

# PETROLEUM WATCH

CALIFORNIA ENERGY COMMISSION

## INSIDE

## REFINERY NEWS

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- Diesel Retail Prices by Region
- Gasoline Spot Prices Less NYMEX Futures Price
- Retail Racks and Margins
- California Average Gasoline Price
- Featured Topic: Stay-At-Home Orders: Impact on Petroleum Prices

**Marathon Los Angeles:** On May 11 and May 20, unplanned flaring took place at the refinery according to regulatory filings with the South Coast Air Quality Management District ([South Coast AQMD](#)).

**PBF Torrance:** On May 26, unplanned emergency flaring took place at the refinery according to the regulatory filings with the [South Coast AQMD](#).

## CALIFORNIA GASOLINE RETAIL PRICES BY BRAND

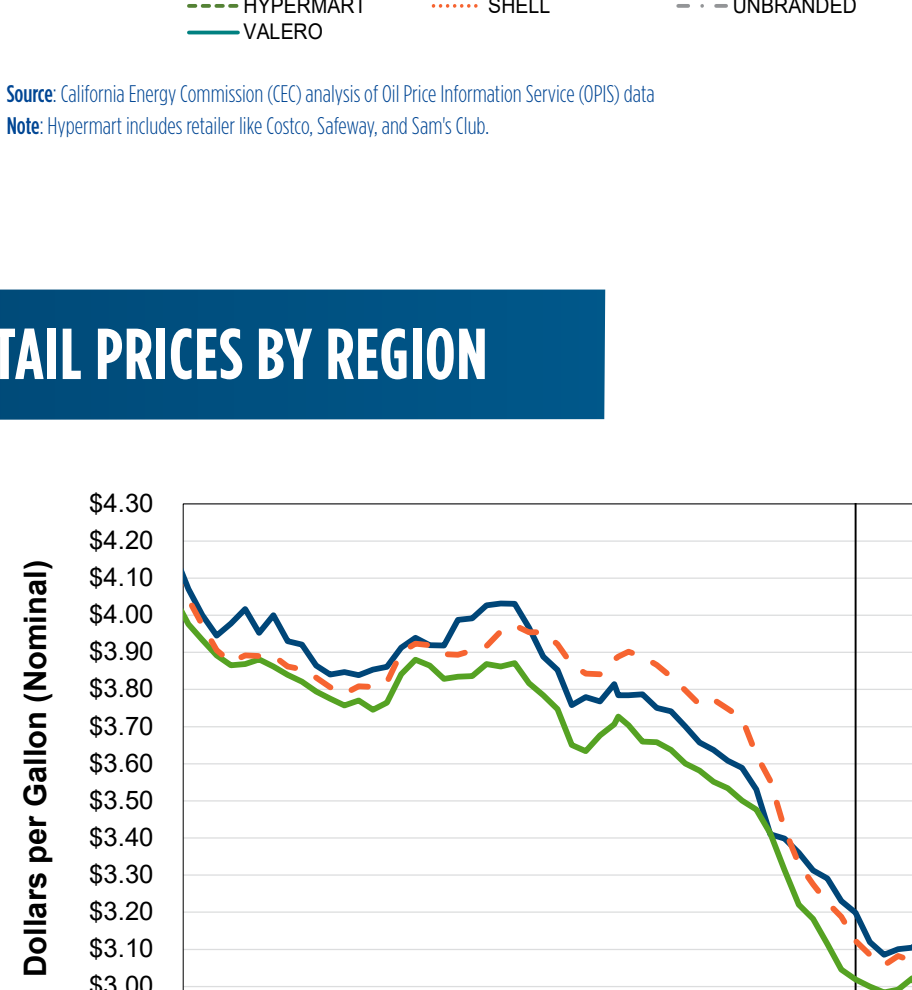
### May 2020 vs. 2019

(Percentage Change)

76	29% lower
ARCO	33% lower
Chevron	28% lower
Hypermart	35% lower
Shell	29% lower
Unbranded	33% lower
Valero	32% lower

### May 2020 Averages

76	\$2.89
ARCO	\$2.59
Chevron	\$3.00
Hypermart	\$2.46
Shell	\$2.96
Unbranded	\$2.65
Valero	\$2.76



Source: California Energy Commission (CEC) analysis of Oil Price Information Service (OPIS) data  
Note: Hypermart includes retailer like Costco, Sawayay, and Sam's Club.

## CALIFORNIA DIESEL RETAIL PRICES BY REGION

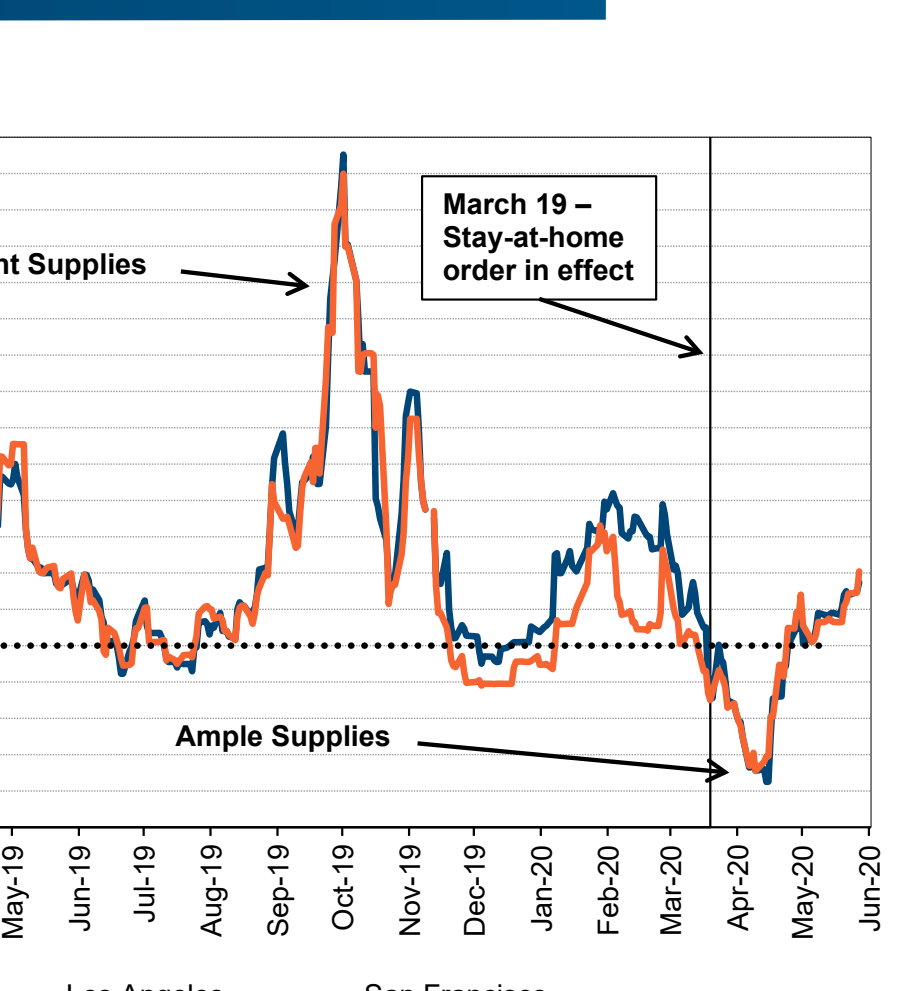
### May 2020 vs. 2019

(Percentage Change)

Northern CA	35% lower
Central CA	36% lower
Southern CA	34% lower

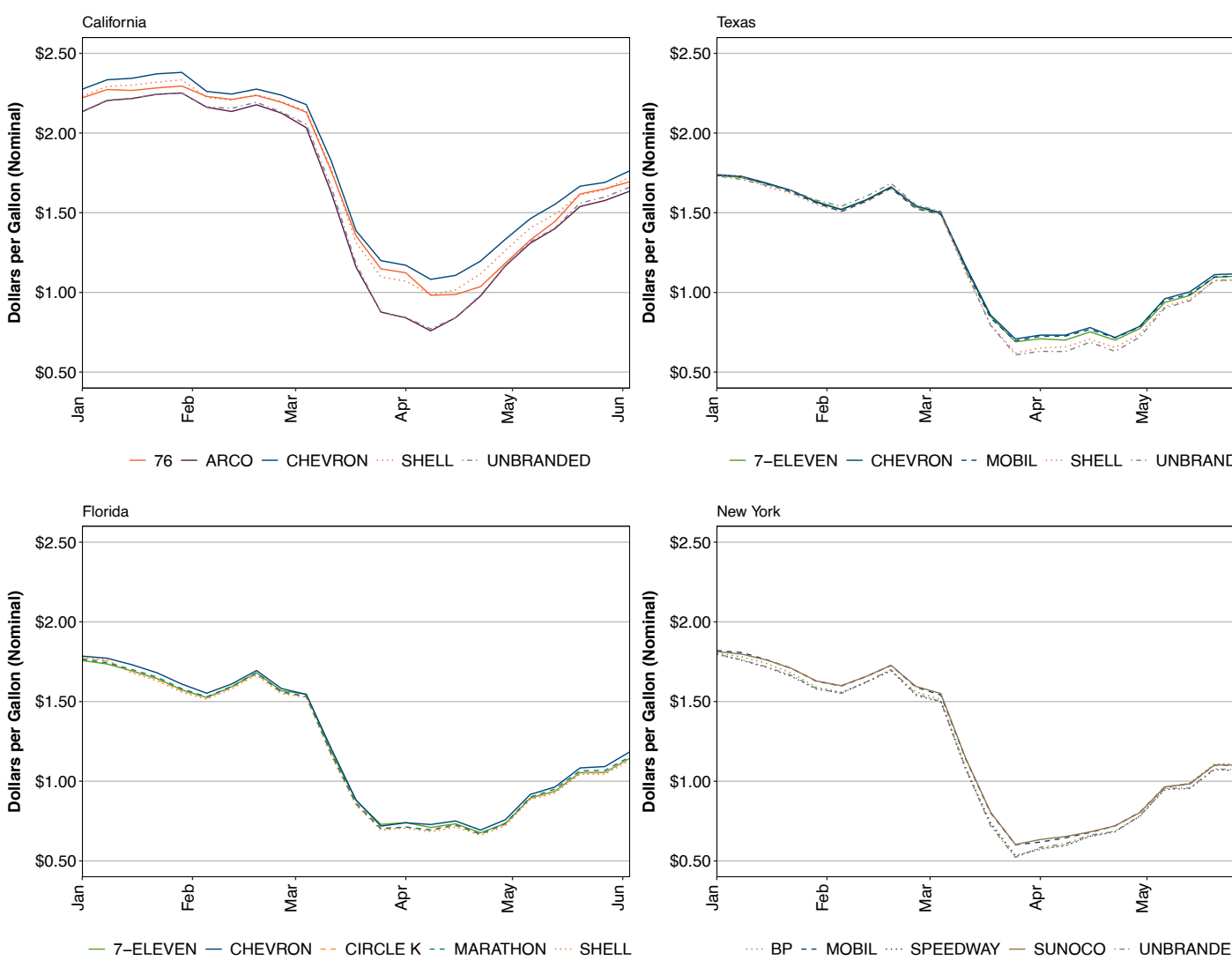
### May 2020 Averages

Northern CA	\$3.11
Central CA	\$2.99
Southern CA	\$3.07



Source: CEC analysis of OPIS data

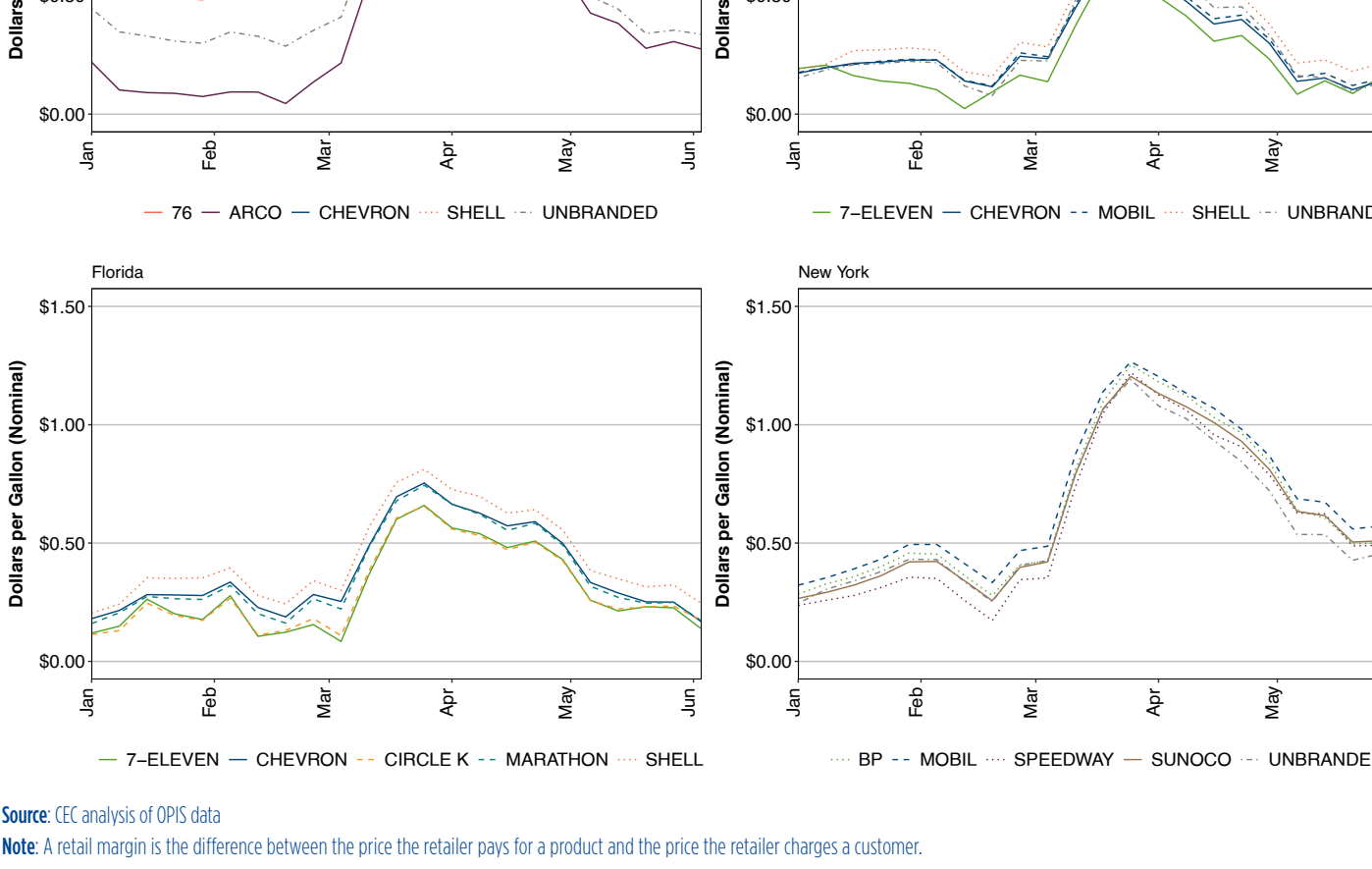
## GASOLINE SPOT PRICES LESS NEW YORK MERCANTILE EXCHANGE (NYMEX) FUTURES PRICE



Source: CEC analysis of OPIS data

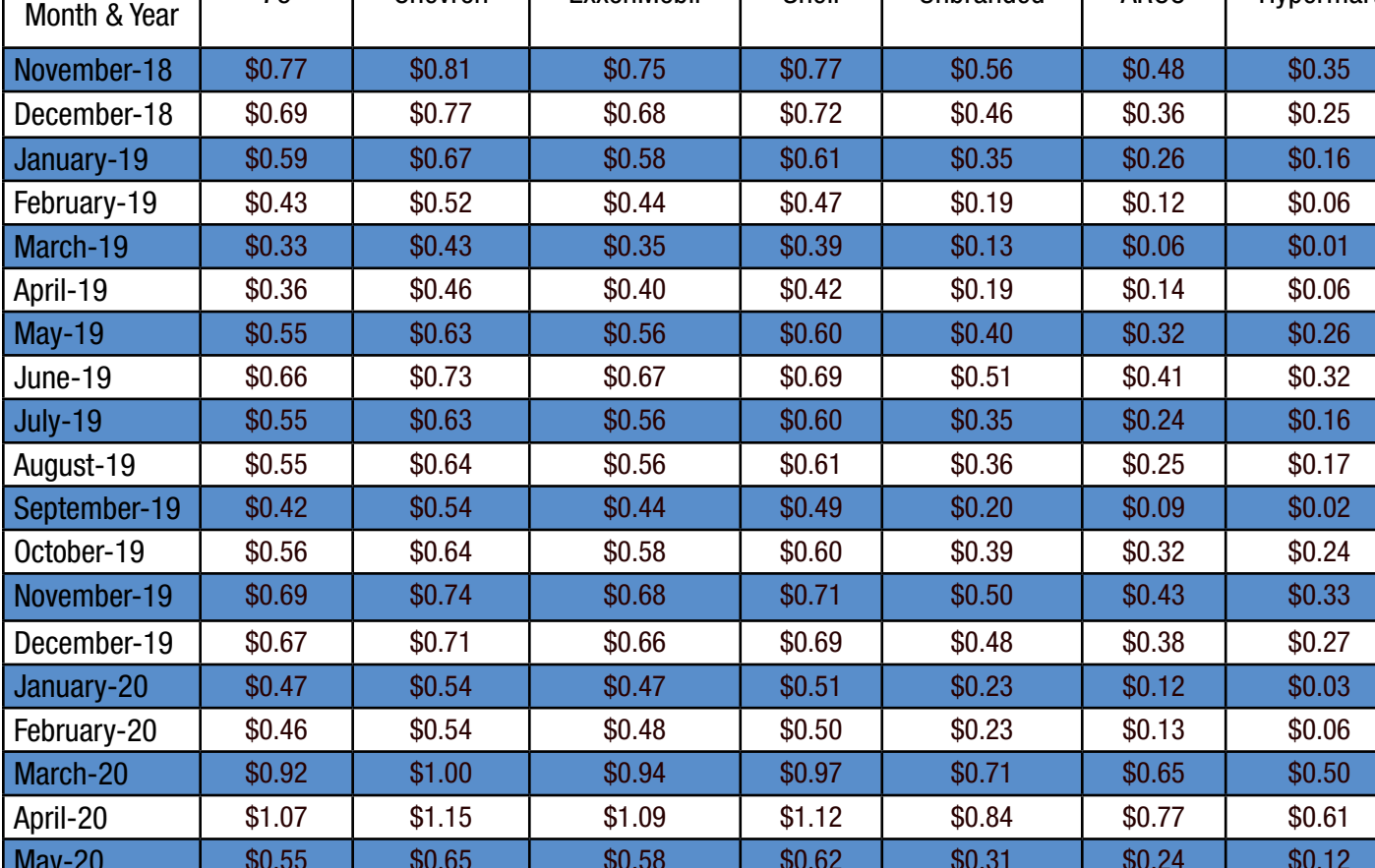
## RETAIL RACKS AND MARGINS

### GASOLINE RACK PRICE BY BRAND



Source: CEC analysis of OPIS data  
Note: A rack price is how much a wholesale seller or retail station pays for their gasoline

### GASOLINE MARGINS PRICE BY BRAND



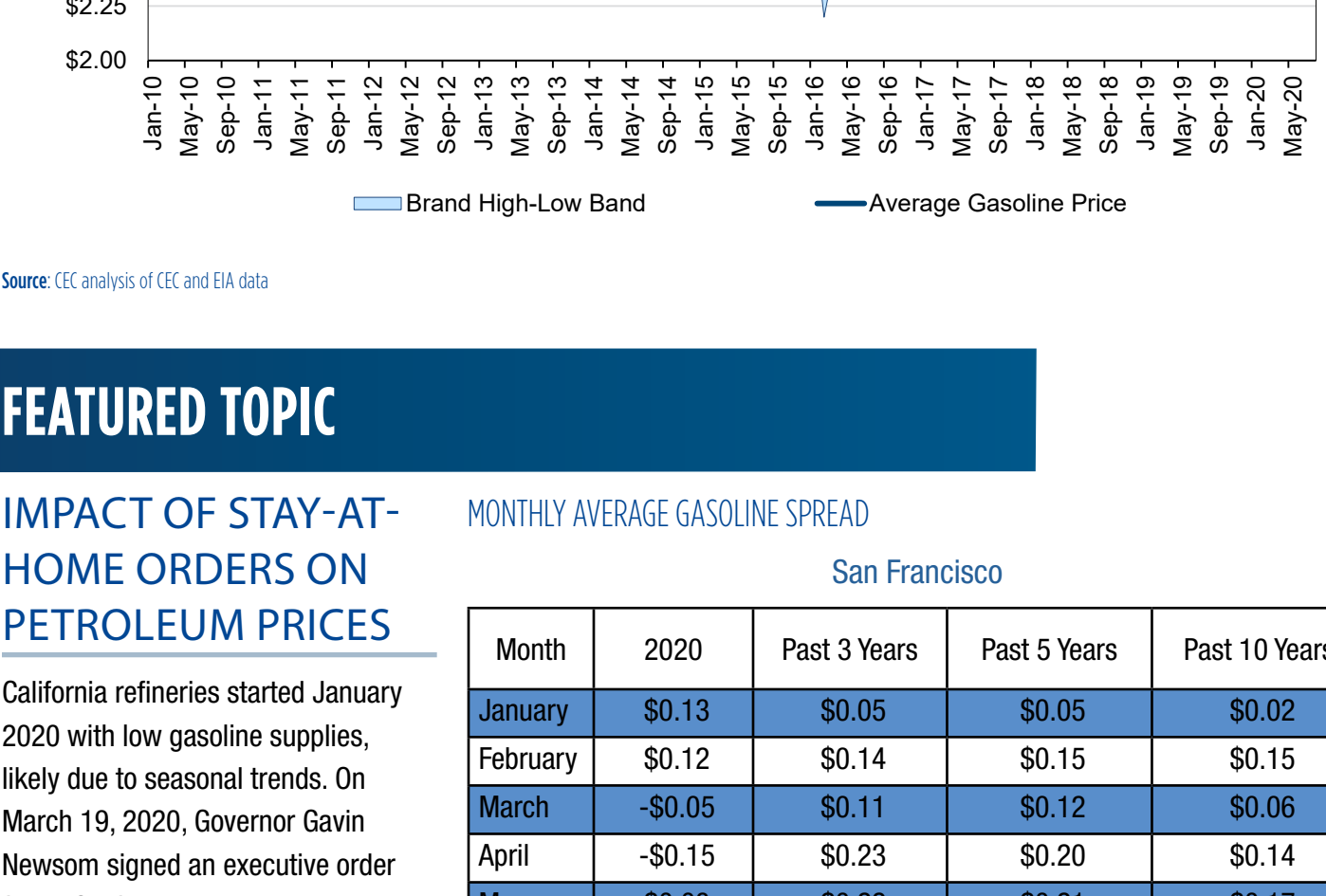
Source: CEC analysis of OPIS data  
Note: A retail margin is the difference between the price the retailer pays for a product and the price the retailer charges a customer.

### CALIFORNIA RETAIL MARGINS BY FUEL BRAND

Date Month & Year	76	Chevron	ExxonMobil	Shell	Unbranded	ARCO	Hypermart
November-18	\$0.77	\$0.81	\$0.75	\$0.72	\$0.56	\$0.48	\$0.35
December-18	\$0.69	\$0.77	\$0.68	\$0.72	\$0.46	\$0.36	\$0.25
January-19	\$0.59	\$0.67	\$0.58	\$0.61	\$0.35	\$0.26	\$0.16
February-19	\$0.43	\$0.52	\$0.44	\$0.47	\$0.19	\$0.12	\$0.06
March-19	\$0.33	\$0.43	\$0.35	\$0.39	\$0.13	\$0.06	\$0.01
April-19	\$0.36	\$0.46	\$0.40	\$0.42	\$0.19	\$0.14	\$0.06
May-19	\$0.55	\$0.63	\$0.56	\$0.60	\$0.40	\$0.32	\$0.26
June-19	\$0.66	\$0.73	\$0.67	\$0.69	\$0.51	\$0.41	\$0.32
July-19	\$0.55	\$0.63	\$0.56	\$0.60	\$0.35	\$0.24	\$0.16
August-19	\$0.55	\$0.64	\$0.56	\$0.61	\$0.36	\$0.25	\$0.17
September-19	\$0.42	\$0.54	\$0.44	\$0.49	\$0.20	\$0.09	\$0.02
October-19	\$0.56	\$0.64	\$0.58	\$0.60	\$0.39	\$0.32	\$0.24
November-19	\$0.69	\$0.74	\$0.68	\$0.71	\$0.50	\$0.43	\$0.33
December-19	\$0.67	\$0.71	\$0.66	\$0.69	\$0.48	\$0.38	\$0.27
January-20	\$0.47	\$0.54	\$0.47	\$0.51	\$0.23	\$0.12	\$0.03
February-20	\$0.46	\$0.54	\$0.48	\$0.50	\$0.23	\$0.13	\$0.06
March-20	\$0.92	\$1.00	\$0.94	\$0.97	\$0.71	\$0.65	\$0.50
April-20	\$1.07	\$1.15	\$1.09	\$1.12	\$0.84	\$0.77	\$0.61
May-20	\$0.55	\$0.65	\$0.58	\$0.62	\$0.31	\$0.24	\$0.12

Source: CEC analysis of CEC and Energy Information Administration (EIA) data  
Note: 76, Chevron, ExxonMobil, and Shell are higher-priced brands and ARCO and hypermart are lower-priced brands.

## CALIFORNIA AVERAGE GASOLINE PRICE



Source: CEC analysis of CEC and EIA data

## FEATURED TOPIC

### IMPACT OF STAY-AT-HOME ORDERS ON PETROLEUM PRICES

California refineries started January 2020 with low gasoline supplies, likely due to seasonal trends. On March 19, 2020, Governor Gavin Newsom signed an executive order for all Californians to stay at home because of the novel coronavirus (COVID-19). This reduced the demand for fuel, immediately reversing the tight, immediately reversing the tight fuel supply situation. As California begins reopening, spot markets and other prices in the supply chain, such as racks and retail, are beginning to see demand picking up.

### SPOT PRICES

The gasoline spot price is the current price in the marketplace that buyers pay for immediate delivery of a product (see [EIA](#) for more information). In California, San Francisco (SF) and Los Angeles (LA) are the spot delivery points. In contrast, the New York Mercantile Exchange (NYMEX) futures price is a contract that delivers product in the future at New York Harbor (more on futures contracts is in the [April 2020 Petroleum Watch](#)). These markets work together to allow participants to find supplies with less risk of price volatility. The differential price is a common measure that compares a California spot prices to the NYMEX futures prices. Subtracting the NYMEX price from the California price produces the differential price, which is also known as the spread. The spread, quoted in cents, shows the current supply and demand of the product relative to a less volatile futures contract of a major market hub like NYMEX. High price spreads signal high demand and/or tight supply, and low or negative price spreads signal low demand and/or ample supply.

The gasoline spreads are typically low in January, as seen in the [Monthly Average Gasoline Spreads](#) for the past 10 years. The LA-NYMEX spread increased from \$0.05 on January 2 to \$0.38 on January 31. The spread remained high during February and averaged \$0.33, \$0.12 higher than the past 10-year average. The SF-NYMEX spread followed a similar trend and increased from -\$0.05 from January 2 to \$0.26 on January 31. In February, the SF-NYMEX spread decreased more than the LA-NYMEX spread, averaging \$0.12 and \$0.33, respectively.

During March, the LA and SF gasoline spreads were expected to average \$0.09 and \$0.06, respectively. However, the prices decreased leading to new record lows in April. [Gasoline Spot Price Less NYMEX Futures Price](#) chart shows how the spreads changed during the recent events. On March 2, weeks before the stay-at-home order, the LA-NYMEX spread was \$0.21 and SF-NYMEX spread was \$0.11. The spreads decreased to -\$0.12 and -\$0.13 for LA-NYMEX and SF-NYMEX, respectively, on March 18. On March 19, Governor Newsom signed the statewide executive order for all non-essential workers to stay home. Gasoline spot prices decreased from an average of -\$0.12 on March 19 to -\$0.19 on March 31. The SF-NYMEX spreads set a new low at -\$0.38 on April 9 and the LA-NYMEX spread set a new low at -\$0.14. The stay-at-home order also affected crude oil and retail prices. On April 20, West Texas Intermediate (WTI) crude decreased to -\$36.98 per barrel and Alaska North Slope (ANS) crude decreased to -\$2.68 per barrel. In addition, EIA reported retail gasoline prices at \$2.64 per gallon on May 4.

### MONTHLY AVERAGE GASOLINE SPREAD

San Francisco

Month	2020	Past 3 Years	Past 5 Years	Past 10 Years
January	\$0.13	\$0.05	\$0.05	\$0.02
February	\$0.12	\$0.14	\$0.15	\$0.15
March	-\$0.05	\$0.11	\$0.12	\$0.06
April	-\$0.15	\$0.23	\$0.20	\$0.14
May	\$0.08	\$0.22	\$0.21	\$0.17

Los Angeles

Month	2020	Past 3 Years	Past 5 Years	Past 10 Years
January	\$0.25	\$0.12	\$0.10	\$0.06
February	\$0.33	\$0.24	\$0.22	\$0.21
March	\$0.03	\$0.13	\$0.15	\$0.09
April	-\$0.17	\$0.25	\$0.22	\$0.15
May	\$0.09	\$0.18	\$0.19	\$0.15

Source: CEC analysis of CEC and EIA data

On April 17, [Reuters](#) reported that Marathon refinery in Martinez, California would close temporarily starting on April 27. Spot prices began to increase in anticipation of reduced production and tightening supplies. Between April 14 and May 8, the LA-NYMEX spread increased from -\$0.38 to \$0.09 and the SF-NYMEX spread increased from -\$0.31 to \$0.07.

Spot prices will likely increase as California begins reopening. The California Department of Public Health outlines the [process in four stages](#). Stage 1 focuses on safety and preparedness. Stage 2 focuses on gradually opening lower-risk workplaces such as retail, manufacturing, and offices. Stage 3 focuses on reopening higher-risk workplaces such as personal care and recreational venues. Stage 4 signals the end of stay-at-home order when large gathering venues, like sports and concert venues, open. On May 8, Stage 2 began and spot prices started to increase in anticipation of increased demand. Spot prices will likely increase as the other stages begin.

### RACK TO RETAIL

Retail margins are the difference between how much a retail station pays for their gasoline and how much they sell it to customers, excluding taxes. Margins provide insight on a retailer's business strategy. A retailer with low margins may rely on high-volume sales, while a retailer with high margins may not rely as much on volume. Spot prices, rack prices, and retail prices all decreased during the demand drop, but retail margins increased. While retail margins increased across all top fuel brands, trends differed between the weeks of March 16 and April 20 depending on the fuel brand and station.

[Average 2020 Weekly Brand Racks](#) fell during the stay-at-home orders and [Average 2020 Weekly Retail Margins](#) rose, depicting the inverse relationship between rack prices and retail margins. These graphs compare the rack price and retail margin trends in the nation's four most populous states: California, Texas, Florida, and New York. The brands shown are the top five retail fuels brands by station count in their respective states as reported by OPIS. Calculations for these margins are similar to the [California Average Gasoline Retail Margins](#) except broken down by metropolitan statistical area (MSA) and fuel brand. The average margins for each state are weighted using the number of retail stations reporting to OPIS for that MSA and fuel brand. Unlike the margins in California Average Gasoline Retail Margins, these do not account for other fees associated with wholesale fuel prices like the Low Carbon Fuel Standard (LCFS) in California.

In California, the price difference between fuel brand margins decreased as prices across the supply market decreased. When prices began to rise, the price gap widened again. California retail margins also held peaks longer than Texas, New York, and Florida; with the downward trend starting the week of April 20. Even though top brands differed between the two states, New York margins moved in a similar direction to California's, rising above \$1.50 before returning closer to \$0.50 heading into June. Texas and Florida margins were more closely related which is expected since Florida receives their gasoline primarily from Texas. This relationship is also reflected in the rack price trends as their curves are nearly identical.

### RETAIL BRANDS

During 2019, the average difference in retail prices between higher priced and lower-priced brands was \$0.36, the same as in 2018. When [California Average Gasoline Prices](#) fell at the beginning of this year, that difference increased, averaging \$0.43 for the first five months of 2020. One possible explanation for that increase is retail station sales volume, referred to as throughput. Hypermarkets and ARCO are low price leaders in California and tend to have higher throughput. In 2017, [CEC staff analysis](#) showed that hypermarkets averaged 5.3 times more gasoline throughput than the average retail location. Because of this increased throughput, hypermarkets and other high-throughput stations are likely able to adjust prices more freely as their frequent buying patterns allow them to offset their costs with falling wholesale prices. Lower throughput stations are often locked into a higher wholesale price at the time of their purchase, so they need to hold their street price before adjusting their price to prevent a loss on their gasoline sales. These retail stations likely experienced even lower throughput due to the COVID-19 related demand drop, forcing them to hold their prices longer than usual.

Looking at brand retail margins would test whether this explanation for the increase in the difference in retail prices holds. Higher-priced brands with lower throughput are unable to quickly adjust their prices. But as [California Average Gasoline Retail Margins](#) shows, in March, retail margins increased regardless of the brand by at least \$0.44 and remained elevated for the following month. The recent increases in the gap between higher-priced brands and lower-priced brands is not a result of changes in retail margins.

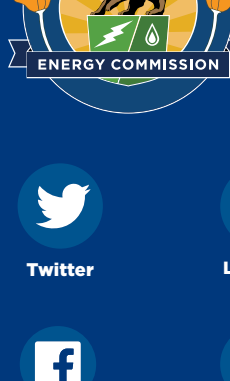
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