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CSU Bakersfield

Kern Economic Journal

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2020 Fourth Quarter

Featured Article:

Discrimination, Race and the Economy

COVID and Kern Agriculture

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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!

2020 FOURTH QUARTER
BY DR. NYAKUNDI MICHIEKA
& DR. RICHARD S. GEARHART III

National Economy[1]

U.S. GDP increased at an annual rate of 4 percent in the fourth quarter of 2020. In the third quarter of 2020, real GDP decreased by 33.4 percent. The increase in fourth quarter GDP reflected both the continued economic recovery driven by efforts to reopen businesses and resume activities that were restricted due to the pandemic.

The uptick in the real GDP reflected increases in exports, nonresidential fixed investment, personal consumption expenditures (PCE), residential fixed investment, and private inventory investment that were partly offset by decreases in state, local and government spending. Imports also increased in the fourth quarter.

Current-dollar GDP increased 6.1 percent (or $317.6 billion) in the fourth quarter to a level of $21.48 trillion. In the third quarter, GDP increased by 38.3 percent or $1.65 trillion.

Current-dollar personal income decreased by $339.7 billion (0.4 percent) in the fourth quarter compared with a decrease of $541.5 billion in the third quarter. Real disposable personal income, which is adjusted for inflation and taxes, decreased by 9.5 percent in compared to a 16.3 percent decrease.

Personal saving was $2.33 trillion in the fourth quarter compared with $2.83 trillion in the third quarter. The BEA derives the personal saving rate by calculating personal saving as a percentage of disposable personal income.

The Conference Board's Index of Leading Economic Indicators – a measure of future economic activity – increased 0.3 percent in December to 109.5 following a 0.7 percent increase in November and a 0.9 percent increase in October.

The University of Michigan's Consumer Sentiment Index increased from 75.6 in the third quarter of 2020 to 79.8 in the fourth quarter of 2020. The value for the index in the fourth quarter of 2019 was 97.2 compared to 98.2 in (the fourth quarter of) 2018.

State Economy[2]

In California, the unemployment rate dropped to 8.7 percent compared to 11.9 percent in September 2020. At the county level, only Colusa (10.8), Imperial (16.4), Kern (9.4), Kings (8.9), Los Angeles (10.7), Merced (9), San Joaquin (9), Tulare (9.8) and Yuba (8.7) had unemployment rates above the state average (of 8.7). The other counties' unemployment rates were below the state average.

Counties with the lowest unemployment rates include: Marin (4.7), Placer (5.2), San Mateo (5.1), Santa Clara (5.1) and Sierra (5).

California's labor force increased by 301,800 in the fourth quarter of 2020 after increasing by 33,200 in the third quarter. During the same period, civilian employment increased by 876,233 from 16.5 million to 17.4 million. Nonfarming and farming enterprises hired 278,067 and 29,033 more workers, respectively. The mining and logging sector hired 300 less workers while construction and manufacturing sectors hired 35,433 and 4,433 more workers, respectively. Service sector employment increased from 13.8 million to 14 million between the third and fourth quarter of 2020. The federal and local government lost 17,267 and 12,033 workers, respectively.

Local Economy

The local economy saw a decrease in the labor force, from 369,300 in the third quarter of 2020 to 375,500 in the fourth quarter of 2020. Employment increased by 18,333 from 318,567 in the third quarter of 2020 to 336,900 in the fourth quarter of 2020. A large part of the increase was driven by efforts to reopen businesses and resume activities that were restricted due to COVID-19. Nonfarm employment increased by 8,833 while farm employment rose by 1,467.

[1] U.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://www.conference-board.org/data/bcicountry.cfm?cid=1.
The University of Michigan Consumer Sentiment Index is found at http://www.sca.isr.umich.edu/tables.html.

[2] The 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.

In Bakersfield, nonfarm employment changed in the following manner: mining and logging lost (100 workers), construction lost (100 workers), manufacturing added (67 workers) and service added (8,967 workers). Within the service sector, trade, transportation and utilities added (2,733 workers), financial activities added (167 workers), professional & business services added (833 workers), education and health services added (267 workers) while leisure and hospitality added (1,000 workers). Within the government, federal government lost (300 workers), state and local government lost (4,033 workers) and local government lost (3,900 workers)

Total salaries and wages in Kern County increased from $297,333 in the third quarter of 2020 to $307,633 (3 percent rise) in the fourth quarter of 2020. Compared to four quarters ago, salaries were lower by $39,767 or 11 percent.

The rate of unemployment varied considerably across cities, ranging from 5.07 percent in Ridgecrest to 22.67 percent in Mojave. All cities in Kern County showed a decrease in the unemployment compared to the third quarter of 2020. The biggest quarter to quarter decrease in the unemployment rate occurred in Delano, decreasing from 29.27 percent to 22.67 percent. In Bakersfield, the unemployment rate was 9.47 percent in the fourth quarter of 2020 compared to 14.03 percent in the third quarter. In Kern County, unemployment was 10.3 percent in the fourth quarter compared to 13.97 percent in the third.

In the fourth quarter of 2020, the median home price in Bakersfield was $288,667 compared to $278,000 in the third quarter. Home prices are $30,950 higher than they were four quarters ago. Within the region, median home prices in Taft were the lowest at $144,667 compared to $350,833 in Tehachapi.

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 31.2 percentage points from 61.3 to 80.4. The index is 23.1 percentage points lower than what it was four quarters ago. All companies gained/lost as follows: Chevron (increased 17.3 percent quarter-over-quarter), Tejon Ranch (increased 2.1 percent quarter-over-quarter), Granite Construction (increased 57.1 percent quarter-over-quarter), Wells Fargo (increased 28.4 percent quarter-over-quarter) and Sierra Bancorp (increased 42.5 percent quarter-over-quarter).

The average retail price of gasoline decreased by $0.08 to $2.99. Gas prices were 21.8 percent lower than they were four quarters ago when they averaged $3.82 a gallon. The unit price of California's Class III milk was $20.22 in the fourth quarter of 2020 compared to $20.25 in the third quarter. The Index of Farm Price Parity in the fourth quarter of 2020 (0.80) was slightly higher than that of the third quarter of 2020 (0.81).

Tracking Kern's Economy[1]

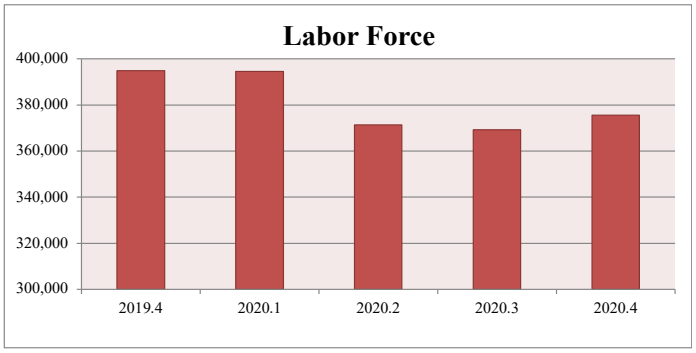
DR. NYAKUNDI MICHIEKA &
DR. RICHARD S. GEARHART III

Labor Market

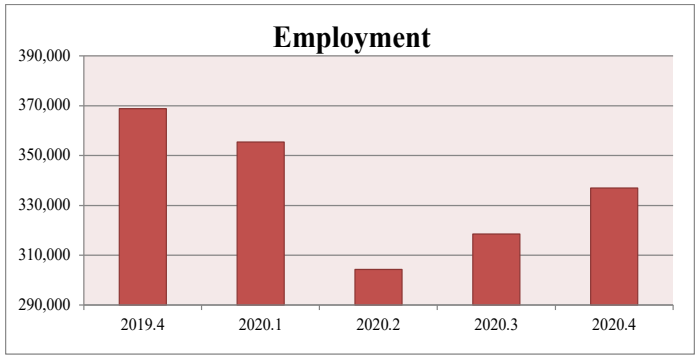
We adjust published data in three ways. First, we average monthly data to calculate quarterly data. Second, we recalculate quarterly data to take into account workers employed in the "informal" market (i.e., self-employed labor and those who work outside their county of residence). Finally, we adjust quarterly data for the effects of seasonal variations.

Labor Force - The civilian labor force increased by 6,200 members, from 369,300 in the third quarter of 2020 to 375,500 in the fourth quarter of 2020. This is the largest quarter three to quarter four increase in labor force since 2007. The labor force estimates are similar to those of the first quarter of 2014 (375,130). 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. Recessions tend to push labor force participation down.

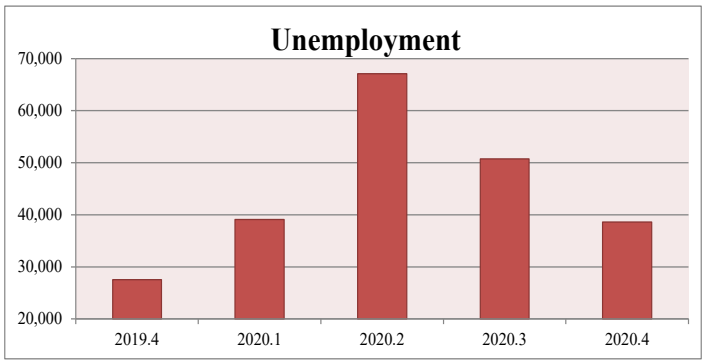
down.



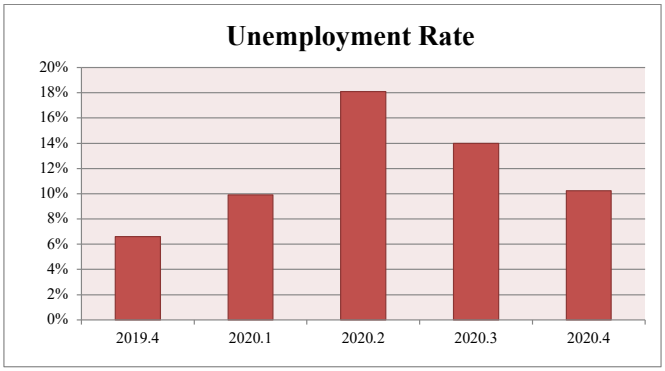
Employment – In the fourth quarter of 2020, Kern County hired 18,333 more workers as total employment increased from 318,567 to 336,900. This is an 8.65 percent decrease in employment compared to the fourth quarter of 2019 when 394,767 persons were employed. Nonetheless, it is the largest third to fourth quarter increase in employment since 2007.



Unemployment – In the meantime, quarter to quarter unemployment decreased by 12,167 as the number of jobless workers dropped from 50,767 to 38,600. The number of unemployed workers is 40 percent higher than it were four quarters ago. In the fourth quarter of 2019, there were 27,505 unemployed workers compared to 38,600 this quarter.



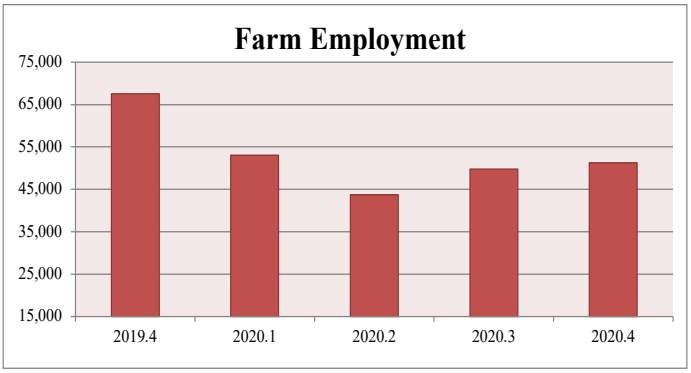
Unemployment Rate – Kern County's year-to-year unemployment rate rose by 4 percentage points from 6.6 percent in the fourth quarter of 2019 to 10.2 percent in the fourth quarter of 2020. The unemployment rate in the fourth quarter of 2020 was 3.77 percent lower than that of the third quarter of 2020. More specifically, Kern County's unemployment rate was 14 percent in the third quarter of 2020 and 10.2 percent in the fourth quarter of 2020. Kern County's unemployment rate is higher than that of California which is 11.9 percent.



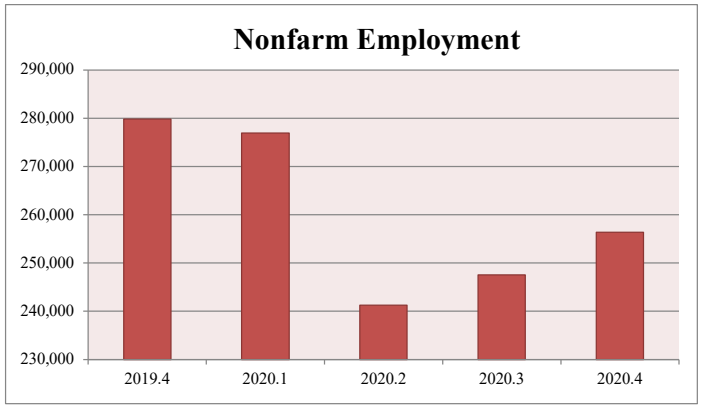
The rate of unemployment varied considerably across cities, ranging from 5.07 percent in Ridgecrest to 22.67 percent in Mojave. All cities in Kern County showed a decrease in the unemployment rate compared to last quarter. The biggest quarter to quarter drop in the unemployment rate occurred in Mojave, dropping from 29.27 percent to 22.67 percent. In Bakersfield, the unemployment rate was 9.47 percent in the fourth quarter of 2020 compared to 14.03 percent in the third quarter.

Unemployment Rate of Cities			
Location	Unemployment Rate (%)	Location	Unemployment Rate (%)
KERN COUNTY	10.30%	McFarland	12.80%
Arvin	9.73%	Mojave	22.67%
Bakersfield	9.47%	Oildale	14.93%
California City	20.07%	Ridgecrest	5.07%
Delano	15.97%	Rosamond	12.27%
Edwards	11.67%	Shafter	14.30%
Frazier Park	11.07%	Taft	6.57%
Lake Isabella	14.17%	Tehachapi	6.90%
Lamont	9.43%	Wasco	12.37%
Note: City-level data are not adjusted for seasonality and "informal" market workers.			

Farm Employment –In the fourth quarter of 2020, Kern County hired 1,467 more farm workers. As a result, farm employment increased from 49,767 in the third quarter of 2020 to 51,233 in the fourth quarter of 2020. The year-over-year number of farm workers hired decreased by 16,300 to 51,233 (compared to 67,533 last year).

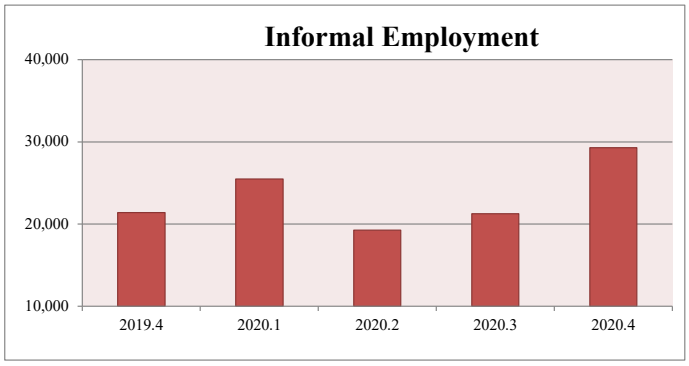


Nonfarm Employment – Local nonfarm industries employed 8,833 more workers in the fourth quarter of 2020 as the number increased from 247,567 to 256,400. The industries hired 23,467 less workers compared to four quarters ago (8.4 percent less). The third to fourth quarter change in the number of nonfarm workers has remained consistent despite the current economic situation. The 2020 numbers are similar to pre-COVID figures of 2019.

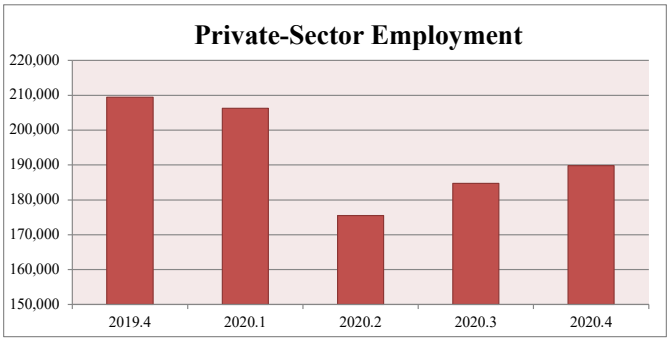


In Bakersfield, nonfarm employment changed by the following magnitude: mining and logging lost 100 workers; construction lost 100 workers; manufacturing added 67 workers while service added 8,967 workers. Within the service sector, trade, transportation and utilities added 2,733 workers; financial activities added 167 workers; professional and business services added 833 workers; education and health services added 267 workers while leisure and hospitality added 1,000 workers. The federal government lost 300 workers while state and local government added 4,033 workers. The local government added 3,900 workers.

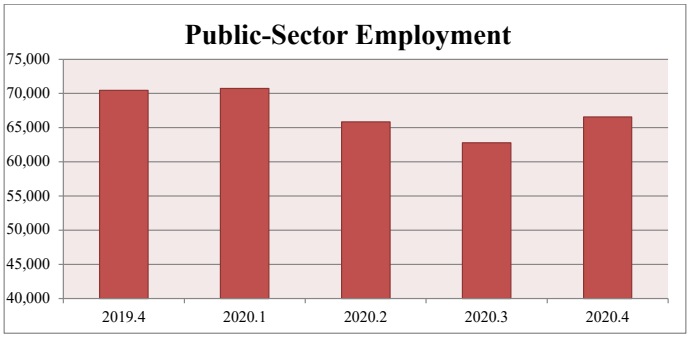
Informal Employment - Informal employment is the difference between total employment and industry employment. It accounts for self-employed workers and persons employed outside their county of residence. In the fourth quarter of 2020, the number of informal workers increased by 8,033 workers compared to the third quarter of 2020. There were also 7,867 more informal workers in the fourth quarter of 2020 compared to the fourth quarter of 2019. The number of residents who have sought to create their own jobs continues to grow, and there are currently 29,267 informal workers in Kern County – an uptick from last quarter's figures.



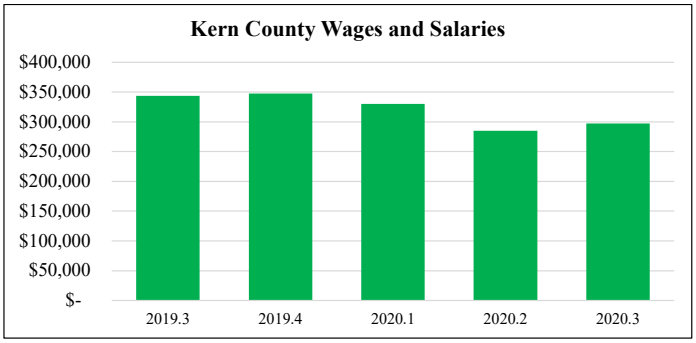
Private-Sector Employment - Nonfarm employment is comprised of private- and public-sector employment. In the fourth quarter of 2020, private companies hired 189,833 workers compared to 184,733 workers hired in the third quarter. The private sector hired 9.34 percent less workers this quarter than it did four quarters ago. This quarter's estimates are similar to those recorded in the fourth quarter of 2012.



Public-Sector Employment -The public sector consists of federal, state, and local government agencies. The local government labor market includes county and city agencies and public education. In the fourth quarter of 2020, government agencies hired 3,800 more workers as employment increased from 62,767 to 66,567 – a 6.05 percent increase. Compared to last year, 5.53 percent less workers were hired.

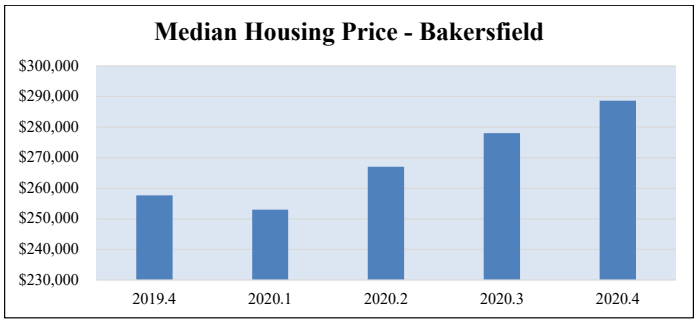


Salaries and Wages - Total salaries and wages in Kern County increased from $297,333 in the third quarter of 2020 to $307,633 in the fourth quarter of 2020 (a 3 percent increase). Compared to four quarters ago, salaries were lower by $39,767 (or 11 percent).

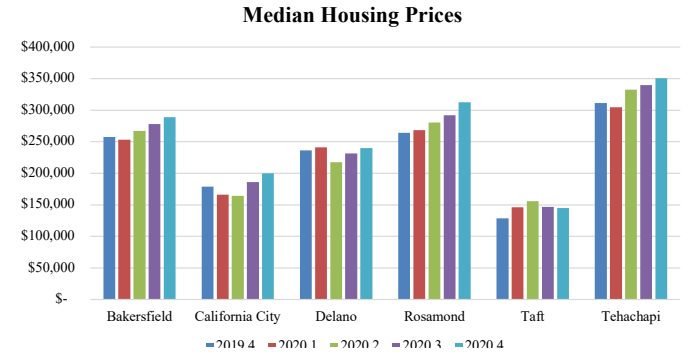


Housing Market

Housing Price - In the fourth quarter of 2020, Bakersfield's housing prices were up by $10,667 (3.84 percent) compared to the third quarter of 2020. The median home price averaged $288,667 in this quarter compared to $278,000 in the third quarter. Prices are $30,950 higher than they were four quarters ago. This rise in home prices has been fueled by record low interest rates and increased demand.



Regional Housing Prices –The changes in housing demand felt in Bakersfield are likely to spillover to the surrounding towns as individuals who are on the margin of buying or selling are likely not located in the Bakersfield MSA directly. An assessment of third to fourth quarter changes (2020) in median sales price indicates that home prices surged in all Kern County cities except for Taft. California City recorded the highest uptick in prices (7.42 percent) while Delano recorded the lowest rise (2.21 percent). The average price increase was 9.63 percent across all regions. The median home price averaged 196,986 in the fourth quarter of 2019 compared to 219,753 in the fourth quarter of 2020.

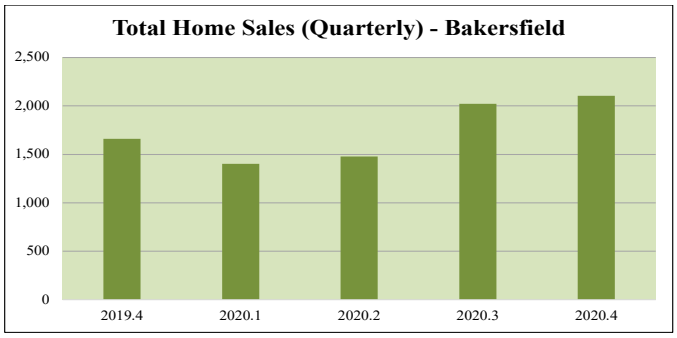


The year-to-year home prices increased in all cities in Kern County as follows: Bakersfield (12.01 percent), California City (12.03 percent), Delano (1.45 percent), Rosamond (18.2 percent), Taft (12.36 percent) and Tehachapi (12.69 percent).

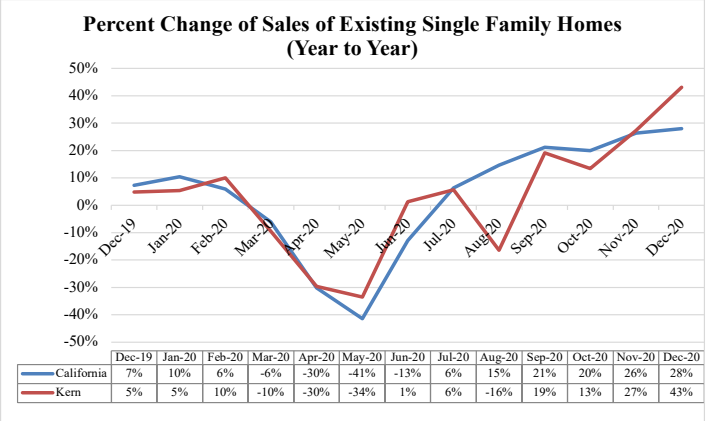
Location	Median Price 2019.4	Median Price 2020.4	Price Change ($) 2019.4 – 2020.4	% Price Change 2019.4 – 2020.4
Bakersfield	257,717	288,667	30,950	12.01%
California City	178,667	200,167	21,500	12.03%
Delano	236,250	239,667	3,417	1.45%
Rosamond	264,167	312,250	48,083	18.20%
Taft	128,750	144,667	15,917	12.36%
Tehachapi	311,333	350,833	39,500	12.69%
Averages	196,986	219,753	26,561	11.46%

Housing Sales – In Bakersfield, quarter to quarter sales of residential units increased by 82 units, from 2,023 in the third quarter of 2020 to 2,105 in the fourth quarter. An average of 446 more homes were sold in the fourth quarter (of 2020) compared to the fourth quarter last year.

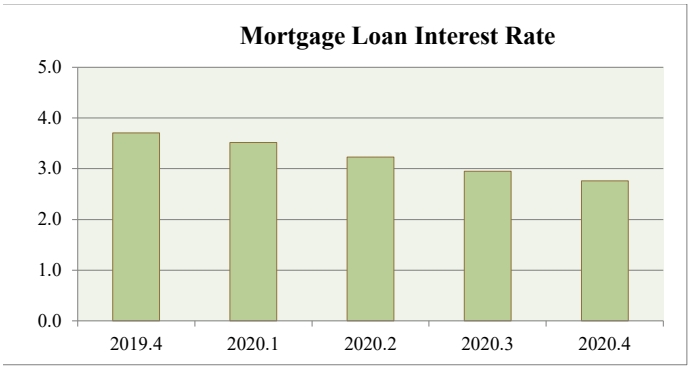
Housing Sales –In Bakersfield, quarter to quarter sales of residential units increased by 82 units, from 2,023 in the third quarter of 2020 to 2,105 in the fourth quarter. An average of 446 more homes were sold in the fourth quarter (of 2020) compared to the fourth quarter last year.



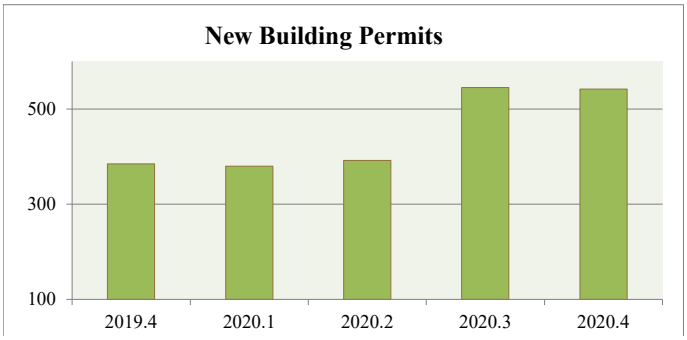
Growth in Housing Sales – We compare growth in sales of existing single-family homes in Kern County with growth in sales in California. Positive values indicate that more homes were purchased this year compared to last year. In December 2020, sales of single-family homes in Kern County were 43 percent higher than they were in 2019, while sales in California were higher by 28 percent. Average growth in home sales in California between December 2019 and December 2020 were 3.8 percent while the number was 3.2 percent in Kern County.



	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
California	7%	10%	6%	-6%	-30%	-41%	-13%	6%	15%	21%	20%	26%	28%
Kern	5%	5%	10%	-10%	-30%	-34%	1%	6%	-16%	19%	13%	27%	43%

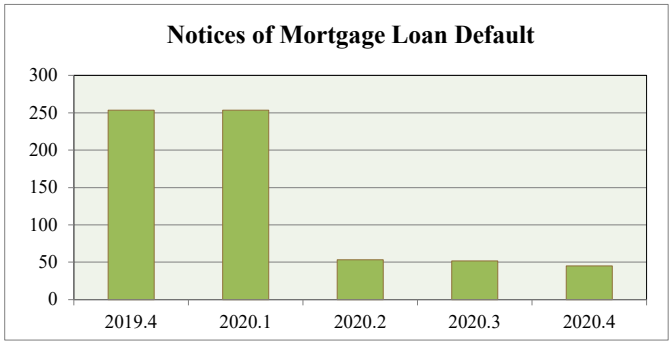


New Building Permits –In the fourth quarter of 2020, Kern County issued 3 less permits for construction of new privately-owned dwelling units compared to the third quarter of 2020. A total of 542 permits were issued this quarter compared to 385 in the fourth quarter of 2019. This increase indicates a rise in construction plans in Kern County. Over the last five years, and average number of permits issued in the fourth quarter of every year is 516.



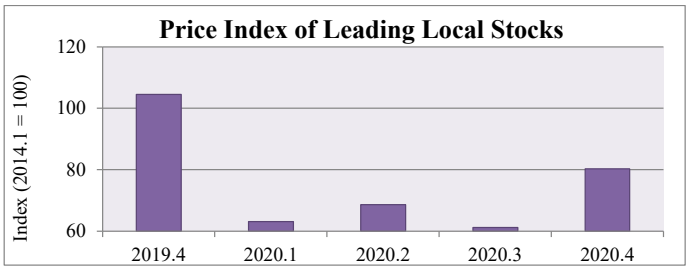
Mortgage Interest Rate –In the fourth quarter of 2020, the interest rate on thirty-year conventional mortgage loans decreased to 2.76 percent from 2.95 percent in the third quarter. The current thirty-year mortgage interest rates are the lowest in modern history. The interest rate in the fourth quarter of 2019 was 3.7 percent.

Housing Foreclosure Activity –The downtick in foreclosure activity continued as the number of new foreclosures decreased by 7 foreclosures, from 52 in the third quarter of 2020 to 45 in the fourth quarter of 2020. This number is also 208 filings lower than four quarters ago. A total of 253 fillings were recorded in the fourth quarter of 2019 compared to 45 in the fourth quarter of 2020. These foreclosure filings are the lowest witnessed in ten years.

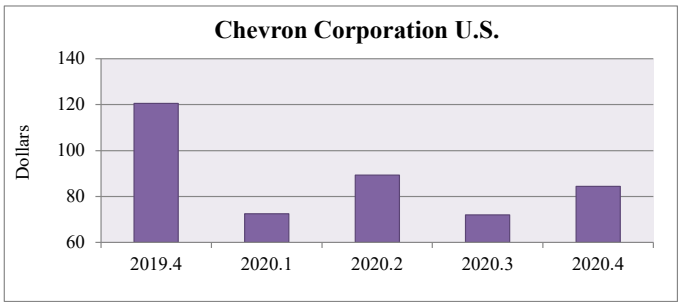


Stock Market

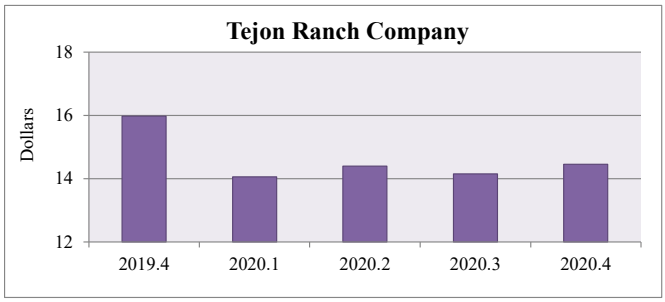
In the fourth quarter of 2020, the composite price index (2014.1=100) of the five publicly traded companies doing business in Kern County increased by 31.2 percentage points from 61.3 to 80.4 (quarter to quarter change). The index is 24.2 percentage points lower than it was four quarters ago. Average "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 last quarter, CVX gained $12.45 (or 17.3 percent) per share as its price increased from $72 to $84.45. Relative to the fourth quarter of 2019, CVX was down $36.06 (or 29.9 percent).

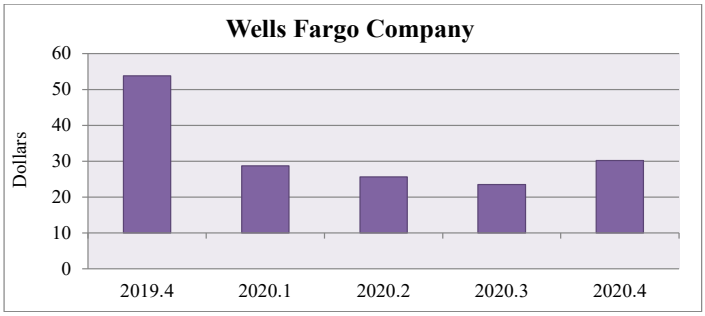


Tejon Ranch Company: TRC gained $0.30 (or 2.1 percent) per share as its stock price increased from $14.15 to $14.45 between the third and fourth quarter of 2020. Compared to last year, the TRC stock price was down $1.53 (or 9.6 percent).

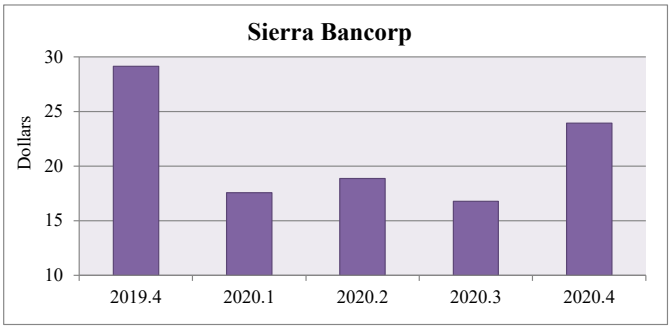


Granite Construction: GVA gained $9.10 (or 51.7 percent) per share as its stock price increased from $17.61 to $26.71 between the third and fourth quarter of 2020. Conversely, GVA lost $0.96 (or 3.5 percent) over the last four quarters.

Wells Fargo Company:
Wells Fargo Company: WFC gained $6.67 (or 28.4 percent) per share as its stock price increased from $23.51 to $30.18 between the third and fourth quarter of 2020. Relative to one year ago, WFC was down $23.62 (or 43.9 percent).

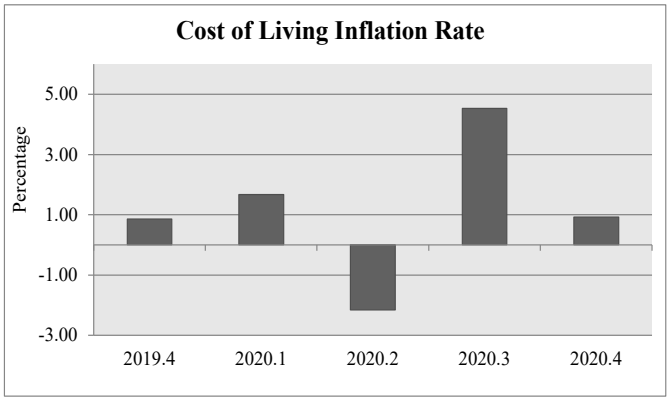


Sierra Bancorp: BSRR gained $7.13 (or 42.5 percent) per share as its price increased from $16.79 to $23.92. Similar to the other companies, BSRR lost $5.20 (or 17.9 percent) since the fourth quarter of 2019.

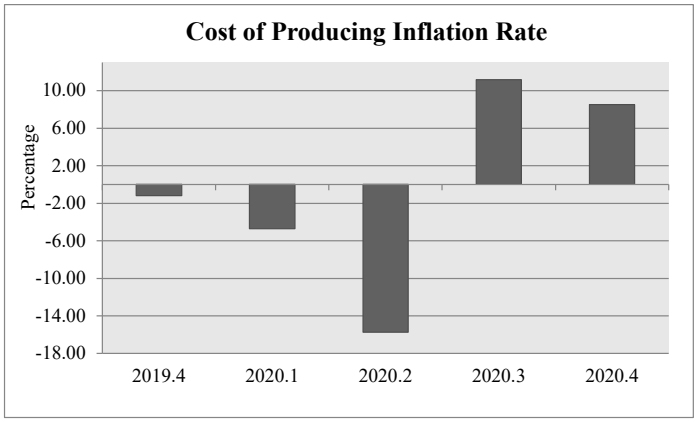


Inflation

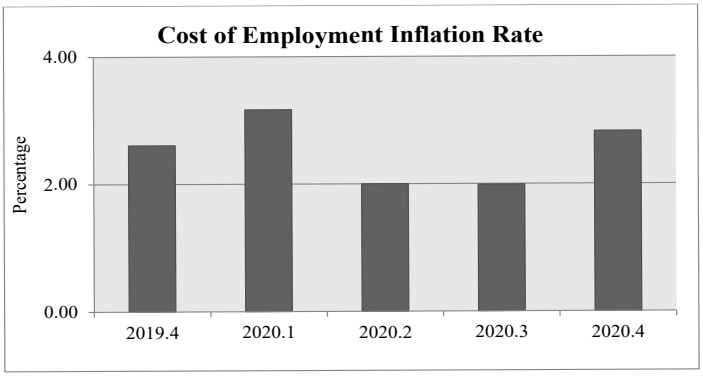
Cost of Living – In the fourth quarter of 2020, the Consumer Price Index for all urban areas (1982-84 = 100) decreased from 4.53 to 0.92. The index was 0.85 in the fourth quarter of 2019.



Cost of Production – The Producer Price Index for all commodities (1982 = 100) dropped between the third and fourth quarter of 2020 from 11.16 to 8.52 percent. The cost of production inflation rate was -1.2 percent four quarters ago.

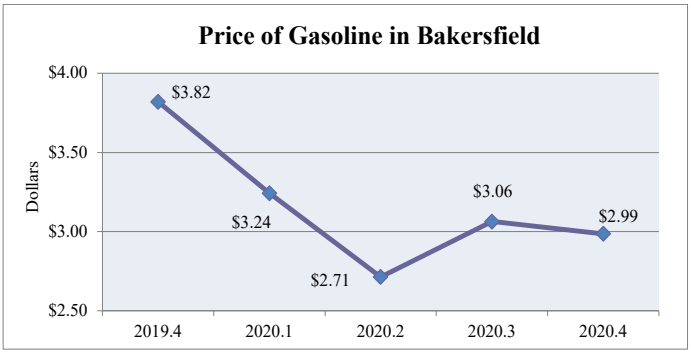


Cost of Employment - The Employment Cost Index (December 2005 = 100) for all civilian workers increased from 141.4 in the third quarter to 142.4 in the fourth quarter, growing at a rate of 2.83 percent. This growth is similar to that which occurred in the third to fourth quarter of 2020 (2.92 percent).

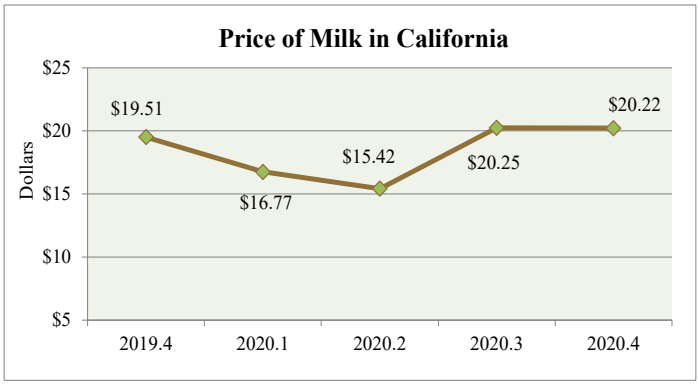


Commodity Prices

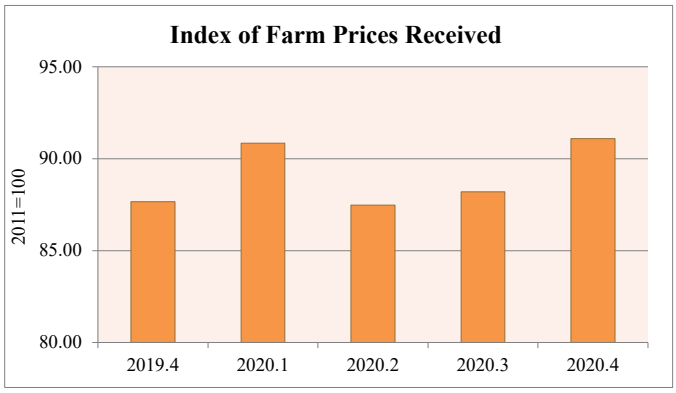
Price of Gasoline – In the Bakersfield Metropolitan Statistical Area, the average retail price of gasoline decreased by $0.08 to $2.99, between the third and fourth quarter of 2020. Average prices were 21.8 percent lower than they were a year ago.

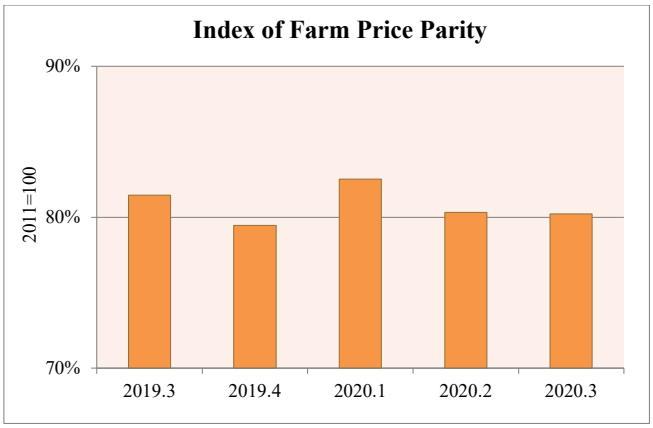


Price of Milk – The unit price of California's Class III milk decreased in the fourth quarter of 2020 by $0.02 to $20.22. Noticeably, milk prices are still within the $20 price range. The last time milk prices were this high was in 2014 when they averaged $22. Nonetheless, prices are 3.6 percent or $0.71 higher than they were four quarters ago when they were $16.15.

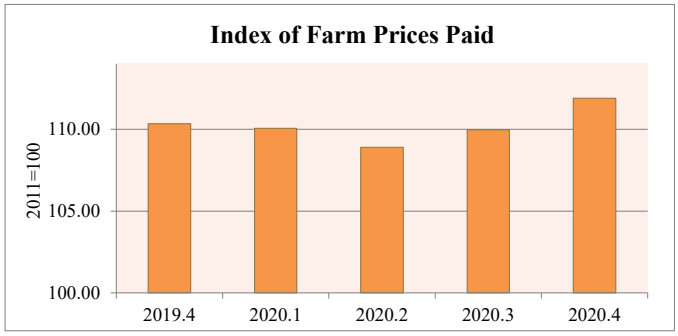


Farm Prices – – In the fourth quarter of 2020, the National Index of Prices Received by Farmers for all farm products (2011 = 100) increased by 2.90 points to 91.1 compared to the 88.2 in the third quarter of 2020. This is a 3.43 point increase from the 87.67 points recorded in the fourth quarter of 2019.





Meanwhile, the National Index of Prices Paid by farmers for commodities, services, interest, taxes, wages, and rents increased by 1.76 percent compared to last quarter to reach 111.9. This means that farmers are worse off this quarter compared to last.



We measure the Index of Farm Price Parity as the ratio Index of Prices Received to the Index of Prices Paid. In the fourth quarter of 2020, the Index of Farm Price Parity was 81 percent compared to 80 percent in the third quarter of 2020. Four quarters ago, the price ratio was 79 percent.

[1] Source – Online databases: http://www.labormarketinfo.edd.ca.gov; www.usda.com; www.bakersfieldgasprices.com; www.bea.gov; www.car.org; www.trulia.com; www.census.gov; https://www.redfin.com; https://www.cafmmo.com; www.bls.gov

Discrimination, Race and the Economy

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Introduction

This essay provides an overview of discrimination in the labor, housing, education and criminal justice system in the U.S. The article will focus on discrimination against blacks, although many of the concepts discussed apply much more broadly. Discrimination is the unfair treatment of someone based on characteristics such as gender, race or religion (American Psychological Association 2019). Identifying and measuring discrimination is challenging. We can measure disparities among groups in various settings but such disparities do not necessarily indicate discrimination. The disparities could reflect differences in preferences or unfair treatment that occurred (Lang and Spitzer 2020).

Economists study discrimination by differentiating between taste-based and statistical discrimination. Taste-based discrimination occurs when some economic actors (employers or customers) prefer not to interact with a particular class of people and are willing to pay a financial price to avoid such interactions (Levitt 2004). Statistical discrimination occurs in an environment of imperfect information, where actors form expectations based on limited signals that correlate with race (Ewens, Tomlin et al. 2014). Statistical discrimination is universal, legal and socially acceptable. For example, one may give up a seat in a train for an elderly lady than a tall young man, even if the man just had hip surgery (Lang and Spitzer 2020).

Discrimination in the Labor Market

Black workers encounter discrimination in the labor market from employers, coworkers, and customers (Weller 2019). A well-known study by Bertrand and Mullainathan (2004) found that resumes with White names had a 10.08 percent chance of receiving a callback while those with black names had a 6.7 percent chance. Giuliano, Levine et al. (2009), using data from a large U.S. retail firm, found that nonblack managers (Whites, Hispanics and Asians) hire more whites and fewer blacks, than do black managers. Interestingly, once employed, workers are less likely to quit when coworkers are of the same race. These effects are large and highly significant for Whites and Asians but smaller and marginally significant for Blacks (Giuliano, Levine et al. 2009).
Consumers discriminate sellers on the basis of race. A study employing data on more than 1,000 tips on taxicab drivers in New Haven, Connecticut and found that African American cab drivers were tipped approximately one third less than White drivers (Ayres, Vars et al. 2004). In New York, brothel owners charged a premium for lighter-skin blacks and a larger premium for White sex workers (Mumford and Mumford 1997). Li, Lang, and Leong (2018) found evidence of discrimination against darker-skin customers by present-day Singapore street sex workers.

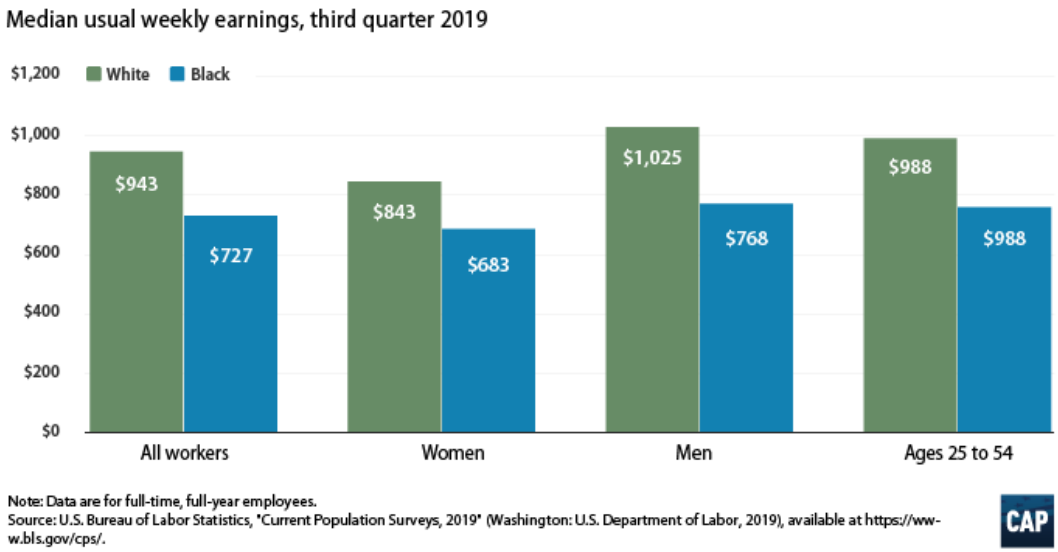
Interestingly, customers have a tendency to prefer demographically similar employees. Leonard, Levine et al. (2010) used retail data to test for customer discrimination and found that in areas with a larger proportion of Whites, having more Black employees slightly reduced sales, while having more Hispanics slightly increased them.

[1] Vernon, Golec, and DiMasi (2010). "Drug Development Costs when Financial Risk is Measured Using the Fama-French Three-Factor Model". Health Economics 19: 1002-1005.
[2] DiMasi, Hansen, and Grabowski (2003). "The Price of Innovation: New Estimates of Drug Development Costs". Journal of Health Economics 22: 151-185.
[3] Grabowski, Vernon, and DiMasi (2002). "Returns on Research and Development for 1990's New Drug Introductions" Pharmacoeconomics 20(3): 11-29.

This finding presents a paradox for business owners who are bound to discriminate in hiring to make profit, even if they are indifferent to race and gender. Customer discrimination is also present in online transactions. Doleac and Stein (2013) found that buyers were less likely to make an offer to purchase an iPod Nano if offered by a black person, and those who did made a lower offer.

Data collected from the Bureau of Labor statistics indicates that Black men earn 31 percent less than their White counterparts (Kahn-Lang 2018). Black women also earn less relative to White women (Daly, Hobijn et al. 2020) as indicated in Figure 1. Lower wages for Black workers translate into lower savings as families have less money left over after paying their bills (Weller 2019).

Figure 1: Black workers earn significantly less than White workers across subpopulations



Source: Weller (2019)

Discrimination in the Criminal Justice System

Discrimination in the justice system manifests itself in policing and the court system. According to Edwards, Bunting et al. (2013), Blacks and Whites use marijuana at similar rates but blacks are 3.7 times as likely to be arrested for its use. Similarly, Black drivers are also stopped more frequently (40 percent more (Pierson, Simoiu et al. 2020)) than White drivers and more likely to be subjected to search if stopped (Chanin, Welsh et al. 2018). Arnold, Dobbie et al. (2018) used data from Miami to Philadelphia to show that bail judges are racially biased against black defendants. They also found that both black and white judges are biased against black defendants and that racial bias is higher among part time and inexperienced judges. Interestingly, Anwar, Bayer et al. (2012) showed that having one or two blacks in the jury pool results in higher conviction rates for White defendants and lower conviction rates for Black defendants. However, Blacks were convicted at a 81 percent rate (White 66 percent rate) in cases with no Blacks in the jury pool. Overall, Blacks are more likely than Whites to be incarcerated (Spohn, Gruhl et al. 1981) and the sentences received by Black and Hispanic defendants tend to be harsher than those of White defendants (Demuth and Steffensmeier 2004, Mauer 2011).

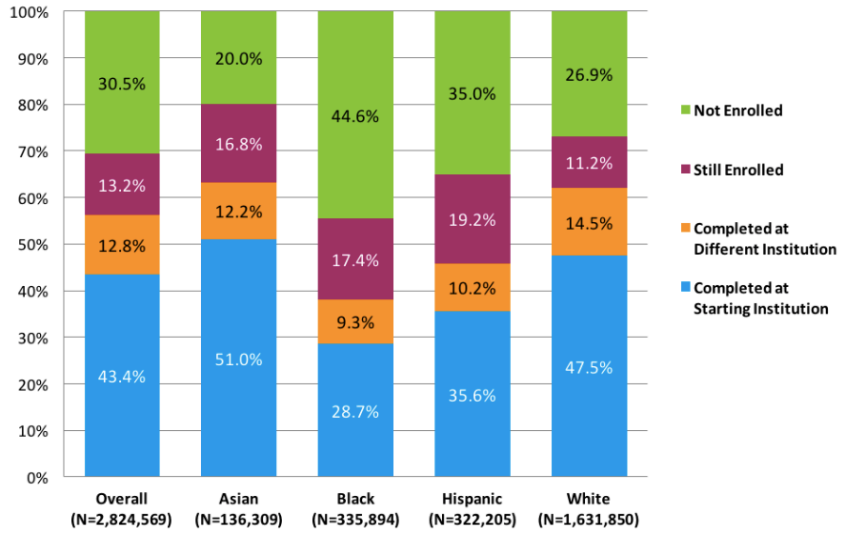
Discrimination in Housing

Neighborhoods vary with respect to safety, amenities, peer characteristics, public transportation, access to job opportunities and quality of public schools. Therefore, housing discrimination by realtors and landlords may have intergenerational consequences. Black home seekers in areas with severe housing discrimination are shown fewer houses (or apartments), treated less courteously or deprived critical information (South and Crowder 1998). There is also a connection between dialect and discrimination in housing. In Philadelphia, a study by Massey and Lundy (2001) found that men who spoke with a "black-sounding" dialect were less likely to get through to an agent, and less likely to be told of a rental unit's availability compared to those with "white-sounding" dialect. These interactions saw Black home seekers "steered" into predominantly black neighborhoods (Galster 1990). Chetty, Hendren et al. (2020) estimates that up to 25 percent of the gap in intergenerational mobility between blacks and whites is due to neighborhood effects, although effects vary by race. The degree to which discrimination explains residential segregation is still uncertain. Residential segregation may occur due to preferences, where people chose to live near others of the same race (Lang and Spitzer 2020). Neighborhood segregation may in turn reflect housing discrimination or disparities in the labor market, which lead to segregated schools that may have fewer resources than predominantly white schools.

Discrimination in Education

There is a large achievement gap between Black and White children. In 2017, Black high school graduates are 16 percent less likely than White high school graduates to attend college. Further, only 38 percent of Black enrollees graduate from college within six years compared to 62 percent of White enrollees, because blacks on average, attend colleges with lower graduation rates (see Figure 2) (Tate 2017). One reason for this disparity is the quality of teachers. Students perform worse when they are assigned teachers with lower expectations of their ability. Another factor that contributes to the racial gaps in educational achievement is stereotype threat – the phenomenon by which individuals internalize stereotypes about the groups they belong to, and the beliefs become self-fulfilling. For example, a number of studies have found that when female students are reminded of their gender before a math test, their performance goes down (Steele and Aronson 1995). Closing the achievement gap is important since it impacts the type of jobs that students secure as adults and this in turn impacts wages and housing.

Figure 2. Six-year outcomes by Race and Ethnicity

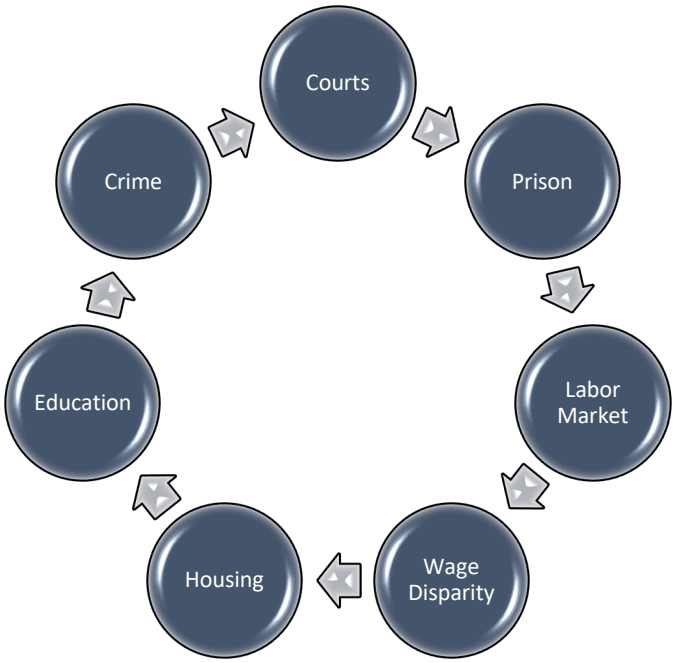


Source: Tate (2017)

Conclusion

Discrimination in education could impact schooling and potentially increase the probability of incarceration (Chanin, Welsh et al. 2018). If discrimination in the justice system makes blacks more likely to go to/have been in prison, employers may use race as an indicator of past imprisonment and discriminate against blacks in employment. Labor market inequality may create disparity in wages and contribute to residential segregation. This may circle back to cause disparities in educational achievement, creating a feedback loop as illustrated in Figure 3.

Figure 3: Discrimination in the Labor, Wages, Housing, Education and Justice



Prohibiting discrimination is challenging but policies to reduce it work better (Reskin 2012). Generally, policies to increase interracial contact—like limiting residential segregation—may offer a useful point of leverage. Pettigrew and Tropp (2006) provide a meta-analysis of 515 studies and conclude that there is strong support for "intergroup contact theory," which proposes that contact tends to reduce prejudice. For example, a study by Carrell, Hoekstra et al. (2015) *"found that having an additional black member in an Air Force squadron of roughly 35 people increased the probability of having a black roommate as a sophomore (usually not a freshman squadron member) by about one percentage point, or about 18 percent."* Another study found that exposure to more black peers with high admissions scores increased the probability that whites reported that they had become more accepting of African Americans.

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COVID and Kern Agriculture

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Trade, specifically agricultural trade, has been impacted by the Trump trade wars, as well as COVID-19. The significance of this impact is not universal within the agriculture industry. For instance, the trade wars adversely impacted the 'Oilseeds and Grains' sector – a decrease in exports to China of approximately 75% in 2018, compared to 2017. However, the impact of the trade wars diminished by 2019.

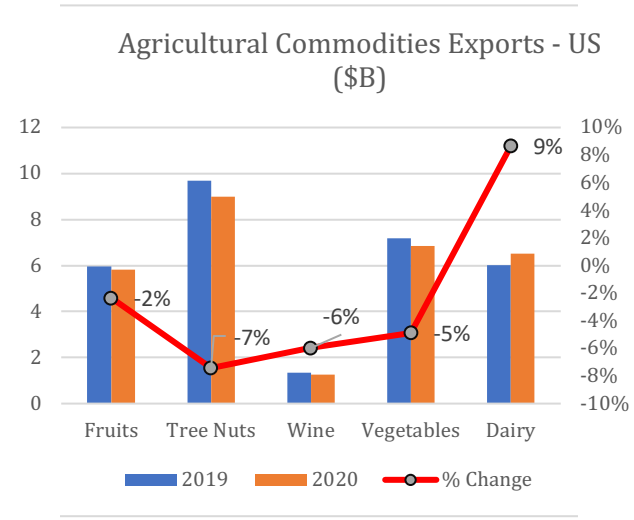

Figure 1 US Exports

Source: dataweb.usitc.gov

The one industry that was not as adversely impacted by the trade wars, and probably more relevant to Kern County, is the 'Fruits and Tree Nuts' sector. For example, the value of exports to China stayed relatively stable, in fact even increased (75% increase in value in 2019 over the previous three-year average). China is among the top three destinations for Kern County exports. Given that Kern's top exports are Grapes, Almonds, Pistachios, and Oranges, one can safely deduce that the trade wars have not had an overall significant negative impact on Kern's major exports. However, the COVID-19 global pandemic (hereby referred to as 'the pandemic') has led to a decrease in exports of the fruits and free nuts sector (see Figures 1, 2, and 3).

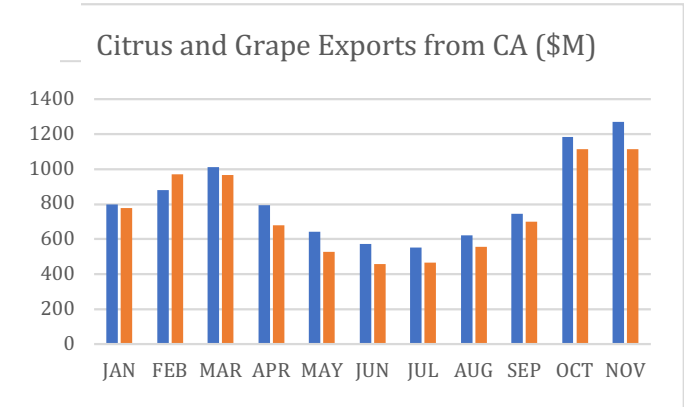

Figure 2 CA Citrus and Grape Exports

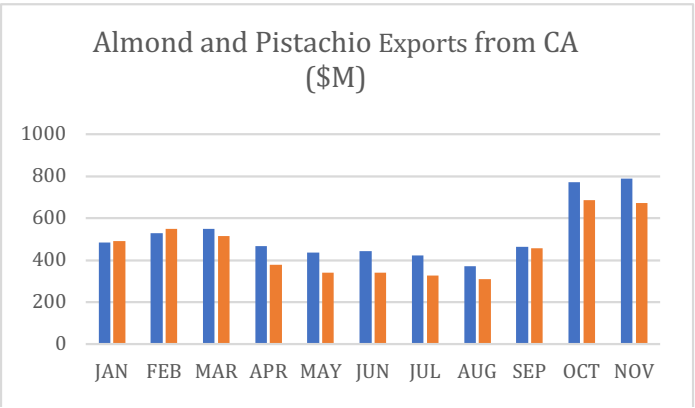

Figure 3 CA Almond and Pistachio Exports

Source: dataweb.usitc.gov

It should be noted that there is an element of seasonality to the fruit and tree nuts exports, as is visible in Figures 2 and 3. Exports tend to decline in the summer months. Once the pandemic started (approximately February), one can note the decline in exports every month in 2020 compared to the same month in 2019. In the beginning stages of the pandemic, there were disruptions to global supply chains that led to diminished exports, visible on the aforementioned graphs starting in the month of March. As the pandemic continued, many of California's major trading partners experienced dramatic decreases in their gross domestic product (GDP), on average 5%. A

nation's GDP is an important factor in determining its level of imports. So, a decrease in the GDP would presumably lead to a decrease in imports, i.e., a decrease in California's exports.

According to the IMF, US GDP decreased by 3.4%. However, not all sectors saw a decrease in production. The fruit and tree nuts sector did not see any substantial decrease in production compared to previous years, possibly due to the entire agricultural industry being designated as an essential aspect of the economy. For instance, production of nuts increased by approximately 5%, while the production of oranges increased by 2% in California. Since exports decreased, while production increased, the surplus fruit and nuts would need to be consumed domestically. Figure 4 demonstrates the consumption of major food groups by location. Fruits and nuts are among the food groups which are mostly consumed at home (84% and 89% respectively). Since the start of the pandemic, majority of Americans were forced to work from home. As the economy was under lockdowns, options to consume food away from home were diminished. Thus, one can argue that staying at home perhaps led to a higher consumption of fruits and nuts, thereby disappearing the surplus production that did not get exported. Another commodity that is primarily consumed at home (80%) is dairy products. Milk production in the US increased by 2.3% for 2020 compared to 2019. However, the general trend in milk consumption has been declining over the last few decades, to the tune of 20% decline over the last decade, as per the USDA. The increased production, along with the decreased domestic consumption, would require dairy farmers to turn to the export market, with 2020 not being an exception. Compared to 2019, dairy exports increased by 9% in 2020 (see Figure 1).

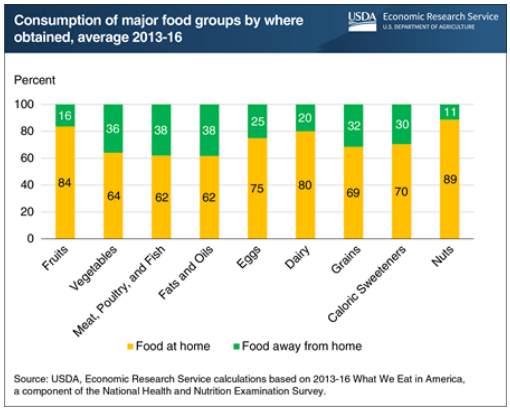

Figure 4 Consumption of food by location

Figure 5 shows the changes in GDP for 2020-21 for the top importing countries for Kern agricultural commodities. Of particular interest are Hong Kong, India, and China. Both Hong Kong and India saw GDP decreases of greater than 7%, while China saw an increase in its GDP of approximately 2%. Hong Kong decreased its imports of almonds and pistachios, by 56% and 63% respectively, while India increased its almond imports by 8%. China increased its imports of both almonds and pistachios by 33% and 22% respectively. Approximately 16% of almond exports are destined for India, while Hong Kong receives 7%. On the other hand, China imports only 3% of almond exports, but approximately 10% of pistachios, and Hong Kong imports 31% of pistachios. Since India is the largest importer of almonds and it increased those imports, the total almond exports increased by 4%, even with a substantial decrease from Hong Kong. Conversely, pistachio exports decreased by 12%, mostly due to Hong Kong (the largest importer) decreasing its imports by 63%.

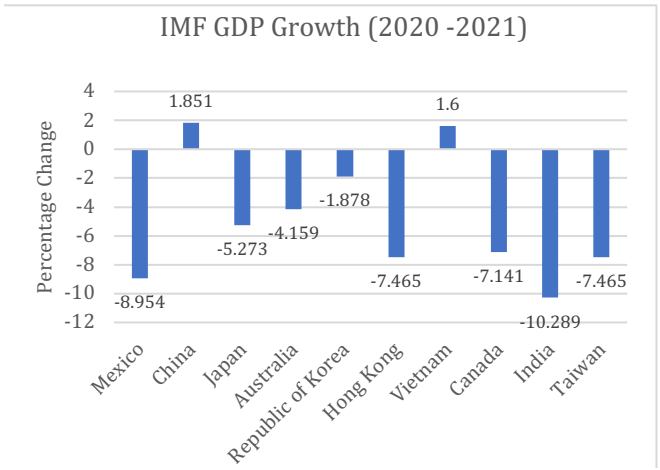

Figure 5 GDP Growth

The pandemic did adversely impact the exports of Kern county's agricultural commodities, but this reduction was not commensurate with the large decreases in the GDP of major trading partners. The largest importers among the major trading partners determined the final outcome of Kern's agricultural exports.

[1] IMF data – World Economic Outlook, Jan 2021

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