

Central California

FEBRUARY
2018

BUSINESS REVIEW

FEBRUARY 2018 » VOL. 1 » NO. 1



Gain insights into
the local economy

Survey of Business Conditions
Consumer Sentiment Survey
Real Estate Sentiment Index
Labor Market
Agriculture
Manufacturing
Banking
Global Business

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STATE
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FEBRUARY
2018

Central California BUSINESS REVIEW

MISSION

To report on the economic and financial health of Central California.

SURVEY OF BUSINESS CONDITIONS

CONSUMER SENTIMENT SURVEY

REAL ESTATE SENTIMENT INDEX

LABOR MARKET

AGRICULTURE

MANUFACTURING

BANKING

GLOBAL BUSINESS

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Messages from the Dean and Chief Economist

The Craig School of Business is pleased to share with you this inaugural edition of the *Central California Business Review*. We take great pride in supporting economic development in the region, not only by providing graduates who are starting professional careers but also through centers and institutes devoted to community support. Such support includes activities from the Arnold & Dianne Gazarian Real Estate Center, the Institute for Family Business, the Lyles Center for Innovation and Entrepreneurship, and the University Business Center.



Our Review features insights into the regional economy across multiple sectors, including overall business conditions, consumer and real estate sentiments, the labor market, agriculture, manufacturing, banking, and global business. Future annual editions may focus on different sectors of our economy. After reviewing this publication, I hope you'll agree that collectively, the reports indicate generally positive current economic conditions extending at least into the relatively near future.

I am pleased and grateful for the support and efforts that have gone into generating this inaugural publication. The authors range from a variety of disciplines and backgrounds and have eagerly provided their talents to report on their respective areas of expertise. Our participating partners have embraced the potential impact of this report and have enthusiastically provided assistance. I offer a special thank you to Wells Fargo as our Founding Sponsor and to the Educational Employees Credit Union for sponsoring the Consumer Sentiment Survey.

A handwritten signature of Robert M. Harper.

Robert M. Harper
Dean, Craig School of Business, California State University, Fresno

As a former Dean at Sacramento State, I concur with Dean Robert Harper about the importance of the role played by his team in promoting the economic vibrancy and success of Central California. Wells Fargo is proud to be the founding sponsor of this objective and comprehensive economic commentary and intellectual analysis that provides guidance on the future business conditions. I commend Dean Harper and his colleagues for taking on this wonderful public service for the region.



Sanjay Varshney, PhD, CFA
Senior Vice President and Investment Strategy Specialist for California and Nevada - Wells Fargo Private Bank
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FEATURES

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SURVEY OF BUSINESS CONDITIONS

For the past several months, the San Joaquin Valley Survey of Business Conditions has remained strong providing a healthy indicator of upcoming economic conditions and business confidence, which has paralleled the national indicator prepared by ISM, the Institute for Supply Management.

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CONSUMER SENTIMENT SURVEY

From a survey of consumers in the region, almost 90 percent of respondents expect their income to improve or stay the same in the future, although most also feel that inflation will outpace the rise in income. Further, the majority also expect that regional business conditions will improve or at least stay the same over the next year, although they tended to be somewhat less optimistic when compared to similar national data.

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REAL ESTATE SENTIMENT INDEX

From a survey by the Gazarian Real Estate Center at the Craig School of Business, the sentiment index overall and for all sectors except agriculture generally started at a relatively low and mildly negative sentiment in 2012, increased to a mild positive sentiment for the next three years, and then stagnated or even slightly dropped in 2016 and 2017. The sentiment index for agriculture started with a very positive sentiment in 2012 but declined somewhat in most subsequent years still remaining mildly positive in 2017.

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LABOR MARKET

Although per capita income in the region is significantly lower than the state and the nation, the region's employment growth outpaced the state and the nation in 2016-2017. Improving the quality of its growing labor force would make Central California a more attractive choice for labor-intensive businesses.

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AGRICULTURE

Agriculture remains the backbone of the regional economy, contributing 25 percent to the total GDP and 17 percent of the regional employment. Fruit and nut crops are the major crops in terms of value followed by dairy products and cattle. Prices for agricultural products generally declined in 2016 compared to the previous year.

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MANUFACTURING

Manufacturing in the Central Valley is showing growth with over 1,500 manufacturers identified in the region with total employment exceeding 66,000, led by food manufacturing. Key areas of need include labor force training, exposure to career opportunities, and organizational training to improve performance of manufacturers.

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BANKING

Central California-based banks and credit unions are experiencing strong growth in their loan portfolios, well above peers, with banks funding this loan growth primarily with new deposits. Credit unions are heavily reliant on vehicle loans which may prove challenging in the future. Future economic and regulatory conditions may prove beneficial for commercial real estate loans.

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GLOBAL BUSINESS

Central California exports in 2014 exceeded \$11.5 billion with agribusiness holding the lion's share. Foreign Direct Investment (FDI) is increasingly creating jobs in the region through mergers and acquisitions with investments mainly from England, Japan and the Netherlands.

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AUTHORS AND PARTICIPATING PARTNERS



Survey of Business Conditions

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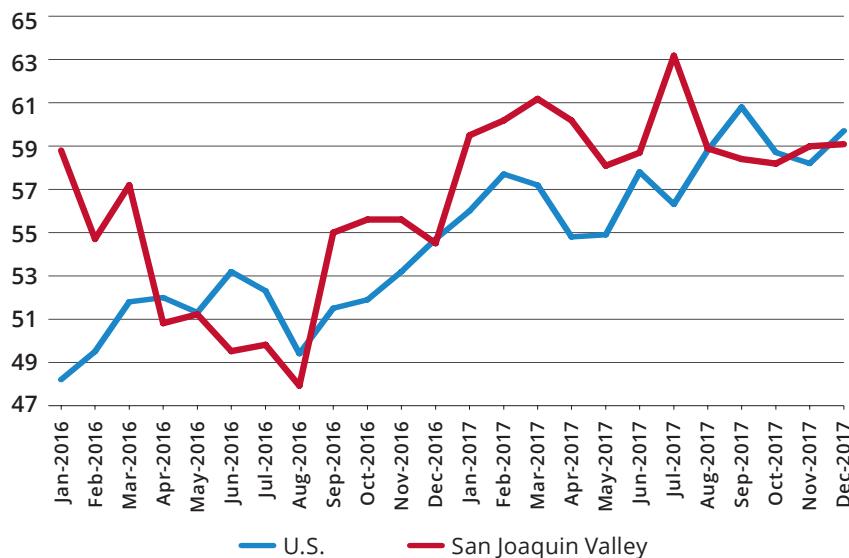
KEY POINTS

- Leading economic indicator rises to healthy level from November's stout reading, signaling healthy growth ahead.
- Wholesale price gauge indicates elevated and climbing inflationary pressures.
- Only 14.3 percent of respondents think the abolition of the North American Free Trade Agreement would have a negative impact of their company's profitability.
- In terms of the greatest challenge to company profitability over the next five years, rising regulatory costs named by 28.6 percent was the top issued identified.

The San Joaquin Valley Business Conditions Index advanced into a range pointing to healthy growth in the next three to six months. The index is a leading economic indicator from a survey of individuals making company purchasing decisions for firms in the counties of Fresno, Kings, Madera, and Tulare. It is produced using the same methodology as that of the National Institute for Supply Management (www.ism.ws).

The San Joaquin Valley Business Conditions Index advanced into a range pointing to healthy growth in the next three to six months.

Figure 1
PMIs for U.S. & San Joaquin Valley
January 2016 – December 2017



Overall Index

From November's strong 59.0, the region's Business Conditions Index inched higher to 59.1. Since bottoming out in August 2016, the index has moved into a range indicating healthy economic growth ahead. An index greater than 50.0 indicates an expansionary economy over the course of the next three to six months. Survey results for the last two months, and one-year ago are listed in Table 1.

"This is the sixteenth straight month that the overall index has moved above growth neutral. For a third consecutive month, the survey tracked weakness among non-durable goods producers. However, gains for durable goods manufacturers more than offset

weakness among non-durable goods producers. As in recent months, construction and wholesale trade activity in the San Joaquin Valley continued to expand at a healthy pace," said Ernie Goss, PhD, research associate with the Craig School of Business at California State University, Fresno.

This month survey respondents were asked to identify the greatest economic challenge facing their companies' profitability over the next five years. Approximately 28.6 percent, named rising regulatory costs as the biggest threat, while more than one in five, or 21.4 percent indicated slow or negative economic growth as the largest challenge to their businesses over the next five years.

TOP IDENTIFIED GREATEST CHALLENGE
to company profitability is rising regulatory costs.



Over the past 12 months, the San Joaquin region has experienced STRONG JOB GROWTH at 1.6 percent.



Employment

After moving below growth neutral for December 2016, the employment gauge has climbed above the threshold every month since. The December index advanced to a solid 53.6 from November's 50.1. "Over the past 12 months, the San Joaquin region has experienced strong job growth at 1.6 percent, which is significantly above the nation's 1.4 percent gain for the same period of time," reported Goss.

Survey of Business Conditions



Wholesale Prices

The prices-paid index, which tracks the cost of purchased raw materials and supplies, soared to 83.3 from 75.0 in November, indicating elevated and rising inflationary pressures at the wholesale level. "I expect inflationary pressures at both the consumer and wholesale level to rise in the months ahead. Even though both our regional wholesale inflation index and the U.S. inflation gauge are elevated, I expect the Federal Reserve to forgo a short-term interest rate hike at the next meeting of their rate setting committee on February 1. However, I do expect a 0.25 percent rate increase at the March 15 meetings," said Goss.

Business Confidence

Looking ahead six months, economic optimism, as captured by the business confidence index, expanded to a very strong 70.1 from November's healthy 61.6. "Healthy profit growth, still low interest rates, and the recently passed tax reform package pushed business confidence to a very robust reading," reported Goss.

Inventories

In another show of economic confidence, the inventory index remained above growth neutral for December. The December inventory was unchanged from November's very healthy 62.6.

Trade

The new export orders index was unchanged from November's 30.0, while the import index rose to 69.7 from 64.3 in November.

Only 14.3 percent of respondents expect an abolition of the North American Free Trade Agreement (NAFTA) to negatively affect their company. "It is surprising to measure little concern regarding the abolition of NAFTA," reported Goss.

Other Components

Other components of the December Business Conditions Index were: new orders at 52.0, up from 50.0 in November; production or sales at 61.9, down from November's 66.7; and delivery lead time at 65.4, down slightly from last month's 65.5.

Table 1 details survey results for December 2016, November 2017, and December 2017. January's survey results will be released on the first business day of February.

Table 1
Overall and component indices for last 2 months and one year ago
(above 50.0 indicates expansion)

	San Joaquin Valley		
	December 2016	November 2017	December 2017
Leading economic indicator	54.5	59.0	59.1
New orders	54.9	50.0	52.0
Production or sales	54.9	66.7	61.9
Employment	49.0	50.1	53.6
Inventories	62.0	62.6	62.6
Delivery lead time	51.8	65.5	65.5
Wholesale prices	54.2	75.0	83.3
Imports	49.1	64.3	69.7
Export orders	50.8	30.0	30.0
Business confidence	64.4	61.6	70.1

References

Craig School of Business: www.fresnostate.edu/craig/ubc/sjvs.html
Goss video: San Joaquin Valley Business Conditions Index, December 2017
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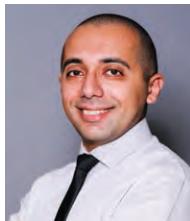
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CONDITIONS
BUSINESS



Consumer Sentiment Survey

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The majority of respondents expect that regional business conditions will improve.

KEY POINTS

- Consumer sentiment in the region is generally positive.
- Over 90 percent of respondents expect their income to rise (43%) or stay the same (48%) over the next year.
- Respondents anticipate their personal economic situation to improve over the next 5 years (53%) and over the next year (44%).
- The majority of respondents expect that regional business conditions will improve (31%) or at least stay the same over the next year (50%).
- Generally, respondents expect that inflation will increase faster than their income.
- Compared to national data, regional respondents are less positive about the improvements in their current personal economic conditions compared to the past year and past five years, but more positive regarding the future.

The Central California Business Review has conducted a survey of consumer sentiment in the Central California region. The survey was adapted from the University of Michigan Consumer Sentiment Survey. The sample is composed of 1,837 respondents recruited via a marketing research firm with respondents having the following county representation to parallel relative populations: Fresno (55%), Tulare (18.4%), Merced (13.2%), Madera (6.6%), and Kings (6.3%).

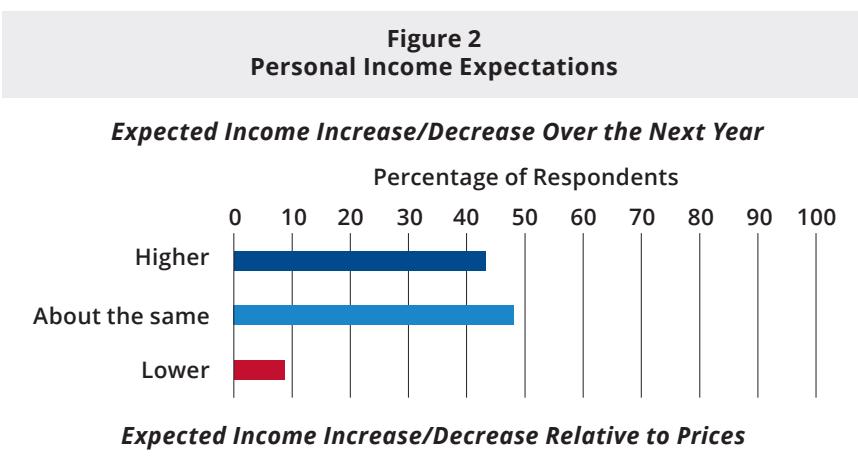
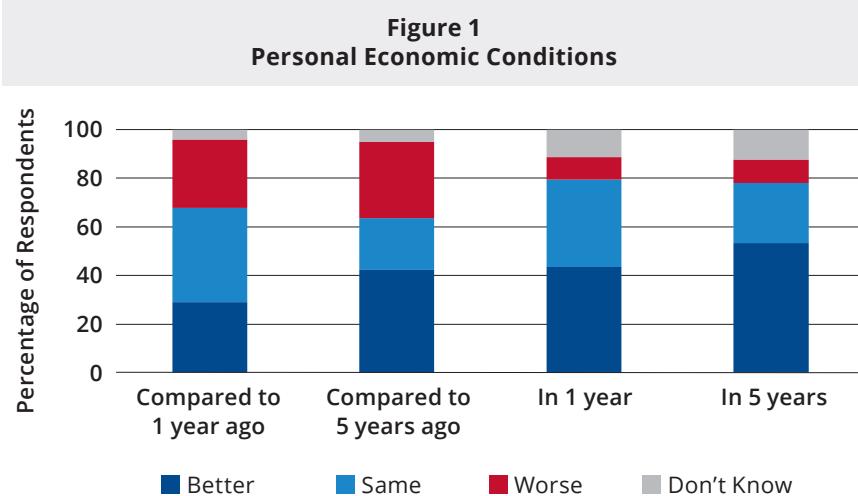
The survey included measures of personal and regional economic conditions, as well as purchasing and credit utilization. The findings indicate that overall consumer sentiment in the Central California region is generally positive.

Regional Consumer Sentiment

Personal economic situation is perceived to be, generally, better five years ago, 42 percent of respondents reported that they are currently experiencing better financial situations. When compared to one-year ago, 29 percent reported being financially better off now and 39 percent reported being the same (Figure 1).

When asked about expectations for their future personal financial situation, respondents indicated positive anticipations for the upcoming year as well as the next five years. Approximately 44 percent of respondents expect to be better off financially in one-year. Looking at five years ahead, about 53 percent of respondents indicate positive expectations about their personal financial situation. Only 9 percent expect to be worse off financially one-year and five years from now (Figure 1).

Additionally, 43 percent of respondents expect their household income to increase over the coming year. Another 48 percent expect household income to remain the same, and only 9 percent expect a decrease in household income. On average, respondents expect an increase of 6.5 percent in income over the next year. The median anticipated change in household income was 3 percent. Sixty-seven percent of respondents anticipate prices to go up during the next 12 months. When asked to compare anticipated increase in prices (i.e., inflation) to anticipated increase in household income, 34 percent of respondents expect prices



to increase more than their income over the next year or two. On the other hand, 21 percent of respondents expect their income to increase more than prices, and 30 percent expect a similar increase in their income and prices (Figure 2).

Reflecting on the region's overall economy, respondents indicate that economic conditions have improved

(28%) or stayed the same (49%) over the past year, and they expect conditions to continue to improve (30%) or stay the same (50%) over the next year (Figure 3).

When asked about general business conditions, 30 percent of respondents expect good times, 54 percent expect a mix of good and bad times, and only 9 percent expect bad times.

Consumer Sentiment Survey



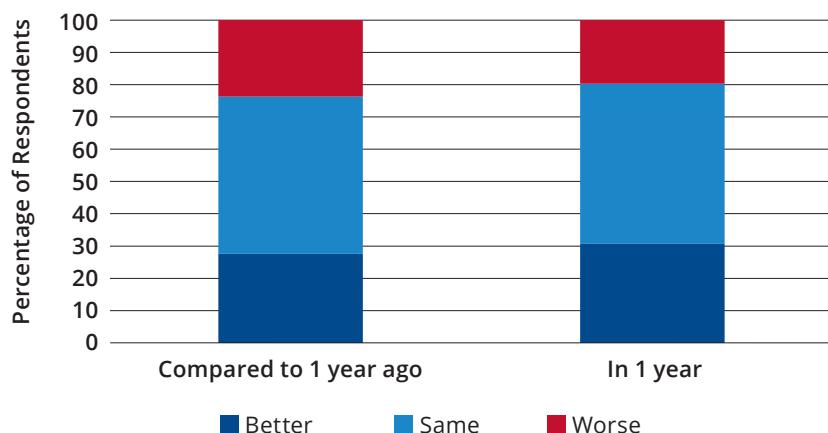
Regional vs. National Sentiment¹

To compare regional sentiment with national sentiment measures, we included questions adapted from the University of Michigan Consumer Sentiment® survey to address the Central California region. Following the University of Michigan method of analysis, relative scores were calculated. Relative scores above 100 suggest more respondents indicated favorable expectations than unfavorable expectations. Scores below 100 suggest respondents indicated more unfavorable than favorable expectations. We compared relative scores of Central California to national relative scores.

Generally, when compared to the national respondents, Central California respondents perceive their personal finances to be less improving over the past year (relative scores: 101 vs. 129) and over the past five years (relative scores: 111 vs. 140). However, respondents in Central California indicate more positive expectations about their personal financial situation over the next year (relative scores: 134 vs. 130) as well as after five years (relative scores: 144 vs. 141).

Data from the Central California survey and national survey indicate that consumers expect an increase in both prices and income over the next year. The expected increases are found to be lower among Central California (vs. national) respondents for both income (relative scores: 135

Figure 3
Regional Economic Conditions



vs. 147) and prices (relative scores: 163 vs. 180). Respondents in both samples similarly anticipate that the increase in prices will surpass the increase in income level (relative score of 87 in both samples).

Further, we compared the perceptions about regional business conditions among Central California respondents to the perceptions about national business conditions in the national survey. Both samples indicate perceived improvement in business conditions during the past year. However, when compared to those of Central California, national respondents indicate higher perceived improvements in business conditions during the past year (relative scores: 104 vs. 128). Both samples similarly expect positive improvements to happen over the coming year (Table 1).

Purchasing and Credit

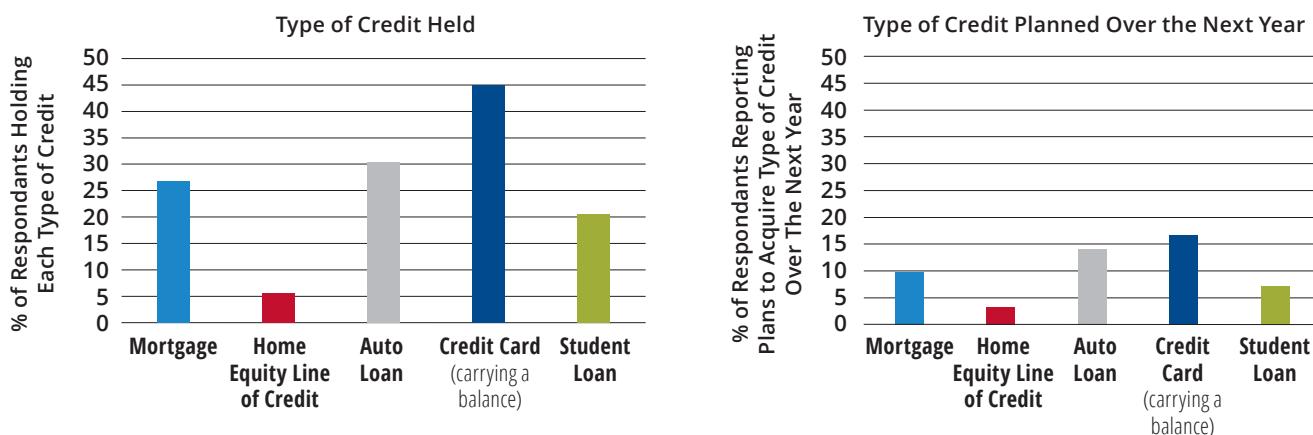
Respondents also completed questions about major purchases. Approximately 42 percent of respondents reported making a major household purchase during the past 6 months (e.g., furniture, television, major appliances, etc.), and about 44 percent of respondents anticipate making one during the next 6 months.

As for credit utilization, respondents indicate types of credit they currently hold. About 27 percent of respondents hold a mortgage, 30 percent hold an auto loan, 45 percent have a credit card carrying a balance, and 21 percent hold a student loan. Additionally, respondents reported their plans to acquire different types of credit in the next year. Respondents indicate that they plan to seek mortgages (10%), auto loans (14%), student loans (7%) and obtain credit cards (17%) within the next 12 months (Figure 4).

Table 1
Regional Vs. National¹

Category	Regional Relative Score	National Relative Score	Comparison	Interpretation
Personal Economic Conditions				
Current Financial Situation Compared to 5 Years Ago	111	140	⬇️	Region perceives less improvement over past 5 years.
Current Financial Situation Compared to a Year Ago	101	129	⬇️	Region perceives less improvement over past year.
Expected Change in Financial Situation in a Year	134	130	⬆️	Region expects more improvement over next year.
Expected Change in Financial Situation in 5 Years	144	141	⬆️	Region expects more improvement over next 5 years.
Personal Income Expectations				
Expected Household Income Change Over the Next Year	135	147	⬇️	Region expects less income growth over the next year.
Expected Change in Prices Over the Next Year	163	180	⬇️	Region expects less inflation over the next year.
Expected Change in Household Income Relative to Prices	87	87	↔️	Region expects equivalent real income growth over the next year.
Economic Conditions				
Current Business Conditions Compared to 1 Year Ago	104	128	⬇️	Region perceives less improvement over past year.
Expected Change in Business Conditions in 1 Year	111	112	↔️	Region expects similar conditions over the next year.

Figure 4
Types of Credit Held and Planned Over the Next Year



Endnotes

1 National data from the University of Michigan Consumer Sentiment Survey 2017 Data. Available at: <https://data.sca.isr.umich.edu/>
Relative score values calculated as % of favorable responses minus % of unfavorable responses plus 100. Positive or negative comparison indications are provided for regional vs. national score differences exceeding 2 points.

Thank you Educational Employees Credit Union (EECU) for sponsoring this survey.

Real Estate Sentiment Index



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KEY POINTS

- The overall Real Estate Sentiment Index and those for all sectors except agriculture generally start at a relatively low and mildly negative sentiment in 2012, increase to a mild positive sentiment for the next three years, and then stagnate or even slightly drop in 2016 and 2017.
- The sentiment index for agriculture started with a very positive sentiment in 2012 but declined somewhat in most subsequent years, still remaining mildly positive in 2017.
- The sentiment for six months in the future in most cases, although often still positive, was generally more pessimistic or "worse" than the current sentiment. Yet, the current sentiment in the subsequent year often proved "better" than the prior year's current sentiment.

Sentiment indices, such as the Housing Market Index (HMI) from the National Association of Home Builders, are popular tools to indicate consumer and producer confidence levels in various sectors of an economy. Forecasts from these indices have proven to be significantly accurate. The Gazarian Real Estate Center at the Craig School of Business has been conducting the Real Estate Sentiment Index survey sent to approximately 2,000 local real estate professionals every spring since 2012 with just over a 7 percent response rate. Responses frame an index for various market sectors ranging from 1 to 5, respectively representing a scale of negative, mild negative, neutral, mild positive, and positive.

Overall Sentiment

The first time the Real Estate Sentiment Index was calculated in Spring 2012, the Fresno area was still struggling with the aftermath of the 2007-09 financial crisis. The overall present index reflected a "mild negative" sentiment, while the 6-month index indicated a



Since 2012,
both CURRENT
AND FUTURE
SENTIMENT
have become more
positive.



"neutral" sentiment. This is the only instance in six years of collected data in which respondents show a considerably more optimistic future market condition than the current sentiment. At the time, respondents were well aware that the local, state, and national economies were in "recovery" and that the future looked "brighter" than the present. The Spring 2013 sentiment index reflected a 36 percent increase in the current sentiment index compared to the previous year, but only a four percent increase in the six-month sentiment expectation. Starting in Spring 2013, the gap between present sentiment and future sentiment reflects a worsening of expectations (Figure 1).

Figure 1
Overall Sentiment Index

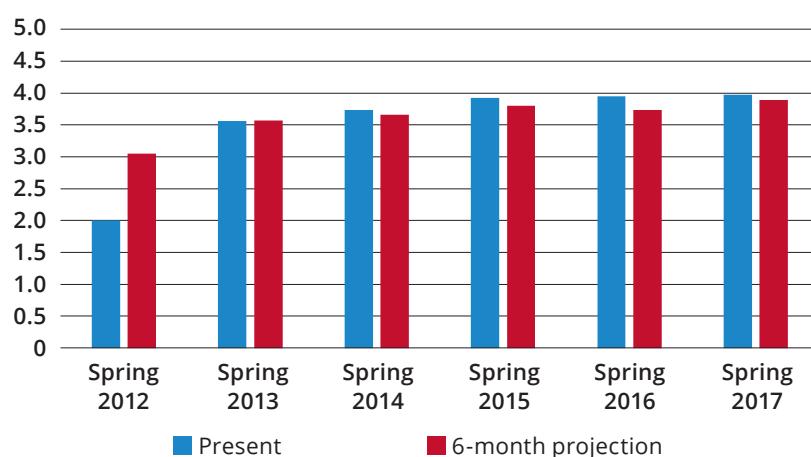
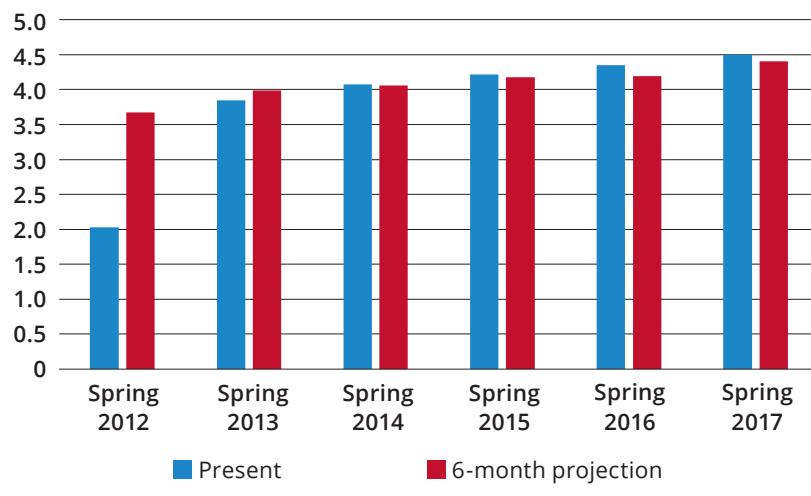


Figure 2
Single-family Residential Sentiment Index



Real Estate Sentiment Index

Responses related to both single-family and multi-family residential housing have resulted in a progressively positive present sentiment.



Single-family and Multi-family Residential

Responses related to both single-family and multi-family residential housing have resulted in a progressively positive present sentiment. The single-family residential present index started with a mild negative sentiment in 2012 and progressed to a mild positive in 2017. The majority of respondents do business in these segments, so their optimism is reflective of high expectations in their field. The multi-family residential index started slightly above neutral in 2012 progressing at a smaller rate until a slight decline in 2017.

Similar to the overall sentiment index, the difference between the present and six-month sentiment in both categories was positive in 2012, after which it becomes slightly less optimistic, but still mildly positive. For the Spring 2013 through Spring 2017 period, the multi-family residential future index averages a 4 percent negative gap relative to the present sentiment index, while the single-family residential index averages a 1 percent negative gap (Figures 2 and 3).

Agriculture and Land

The agriculture sentiment index reflects a different story compared to the other sectors. The present sentiment

Figure 3
Multi-family Residential Sentiment Index

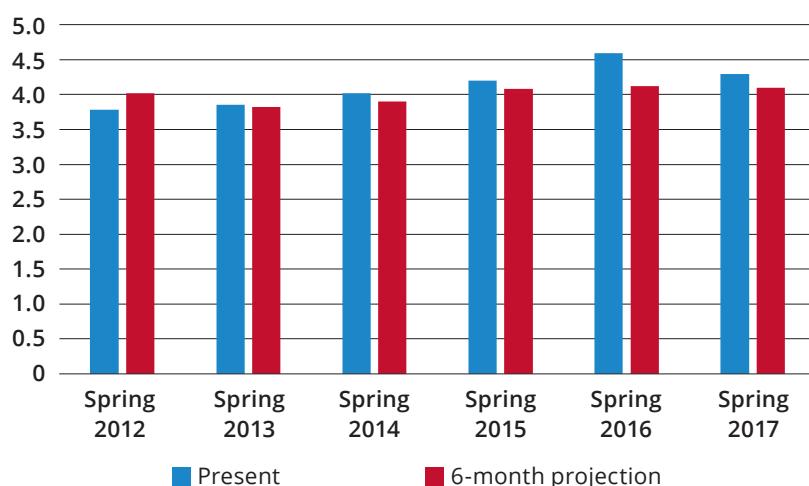
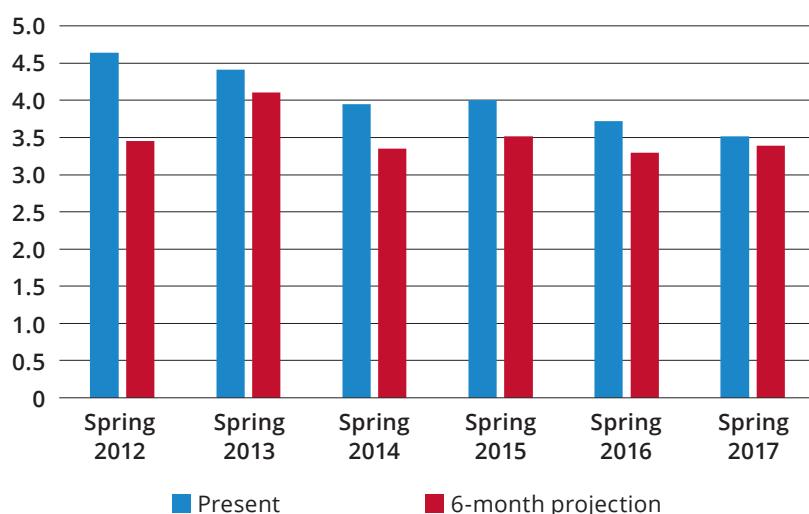


Figure 4
Agriculture Sentiment Index



progressively declined over the six-year period at an average of -5 percent, while the six-month projection shows positive and negative annual percent changes. The gap between the current and six-month sentiment is consistently negative at an average of -10 percent difference. The land market, on the other hand, has been progressively more optimistic, with positive annual percentage changes in three out of the five years, while the current versus six-months gap has been negative at an average of -2 percent (Figure 5).

THE INDUSTRIAL SENTIMENT progressed to an almost extreme positive sentiment in 2017.



Industrial

The industrial sentiment index started at a mild negative sentiment in Spring 2012 and progressed to a mild positive (and almost extreme positive!) sentiment in 2017. The rate of growth has been at an average of 17 percent in the six-year period. The six-month sentiment reflects a progressively more optimistic future, but the rate of change has been slower at an average 5 percent compared to the present sentiment. The gap between the two indices was positive for the first four years, and then slightly negative for 2016 and 2017 (Figure 6).



Figure 5
Land Sentiment Index

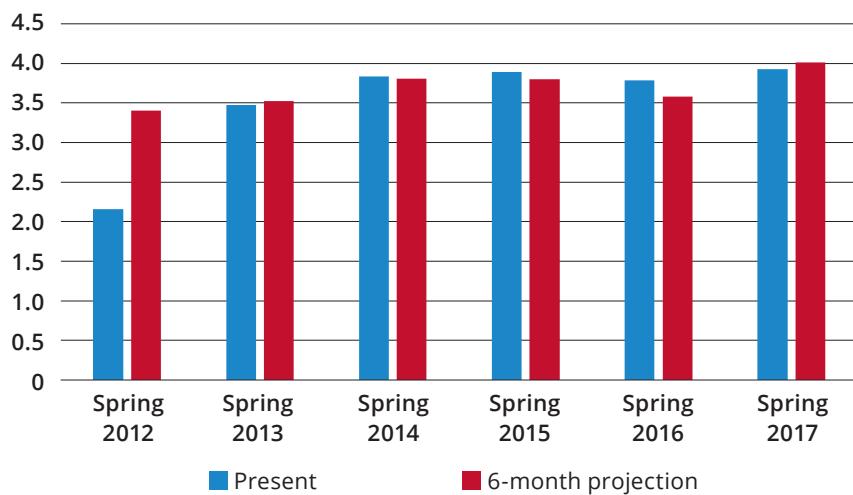
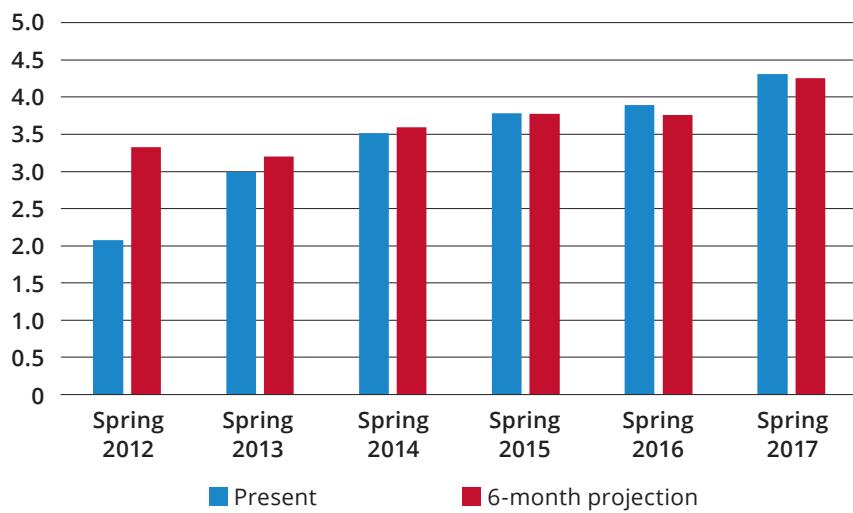


Figure 6
Industrial Sentiment Index



Real Estate *Sentiment Index*



**FOR OFFICE
AND RETAIL**
the six-month
projection indicates
a substantially
improved sentiment.



Office and Retail

The office and retail sentiment indices follow the same pattern as most of the previous indicators. The present index in 2012 is the lowest sentiment, but the six-month projection indicates a substantially improved sentiment. The present sentiment progressed to a "mild positive" in the last two years, but the six-month projection remained more optimistic for the period 2012 through 2014, and then became slightly less optimistic in the last three years (Figures 7 and 8).

Conclusions

Sentiment indices are a powerful tool that professionals, public officials, and policymakers can use to gauge the overall conditions of a specific market. Market statistics combined with sentiment measures obtained from surveying local experts can give a more detailed "story" behind a particular market analysis. The Gazarian Center Real Estate Sentiment Index provides an opportunity to realize potential business

Figure 7
Office Sentiment Index

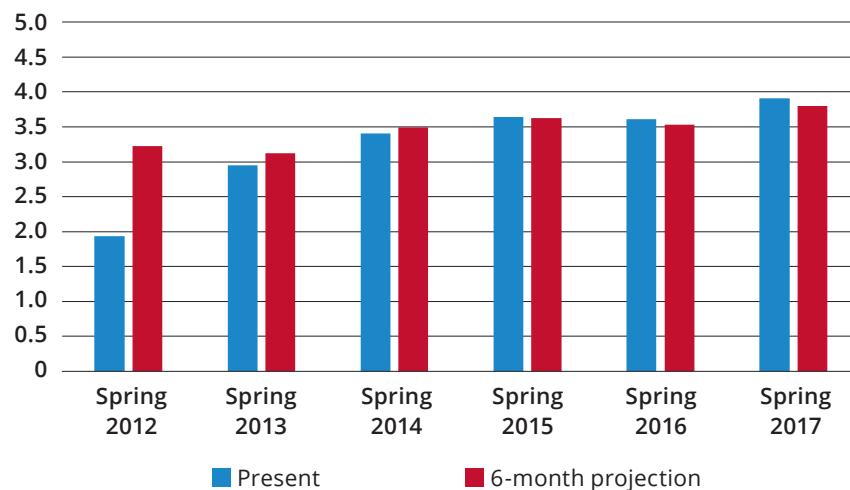
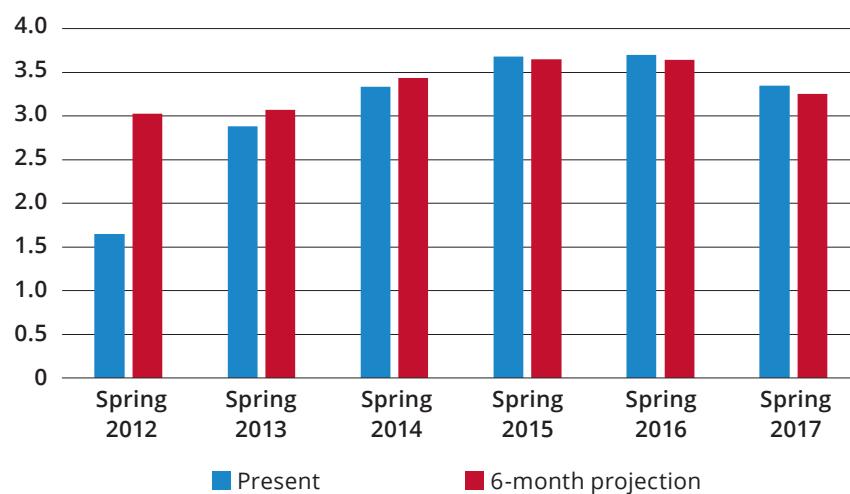


Figure 8
Retail Sentiment Index



**THE FED FINALLY INCREASED
THE INTEREST RATES in
December 2015, after almost 10 years
of no announced changes.**



Though current conditions always reflected a relatively high positive sentiment, the six-month expected market sentiment usually was “worse” than the present.

opportunities for local (and outside) investors looking to increase their investment returns.

The sentiment indices for all sectors seem to follow the same pattern except for the agricultural sector. They start at a relatively low sentiment in 2012, increase to a mild positive sentiment for the next three years, and then stagnate or even slightly drop in 2016 and 2017. This period is also consistent with the 2012-16 electoral cycle. Further, the actions of the Federal Reserve Bank related to interest rates at the time were still unclear, creating uncertainty in real estate markets. Since 2013, we asked survey participants to rate their six-month expectations for the single-family residential mortgage rate. Every year, more than 50 percent of respondents expected an increase in interest rates. Further, 73 percent of respondents expected an increase in 2014 and 67 percent expected an increase in 2015. The Fed finally increased the interest rate in December 2015, after almost 10 years of no announced changes.

The starting point in the analysis is a key benchmark to understanding the evolution of the local market sentiment. In the case of the Gazarian Center Real Estate Sentiment Index, our analysis indicates a progressively more optimistic market after the 2007-09 financial crisis. The sentiment indices, including the sub-market indices, follow a similar pattern reflective of the local dynamics in each submarket. We did not find much divergence in the submarket trends, and the sentiment progression was particularly clear. One interesting result of our analysis is that though current conditions always reflected a relatively high positive sentiment, the six-month expected market sentiment usually was “worse” than the present. This is particularly interesting in that the next year’s sentiment results still reflected a marginally higher sentiment.

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Central California's Labor Market & *Regional Economy*

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KEY POINTS

- Fresno's labor market has played catch-up since 2013. The region also showed good labor force growth led by Madera County in September 2016-September 2017.
- The region's employment growth outpaced the state and the nation in 2016-2017. Meanwhile, the unemployment rate has been significantly higher, especially in Tulare County.
- Natural resources and mining; education and health services; trade, transportation, and utilities; and manufacturing are the most important sectors with larger shares of employment in the local economies. Employment in information, financial activities, professional and business services, and leisure and hospitality fall clearly behind the state and the national average.
- Per capita income in the region is significantly lower than in the state and the nation. The share of low-income households increased in the region in recent years, which was partially caused by an under-educated labor force.
- Growing labor force, high unemployment rate, competitive local labor cost, if together with improved education and workforce development, would make Central California an attractive place to develop labor-intensive businesses.

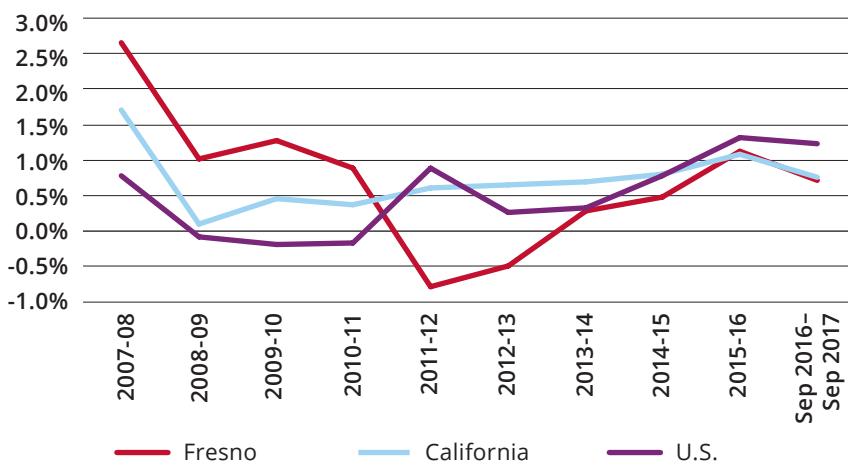
The annual employment growth in Fresno has kept abreast with the state and outpaced the nation since 2014-2015.

The Labor Market and Employment

The state and national labor market tumbled and recovered after the financial crisis. Fresno started to play catch-up in 2013 and outperformed the state in 2015-2016 with 1.13 percent annual labor force growth (Figure 1). Meanwhile, strong labor force growth occurred in all counties in the region except Merced County, which experienced only 0.15 percent of growth rate in September 2016-September 2017 (Figure 2).

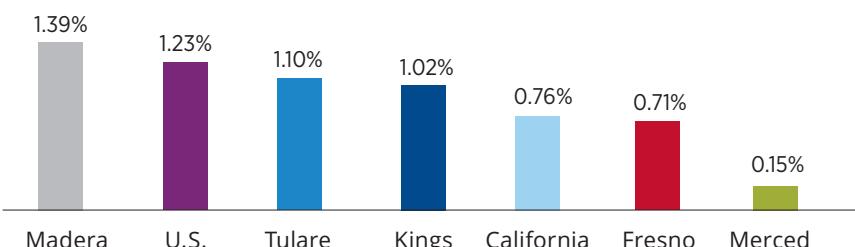
The annual employment growth in Fresno has kept abreast with the state and outpaced the nation since 2014-2015, which put it in the middle of the region's three-year average employment growth ranging from 0.80 percent in Madera to 3.82 percent in Tulare. Till June 2017, overall employment in the region, led by Kings and Madera, performed higher annual growth than the state and the nation (Figure 3).

Figure 1
Labor Force Annual Percent Change



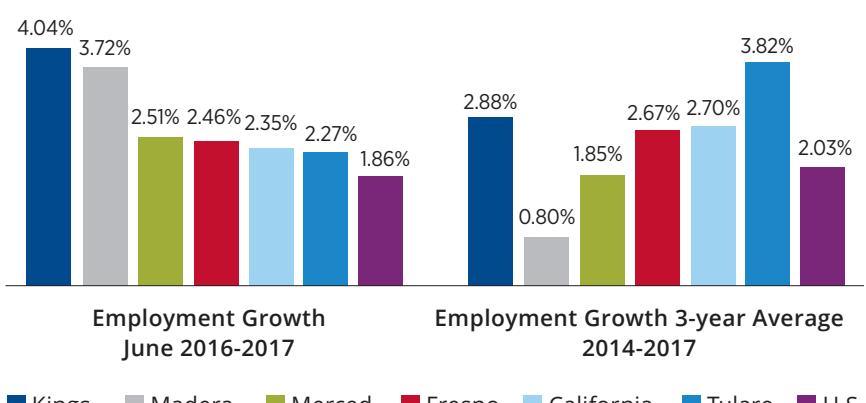
Data source: Bureau of Labor Statistics

Figure 2
September 2016-September 2017 Labor Force Percent Change



Data source: Bureau of Labor Statistics

Figure 3
Employment Growth Percent Change



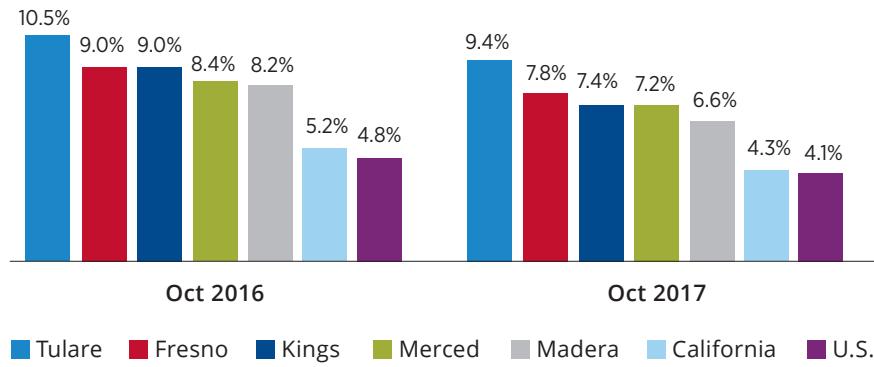
Data source: Bureau of Labor Statistics

Labor Markets & Regional Economy



However, as Figure 4 demonstrates, the unemployment rate remained high in the region, though the gap was slightly narrowed against the state and the nation in 2017. Tulare had the highest unemployment rate in the region followed by Fresno and Kings. The growing labor force and relatively high unemployment rate combine to (Figure 2 & 4) offer a sizeable pool for firms to develop labor intensive operations in the region.

Figure 4
Unemployment Rate by County



Data source: Bureau of Labor Statistics

Employment Sectors

Currently, natural resources & mining ranks number one in Central California in terms of employment (except Fresno) due to its predominant agricultural business. Education and health services; trade, transportation and utilities; and manufacturing are key sectors in the region as well. Compared to the state and the nation, information, financial activities, professional and business services, and leisure and hospitality are significantly underdeveloped (Table 1).

Over the past three years, construction has been the fastest-growing employment sector in the region, led by Madera and Merced. Fresno, Tulare, and Merced also demonstrate stronger employment growth than the state and national average in the education and health

Table 1
Employment Distribution Across Industrial Sectors (June 2017)

County and Region	Natural Resources and Mining	Education & Health Service	Trade, Trans. & Utilities	Manufacturing	Construction	Info.	Financial Activities	Professional & Business Services	Leisure and Hospitality	Other Services
Fresno	17%	20%	20%	8%	5%	1%	4%	10%	11%	3%
Kings	25%	19%	19%	16%	3%	1%	3%	4%	10%	2%
Tulare	33%	11%	20%	9%	4%	1%	3%	9%	9%	2%
Madera	31%	21%	14%	9%	4%	1%	2%	6%	9%	2%
Merced	25%	16%	21%	15%	4%	0%	3%	6%	9%	2%
CA	3%	17%	20%	9%	6%	3%	6%	17%	13%	4%
U.S.	2%	18%	22%	10%	6%	2%	7%	17%	13%	4%

Data source: Bureau of Labor Statistics

Table 2
Employment Growth by Sector by County (region), Three-year Average till June 2017

County and Region	Natural Resources and Mining	Education & Health Service	Trade, Trans. & Utilities	Manufacturing	Construction	Info.	Financial Activities	Professional & Business Services	Leisure and Hospitality	Other Services
Fresno	-0.41%	5.60%	1.82%	2.52%	8.01%	-3.47%	2.08%	0.82%	3.70%	1.98%
Kings	4.90%	1.53%	4.06%	1.57%	8.12%	-4.35%	0.02%	-3.54%	3.22%	1.20%
Tulare	5.25%	4.24%	0.65%	1.42%	8.33%	-0.26%	1.93%	9.18%	3.69%	2.88%
Madera	1.82%	2.32%	1.32%	-6.73%	12.62%	-3.72%	1.76%	-5.89%	4.02%	-0.83%
Merced	0.56%	4.78%	3.32%	-1.66%	12.48%	-4.98%	6.76%	-2.66%	1.66%	-2.22%
CA	0.92%	3.75%	1.86%	0.73%	5.76%	3.52%	2.46%	1.51%	3.63%	1.70%
U.S.	-2.95%	2.58%	1.45%	0.74%	4.35%	0.57%	1.83%	2.29%	2.86%	1.67%

Data source: Bureau of Labor Statistics

services sector. While sectors such as leisure and hospitality; financial activities; and trade, transportation, and utilities contribute steadily to the job employment growth, the professional and business services sector (except Fresno and Tulare) and information sector, have experienced decreased employment in the past three years (Table 2). Information is the only industry clearly shrinking in this region.

Incomes and Educational Attainment

Per capita income in the region has been below the state and national average for a long time. Although Fresno has managed to keep the top position in the region since 1983, its per capita income was \$40,101 in 2016 compared to \$49,246 for the nation and \$56,374 for the state, while Kings with \$34,287 is the lowest county in Central California. The other three counties' per capita income was around \$37K in 2016 (Figure 5).

INCOME in the region has been BELOW the state and national average for a long time.

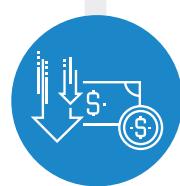
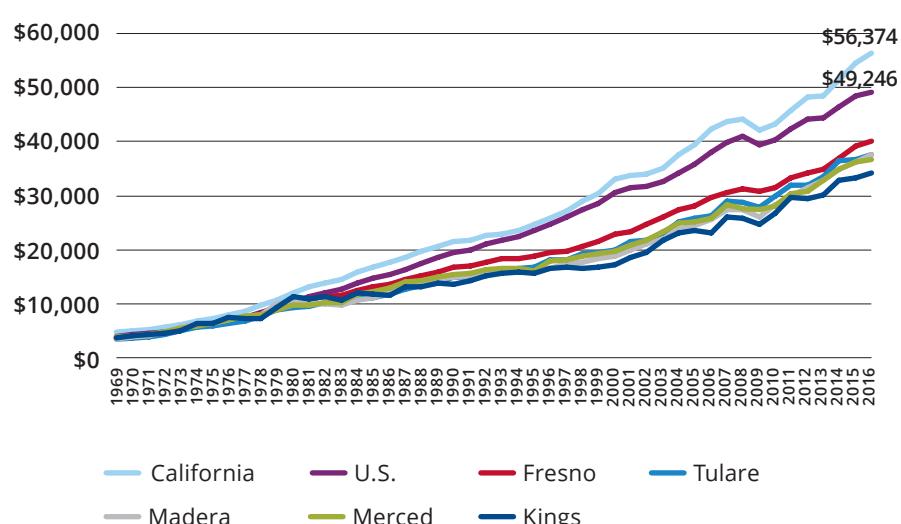


Figure 5
Per Capita Income (\$)



Data source: Bureau of Economic Analysis

Labor Markets & Regional Economy

Another area of concern is income inequality, which can be observed at county, state, and national levels.



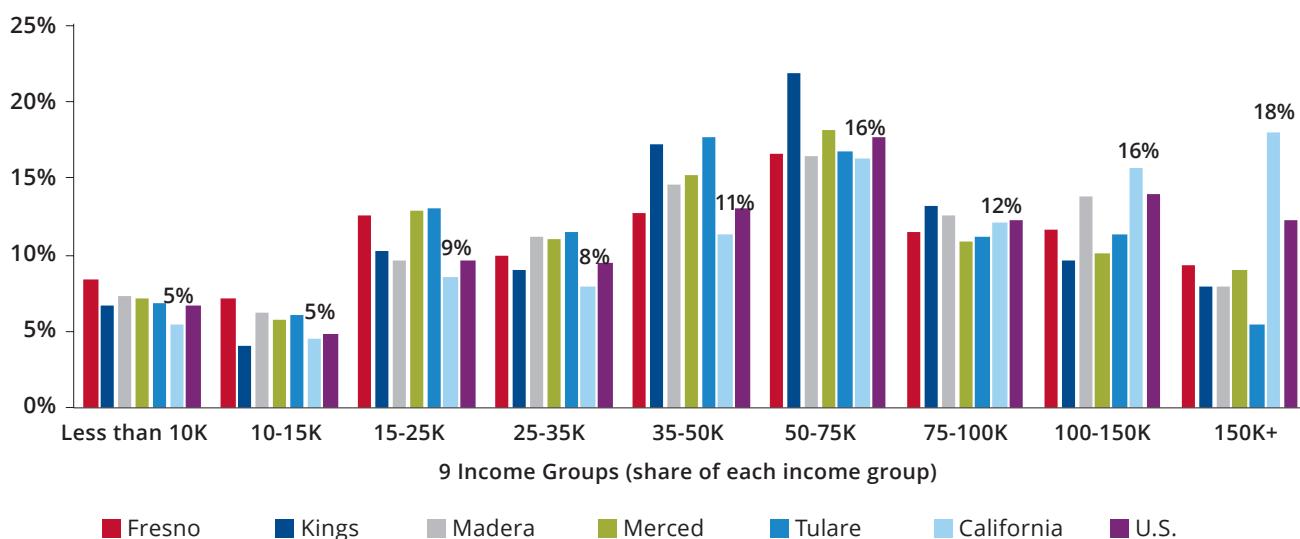
Despite the differences in employment distribution, per capita income in all counties suffered a setback during the financial crisis as it did in the state and the nation. It is worth noting the growing gap between the region's per capita income and the rest of the state, which, certainly, has a negative impact on the local standard of living but can be viewed as an opportunity to attract labor-intensive industries by significantly lowering their labor costs.

Another area of concern is income inequality, which can be observed at county, state, and national levels. Unfortunately, the region has a more troublesome situation with a higher share of households whose income level is below \$50K, in which Fresno leads in two of the lowest income brackets of less than \$10K and between \$10K to \$15K. Roughly half of the households in the region earned less than \$50K in 2016 vs. 38 percent of the households in the

HALF of the HOUSEHOLDS in the region earned less than \$50k in 2016.



Figure 6
2016 Household Income Distribution



Data source: U.S. Census

LESS THAN 10 PERCENT OF HOUSEHOLDS
in Central California make more than \$150K annually.



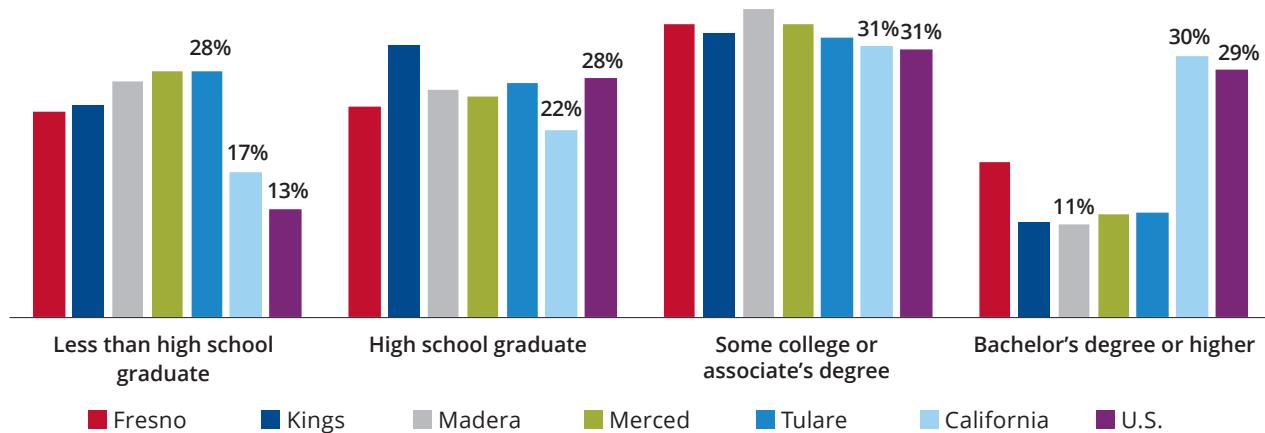
state. On the other end of the income scale, only less than 10 percent of households in Central California make more than \$150K annually, which is much lower than the state average of 18 percent. Such distribution shown in Figure 6 indicates that most households in the region rely on relatively low paying jobs rather than income generated through investments in real or financial assets and business ownership which is more commonly associated with high-income households.

One cause of low per capita income and such income distribution in the region can be identified in Figure 7, which demonstrates a significantly higher percentage of population in Central California with less than a high



school diploma and a much lower percentage with a bachelor's degree or above, compared to the state and the nation. A less-educated labor force not only leads to the aforementioned per capita income gap but also contributes to the low employment share in financial activities, professional & business services (except Fresno and Tulare) and the information sector (Figure 5), which demand a well-educated work force. However, in the future, enhancing education and training services, along with promoting quality of living to retain and attract skilled and educated labor, can become a great opportunity to the region. Improving the quality of its growing labor force would make Central California a more attractive choice for labor-intensive businesses to develop here to fully take advantage of its competitive labor costs.

Figure 7
Educational Attainment by County (2016)



Data source: U.S. Census



Agriculture in Central California

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KEY POINTS

- Agriculture contributes 25 percent to the total GDP and generates 17 percent of the total employment in the counties of Fresno, Kings, Madera, Merced, and Tulare together.
- Fruit and nut crops are the major agricultural crops grown in Central California in terms of value, followed by dairy products and cattle.
- Prices have generally gone down for agricultural products in 2016 compared to the previous year, thereby adversely impacting farm revenues and land values in Central California.

Overview

In California's San Joaquin Valley, agriculture remains the backbone of the economy, with family-owned farms, agricultural commodity and food processors, and agriculturally related industries generating thousands of jobs and billions of dollars of economic activity. In the center of the Valley lies the counties of Fresno, Kings, Madera, Merced, and Tulare, which host a diverse range of agricultural enterprises of varying sizes. Each of these counties rank in California's top 10 in terms of gross agricultural farm gate value, combining for \$19.8 billion in 2016. Tulare County leads the five-county region and was the number two farm county in the nation in 2016, behind Kern County, with a value of \$6.37 billion, a decrease of 8.7 percent from the 2015 value. Fresno County, number three in the nation, brought in a gross production value of \$6.18 billion. In the five-county region, the

Fresno County, number three in the nation, brought in a gross production value of \$6.18 billion.



direct contribution of agricultural production to total county GDP (not including the upstream and downstream economics of the farm) ranges from 15 to 39 percent as per 2016 figures. In contrast, the United States agriculture accounts for approximately one percent of total GDP.

In addition to contributing 25 percent to the five-county total GDP, the agricultural production sector in these counties generates about 17 percent of total employment, thereby creating a significant multiplier effect. The employment impact would be much larger when factoring in the food processing and other supporting agribusinesses. This article provides a synopsis of commodities common to these five counties. Each of the commodities accounted for at least a \$1 billion in production value in 2016.

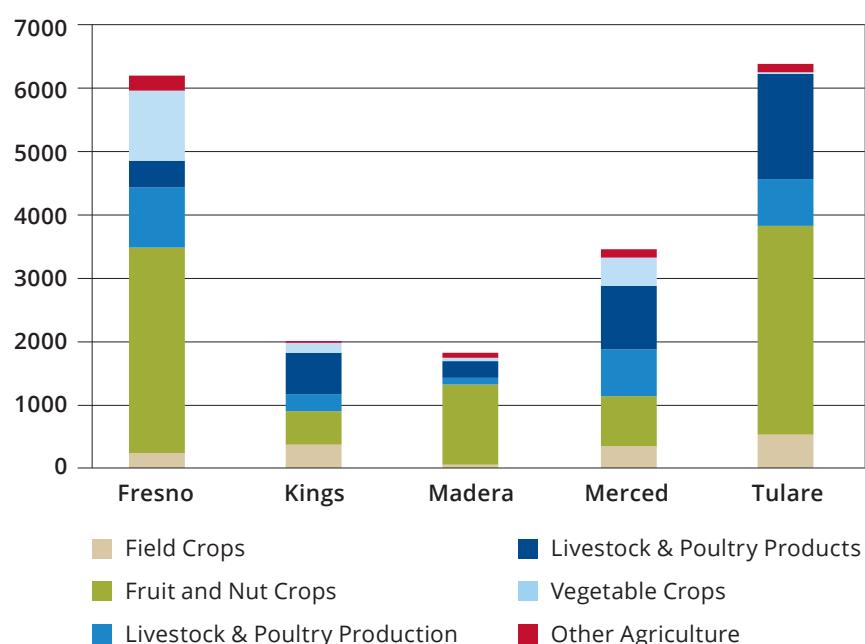
Table 1
Value of Agricultural Production in Central California, 2015-16

County & 2016 CA Rank	GDP from Farms (\$B) 2015	GDP from Farms (\$B) 2016	Total GDP (\$B) 2016	Value of Ag as % of Total GDP 2016
Fresno (3)	6.61	6.18	41.40	15
Kings (9)	2.02	2.00	5.77	35
Madera (10)	2.02	1.82	6.21	29
Merced (5)	3.59	3.45	8.87	39
Tulare (2)	6.98	6.37	16.52	39

Sources: NACo County Explorer, County Crop Reports, BEA, California Ag Statistics Review 2015-16

Notes: Nominal GDP values are derived using real GDP values from NACo and a Price deflator from BEA; Rankings for 2016 were developed without Ventura County's figures.

Figure 1
Value of Agricultural Production, 2016 (\$ millions)



Source: California Ag Statistics review 2015-16

Agriculture in Central California



Figure 2
Employment Generated by Farms

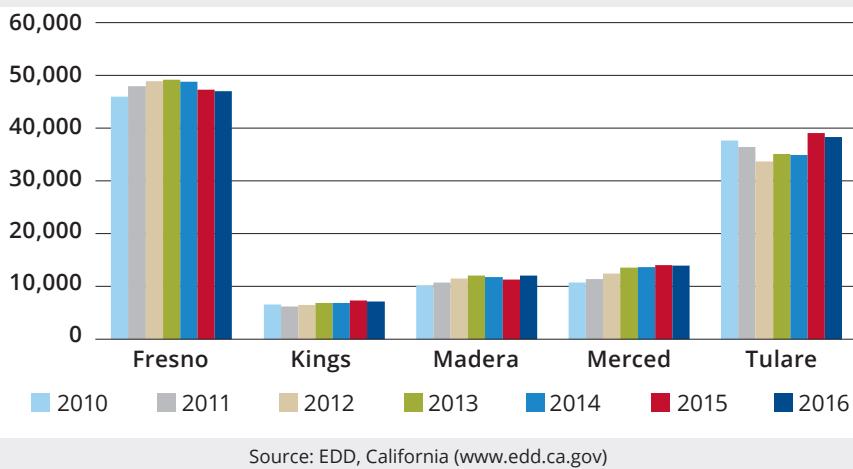
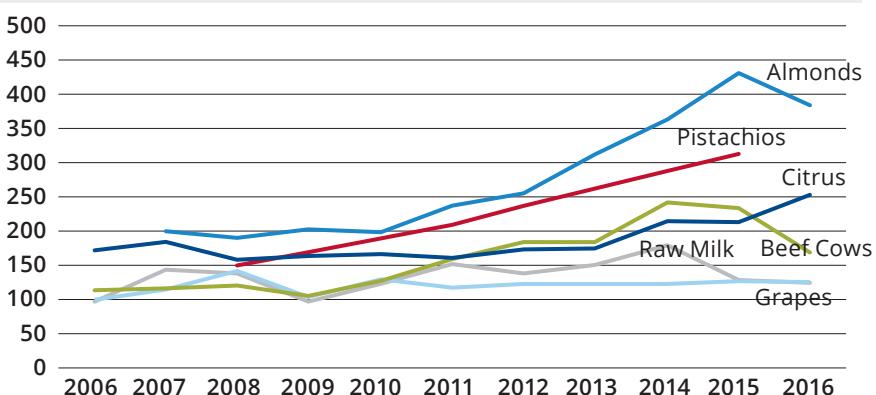


Table 2
Value of Agricultural Production in Central California, 2015-16

County	Leading Products
Fresno	Almonds, poultry, grapes (raisin), milk
Kings	Milk, cattle & calves, almonds, cotton (pima)
Madera	Almonds, milk, pistachios, grapes (wine)
Merced	Milk, almonds, chickens, cattle & calves
Tulare	Milk, cattle & calves, oranges, grapes (table)

Source: California Ag Statistics review 2015-16

Figure 3
Price Indices of Important Commodities



Source: Federal Reserve Economic Data (fred.stlouisfed.org) • Note: Almonds, Pistachios: 1991=100
Raw Milk, Tomatoes, Grapes, Beef Cows, Citrus: 1982=100

MILK is one of the TOP FIVE COMMODITIES in all five counties.



Dairy

The leading commodities by value in the five counties are given in Table 2. Milk is one of the top five commodities in all five counties. Tulare County is the largest milk producer in the United States, accounting for about \$1.6 billion in 2016, down slightly from the 2015 value, due to lower prices. After a record year of milk prices in 2014, prices took a tumble in 2015 and 2016. The lower milk prices were partially offset by cost of production decreases in 2016, but, in most cases, production costs still exceeded returns. Even though milk prices started slowly moving upward in 2017, supported by domestic demand, increased production in rest of the country has kept prices down (Proceedings of Ag Outlook Forum, 2017).

Tree Nuts

The almond industry plays an important role in Central California agriculture. According to the Almond Board of California, the almond industry contributed about 97,000 jobs to the Central Valley

For pistachios, the 2017 crop is an “off” year crop after the record-breaking production year of 2016.



ALMONDS rank first among the agricultural commodities EXPORTED FROM CALIFORNIA.



of California in 2014, with roughly 44,000 jobs attributed solely to the growing of almonds. The total value of almonds grown in the five counties in 2016 is \$2.29 billion, down 25 percent from 2015 due to a drastic fall in prices. Almond production is expected to increase in 2017 due to more harvested acreage despite lower nut set per tree. Almonds rank first among the agricultural commodities exported from California, accounting for more than \$5 billion in 2015. Top export destinations include Spain, China, India, Germany, and Japan, to name a few (CA Ag Exports, 2015-16). Although there has been a decline in the price of almonds in 2016-17 compared to the previous two years,

demand from Western European and Asia-Pacific markets is expected to remain similar to that of the previous year.

Another important tree nut grown in Central California is pistachios, ranking among the top 10 agricultural commodities by value in four of the five counties analyzed in this article. For pistachios, the 2017 crop is an “off” year crop after the record-breaking production year of 2016. Pistachios are alternate bearing, meaning that as an industry they tend to have a heavy production year followed by a much lighter year. Both domestic and export shipments have been increasing tremendously due to increased awareness of their health benefits driven by many public relations and marketing campaigns.

Grapes

Grape acreage in the five counties decreased approximately six percent in 2016 compared to 2015. For wine grapes, District 13 (under which Fresno, Madera, Merced and Tulare counties fall), had the largest share of the state’s crush capturing about 32 percent in 2016. The average price in District 13 was about \$302 per ton, up more than 2 percent

GRAPE ACREAGE decreased 6 percent in 2016 compared to 2015.



from 2015 (Grape Crush Reports, NASS). Fresno and Madera counties are the dominant growers of raisin grapes, accounting for more than 80 percent of production. The price of raisins in 2016 fell by almost 30 percent from the previous year to about \$1,100 per ton, primarily due to heavy competition in international markets, which is expected to continue in the future. In table grape production, Tulare and Fresno counties are ranked second and third in California in terms of acreage and production after Kern County in 2016 (California Grape Acreage Report, 2016). The price of table grapes fell by almost 13 percent in 2016 compared to the previous year.

Agriculture in Central California



BEEF CATTLE & CALVES ranked 4th in the five-county region.



Beef

Beef cattle and calves ranked fourth in the five-county region at \$1.7 billion. The counties of Fresno, Merced and Tulare contain the largest concentration of beef cattle production in California. Record high prices in 2014 and 2015 led to expansion of herd sizes and thereby increased supply in the market-place in the following years. Thus, prices in 2016 were lower, and the downward pressure on prices continued into 2017 as well (Food Price Outlook 2017-18).

Citrus and Tree Fruits

The citrus industry is climbing out of the impacts of the prolonged drought in California. The 2016-17 Central Valley Navel Orange crop was estimated to be eight percent less than that of 2015-16. The reduction is attributed to the drought-induced stress on trees and reduced acreage. Though the weighted average price per carton was 18 percent higher in 2016-17 compared to the previous year, total revenue was less than last year due

CITRUS INDUSTRY is climbing out of the impacts of the PROLONGED DROUGHT IN CALIFORNIA.



to reduced production (Proceedings of Ag Business Management Conference, 2017). The production of other tree fruits remained stable with not much variation compared to the last two years. The productive acreage for tree fruits such as peaches, plums, and nectarines has remained relatively constant in the last couple of years.

Land Values

Due to the continuing strong performance of the agricultural sector, the demand for agricultural properties remained strong in Central California in early 2016 but declined later in the year and into 2017 due to softening commodity prices. The range of land values for various types of orchards in five counties in 2016 are given in Table 3. The sales activity among tree nut and wine grape properties was moderate-to-limited in 2016 compared to the previous year (Trends Report 2017, ASFMRA). In Central California, the main driver of land values, and hence demand, is the stability of water sources, water rights, and delivery histories for parcels up for sale.

Overall, the Central California region plays an important role in the state's agricultural sector as a significant producer and exporter of many agricultural products, such as

Table 3
Range of Land Values per Acre, 2016 (\$1,000s)

	Almonds	Cropland	Pistachios	Table Grapes	Citrus
Fresno	9-38	10-28	20-36	20-32**	15-30
Kings	27-30	20-25*	30-35	30-45	NA
Madera	9-38	18-23	20-36	20-32**	15-30
Merced	22-42	15-32	NA	NA	NA
Tulare	27-30	19-26	30-35	30-45	20-28

Source: Trends in Agricultural Land and Lease Values, ASFMRA, 2017

Notes: *North side of Kings county.

**Grape acreage values reflect table, raisin and wine.

Overall, the Central California region plays an important role in the state's agricultural sector as a significant producer and exporter.

almonds, dairy products, grapes, and pistachios. The agricultural sector in this area is also a major employer and supports numerous related industries, thereby manifesting itself as the backbone of the Central California's economy.

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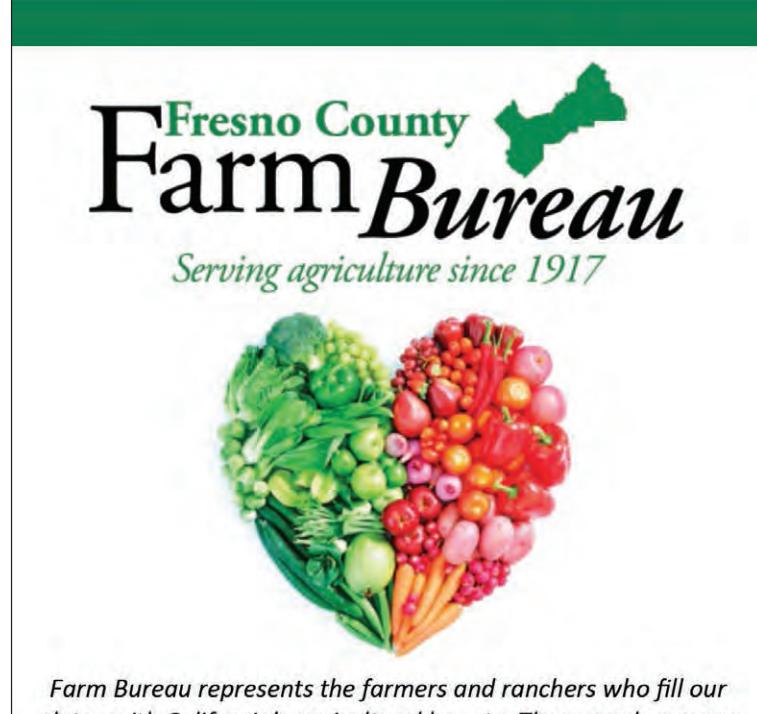
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Manufacturing



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KEY POINTS

- The manufacturing sector in the Central Valley is showing growth.
- The food manufacturing sector is leading the Central Valley in terms of employment.
- Organizations such as the San Joaquin Valley Manufacturing Alliance (SJVMA) are leading the charge to grow manufacturing in the area.
- Key areas of need include labor force training, exposure to career opportunities, and organizational training to improve performance of manufacturers.
- Small employers make up the majority of area manufacturing establishments.

For the six-county area of analysis, the number of manufacturing establishments has grown 3.1 percent, from 1,529 in 2013 to 1,576 in 2016.

Manufacturing in the Central Valley

This Central Valley report covers the six-county area of Fresno, Kern, Kings, Madera, Merced, and Tulare.

Manufacturing in the Central Valley is significant. According to the latest Economic Census of the United States, the 2012 total value of manufacturing shipments and receipts for services exceeded \$32 billion (Table 1). Although this number is large, it is only 6 percent of the manufacturing value created in California for the same time period.

For the six-county area of analysis, the number of manufacturing establishments¹ has grown 3.1 percent, from 1,529 in 2013 to 1,576 in 2016 (Table 2). This closely follows the statewide growth of 3.9 percent in manufacturing establishments for the same timeframe. The number of workers employed in manufacturing (Figure 1) has grown likewise, from 62,431 in 2013 to 66,219 in 2016 (6.1 percent growth). The growth in employment for the Central Valley manufacturing sector is higher than that for California as a whole (Table 3).



**THE
MANUFACTURING
SECTOR** is showing
growth.



**FOOD
MANUFACTURING
IS LEADING** the
Central Valley in
terms of employment.



**SMALL
EMPLOYERS** make
up the majority of
area manufacturing
establishments.



Table 1
2012 Total Value of Manufacturing Sector (2012 NACIS 31-33)
Shipments and Receipts for Services

Geographic Area Name	Total Value of Shipments and Receipts for Services (\$1,000)	Percent of Central Valley	Percent of California
Fresno County, California	\$8,658,325	26.5%	1.7%
Kern County, California	\$6,890,714	21.1%	1.3%
Kings County, California	\$2,904,014	8.9%	0.6%
Madera County, California	\$1,441,125	4.4%	0.3%
Merced County, California	\$4,435,633	13.6%	0.9%
Tulare County, California	\$8,362,447	25.6%	1.6%
Total Central Valley	\$32,692,258		6.4%
Total California	\$512,303,164		

Source: 2012 Economic Census of the United States, Manufacturing: Geographic Area Series

Table 2
Central Valley Manufacturing Establishments 2013-2016

	2013	2014	2015	2016
Fresno	596	613	606	595
Kern	401	412	407	411
Kings	68	70	71	75
Madera	93	99	100	102
Merced	123	131	137	135
Tulare	248	255	258	258
Total	1,529	1,580	1,579	1,576
California	39,683	40,838	40,995	41,214
Central Valley Growth 2013-2016				3.1%
California Growth 2013-2016				3.9%

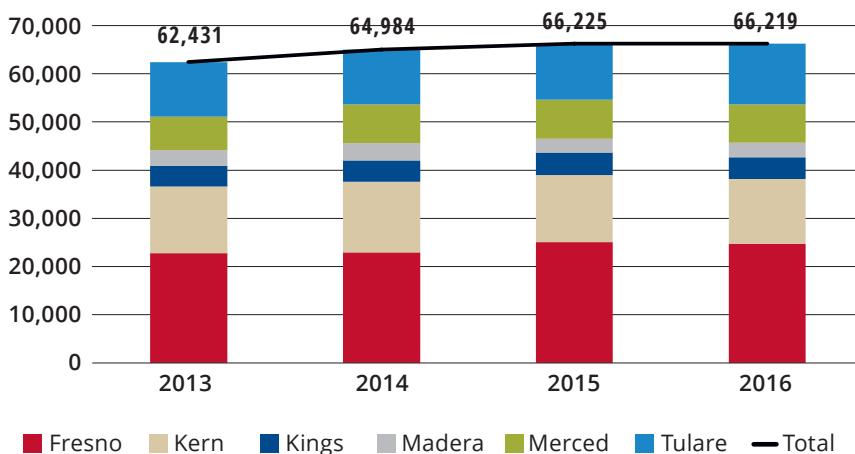
Data Source: Bureau of Labor Statistics-Quarterly Census of Employment and Wages

Manufacturing

Food, fabricated metal product, and machinery manufacturing are leading the area in both number of establishments and employment levels.



Figure 1
Average Annual Employees in NACIS 31-33 Manufacturing Sectors by County



Data Source: Bureau of Labor Statistics-Quarterly Census of Employment and Wages

Table 3
Central Valley Average Annual Employees in Manufacturing 2013-2016

	2013	2014	2015	2016
Fresno	22,755	22,938	25,071	24,773
Kern	13,839	14,664	13,958	13,401
Kings	4,258	4,389	4,598	4,522
Madera	3,277	3,610	2,862	3,031
Merced	6,968	8,019	8,139	7,935
Tulare	11,334	11,364	11,597	12,557
Total for Central Valley	62,431	64,984	66,225	66,219
Total for California	1,246,300	1,264,116	1,284,298	1,294,766
Central Valley Growth 2013-2016				6.1%
California Growth 2013-2016				3.9%

Data Source: Bureau of Labor Statistics-Quarterly Census of Employment and Wages

PETROLEUM AND COAL MANUFACTURING have the highest salaries.



For the six-county area, certain categories of manufacturing are more prevalent. Food (transformation of livestock or agricultural products), fabricated metal product, and machinery manufacturing are leading the area in both the number of establishments and employment levels. With regard to weekly pay rates, however, petroleum and coal manufacturing have the highest salaries (Table 4).

Each county in our examination has a significant amount of their manufacturing workforce related to the manufacturing of food products (Table 5). There are counties that showed some diversity outside of those two manufacturing sectors however. These sectors include non-metallic mineral products (sand, gravel, clay, etc.), machinery manufacturing, and plastic/rubber manufacturing.

Table 4
Top 4 Manufacturing Sectors for Six-County Area

Number of Establishments				
Manufacturing Category	2013	2014	2015	2016
NAICS 311 Food manufacturing	339	354	360	367
NAICS 332 Fabricated metal product manufacturing	225	226	233	240
NAICS 333 Machinery manufacturing	149	157	144	142
NAICS 323 Printing and related support activities	99	105	105	104
Number of Employees				
Manufacturing Category	2013	2014	2015	2016
NAICS 311 Food manufacturing	34,644	35,988	36,973	37,160
NAICS 333 Machinery manufacturing	4,595	5,102	4,586	4,216
NAICS 332 Fabricated metal product manufacturing	3,957	4,351	4,542	4,394
NAICS 327 Nonmetallic mineral product manufacturing	2,136	2,187	2,488	2,596
Average Weekly Pay				
Manufacturing Category	2013	2014	2015	2016
NAICS 324 Petroleum and coal products manufacturing	\$1,188	\$778	\$1,196	\$1,185
NAICS 327 Nonmetallic mineral product manufacturing	\$989	\$1,050	\$1,099	\$1,111
NAICS 333 Machinery manufacturing	\$946	\$992	\$1,031	\$1,026
NAICS 334 Computer and electronic product manufacturing	\$758	\$889	\$807	\$1,039

Data Source: Bureau of Labor Statistics-Quarterly Census of Employment and Wages

Table 5
Top 3 Manufacturing Sectors by Employment Level

County	2017 Q1 Establishments	2017 Q1 Employees
Fresno (Total)	595	24,238
NAICS 311 Food manufacturing	137	12,180
NAICS 333 Machinery manufacturing	53	1,898
NAICS 332 Fabricated metal product manufacturing	86	1,770
Kern (Total)	407	12,935
NAICS 311 Food manufacturing	50	5,643
NAICS 332 Fabricated metal product manufacturing	81	1,177
NAICS 336 Transportation equipment manufacturing	25	878
Kings (Total)	75	3,908
NAICS 311 Food manufacturing	27	3,627
NAICS 333 Machinery manufacturing	6	79
NAICS 327 Nonmetallic mineral product manufacturing	3	70
Madera (Total)	101	2,777
NAICS 327 Nonmetallic mineral product manufacturing	10	782
NAICS 333 Machinery manufacturing	9	630
NAICS 311 Food manufacturing	17	554
Merced (Total)	133	7,170
NAICS 311 Food manufacturing	65	5,817
NAICS 332 Fabricated metal product manufacturing	15	418
NAICS 336 Transportation equipment manufacturing	6	330
Tulare (Total)	259	12,428
NAICS 311 Food manufacturing	69	6,908
NAICS 326 Plastics and rubber products manufacturing	12	947
NAICS 322 Paper manufacturing	9	941

Data Source: Bureau of Labor Statistics-Quarterly Census of Employment and Wages

Manufacturing

More work needs to be done to expose new entrants and current members of the workforce to the career opportunities available in the manufacturing sector.

Manufacturing has become a focal area of investment for the Central Valley. Led by the San Joaquin Valley Manufacturing Alliance (SJVMA), efforts are being made to develop the area into a globally competitive resource that will attract companies. According to the SJVMA, there are some key challenges that must

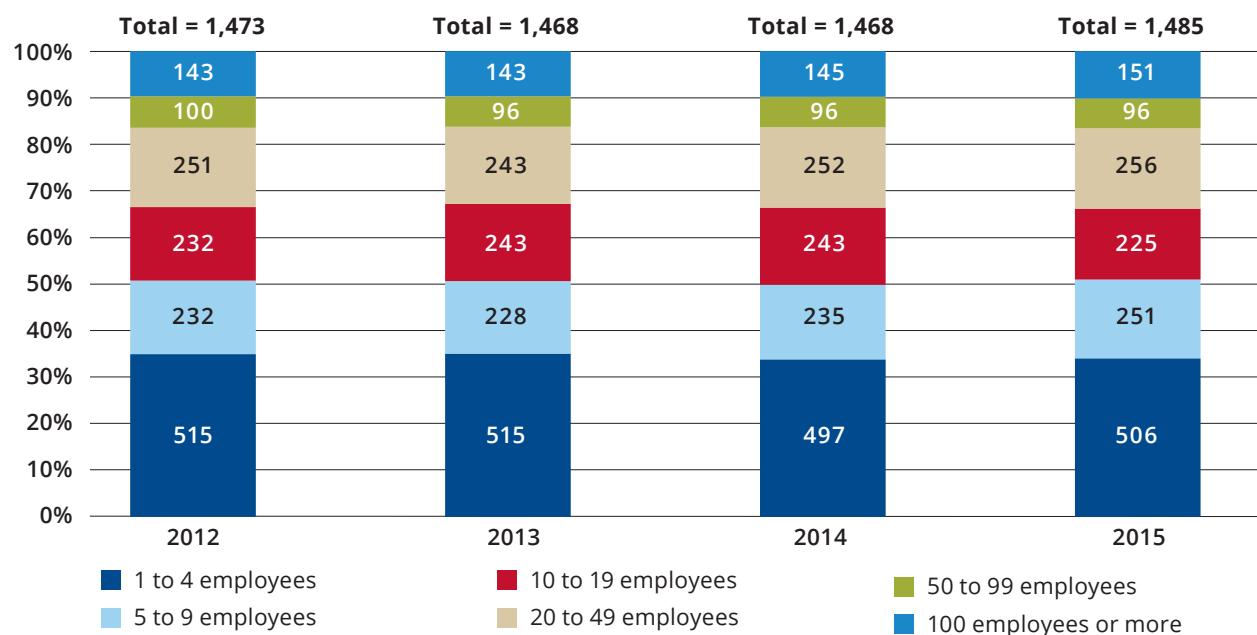
be addressed in order for the manufacturing sector in the area to continue growing.

The first challenge is developing a qualified labor pool. More work needs to be done to expose new entrants and current members of the workforce to the career



opportunities available in the local manufacturing sector. Partnerships must also be created between educational institutions, employers, and communities to understand skills gaps that exist in the labor pool. Programs will then need to be tailored to equip future workers with the technical

Figure 2
Central Valley Manufacturing Establishments by Size



Data Source: U.S. Census Bureau – Geography Area Series: County Business Patterns by Employment Class Size (2012-2015 Business Patterns)



training, technological knowledge, and soft skills needed to be successful in today's fast-paced manufacturing environments.

Another challenge is ensuring local manufacturing organizations have the tools and knowledge to be successful. This challenge is particularly important because of the number of small manufacturing organizations in the local area. As shown in Figure 2, over 80 percent of the local manufacturing establishments have fewer than 50 employees. Smaller organizations may not have the capital, technical, or knowledge resources to incorporate needed best practices or other business processes that can improve performance and grow their businesses.

**THE FUTURE OF
MANUFACTURING
in the local area
looks to be one of
GROWTH.**



Work has already started on addressing these challenges through SJVMA-sponsored manufacturing summits. These summits are designed to build relationships between local

organizations, community business developers, policy makers, and educators. The future of manufacturing in the local area looks to be one of growth, particularly in those subsectors related to the agricultural industry.

Endnotes

- 1 An establishment is generally a single, physical location at which economic activity occurs (e.g., store, factory, farm, etc.).
- 2 Slight difference in number of establishments due to use of NAICS 2012 classifications vs. NAICS 2017 classifications

Thank you to the San Joaquin Valley Manufacturing Alliance and Fresno State's Office of Community & Economic Development for their assistance with this report.

MANUFACTURING



**SAN JOAQUIN VALLEY
MANUFACTURING ALLIANCE**

***Industry can lead the way
to a stronger workforce and
regional economy.***

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Banking

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KEY POINTS

- Central California-based banks and credit unions are experiencing strong growth in their loan portfolios, well above peers.
- Banks are funding this loan growth primarily with new deposits, while credit unions are shifting funds from cash and investments.
- Central California credit unions are heavily reliant on vehicle loans, which they may be challenged to continue to grow in the face of projected declining auto sales and a trend of increasingly tighter underwriting standards for auto loans.
- Commercial real estate lending could benefit from a trend away from tighter underwriting standards and potential growth from tax reform.
- Higher interest rates seem inevitable, with both potential positives and negatives for the Central California banking industry. The shape of the yield curve, and the difference between shorter and longer term rates, could be an important factor in the equation.

Banking Trends Strong

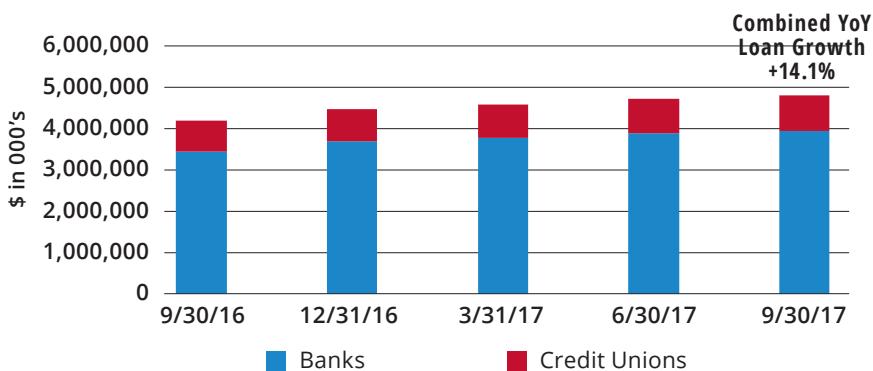
The Central California banking business is doing very well, with loan growth for regionally based banks and credit unions exceeding 14 percent on a combined

year-over-year (YoY) basis (Figure 1). Banks slightly outpaced credit unions, growing at 14.5 percent versus 12.1 percent for credit unions. These are both better than the San Francisco regional FDIC banking average, which show 2.2 percent YoY loan growth for institutions with assets between \$100 million and \$10 billion (see Table 3).

Banks slightly outpaced credit unions, growing at 14.5 percent versus 12.1 percent for credit unions.

Banks in particular benefited from this rapid loan growth, resulting in double-digit YoY growth in assets and equity capital (Table 1). Credit unions, on the other hand, showed much more modest growth in assets and equity capital. They funded much of the increase in their loan portfolios from existing cash and investments, while banks were able to grow deposits to primarily fund their new loans.

Figure 1
Central California Loans



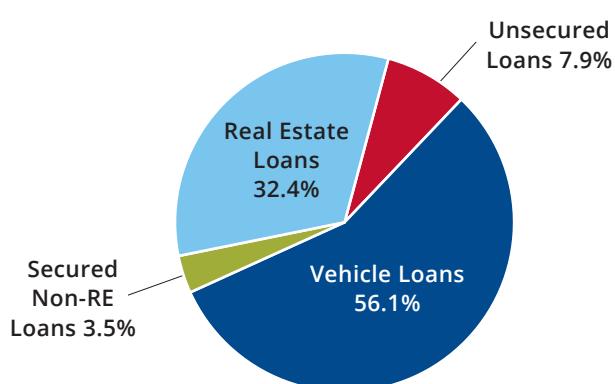
Data Source: FDIC & NCUA

Table 1
Growth in Selected Balance Sheet Items

	4Q-2016	1Q-2017	2Q-2017	3Q-2017	YoY
<i>Central California Banks</i>					
Total Assets	6.1%	3.2%	1.6%	2.3%	13.7%
Total Equity Capital	4.6%	6.7%	2.7%	0.3%	14.9%
<i>Central California Credit Unions</i>					
Total Assets	-0.7%	4.2%	0.3%	0.1%	3.8%
Total Equity Capital	-2.4%	1.4%	1.8%	2.6%	3.4%

Data Sources: FDIC & NCUA

Figure 2
Central California Credit Union Loans



Data Source: NCUA as of 9/30/17

Credit Unions Rely on Vehicle Loans

While the size of Central California banks, loan portfolios are considerably larger than the credit unions, there are some notable differences in their loan concentrations. Figure 2 shows the breakdown in loan assets as of 9/30/2017 for credit unions based in Central California, showing that vehicle loans make up over 56 percent of the total loans. This category alone was up 16.9 percent YoY (Table 2), driving much of the growth in credit union loans. Real estate loans, the second-largest category, were up a respectable 7.9 percent, but any significant slowdown in auto loans would be difficult for the region's credit unions to overcome.

Indeed, declining auto sales could present a major challenge for continued Central California credit union loan growth (Figure 3). USA TODAY¹ reported that for 2017 "PricewaterhouseCoopers projected full-year sales of 17.1 million vehicles, below last year's 17.6 million," and that the National Automotive Dealers Association "projected 2018 sales of 16.7 million vehicles, while Autotrader.com and Kelley Blue Book projected 16.6 million." This could be offset by better-than-expected economic growth, and tax reform is buoying hopes for continued improvement for growth in 2018, but it is hard to forecast sustaining this type of growth in auto loans going forward. The quarterly pace is slowing, with the most recent quarter being the slowest quarter of the past four, and the fourth quarter of 2016 was the strongest. Additionally, increasingly tighter credit standards for auto loans could begin to negatively impact growth moving forward (Figure 4).

Banking

The Central California banks are doing particularly well versus their regional and national peers.



Figure 3
Total U.S. Vehicle Sales

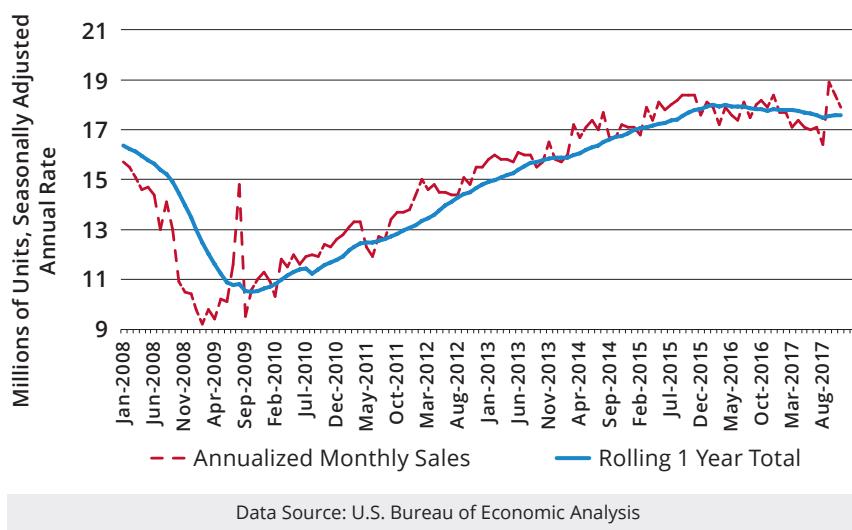


Table 2
Central California Credit Union Loan Growth

	4Q-2016	1Q-2017	2Q-2017	3Q-2017	YoY
Unsecured Loans	2.1%	-2.2%	2.0%	1.7%	3.7%
Vehicle Loans	6.4%	3.1%	4.9%	1.5%	16.9%
Secured Non-RE Loans	-0.8%	1.9%	1.6%	-1.7%	1.0%
Real Estate Loans	2.6%	1.1%	2.5%	1.4%	7.9%
Total	4.4%	2.0%	3.8%	1.4%	12.1%

Data Source: NCUA

Table 3
Bank Loan Growth

	4Q-2016	1Q-2017	2Q-2017	3Q-2017	YoY
Central California Banks	6.9%	2.2%	3.3%	1.5%	14.5%
San Francisco FDIC Region Banks*	2.6%	0.0%	0.7%	-1.1%	2.2%
National Banks*	1.1%	-0.9%	0.3%	-0.6%	-0.1%

* Regional and national banks between \$100 million and \$10 billion in assets

Data Source: FDIC

Central California Banks Booming

The Central California banks are doing particularly well versus their regional and national peers. Compared to banks with between \$100 million and \$10 billion in assets, which encompasses all the Central California-based banks, they are bucking the trend of slow and stagnant growth experienced regionally and nationally, as shown in Table 3.

Like their peers, Central California banks rely heavily on real estate in their loan portfolios, both commercial, residential, multi-family, and construction. One difference is that Central California banks have more farm and farmland loans in their portfolios, especially when compared to regional peers (Table 4). This is certainly understandable, given the location and the agricultural focus of the local economy.

Table 5 highlights the rolling (YoY) growth rate of the various segments of the Central California banks. Looking at a rolling YoY number smooths out the quarterly variability and makes it easier to identify trends. Looking first at the largest category of loans in Central California banks, commercial real estate (36.3%), we see that growth has increased dramatically from 2016. It did dip in the last quarter, but still grew at an impressive 23.7 percent. Commercial and industrial

Segment	Central California Banks	All California 100m-10b Banks	National 100m-10b Banks
Commercial RE	36.3%	45.1%	31.6%
Residential	13.5%	14.8%	23.3%
Commercial & Industrial	14.5%	13.9%	15.6%
Multi-Family Residential	3.5%	13.2%	5.6%
Construction Loans	8.1%	4.9%	7.5%
Farm & Farmland Loans	13.3%	3.1%	7.4%
Loans to Individuals	3.6%	3.1%	5.7%
Other	7.3%	1.9%	3.4%
Total	100.0%	100.0%	100.0%

Data Source: FDIC



**COMMERCIAL RE
LOANS increased
dramatically from 2016**



Segment	YoY 12/31/15	YoY 3/31/16	YoY 6/30/16	YoY 9/30/16	YoY 12/31/16	YoY 3/31/17	YoY 6/30/17	YoY 9/30/17
Commercial RE	8.0%	6.1%	2.7%	8.8%	18.4%	29.7%	30.6%	23.7%
Residential	10.8%	4.6%	10.6%	7.1%	12.7%	9.7%	4.7%	10.0%
Commercial & Industrial	5.6%	-1.7%	2.0%	-3.0%	5.9%	16.4%	7.0%	9.9%
Multi-Family Residential	43.4%	45.3%	35.9%	48.3%	38.3%	38.7%	26.1%	9.3%
Construction Loans	16.0%	15.8%	9.1%	10.6%	31.0%	18.1%	26.1%	34.4%
Farm & Farmland Loans	16.7%	20.0%	20.4%	20.2%	4.7%	5.2%	4.4%	1.9%
Loans to Individuals	14.9%	24.3%	33.5%	28.2%	27.7%	24.6%	22.6%	20.4%
Other	60.6%	-14.5%	13.7%	28.6%	-2.9%	-21.8%	-15.5%	-13.0%
Total	13.5%	6.7%	8.8%	11.0%	14.1%	17.3%	15.5%	14.5%

Data Source: FDIC

(14.5%) has gone from flat to declining to a solid YoY growth the past few quarters. Residential (13.5%) has been a relatively consistent performer, while farm and farmland loans (13.3%) have slowed from 20 percent down to low single digits. Construction (8.1%) and loans to Individuals (3.6%) have been consistent stars, while the catch-all other category (7.3%) has shown the most volatility and worst performance. Multi-family residential (3.5%) had been the strongest performer, but cooled considerably in the past year to just under 10 percent.

A key question for 2018 is whether the third-quarter dip in Central California commercial real estate lending was the

beginning of a slowdown or if it will continue to drive outperformance. The Federal Reserve Senior Loan Officer Survey (Figure 5) points to a recent reduction in the number of banks tightening credit standards for commercial real estate loans that may bode well for continued growth. In 2015 and 2016 we saw a large jump in the banks tightening on commercial real estate, but as it began to decline our Central California banks saw growth surge in the past year. Further reductions in the banks tightening standards for commercial real estate would be a tailwind for next year, as would increased growth from tax reform.



Negatively, there could be some slowdown in local construction as more resources are directed toward rebuilding in Napa Valley and Southern California as a result of the record-breaking wildfires in 2017.

The Impact of Higher Interest Rates

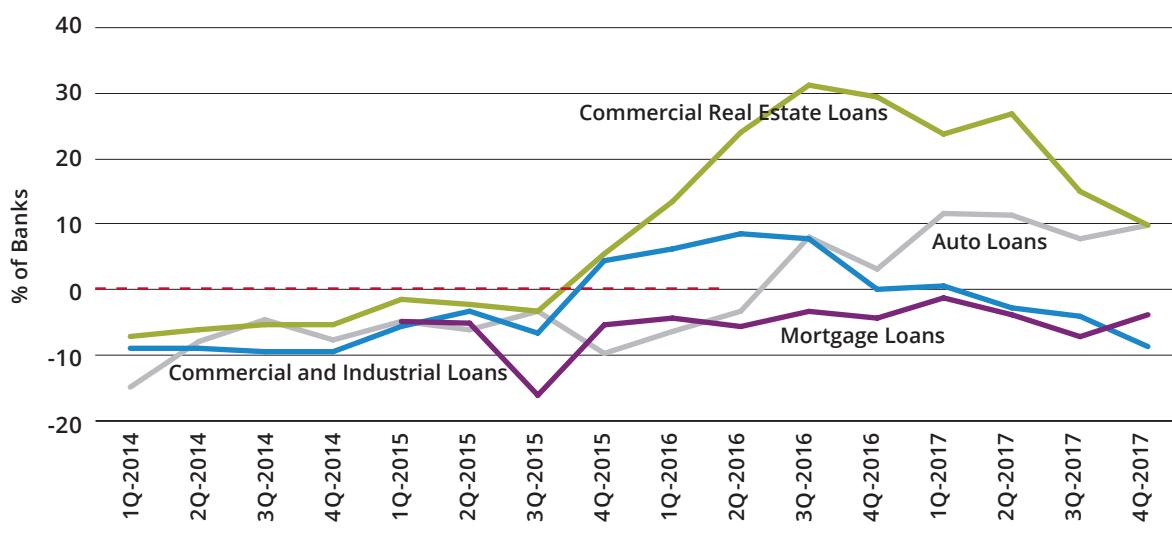
Although rates are still relatively low compared to prior periods, the Federal Reserve raised rates three times in 2017, and they have forecasted three more increases for 2018. The market seems less convinced, with Fed Funds futures indicating less than a 50 percent chance of a third interest rate increase by December 2018. While it is debatable if there will be three increases in 2018, it seems clear that short-term rates will continue to climb. Figure 5 shows a 20-year chart comparing the 10-year U.S. Treasury Note yield (blue), the two-year U.S. Treasury Note Yield (red), and the Fed Funds Target Rate (green). The two-year has tracked closely with the Fed Funds rate, and it currently trades at about half a percentage point premium to the current Fed Funds Target, implying two more quarter point increases in the target rate, in line with Fed Fund Futures pricing.

This seemingly inevitable increase in interest rates has

This seemingly inevitable increase in interest rates has both positive and negative implications for Central California financial institutions.

both positive and negative implications for Central California financial institutions. On the positive side, higher interest rates are generally thought to be good for banks, offering the potential to widen spreads and increase net interest income. Banks generally pay interest rates on short-term deposits and much of their interest income is reliant on loans that earn the longer-term rates. But longer-term interest rates continue to be depressed, and a flattening yield curve (a declining difference between short- and long-term interest rates) is not a positive trend for bank profits. If we don't see some increases in longer-term rates, higher interest rates are

Figure 4
Net Percentage of Banks Tightening Standards for Loan Categories



Data Source: FRED Senior Loan Officer Survey

not likely to provide the boost to banking profits that is sometimes assumed.

But that leads us to the potentially negative implication of higher interest rates: They could be a drag on economic growth, particularly as the longer-term interest rates increase. Up until now, rising interest rates have had limited impact on fixed mortgage rates, which are more closely linked to 10-year Treasury rates. If we see the longer-term rates rise more quickly and further than anticipated, this could negatively impact mortgage rates and the real estate market. Real estate values are an important factor of economic health, especially in California. The effects would likely be first evident in the higher-priced Bay Area and Southern California markets, while Central California typically lags, but eventually follows their lead.

Another reason to keep a close eye on the yield curve is that a flat or inverted yield curve is sometimes followed by a recession within 12-24 months. As seen in Figure 5, there have been two times in the past 20 years when the two and 10-year rates have converged, the late '90s

and 2005-2007. Both times were closely followed by recessions. Since the start of 2014, the two-year U.S. Treasury note yield has risen from under 0.50 percent to near 2 percent. During that same time period, the 10-year yield has fallen from 3 percent to 2.5 percent. If the two rates do converge or invert it could potentially indicate that the next recession is near.

Endnotes

1 USA TODAY, 12/1/2017, "U.S. auto sales: 2017 likely to mark the first fall since Great Recession" www.usatoday.com/story/money/cars/2017/12/01/november-u-s-auto-sales/912590001/

Notes

Central California is defined as the following counties: Fresno, Kings, Madera, Merced, and Tulare.

Banks headquartered in Central California are: Central Valley Community Bank, Premier Valley Bank, United Security Bank, Fresno First Bank, Murphy Bank, Bank of the Sierra, and Suncrest Bank.

Credit Unions headquartered in Central California are: First California, Greater Valley Credit Union, United Local, Fresno Fire Department, San Joaquin Power Employees, Fresno Grangers, Kings, Families and Schools Together, Tucoemas, Tulare County, Merced Municipal Employees, and Merced School Employees.

Figure 5
10-Year & 2-Year U.S. Treasury Note Yields vs. Fed Funds Rate



Data Source: FactSet



Global Business

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KEY POINTS

- The Central Valley is a fast-growing region in California with potential for economic development through global investment and trade opportunities.¹
- Fresno has maintained its leading position with close to a 50 percent share of the regional exports. Agricultural business has been the single largest export industry in the Central Valley. The key export markets are the European Union, Canada, China/Hong Kong, Japan and Mexico.
- California imported \$410 billion in foreign products (19 percent of U.S. total in 2016), mainly from the Asian-Pacific region, led by China and the NAFTA partners.
- Foreign direct investment creates most jobs in this region through mergers & acquisitions in the manufacturing, agricultural manufacturing, and logistics and distribution cluster, with investments mainly from England, Japan, and the Netherlands.
- Local businesses are largely unaware of the economic potential of global business opportunities. Dealing with foreign regulations, cultures, and differences in marketing deters them from imitating or further developing their export activities. Export financing and other organizational assistance are largely unknown and underutilized.²
- The Asian-Pacific region, powered by growing middle class in China and India, is a key market for the region to develop its international trade in the future.

**CALIFORNIA
IMPORTED \$410
BILLION foreign
products in 2016.**



Exports

International trade plays an increasingly important role, representing 13 percent of all economic activity in the U.S. 95 percent of world consumers now live outside the U.S., where 81 percent of global economic growth is expected to occur in the five-year period from 2015 to 2020, which clearly indicates the trend of future development for U.S. and local businesses.³

Fresno has led in exports from Central California, with around a 50 percent share of the regional total exports (Figure 1).

Fresno County set its export record of more than \$3 billion in 2013. The Fresno County Agricultural Commissioner's Office estimated that almonds were the county's largest export crop, representing more than 27 percent of exported farm goods. Machinery manufacturing exports from Fresno were about \$112 million, computers and electronics exports were about \$86 million, followed by miscellaneous manufacturing exports of over \$81 million.

In 2013, more than \$1.9 billion in Fresno County exports went to destinations within the 21-member nations of Asia-Pacific Economic Cooperation (APEC) around the Pacific Rim and in Asia, while other Asian countries, including members of the Association of Southeast Asian Nations (ASEAN), imported \$435 million from Fresno County.

Mexico and Canada, two North American Free Trade Agreement (NAFTA) partners, together accounted for nearly \$680 million of Fresno's exports, followed by European Union nations with almost \$565 million. OPEC nations in the Middle East and Africa, as well as Ecuador and Venezuela, amounted to about \$230 million in exports from Fresno County.⁴

Agricultural business has been the single largest export industry in the Central Valley. In 2015, California's agricultural exports totaled \$20.69 billion, decreased by 4 percent compared to the previous year. In Fresno, the state's top valued agricultural export commodity continues to be almonds, with an export value of \$5.14 billion in 2015. California dairy products ranked second with export value of \$1.63 billion. The principal 57 export commodities accounted for \$17.98 billion or 87 percent of export value in 2015. California's share of total U.S. agricultural exports for 2015 was 15.6 percent – slightly higher than the 14.4 percent reported the prior year. California's top 10 export destinations are the European Union, Canada, China/Hong Kong, Japan, Mexico, Korea, India, United Arab Emirates, Turkey, and Vietnam – accounting for 70.3 percent of the 2015 export value. India showed the strongest growth in total export value at 32.2 percent compared to the previous year.⁶

Central California also exports frozen and canned foods. Ruiz Foods, a successful local family business established in 1964, not only sells its more than 200 authentic burrito,

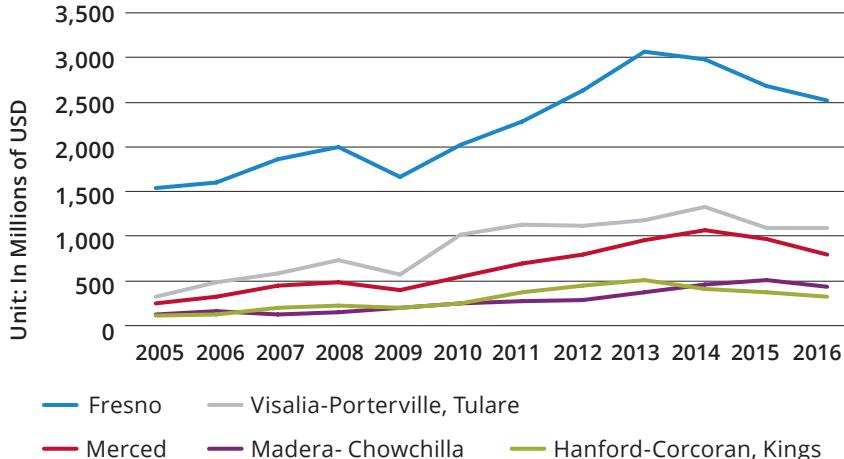
enchilada, and tamale products domestically, but also exports to over 20 countries and became the largest manufacturer of frozen Mexican food in the United States with the national recognition from the U.S. Small Business Administration.

Imports

Unlike for exports, it is difficult to find county-level data for imports, but state data is available. California imported \$410 billion in products and accounted for 18.2 percent of total national imports in 2016, in which passenger cars (both medium and large) were \$59 billion, or 14.3 percent of the state total imports. Other consumer electronic products – including laptop computers, cellular phones, and flat-panel televisions, were worth \$38 billion, or 9.3 percent of state total. Imports of medium-size passenger cars, cellular phones, processors & controllers, and photosensitive devices (mainly solar panels) grew significantly from 2013 to 2016. Other import goods, especially crude oil and flat-panel televisions, decreased in both value and percentage share.

Geographically, aside from Mexico, Canada and Germany, all other countries on the top 10 import list

Figure 1
Exports by MSA⁵ from 2005 to 2016



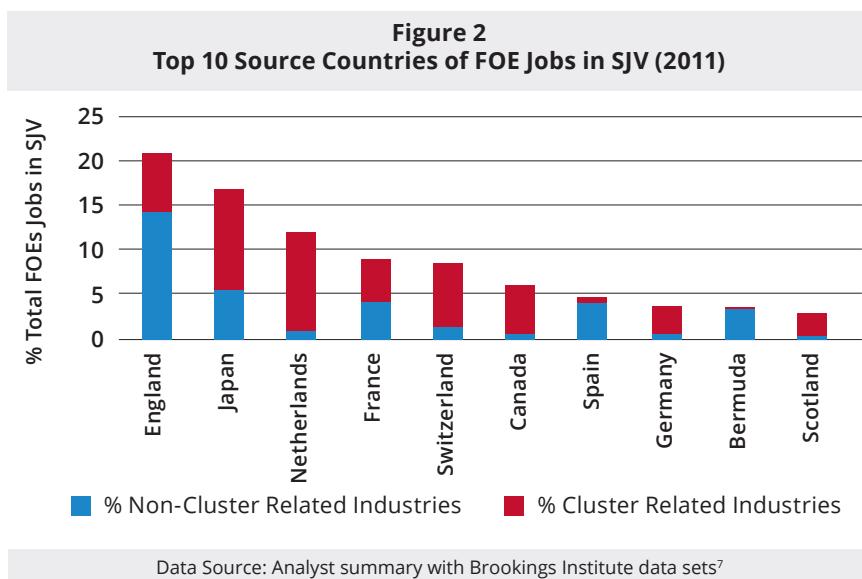
Data Source: U.S. Census

to California were in the Asian-Pacific area, led by China, which accounted for \$144 billion or 35.1 percent of the state total imports in 2016. Imports from Mexico and Canada, two NAFTA partners, were \$74 billion, or 18.1 percent of the state imports. While all trade partners managed to export more to California, the fastest gains from 2013 to 2016 were in imports from Vietnam (62.8%), Malaysia (45.1%), and Mexico (27.8%).

Foreign Direct Investment

Foreign direct investment (FDI) contributes to the creation of foreign-owned enterprises (FOEs) in the U.S. From 2009 to 2014, Brookings Institution's research shows that FDI generated 5 percent of U.S. jobs and provided funds for 19 percent of the research and development expenses. FDI also provides access to the global network, helping local FOEs reach into diverse markets not only to generate more revenue, but also to spread the risk during economic downturns. On average, firms that export pay 20 percent higher wages, and FOEs pay 30 percent higher wages, while providing local operations with more expansion resources. This is particularly important to Central California, which is experiencing a growing labor force, relatively high unemployment, and lower than state and national average per capita income.

In the Central Valley, over 20,000 jobs have been created by FOEs since 2005. Both mergers & acquisitions (M&A) investment and Greenfield investment (Greenfield investment refers to a company that builds its entire foreign operations starting from scratch), grew significantly since the early 1990s. Although M&A may deliver more timely results and more synergy, they bring more challenges for the local workforce to deal with the differences in management style and corporate culture during the transition period.



The top FDI source countries were England, Japan, and the Netherlands. Foreign investments have focused on the cluster-related industries that align initiatives and resources to capture value chain opportunities (Figure 2). The San Joaquin Valley Regional Industry Clusters Initiative, directed by the Office of Community and Economic Development and its partners, identifies industries that are strategic focal points for economic development that can further attract productive FDI. The key FDI industry clusters are agriculture represented by Olam in Fresno, a Singaporean public firm, and manufacturing, represented by Pelco in Clovis (acquired by Schneider Electric from France.)

Outlook

Based on the Brookings Institution's forecast, middle-class consumption in the emerging markets, particularly China and India, will grow rapidly in the near future. China will become the largest middle-class consumer market, at \$6.8 trillion, or a 16 percent global share, by 2020 and will grow further to \$14.3 trillion, or 22 percent of the global total, by 2030. Other Asian-Pacific countries such as Japan and

Indonesia, will also be among the top middle-class consuming nations along with the U.S. (Table 1). For businesses in Central California, being more active in these international markets is a key to the future success.

In order to increase participation in the international market and sell more products overseas, there are barriers local businesses have to overcome. According to the California Central Valley Export Plan, jointly developed by the Brookings Institution and JPMorgan Chase, the top challenges facing exporters in the region – aside from transportation costs, export financing and working capital financing – are related to information on domestic & international regulation and knowledge of international market (Figure 3).

The plan suggests using the following strategies to help the businesses of the Central Valley to be more proactive and engaged in international trade:

1. Make Central Valley export education more targeted, hands-on, and comprehensive to overcome the complacency, confusion, and misconceptions of threshold exporters.

2. Engage Central Valley Economic Development Organizations to integrate export education and referral generation into their standard attraction, expansion and retention programs.
3. Partner with local media to provide and highlight export success stories with the aim of changing the passive export culture of the Central Valley.
4. Take a more proactive, hands-on approach to business matchmaking to address inexperience, "business as usual" complacency, and lack of foreign cultural knowledge among threshold exporters. Utilize international enterprise networks to facilitate targeted foreign outreach and leverage foreign nation funding available for the purpose of encouraging international partnerships.
5. Incorporate export financing education and referrals into the economic development process.

It is important to coordinate and increase the awareness of available resources and support provided by different organizations, such as:

- California Central Valley Economic Development Corporation
- California Centers for International Trade Development
- County and city chambers of commerce
- Western United States Agricultural Trade Association (WUSATA), and
- U.S. Commercial Service, especially the information available through export.gov (a collaboration of the U.S. Department of Commerce's International Trade Administration and 19 U.S. government agencies).

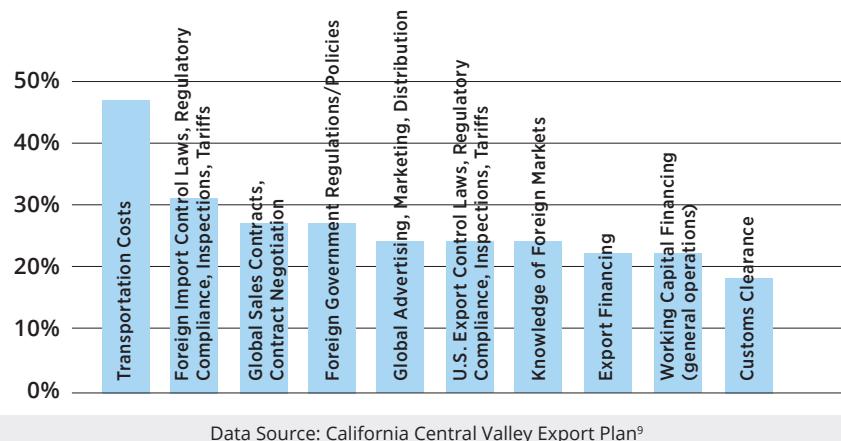
Central California businesses should capitalize on local/regional trade shows, including the World Ag Expo (the world's largest annual agricultural exposition), the Fresno Food Expo, and CITD & USCS events, to better introduce local products and companies to the growing international markets.

Table 1
Middle-Class Consumption – Top 10 Nations, 2015-2030
(PPP, constant 2011 trillion \$ and global share)

Country	2015	Share (%)	Country	2020	Share (%)	Country	2030	Share (%)
U.S.	4.7	13	China	6.8	16	China	14.3	22
China	4.2	12	U.S.	4.7	11	India	10.7	17
Japan	2.1	6	India	3.7	9	U.S.	4.7	7
India	1.9	5	Japan	2.1	5	Indonesia	2.4	4
Russia	1.5	4	Russia	1.6	4	Japan	2.1	3
Germany	1.5	4	Germany	1.5	4	Russia	1.6	3
Brazil	1.2	3	Indonesia	1.3	3	Germany	1.5	2
U.K.	1.1	3	Brazil	1.2	3	Mexico	1.3	2
France	1.1	3	U.K.	1.2	3	Brazil	1.3	2
Italy	0.9	3	France	1.1	3	U.K.	1.2	2

Data Source: Global Economy and Development at Brookings Institution⁸

Figure 3
Five Most Significant Challenges Reported by Current Central Valley Exporters (respondents chose up to five)



Endnotes

- 1 The California Central Valley Global Trade and Investment Plan
- 2 The California Central Valley Global Trade and Investment Plan
- 3 2017 California Central Valley Global Trade & Investment Plan, a joint project of Brookings and JPMorgan Chase.
- 4 www.fresnobee.com/news/business/agriculture/article19524096.html
- 5 Metropolitan Statistical Area (MSA) is a geographical region with a relatively high population density at its core and close economic ties throughout the area. It is used by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics.
- 6 California Agricultural Exports 2015-2016. www.cdfa.ca.gov/statistics/pdfs/AgExports2015-2016.pdf
- 7 The California Central Valley Global Trade and Investment Plan, page 12
- 8 Homi Kharas, The Unprecedented Expansion of the Global Middle Class: An Update, page 16. www.brookings.edu/wp-content/uploads/2017/02/global_20170228_global-middle-class.pdf
- 9 California Central Valley Export Plan -page 9. www.fresnoedc.com/Export%20Plan/CentralValleyExportPlan_sm.pdf

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