



Kern Economic Journal

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Association for Local Economic Development

2025 Second Quarter



Featured Articles:



Is Garbage a Good Indicator
of Economic Growth in Kern
County?



Public-sector employment
and wages in Kern County,
California



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KERN ECONOMIC JOURNAL is a quarterly publication (February, May, August, November) of California State University, Bakersfield. Its purpose is to track local trends and analyze regional, national, and global issues that affect the economic well-being of Kern County. The journal provides useful information and data that can help the community make informed economic decisions. Sources of funding for this journal include university contributions and sponsorship and subscription fees.

Editorial and analytical articles on important local, regional, national, and international issues and trends are invited for *consideration* of publication in the journal. Articles (not exceeding 800 words in length) must be submitted to the Managing Editor in electronic copy. Individual authors are responsible for the views and research results.

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Kern Economic Journal



Inside this Issue:

Economy at a Glance! 4

Tracking Kern's Economy

| | |
|-------------------------------|----|
| <i>Labor Market</i> | 6 |
| <i>Housing Market</i> | 8 |
| <i>Stock Market</i> | 9 |
| <i>Inflation</i> | 10 |
| <i>Energy</i> | 11 |
| <i>Commodity Prices</i> | 11 |

Featured Article

| | |
|---|----|
| <i>Public-Sector Employment and Wages in Kern County, California</i> | 13 |
| <i>Is Garbage a Good Indicator of Economic Growth in Kern County?</i> | 16 |

Economy at a Glance!

2025 SECOND QUARTER
BY DR. NYAKUNDI MICHIEKA
& DR. RICHARD S. GEARHART III

*National Economy*¹

Real GDP increased at an annual rate of 3.8 percent in the second quarter of 2025. In the first quarter of 2025, real GDP decreased by 0.6 percent.

Current-dollar GDP increased by 6.0 percent in the second quarter of 2025. In the first quarter of 2025, current dollar GDP increased by 2.9 percent (annual).

Current-dollar personal income increased by \$71.4 billion (0.3 percent at a monthly rate) in June 2025. This rise reflected increases in government social benefits to persons and in compensation.

Real disposable personal income, which is adjusted for inflation and taxes, did not change between May and June of 2025.

Personal saving was \$1.01 trillion in June 2025 compared with \$872.3 billion in March 2025.

Personal saving rate – personal saving as a percentage of disposable income was 4.5 percent in June 2025. In March 2025, personal saving rate was 3.9 percent.

The Conference Board's Index of Leading Economic Indicators – a measure of future economic activity – remained the same in July 2025 at 98.9 (2016=100).

The University of Michigan's Consumer Sentiment Index decreased from 64.5 in the first quarter of 2025 to 55.0 in the second quarter of 2025. The index in the second quarter of 2024 was 71.5 and 62.3 in the second quarter of 2023.

¹U.S. economic numbers were obtained from the Bureau of Economic Analysis "U.S. Economy at a Glance". This is found at <http://www.bea.gov/newsreleases/glance.htm>
The information for the Index of Leading Economic Indicators is found at <https://conference-board.org/data/bcicountry.cfm?cid=1>.
The University of Michigan Consumer Sentiment Index is available at <http://www.sca.isr.umich.edu/tables.html>

*State Economy*²

In California, the unemployment rate decreased to 5.3 percent in the second quarter of 2025 compared to 5.4 percent in the first quarter of 2025. The counties with the highest unemployment rates include Colusa (12.9), Imperial (17.5), Kings (9.3), Merced (10.2) and Tulare (10.4). Those with the lowest unemployment rates in the second quarter of 2025 include Marin (3.9), Mono (3.5), Napa (3.9), Orange (3.9), San Francisco (3.8) and San Mateo (3.7).

California's labor force increased by 92,633 in the second quarter of 2025. During this period, civilian employment rose by 93,000 workers from 18.64 million to 18.73 million. Nonfarm enterprises hired 13,167 more workers while farm employment dropped by 8,767. The mining and logging sector hired 33 less workers while construction hired 3,500 additional workers and manufacturing hired 8,433 less employees. Service sector employment increased from 15.86 million to 15.87 million between the first quarter of 2025 and the second quarter of 2025. The state government hired 2,300 more workers while local government employment increased by 9,900.

Local Economy

Kern County's labor force increased from 412,267 in the first quarter of 2025 to 412,633 in the second quarter of 2025. Civilian employment increased by 1,000 from 374,000 to 375,000. Nonfarm employment increased by 1,733 while farming employment went up by 4,167.

In Bakersfield, nonfarm employment changed in the following manner: mining and logging lost 33 workers; construction added 200 workers; manufacturing lost 67 workers; and the service industry added 1,567 workers. Within the service industry, trade, transportation and utilities lost 467 workers. Other sectors changed as follows: financial activities employment remained the same; professional and business services added 33 workers; private education and health services added 1,000 workers while leisure and hospitality added 567 employees. The number of federal government workers did

²The California economic numbers were obtained from the Bureau of Labor Statistics "Local Area Unemployment Statistics Map". This is found at <https://data.bls.gov/map/MapToolServlet?survey=la&map=county&seasonal=u>.

not change while state government employment decreased by 33 workers. The local government added 233 workers.

In Kern County, the unemployment rate varied considerably across cities, ranging from 4.2 percent in Ridgecrest to 24.6 percent in Delano. Half the cities in Kern County witnessed a quarter-to-quarter increase in the unemployment rate. The biggest quarter-to-quarter increase in unemployment rate occurred in Delano where it rose from 23.3 percent to 24.6 percent. In Bakersfield, the unemployment rate was 6.10 percent in the second quarter of 2025 compared to 6.27 percent in the first quarter of 2025. In Kern County, unemployment was 9.07 percent in the second quarter of 2025 compared to 9.27 percent in the first quarter of 2025.

In the second quarter of 2025, the median price of a home in Bakersfield was \$414,083 compared to \$416,607 in the first quarter of 2025. Home prices were \$8,767 lower than they were four quarters ago. Within the county, the city of Taft had the lowest median home prices, averaging \$266,000, while the region with the highest median home prices was Rosamond, at \$443,165.

The weighted price index for the five publicly traded companies doing business in Kern County (Sierra Bancorp, Tejon Ranch Company, Chevron Corporation U.S., Granite Construction, and Wells Fargo Company) increased by 6.1 percentage points from \$145.1 to \$153.9 (quarter to quarter). The index was also 24.4 percentage points greater than it was four quarters ago. Companies gained/lost as follows: Chevron (decreased 14.4 percent quarter-over-quarter), Tejon Ranch (increased 7 percent quarter-over-quarter), Granite Construction (increased 24 percent quarter-over-quarter), Wells Fargo (increased 11.6 percent quarter-over-quarter) and Sierra Bancorp (decreased 3.9 percent quarter-over-quarter).

The average price of a barrel of crude oil (WTI) increased by \$7 to \$64.63 in the second quarter of 2025 while the average retail price of a gallon of gasoline in Bakersfield increased by \$0.07 to \$4.49. The unit price of California's Class III milk was \$18.34 in the second quarter of 2025 compared to \$19.71 in the first quarter of 2025. The Index of Farm Price Parity in the second quarter of 2025 (0.93) was lower than that of the first quarter of 2025 (0.95).



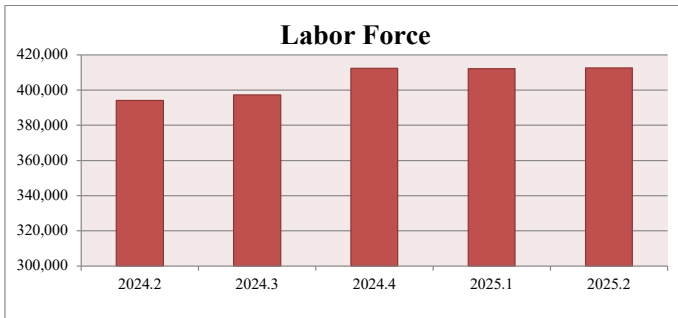
Tracking Kern's Economy¹

DR. NYAKUNDI MICHIEKA &
DR. RICHARD S. GEARHART III
2025 SECOND QUARTER

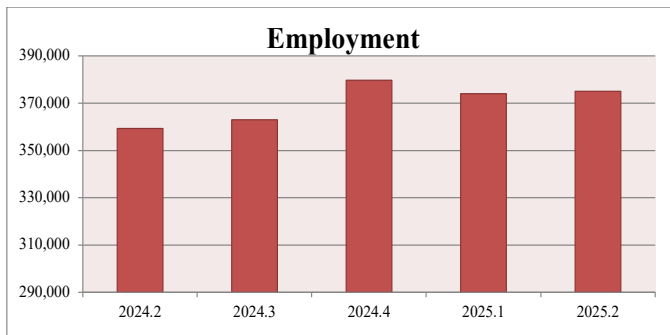
Labor Market

We average monthly data to calculate quarterly figures and then adjust for seasonality in the series.

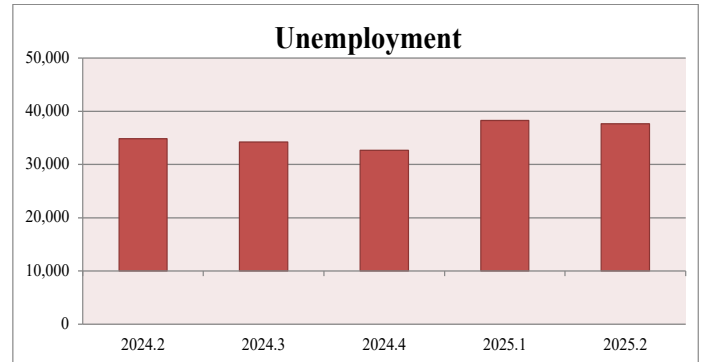
Labor Force – The civilian labor force increased by 367 individuals, rising from 412,267 in the first quarter of 2025 to 412,633 in the second quarter. The Bureau of Labor Statistics defines the labor force participation rate as the proportion of the working-age population that is either working or actively looking for work.



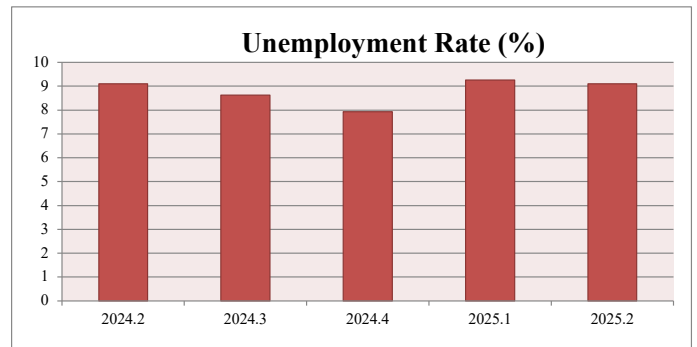
Employment – In the second quarter of 2025, Kern County hired 1,000 more workers (compared to the first quarter) as total employment increased from 374,000 to 375,000. This represents a 4.38 percent increase in employment compared to the second quarter of 2024 when 359,267 persons were employed. First to second quarter employment decreased by 2,967 in 2024 while in 2023, first to second quarter employment increased by 1,133.



Unemployment – Quarter-to-quarter unemployment decreased by 633 as the number of jobless workers decreased from 38,267 to 37,633. The number of unemployed workers is 8 percent more than it was four quarters ago. In the second quarter of 2024, there were 34,833 unemployed workers.

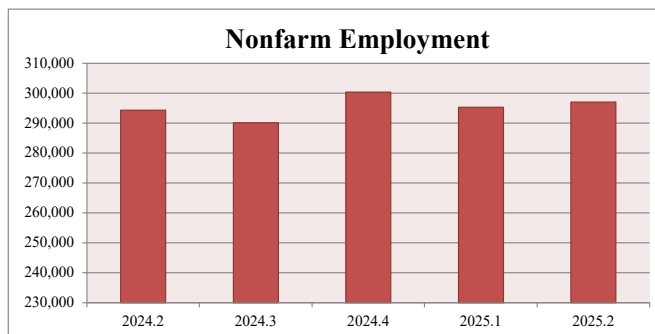


Unemployment Rate – Kern County's year-to-year unemployment rate did not change (9.1 percent in the second quarter of 2024 and 2025). The unemployment rate for the first quarter of 2025 was 9.27 percent. Kern County's second quarter unemployment rate in 2025 (9.1 percent) was higher than that of California's (5.3 percent).



The unemployment rate varied considerably across cities, ranging from 4.2 percent in Ridgecrest to 24.6 percent in Delano. Quarter to quarter unemployment rate increased in Arvin, California City, Delano, Edwards AFB, Lamont, Ridgecrest, Tehachapi and Wasco. The biggest rise in the unemployment rate occurred in Delano, where it increased from 23.3 to 24.6 percent. In Bakersfield, the unemployment rate was 6.1 percent compared to 5.87 percent four quarters ago.

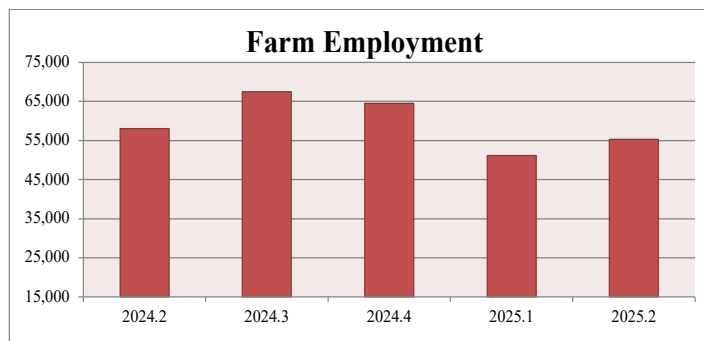
| Unemployment Rate of Cities | | | |
|-----------------------------|-----------------------|------------|-----------------------|
| Location | Unemployment Rate (%) | Location | Unemployment Rate (%) |
| Kern County | 9.1% | McFarland | 10.1% |
| Arvin | 12.8% | Mojave | 12.7% |
| Bakersfield | 6.1% | Oildale | 10.7% |
| California City | 19.9% | Ridgecrest | 4.2% |
| Delano | 24.6% | Rosamond | 9.5% |
| Edwards | 11.4% | Shafter | 7.1% |
| Frazier Park | 9.0% | Taft | 4.6% |
| Lake Isabella | 12.7% | Tehachapi | 9.7% |
| Lamont | 10.1% | Wasco | 15.6% |



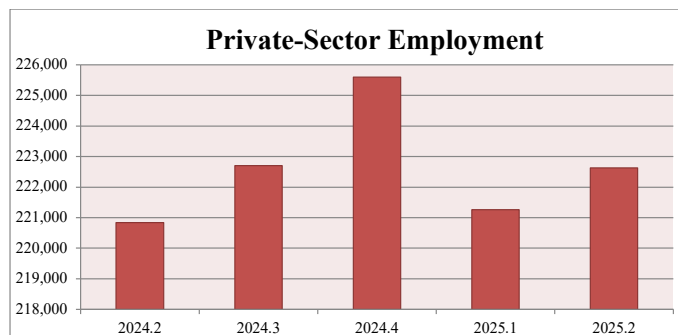
In Bakersfield, nonfarm employment changed in the following manner: mining and logging employment decreased by 33 workers; construction added 200 workers; manufacturing lost 67 workers while the service sector added 1,567 workers. Within the service sector, trade, transportation, and utilities lost 467 workers; financial activities employment remained unchanged; professional and business services added 33 workers; health care and social assistance added 967 workers while leisure and hospitality added 567 employees. Federal government employment did not change, while state employment decreased by 33. The local government added 233 workers.

Farm Employment – In the second quarter of 2025, Kern County hired 4,167 more farm workers compared to the first quarter of 2025. As a result, quarter-to-quarter farm employment increased from 51,167 to 55,333. An average of 58,067 workers were employed in the farming sector four quarters ago, in the second quarter of 2024. The year-over-year number of farm workers decreased by 2,733.

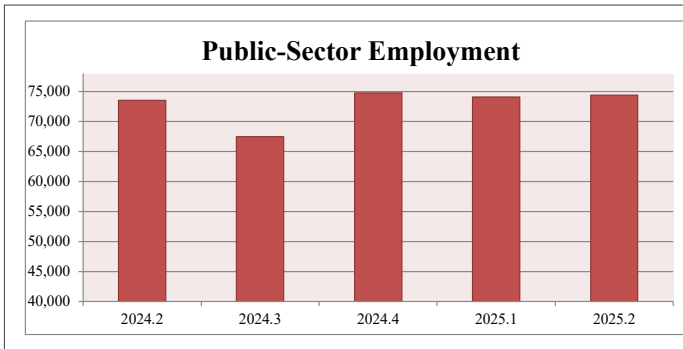
Private-Sector Employment – Nonfarm employment is comprised of private- and public-sector employment. In the second quarter of 2025, private companies hired 1,367 more workers in comparison to the first quarter of 2025. They also hired 0.82 percent more workers in the second quarter of 2025 than they did four quarters ago (in 2024). Currently, the private sector employs 222,663 individuals.



Nonfarm Employment – Nonfarm industries employed 1,733 more workers in the second quarter of 2025 as the number of workers decreased from 295,333 to 297,067. They also hired 2,700 (or 0.92 percent) more workers in the second quarter of 2025 compared to four quarters ago.

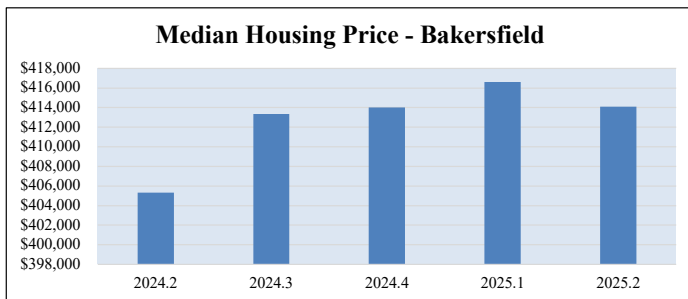


Public-Sector Employment – The public sector consists of federal, state, and local government agencies. The local-government labor market includes workers employed by county and city agencies, and public education. In the second quarter of 2025, government agencies hired 367 more workers, as employment increased from 74,067 to 74,433 – a 0.5 percent increase. Compared to the second quarter of 2024, 1.22 percent more workers were hired in the public sector.



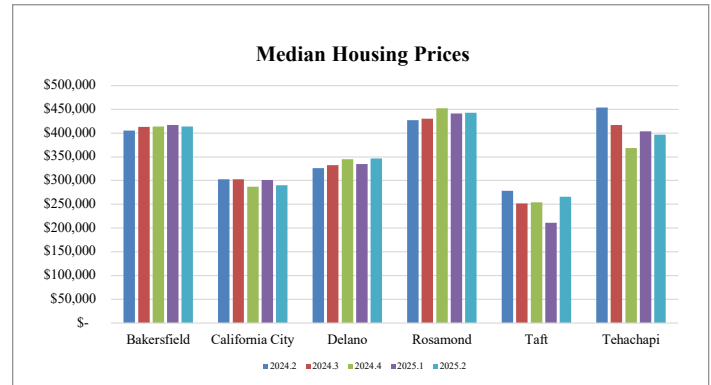
Housing Market

Housing Price – In the second quarter of 2025, Bakersfield’s housing prices dropped by \$2,523 (0.6 percent) compared to the first quarter of 2025. The median price of a home in Bakersfield averaged \$414,083 in the second quarter of 2025 compared to \$405,317 in the second quarter of 2024. Prices were 2.16 percent higher than they were four quarters ago.



Regional Housing Prices – Changes in housing demand in Bakersfield are likely to spillover to surrounding cities as individuals who are on the margin of buying or selling are likely not located in the Bakersfield Metropolitan Statistical Area (MSA). An assessment of first to second quarter (2025) changes in median sales price indicates that home prices decreased in Bakersfield, California City and Tehachapi by \$2,523, \$11,000 and \$6,583,

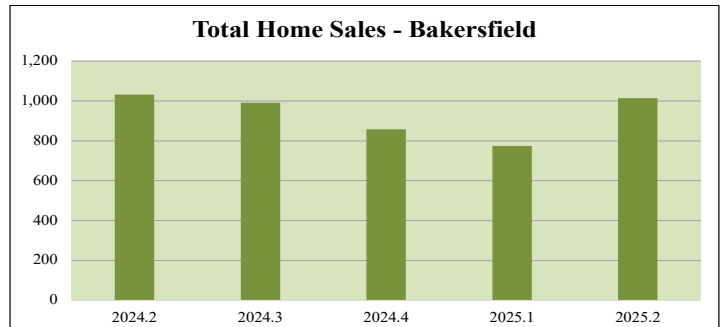
respectively. Delano witnessed the largest increase in median home prices (+\$21,500). The average (annual) price change was -1.43 percent across all regions in our sample. The median home price across all regions was \$359,528 in the second quarter of 2025 compared to \$349,851 in the first quarter of 2025.



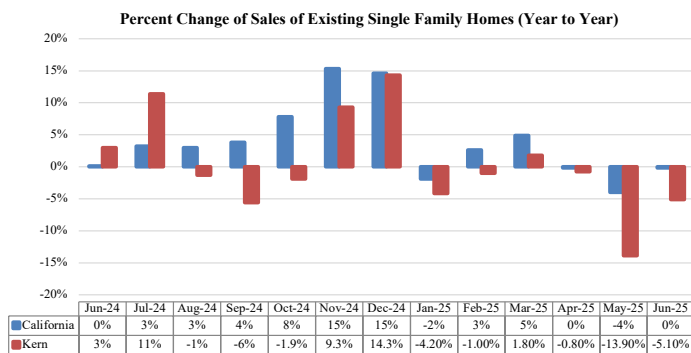
Year-over-year home prices changed (+/-) as follows: Bakersfield (+2.16 percent), California City (-3.97 percent), Delano (+6.39 percent), Rosamond (+3.7 percent), Taft (-4.4 percent) and Tehachapi (-12.49 percent).

| Location | Median Price (last year) | Median Price (this year) | Price Change (\$) (Annual) | Price Change (%) (Annual) |
|-----------------|--------------------------|--------------------------|----------------------------|---------------------------|
| | 2024.2 | 2025.2 | 2024.2 to 2025.2 | 2024.2 to 2025.2 |
| Bakersfield | 405,317 | 414,083 | 8,767 | 2.16% |
| California City | 302,333 | 290,333 | -12,000 | -3.97% |
| Delano | 325,833 | 346,667 | 20,833 | 6.39% |
| Rosamond | 427,333 | 443,165 | 15,832 | 3.70% |
| Taft | 278,250 | 266,000 | -12,250 | -4.40% |
| Tehachapi | 453,555 | 396,917 | -56,638 | -12.49% |
| Average | 365,437 | 359,528 | -5,909 | -1.43% |

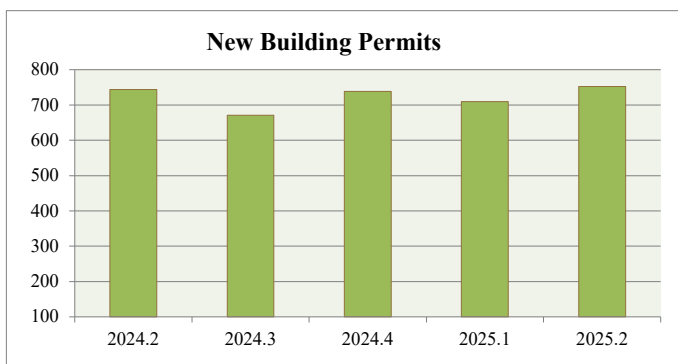
Home Sales – In Bakersfield, quarter-to-quarter sales of residential units increased by 240 units, from 774 in the first quarter of 2025 to 1,014 in the second quarter of 2025. An average of 17 less units were sold in the second quarter of 2025 compared to the second quarter of 2024.



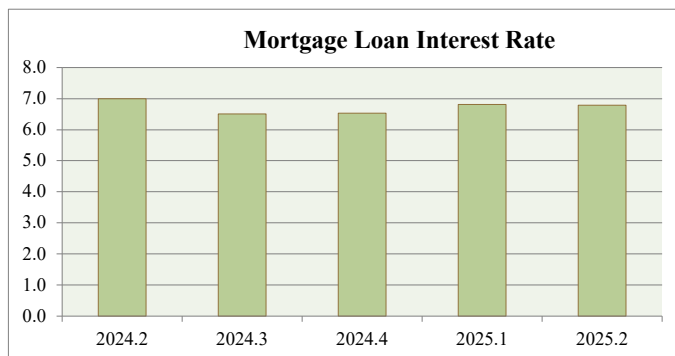
Growth in Housing Sales – We compare growth in sales of existing single-family homes in Kern County with growth in sales in California. Positive values indicate that more homes were sold this year compared to last year. In June 2025, 5.1 percent less homes were sold in Kern County compared to June 2024. In California, year to year sales did not change. The average growth in home sales in California between June 2024 and June 2025 was +3.8 percent while the number was 0.5 percent in Kern County.



New Building Permits – In the second quarter of 2025, Kern County issued 43 more permits for construction of new privately-owned dwelling units compared to the first quarter of 2025. A total of 752 permits were issued in the second quarter of 2025 compared to 744 in the second quarter of last year (2024). Over the last five years, the average number of permits issued in the second quarter of every year is 647.

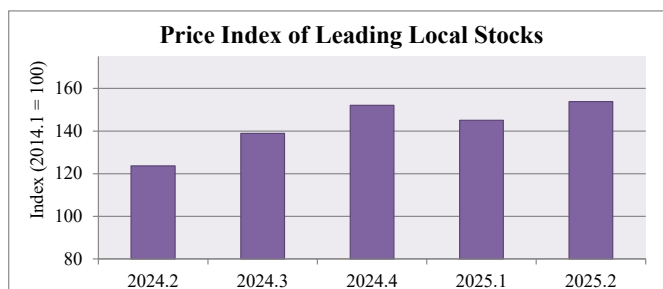


Mortgage Interest Rate – In the second quarter of 2025, the interest rate on thirty-year conventional mortgage loans decreased to 6.79 percent (down from 6.82 percent in the first quarter of 2025). The interest rate last year (second quarter of 2024) was 6.99 percent.

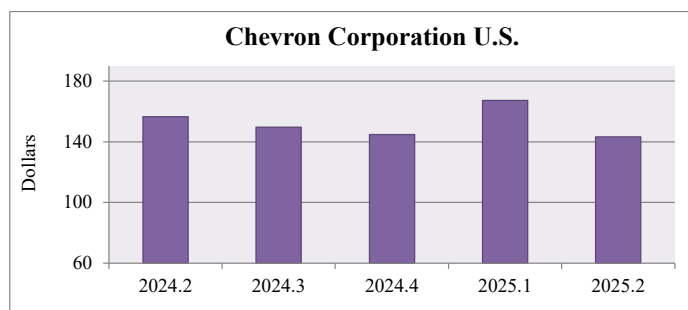


Stock Market

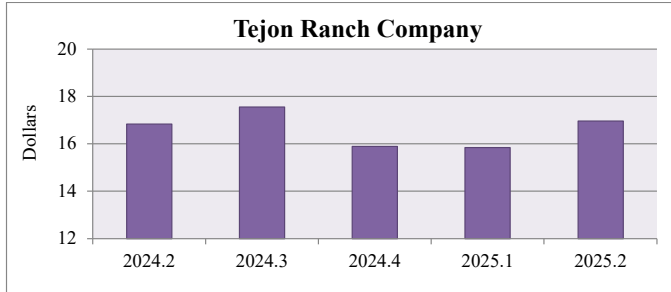
In the second quarter of 2025, the composite price index (2014.1=100) of the five publicly traded companies doing business in Kern County increased by \$8.81, from \$145.10 to \$153.90 (quarter to quarter change). The index was 24.4 percentage points higher than it was four quarters ago. Average “close” prices were measured for five local market-movers: Chevron Corporation U.S., Tejon Ranch Company, Granite Construction, Wells Fargo Company, and Sierra Bancorp.



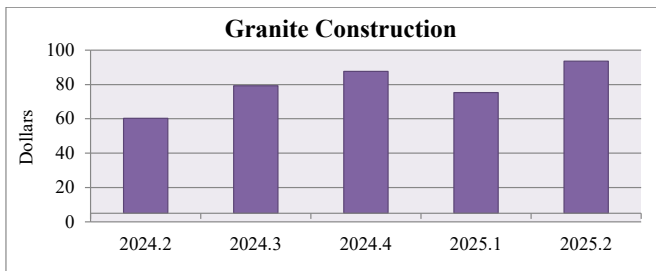
Chevron Corporation U.S.: Compared to the first quarter of 2025, CVX lost \$24.10 (or 14.4 percent) per share as its price decreased from \$167.29 to \$143.19. Relative to the second quarter of 2024, CVX was down \$13.33 (or 8.5 percent).



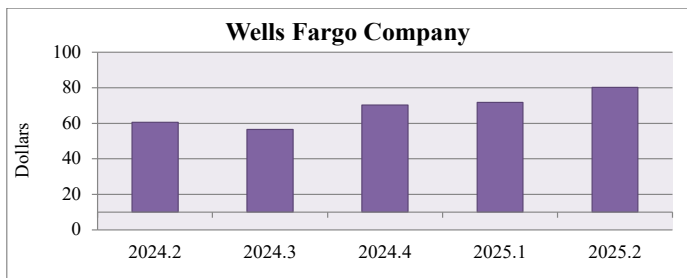
Tejon Ranch Company: TRC gained \$1.11 (or 7 percent) per share as its stock price increased from \$15.85 to \$16.96 between the first quarter of 2025 and second quarter of 2025. Compared to the second quarter of 2024, TRC stock price was up \$0.12 (or 0.7 percent).



Granite Construction: GVA gained \$18.11 (or 24 percent) per share as its stock price increased from \$75.40 to \$93.51 between the first and second quarter of 2025. GVA gained \$33.27 (or 55.2 percent) over the last four quarters.

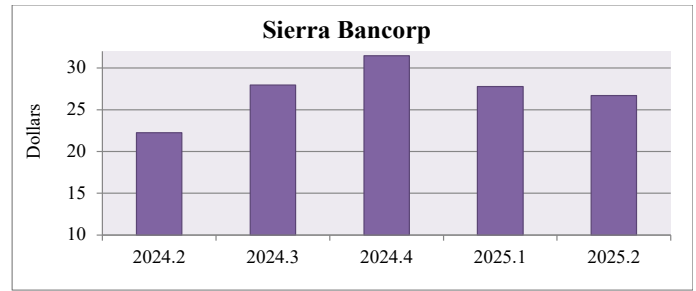


Wells Fargo Company: WFC gained \$8.33 (or 11.6 percent) per share as its stock price increased from \$71.79 to \$80.12 between the first quarter of 2025 and the second quarter of 2025. Relative to the second quarter of 2024, WFC was up \$19.53 (or 32.2 percent).



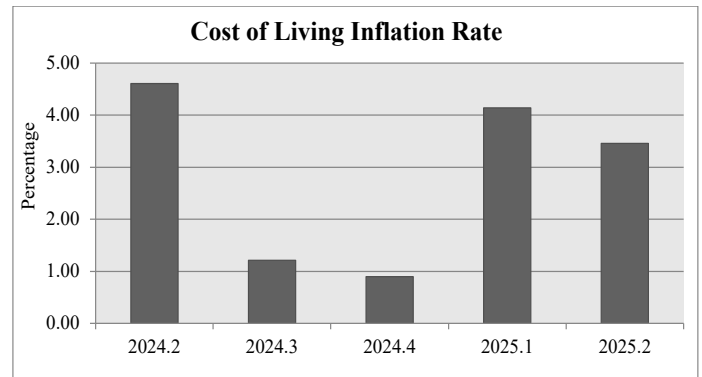
Sierra Bancorp: BSRR lost \$1.08 (or 3.9 percent) per share as its price decreased from \$27.77 to \$26.69 (quarter to quarter). BSRR gained \$4.45 (or

20 percent) in the second quarter of 2025 compared to the second quarter of 2024.

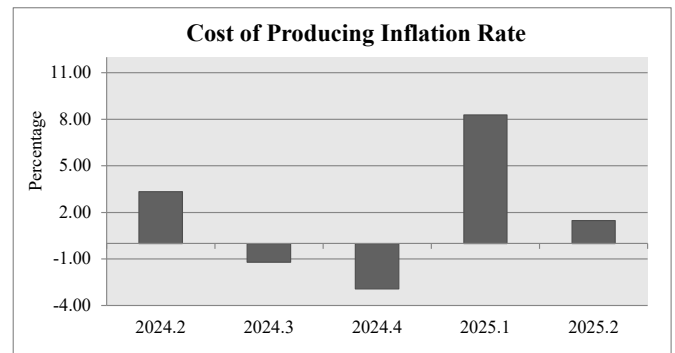


Inflation

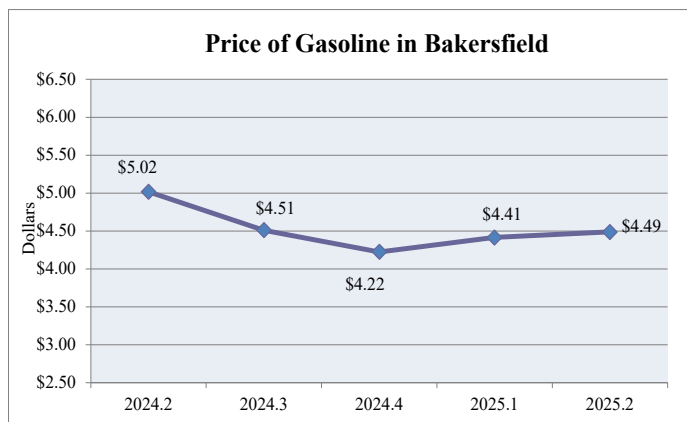
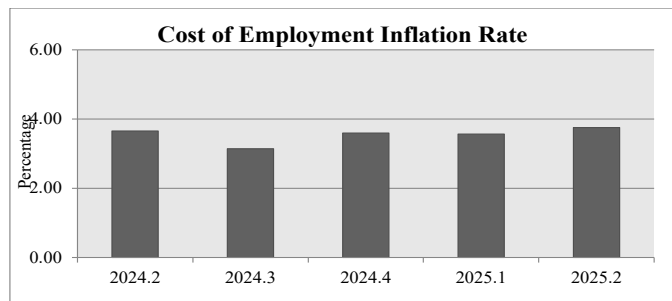
Cost of Living – In the second quarter of 2025, the Consumer Price Index for all urban areas (1982-84 = 100) increased from 318.85 to 321.61. As a result, inflation for the cost of living accelerated at an annual rate of 3.46 percent. The index was 313.93 points in the second quarter of 2024.



Cost of Production – The Producer Price Index for all commodities (1982 = 100) increased between the first quarter of 2025 and second quarter of 2025 from 258.49 to 259.44, respectively. The inflation rate for the cost of producing increased at an annualized rate of 1.48 percent. The cost of production inflation rate was 255.89 four quarters ago.

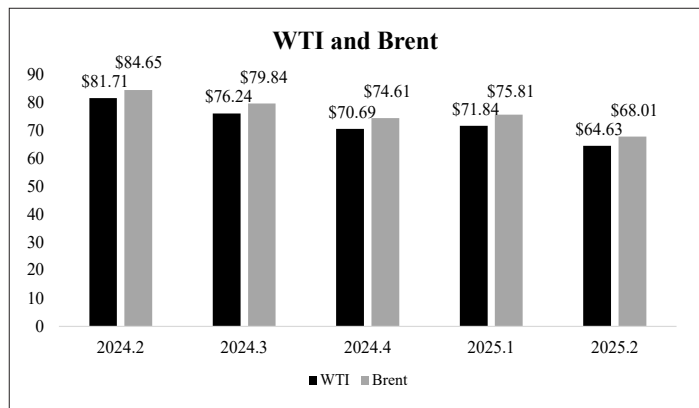


Cost of Employment – The Employment Cost Index (December 2005 = 100) for all civilian workers increased from 169.8 in the first quarter of 2025 to 171.4 in the second quarter of 2025, causing quarter-to-quarter employment inflation to rise by 3.76 percent.



Energy

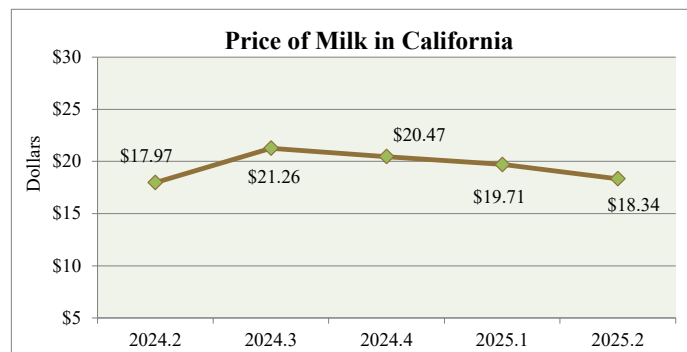
Oil Price – The spot price of WTI in the second quarter of 2025 was \$64.63 compared to that of Brent which was \$68.01. Compared to four quarters ago, the price of WTI and Brent was \$7 and \$8 less, respectively.



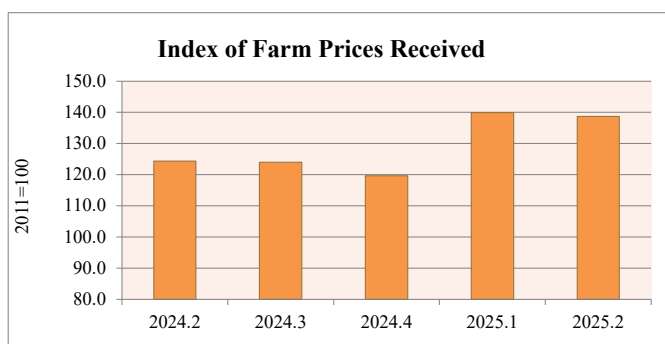
Price of Gasoline – In the Bakersfield MSA, the average retail price of gasoline increased by \$0.07 to \$4.49 between the first quarter of 2025 and the second quarter of 2025. Looking back, average gasoline prices were \$5.02 in the second quarter of 2024 and \$4.70 in the second quarter of 2023.

Commodity Prices

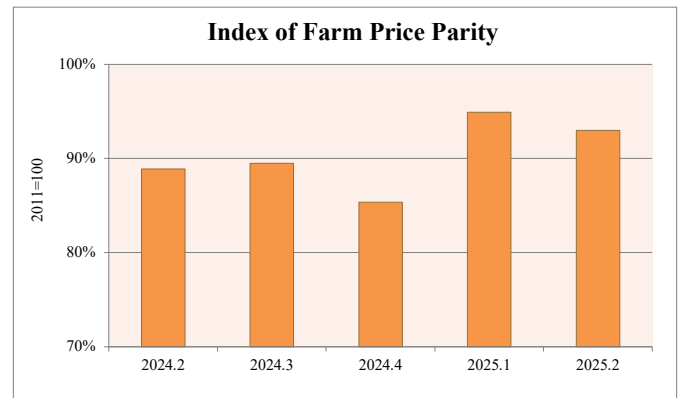
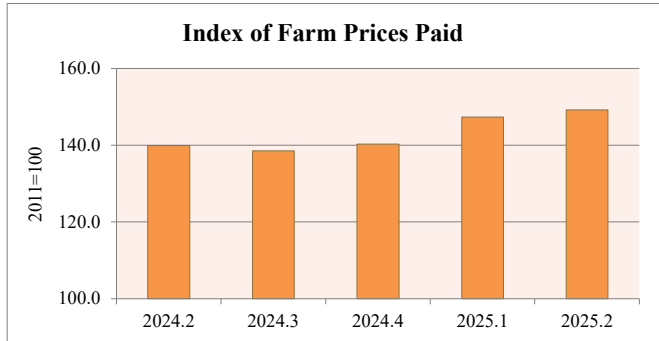
Price of Milk – The unit price of California’s Class III milk decreased in the second quarter of 2025 by \$1.37, to \$18.34. Milk prices were \$0.37 (or 2 percent) higher than they were four quarters ago.



Farm Prices – In the second quarter of 2025, the National Index of Prices Received by Farmers for all farm products (2011 = 100) decreased by 1.10 points from 139.9 in the first quarter of 2025 to 138.8 in the second quarter of 2025. The index was 0.79 percent higher than it was four quarters ago in the second quarter of 2025.



Meanwhile, the National Index of Prices Paid by farmers for commodities, services, interest, taxes, wages, and rents increased by 1.29 percentage points. This means that farmers were worse off in the second quarter of 2025 compared to the first quarter of 2025.



¹ Source – Online databases: <http://www.labormarketinfo.edd.ca.gov>; www.usda.com; www.bakersfieldgasprices.com; www.bea.gov; www.car.org; www.census.gov; <https://www.redfin.com>; <https://www.cafmno.com>; www.bls.gov; www.eja.gov.

We measure the Index of Farm Price Parity as the ratio Index of Prices Received to the Index of Prices Paid. In the second quarter of 2025, the Index of Farm Price Parity was 93 percent compared to 95 percent in the first quarter of 2025. Four quarters ago, the price ratio was 89 percent.



Public-sector employment and wages in Kern County, California

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1. Introduction

On September 30, 2025, the heads of executive departments and agencies within the US government received a memorandum from the director of the Office of Management and Budget, Russell Vought. The memorandum informed them that appropriations for the fiscal year ending at 11:59 p.m. that evening would expire. Affected agencies were instructed to “execute their plans for an orderly shutdown.”

Appropriations are laws of Congress that grant agencies the power to govern money. When those powers expired at midnight, agencies were required to furlough many federal workers. While these workers will be paid retroactively in accordance with a 2019 law, the absence of paychecks and continued interest in reducing the size of the federal workforce will affect the economy in Kern.

To partially understand the effect the shutdown will have on Kern’s economy, I investigate how employment is allocated across the public and private sectors using data from the Quarterly Census of Employment and Wages. A main message is that, in Kern,

- out of every 100 jobs, 3 are part of the federal government, whereas 79 are in the private sector; and,
 - on average, federal employees earn \$1,940 per week, compared to \$1,091 in the private sector.
- The remainder of this article describes how these statistics were computed. Replication materials, including data on employment and wages, are available at <https://github.com/richryan/kern-public-sector-employment>.

2. Public-sector employment in Kern County, California

The Quarterly Census of Employment and Wages program of the US Bureau of Labor Statistics covers “more than 95 percent of U.S. jobs,” which makes the data suitable to investigate employment at the county level. The employment data are published at a monthly frequency and are available by ownership type. Employment is the count of filled jobs, regardless of whether the position is full or part time or whether the position is temporary or permanent.¹

Employment across the private and public sectors is shown in figure 1. Public-sector employment includes government workers at the federal, state, and local levels. Figure 1 indicates that most jobs are in the private sector. In March 2025, there were 276,792 jobs in the private sector and 73,180 jobs in the public sector.

The majority of public-sector jobs are in local government. These include jobs held by teachers and workers who provide administrative support. In March 2025, public-sector employment comprised 52,448 jobs in local government, 11,483 jobs in federal government, and 9,249 jobs in state government.

¹All the time series are seasonally adjusted using the US Census Bureau’s X-13ARIMA-SETS procedure.

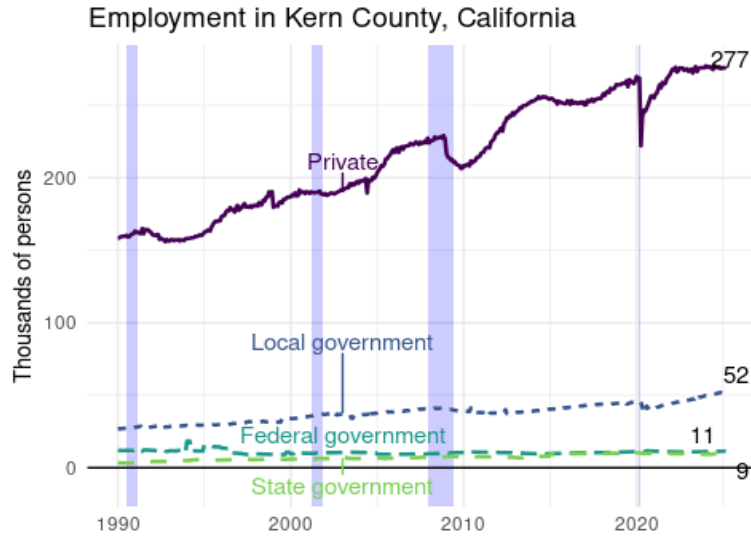


Figure 1: Private and public-sector employment in Kern County, California, January 1990 to March 2025

Just 3.3 percent of jobs are held by federal workers in Kern. This statistic can be seen in figure 2, which plots public-sector employment as a percentage of total employment. In contrast to federal jobs, 15 percent of jobs are at the local level and 2.6 percent of jobs are at the state level.

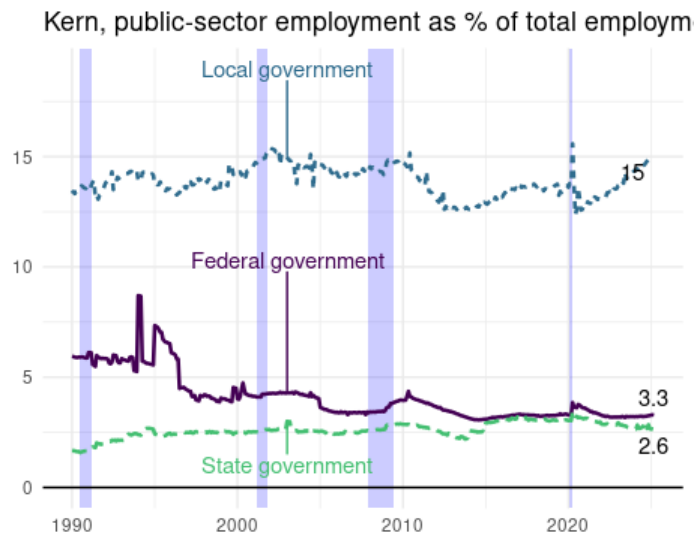


Figure 2: Shares of public-sector employment in Kern County, California, January 1990 to March 2025

3. Wages across the public and private sectors in Kern County, California

In addition to data on employment, the QCEW program also publishes data on wages. These data are available at a quarterly frequency. The average weekly wage reports the ratio of total

compensation paid during the quarter to average employment over the quarter divided by 13, for the 13 weeks in the quarter.

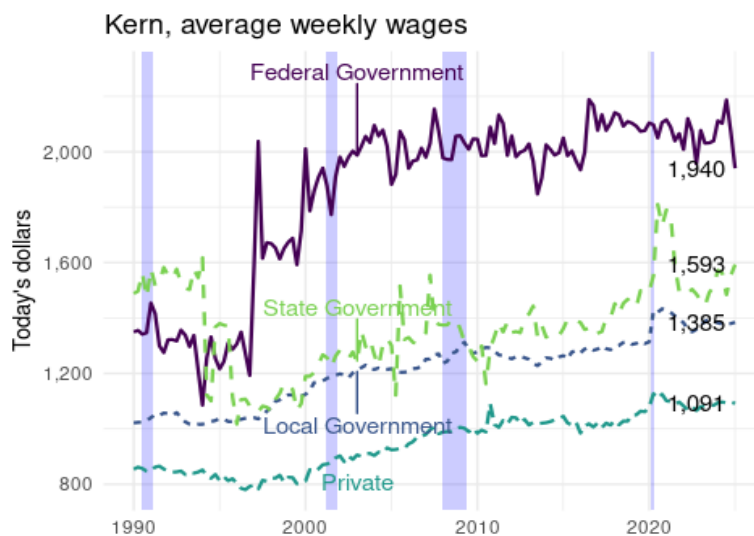


Figure 3: Sectoral wages in Kern County, California, 1990 quarter 1 to 2025 quarter 1. Deflated by personal-consumption expenditures price index.

Average weekly wages by sector are reported in figure 3. The series are transformed into today's dollars using the personal-consumption expenditures price index. On average, government workers earn more than private-sector workers. In quarter 1 of 2025, for example, the average weekly wage of federal workers was 78 percent higher than the average weekly wage of workers in the private sector.

The wage bill is the amount paid by firms to employees. In 2025 quarter 1, the wage bill averaged \$411 million per week across both the public and private sectors. Using this statistic, if all federal workers were left unpaid, then the wage bill would be reduced by 5 percent. This statistic represents an upper bound on amount of delayed wage payments.

4. Conclusion

Across Kern each month, workers earn paychecks by producing goods and structures or providing services. The goods, services, and structures are purchased using funds that come out of workers' paychecks. This circular flow is threatened by the government shutdown.

As James Madison put it, the House of Representatives "hold[s] the purse." They propose the "supplies requisite for the support of government." They also owe us the "just and salutary" measures they were elected to carry into effect.

Is Garbage a Good Indicator of Economic Growth in Kern County?

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1. Introduction

Numerous articles have reported a correlation between waste generation and economic development (Cillizza 2012 and Rabouin 2019). For example, Plumer's (2012) article in the New York Times indicated that the "trash index" exhibited an 82.4 percent statistical correlation with U.S. economic growth since 2001. During economic booms, consumers tend to purchase and consume more goods, as well as travel more frequently, all contributes to increased waste generation. Similarly, the Minnesota Pollution Control Agency found that the volume of materials sent to landfills rises as the economy grows (Herald Review 2021). It remains unclear whether similar patterns exist in Kern County. This article examines whether waste disposal and economic growth are correlated using time series data from California's Department of Resources Recycling and Recovery (CalRecycle) and the U.S. Bureau of Economic Analysis. Findings for Kern County are compared with statewide trends in California. The dataset spans 23 years, from 2000 to 2023.

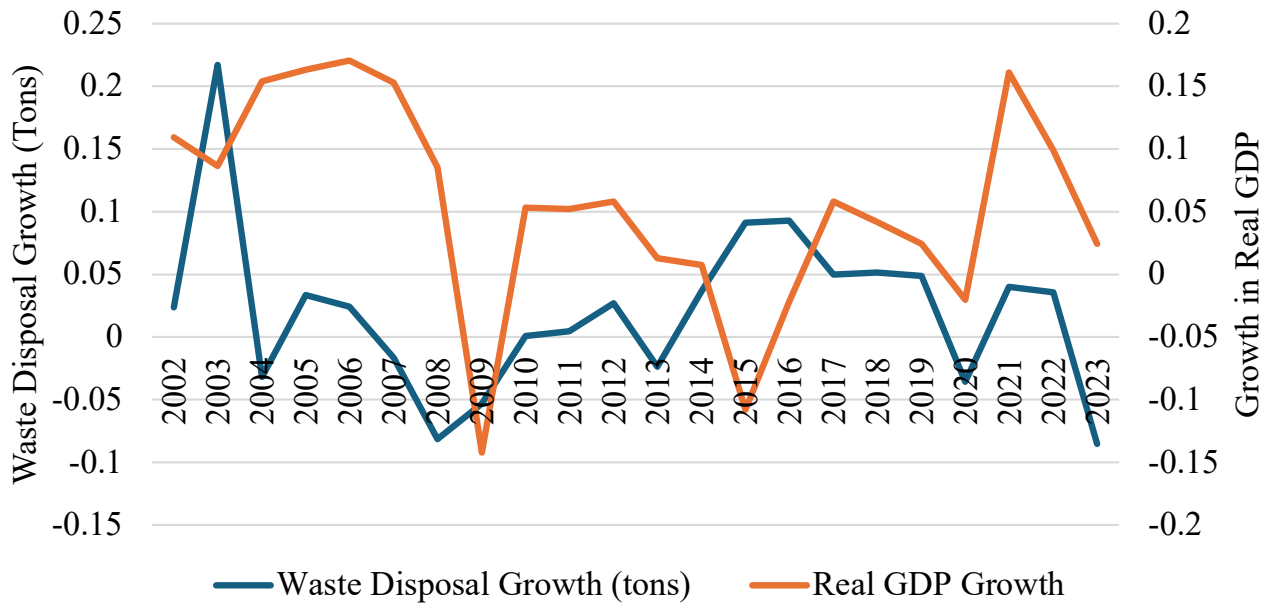
2. Trends in Economic Growth and Waste Disposal

The total amount of waste disposed of at Kern's landfills – including waste exported for disposal - was 669,586 tons in 2000. By 2023, approximately one million tons of waste were disposed of in landfills. In per capita terms, 1.00 ton of waste was generated in 2000 compared with 1.13 tons in 2023 (U.S. Census Bureau 2026a; U.S. Bureau of Economic Analysis 2026a).

In California, total waste disposal amounted to 38.6 million tons in 2000 and increased to approximately 40 million tons in 2023. On per capita basis, waste generation declined from 1.12 tons in 2000 to 1.02 tons in 2023 (U.S. Census Bureau 2026b; U.S. Bureau of Economic Analysis 2026b).

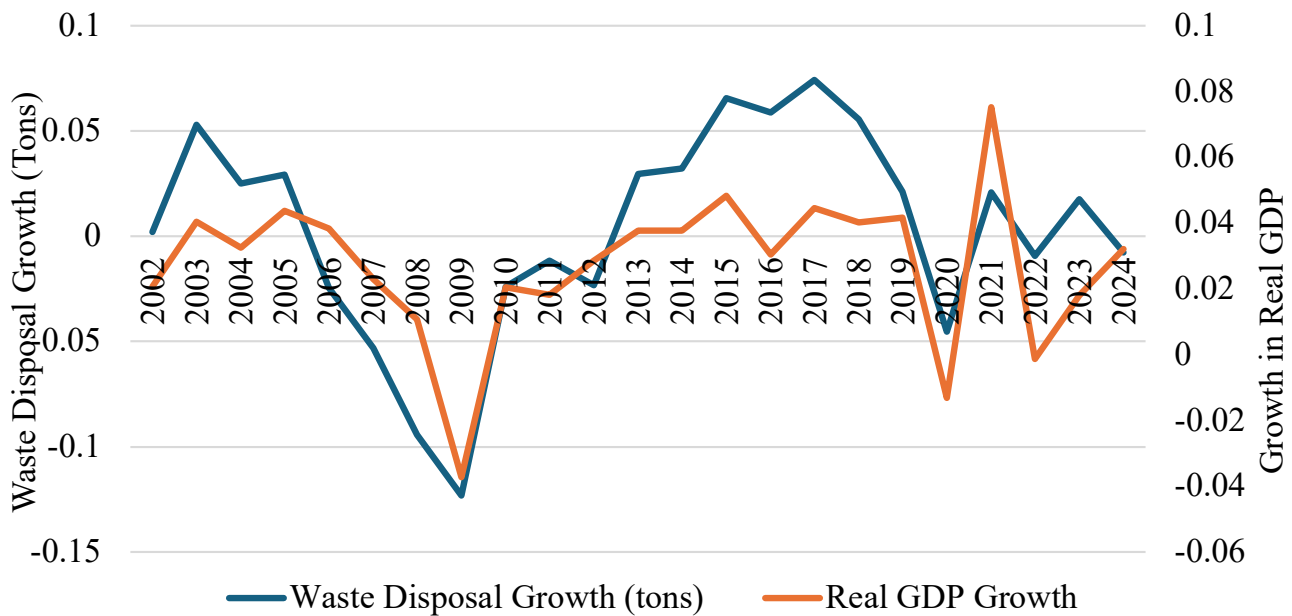
Figures 1 and 2 illustrate trends in waste disposal and real GDP in Kern County and California, respectively. A visual inspection of the graphs suggests that the two series move together in Kern County particularly during the period from 2017 to 2023. Between 2002 and 2016, growth in waste disposal appears to lag growth in GDP. In California, both series appear to move together over the full 20-year period.

Figure 1: Kern County: Growth in Waste Disposal and Real GDP (2001 – 2023)



Source: Author’s adaption of CalRecycle (2026) and U.S. Bureau of Economic Analysis (2026a).

Figure 2: California: Growth in Waste Disposal and Real GDP (2001 – 2023)



3. The Coefficient of Correlation between Economic Growth and Waste Disposal

The coefficient of correlation is a statistical measure used to quantify the strength and direction of the correlation between two variables. Its value ranges from -1 to $+1$. Values greater than $+0.7$ indicate a strong positive correlation while a value less than -0.7 indicate a strong negative correlation. The coefficient of correlation (r) between waste disposal and GDP for California and Kern County is calculated using data between 2002 and 2023.

Table 1: Coefficient of Correlation between waste disposal and GDP in California

| | | | |
|----------------|----------|-----------------------|--------------------|
| | Real GDP | | Growth in Real GDP |
| Waste Disposal | 0.22 | Growth Waste Disposal | 0.74 |

Table 2: Coefficient of Correlation between waste disposal and GDP in Kern County

| | | | |
|----------------|----------|-----------------------|--------------------|
| | Real GDP | | Growth in Real GDP |
| Waste Disposal | 0.54 | Growth Waste Disposal | 0.03 |

Table 1 reports the coefficients of correlation between waste disposal and GDP in California. The correlation between the level of real GDP and waste disposal is relatively weak ($r=0.22$). In contrast, the correlation between growth in real GDP and growth in waste disposal is strong ($r=0.74$).

Table 2 presents corresponding results for Kern. The correlation between real GDP and waste disposal levels is moderate ($r=0.54$), while the correlation between growth in real GDP and growth in waste disposal is very weak ($r=0.03$).

Results indicate that the correlation between GDP and waste disposal levels is positive and stronger in Kern County than in California. Conversely, growth in GDP and growth in waste disposal are strongly related in California but exhibit a very weak relationship in Kern County. These findings should be interpreted with caution. The analysis uses a relatively small sample of annual observations.

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KERN ECONOMIC JOURNAL is a quarterly publication of California State University, Bakersfield. Its purpose is to track local trends and analyze regional, national, and global issues that affect the well-being of Kern County. The journal provides useful information and data that can help the community make informed economic decisions. Please visit <https://bpa.csub.edu/menus/kern-economic-journal.html> for more information.