BUSINESS
FORECAST REPORT

2013
San Joaquin Valley
Midyear Update

California State University Stanislaus
One University Circle
Turlock, CA 95382

Gökçe Soydemir, Ph.D.
Dr. Gökçe Soydemir

FOSTER FARMS ENDOWED PROFESSOR OF BUSINESS ECONOMICS

Dr. Gökçe Soydemir joined California State University, Stanislaus as the inaugural Foster Farms Endowed Professor of Business Economics in August 2011. Dr. Soydemir brings strong expertise and experience in business analysis and forecasting and has published extensively on applied econometrics, regional economics, financial forecasting, market analysis and international finance.

Dr. Soydemir received his Ph.D. in Economics from Claremont Graduate School, Claremont, CA; an M. Phil. in International Finance from Glasgow University, Scotland, U.K.; and a Bachelor of Science in Economics from Middle East Technical University, Ankara, Turkey. He has several years of central banking experience co-constructing and forecasting large and medium scale macro-econometric models. In addition, he has conducted policy independent research on monetary economics.
The author would like to acknowledge the contributions of student assistants
Daniel Herrera and Benjamin Ross
in the preparation of this report.
Executive Summary

Year-over-year indicators point to continuing recovery in the San Joaquin Valley economy. The fastest recovery buildup, based on job growth, continued to occur in Kings and San Joaquin counties. Despite performing relatively worse, Madera’s employment, for the first time since the Great Recession, is projected to post annual positive growth in the latter part of 2013. From the second half of 2013 to the end of the first half of 2015, Valley employment is now projected to grow three times its 10-year rate of .91 percent per year.

Previously, two Valley employment sectors struggled to begin the recovery process. Their year to year performance was either worsening or stagnant. These two were government and information services employment. Newly arriving information from the fourth quarter of 2012 and first quarter of 2013 now suggest that one of these two categories, information employment, no longer appears to struggle and now displays behavior similar to other recovering sectors in the Valley. In the first half of 2013, all but government employment continued to be in recovery buildup albeit at different speeds. The Valley’s fastest growth in employment occurred in the construction sector followed by manufacturing.

The current budget squeeze, known as sequestration, is slowly beginning to take effect. Sequestration is not projected to have an immediate impact on the Valley economy; however, in the longer run, it will most likely put a drag on economic recovery. Sequestration, at the moment, is occurring along with monetary easing. These two policies have opposite effects on the economy. The Federal Reserve’s monetary easing is announced to continue until the unemployment rate falls below 6.5 percent nationally which translates to about 12 percent for the Valley economy.

The yearly inflation rate in the western region fell further, below its typical rate of 2.4 percent. Weekly wages annual growth lagged behind inflation in 2012. Average change in the sales price of a new single-family home is projected to stay in the positive territory and increase at least 5 percent annually. Improving housing prices continue to increase consumer wealth and confidence. Rising consumer wealth alters spending patterns in the Valley increasing overall demand for goods and services.

In the forecasting interval from mid-2013 to mid-2015, Valley jobs are projected to stay on their upward trajectory in all sectors. Government employment is projected to post positive growth. Housing sector employment will continue to improve significantly as building permits rise. The unemployment rate in the Valley is projected to reach its structural rate of 12 percent in the first half of 2014.

In all, recovery build up is projected to continue in the latter part of 2013. As the Valley’s cyclical unemployment component falls toward levels consistent with its natural rate, resulting ongoing increases in consumer spending will be further improving the business sentiment in the Valley.
Introduction

This 2013 mid-year report provides updates on the current economic conditions of the San Joaquin Valley. Forecasts using newly arriving data span from the second half of 2013 to the end of the first half of 2015.

Our interval forecasts come with lower and upper statistical confidence bands. The actual realizations are expected to fall within this range, preferably closer to the mean. Our accuracy from the last report based on out-of-sample forecast errors appeared to be 97 percent. Forecasts in the report are generated using actual values through March 2013.

The remainder of this report is organized as follows: a discussion of San Joaquin Valley labor market conditions and forecasts; regional housing market conditions; prices and inflation; and depositary institutions and capital markets. The report closes with a summary along with concluding remarks.

We thank the members of the Valley community for their strong support in making this project a success since its inception two years ago. We look forward to receiving further feedback in making this report a valuable information tool for the business community.
Employment Indicators

Aggregate employment in the San Joaquin Valley grew at an annual rate of 1.92 percent in 2012. When compared with 2011, the growth in 2012 was more than twofold. Thus on a year to year basis, the Valley economy appears to pick up some traction. This gain in momentum is projected to continue in the forecasting interval until mid-2015. Kings and San Joaquin counties continued to grow fastest. For the first time since the Great Recession, Madera is projected to post growth rates in positive territory. Employment in all counties is projected to grow, making it another milestone since the end of the recession in January 2009. Employment gains in counties such as Stanislaus and Merced continue to be modest at about .8 percent for each.

Over a 10-year period, the Valley economy’s growth rate in employment was three times as that of the state. More recently however, employment growth in the Valley hovered just slightly above this number due to cyclical factors.

It is now apparent from the time series plot that if the same trend before the recession had continued, the remaining gap would likely close in early 2015. Further, by spring 2013 long-term benchmark employment growth was .91 percent per year. The growth rate of 1.92 percent in 2012 was more than twice this rate.

Our predictions point to further growth in employment at 2.64 and 3.25 percent in 2013-14 and 2014-15 forecasting intervals respectively. Because sequestration is occurring concurrently with monetary easing any dampening impact by the former is not expected to jeopardize the Valley’s recovery buildup or bring about a significant slowdown in the immediate future. However, in the upcoming quarters some slowdown will almost certainly occur.
A fairly accurate leading indicator, the Conference Board’s Consumer confidence index continued its gradual increase to offset losses sustained during the recessionary period. The positive trend is expected to become steeper as consumers accumulate further wealth as housing prices maintain their upward trend. The jump in University of Michigan’s similar series in late March was another indicator of higher consumer expectations of wealth accumulation in the upcoming months.
Since the end of the recession Valley labor force growth had begun to exceed employment growth. The gap between the two now appears to be widening similar to the period before the recession. This new pattern, consistent with its historical behavior, is projected to prevail in the forecasting interval during which labor force is expected to exceed employment growth in the Valley.

Unlike its historical behavior, Valley employment growth continued to perform head-to-head with employment growth in California. Historically however, because the Valley economy is a region of growth with relatively abundant land, labor and capital, employment growth exceeds that of the state. This historical pattern is expected to be more apparent in the coming months as the two patterns of growth continue to revert and settle to their structural rates.
Yearly Real Growth Domestic Product (RGDP) growth rate in the fourth quarter of 2012 registered low at .1 percent, revised from -.1 percent after better than expected numbers for net exports. In the first quarter of 2013, RGDP registered 2.5 percent growth. Other positive readings in economic indicators such as industrial production index, housing, retail sales and consumer wealth convinced the Federal Reserve to adjust its forecast of average annual growth rate conservatively upward to 2.5 percent. This rate was consistent with our forecast of GDP from the previous report. Our projections now indicate that RGDP will grow at 2.64 percent during the forecast horizon up until mid-2015.

Valley education and health services employment growth continued its robust pattern. Despite the announced change of ownership of some medical centers such as Emanuel Hospital in Turlock, health care providers in the Valley continue to fall drastically short of meeting existing demand. Hence at the Valley’s aggregate level, the series is projected to grow at a steady state. The same holds for education employment despite the financial difficulties of some schools in cities such as Denair. It is worth noting that even during the recessionary period the growth in this series continued to stay in the positive territory.
Education and health services employment in the Valley is projected to grow at 2.6 percent in 2014 and catch its 10-year historical rate of 2.8 percent by 2015. On a year over year basis, education and health services employment has grown about 50,000 per year in the Valley. The same growth pattern is expected to prevail in 2014 and 2015.
During the pre-recession period, manufacturing in the valley grew at a seasonally adjusted rate of 1,250 employees a year displaying a slowly increasing long-run trend. After the recession, the trend became steeper as employment grew about 4 percent annually in 2010 and 2012. During the post-recession period, employment grew by approximately 3,500 a year. Manufacturing employment growth in 2012 was very significant at 4.08 percent. Our projections show this high growth rate will continue until the series reaches its prerecession level by early 2014.

Valley manufacturing employment is projected to grow at average rate of 4.55 percent from mid-2013 to mid-2015. Our conservative numbers are based on prior forecasts falling between the lower and mean forecast intervals. The forecasts caught the turning points in the series, accurately predicting the cyclical components.
The Institute for Supply Management’s (ISM), purchasing managers index (PMI) is a composite index of five "subindicators" that has some prediction over beginning and ending of recessions. PMI continued to stay above 50 points in the first half of 2013 pointing to expansion in the U.S. economy. Despite short-term fluctuations that at times have fallen below the threshold level of 50, the index mainly has managed to stay above. As a leading indicator of business cycles PMI has steadily pointed to expansion since the end of the recession in January 2009.

Perhaps the most convincing indicator of ongoing recovery buildup at the national level is the industrial production index. After hitting a well-defined trough in June 2009, the industrial production index has been constantly rising en route to catching its levels that have existed before the Great Recession. The series’ long run trend after the recession is now almost identical to the trend that existed before the recession.
Hotel occupancy rates soared in cities such as Stockton and Turlock. Resulting greater demand had a positive impact on Valley leisure and hospitality services employment. In 2012 employment in this category grew 2.1 percent. This is yet another series in which 2012 growth surpassed its 10-year benchmark rate of 1.2 percent.

Leisure and hospitality services employment is projected to grow at an annual rate of 2.58 and 2.92 percent in the Valley from mid-2013 to mid-2015. The existing demand in the market for leisure and hospitality services in the Valley continues to yield profitable opportunities for potential investors.
In the first half of 2013, trade, transportation and utilities employment in the Valley stayed on its expansionary path. Year-over-year growth pulled its 10-year average to .88 percent after the recession ended in January 2009. Yearly growth was the highest since the recession at 1.92 percent.

From mid-2013 to mid-2015, Valley trade, transportation and utilities employment is projected to grow at an average annual rate of 2.83 percent. A farm-related sector, trade, transportation and utilities employment is projected to grow faster as consumers continue to become more confident about their future purchases.
Retail employment is expected to pick up speed in the second half of 2013 in line with its pattern after the recession. Series dynamics is a lagging indicator to rising consumer wealth and confidence as home values improve. The jump in 2012 value to 1.89 percent relative to its 10-year average is a strong indicator of improvement in this sector.

Since the end of the Great Recession, Valley retail employment increased by 3,100 on a yearly basis. Our projections point to an increase of 3.0 percent per year from mid-2013 to mid-2015 which roughly corresponds to about 4,000 annually. The series exhibits a convex pattern pointing to steepening trend after January 2009.
In line with its historical pattern, wholesale employment grew faster than retail. Unlike previous years however, seasonal variations appear to be subdued since 2011 perhaps an indication of a new structural pattern following the recession. Valley wholesale employment growth in 2012 was one of the highest when compared to other employment sectors in the Valley. The concave pattern forming in the past few years however, is suggestive of a flattening trend.

In the last three months of 2012, Valley manufacturing employment registered below the 2012 average. However, recovery buildup in wholesale employment is projected to extend well into to the next two years. Average yearly growth is projected to materialize well above the benchmark rate of 1.80 at 3.37 percent from mid-2013 to mid-2015.
In the last four months of 2012, Valley information employment performed well above its year-by-year average since the recession ended in January 2009. In the fourth quarter of 2012, rate of growth significantly increased each month to about 3 percent, indicating that Valley information technology employment is no longer likely to struggle in its recovery since the Great Recession. The recovery in this sector is now projected to be relatively faster than previous years. In our previous report, we noted this sector as one of the struggling sectors; recently arriving figures indicate that this no longer appears to be the case for information employment.

Information employment in the Valley now has a well-defined turning point that occurred in the third quarter of 2009 and is therefore likely to be sustained. A hyperbolic pattern is no longer observed as the newly forming trend is relatively steeper. Information employment is now projected to grow fastest since January 2009, at an average annual rate of 2.90 percent from mid-2013 to mid-2015.
The fastest employment growth in the Valley occurred in construction employment consistent with prior projections. Ten-year benchmark average growth rate is projected to become positive by mid-2014 reflecting structural improvements in this sector. Construction employment will grow by about 5,000 employees every two years.

The Federal Reserve’s bond buying program is to continue until the national unemployment rate falls to 6.5 percent which translates to 12 percent for the Valley. The national unemployment rate now stands at 7.4 percent. The Federal Reserve’s intervention ultimately has pronounced effects in areas such as the Valley that are hit worst by the housing crisis. Valley, construction employment is projected to further grow by an annual average rate of 10.7 percent from mid-2013 to mid-2015.
Government employment is the only category that continued to decline in the Valley. However, in the last four months of 2012 there was a slowdown in the government employment decline rate. Previously, the most-likely and pessimistic scenarios pointed to continuation of the worsening in the forecasting interval. With the arrival of new numbers in the fourth quarter 2012 and first quarter of 2013, projections now indicate that the most likely and optimistic scenarios will switch into positive territory.

Valley government employment growth is expected to enter into positive territory in the second half of 2013 and continue with further increases in the upcoming quarter. Government employment is projected to grow at an annual average rate of .42 percent from mid-2012 to mid-2015. The government sector in the Valley through educational and other activities provides a significant economic impact by way of ripple effects.
Financial services employment was slow to build its recovery relative to other employment categories in the Valley. However, the numbers for the fourth quarter increased its 2012 average from 1.71 percent to 1.99 percent indicating that recovery in this category is continuing.

Relative to its own past dynamics however, financial services employment continued to recover marginally faster in the latter part of 2012 and will most likely to stay in recovery mode in the upcoming quarters. Valley financial services employment is projected to grow at an average annual rate of 3.64 percent from mid-2013 to mid-2015.

All categories of employment except government employment continued to create jobs in the Valley. Job creation rate differed, however, on a county-by-county basis, whereby most job creation occurred in Kings and San Joaquin and least in Madera. Government employment is projected to begin growing again starting from the second half of 2013.
Household Sector

This report utilizes actual, rather than inputted, building permits. The data for the San Joaquin Valley are obtained from the U.S. Census Department. The total figure is obtained by summing the values that belong to the eight major Metropolitan Statistical Areas (MSA) of San Joaquin Valley, as defined by the Bureau of Labor Statistics.

Relative to the recession years, for every one housing permit issued, now five are being issued in the Valley. Valley housing permits continued to increase significantly in 2012 at an average annual rate of 16.77 percent.

Building permit activity was quite significant in 2012, even when compared to the post-recession years of 2009 through 2011. This improvement in the construction sector reflected by building permits will continue in the second half of 2013.
Factors such as the Federal Reserve’s bond buying program will last until unemployment is at its natural rate. Rising consumer wealth will contribute to the much needed impetus in the Valley’s construction sector. Valley building permits are projected to grow at an average annual rate of 14.65 percent from mid-2013 to mid-2015.
2012 was a year during which Valley housing prices posted a yearly positive change for the first time since the recession. This trend continued into the first half of 2013 and is projected to stay positive in the upcoming quarters. A well-defined turning point occurred much earlier, in the third quarter of 2008.

The yearly rate of increase in the third and fourth quarters of 2012 was 2.65 and 3.67 percent. The positive rates of growth now point to the beginning of a new period of price appreciation in the Valley. As recovery buildup continues, average yearly appreciation in housing prices is projected to be 6.0 percent.
Inflation continued to remain lower than anticipated rates despite ongoing interventions by the Federal Reserve. Interestingly, in the first quarter of 2013, inflation fell below its long run average rate bringing back deflation worries. The low price of oil removed cost-push worries and demand-pull factors were not strong enough to increase inflation.

The inflation rate of 1.7 percent in February 2013, falling below 2.0 percent, was a reason for deflation worries to emerge but in March inflation came back up to 2.0 percent. The Federal Reserve’s easy monetary policy is continuing indefinitely. Inflation rate in the Western part of the nation is now registering at a rate equal to the overall national rate, a sign that aggregate demand is now expanding relatively faster in the Western region. Typically, inflation rates in the Western region post lower than the national level.
Inflation rate in the Western region is projected to stay close to its long-term benchmark rate. Since the end of the recession in January of 2009, there was little upward activity in the inflation rate. In the first quarter of 2013, inflation continued its lower than anticipated course. Average yearly rate of inflation in the West is projected to register at 2.43 percent during the forecasting interval.

The U.S. dollar is projected to remain as the preferred currency relative to the euro in the upcoming quarters as the debt problems of the European Union continue to emerge in other member nations. Competitive currency devaluations on the part of other countries are not expected to have a significant effect on the future course of the U.S. dollar. Favorable movements in the U.S. exchange rate will further improve the U.S. current account position, positively contributing to U.S. gross domestic product.
Valley weekly wages rose at a slower pace in the first three quarters of 2012. The slow increase in wages may be explained by inflation staying at modest rates during the same interval. A 10-year benchmark rate of 3.0 percent implies that wages have been rising less than the normal rate in the past couple of years.

With the inflation rate remaining lower than anticipated, weekly wages are likely to rise at a slower pace. Valley weekly wages are projected to increase at an average yearly rate of 2.25 percent from mid-2013 to mid-2015. The projected linear trend is likely to stay relatively flat when compared to previous years due to unemployment rates falling at a slower rate than they have in the aftermath of previous recessions.
2012 weekly wage growth did not keep up with inflation in the Valley. Wages declined further, at a yearly rate of 1.67 percent in the third quarter of 2012 when the inflation rate registered at 2.2 percent. Additional factors such as structurally high unemployment rates in the Valley contributed to the lingering excess supply of labor causing wages to lag behind inflation.
Banking and Capital Markets

Valley regional and community banks constitute the banking data which excludes major national banks. Bank deposits registered a spike in the fourth quarter of 2012. Improving consumer activity and wealth positively impacted Valley bank deposits. Record breaking stock market performance in the first quarter of 2013 caused a greater number of investors to pull their money from cash holdings and invest in stocks to take advantage of higher risk-adjusted returns.

Valley bank deposits' yearly rate of increase in the 2012 fourth quarter was 5.32 percent pulling the overall 2012 average even higher to 4.19 percent. As recovery buildup continues in the Valley, bank deposits are further projected to increase from mid-2013 to mid-2015. The upward trend will continue at an average yearly rate of 5.08 percent.
Perhaps the most convincing evidence of the improved balance sheet activity of the Valley consumer is the assets in default data. Valley assets that are in accrual 90-plus days displayed the steepest decline since the end of the recession in 2009. Further, assets in accrual 30 to 89 days no longer exhibits a horizontal pattern but instead now displays a sharp fall similar to the decreases observed in other accrual data. Valley assets in default now appear to be almost back to prerecession levels suggesting that the average consumer is in better financial health today than a few years back.
Newly arriving numbers show that Valley banks continued to extend loans and leases in the second half of 2012. The trend following the well-defined turning point in the second quarter of 2012 now appears to approach toward the trend that existed before the recessionary years.

The yearly average rate of growth is projected to become positive in the latter half of 2013. Valley net loans and leases are projected to increase at an average yearly rate of 3.11 percent from mid-2013 to mid-2015. This yearly average rate is still smaller than the 10-year benchmark rate of 5.38 percent, indicative of relatively more prudent lending behavior on the part of Valley banks.

The Federal Reserve’s open-ended bond buying program continues to help banks extend loans in the Valley. Falling assets that are past due will further help consumers improve their credit ratings and obtain loans with greater ease than before. Rising bank deposits will further enable local banks to extend more loans and leases in the Valley.
Summary and Concluding Remarks

The Valley’s economic outlook continued to improve in the first half of 2013. On a year-to-year basis, the Valley economy is projected to make further progress in the expansionary phase of its business cycle.

Fastest growth in Valley employment continued to occur in construction and manufacturing employment while government employment continued to decline. Kings and San Joaquin counties posted highest growth numbers in employment while Madera posted the least. However, total employment grew in all counties over the previous 12-month period. Valley aggregate employment grew at an average yearly rate of 1.92 percent.

Perhaps the most convincing indicator of improved consumer activity in the Valley is the assets in default data. Assets that are 90-plus days due and those between 30 and 89 days due displayed the sharpest decline since the recession ended in January 2009. Based on accrual data, it appears that the health of consumers’ balance sheets continued to improve in the first half of 2013.

Construction and farm related manufacturing employment grew the fastest in the Valley while government employment was the only sector that sustained a decline in 2012. Building permits continued to grow at a much higher pace than in previous years in the Valley. Information employment is no longer stagnant and began posting higher than 10-year benchmark rates, joining other categories in recovery buildup.

Average growth in sales price of new single-family homes is projected to be at least 5 percent per year from mid-2013 to mid-2015. Foreclosures continued to fall at a faster pace and are projected to fall further in the upcoming quarters. The Federal Reserve’s bond buying program is to continue until employment at the national level falls below 6.5 percent. The Fed’s ongoing intervention appears to have a favorable impact on the Valley.

Incoming data from the last quarter of 2012 and the first quarter of 2013 point to continuation of the recovery buildup in the Valley. The typical consumer is now in a healthier financial state than previous years. Rising home prices will likely continue to increase consumer wealth and confidence, improving overall business sentiment in the Valley.
## Appendix

### Forecast Accuracy Table

<table>
<thead>
<tr>
<th>Category</th>
<th>Error</th>
<th>Accuracy</th>
<th>Turning Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Employment</td>
<td>0.40%</td>
<td>99.60%</td>
<td>Yes</td>
</tr>
<tr>
<td>Real GDP</td>
<td>2.15%</td>
<td>97.85%</td>
<td>No</td>
</tr>
<tr>
<td>Construction</td>
<td>8.86%</td>
<td>91.14%</td>
<td>No</td>
</tr>
<tr>
<td>Education &amp; Health</td>
<td>-0.62%</td>
<td>99.38%</td>
<td>Yes</td>
</tr>
<tr>
<td>Government</td>
<td>-0.30%</td>
<td>99.70%</td>
<td>Yes</td>
</tr>
<tr>
<td>Financial Services</td>
<td>0.46%</td>
<td>99.54%</td>
<td>Yes</td>
</tr>
<tr>
<td>Information</td>
<td>-2.57%</td>
<td>97.43%</td>
<td>Yes</td>
</tr>
<tr>
<td>Leisure &amp; Hospitality</td>
<td>-1.56%</td>
<td>98.44%</td>
<td>Yes</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>2.93%</td>
<td>97.07%</td>
<td>Yes</td>
</tr>
<tr>
<td>Retail</td>
<td>1.94%</td>
<td>98.06%</td>
<td>Yes</td>
</tr>
<tr>
<td>Trade &amp; Transportation</td>
<td>0.25%</td>
<td>99.75%</td>
<td>Yes</td>
</tr>
<tr>
<td>Wholesale</td>
<td>1.57%</td>
<td>98.43%</td>
<td>Yes</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.39%</td>
<td>99.61%</td>
<td>Yes</td>
</tr>
<tr>
<td>Quarterly Average Wage</td>
<td>2.79%</td>
<td>97.21%</td>
<td>Yes</td>
</tr>
<tr>
<td>Change in Housing Price</td>
<td>-3.02%</td>
<td>96.98%</td>
<td>Yes</td>
</tr>
<tr>
<td>Bank Deposits</td>
<td>-1.88%</td>
<td>98.12%</td>
<td>Yes</td>
</tr>
<tr>
<td>Net Loan/Leases</td>
<td>1.72%</td>
<td>98.28%</td>
<td>Yes</td>
</tr>
<tr>
<td>Housing Permits</td>
<td>14.96%</td>
<td>85.04%</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>2.68%</strong></td>
<td><strong>97.32%</strong></td>
<td></td>
</tr>
</tbody>
</table>