

San Joaquin Valley **BUSINESS FORECAST**

Emerging Trends in the
Valley's Economy

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SAN JOAQUIN VALLEY BUSINESS FORECAST 2023

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Beginning with the first quarter of 2023, several indicators now signal a more serious contraction in the overall economic activity despite tightening financial conditions.

Regional bank runs have halted the extension of loans. Federal funds rate driven short-term rates are rising to the highest levels since 2007. There is an inverted and very steep yield curve, exponentially increasing nonaccruals in community bank assets, a 28-year low mortgage demand and purchasing managers index below the expansion threshold of 50 points. Gradually rising unemployment rates are just a few of the indicators of this slowdown if rates are not cut by year end.

The impact of these indicators on the Valley economy is disproportionate, given that the majority of the workforce is unskilled. Certain categories of employment such as retail trade, mainly comprised of unskilled workers and thus most vulnerable, are already reporting declines in employment sooner than other categories. Retail employment in the Valley declined by 1.57 percent in the fourth quarter of 2022, fell another 1.65 percent in the first quarter of 2023 and is expected to decline 1.18 percent in the coming 12-month period on a yearly basis. This decline in retail trade employment is the first time since the end of the pandemic months. Other categories of employment, such as government, which generally lags, are either expected to decline or perform below the long-term benchmark growth rates. Employment in financial activities declined by 0.49 percent in 2022 and will likely decline further in the next 12-month interval before beginning to improve in the second half of 2024. Farm-related Valley wholesale trade employment performed better than other categories, posting 3.42 percent growth in 2022. Similarly, employment in education and health services employment grew by 4.32 percent in 2022 and is not expected to register declines in the two-year interval.

One of the most vulnerable categories of employment to interest rates, Valley leisure and hospitality services employment, grew 9.70 percent in 2022 and is expected stagnate, growing at a trivial rate of 0.47 percent. Another farm-related category, trade, transportation and utilities employment, grew by 3.69 percent in 2022. The yearly growth in this category is expected to be 1.48 percent less than the sample average of 2.08 percent. Construction employment grew by 7.75 percent in 2022, reflecting the visible activity throughout the Valley. Growth is expected to slow to 1.09 percent during the 2023-2024 interval. Manufacturing employment grew by 1.65 percent in 2022 but is expected to decline in the coming months by 0.21 percent, mirrored by the fall of the purchasing managers index below a value of 50. Given the continued stance of the Federal Reserve to fight inflation despite bank runs and tightening financial conditions, employment levels are expected mostly to decline from the second half of 2023 to the first half of 2024 and start to improve from the second half of 2024 to the first half of 2025.

Valley building permits increased by 12.30 percent in 2022, but a decline of 2.55 percent is expected in the coming months. Due to the tight labor market, there were no foreclosures in 2022. Freddie Mac's 30-year rates began to increase steeply, reaching rates seen in 2007. The average yearly inflation rate stubbornly remained at 8 percent in 2022 and is likely to gradually drop to 3.26 percent by the end the first half of 2024. Valley home values increased by 21.65 percent in 2022, but they are expected to fall below the sample average and hover around 3.73 percent before beginning to rise again in the second half of 2024.

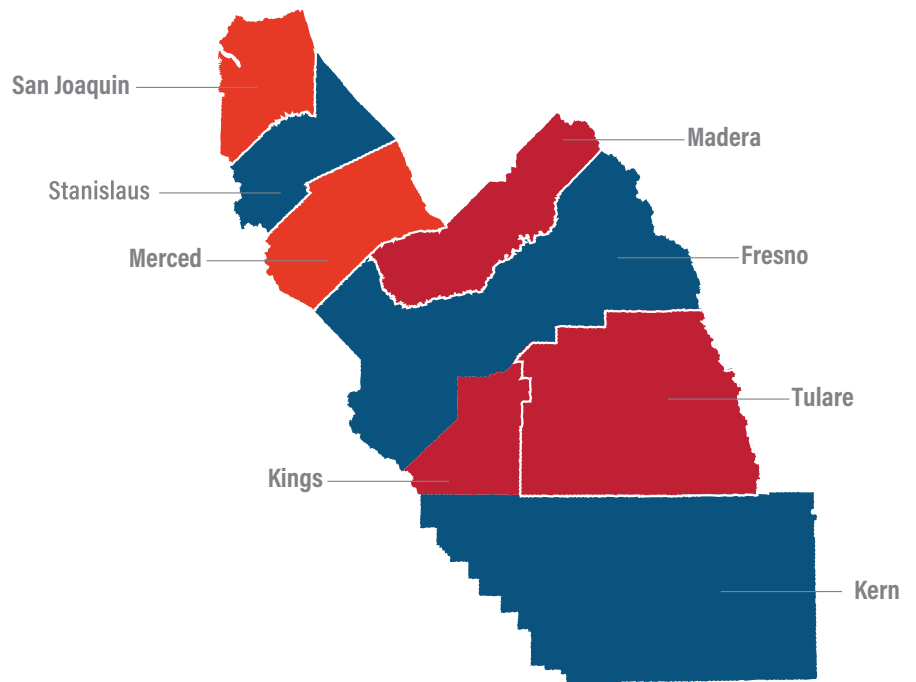
Wages grew by 3.46 percent in 2022, resulting in a significant decline in purchasing power of 4.54 percent when compared to the inflation rate of 8 percent. This decline in real wages was the highest observed since 2001. Another concern is that the current inflation rate is at 5 percent as of May 2023, with the prime rate at 8 percent. This means that the real rate of interest is actually at 3 percent. As inflation continues to fall, the real rate of interest will increase further, putting additional strain on an already financially tightened economy. Average weekly wages are expected to grow 2.59 percent, below the sample average of 3.27 percent. The decision by OPEC to cut output in April will prolong inflation. Due to persistently high inflation, further loss in purchasing power for Valley consumers is expected in the coming 12-month period.

Since our last report, the recent bank runs have worsened the banking sector. It was noted at that time banks had extended fewer loans than they took in deposit. Unfortunately, this situation did not improve in 2023. Valley community banks total deposits grew by 8.67 percent in 2022, approximately half the rate of 2021 and in line with the long-term benchmark rate of 8.92 percent. In contrast, there was no additional growth in net loans and leases in 2022. The growth rate of 1.30 percent was nonexistent when compared to the sample average of 7.70 percent. This marked a sharp reversal from the 11.36 percent growth in 2021. The imbalance between total deposits and loans is concerning, as it resembles the pattern observed during the 2008 recession, indicating that Valley banks have halted loan extensions. In 2022, Valley bank nonaccruals experienced a significant upward trend, creating further concerns for the coming months. The average of community bank assets in default for 30 to 89 days and assets in default 90-plus days average was higher in 2022 compared to 2021. As projected, nonaccruals began to rise much faster in 2022 as the Federal Reserve continued to hike rates and drastically tighten the money supply.

As mentioned in our previous report, there are several precautionary measures Valley businesses and residents can take, including deleveraging and remaining in cash, opting to rent rather than own, buying bonds if an investment is an option, choosing fixed-rate loans instead of flexible ones and if laid off, considering going to school to increase skills by obtaining student loans, and taking advantage of introductory credit cards that offer no interest charges for 18 months or longer.

Time series data span from January 2001 to May 2023. The two-year medium-term forecasts are from June 2023 to June 2025. Forecasting a range rather than a point provides a more realistic assessment of future values. When actual numbers fall within the upper and lower forecast bands, the forecast becomes accurate. The remainder of this report is structured as follows: Section B analyzes labor market conditions for the San Joaquin Valley. The region's real estate market, based on eight Metropolitan Statistical Areas, are examined in Section C. Section D reviews trends in prices and inflation. Indicators from local banking and capital markets are examined in Section E. Section F concludes.

San Joaquin Valley

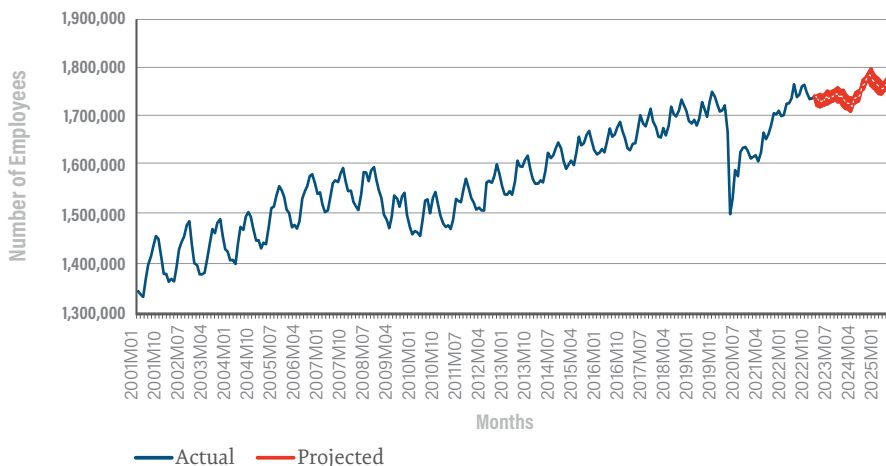




Total employment grew for all counties in 2022 at rates much faster than their sample averages. Fresno County reported growth at 5.46 percent, followed by Tulare County at 5.52 percent. Madera County registered the third fastest growth at 4.97 percent. Merced County grew by 4.77 percent in 2022, followed by San Joaquin County, which grew by 4.45 percent. Kern County reported 4.39 percent growth in 2022. Among the eight counties of the San Joaquin Valley, Kings and Stanislaus counties had the slowest growth in total employment at 4.04 and 3.50 percent, respectively. These rates, however, were still significantly higher than their long-term benchmark growth rates.

The only category of employment that declined in 2022 was financial services employment. Surprisingly, information employment, which had been declining over the years, experienced significant growth in 2022. Government employment, which accounts for 20 percent of Valley's employment, posted positive growth in 2022 after being in negative territory. Farm-related Valley wholesale trade employment grew more than three times the sample average despite the drought. The fastest growing category of employment in the Valley was leisure and hospitality services. Valley total employment grew at an average yearly

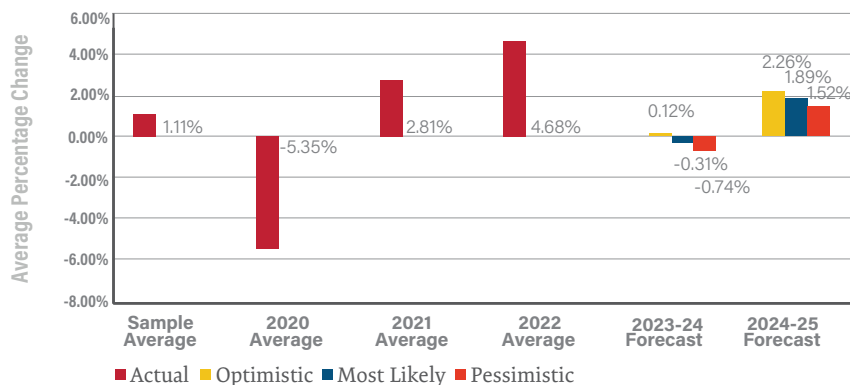
Total Employment



rate of 4.68 percent in 2022, which was more than four times the long-term benchmark growth of 1.11 percent. However, given the projected decline in growth rates, Valley total employment is expected to remain below 1.8 million until the third quarter of 2025. Projections indicate a decline in growth of 0.31 percent from the second half of 2023 to the first half of 2024, followed by a recovery of 1.89 percent from the second half of 2024 to the first half of 2025. ▼

TOTAL EMPLOYMENT GREW FOR ALL COUNTIES IN 2022 AT RATES MUCH FASTER THAN THEIR SAMPLE AVERAGES.

Total Employment: Historical vs. Projected Average Yearly Growth



One reliable leading indicator, the consumer confidence index, began to fall in the fourth quarter of 2021 and stabilized around a value of 100 in the first quarter of 2023. The main cause of the decline was ongoing rate hikes by the Federal Reserve. Confidence in consumer spending is expected to fall further in the coming months as the unemployment rate continues to increase and banks stop extending loans due to tightening financial conditions. ▶

Unlike the previous quarters, the Labor Force Participation Rate began showing a clear sign of increase following the first quarter of 2021 and steadied from the second half of 2022. However, employment growth, has been steeply falling during the same period, indicating that the two series will intersect in the months ahead. The tendency to switch directions in both series is now acts as a new leading indicator for our region, signaling a contraction. ▶

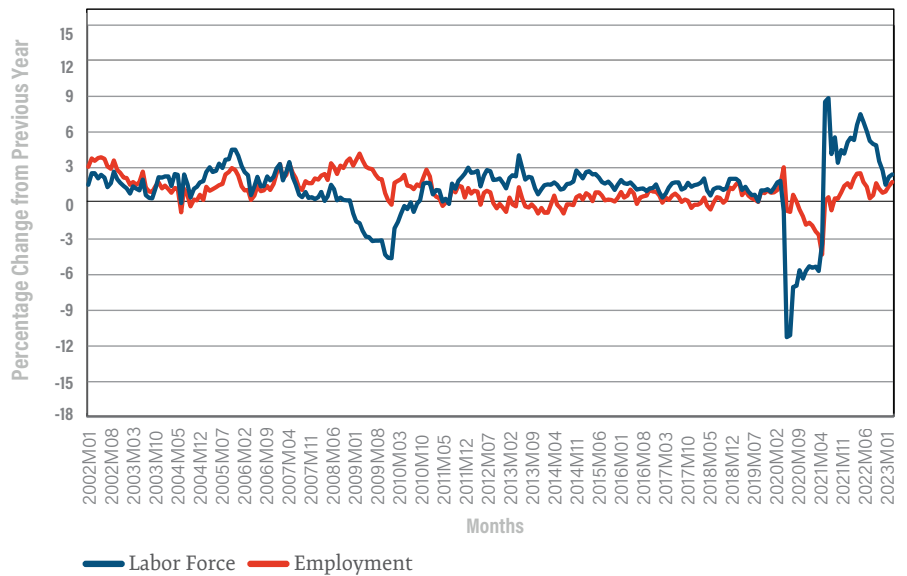
Employment growth in the Valley and the state is now falling steeply since the second half of 2021, with both series displaying identical growth rates for the first time since the first quarter of 2020. Another period when this pattern was observed was during the Great Recession. Thus, this pattern is highly indicative of declining economic activity in the months ahead.

The third and fourth quarters of 2022 posted positive growth after two consecutive quarters of negative real economic growth in the first and second quarters of 2022, which corresponded to an official recession. However, in the first quarter of 2023, most economic indicators have begun flashing warning signs, indicating a high likelihood of a deepening contraction. Projections suggest that an expansion will occur in 2024. It is worth noting that the ▶ unemployment rate reached its lowest point in January 2023 but has been rising in the subsequent months. Normally, the unemployment rate for the Valley reaches its seasonal minimum in the third quarter of each year.

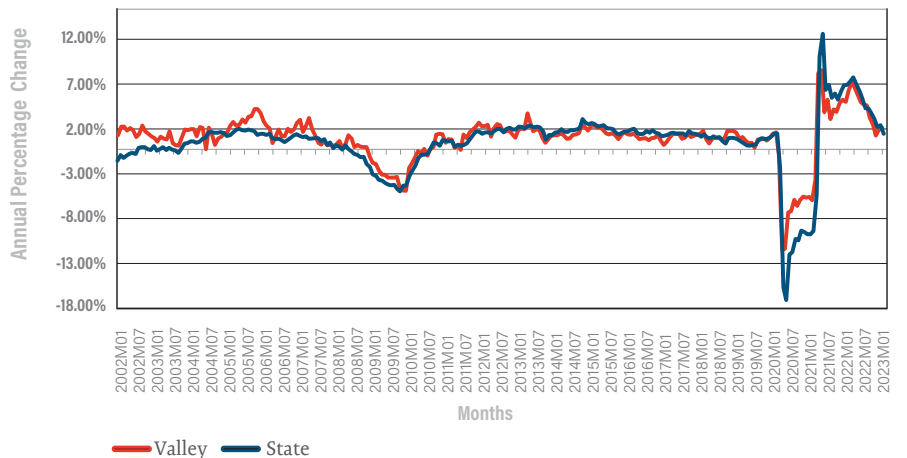
Consumer Confidence Index



Labor Force vs. Employment Growth



Employment Growth: State vs. San Joaquin Valley





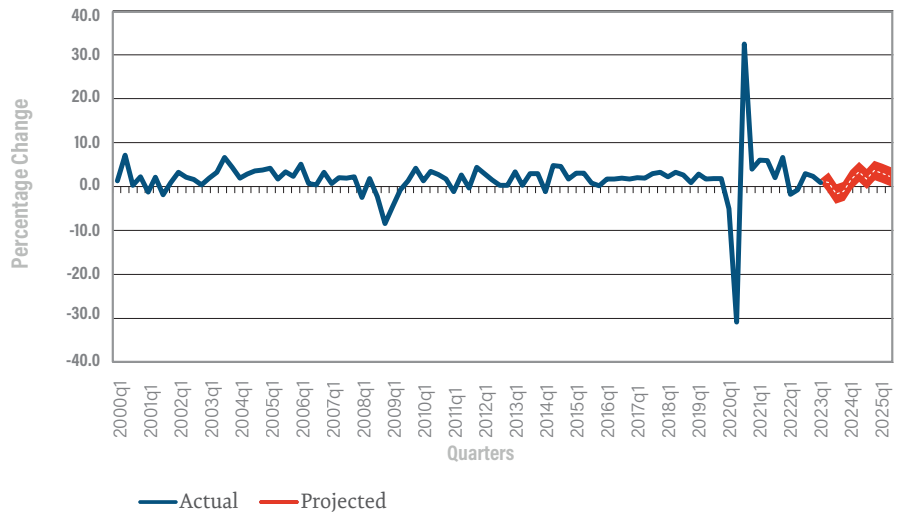
Valley education and health services employment grew by 2.57 percent in 2022, returning to its robust trend in the post-pandemic months, which resembled the pre-pandemic trend. The delays in school openings and the focus on hiring priorities on COVID-19 healthcare workers undoubtedly caused a lag in employment recovery in this category compared to other employment categories in the Valley. Nevertheless, there seems to be a persistent discrepancy of 2,000 workers before and after the pandemic. ▶

Employment levels in the education and health services sectors are projected to exceed 255,000 by the end first half of 2025. This employment category is considered robust compared to other categories and is less likely to be affected by economic downturns.

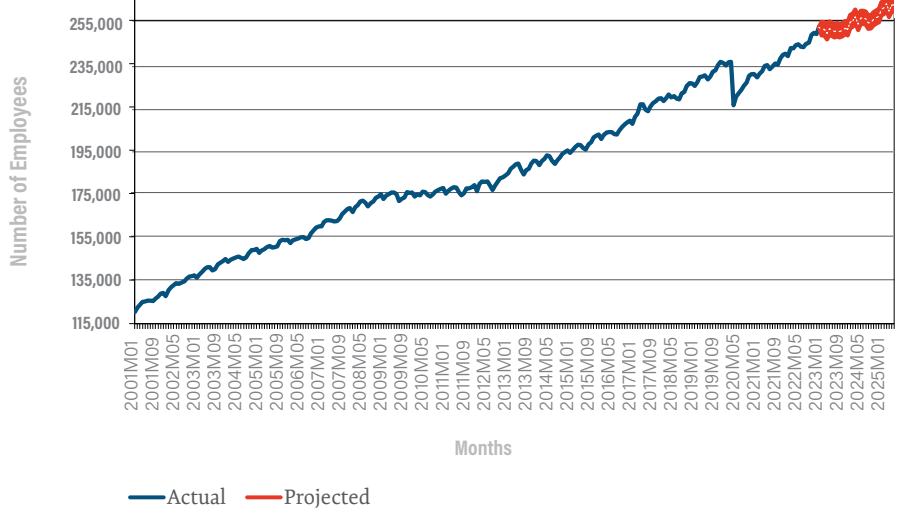
Even during the 2008 recession, education and health services employment continued to grow. Projections indicate an average yearly growth rate of 2.09 percent from the second half of 2023 to the first half of 2024, and slightly faster rate of 2.33 percent from the second half of 2024 to the first half of 2025. ▶

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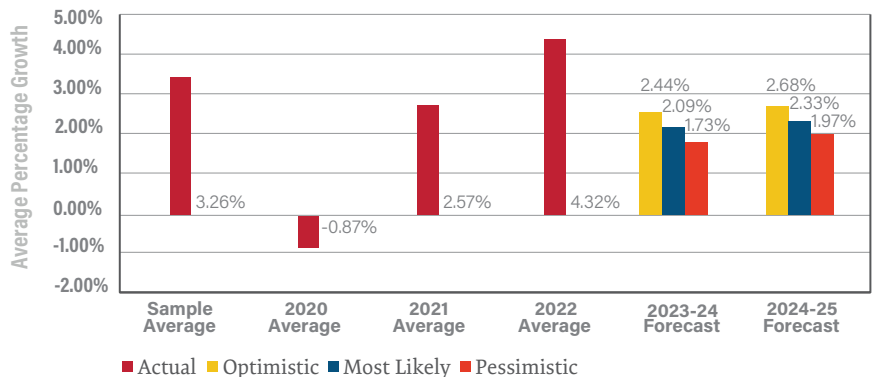
U.S. Real GDP Annual Growth



Education and Health Services Employment



Education and Health Services Employment: Historical vs. Projected Average Yearly Growth



Valley manufacturing employment grew by 1.65 percent in 2022, similar to the rate in 2021. Employment levels in this category are likely to hover around 115,000 by the first half of 2025. Valley manufacturing employment increased slightly by 0.22 percent, but leading indicators in manufacturing suggest a decline in the coming months. The discrepancy of about 5,000 workers after the Great Recession was never fully recovered, and the pandemic has made it more challenging to close this gap in the coming years.

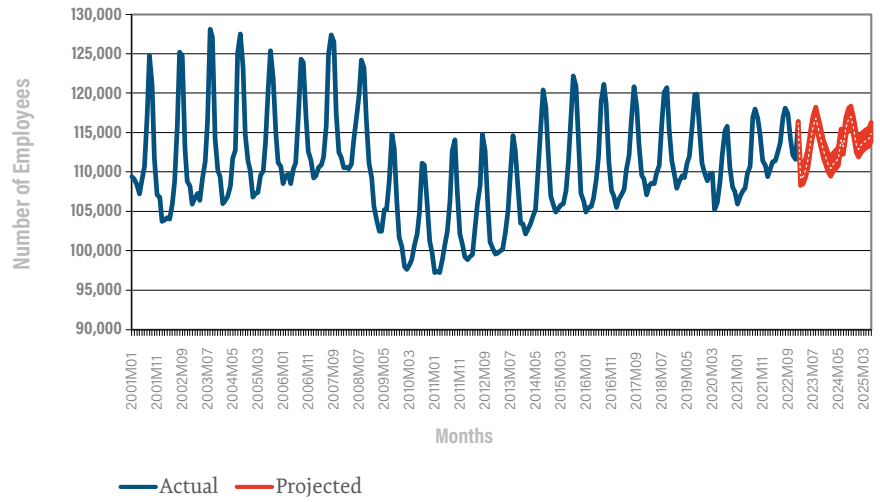
VALLEY MANUFACTURING EMPLOYMENT GREW

**1.65%
IN 2022**

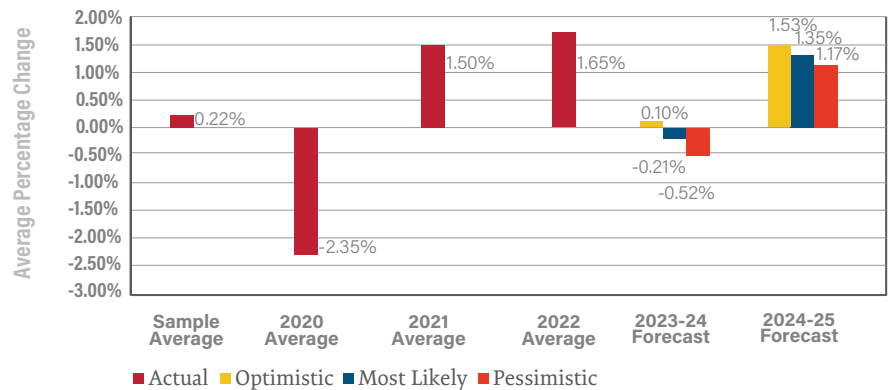
Considering the ongoing interventions by the Federal Reserve to fight lagging inflation despite the regional banking crisis and further tighter financial conditions, manufacturing employment is expected to perform below par in the coming months. Projections indicate an average annual decline of 0.21 percent from the second half of 2023 to the first half of 2024, followed by an improvement of 1.35 percent thereafter.

The Institute of Supply Management's (ISM) Purchasing Managers Index is an important leading indicator that predicts the direction of the economy in upcoming months. The ISM Purchasing Managers Index reached an all-time high in the first quarter of 2021 but has been on a steady decline. The index fell below 50 points in the second half of 2022, indicating a contraction. The last time the index had fallen this low was during the Great Recession.

Manufacturing Employment



Manufacturing Employment: Historical vs. Projected Average Yearly Growth



Purchasing Managers Index





Leisure and hospitality services employment was the fastest-growing category of employment in the Valley in 2022.

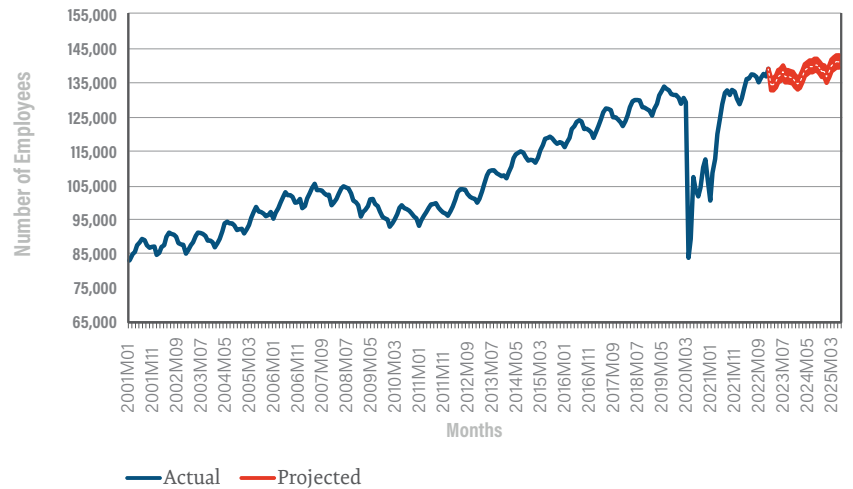
Despite experiencing a 4 percent drop from the prior year, this category maintained its top position as the leader in terms of growth speed. In 2022, leisure and hospitality services employment grew by 9.7 percent, with a significant decrease of 12.71 percent from the third quarter of 2022, resulting in a net change of about 3 percent in just three months. Employment levels are expected to remain below 145,000 by the first half of 2025. If the pandemic had not occurred, employment levels in this category would have already surpassed 145,000 in the Valley. ▶

The long-term benchmark growth for leisure and hospitality services employment increased to 2.43 percent in 2022. As one of the employment categories most sensitive to changes in economic conditions, this category alone experienced approximately 30,000 layoffs in 2020. This employment category, along with retail trade employment, hires the highest number of unskilled workers in the Valley. Projections indicate minimal growth of 0.47 percent from the second half of 2023 to the first half of 2024, followed by faster growth of 1.77 percent from the second half of 2024 to the first half of 2025 ▶

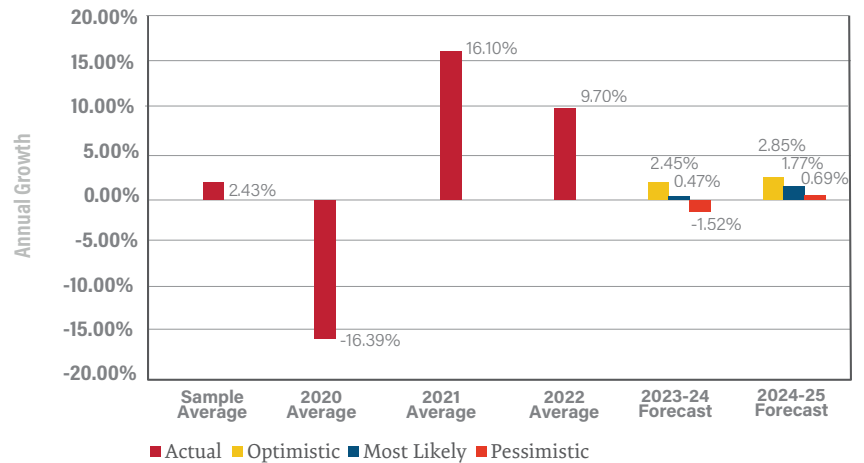
In a farm-related category, trade, transportation and utilities employment in the Valley continued to grow even during the worst months of the pandemic. The pace of growth decreased from 6.63 percent to 3.69 percent in 2022, which still exceeded the sample average of 2.04 percent. With the end of the drought, this category of employment is expected to perform better than most others, even during a contraction. Projections indicate that trade, transportation and utilities employment will surpass 330,000 by the first half of 2025. ▶

IN A FARM-RELATED CATEGORY, TRADE, TRANSPORTATION AND UTILITIES EMPLOYMENT IN THE VALLEY CONTINUED TO GROW EVEN DURING THE WORST MONTHS OF THE PANDEMIC.

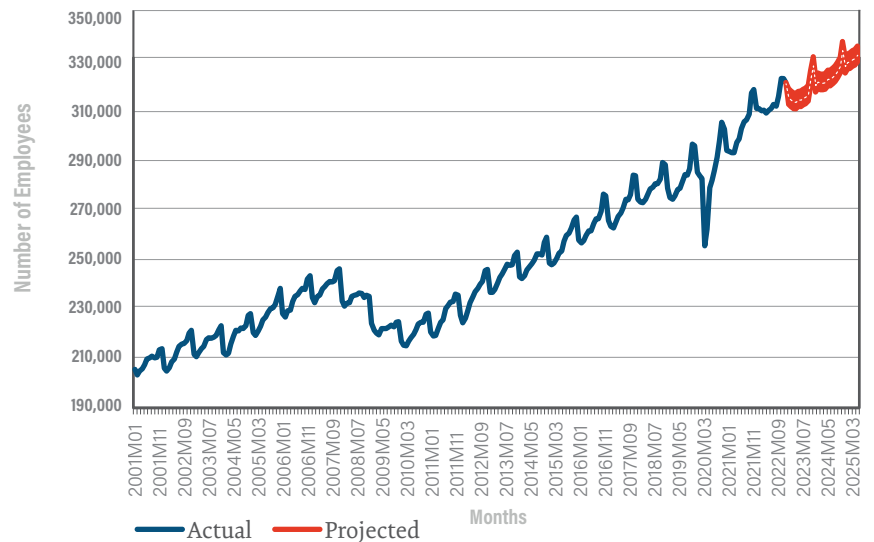
Leisure and Hospitality Services Employment



Leisure and Hospitality Services Employment: Historical vs. Projected Average Yearly Growth



Trade, Transportation and Utilities Employment

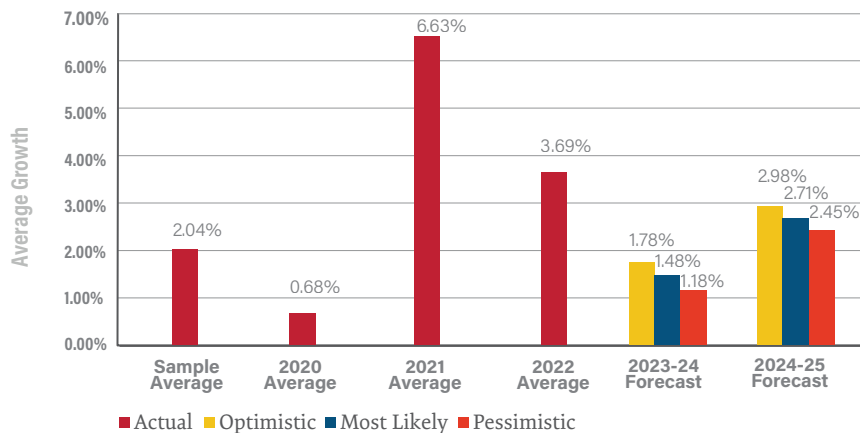


It is interesting to note that by the second half of 2021, almost all jobs lost during the Great Recession had been recovered. However, this is not the case in other categories such as retail trade employment. It took about 11 years in this category alone to recover all jobs lost during the Great Recession, which corresponded to approximately 40,000 workers. While there is a shortage of truck drivers that will persist into the coming months, the intensity of the shortage is gradually decreasing. Projections indicate that trade, transportation and utilities employment will grow at a slower pace than the benchmark, with an average yearly rate 1.48 percent in the first forecasting interval and a faster rate of 2.71 percent in the second forecasting interval.

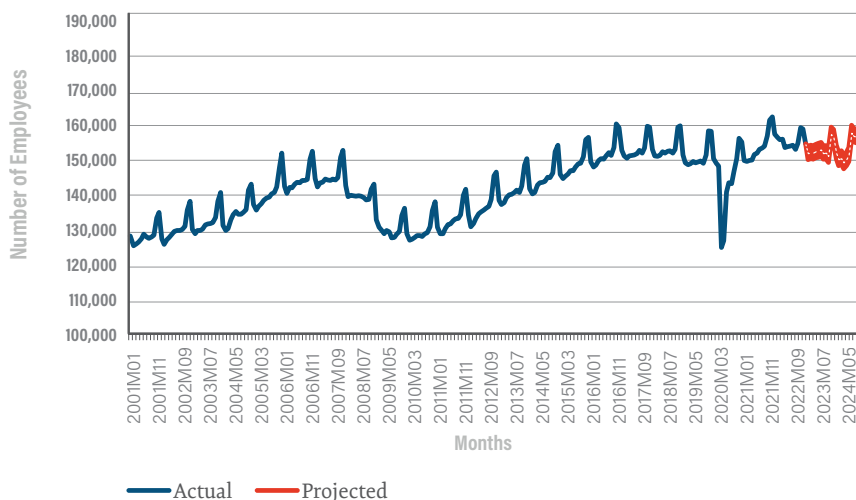
Retail trade is one category of employment in which jobs lost during the Great Recession were not completely recovered. The concave growth pattern observed since 2010 reflects the impact of online trading on Valley retail trade employment. Employment growth in this category slowed considerably to 1.25 percent in 2022 compared to a growth rate of 6.30 percent in 2021. This slowdown is not surprising considering that retail trade employment is one of the most sensitive categories in the Valley to changes in interest rates. Retail trade employment primarily consists of unskilled workers who are the most vulnerable to changes in economic conditions. Employment levels in this category are expected to stay below 160,000 by the first half of 2025.

The long-term benchmark growth fell to 0.92 percent as a result of the significant slowdown in 2022. Rate hikes in late 2022 and early 2023 had the most negative impact on this category. Given that consumption activity drives the economy, the tightening financial conditions resulting from the regional banking crisis and the cessation of loan extensions are likely to worsen the situation in the coming months. Projections indicate a decline of 1.18 percent from the second half of 2023 to the first half of 2024, followed by an improvement of 1.83 percent from the second half of 2024 to the first half of 2025.

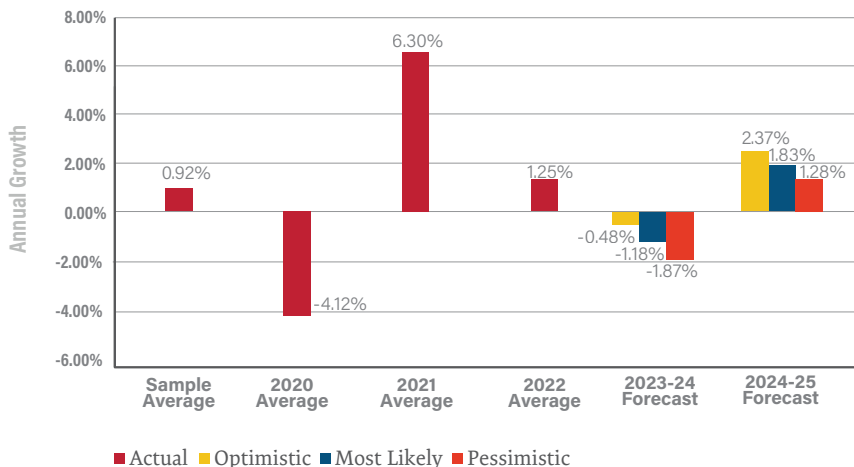
Trade, Transportation and Utilities Employment: Historical vs. Projected Average Yearly Growth



Retail Trade Employment



Retail Trade Employment: Historical vs. Projected Average Yearly Growth



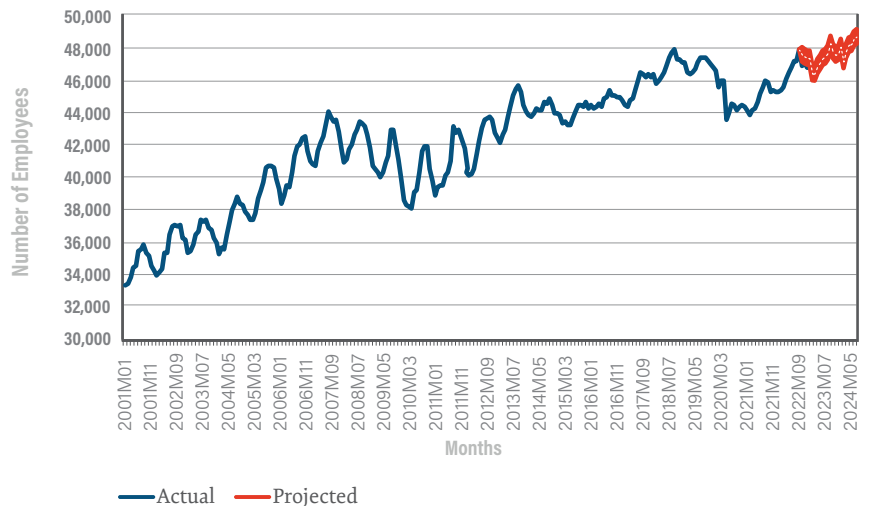


The recent rains will likely improve conditions for the farm-related Valley wholesale trade employment in the coming months. Although some damages were reported from excessive rain, wholesale trade employment has slowly started to regain its seasonal dynamics that were lost during the pandemic and the drought. Despite the drought, employment in this category grew by 3.45 percent, nearly three times the sample average, in 2022. However, employment levels in this category are expected to remain below 50,000 by the first half of 2025. ▶

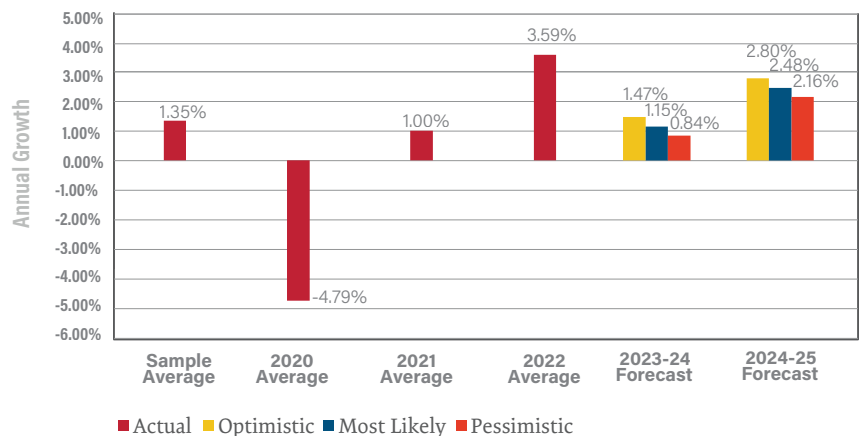
Valley wholesale trade employment was another category in which about 10,000 job losses from the Great Recession were never fully recovered. The growth of about three times the sample average indicates that wholesale trade employment in the Valley was relatively unaffected by the increase in fertilizer prices resulting from the Ukraine-Russia war. Wholesale trade in the Valley primarily deals with necessities, which explains the growth observed in 2022. Projections indicate a growth rate of 0.85 percent in the first forecasting interval, followed by a faster rate of 1.71 percent growth in the second yearly forecasting interval. ▶

The declining trend in Valley information employment shifted after two consecutive years of growth following the pandemic. Valley information employment grew by 5.46 percent in 2022. However, this growth was not enough to fully recover from the previous years' continuous decline, which resulted in a decrease from 14,500 employees to approximately 8,500. Employment levels in this category are not expected to exceed 8,500 during the two-year forecasting interval. Fully closing the gap between current employment levels now and those before the recessionary years of 2008 does not appear to be an immediate possibility. ▶

Wholesale Trade Employment



Wholesale Trade Employment: Historical vs. Projected Average Yearly Growth



Information Employment



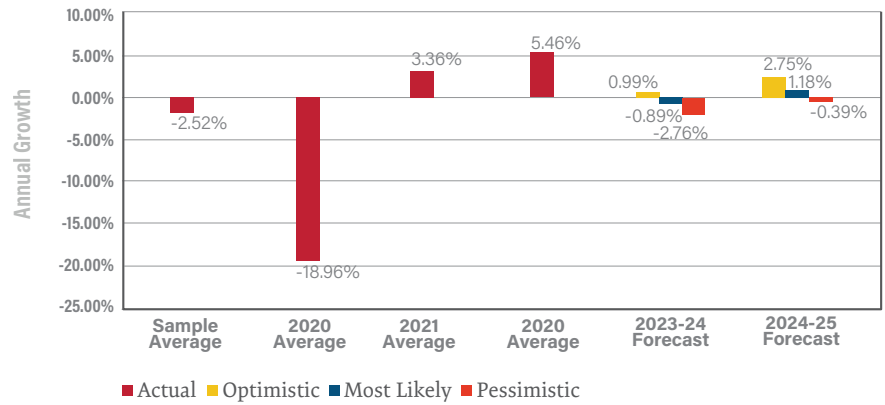
WHOLESALE TRADE EMPLOYMENT HAS SLOWLY STARTED TO REGAIN ITS SEASONAL DYNAMICS THAT WERE LOST DURING THE PANDEMIC AND THE DROUGHT.

The long-term benchmark rate decline slowed to 2.52 percent in 2022 and is likely fall further in the coming months. The switch in negative to positive growth territory is expected to reverse due to tightening financial conditions and a decrease in consumer spending resulting from interest rate hikes. Projections indicate a decline of -0.89 percent from the second half of 2023 to the first half of 2024, followed by an increase to 1.18 percent thereafter. ▶

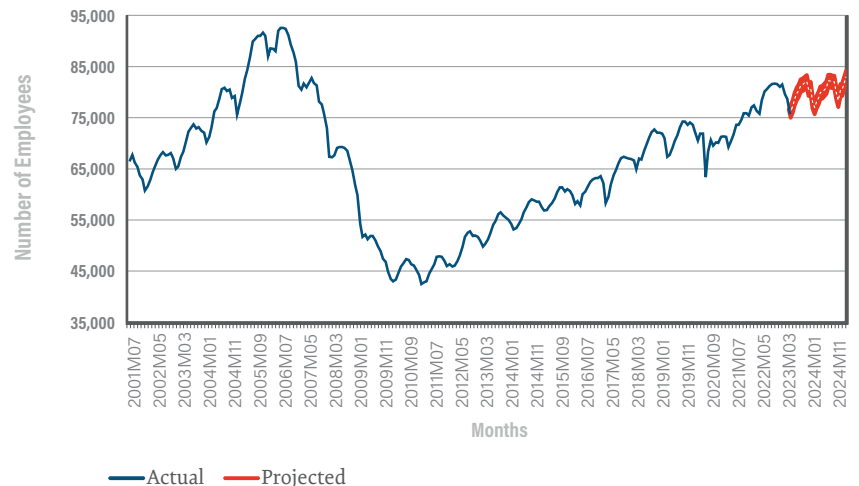
Construction employment in the Valley grew by 7.75 percent in 2022, at a faster pace than in 2021, when the average yearly growth was 6.02 percent. Despite the fallout from the regional banking crisis and ongoing rate hikes in 2023, inventory shortages are expected to keep construction alive in the coming months. However, unlike the discrepancy of about 10,000 workers since the Great Recession, has not yet been fully recovered in the construction sector.

Foreclosures, which reached all-time lows during the pandemic years, have not started to increase yet due to low unemployment rates resulting from a tight labor market. However, if unemployment rates rise above 11 percent in the Valley, it would have a significant effect on this category of employment. Projections indicate growth slower than the long-term benchmark growth, with employment in this category expected to grow at 1.09 percent from the second half of 2023 to the first half of 2024, and a slightly faster rate of 1.85 percent from the second half of 2024 to the first half of 2025. ▶

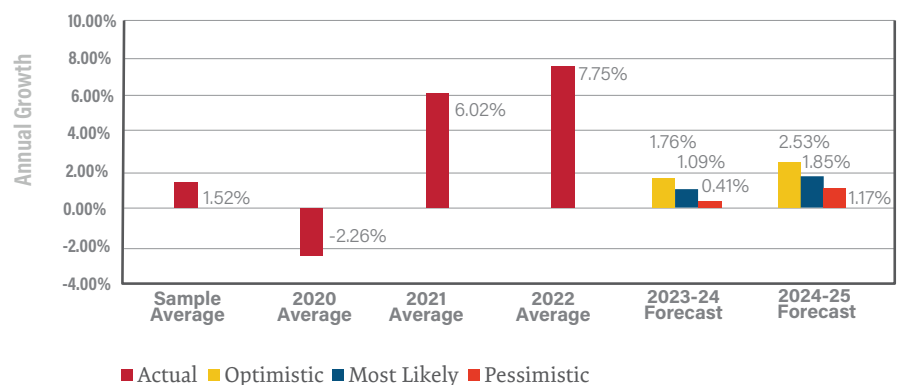
Information Employment:
Historical vs. Projected Average Yearly Growth



Construction Employment



Construction Employment:
Historical vs. Projected Average Yearly Growth





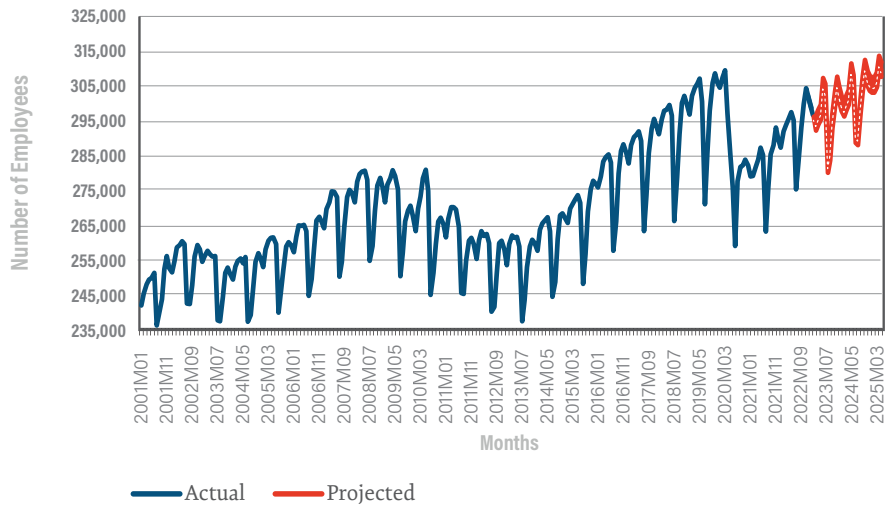
Government employment is a lagging indicator of economic activity, with the switch from negative to positive growth occurring about a year later than most other employment categories following the pandemic years. Government employment in the Valley grew by 3.55 percent in 2022, which was more than four times the sample average of 0.80 percent. ▶

Seasonally adjusted employment levels in this category are likely to remain below 305,000 during the next two years. Although government employment recovered from the discrepancy of about 12,500 employees, it still exists after the pandemic. Projections indicate an average yearly growth of 1.50 percent in the first 12 months of the forecasting interval and 1.73 percent thereafter until the first half of 2025. ▶

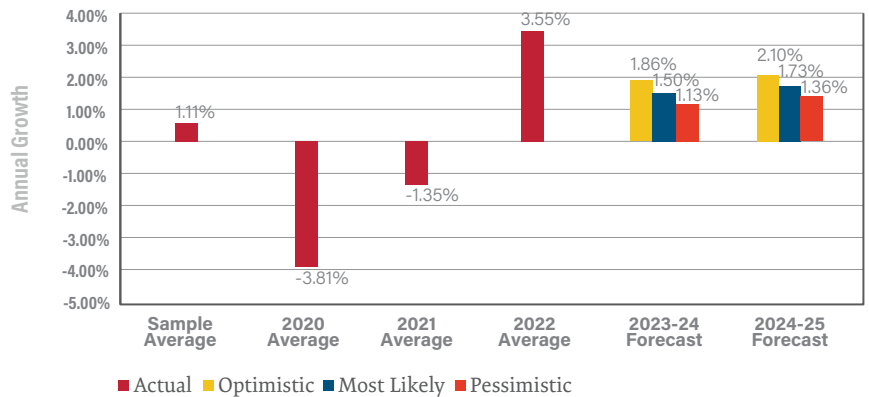
VALLEY FINANCIAL ACTIVITIES EMPLOYMENT WAS THE ONLY CATEGORY THAT REPORTED A DECLINE IN 2022.

Valley financial activities employment was the only category that reported a decline in 2022. This decline marked the third consecutive year of falling employment, and the reasons behind it are now becoming clearer, given the regional banking crisis and the halting of loan extension. The employment decline in this category was 0.49 percent in 2022, which was less than the previous year's decline of 0.98 percent. Employment levels in this category are projected to be below 41,000 by the first half of 2025. ▶

Government Employment



Government Employment: Historical vs. Projected Average Yearly Growth



Financial Activities Employment

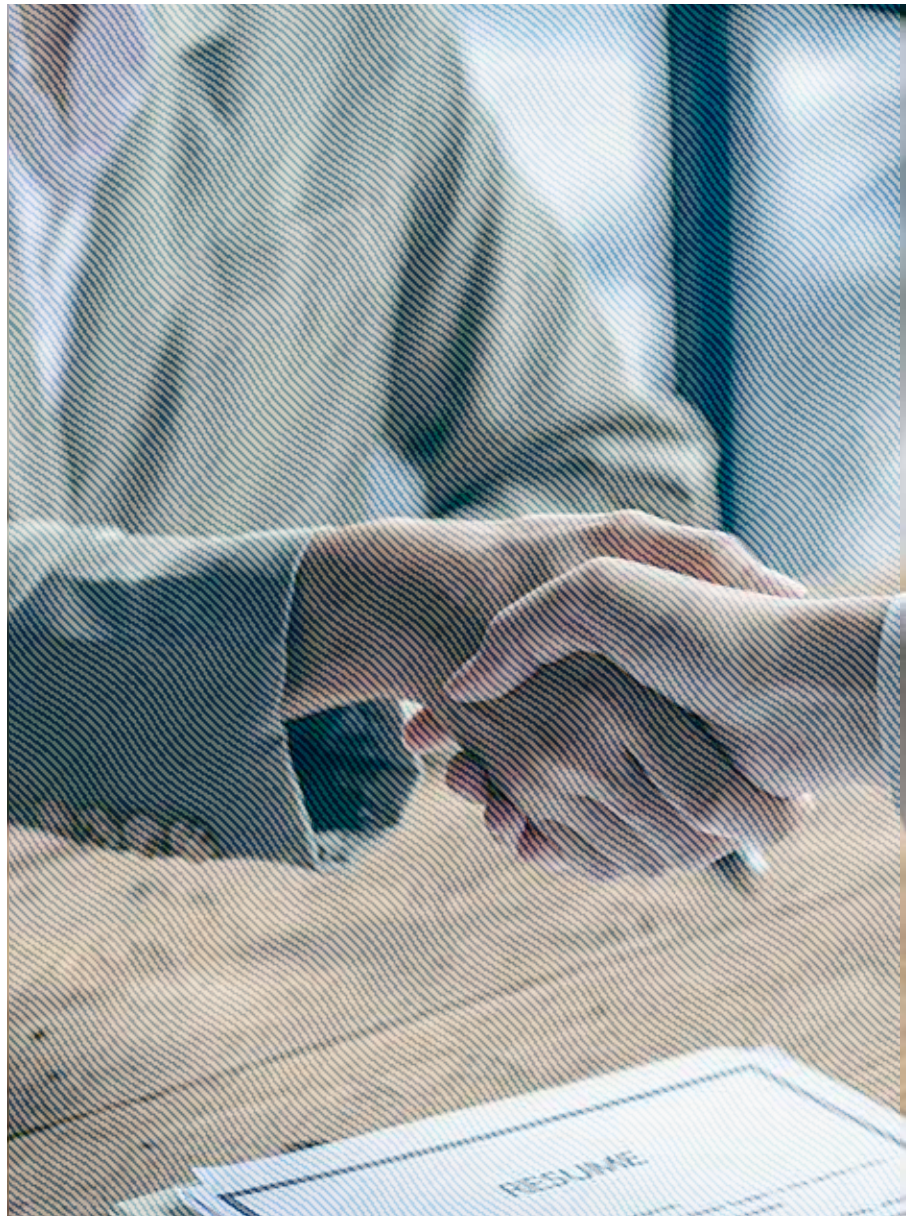
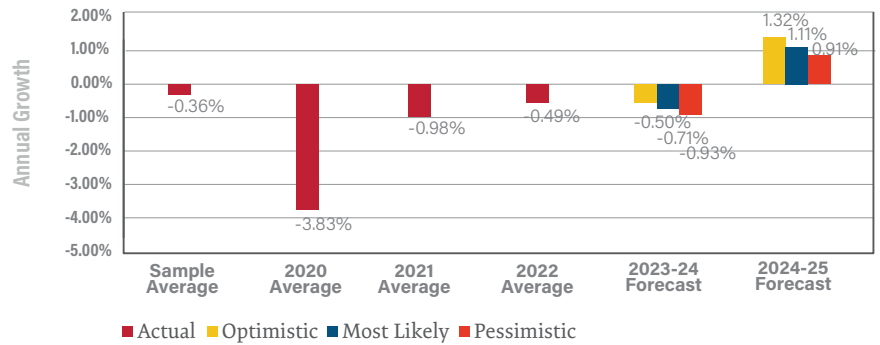


Valley financial activities employment never fully recovered from the loss of 8,000 jobs following the Great Recession. The increasing shift to digital banking may be one reason for this persistent discrepancy. The growth trend in this category appears to be flatter after the recessionary years in 2008 compared to before, and this trend almost seems horizontal after the pandemic. Financial activities employment is projected to decline by 0.71 percent from the second half of 2023 to the first half of 2024 and improve a bit to 1.11 percent from the second half of 2024 to the first half of 2025.

The banking crisis in the first half of 2023, along with the additional rate hikes by the Federal Reserve despite tightening financial conditions, has further heightened expectations of an upcoming contraction, if rates are not cut by year end. Unemployment rates have been steadily rising, reinforcing this anticipation. Considering the economic landscape primarily influenced by the actions of the Federal Reserve, a definite return to an expansionary phase of the business cycle is not expected until at least 2024.

VALLEY FINANCIAL ACTIVITIES EMPLOYMENT NEVER FULLY RECOVERED FROM THE LOSS OF 8,000 JOBS FOLLOWING THE GREAT RECESSION.

Financial Activities Employment: Historical vs. Projected Average Yearly Growth



The San Joaquin Valley comprises eight Metropolitan Statistical Areas (MSAs): Fresno, Bakersfield-Delano, Hanford-Corcoran, Madera-Chowchilla, Merced, Modesto, Stockton and Visalia-Porterville. The total number of single-family building permits in the Valley is derived from the aggregated data of these MSAs.

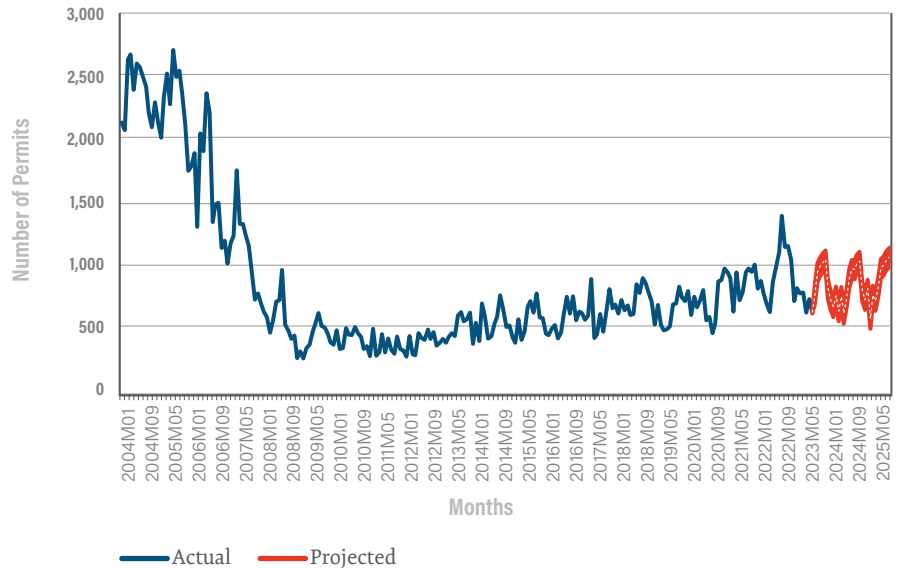
Housing permits rose by 12.30 percent in 2022, following a 35.65 percent rise in 2021. However, there was a 23.3 percent drop from 2021 to 2022, with 5.72 percent of the decrease occurring in the last quarter of 2022. Despite the growth, the increase was still significant, considering the 7.75 percent long-term benchmark rate. Valley housing permits are projected to not exceed 1,000 per month by the end of 2024 due to tightening financial restrictions, anticipated rate hikes and bank runs. The newly approved Home Buyers Program (HBP) should help support the housing market during this contraction.

Regarding specific cities, Stockton led the way with 3,088 permits in 2022, while Fresno dropped to second place with 2,361 permits. Bakersfield issued 1,808 permits, followed by Visalia with 1,632 and Madera at 860 permits in 2022. Modesto saw a significant increase with 693 permits issued in 2022 compared to only 50 permits in 2021. Hanford and Merced issued 440 and 470 permits in 2022, respectively, compared to no permits issued in 2021 for Hanford. As rate hikes continue and their impact intensifies, a decline of 2.55 is projected from the second half of 2023 to the first half of 2024, followed by a recovery of 8.63 percent from the second half of 2024 to the first half of 2025.

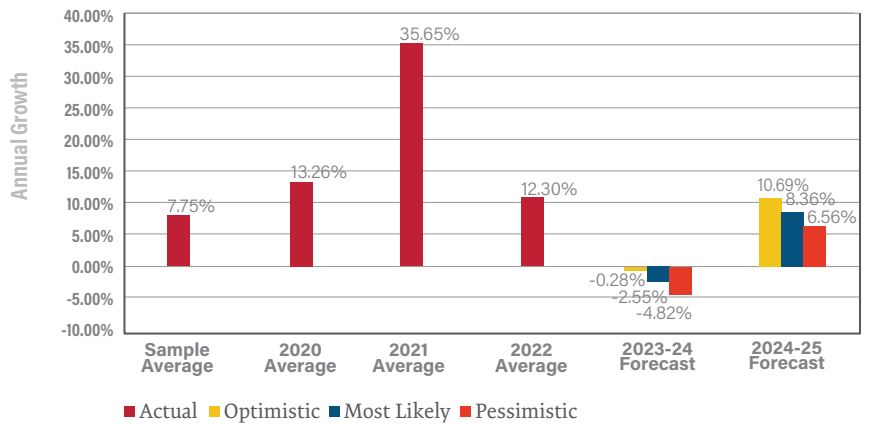
Due to the tight labor market, foreclosures remained at their lowest level ever in 2022, as they did in 2021. It is still early for foreclosures to show a rising trend, despite the gradual increase in unemployment rates in 2023. There is likely to be some upward activity in the foreclosure rate beginning from the third quarter of 2023. An early indicator of what is to come, Valley bank accruals began to rise significantly faster in 2022.

One concerning indicator to monitor is the 30-year fixed rate, especially given that long-term rates are at their highest levels since 2007. Following recent hikes, this series is now experiencing the most drastic and prolonged increase ever seen. After reaching an all-time minimum of 2.68 percent in the first quarter of 2021, long-term rates have been steadily rising, despite tightening financial conditions and bank runs in the first quarter of

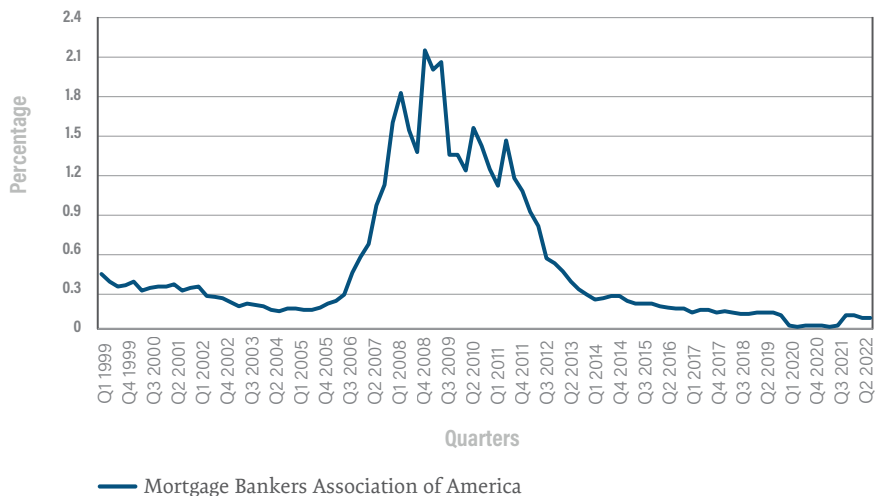
Single-Family Building Permits



Single-Family Building Permits: Historical vs. Projected Average Yearly Growth



Foreclosure Starts in California



2023. Such a drastic pattern raises concerns that rates are being increased too rapidly for a soft landing. Investors dislike uncertainty and tend to refrain from investing in an uncertain environment. The objective of the Federal Reserve is to achieve price stability, minimize uncertainty and stimulate investment, thereby maximizing economic growth. ▶

Valley home values increased at an average annual rate of 21.65 percent at the nominal level, which equates to 13.36 percent real appreciation after adjusting for inflation. However, exponential growth is unsustainable, and a mean reversion to long-term benchmark rates is likely in the next two years. While lenders are stricter this year compared to last year and the unemployment rate remains low, a crisis on the scale of the 2008 recession is not expected. However, if double digit unemployment rates prevail in the economy, there will be cause for concern. ▶

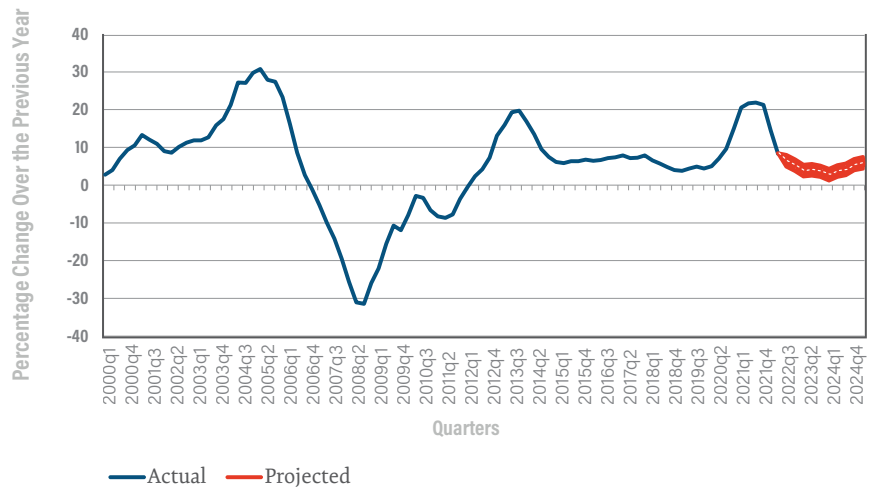
In 2022, the increase in home values exceeded the benchmark rate of 5.97 percent by more than threefold. With a home value appreciation of 21.65 percent, it was the fastest growth rate since the Great Recession. In real terms, appreciation was one of the fastest at more than twice the benchmark rate. This exponential pattern observed since 2020 is clearly unsustainable, and a gradual mean reversion back to the sample average of 5.97 percent would be beneficial for the healthy functioning of the housing market. Therefore, home values are expected to rise at slower rates, consistent with benchmark rates in the coming two-year period. The newly approved Home Buying Program should help sustain the housing market in the coming months. ▶

Surprisingly, the Madera MSA reported an 18.55 percent increase in home values in 2022, surpassing Stockton and Bakersfield, which registered growth rates of 15.05 percent and 17.85 percent, respectively. Visalia saw a 17.49 percent increase, while Fresno followed behind at 17.57 percent in 2022. Merced reported 16.38 percent growth while Modesto experienced an appreciation of 13.13 percent on an average yearly basis. Hanford posted a 16.29 percent increase. Projections indicate a 3.73 percent increase from the second half of 2023 to the first half of 2024, followed by a faster rate of 4.89 percent from the second half of 2024 to the first half of 2025.

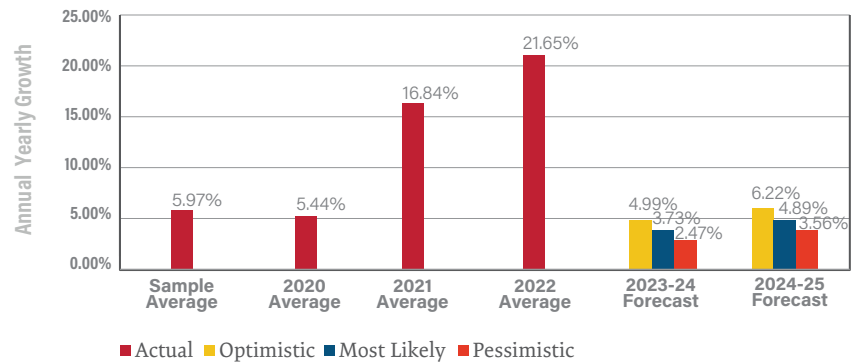
30-Year Fixed Rate



Yearly Percentage Change in Housing Prices



Yearly Growth in Housing Prices: Historical vs. Projected Average Yearly Growth



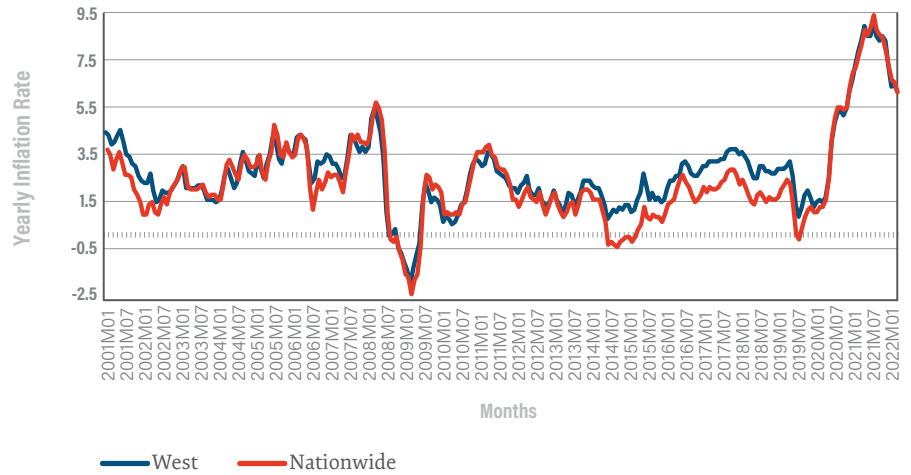


Inflation is mainly driven by the price of oil, and as of April 2023, the price of WTI crude oil per barrel was around \$71. This suggests that inflation is mainly on a downward trend, albeit at a very slow pace. However, the decision by OPEC in April to cut output will likely prolong high inflation. The Federal Reserve's rate hikes are expected to continue until inflation visibly decreases considerably. This indicates that the Federal Reserve's policy is implicitly focused on lagged inflation values. There is a concern that by the time inflation comes down, rate hikes may have been too high to prevent the economy from a hard landing.

In our region, inflation tends to be higher than the national level due to the higher cost of living. When both series, referring to inflation and economic activity, display identical downward patterns like during the Great Recession, it indicates a decline in economic activity. It is likely that such a pattern will continue to exist in the coming months. This unique pattern now serves as a coincidental indicator for our region.

The inflation rate in 2022, at an average yearly rate of 8 percent, was roughly three times the sample average of 2.68 percent. Mainly, cost-push factors were at play in 2022. Switzerland is an example of a country that successfully tamed inflation by allowing its currency to appreciate against other currencies, thus preventing the importation of inflation. Additionally, price controls were introduced on the price of oil in a less than perfectly competitive market to address the root cause and prevent spillover effects on the price of other goods. Introducing price controls can make sense in non-competitive market structures that resemble an oligopolistic structure, as it can lead to more efficient outcomes for consumers and help control inflation.

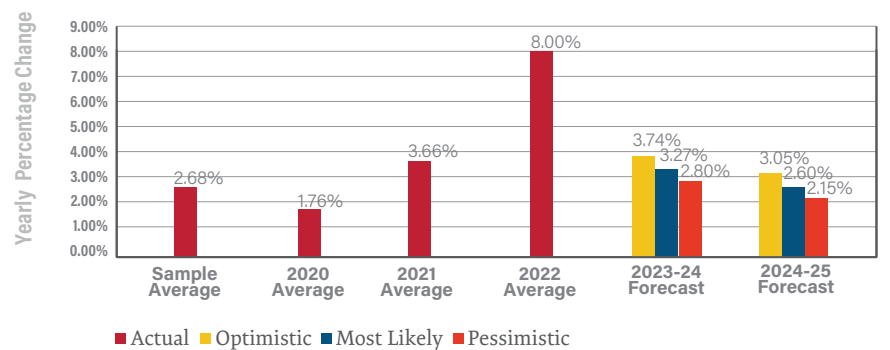
Inflation Rate: Nationwide vs. West



U.S. West Inflation Rate



U.S. West Inflation Rate: Historical vs. Projected Average Yearly Growth



IN OUR REGION, INFLATION TENDS TO BE HIGHER THAN THE NATIONAL LEVEL DUE TO THE HIGHER COST OF LIVING.

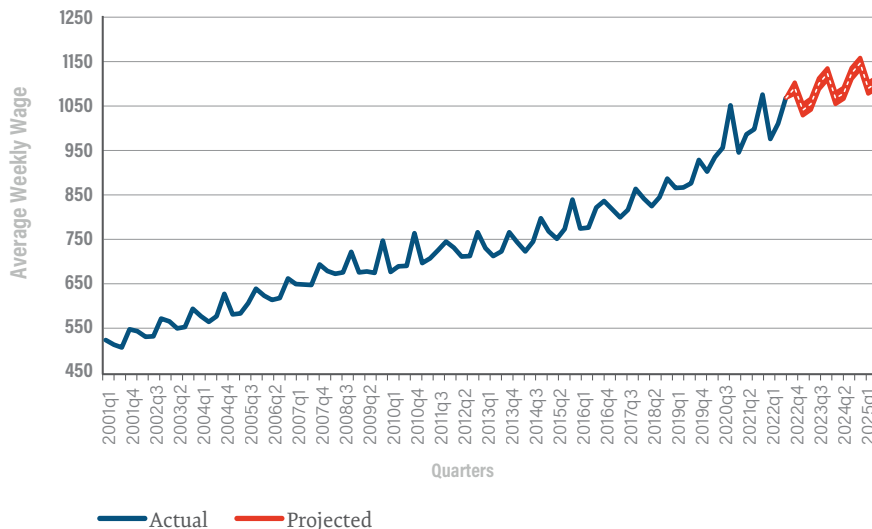
Factors other than the price of oil that put upward pressure on the overall price level included the ongoing Ukraine-Russia war, unresolved supply chain issues and wages. However, the effect of the latter two has significantly decreased since the fourth quarter of 2022. Projections for the inflation rate in the Western region indicate an average yearly increase of 3.27 percent from the second half of 2023 to the first half of 2024, and 2.60 percent from the second half of 2024 to the first half of 2025.

Average weekly wages in the Valley have been steadily declining, with a 3.46 percent increase in 2022. Wage growth in 2022 is now roughly in line with the long-term benchmark growth of 3.27 percent. The unemployment rate has been gradually increasing since the first quarter of 2023. If there is a contraction in economic activity, it would result in a further decline in wages in the coming months.

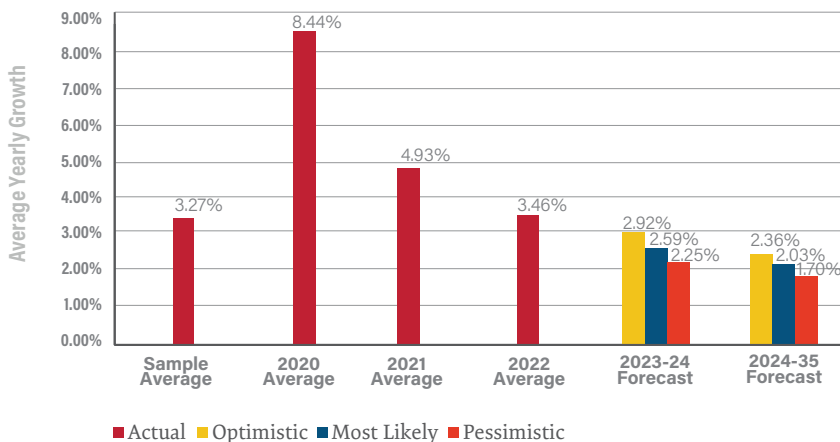
As unemployment rates continue to rise and layoffs occur, there will be downward pressure on average weekly wages due to an excess supply of labor. This, in turn, will lead to a greater loss of purchasing power for workers in the Valley. It is projected that average weekly wages will likely remain below \$1,150 by the first half of 2025. The growth rate is expected to be below the long-term benchmark value, with an average yearly increase of 2.59 percent in the first 12-month forecasting interval and 2.03 percent thereafter until the first half of 2025.

In 2022, the average inflation rate was 8 percent. During the same period, average weekly wages rose only by 3.46 percent, resulting in a decline in real wages and a significant loss of purchasing power of 4.54 percent. This loss in purchasing power is expected to continue in the coming months as real wages decline further due to increasing unemployment rates and tightening financial conditions.

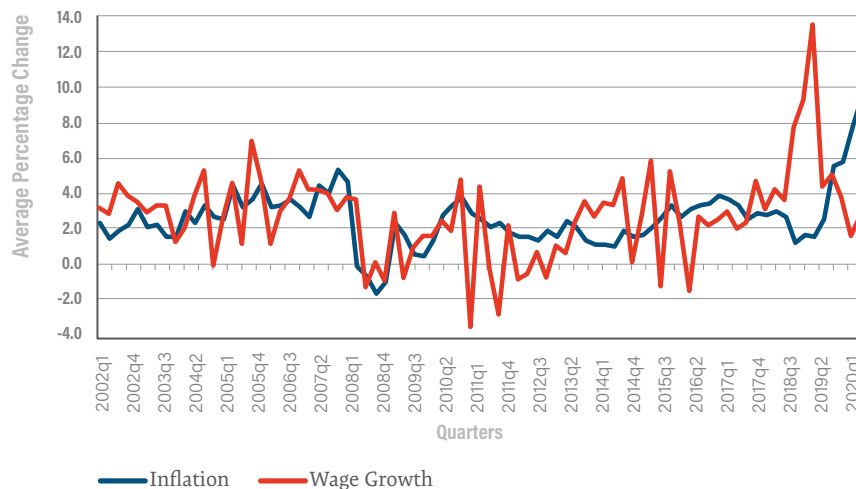
Quarterly Average Weekly Wages



Weekly Wage Growth: Historical vs. Projected Average Yearly Growth



Yearly Wage Growth vs. Inflation



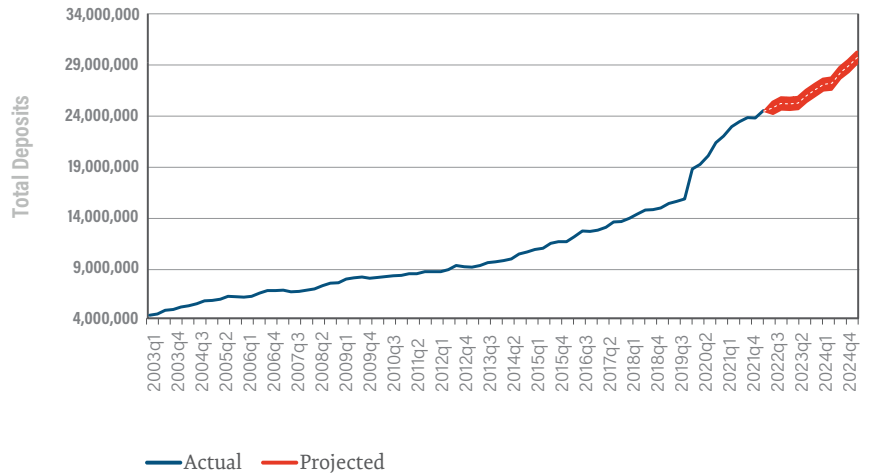
For the first time since we began tracking ► the banking indicators, there has been a clear change in the dynamics of bank total deposits and net loans in Valley community banks in 2022. Typically, net loans and total deposits grow at roughly the same rate. However, in 2022, net loans grew at a much slower pace compared to total deposits. The regional banking crisis in the first quarter of 2023 now explains this imbalance, which is most likely a result of tightening financial conditions in response to Federal Reserve rate hikes and balance sheet reduction, as well as the impact of the rates on bond yields.

Valley total bank deposits rose by 8.67 percent in 2022, which was about half the rate seen in each of the years 2020 and 2021. This yearly increase of 8.67 percent in 2022 was also consistent with the sample average of 8.92 percent. Due to the slowing activity, Valley total bank deposits are projected to increase at an average annual rate of 5.28 percent, which is below the benchmark rate, from the second half of 2023 to the first half of 2024. However, it is expected to pick up some speed and reach 8.89 percent from the second half of 2024 to the first half of 2025. ►

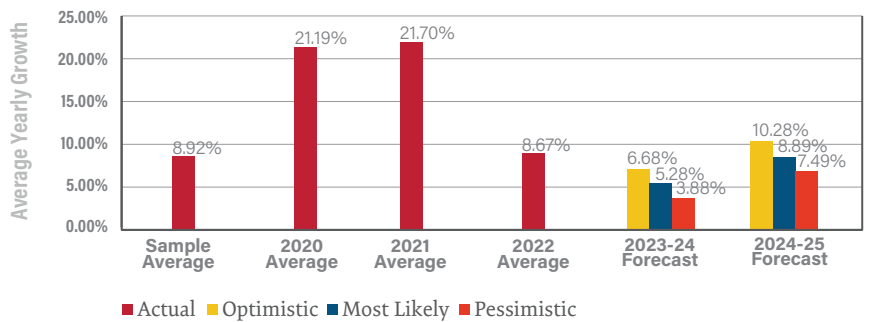
The upward movement in bank assets in nonaccruals became very steep in the fourth quarter of 2022. The gradual increase in the unemployment rate and subsequent layoffs, along with further interest rate increases, will undoubtedly make it harder for Valley residents to pay their mortgages and meet their other financial obligations. Nonaccruals was the first series to start trending upward before foreclosures and other default indicators, acting as a leading indicator for our region. ►

The upward movement in bank assets in default 30 to 89 days, as well as assets in default for 90 plus days, has not yet displayed a similarly steep upward trend as the bank assets in nonaccruals. However, the observed pattern in bank assets in default for 30 to 89 days and assets in default 90 plus days is consistent in terms of the direction of change with bank

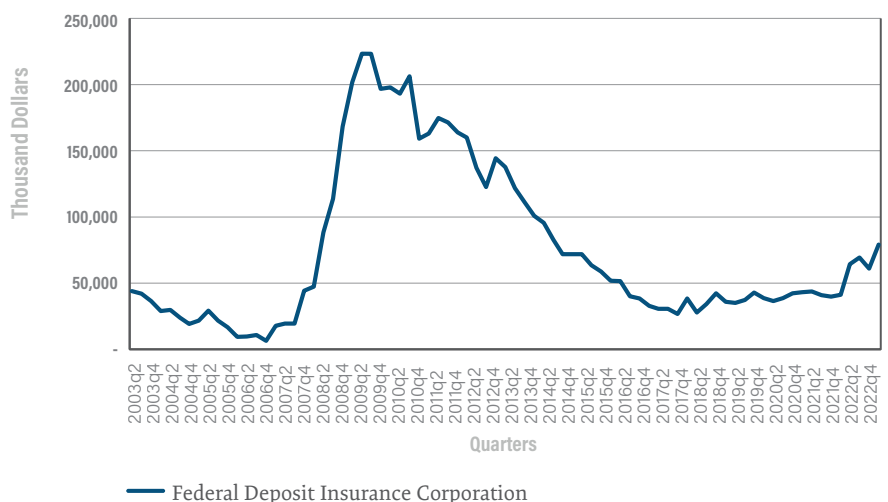
Total Bank Deposits (in \$ Thousands)



Total Bank Deposits: Historical vs. Projected Average Yearly Growth



Assets in Nonaccrual



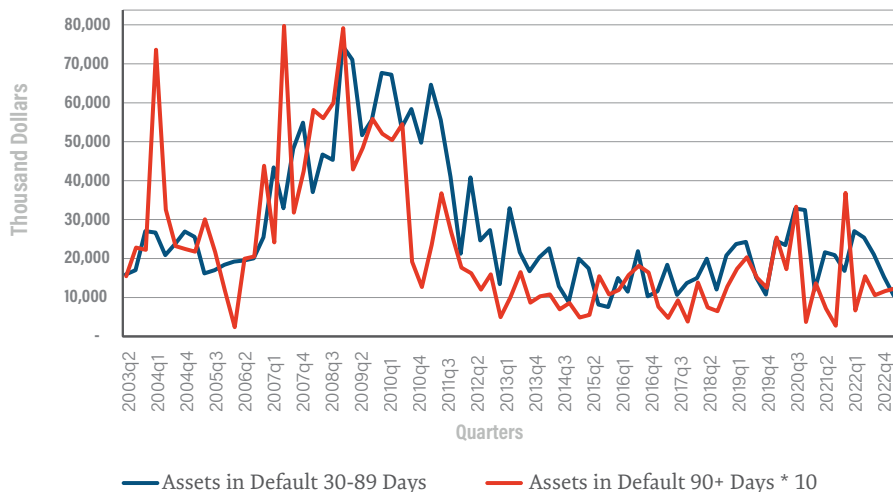
assets in nonaccruals. In the months ahead, tightening financial conditions are expected to make bank assets in default series trend upward in a much steeper manner than before. ▶

Community banks became much stricter in extending loans in 2022, to the extent that there was a significant discrepancy with the growth in total deposits. The increase in net loans and leases for community banks came to an abrupt halt, registering a very trivial 1.30 percent increase in 2022 when compared to the sample average growth of 7.70 percent. This drastic drop in the rate of growth was quite significant, considering that net loans and leases had increased by 11.36 percent in 2021 and 17.63 percent in 2020. Such an occurrence was unprecedented and brought worries of a more serious contraction. ▶

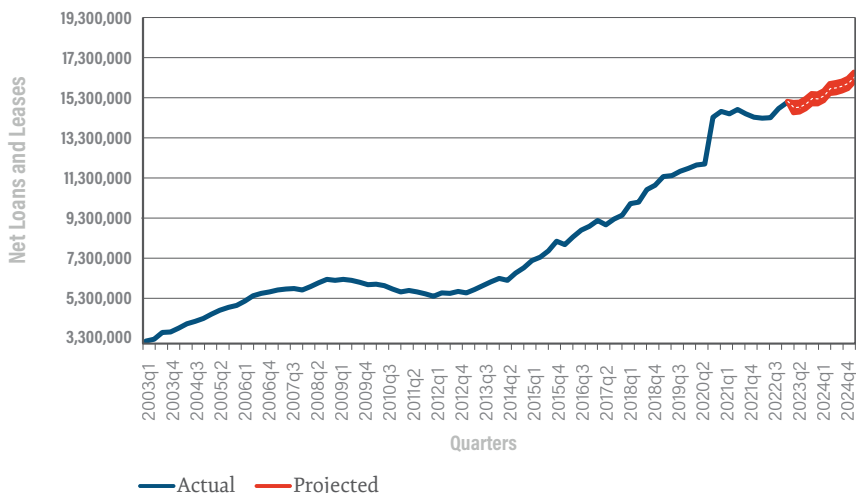
Despite regional bank runs, balance sheet reductions and tapering on the part of the Federal Reserve, interest rates continue to rise. As a result, there is likely to be a faster downward trajectory for the economy in the two-year period ahead. Projections indicate that net loans and leases will increase at an average yearly rate of 4.19 percent in the first 12-month forecasting interval and 5.01 percent increase thereafter until the first half of 2025.

Given the imbalance in the growth ▶ rates of total deposits and net loans and leases, as well as the faster increase in bank asset nonaccruals, there is concern about whether the economy will enter a more serious phase of contraction and experience a hard landing. It seems peculiar that the Federal Reserve chooses to continue with rate hikes in an environment of bank runs and tightening financial conditions, leading some to assert that the Federal Reserve is backward-looking in a landscape of already falling inflation rates.

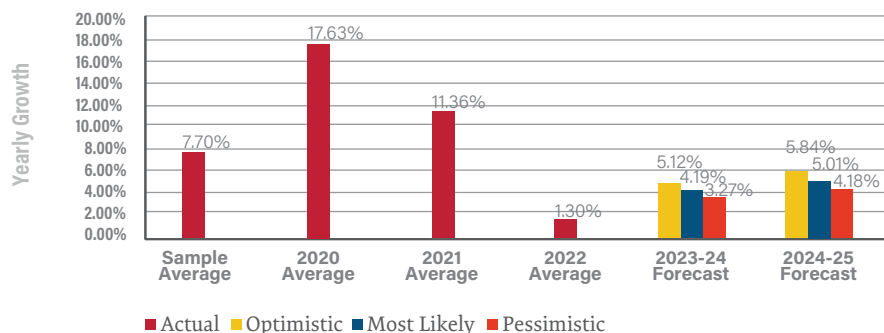
Assets in Default 30+ Days



Net Loans and Leases (in \$ Thousands)



Net Loans and Leases: Historical vs. Projected Average Yearly Growth



Given the continuation of rate hikes by the Federal Reserve in the first quarter of 2023, our projections point to a more serious slowing in the coming months. Labor markets have begun to respond to the rate hikes, and unemployment rates have been increasing since the first quarter of 2023, adding to the worries of a hard landing.

Valley total employment is likely to decline in 2023, only to display some growth in 2024. In 2022, total employment in all counties grew with rates significantly higher than their respective benchmark growth rates. The fastest-growing category of employment was leisure and hospitality services employment, while financial activities employment was the only category that had declined in 2022 perhaps shedding some light on the bank failures observed in early 2023.

Home values increased exponentially, and the average yearly increase in 2022 was 21.65 percent, bringing with it worries of a housing market bubble. Any pullback will not likely be to the degree seen in the 2008 recession, simply because



lenders are stricter in 2022 than the prior year. The newly introduced Home Buyers Program and inventory shortage should help a bit in keeping the housing market afloat in the coming months. Clearly, double-digit increases seen in 2022 and 2021 are clearly not sustainable, and a correction back to the rates more in line with benchmark growth rates is expected.

Inflation is coming down but at a much slower speed than preferred by the Federal Reserve, mainly because the main driver of inflation is the price of oil. WTI crude oil price per barrel is much lower than it was a year ago. Valley average weekly wages rose about 5 percent less than the inflation rate in 2022. Thus, there was a significant fall in purchasing power of the Valley consumer in 2022. This loss in purchasing power is expected to continue in the coming months.

Valley community bank total deposits increased about half the rate of the prior year in 2022. There was no growth whatsoever in Valley net loans and leases when the 2022 growth was compared to the sample average and to the growth in previous years, reflecting the stricter stance of community banks in extending loans. Valley community bank assets in nonaccrual began trending much more steeply in 2022 and are more likely to increase further with the gradual increases in the unemployment rate. Community bank assets in default 30 to 89 days and assets in default 90 plus days have not yet begun to trend more steeply upward but are consistent in terms of the direction of change with bank assets in nonaccrual. A steeper trend in bank assets in default is expected with tightening financial conditions and increasing layoffs.

Given such an economic landscape, it is increasingly important for Valley residents to leverage down, be overweight in cash, purchase bonds if investment is an option, lock in fixed rates by switching from flexible rates, and rent rather than purchase homes and if laid off go to school and increase skills by obtaining student loans in the months ahead.

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