shaken. CBER will watch as to whether the strength in consumer spending will continue to hold up or diminish.

Finally, the Biden administration shepherded the American Rescue Plan (ARP) Act through Congress (after the Trump Administration gave us the original CARES Act and its first supplement) and then President Biden and Congress adopted the physical infrastructure bill along with the Inflation Reduction Act and CHIPs Act. We will also see how federal spending continues to filter its way through the economy in new infrastructure projects and tax credits, possibly providing some cushion to any slowdown. It appears unlikely that any further direct fiscal spending bills will be forthcoming in the near future, especially with a divided government. Though the next administration will likely participate in tax negotiations with Congress, which will over time impact the path of the economy.

During the last couple of years, the focus has concentrated on the Fed and its actions going forward. The Fed ended the purchase of assets (QE) with the March 2022 FOMC meeting and instituted, at that time, the first in a series of anticipated 25-basis point (0.25 percent) federal funds rate hikes. We now know that the Fed actually instituted seven interest rate hikes in 2022 of 25, 50, 75, 75, 75, 75, and 50 basis points as well as four more increases of 25, 25, 25, and 25 basis points in 2023 for a total of 525 basis points, the sharpest rise in interest rates in nearly four decades. In sum, the federal funds rate target range went from 0.00 to0.25 percent at the beginning of 2022 to 5.25 to 5.50 percent in early 2023. Then the FOMC shifted gears and paused the tightening flurry through a good part of 2024. Recently, the FOMC shifted gears again and now follows a trajectory of interest rate cuts. How fast and how far will rates get cut is now the big question.

The potential still exists for the U.S. economy to flip into a recession. The Russian continuing war with Ukraine, along with the multifront wat in the Middle East as well as increasing strike activity adds more risk of a recession if the Fed or other major central banks make missteps. That is, a policy error by the Fed could turn a growing economy with inflation into a declining economy with inflation, a stagflation. No one wants that.

In sum, the U.S. and world were hit by the unexpected pandemic shock that led to the deep and quick pandemic recession. In retrospect, the fiscal and monetary authorities in the United States did their jobs and implemented the right policies to address that unexpected shock to the economy. On the fiscal side, we might argue that the fiscal authorities provided too much stimulus and on the monetary side, we might argue that the monetary authorities were too late in tightening their policy lever. Together, these policy “mistakes” led to our persistent inflation problem. Note, however, that the unemployment rate is also at record lows and as a result, an unexpected positive outcome with wage growth .

The major risk to the economy at the current moment in time is whether the FOMC can ease interest rates while maintaining a strong labor market. With consumers having spent down their pandemic savings, only to find that the costs of purchasing consumer goods and services have gone up as well as the interest payments on their credit cards, will they start to pull back their spending? What will happen with wage increases if the job market does soften? What about the slow moving, but serious impact, on debt markets in commercial real estate and corporate debt as companies renegotiate loans in the coming twelve to eighteen months if interest rates don’t decline as expected? What about broader, unpredicted geopolitical events from the dysfunction of the U.S. Congress, an incoming administration, to a slowdown in global economic activity starting with the property market in China, to the conflicts between Russia and Ukraine and Israel and its foes? These uncertainties will drive the narrative going forward of the U.S. Economy and, thus, the narrative of Nevada and Southern Nevada as well

NEVADA ECONOMIC OUTLOOK FOR 2024-2026

CENTER FOR BUSINESS AND ECOMIC RESEARCH

Return to Normalcy: When will Nevada experience another recession?

This recovery from the pandemic collapse saw the return of the "inflation dragon," which had been confined to its cave for about four decades. What happened? In response to the pandemic recession, the fiscal authorities unleased significant simulative spending programs coupled with an extremely loose monetary policy of zero interest rates and quantitative easing by the Federal Reserve (Fed). This double barreled policy response to the pandemic recession along with supply chain shortages led unavoidably to the reemergence of inflation. Now, to slay the dragon required significant tightening of monetary and/or fiscal policy. Any role for tightening of fiscal policy to address inflation was not on the table. That left the job for monetary policy alone. Since the first half of 2022, the Fed has responded with an aggressive policy to control inflation. As you read this report, the inflation battle appears to have finally turned a corner as the Fed paused further interest rate hikes for a year and in September 2024 implemented the first rate cut of 50 basis points.

1. Tracking the Nevada Economy

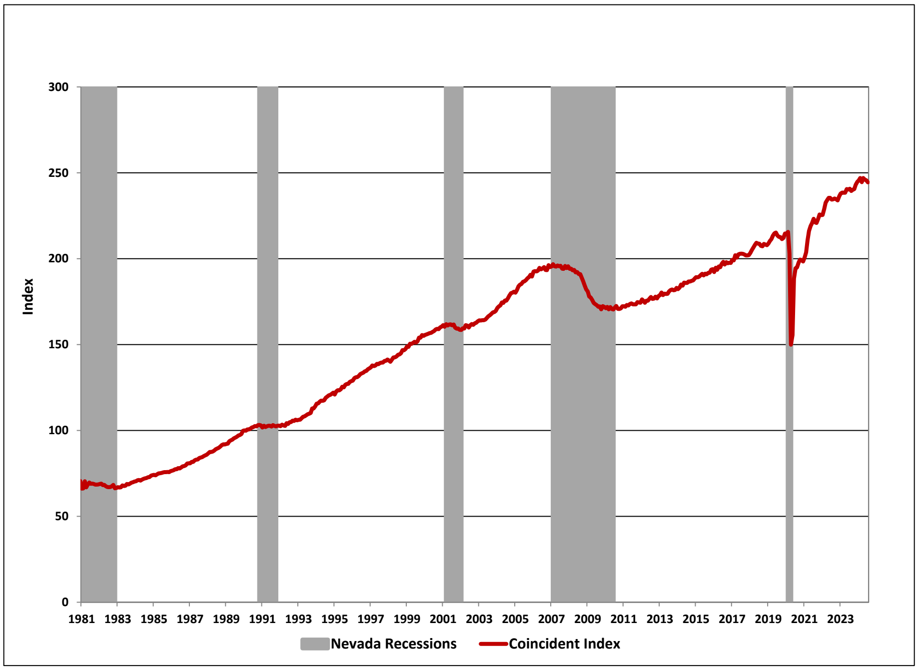
This section documents the performance of the CBER Nevada Coincident and Leading Indexes. The CBER Nevada Coincident Index uses the Department of Commerce index construction method to combine monthly information on Nevada taxable sales, Nevada gross gaming revenue, and Nevada nonfarm employment, measuring and tracking the economic cycles in the Nevada economy. The coincident index provides the benchmark series that identifies the business cycle, or reference cycle, in Nevada.[1]

The coincident index spans three full recessions and the bulk of a fourth recession in the early 1980s (See Figure 1) prior to the COVID-19 recession. The Great Recession generated the longest and deepest of these prior four recession episodes. The index peaked in February 2007 and then fell dramatically through June 2010 (for comparison,

1 All series are initially not seasonally adjusted and then seasonally adjusted using Census X12.

the national recession dates cover December 2007 through June 2009), almost three and one-half years. At the national level, the COVID-19 recession peaked in February 2020 and troughed in April 2020, making this the shortest recession recorded by the National Bureau of Economic Research (NBER). The NBER declared the current episode a recession on June 8, 2020 and declared that the recession ended on July 18, 2021.

Figure 1. CBER Nevada Coincident Index Generally Follows an Upward Trend from the COVID-19 Recession



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

In Nevada, the coincident index fell by 30.5 percent from February to April 2020 and now exceeds its prior peak by 13.4 percent. The path of quick recovery in May, June, and July 2020, however, slowed beginning in July 2020 through the fall and early winter months. The right-hand portion of the "V-shaped" recovery got displaced horizontally for six months, which we call a "broken-V" shaped recovery. Then, the coincident index started to grow more briskly from January to June 2021. The index, however, entered another phase of moving sideways from July 2021 to January 2022, which is a second break in the "broken-V" collapse and recovery. Then, the Nevada economy began healthy expansion that stalled in May 2022 and has drifted sideways interspersed with upward movements through the present.

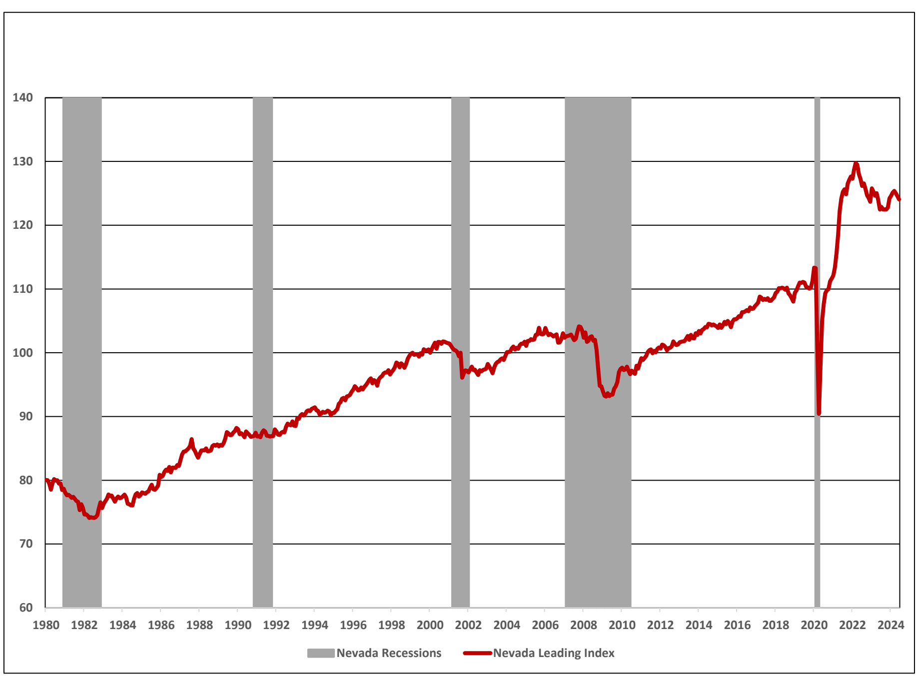
The CBER Nevada Leading Index provides signals about the future path of the reference cycle (coincident index). The Leading Index combines information on Nevada's initial claims for unemployment insurance, the 10-year inflation-adjusted (real) Treasury interest rate, the Standard & Poor's stock market index, Nevada housing permits, and Nevada airport passengers. The Nevada Leading Index also measures and tracks the economic cycles of the Nevada economy, providing a signal about the future direction of the Nevada Coincident Index. The leading index tracks the economy relative to that reference cycle.

The Nevada leading index peaked in November 2005, 14 months before the Nevada coincident index peaked (See Figure 2). Note that the grey bars identify the Nevada recessions determined by the reference cycle (the coincident index). Then, the Nevada leading index troughed in May 2009, 13 months before the Nevada coincident index troughed. In the two earlier, much milder recessions in the early 1990s and early 2000s, the leading index did not turn much before the coincident index at either the peaks or troughs of the cycle. For the first cycle in the early 1980s, the leading index peaked in February 1980, 11 months before the Nevada coincident index peaked in December 1980. Then, the leading index troughed in August 1982, three months before the Nevada coincident index troughed in November 1982.

The leading index did not provide any signal for the COVID-19 recession, however, since it was caused by a public health crisis followed by government shutdowns and lockouts. We report the numbers for the record. The leading index peaked in February 2020 before falling by 20.2 percent by April and has now exceeded its prior peak by 9.4 percent. Note that the origin for the leading index is set at 60 while for the coincident index, it is set at zero.

Observe that the leading index peaked in March 2022 when the FOMC began to tighten monetary policy to fight inflation. Currently, the leading index lies 4.4 percent below the March 2022 peak. The pandemic recession caused many unusual or unprecedented events in the relationships between the macroeconomic variables. For example, the inverted term structure where short rates of interest exceed long rates has occurred for a considerable length of time. Term structure inversions traditionally have been excellent predictors of near-term recessions. Not so, yet, in the current cycle. So, the traditional recession signal given by the leading index for Nevada is another example. Nonetheless, CBER will keep an eye out for a recession call. A recession in Nevada is still a possibility, it is just not very high at this moment.

Figure 2. CBER Nevada Leading Index Follows a Downward Trend, Beginning in March 2022, after the Upward Trend from the COVID-19 Recession



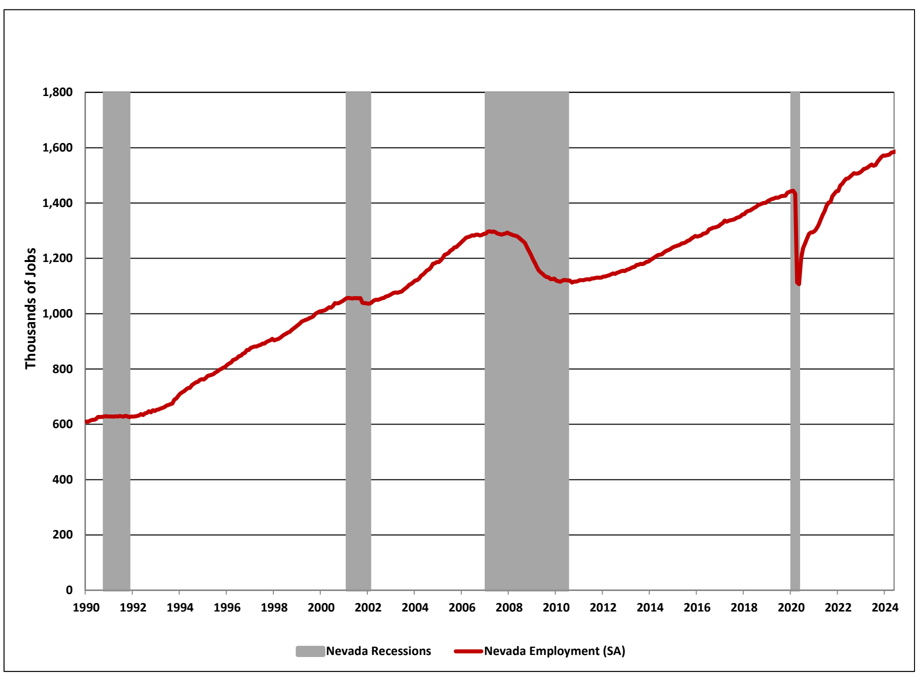
Sources: McCarran International Airport; Various Permitting Agencies; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Yahoo Finance; Federal Reserve Bank of St. Louis; Center for Business and Economic Research, UNLV

2. Economic Growth Widespread Across Nevada Economy until COVID-19

Prior to the Great Recession, Nevadans had grown accustomed to strong economic growth. From January 1990 to December 2007, where the latter date identifies the beginning of the Great Recession, Nevada employment grew at a 4.1 percent annual rate. In contrast, U.S. employment grew at a 1.3 percent annual rate. In fact, Nevada was the fastest-growing state during the 18 years prior to the Great Recession. Arizona and Utah ranked second and third, respectively, behind Nevada. In general, U.S. employment growth was strongest in the Intermountain West, Texas, and the Southeast.

As shown in Figure 3, Nevada employment growth began to reaccelerate in recent years. We exceeded the prior peak of 1,298 thousand jobs in March 2007 just before the onset of the Great Recession with 1,305 thousand jobs in July 2016. Employment growth continues with job gains of 41,600 (3.2 percent) in 2017 and 42,500 (3.1 percent) in 2018. The year-over-year job gain in 2019 slowed somewhat to 39,300 (2.8 percent). The pandemic recession hit Nevada hard with a year-over-year job loss in 2020 of 145,900 (-10.0 percent). The recovery from the pandemic recession saw year-over-year job gains in 2021 of 148,000 (11.4 percent). The recovery in job gains slowed in 2022 to 67,900 (4.7 percent) and further to 61,600 (4.1 percent) in 2023.

Figure 3. Nevada Employment Dropped Precipitously due to the COVID-19 Recession and Recovered to 9.5 Percent over Its Prior Peak



Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation, Center for Business and Economic Research, UNLV

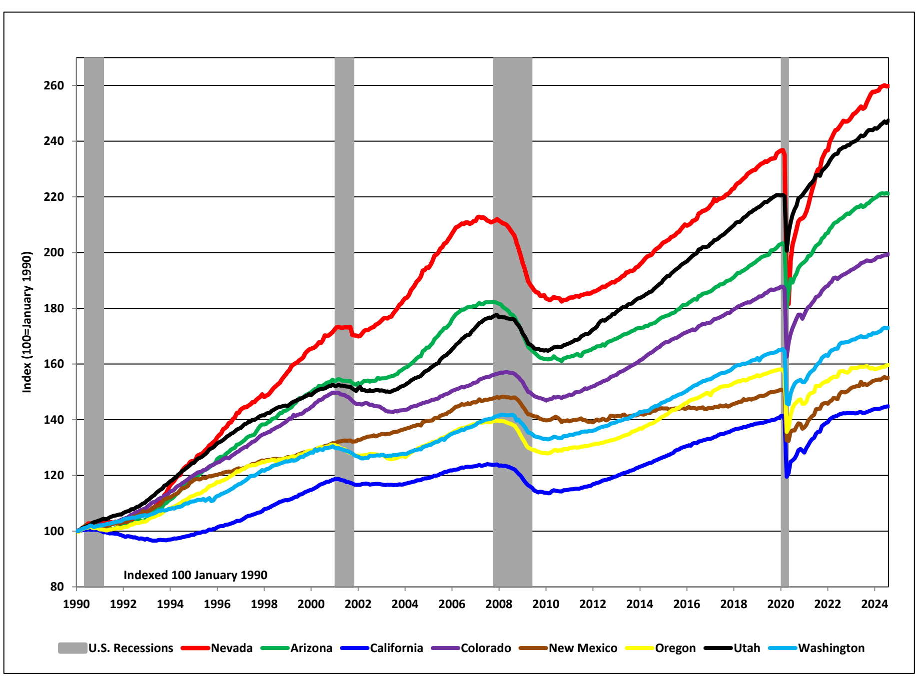
As a comparison, the national and Nevada December-to-December growth rates of nonfarm employment averaged 1.3 and 2.9 percent, respectively, from 2011 to 2019. The peak employment in Nevada prior to the pandemic occurred in February 2020 at 1,444.2 thousand jobs. It fell to 1,106.8 thousand jobs in May 2020 a 23.4 percent decline. It now exceeds its prior peak by 9.7 percent. At the national level, employment peaked at 152.3 million jobs in February 2020 and fell to 130.4 million jobs in April, a 14.4 percent decrease. It has now exceeded its prior peak by 4.2 percent.

If we repeat the same exercise that we performed in Section 6 of the U.S. Outlook and apply that 2.9 percent growth rate to where total non-farm employment in Nevada was just prior the pandemic, by February 2024 Nevada would have had 1,616.6 thousand jobs. That is 2.8 percent more total non-farm jobs in Nevada than there actually were in February 2024 (1,573.3 thousand). Put another way, we are 43.3 thousand jobs short of the adjusted February, 2024 employment level when we add in a 2.9 percent growth rate through the pandemic and its recovery.

Comparing Nevada's job growth to other Western states (See Figure 4), we see that Nevada grew faster than any other state followed closely by Utah and then Colorado until the pandemic hit. Note that we index total jobs in each state to 100 in January 1990. The pandemic hit Nevada the hardest of the states shown in this chart. Utah surged ahead by falling less dramatically than Nevada. But most recently, Nevada has surged ahead of Utah, due to the rebound in leisure and hospitality employment and the successful creation of new industries, especially outside of Reno at the Tahoe-Reno Industrial Center. California trails the other states, but California's large size makes it hard to maintain fast growth of employment.

The post Great Recession movement in employment in New Mexico displays anomalous behavior, growing more slowly than the other Western states. Nevada also gave up much of the gains achieved over the post-Great Recession recovery during the pandemic recession. Putting aside Nevada, California lost the highest percentage of jobs of the remaining states during the pandemic at 15.5 percent. Utah lost the lowest percentage at 9.1 percent. The recovery of those lost jobs sees Utah recovering to 12.3 percent above its prior peak and Arizona recovering to 9.2 percent above its prior peak. The least recovery occurred in Oregon to 1.1 percent above its prior peak.

Figure 4. Nevada Employment Takes Bigger Hit than Other Western States



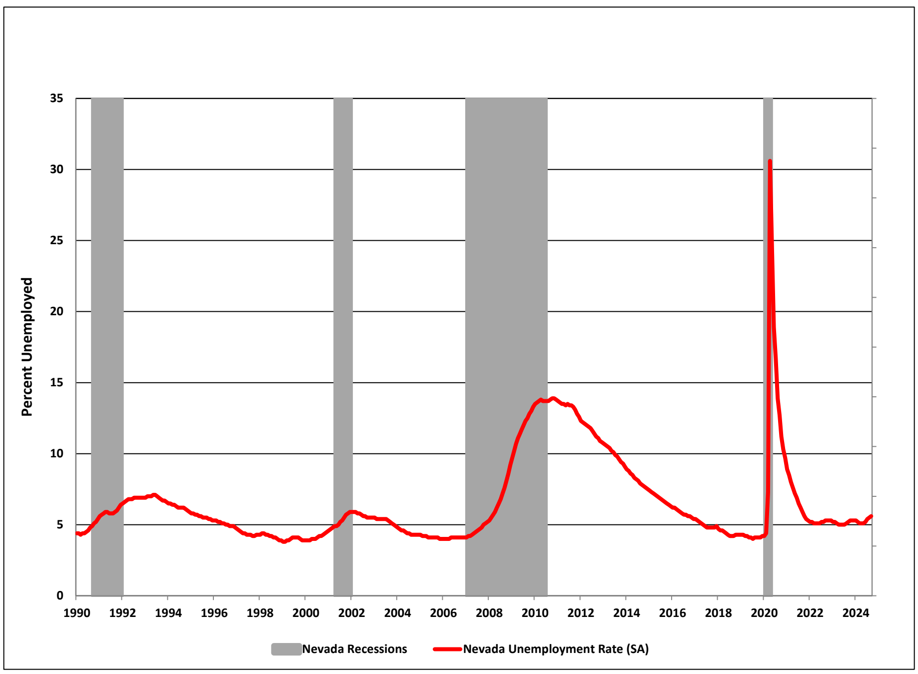
Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation, National Bureau of Economic Research

Because of the gains in employment, the Nevada unemployment rate has fallen (See Figure 5). The seasonally adjusted Nevada unemployment rate peaked at 13.9 percent in late 2010, before entering a long phase of declining rates that stood at 4.2 percent in January 2020. The start of the pandemic saw

Nevada shoot way ahead of other states with its unemployment rate peaking at 30.6 percent in April 2020. Since then, the unemployment rate fell rapidly, at first, and then more gradually to 5.1 percent in March, April, May, and June 2022. Since then, the unemployment rate rose to 5.5 percent in September 2022, where it stayed through the March 2023 rate. Since then, the unemployment rate stayed above 5.0 percent and at, or below, 5.5 percent through the present, although the September 2024 rate just inched above 5.5 to 5.6 percent.

This rate matches the current unemployment rate among U.S. leisure and hospitality workers, which posted 5.6 percent in September (not seasonally adjusted). A recent study by the U.S. Joint Economic Committee found that after adjusting for inflation, real wages in Nevada rose the third highest in the nation behind New York and Washington (excluding the District of Columbia), rising $8,637 between January 2021 and the end of 2023. They also found costs as a result of inflation had risen $14,343 over the same time period, which ranked Nevada as 12th highest. Further, the top three states in inflation costs (excluding the District of Columbia) include Colorado, Utah, and California in that order2

Figure 5. Nevada Unemployment Rate Jumped Higher and then Fell due to COVID-19 Recession

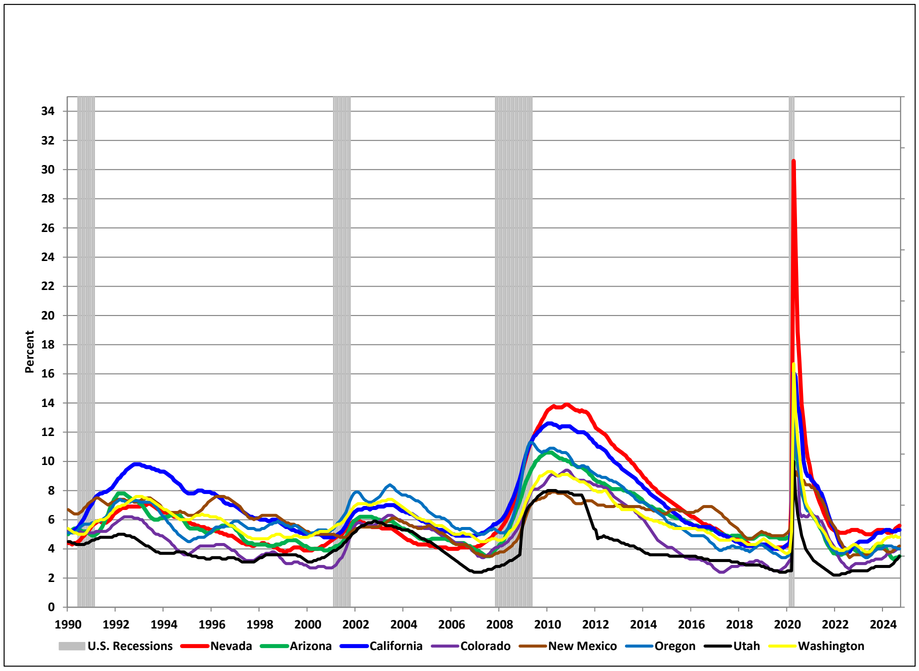


Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation, Center for Business and Economic Research, UNLV

Comparing Nevada's 4.4 percent unemployment rate in February 2020 to other Western states (See Figure 6), we see that Utah led with the lowest unemployment rate of 2.5 percent in February 2020 followed by Colorado at 3.2 percent. Arizona and New Mexico posted the highest unemployment rates of 4.8 and 5.3 percent, respectively. Two months later after the arrival of the coronavirus, unemployment rates jumped upward with Nevada experiencing the biggest jump to 30.6 percent followed by California and Washington at 16.1 and 16.6 percent, respectively. New Mexico and Utah achieved the least pain with unemployment rates rising only to 9.0 and 10.0 percent, respectively, in April 2020.

2 U.S. Joint Economic Committee Democrats. "Incomes Are Rising Faster Than Prices Throughout the Country." September 5, 2024. https://www.jec.senate.gov/public/index.cfm/democrats/2024/9/incomes-are-rising-faster-than-prices-throughout-the-country. & U.S. Joint Economic Committee Republicans. "State Inflation Tracker." September 2024. https://www.jec.senate.gov/public/index.cfm/republicans/state-inflation-tracker .

Figure 6. Nevada Unemployment Rate Experienced Much Bigger Swings than Other Western States

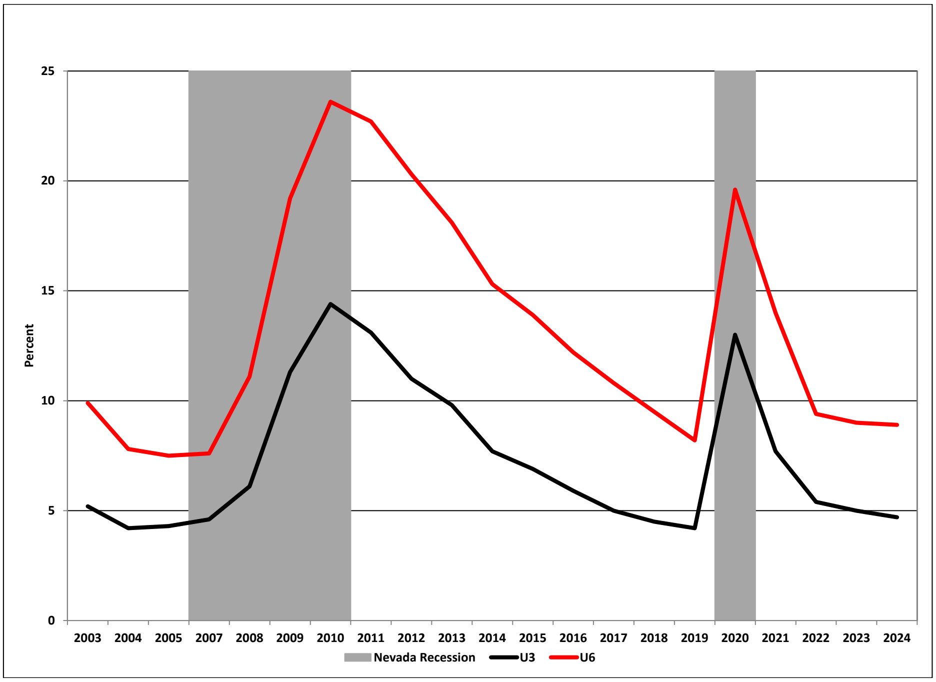


Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation

Utah quickly came down to unemployment rates much lower than the other states going forward, falling below 3.0 percent beginning in May 2021 and stood at 2.8 percent in September 2023, where it held steady though April 2024. Utah now has a rate of 3.5 percent. Colorado also came down to under 3 percent in June 2022 and rose back to 3.0 percent or above in November 2022 and now stands at 4.0 in September 2024. In contrast, Nevada continues to post the highest unemployment rate in the country, now. Nevada falls behind every other state in the Figure at 5.6 percent in September 2024, similar, as noted above, to the national unemployment rate for leisure and hospitality workers. California stands next in line at 5.3 percent.

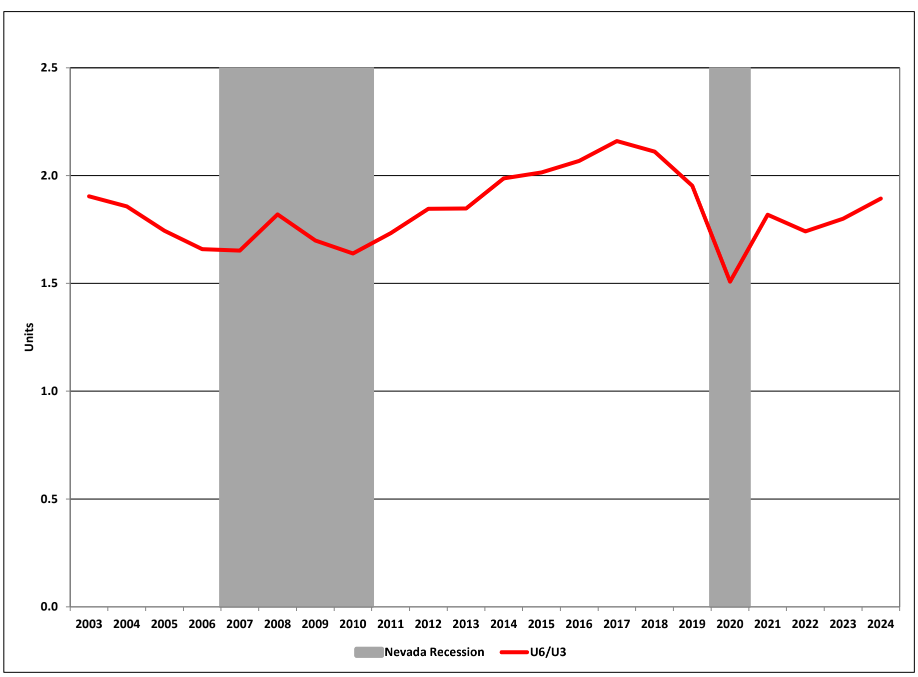
A broader measure of unemployment, the U6 unemployment rate, includes those that want to work more hours than they currently do and those that are marginally attached to the labor force. The official unemployment rate is the U3 rate. The U3 and U6 unemployment rates move together (See Figure 7). Thus, the U3 unemployment rate usually gives a good signal that the U6 unemployment rate is around one-and-a-half times to twice as big, meaning that a larger gap exists between workers who are simply unemployed versus workers who are underemployed. The ratio fell from two to 1.5 because of the COVID-19 pandemic recession (See Figure 8).

Figure 7. Nevada U3 and U6 Unemployment Rates Move Together



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

Figure 8: Nevada U6 to U3 Unemployment Rate Ratio below Pre-Pandemic Trend



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

3. Nevada Economic Outlook

The pandemic recession hit the Nevada economy like a sledgehammer, although the South was hit harder than the North. Four years later, the state economy has bounced back. The coronavirus led to a government shutdown of economic activity in March 2020. At the beginning of the pandemic, many of the economic variables that we track in Nevada appeared to fall off a skyscraper. The fall lasted for only two months (March and April 2020) and then recovery began to unfold and it unfolded at a much faster pace than most (all) analysts expected. The recovery slowed in the fall and early winter as another wave of the coronavirus swept across the country, and parts of Nevada. A burst of economic growth arrived in the spring of 2021 when most pandemic restrictions were lifted only to be followed by a surge in coronavirus cases due to the Delta variant. A pandemic among the unvaccinated hit the state. The economy slowed considerably, once again, in the latter half of 2021 due to the bang-bang arrival of the Delta and Omicron variants, sweeping the country sequentially. Then in January 2022, the economy began expanding again, appearing to stop in June 2022. The economy has entered a slower growth pattern since then, adjusting to a more predictable growth rate as we reach and surpass pre-pandemic levels.

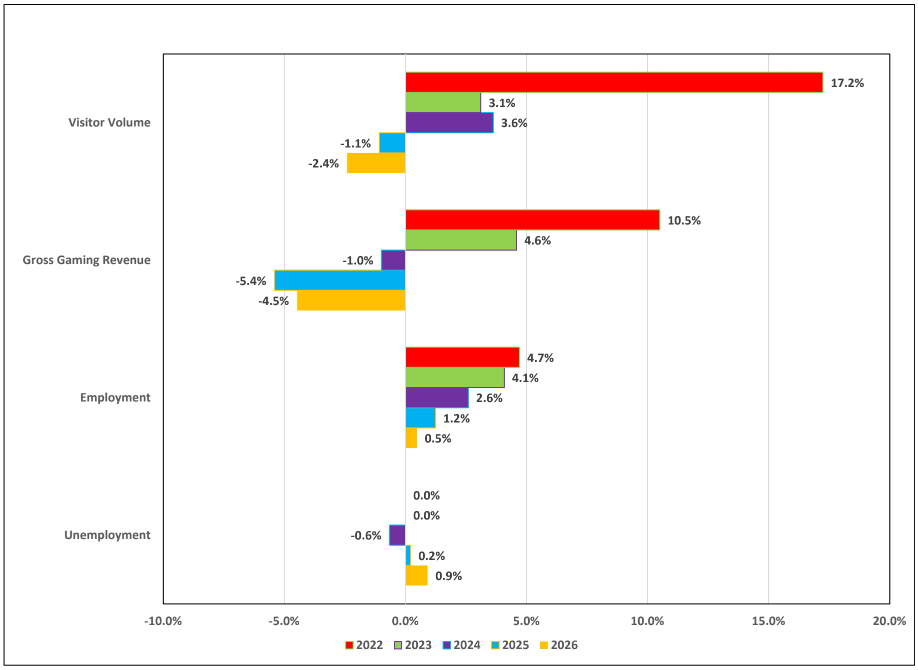
Nevada Economic Outlook for 2024-2026. The Nevada economy and its tourism sector will hit some bumps in the road in 2024, 2025, and 2026 (See Figure 9). Following the pandemic recession in 2020, visitor volume, gross gaming revenue, and employment followed the same pattern of significant rebounds in 2022 and smaller increases in 2023. CBER projects some retrenchment of economic activity or slower growth in 2024, 2025, and 2026 absent any large economic shocks from within or outside the system.

CBER predicts that visitor volume increases by 3.6 percent in 2024 before decreasing by 1.1 and 2.4 percent in 2025 and 2026, respectively. CBER also forecasts gross gaming revenue to decrease by 1.0, 5.4, and 4.5 percent, respectively, in 2024, 2025, and 2026. Employment is forecasted to continue its positive, but slowing, growth at 2.6, 1.2, and 0.5 percent in 2024, 2025, and 2026, respectively. CBER predicts a decrease in the unemployment rate of 0.6 percent in 2024, but increases in that rate in 2025 and 2026 of 0.2 and 0.9 percent, respectively.

Visitor volume, gross gaming revenue, employment, and the unemployment rate respond to the business cycle, as we anticipate slower national economic activity as the Fed navigates toward the "soft landing." In other words, since the national economy plays an outsized role in Nevada's and Southern Nevada's economic outlook, CBER's current forecast for Nevada shows a slowing economy.

CBER predicts that the Nevada housing market will continue to grow, where housing permits increase by 6.1, 7.8, and 2.5 percent in 2024, 2025, and 2026, respectively. (See Figure 10). Personal income and population growth continue with positive growth rates in 2024, 2025, and 2026. CBER predicts population grows just above 1.0 percent whereas personal income grows at just under 6.5 percent.

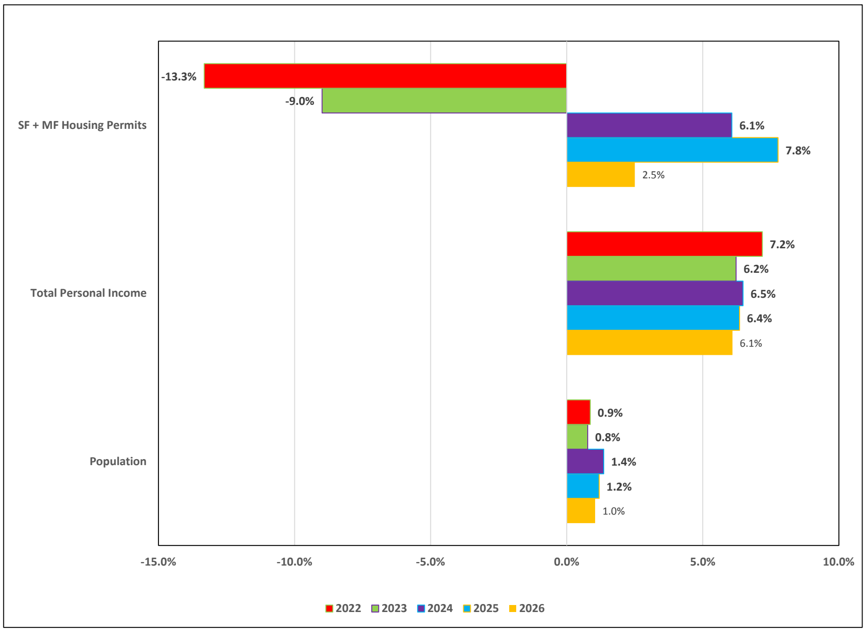
Figure 9. Nevada Economic Outlook, Part 1



Sources: Las Vegas Convention and Visitors Authority; Nevada Gaming Control Board; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV

Unlike the variables in Figure 9, personal income responds to our continued population growth in Nevada. Government programs facilitated the accumulation of significant stores of saving in the economy during the pandemic recession and the policy response. This excess saving fueled the continued consumption spending by the household sector in the post-pandemic recession economy. Now that those excess savings have nearly all been spent, will rising real wages help continue to drive visitor volume numbers? Or will slimmer savings create a drag on discretionary income? As of today, we do not forecast that yearly visitor volume numbers will return to pre-pandemic levels of around 56.1 million until after 2026, which CBER projects will hit only 52.3 million.

Figure 10. Nevada Economic Outlook, Part 2



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

4. Risks to the Nevada Economic Outlook

Forecasting in this environment is a perplexing task. We forecast large swings in some of the variables that we track in 2024, 2025, and 2026 (See Figure 9). In addition, the confidence bounds on some of our forecasts are large, indicating the lack of precision in our forecasts. Note that the swings in Nevada tend to be slightly smaller than the swings in Southern Nevada. Northern Nevada fared better so far, because Washoe County did more to diversify its economy to date than Clark County and a boom in demand for critical mineral and metals around the clean energy transition has buoyed our mining and manufacturing economy in the northern portions of our state.

Nevada, and especially Southern Nevada, faced more difficulties than most other states or metro areas. Our reliance on sectors of the economy that require face-to-face interaction to engage in business proved fatal to economic activity during the pandemic. That is, the leisure and hospitality sector, the food and drinking sectors, and so on place our economy at a much higher level of risk for negative outcomes when a pandemic buffets the economy, as we found out in the initial stages of the COVID-19 recession and the Great Recession.

Northern Nevada came through the pandemic recession with much less damage because they had started the transition to a more diversified economy, which was initially triggered by the location of the giga factory (Tesla and Panasonic battery factories) in the Tahoe-Reno Industrial Center (TRIC) and follow up investments by companies such as Redwood Materials, Tesla's decision to build their semitruck at TRIC, along with several part suppliers and new startups. The pain experienced from the pandemic recession in the Reno metro area mirrors more the pain suffered in other Western metro areas such as Boise, Salt Lake, and Denver and not the higher level of pain felt in the Las Vegas metro area.

The Nevada economy, especially in the South, faces the issues of higher prices, higher interest rates, and credit liquidity. All parts of the state face issues with housing availability and affordability for working class residents. How that will affect the pocketbooks of visitors, residents, builders, and businesses in our state? The state has posted 42 straight months of record seasonally unadjusted gaming win of over $1 billion, beginning in March 2021. At some point that should revert to the mean as the personal savings rate has returned to pre-pandemic levels and visitors feel their dollars do not reach as far due to rising prices on everything from hotel rooms, flights, meals, and entertainment.

The success or failure of the Nevada economy to a large extent depends on the national economy. Will the Fed engineer a soft landing? If so, then the prospects for Nevada appear good. If the national economy, however, slides into recession, then our visitor volume will decline. Those lost visitors and the reduced spending of visitors that do come will contribute to a slowdown and probable recession locally.

A known unknown is how quickly companies will let workers go if a slowdown occurs and how long will it take to get them back when the recovery occurs? Leisure and hospitality struggled early on to get workers to return. That is why we saw wage increases in that sector outpace wages increases in other sectors and even outpace the rate of inflation for many months. Will companies make the same decisions as they did during the pandemic and slash payrolls or will they be more hesitant after experiencing the pain of getting them back. We believe many of those workers who were initially let go from leisure and hospitality did not return, instead opting for jobs in transportation and warehousing and other industries that were low skilled and booming after the pandemic.

The war raging in Eastern Europe as a result of the Russian invasion of Ukraine, the conflict between Israel and Hamas, and other geopolitical events increase the uncertainty surrounding all forecasts. Forecasters are still trying to assess the likely scenarios about the future developments of turmoil abroad. The persistence of the war in eastern Europe surprised many analysts. The fallout from tighter monetary policy is only now beginning to be felt across all sectors of the economy, not just in banking but commercial real estate and corporate debt. As time passes, more information will provide a better platform from which to make better forecasts. At the moment, forecasters are still exploring alternative scenarios.

The major risk to the Nevada economy at the current moment is how the American consumer will react to all this uncertainty. The Fed's tightening of the economy with higher interest rates means higher debt costs on everything from homes to cars to boats. Inflation still persists, but is gradually approaching the Fed's 2.0-percent target. Thus, lower interest rates are in our future, which will take some of the pressure off the economy. Households appear to believe the economy is worse than most economists will say it is. Is this a self-fulfilling prophecy? Or are consumers separating their actual behavior from what they tell pollsters? So, despite the psychological effects of wage increases, consumers will find that they still need to stretch their budgets to make ends meet and as long as the job market stays strong, remain able to afford their mortgage and rent payments. Nevada is good at pivoting when it needs to lure any type of traveler, from the spendthrift, to the penny pincher, to the corporate manager with the corporate card, or the international thrill seeker. Nevada can pivot when consumer demand changes, but it will always be vulnerable to changes in sentiment and headwinds of the national and global economies, especially when the known unknowns take over the driving.

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.

Southern Nevada Economic Outlook for 2024-2026

CENTER FOR BUSINESS AND ECOMIC RESEARCH

Return to Normalcy: When will Southern Nevada experience another recession?

The Southern Nevada economy recovered strongly from the pandemic recession in a series of expansions interspersed with periods of no or low growth. Earlier in this report, we documented similar movements in the Nevada economy. In fact, Southern Nevada's pandemic recession and recovery amplified the adjustments seen in the Northern part of the state. That is, the downturn was deeper and faster, and the recovery was quicker and larger in Clark County than the parallel movements in Washoe County. While CBER does not currently observe or predict a near-term recession, the Southern Nevada leading index (see below) followed a generally downward trend since March 2022, which is one of the standard signals of a recession in the near term.

Other warning signs appear in our seasonally adjusted data analysis. To wit, taxable sales, gross gaming revenue, visitor volume, Harry Reid passenger volume, and the hotel-motel occupancy rate have fallen since the beginning of the year. Taxable sales fell by 9.2 percent between February and July of this year. Gross gaming revenue fell by 20.3 percent between December 2023 and August 2024. visitor Volume fell by 16.2 percent between February and August of this year. Harry Reid passenger volume fell by 8.8 percent between February and August of this year. The hotel-motel occupancy rate fell by 11.9 percent between February and August of this year. Finally, the CBER Southern Nevada Leading Index peaked in March 2022 and has fallen by 4.5 percent through July 2024.

At the national level, the reemergence of inflation as a policy concern has coalesced the Federal Open Market Commute (FOMC) around the commitment to not repeat the mistakes of the 1970s. Chair Powell has adopted an aggressive tone in his policy statements and the FOMC has steadily adopted a more aggressive stance against inflation and a more aggressive tightening policy as represented by the movement in the federal funds rate. This policy shift occurred in March 2022 and lasted through August 2023. As we just noted, the Southern Nevada leading index began its downward trend at the same time. The FOMC then paused further interest rate changes through August 2024 and began a process of lowering the federal funds rate in its September 2024 meeting, dropping the rate by 50 basis points.

For the time being, employment (jobs) continues to grow, but its growth slowed in recent months, signaling a softening in the labor market. The unemployment rate stalled at a rate of one-and-a-half to two percentage points higher than the national rate, after significant recovery from its post-pandemic peak. It now increased in recent months along with the national rate. Employment declined in the Las Vegas metropolitan area by 279,900 jobs between the peak in February 2020 to April 2020, only two months. The Las Vegas metro area has recovered 384,100 jobs and now stands 9.9 percent above the peak in February 2020 through August 2024. In a parallel fashion, the unemployment rate skyrocketed from 4.3 percent in February 2020 to 34.1 percent in April 2020, an increase of 29.8 percentage points. By December 2020, the unemployment rate had declined quickly to 11.0 permanent and then by December 2021 fallen more to 5.6 percent. During most of 2022, the rate stabilized around 5.9 percent. In January 2023, it transitioned to a 5.4 to 5.5 range to the present. The Las Vegas metro still experiences an unemployment rate about 1.5 to 2.0 percentage points higher than the national unemployment rate.

The gaming and hospitality industry of Nevada beat the odds, defying the forecast of analysts and gaming industry observers who predicted that it would take three or four years or more for the state and the Strip to return to pre-pandemic revenue levels. Nevada's casino industry closed out 2021, 2022, and 2023 with all-time highs of more than $13.4, $14.8, and $15.2 billion, respectively, in pre-tax gaming revenue statewide. Clark County posted the bulk of this action, respectively, at $11.4, $12.8, and $13.5 billion, respectively, in 2021, 2022, and 2023, according to the reports released on January 24, 2022, January 26, 2023, and January 26, 2024, respectively, by the Nevada Gaming Control Board (NGCB). The totals for Nevada blew past the $7.9 billion in Nevada gaming revenue in 2020 by almost 70, 87, and 93 percent in 2021, 2022, and 2023, respectively, and topped the 2019 pre-pandemic figure for Nevada of $12.0 billion by 11.7, 23.3, and 26.6 percent. Previously, Nevada casinos had topped the $12 billion mark only three times: 2019, 2007, and 2006. The previous one-year record for gaming revenue was $12.8 billion in 2007.

Still, the glass remains half full. The underlying question raised by casino analysts heading into the new year is whether the boom in gaming revenue can be sustained on the Strip, in Clark County, and in the state. Through July of 2025, we have experienced 30 consecutive months of gaming revenue above $1 billion in Clark County, based on seasonally adjusted data. This has mostly been driven by leisure travel, but figures from Harry Reid International Airport and the Las Vegas Convention and Visitors Authority also show a return of international travelers and conventions starting early summer 2022 helping to boost midweek local economic activity.

Las Vegas "stayed-at-home" for most of 2020 and at the time, it seemed like Las Vegas would face a long road of recovery. In 2019, much excitement existed over the newly arrived Raiders NFL franchise, the continued success of the Golden Knights, and the Clark County construction boom. Las Vegas was a city on the edge of a new era, finally turning the page after the 2008 Great Recession. Las Vegas gained 251,100 jobs from June 2010 to February 2020, almost a decade of recovery. Then the pandemic hit. During the first two months of the pandemic, Las Vegas lost over 279,900 jobs. CBER argued consistently during the pandemic recession that economic recovery hinged critically on whatever path the pandemic took. Public health success led to economic success. Our recovery through August 2024 has witnessed, as noted above, the addition of 384,100 jobs.

The initial pandemic and the following attacks by the Delta and Omicron variants devastated and hindered the Southern Nevada economy as it tried to adapt. Our economy remains vulnerable to public health emergencies because of our reliance on sectors of the economy that require face-to-face contact to conduct business. The Delta variant hit Nevada hard beginning its surge in June 2021, peaking in late July, and then heading on a slight downward trend through the end of the year. The Omicron surge began in Nevada in December 2021, peaked in early January 2022, and quickly headed downward, ending its major activity by early February.

As CBER now looks to the rest of 2024, 2025, and 2026, we have entered the endemic phase of the coronavirus. Cases, hospitalizations, and deaths from the coronavirus currently trace out low levels of infection. Moreover, our experience of the past four years from the pandemic gives us a better perspective on how to manage outbreaks if, and when, they do occur.

Las Vegas, a town built on the leisure and hospitality industry, carries huge systemic exogenous risks within its borders. Those who lost jobs and houses during the Great Recession and its aftermath carry those memories into a precarious landscape of new economic challenges. Many questions remain. When will the next recession hit our economy and how big an impact will it impose on our community? Is it around the corner in early 2025? Or further off in 2025 or 2026? Will the shattering events of March and April 2020 exert long-lasting effects on the hearts and minds of this generation?

The crisis will go down as one of those epochal events that alter the character of Las Vegas and the future course of the U.S. economy. Las Vegas went through a great deal of suffering, both physically, psychologically, emotionally, and economically. Recessions end with the passage of time, as the economy adjusts and responds to fiscal and monetary policies. Las Vegas needs more than fiscal and monetary policies, although their support has helped many people in Las Vegas stay afloat during the pandemic. The emergence of highly effective vaccines for the virus and economic stimulus provided the necessary medicine to prime the economic engine for a rebound in growth, despite Nevada being one of the lowest states for vaccine uptake (Lancet 2023). Do not count Las Vegas out. Las Vegas has come back to life. Leisure and hospitality still comprises a major part of the destiny of Las Vegas, accounting for almost one in four jobs in Clark County.

No other metropolitan area experienced more pain from the Great Recession and the resulting financial crisis than Las Vegas. More than a decade after the housing bust, Southern Nevada had finally recovered from the Great Recession, experiencing some of the fastest growth amongst metropolitan areas in the final years before the pandemic recession. Evidence from the Southern Nevada coincident index (which includes Southern Nevada nonfarm employment, taxable sales, and gross gaming revenue), compiled by CBER, confirms that the economy of Southern Nevada, after the hangover from the housing bust, had regained its feet. In the real estate markets, demand outpaced supply, and Case-Shiller S&P 500 home prices grew by 6.5, 22.1, -0.9, and 6.0 percent in 2020, 2021, 2022, and 2023. CBER forecasts growth rates of the Case-Shiller S&P 500 home price index in Las Vegas metro area at 4.2, 3.7, and 3.3 percent, respectively, in 2024, 2025, and 2026.

Housing continued to prosper even through the pandemic as construction was declared an essential activity and many individuals continued to move to Southern Nevada. Then the low mortgage rates due to the Fed's lowering of the federal funds rate to zero helped to boost demand. Moreover, in Las Vegas, we continued to take on significant large construction projects—the Raider's Allegiant Stadium, Resorts World, the Sphere, refurbishment of several large projects like the Venetian and the Mirage, and so on. The housing market began to soften and retreat in late 2022 and early 2023. A shortage of inventory for sale, however, has prevented significant declines in home prices, despite the worsening affordability. CBER anticipates that continued turbulence will plague the housing market as home prices stay stubbornly high as a result of higher than originally anticipated mortgage rates for buyers and few sellers precipitated by the Fed's boosting of the federal funds rate to address inflation. That is, many home owners who like to move are locked in by low mortgage rates on existing mortgages, which makes it tough to sell and give up the low rate of interest.

The pandemic downturn in Southern Nevada replays the script from the Great Recession, but at an accelerated pace. That is, we see a deeper recession than other metro areas in the United States. In addition, the entry into the pandemic recession felt like falling off a skyscraper. The collapse lasted for two months—February peak through April trough—that ordinarily does not qualify as a recession according to the NBER Business Cycle Dating Committee, since the decline did not last at least six months. The recovery in May, June, and July was just as abrupt, but left the economy only partially recovered. Note that the NBER Business Cycle Dating Committee called the peak of the last expansion as February 2020 on June 8, 2020, and the end of the pandemic recession in April 2020 on July 18, 2021. These calls of the beginning and ending of the pandemic recession occurred with a much shorter time lag than is typical in the business cycle dating business. The depth and speed of the pandemic recession caused the "bean counters" on the Business Cycle Dating Committee to speed up the analysis and led to prompt, by their standards, calls of recession and recovery.

The recovery in Southern Nevada has not been quite so simple or even. The summer, fall, and early winter (i.e., July 2020 to January 2021) saw a dramatic softening of the recovery in Southern Nevada whereby some series such as gross gaming revenue and visitor volume started heading south again in the winter months, just like the snowbirds who come to the South to avoid harsh winters in the North. February to July 2021, however, saw a resurgence of rapid recovery as the pandemic statistics sharply turned in a favorable direction. Then the economy, once again, went into a phase of uneven, reduced growth or slightly declining economic activity that lasted from May 2021 through January 2022. Since then, the economy has resumed episodes of up and down growth, albeit retaining an upward trend.

1. Tracking the Southern Nevada Economy

This section reports information from the CBER Southern Nevada Coincident and Leading Indexes. The CBER Southern Nevada Coincident Index uses the Department of Commerce index construction method to combine monthly information on Southern Nevada taxable sales, Southern Nevada gross gaming revenue, and Southern Nevada nonfarm employment, as is done for the Nevada Coincident Index. The CBER Southern Nevada Coincident Index measures and tracks the economic cycles of the Southern Nevada economy. The coincident index provides the benchmark series that defines the business cycle or reference cycle in Southern Nevada.[1]

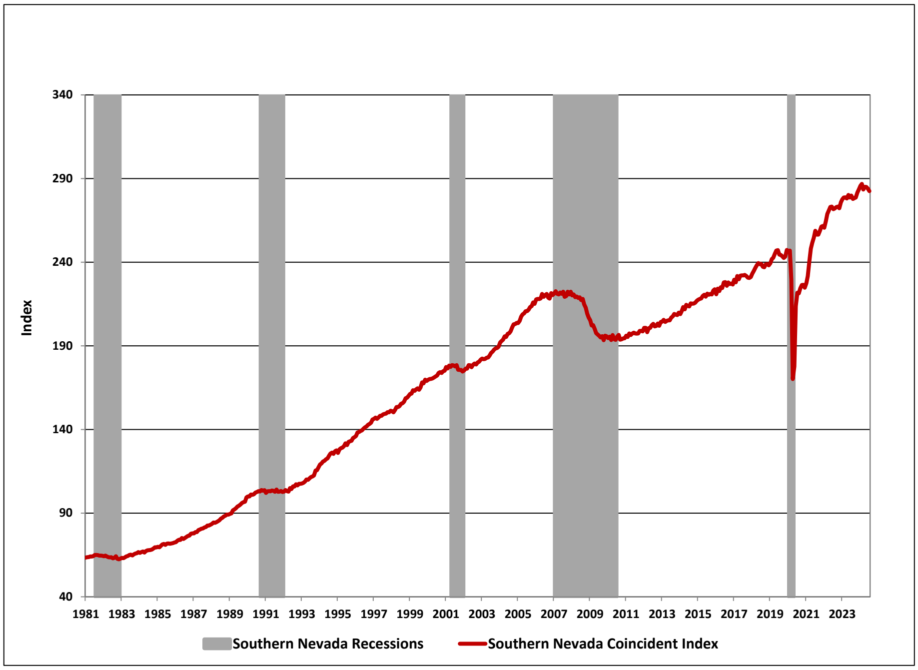
The coincident index spans three full recessions and the bulk of a fourth recession in the early 1980s, in addition to the more recent pandemic recession (See Figure 1). Until the pandemic recession, the Great Recession generated the longest and deepest of these four earlier recession episodes. The index peaked in February 2007 and then fell dramatically through June 2010, an almost three- and one-half-year period of decline. These dates match exactly the peak to trough in the Great Recession in the CBER Nevada Coincident Index. This is not surprising as Southern Nevada comprises such a large component of Nevada's overall economy.

The index recovered more than its entire decline during the Great Recession and stood in February 2020 10.8 percent higher than this prior peak of February 2007. It took almost ten years to achieve this

1 All series are initially not seasonally adjusted and then seasonally adjusted using Census X12.

level of recovery from the trough in the Great Recession in June 2010. The coincident index peaked in February 2020 before the pandemic recession. By April, the index had fallen by 30.6 percent from its February value. It has now recovered to 14.4 percent higher than the peak in February 2020.

Figure 1. CBER Southern Nevada Coincident Index Fully Recovered from the Pandemic Recession



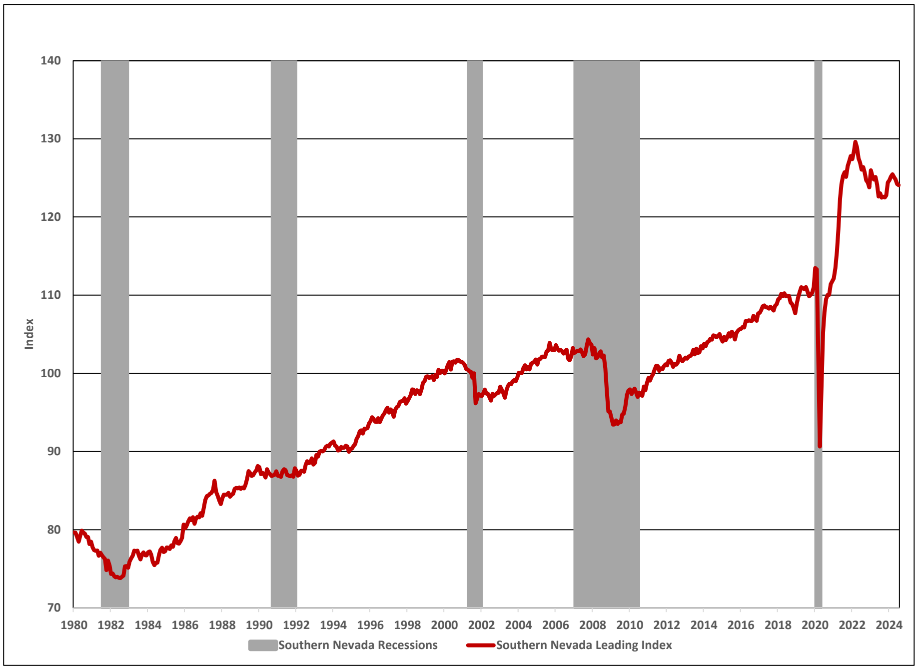
Sources: Nevada Gaming Control Board; Nevada Department of Taxation; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV

Like the Nevada coincident index, we see a resurgence of the upward movement in the coincident index in January through July 2021, much like the first few months of recovery from the pandemic collapse in May, June, and July 2020. The right-hand portion of the "V-shaped" recovery got displaced horizontally for six months—a "broken-V" shaped recovery. In early 2021, the recovery picked up its pace once again. In July 2021, the index entered another phase of gradual decline through January 2022, which is a second break in the "broken-V" collapse and recovery. Then the economy began a series of small expansions followed by brief pauses in economic activity. Where will we go from here? We turn to the Southern Nevada leading index for some additional insight,.

The CBER Southern Nevada Leading Index provides signals about the future path of the reference cycle. Our leading index combines information on Nevada initial claims for unemployment insurance, the 10-year inflation-adjusted (real) Treasury interest rate, the Standard & Poor's stock market index, Southern Nevada housing permits and Southern Nevada airport (Harry Reid) passengers. The CBER Southern Nevada Leading Index also measures the economic cycles of the Southern Nevada economy, providing a signal about the future direction of the coincident index. The leading index then tracks the economy relative to that reference cycle.

The Southern Nevada leading index peaked in September 2005, 17 months before the Southern Nevada coincident index peaked (See Figure 2). Then the Southern Nevada leading index troughed in May 2009, 13 months before the Southern Nevada coincident indexed troughed. For the two earlier recessions in the early 1990s and early 2000s, the leading index did turn before the coincident index at both the peaks and troughs of the cycle. Finally, for the first cycle in the early 1980s, the leading index peaked in January 1980, 19 months before the Southern Nevada coincident index peaked in August 1981. Then the leading index troughed in April 1982, seven months before the Southern Nevada coincident index troughed in November 1982.

Figure 2. CBER Southern Nevada Leading Index Trended Down Since March 2022



Sources: Harry Reid International Airport; Various Permitting Agencies; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Yahoo Finance; Federal Reserve Bank of St. Louis; Center for Business and Economic Research, UNLV

The leading index did not provide any prior signal for the pandemic recession as it was caused by a public health crisis and government shutdowns and lockouts. The leading index peaked in February 2020 and fell by 20.0 percent by April 2020 and has now recovered to 9.5 percent above the prior peak in February 2020. That is, the leading index has more than fully recovered to its prior peak. Note that the origin for the leading index is set at 70 while for the coincident index, it is set at 40.

Finally, note that the leading index has deceased month-over-month for 18 of the past 27 months from March 2022. That may signal a forthcoming recession. The FOMC is trying to engineer a slowdown without tipping into recession. The leading index is telling us that a recession or significant slowdown is still a possible scenario in the near term. CBER is still not calling a recession yet, but the level of uncertainty grows with each passing month. The economic signals, however, remain more positive than anyone could have expected, given the tightening of monetary policy by the Federal Reserve.

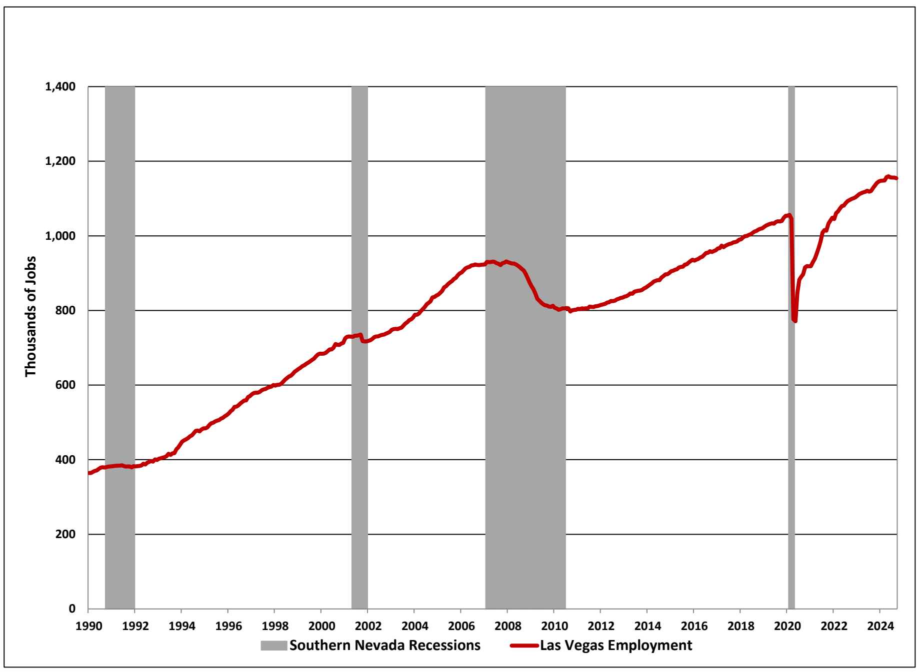
2. Southern Nevada Economic Conditions Did Not Signal Problem Prior to Pandemic Recession

The Southern Nevada economy experienced employment growth after the Great Recession through the onset of the pandemic recession (See Figure 3). The annual increase in nonfarm employment in 2018 and 2019 equaled 30,500 (3.1 percent) and 33,400 (3.3 minus 12.8 percent) jobs in 2020. The recovery was quick with 129,900 (14.1 percent) and 54,800 (5.2 percent) jobs added in 2021 and 2022, respectively. Finally, the recovery continued with 42,700 (3.9 percent) jobs added in 2023.

As a comparison, the national and Southern Nevada December-to-December growth rates of nonfarm employment averaged 1.7 and 3.1 percent, respectively, from 2011 to 2019. The peak employment in Southern Nevada occurred in February 2020 at 1,056.3 thousand jobs. It fell to 776.4 thousand jobs in April 2020, a 26.5 percent decline. Since then, it has recovered to 9.3 percent above its February 2020 peak. At the national level, U.S. employment peaked at 152.3 million jobs in February 2020 and fell to 130.4 million jobs in April, a 14.4 percent decrease. U.S. employment has now recovered to 4.2 percent above its prior peak in February 2020.

Repeating the exercise that we did with potential employment in the United States and Nevada had the pandemic not occurred, we find that in Southern Nevada, minus the pandemic, total non-farm employment would have been 4.0 percent higher in February 2024. Put another way, there were 45.4 thousand less jobs in Clark County in February 2024 than there would have been had the pandemic not occurred when we add in the annual 3.1 percent average nonfarm employment growth rate over February 2020 to February 2024.

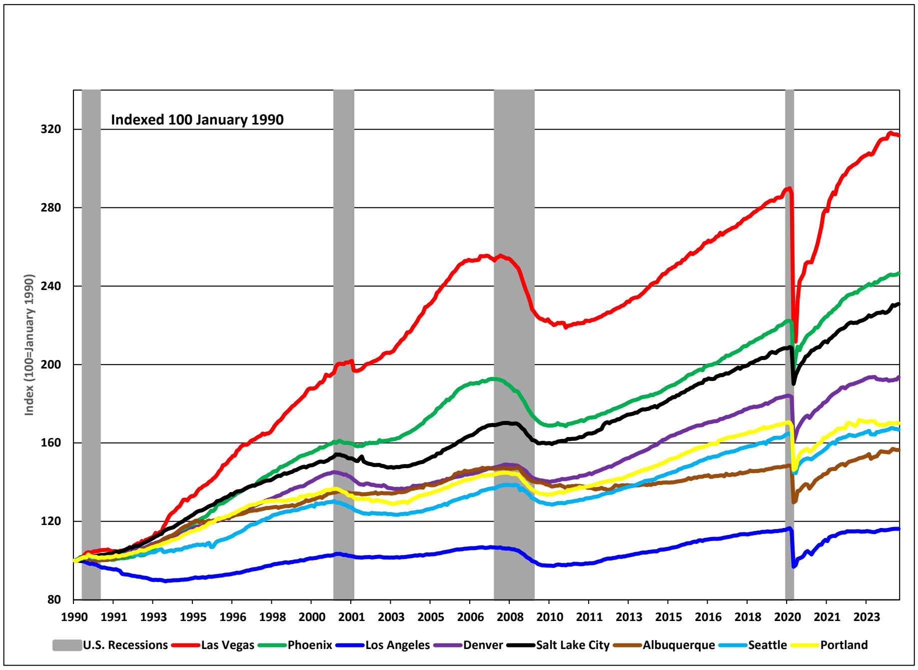
Figure 3. Las Vegas Employment Recovers to above Its Pre-Pandemic Peak



Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation, Center for Business and Economic Research, UNLV

Compare, now, Las Vegas's job experience to other Western metropolitan areas (See Figure 4), Note that we index total jobs in each metro area to 100 in January 1990. Los Angeles trails the other metropolitan areas, but Los Angeles's large size makes it difficult to maintain fast growth of employment. The post-Great-Recession movement in employment in Albuquerque displays much slower growth than most of the metro areas. Albuquerque's employment growth post the Great Recession seems to converge toward that of Los Angeles. Las Vegas experienced the biggest fall in employment during the pandemic recession, giving up all the gains and more achieved over the post-Great Recession recovery. Las Vegas also took the biggest hit in lost jobs, losing 26.5 percent of its jobs from February to April 2020. Salt Lake City and Phoenix experienced the smallest declines of 9.0 and 11.3 percent, respectively. Only Los Angeles and Portland has yet to surpass their peak employment in February 2020, recovering all but 1.5 and 1.9 percent, respectively, of their lost jobs during the pandemic recession. Phoenix leads this group with 10.6 percent more jobs than at its peak followed by Salt Lake City at 10.3 percent and Las Vegas at 9.9 percent. Finally, Las Vegas's seasonally adjusted employment has been ticking down gradually each month since May 2024. Only Seattle and Portland follow this new trend in Las Vegas of downward trending employment

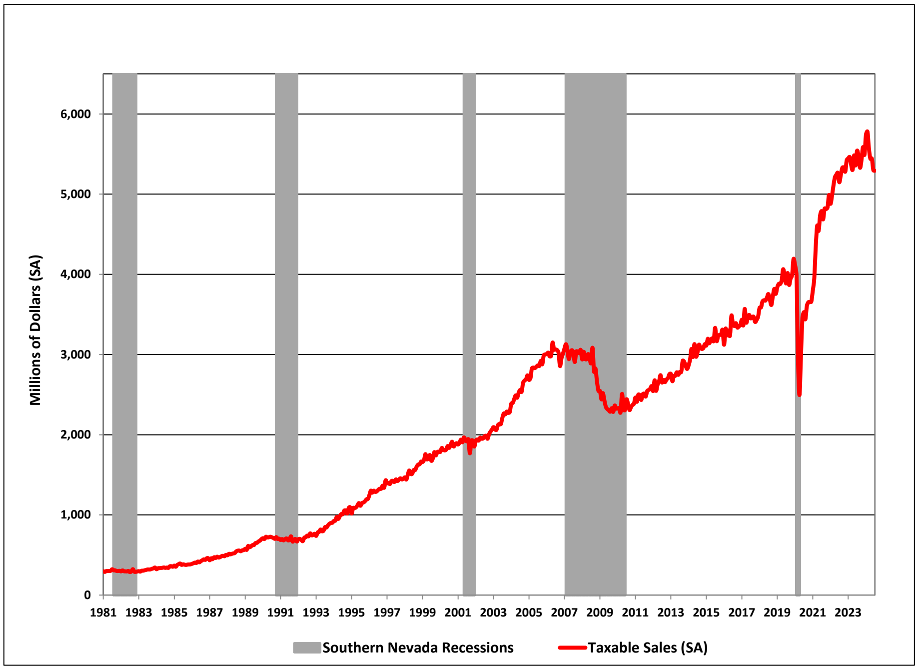
Figure 4. Las Vegas Nonfarm Employment Dives Off the High Board Compared to Other Western Metro Areas with More Robust Bounce Back



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

Clark County taxable sales exhibited a strong upward movement (See Figure 5) until the pandemic struck. Taxable sales in 2019 were 7.3 percent higher than in 2018. Increased visitor spending and rising personal income in Las Vegas contributed to the strong gains in taxable sales. Nonetheless, the most recent trend of 5.9 percent annual growth rate in taxable sales in the post-Great Recession (i.e., 2011 through 2019) falls below the trend in the 1980s of 9.7 percent, the 1990s of 10.8 percent, and the 2000s before the Great Recession of 8.4 percent. In December 2019, taxable sales exceeded its prior monthly peak by 33.2 percent. The onset of the pandemic recession caused a fall from the monthly peak of $4.194 billion in taxable sales in December 2019 to a trough of $2.495 billion in April 2020, or a decrease of 40.5 percent. Now, seasonally adjusted taxable sales have recovered to 38.0 percent above its December 2019 peak, reaching $5.780 billion in February 2024, a local peak. Since then, taxable sales has fallen.

Figure 5. Clark County Taxable Sales Recovered to well above Its Prior Recent Peak

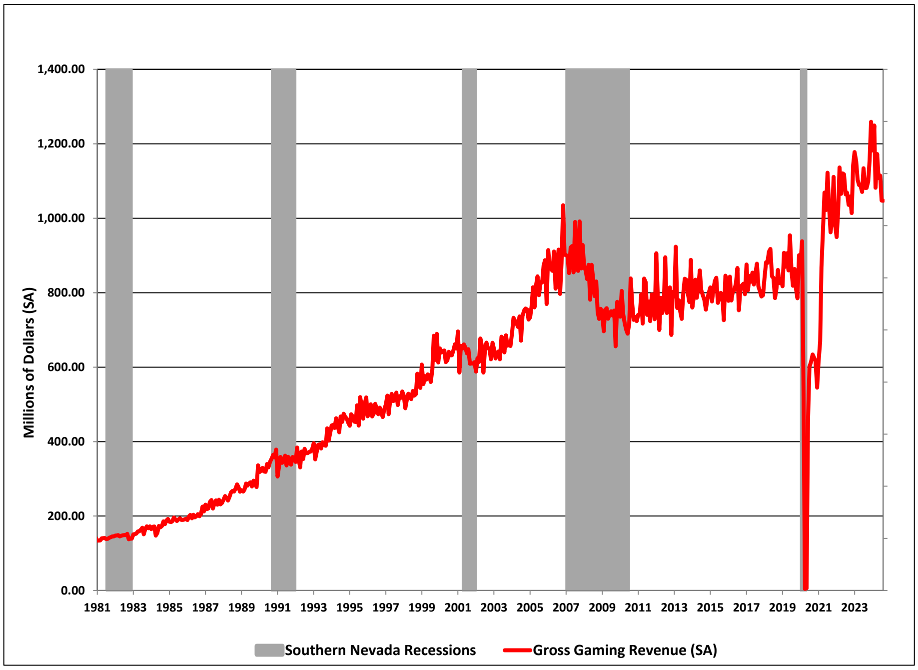


Sources: Nevada Department of Taxation; Center for Business and Economic Research, UNLV

Gross gaming revenue showed much volatility before the pandemic recession and that volatility increased sharply after the Great Recession (See Figure 6). Note that even though we seasonally adjust gross gaming revenue, it still experiences high volatility, suggesting that volatility is both seasonal and cyclical. The volatility of the change in gross gaming revenue from month to month after the Great Recession is nearly three times as large as before the Great Recession. In addition, the drop in gross gaming revenue during the Great Recession dwarfs the prior recessions in the chart.

Seasonally adjusted gross gaming revenue rose by an average of 8.8 percent per year in the 1980s, 7.9 percent in the 1990s, and 5.8 percent in the 2000s before the Great Recession. Since 2011, gross gaming revenue increased by only 1.7 percent per year through 2019. In February 2020, monthly gross gaming revenue equaled a seasonally adjusted $938.2 million. Then, pandemic brought it down to 4.2 million in April 2020, an unprecedented decline of 99.6 percent. Gaming revenue accelerated upward, paused in the latter half of 2020 and early in 2021, and then boomeranged upward again over the summer and fall only to see it stabilize or move downward from November 2021 through January 2022. In addition, gross gaming revenue fell by 37.7 percent between 2019 and 2020 and then rebounded upward by 77.0 and 12.0 percent between 2020 and 2021 and between 2021 and 2022, respectively. Finally, at the most recent value in August 2024, monthly gross gaming revenue had recovered to exceed its prior peak by 11.6percent. but it has fallen since February 2024 .

Figure 6. Clark County Gross Gaming Revenue Hit the Floor and Now Exceeds Its Prior Peak

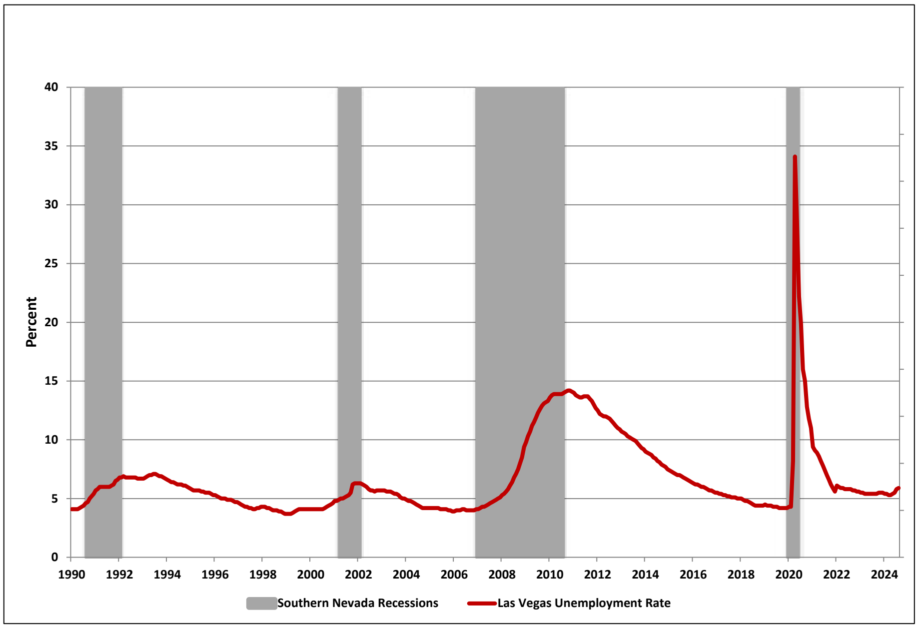


Sources: Nevada Gaming Control Board; Center for Business and Economic Research, UNLV

Because of employment growth, the Las Vegas metropolitan area unemployment rate fell sharply prior to the pandemic recession. The seasonally adjusted Las Vegas unemployment rate reached 4.3 percent in February 2020 (See Figure 7). (It bottomed at 4.2 percent from August to December 2019.) The unemployment rate then rose dramatically in response to the pandemic recession, peaking at 34.1 percent in April 2020 and busting significantly above the previous peak unemployment rate of 14.2 percent in late 2010.

The unemployment rate had improved dramatically from the depths of the Great Recession before getting blindsided by the pandemic recession and blowing up the number of unemployed to just over one in three individuals. Since April 2020, the unemployment rate has plunged to eliminate more than 94.6 percent of the initial spike in the unemployment rate due to the pandemic recession, standing at 5.9 percent in August 2024 compared to 4.3 percent in February 2020. This rate has varied around 5.5 percent since January 2023, which would appear to be the new equilibrium despite the strong job market. That is, the local unemployment rate stands a little less than two percentage points higher than the national rate of 4.1 percent in September 2024.

Figure 7. Las Vegas Unemployment Rate Rises Dramatically during Pandemic Recession and then Drops Significantly to around 5.5 Percent



Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation, Center for Business and Economic Research, UNLV

Why does the Las Vegas (Nevada) unemployment rates appear stuck at between one-and-a-half to two percentage points above the national unemployment rate? Economists identify characteristics of employment that involve macroeconomic and microeconomic issues. That is, traditional Keynesian unemployment comes from insufficient total demand needed to keep the economy operating at the "Goldilocks" level of output, the economy running neither too hot nor too cold, but just right. Such unemployment responds to monetary and fiscal policy stimulus. The less traditional unemployment reflects structural imbalances in the various labor markets. That is, certain job skills experience excess supplies while other job skills experience excess demand. Relative wages will fall in the markets with excess supply and rise in markets with excess demand, signaling market participants to move from excess supply to excess demand markets.

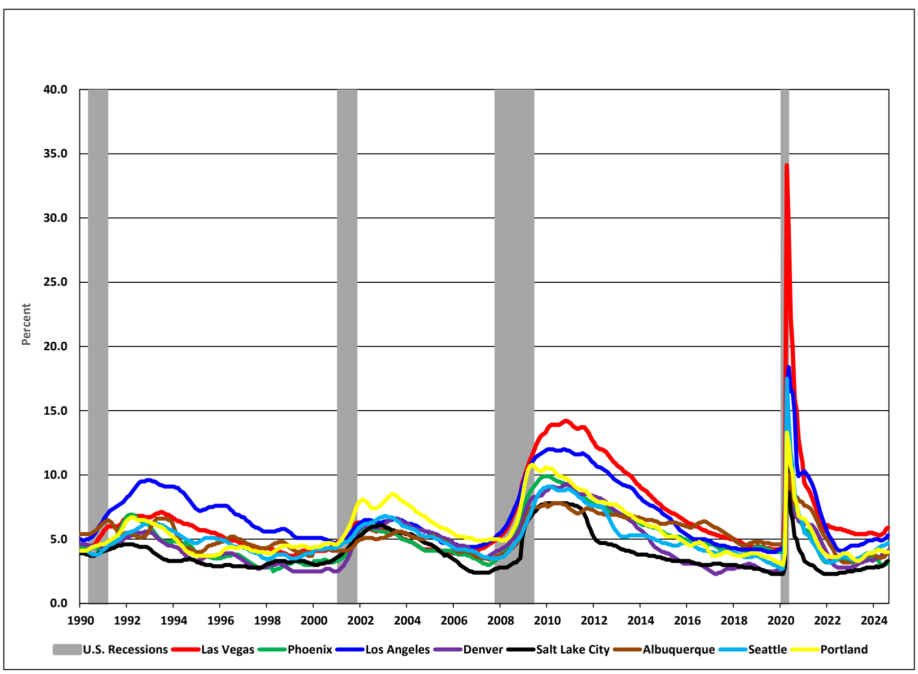
The pandemic recession with the large amounts of support to workers who were out of work allowed workers to accumulate significant saving that permitted them to pursue longer job searches. Many workers reconsidered their options about career paths. Many sought to change that occupation by switching sectors such as moving from leisure and hospitality to transportation and warehousing. This created structural problems. CBER believes that the gap between the national and local unemployment rates reflects the degree of structural problems that still exist in the various labor markets in the Las Vegas metro area.

Structural unemployment does not respond well to macroeconomic policy. Rather, it responds to microeconomic policies to reduce the costs of moving between sectors such as work-force development and training programs and reducing or eliminating unnecessary barriers to movement into a new career path such as "unnecessary" bureaucratic paperwork to obtain a license or certification.

Comparing Las Vegas's unemployment rate to other Western metropolitan areas (See Figure 8), we note that the advent of the pandemic recession saw Las Vegas shoot way ahead of other metro areas with its unemployment rate peaking at 34.1 percent in April 2020 followed by Los Angeles and Seattle at 16.7 and 17.5 percent, respectively. Since April, the unemployment rates in the metro areas generally have fallen. Albuquerque and Salt Lake City posted the lowest unemployment rates in April 2020 at 9.4 and 10.6 percent, respectively. After the pandemic runup of the unemployment rates, Las Vegas reached its lowest unemployment rate of 5.3 percent in March and April 2024. Salt Lake City posted the lowest unemployment rate of all metro areas at 2.3 percent from November 2021 through June 2022, gradually ticking up to 3.3 percent in August 2024. In fact, Salt Lake City's unemployment rate was below 3.0 percent since June 2021 through May 2024. Phoenix also posted a low unemployment rate of 3.0 percent on May and June 2024, ending at 3.1 percent in August 2024. Nearest to Las Vegas in its unemployment rate is Los Angeles with a rate of 5.3 percent in August 2024.

Stay tuned as the unemployment rates in recent years are still adjusting with each new monthly report. That is, the pandemic created issues for the collection of data and revisions in the original posted numbers still continue. For example, the state and metro-area unemployment rate numbers have risen by significant amounts compared to those reported in our last Outlook Report in November 2023.

Figure 8. Las Vegas Unemployment Rate Shoots Way Ahead of Other Metro Areas during the Pandemic Recession



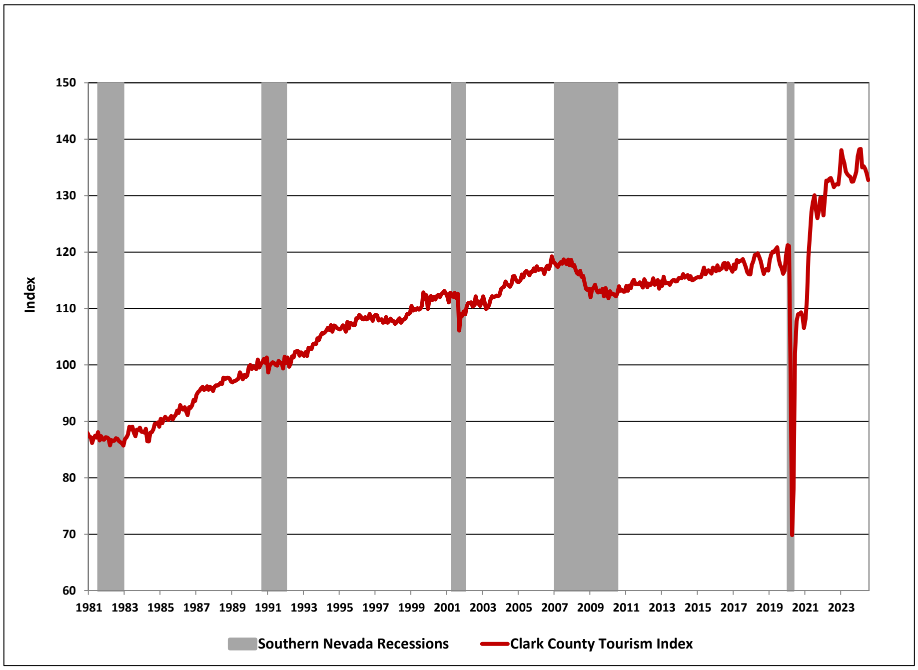
Sources: U.S. Bureau of Labor Statistics; Nevada Department of Employment, Training and Rehabilitation

3. Tourism and Gaming

Activity in the tourism sector, as measured by CBER's Clark County Tourism Index, showed a slow upward trend since the Great Recession (See Figure 9). The index includes three components—Clark County gross gaming revenue, the Las Vegas hotel/motel occupancy rate, and total passengers enplaned/deplaned at Harry Reid International Airport. As before, we employ the Department of Commerce method to construct this and the other indexes that follow in this section. The recessions correspond to the benchmark series for Las Vegas, the Southern Nevada Coincident Index. That is, the recession bars match those shown in Figure 1 above for the Southern Nevada Coincident Index.

Compared to the other recessions in Las Vegas, except for the 9/11 drop, the Great Recession caused a sharp drop in the Clark County Tourism Index.

Figure 9. Clark County Tourism Index Also Fell Off a Skyscraper and Now Exceeds Its Prior Peak

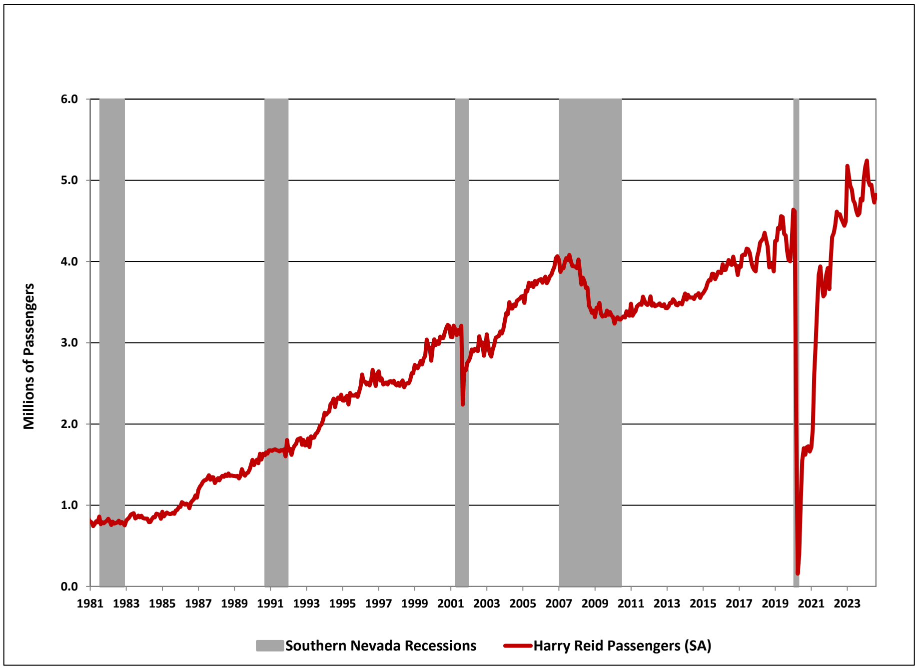


Sources: Nevada Gaming Control Board; Las Vegas Convention and Visitors Authority; Harry Reid International Airport; Center for Business and Economic Research, UNLV

The recovery from the bottom of the Great Recession was slow, but steady. The indexes volatility increased during the latter half or 2017 up to the onset of the pandemic recession and continues after the recovery from this recession in the middle of 2021.. The pandemic recession dropped the index from its February 2020 level by 42.3 percent in April 2020 and since then, the index has recovered to exceed its pre-pandemic recession peak by 9.6 percent. CBER's tourism index after slowing since July 2020 showed new signs of life in February and May 2021. Slowing occurred again from July 2021 through January 2022 and then renewed upward movement from January 2022 through March, when a slowing occurred once again. In sum, we see the same "broken-V" recovery. Finally, CBER's tourism index fell from May through October 2022, but increased in November, December, and January 2023, as did the Southern Nevada Coincident Index. Note that the index has fallen 4.2 percent since February 2024.

Harry Reid Airport passenger volume grew after the Great Recession (See Figure 10), generating 2.6 and 4.0 percent growth rates in 2018 and 2019, respectively, using annual totals. Harry Reid Airport passengers reached a recent peak of 4.6 million seasonally adjusted passengers in May 2019. Passenger volume fell from this peak to a trough of 4.0 million passengers in October and November 2019 before recovering to 4.6 million seasonally adjusted passengers in February 2020 just before the pandemic recession began. Then, the pandemic recession devastated passengers, dropping the numbers to 157 thousand passengers in April 2020 or a loss of 96.6 percent. Since then, passenger volume has recovered to 1.9 percent above its prior peak in February 2020, albeit with declining passenger volume each month since February 2024. Finally, note that the volatility of passenger volume increased in the years leading up to the pandemic recession and continued in the years following this recession, as we saw for the overall tourism index discussed above.

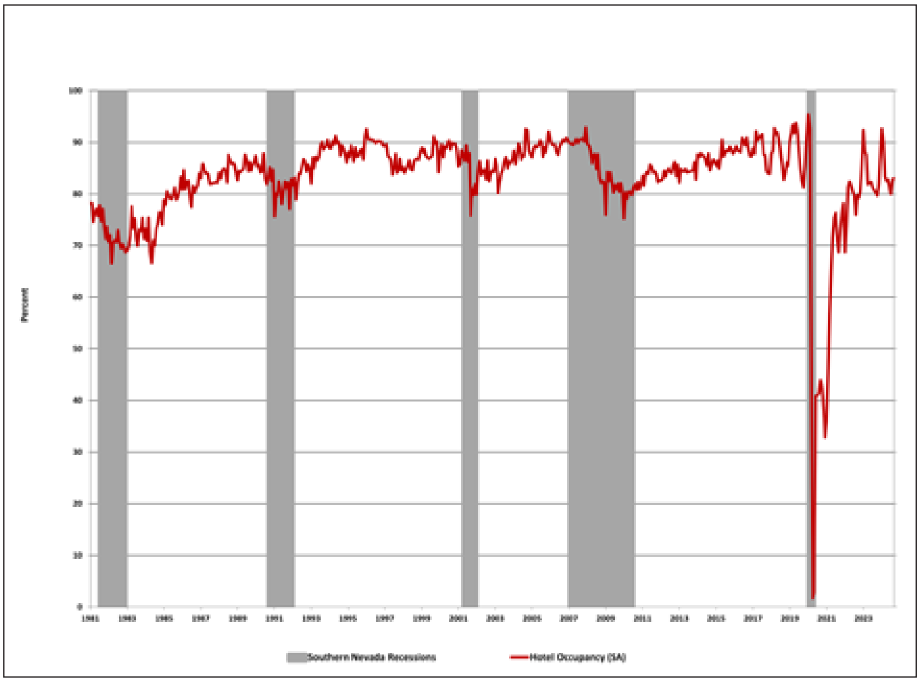
Figure 10. Harry Reid Airport Passengers Collapsed to Near Zero and Recovered All of Its Loses Recently



Sources:Harry Reid International Airport; Center for Business and Economic Research, UNLV

As shown in Figure 11, the seasonally adjusted Clark County hotel occupancy rate steadily increased since the end of the Great Recession. That is, since January 2014, it ran between 85 and 90 percent, rising slowly from 85 toward 90 percent, and ending in July 2017 at just over 90 percent. Then, the occupancy rate slipped into the upper 80s. The October 1 tragedy exerted some effect, which becomes more important as one drills down from the Southern Nevada market eventually to the Mandalay property itself. Renovation of hotel rooms also affected the occupancy rate negatively. The occupancy rate, however, exceeded 90 percent in January through June 2019 and fell just below 90 percent through November 2019. Occupancy rates rose above 90 percent in December into the new year. With the arrival of the pandemic recession, occupancy rates dropped off a cliff, falling from 95.3 percent in January 2020 to 1.7 percent in April 2020, or a loss of 93.6 percentage points. Since then, occupancy has recovered to 92.4 percent in January 2023. Since then, the occupancy rate generally remained between 80 and 83 percent through the present, although it falls below its prior peak of 92.8 in January 2024.

Figure 11. Clark County Hotel/Motel Occupancy Took a Vacation and Has Just Recovered to Near Its Prior Pre-Pandemic Peak

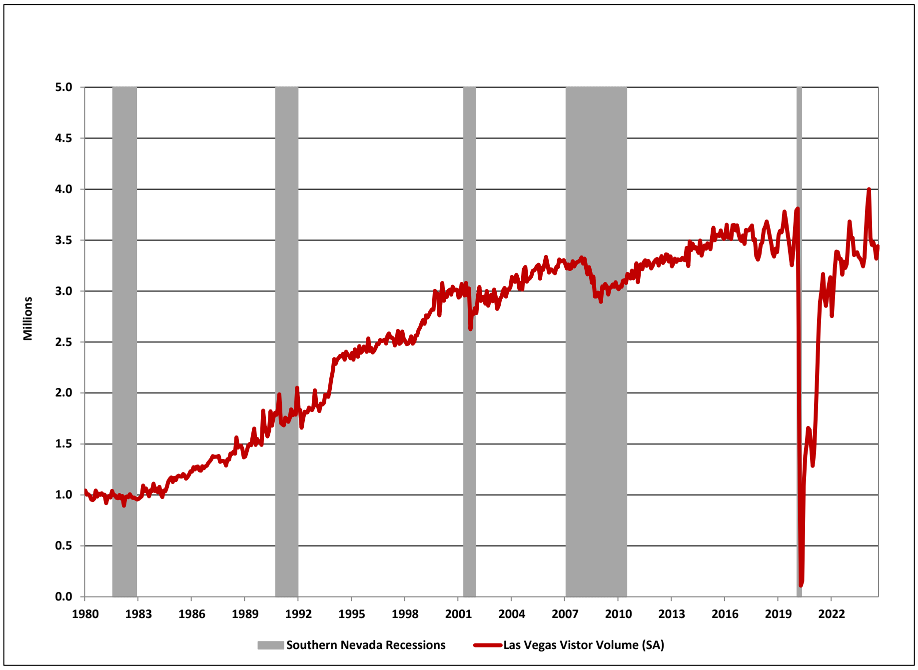


Sources:Las Vegas Convention and Visitors Authority; Center for Business and Economic Research, UNLV

After the Great Recession, Las Vegas visitor volume continued to reach new records (See Figure 12), although the pace began to slow in the latter half of 2015. Since it bottomed out in January 2009, visitor volume had risen by 32.5 percent through February 2020. Visitor volume fell by 1.8 and 0.2 percent in 2017 and 2018, and then rose by 1.2 percent in 2019. In other words, we can say that visitor volume experienced a period of softness in those three years. The October 1 event played a role in that softness, but other factors, such as the large number of rooms out of inventory for refurbishment, also played a role in restraining visitor volume.

Then, 2020 debuted with the arrival of the pandemic in Southern Nevada. Visitor volume reached 3.8 million seasonally adjusted visitors in February 2020 and fell to 109 thousand by April 2020, a 97.1 percent drop. Since then, visitors have recovered to fall short of its prior peak by 9.7 percent. The current year, 2024, experienced a local peak in February of 3.9 million visitors and followed a downward drift in seasonally adjusted visitor volume from 3.9 million in February to 3.4 million in August.

Figure 12. Las Vegas Visitor Volume Fell Dramatically in Pandemic Recession and Has Recently Slightly Exceeded Its Prior Peak



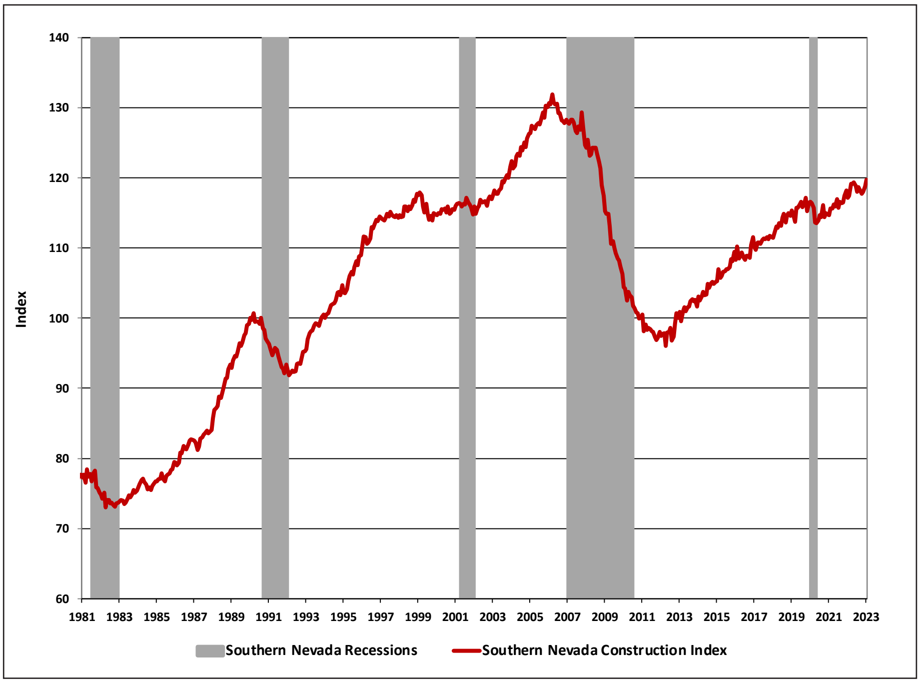
Sources:Las Vegas Convention and Visitors Authority; Center for Business and Economic Research, UNLV

Visitor volume hit 42.0 and 42.5 million people in 2018 and 2019, respectively. Then, the pandemic cut visitor volume for 2020 to 19.4 million, a 54.4 percent reduction in visitor volume. Recovery has occurred with 32.0, 38.8, and 41.0 million visitors in 2021, 2022, and 2023, respectively.

4. Construction Activity

Activity in the construction sector, as measured by CBER's Clark County Construction Index, shows a significant upward trend since its trough in April 2012 (See Figure 13), rising by a total of 28.5 percent from April 2012 to February 2020. Since February 2020 through June 2024, the index rose by 8.1 percent. The index includes two components—Clark County residential permits and Clark County construction employment. The recessions, once again, correspond to the benchmark series for Las Vegas, the Southern Nevada Coincident Index.

Figure 13. Pandemic Recession Did Not Significantly Affect the Clark County Construction Index

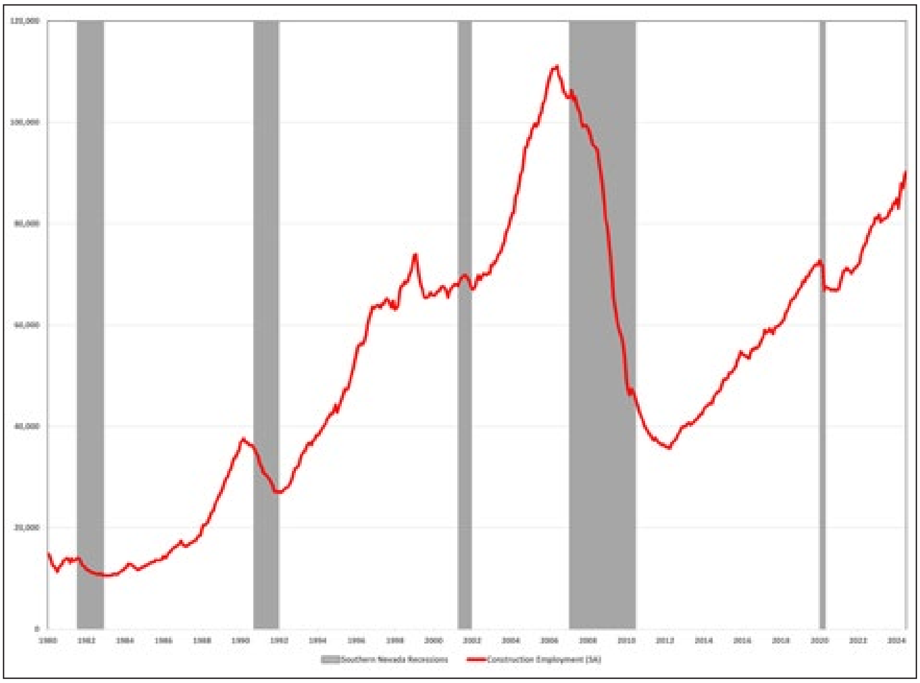


Sources:Various Permitting Agencies; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor; Center for Business and Economic Research, UNLV

Compared to the other recessions in Las Vegas, the Great Recession caused a dramatic drop in the Clark County Construction Index. The recovery from the bottom of the Great Recession was delayed for some time but eventually took off since its trough. Of course, we do not expect to see a return to the heights of the index during the boom in construction activity, leading up to the financial crisis and the Great Recession. Since the Governor declared construction activity an essential during the pandemic, the construction sector was largely unaffected by the pandemic recession in the sense of no shutdowns or lockouts.

Focusing on one component, construction employment peaked at a seasonally adjusted 111.1 thousand jobs in June 2006 (See Figure 14). The collapse of the real estate market sent construction employment plunging to a seasonally adjusted level around 35.7 thousand jobs in April 2012. Construction employment recovered significantly to a seasonally adjusted level of 72.8 thousand jobs in January 2020. A construction boom engulfed the Las Vegas economy in recent years with a few high-profile, large projects, including the recently completed Raider's stadium, Resorts World, the expansion of the Las Vegas Convention Center, the Sphere, the Fontainebleau, and other projects in the queue. New home construction activity was also healthy until recent months. Employment in the construction sector stood at 90.3 thousand jobs in July 2024.

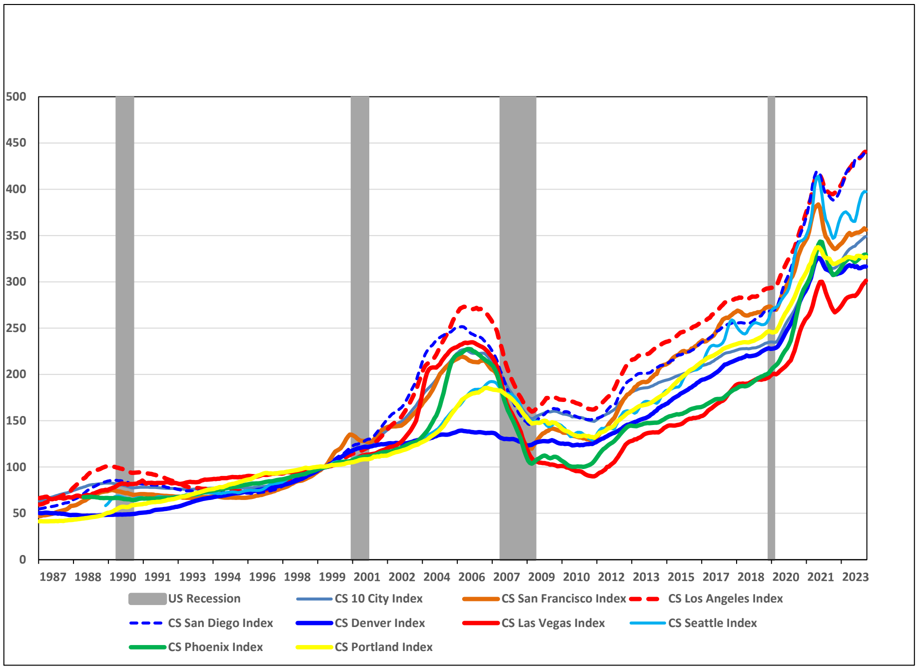
Figure 14. Clark County Construction Employment Was Not Affected Too Much by the Pandemic Recession (Thousands)



Sources:Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor; Center for Business and Economic Research, UNLV

Housing Market. The Southern Nevada housing market experienced extreme stress after the Great Recession. Although housing markets are local in nature, we can see that a common trend links them across the metropolitan areas in the West (See Figure 15). This figure relates the S&P CoreLogic Case-Shiller housing price indexes for eight Western metro areas, including Las Vegas. This cross metro area linkages come from the builders who move between metro housing markets in response to changing relative construction costs and market prices as well as home buyers who can move between metro areas to take advantage of price differences. For example, Southern California residents who retire contemplate selling their home, take their equity, and buy a home in Las Vegas, Phoenix, or Salt Lake City.

Figure 15. Las Vegas Case-Shiller Western Metro Housing Price Indexes began to Soften in Mid-2022 and Now Turn Up, Again



Sources:S&P Dow Jones; National Bureau of Economic Research; Center for Business and Economic Research, UNLV

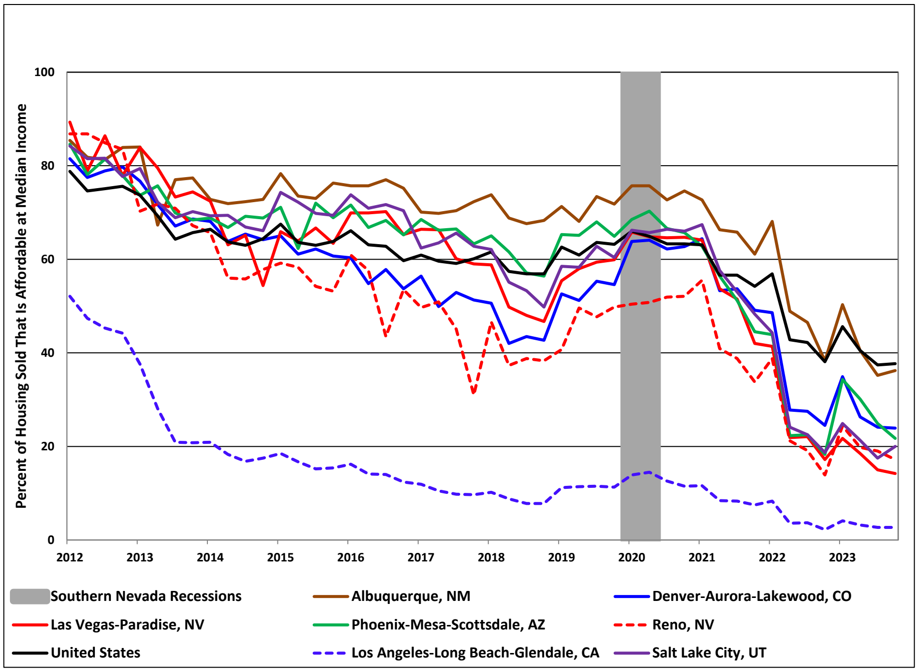
We see that although not fully synchronized, the cyclical movements in the housing price indexes move together strongly. Las Vegas and Phoenix, not surprisingly, peaked, and troughed at about the same level. Las Vegas and Phoenix have experienced some of the fastest growth in recent years, but we observe that this faster growth reflected a catching up with other Western metro areas. Currently, Las Vegas holds the position at the bottom of the ranking of housing price indexes, a position that it has held nearly continually since the end of the Great Recession. Phoenix more recently moved away from Las Vegas and linked up with Denver and the 10-City index. Home prices in all the metro areas considered in Figure 15 peaked in mid-2022 and uniformly declined through early 2023. Then, the Case-Shiller indexes reversed themselves and have been rising through the present. Some of the metro areas (i.e., Los Angeles, 6.2; San Diego, 5.6; and Las Vegas, 0,5) now exceed their prior peaks in mid-2022, where the numbers indicate the percentage above the 2022 peak. The remaining metro areas (San Francisco, 6.2; Denver, 2.7; Seattle, 2.2; Phoenix, 4.1; and Portland, 2.7) still fall below the 2022 peak, where the numbers indicate the percentage below that peak.

The bursting of the housing bubble in late 2006 led to the Great Recession. The declining home prices after the collapse of the bubble made homes more affordable. The NAHB/Wells Fargo housing opportunity index measures the affordability of homes. The index captures the percentage of homes sold that are affordable to households at the median income. Therefore, in a balanced housing market in terms of affordability, the median income household should be able to purchase the median-priced home in the market. Thus, the index would equal 50 percent. Values above (below) 50 percent indicate a more (less) affordable housing market, on average.

The housing opportunity index (See Figure 16) shows that housing affordability in the West took a tumble over the post-pandemic recession years. Las Vegas fell from 64.7 percent in 2020Q4 to 14.2 percent in 2023Q4 converging on and slightly passing Reno's affordability, falling from 52.1 to 17.2 percent over the same period. The other Western metro areas as well as the national index also experienced declining affordability over 2022 and 2023. The California market, as represented by the

Los Angeles metropolitan area in this Figure, trended downward more quickly than the U.S. index. Los Angeles stands at an opportunity index of 2.7 percent in 2023Q4, much below the U.S. index of 37.7 percent. The metro area with the most affordable home prices is Albuquerque at 36.2 percent, which nearly matches the national affordability index.

Figure 16. NAHB/Wells Fargo Housing Opportunity Index Better in Mountain West Than in California—Homes Become Less Affordable in 2021-2022

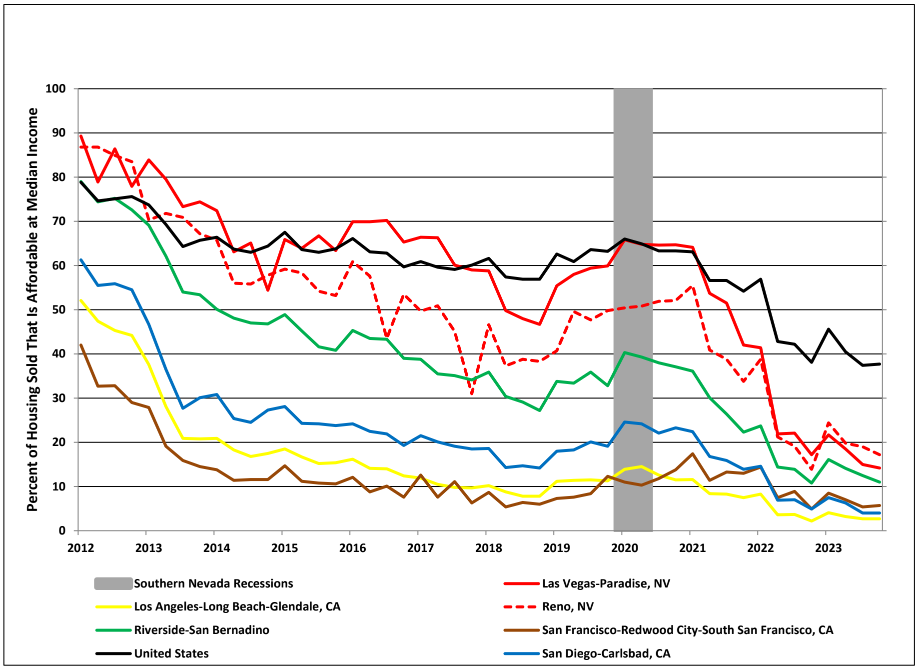


Sources:National Association of Home Builders (NAHB), Wells Fargo, Core Logic, HUD, Federal Housing Finance Agency; Economics and Housing Policy Group; and National Bureau of Economic Research

Figure 17 shows the relationship between the housing opportunity index of Las Vegas and Reno to a number of California metropolitan areas. The metropolitan areas near the Pacific Ocean—Los Angeles, San Diego, and San Francisco—experience much lower affordability than Las Vegas (or Reno). As mentioned above, Los Angeles experiences the lowest affordability in 2023Q4 at 2.7 percent. That is, only 2.7 percent of the homes on the market can be purchased by the household with the median income. San Diego and San Francisco stand at second and third, respectively, at 4.0 and 5.7 percent affordability indexes. As a rule of thumb, metropolitan areas away from the Pacific Ocean—for ensample, Riverside—experience somewhat better affordability, but still achieve a lower affordability than Las Vegas. Riverside's affordability index in 2023Q4 was 11.0 percent.

Moreover, that spread as you move away from the coast has been squeezed down as home prices rocketed higher. The housing boom of the last few years, where we see double-digit price increases (See Figure 15), contributed to a downward movement in housing affordability, even though the Fed kept interest rates near zero until the March 2022 FOMC meeting. Now, the Fed's aggressive policy to raise interest rates and slow inflation will also contribute significantly to lower housing affordability going forward, at least until the Fed decides that "enough is enough."

Figure 17. NAHB/Wells Fargo Housing Opportunity Index: Las Vegas and Reno Converged toward California in 2021-2022



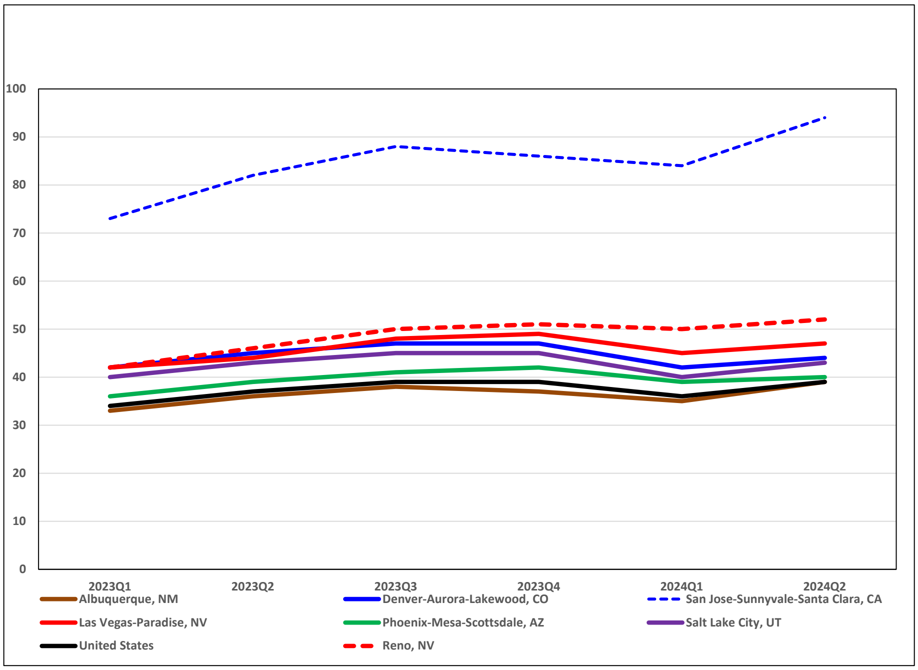
Sources:National Association of Home Builders (NAHB), Wells Fargo, Core Logic, HUD, Federal Housing Finance Agency; Economics and Housing Policy Group; and National Bureau of Economic Research

The indexes for Las Vegas and Reno tracked each other closely in the early part of Figures 16 and 17. Reno's index dropped significantly relative to Las Vegas beginning in 2015, reflecting the diversification of Reno's economy with the location of the battery factory and related industries in the TRIC. Reno's affordability index troughed at 31.0 percent in 2017Q4 (Las Vegas was 59.0 percent) and rose to 55.5 percent (Las Vegas was 64.1 percent) in 2021Q1.

Unfortunately, the NAHB/Wells Fargo group ceased reporting the housing opportunity index with 2023Q4. They now publish in its place the Cost of Housing Index (CHI). This index measures the fraction of a typical household's income needed to cover the mortgage payment on a median-priced home in the metro area. For example, a Cost of Housing Index equal to 35 percent means a typical household in the metro area needs 35 percent of its pre-tax income to cover the mortgage payment for a median-priced home.

We only have access to data for the Cost of Housing Index for 2023Q1 to 2024Q2. Figure 18 shows the Cost of Housing Indexes for Mountain West metro areas as well as San Jose, California. (It appears that the NABE/Wells Fargo project does not yet calculate the index for Los Angeles.) In 2024Q4, the indexes cluster for the Mountain West metro areas in the 40 to 50 percent range, having risen from the 33 to 45 percent range in 2023Q1. San Jose is an outlier at 94 percent with nearly all of households' income allocated to mortgage payments. Albuquerque exhibits a lower Cost of Housing Index than every other metro area in the chart as well as the national Index, except when it matches the national Index in 2024Q2. Note that Reno posts a higher Cost of Housing Index than Las Vegas in every quarter except 2023Q1 when the Index vales are the same..

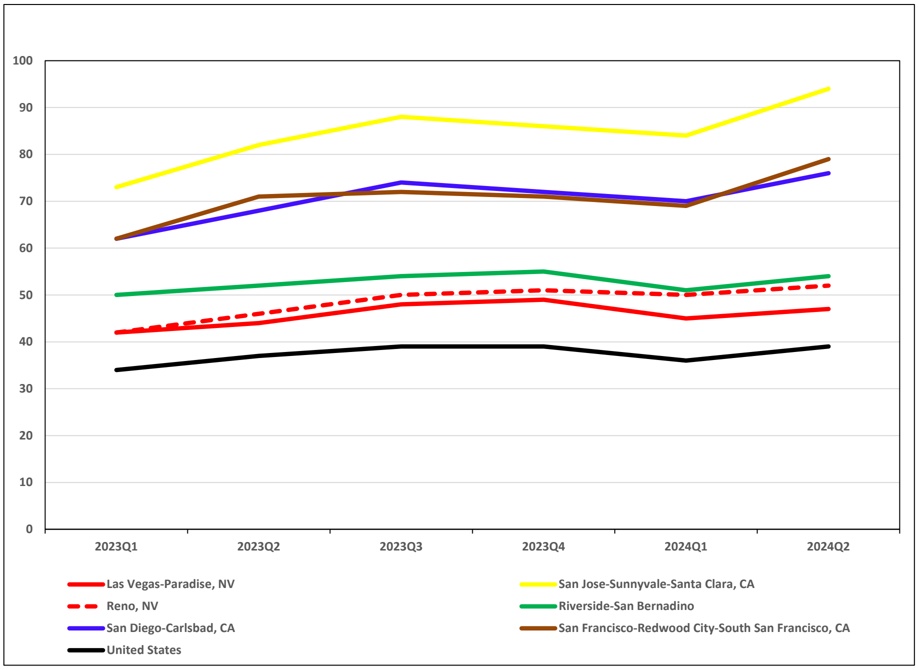
Figure 18. NAHB/Wells Fargo Cost of Housing Index, 2023Q1 to 2024Q2, Mountain West



Sources:National Association of Home Builders (NAHB), Wells Fargo, Housing & Urban Development Department (HUD), Federal Home Loan Mortgage Corporation (Freddie Mac), National Association of Realtors, and the Bureau of the Census

Figure 19 considers California indexes as well as Las Vegas and Reno. We observe more dispersion in the Cost of Housing Indexes across the metro areas, where it remains true, however, that housing costs rise as the metro area is closer to the Pacific Ocean. Reno posts a slightly higher Cost of Housing Index than Las Vegas, which flips the conclusion for 2023 with respect to the former Housing Opportunity Index. That is in 2023, Reno's housing opportunity index indicated more affordable housing in Reno compared to Las Vegas at the margin. For the Cost of Housing Index in 2023, Las Vegas posted a lower cost than Reno. In either case, the percentages are close.

Figure 19. NAHB/Wells Fargo Cost of Housing Index, 2023Q1 to 2024Q2, California

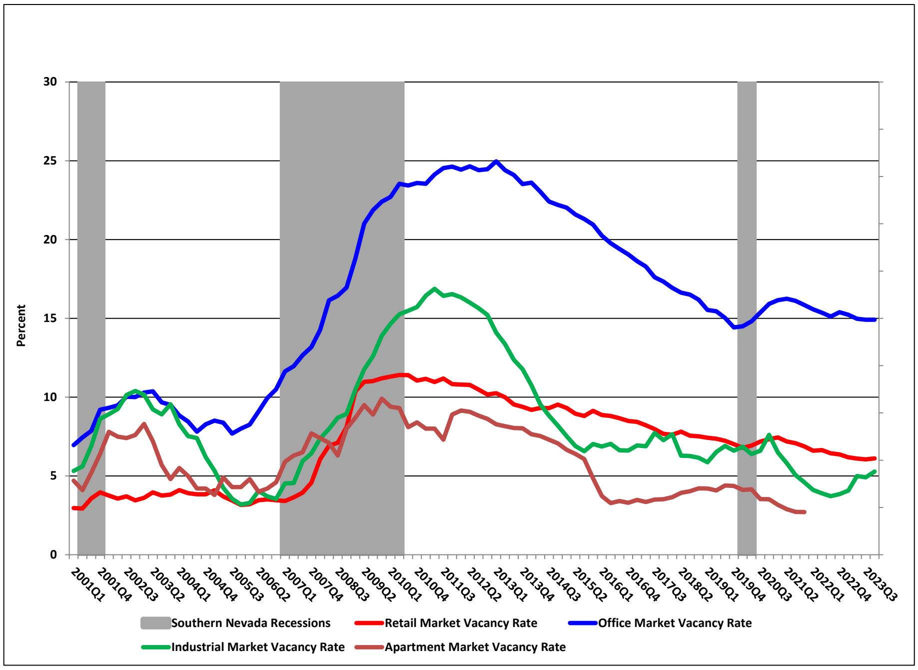


Sources:National Association of Home Builders (NAHB), Wells Fargo, Housing & Urban Development Department (HUD), Federal Home Loan Mortgage Corporation (Freddie Mac), National Association of Realtors, and the Bureau of the Census

In sum, the metro areas in the West have experienced a significant change in housing affordability over the last two years. Most metro areas have gone from affordable housing to much less affordable housing, with California leading the less-affordable bandwagon. We also note a general decline in the affordability index between 2012Q1 and 2018Q4. Then, after falling in 2018Q4, the indexes emerged higher in 2019 and 2020, which largely reflected the declining home mortgage interest rates. In 2019Q4,

Commercial Real Estate Market. The Las Vegas commercial vacancy rates show a dramatic rise during and after the Great Recession (See Figure 20), especially for the office and industrial markets. Moreover, the Great Recession may have caused permanent changes in the normal vacancy rates in some categories. The office-market vacancy rate remains the highest across the three categories, lingering above the 15.0 percent level after falling slightly below 15.0 percent briefly just prior to the pandemic recession and then rose above 15.0 percent immediately after the pandemic recession, where it remains through the present. The retail-market vacancy rate jumped above 15.0 percent immediately after the Great Recession and has fallen slowly since its end, reaching a vacancy rate of around 7.0 percent in recent years.

Figure 20. Pandemic Recession Only Affected the Las Vegas Commercial Office Market Vacancy Rate



Source: Myresearcher.com, Applied Analysis; National Bureau of Economic Research

The industrial-market vacancy rate rose and then fell quickly into and out of the Great Recession. Before it reached 5.0 percent, it plateaued around 6 percent in 2020 and 2021, before falling into the 3-to-5-percent range in late 2021 to 2023. The apartment vacancy rate rose somewhat during the Great Recession and trended downward since its peak of 9.9 percent in the fourth quarter of 2009. Its downward trend stabilized at around 3.5 percent beginning in 2016. More recently, the apartment vacancy rate fell to just under 3.0 percent, which has stimulated significant apartment construction in the valley. Interestingly, the pandemic recession has not yet affected these vacancies rates in perceptible ways except for the office market where the vacancy rate is still higher than its pre-pandemic levels, reflecting the new attitudes about remote work..

5. Southern Nevada Business Confidence Index

CBER's Southern Nevada Business Confidence Index (See Figure 21) also took a big hit from the pandemic recession, dropping to 72.3 in the second quarter of 2020 from 136.3 in 2020Q1.[2] Note that the first quarter of 2020 number reflects the expectation of Southern Nevada business leaders in December 2019. The index quickly recovered for the third quarter (expectations in June 2020) to 115.3 before dropping in the fourth quarter (expectations in September 2020) to 99.8 as the local (and national) economy seemed to enter a holding pattern. The index value in the second quarter of 2020, however, exceeded the index value during much of the Great Recession.

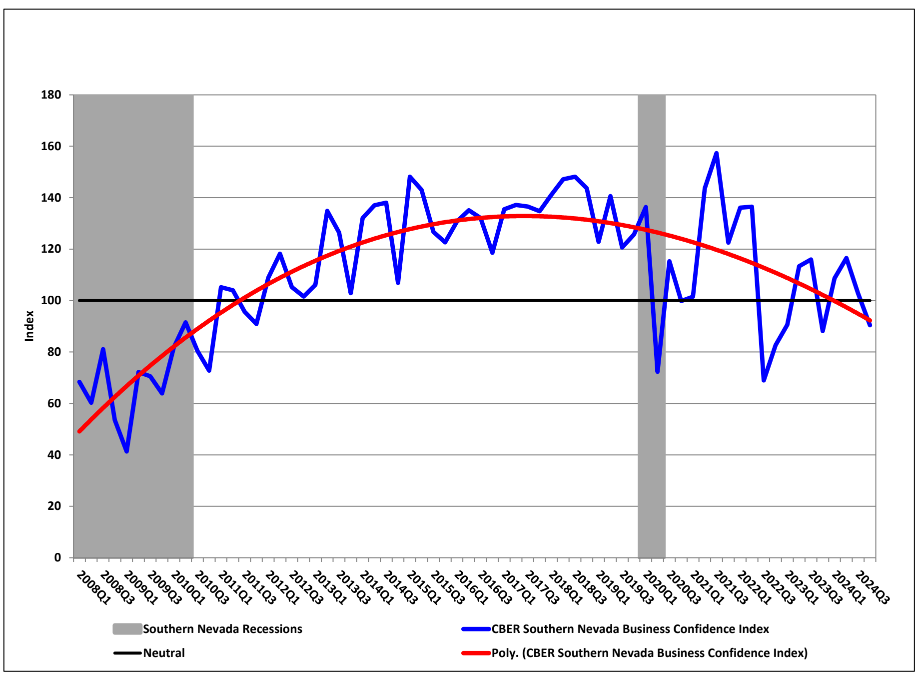
The index continued to pause in the first quarter of 2021 (expectations in December 2020) at 101.5 and then regained upward momentum in the second and third quarters of 2021 (expectations in March and June 2021) to 143.7 and 157.3, respectively. The first quarter of 2022 posted a level of 136.1, signaling continued confidence in the Las Vegas economy in contrast to the national economy. The

2 The index equals the average of its five components. Each component is calculated as follows: add 100 to the difference between the percentages of positive and negative responses. A value above (below) 100 means more (less) respondents optimistic than pessimistic.

reemergence of inflation as an important policy issue as well as the Fed's stated aggressive stance vis a vis stopping inflation in its tracks caused the index to plummet to 68.9 in 2022Q3 (expectations in June 2022) down from 136.5 in 2022Q2 (expectations in March 2022). Some recovery occurred in 2022Q4and 2023Q1 (expectations in September and December 2022) to 82.7 and 90.6, respectively. With the expectations for the second quarter of 2023 (expectations in March), the index jumped above the 100 level to 113.4, remaining above 100 at 116.0 in 2023Q3. The most recent moves took the index below 100, once again, to 88.2 in 2023Q4. And then above 100 in the first three quarters of 2024 before dropping to 90,4 in 2024Q4 (expectations in September 2024). In Figure 21, the red line represents a trend for the raw index numbers.

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 the fourth quarter 2024, expectations on sales, profits, hiring, capital spending, and economic conditions proved largely negative at 94.2, 91.3, 73.9, 91.3, and 101.4, respectively. Only overall economic conditions eked out a net positive score.

Figure 21. CBER Southern Nevada Business Confidence Index Follows a Downward Trend since the Pandemic Recession



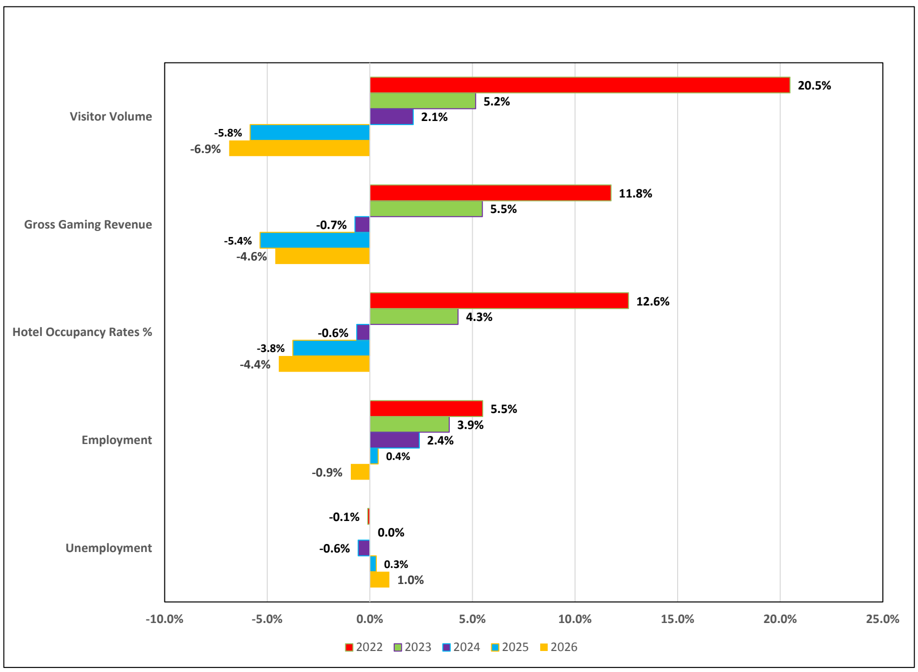
Source: Center for Business and Economic Research, UNLV

6. Southern Nevada Economic Outlook for 2024-2026

Forecasting in the current environment proved a difficult task. We forecast large swings in some variables that we track (See Figures 22 and 23). In addition, the confidence bounds on some of our forecasts are large, indicating the lack of precision in our forecasts. Northern Nevada fared better so far because Washoe County has achieved more diversification of its economy to date than Clark County. For example, one way to measure economic diversification is with the Hachman Index by GDP or employment. A score closer to 100 means that you are more diversified and a score of 0 means that everyone works in the same industry. According to CBER's calculations based U.S. Census County Business Patterns employment data, Reno (Washoe County) scored 90 while Clark County scored 68.

Absent a new wave of a coronavirus variant, a financial crisis leading to a recession, assuming a resolution of the war in Ukraine, and limited global reach from the Israeli Hamas conflict, the Southern Nevada economy and the local tourism sector will experience slow contraction in much economic activity in the rest of 2024, 2025, and 2026 (See Figure 22). Visitor volume, gross gaming revenue, hotel occupancy, and employment follow similar patterns of rebound from the pandemic recession in 2022 and slowing in that growth in 2023 as well as further reductions in growth, and even negative growth, in 2024, 2025, and 2026. Gross gaming revenue over time will likely return to pre-pandemic trends as savings and discretionary income return to where they were before the pandemic, adjusted for higher wages and inflation. The unemployment rate is forecast to follow a similar mirror image pattern of a decrease in 2023 followed by small negative and then positive changes in 2024, 2025, and 2026.

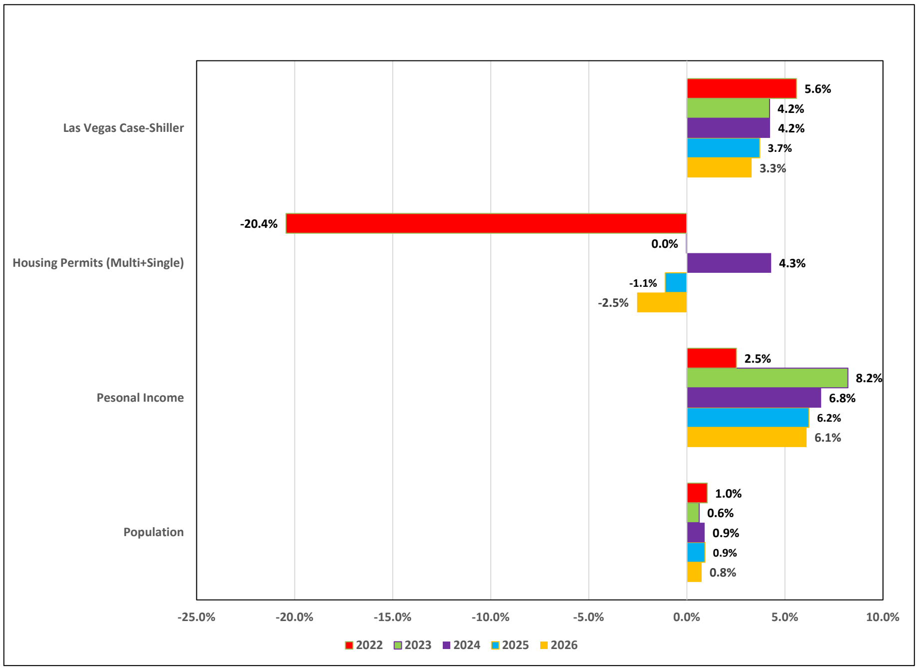
Figure 22. Southern Nevada Economic Outlook, Part 1



Sources:Las Vegas Convention and Visitors Authority; Nevada Gaming Control Board; Nevada Department of Employment, Training and Rehabilitation; U.S. Bureau of Labor Statistics; Center for Business and Economic Research, UNLV

CBER forecasts continued increases in home prices , albeit at reduced rates of increase, through the end of our forecasting horizon in 2026. (See Figure 23). At the same time, housing permits will show considerable volatility as the housing market adjusts to changing circumstances in Southern Nevada

Figure 23. Southern Nevada Economic Outlook, Part 2

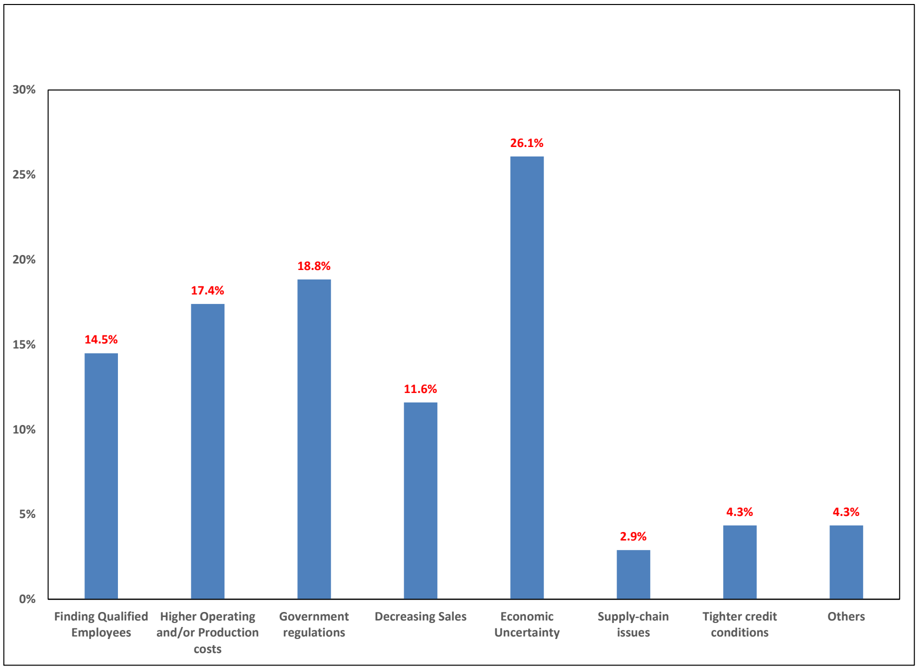


Sources:U.S. Bureau of Economic Analysis; Standard & Poor's; U.S. Census Bureau; Center for Business and Economic Research, UNLV

Housing permits took a large negative hit in 2022 and bounced back with a small gain in 2023. CBER projects an increase in 2024 and then decreases in 2025 and 2026. The Case-Shiller house price index for Las Vegas rose substantially in 2022 and somewhat lower rate in 2023. CBER forecasts a growth rate 4.2 percent in 2024 followed by farther decreases in the growth rate of Case-Shiller home prices in 2025 and 2026. Personal income and population growth all generally remain positive, largely unaffected by the pandemic recession. **CBER predicts that personal income will increase by 6.8, 6.2, and 6.1 percent while population will increase by 0.9, 0.9, and 0.8 percent in 2024, 2025, and 2026, respectively.** Visitor volume, gross gaming revenue, employment, and the unemployment rate are responding to the business cycle whereas housing permits and personal income are responding to our continued population growth in Southern Nevada.

The CBER Quarterly Business Confidence Survey of September 2024 asked Southern Nevada business leaders "What is the most important challenge that you face in your business today?" (See Figure 24). The top response (26.1 percent) was economic uncertainty followed by government regulation (18.8 percent). This is the highest response rate that this survey has received for government regulation. In the last survey, it came in tied for fifth place. "Economic uncertainty," the top choice, came in tied for third in our last survey while the top choice in the last survey, "finding qualified employees" came in fourth in the current survey.

Figure 24. What is the most important challenge that you face in your business today? (September 2024)



Source: CBER Quarterly Business Confidence Survey.

7. Risks to the Southern Nevada Economic Outlook

The pandemic recession blew through Southern Nevada with devastating consequences. The initial recovery looked a lot like a "V-shaped" recovery as those parts of the economy that could operate remotely, did so. As the months passed by, however, the recovery process operated in a stop-go pattern that was linked to the movements of the virus in our local economy as significantly affected by government interventions and executive orders. While the charts shown in this report look like a "broken-V" shaped recovery, the charts hide the asymmetric distribution of the pain in the various sectors. That is, we need to distinguish between the "haves" and "have-nots" in the economy. The "haves" received fewer negative effects from the pandemic recession than the "have-nots." Such movements suggest a worsening of the income and wealth distributions in the economy. As such, what analysts call a "K-shaped" recovery lies behind the scenes. The Cares Act and its supplements attenuated the severity of this K-shaped effect by supplementing the incomes of many of the have-nots. That is, the federal government stepped up quickly to provide additional netting in the social safety nets already in place.

Southern Nevada faced more difficulties than most other metro areas. Our reliance on sectors of the economy that require face-to-face interactions proved fatal to economic activity. That is, the leisure and hospitality sector and the food and drinking sector, which comprise a significant share of the Southern Nevada economy, place much higher risk on the economy for negative outcomes when a pandemic buffets the economy, as we found out in the initial stages of the pandemic recession.

Northern Nevada made significant progress on diversifying its economy, unlike Southern Nevada, though bright spots exist in the South with significant investments in clean energy manufacturing, infrastructure, and supply chains. Thus, the pandemic recession severely affected the Las Vegas metropolitan area when we shut down our economy, except for essential activities. Southern Nevada attempts to replicate Northern Nevada's success with the giga factory (Tesla battery factory) in the

Tahoe-Reno Industrial Complex (TRI Center). We have had some bright spots, if slow to materialize, such as the Haas Automation Inc., investment of a large manufacturing facility in Henderson as well as Air Liquide's investment in one of the world's largest hydrogen production facilities in the Apex site in North Las Vegas. Estimates suggest that the Haas's investment will employ 1,400 Nevadans over 5 years. Startup housing company, Boxabl, has also experienced rapid success with their manufacturing facility in North Las Vegas.

But the Las Vegas metro area remains highly specialized in the leisure and hospitality business, which suffered so much during the pandemic recession. When times are good, we also tend to feel it more than others. This can lead to virtuous or vicious circles. That is, as the farmers say, "make hay while the sun shines" and lay up protection for the bad times. With further professional sporting events coming to Las Vegas more upside than downside exists. The Formula 1 Grand Prix and Super Bowl set records in Las Vegas.

We now know more about what a world with higher interest rates looks like and whether inflation has a long tail. The largess of national fiscal policy and the extremely loose monetary policy instituted as policy responses to the pandemic recession boosted demand greatly and led to our recent policy battle with high inflation, but low unemployment. No chance exists in CBER's view of deflationary fiscal policy action. Given the Congress, such policy moves are clearly off the table. Though legislation passed over the past two years will start to kick-in when it comes to infrastructure investment, manufacturing, and supply chains. Thus, the entire burden of addressing our economic problems falls to the Fed and the FOMC. The Fed and FOMC turned on a dime in March 2022 and began implementing an aggressive monetary policy to move the inflation rate back to the Fed's 2-percent target inflation rate.

Other microeconomic factors make the Fed's current task more difficult. Since the pandemic led to a stop-go recovery process, supply chains were disrupted and shifts in underlying supplies aggravated the shifts in demand for goods and then back to services. Inventory management faced huge swings in activity from too many to too few stocks of inventories, helping to drive prices higher in the process. Then, the outbreak of war raging in Eastern Europe because of the Russian invasion of Ukraine and followed by other geopolitical events in the middle east and the subsequent wars with Israel increase the uncertainty surrounding all forecasts especially around trade and prices. Shortages of crude oil and gas as well as basic food grains also pushed up prices for those commodities, though a recession or slowdown could soften that demand. Forecasters are still trying to assess the scenarios about the future developments because of this global uncertainty.

As more time passes, more information will provide a better platform from which to make better forecasts, particularly over the short-term (1-6 months) where we at CBER have the greatest uncertainty about the direction of the economy At the moment, forecasters like CBER still explore alternative scenarios, such as what a world with stubbornly high inflation (above the Fed's 2-percent long-run target) looks like.

The major risk to the Southern Nevada economy at the current moment in time is what happens to consumer spending in the coming months. After an estimated $2.0 trillion of $2.1 trillion in excess savings having been spent, do we see consumers pull back as their credit bills and other debt payments eat away at wage gains? Credit Card debt reached over $1 trillion dollars last year, but delinquency rates are relatively modest. What about the estimated the refinancing of large amounts of corporate and commercial debt taken on with extremely low interest rates that is also expected to occur in the coming 12-18 months? Do we finally see the wind taken out of the job market?

We did raise similar concerns in the last two last fall Outlooks and were proven wrong. Increasingly, the economic activity does not seem sustainable, though the strong job market, easing inflation, and the appetite of the American consumer keep proving us wrong. As with any forecast, it's just that, a forecast, and we will see what happens.

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