

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

November 2022

**Prepared for:
Western States Petroleum Association**

**Prepared by:
Capitol Matrix Consulting**

Table of Contents

Executive Summary	1
Introduction	3
Key Factors Behind California’s High Gasoline Prices	5
How Gasoline Wholesale Prices are Determined	8
Reasons California is Prone to Price Spikes	11
O&G Profits in Perspective	18
U.S. Federal and State Experiences with Windfall Profits Taxes	20
Challenges and Impacts of a Windfall Profits Tax in California	23
How Would the Tax Be Structured?	23
Key Challenge with Excise Tax Approach	23
Conclusion	25

Executive Summary

This report is commissioned by the Western States Petroleum Association in response to Governor Newsom's call for a Special Legislative Session to enact a windfall profits tax on oil companies operating in California. In this report, we first address several issues related to California transportation fuel markets, including key causes of California's high retail gasoline prices, how wholesale gasoline prices are determined, and the profitability of oil and gas (O&G) operations in this state. We then turn to the impacts of a windfall profits applied to O&G operations in California. Our key findings are as follows:

California gasoline retail prices and company profits:

- During 2020 and 2021, California's retail gasoline prices were about \$1.00 above the national average, a difference that is largely consistent with state's higher-than-average taxes, its cap and trade and low carbon fuel standard (LCFS) expenses, and the above-average costs of refinery operations in California, due in part to the state's regulatory burden.
- However, during the first 10 months of 2022, California's price margin over the U.S. average grew to \$1.40 per gallon, in part due to price spikes in the state's wholesale markets in the Spring and again in late Summer/early Fall. During this latter period, California retail prices briefly exceeded the national average by over \$2.40 per gallon, before retreating in subsequent weeks.
- The Governor claims that this volatility is due to "market manipulation," which may be both illegal and counterproductive for any company attempting to boost prices by intentionally withholding supplies in a commodity market that is fundamentally driven by supply and demand.
- The actual reason for the volatility is that California fuel markets are precariously balanced, with supplies relatively tight even when in-state refiners are operating at near full capacity. This supply situation is compounded by the fact that California's crude oil and refined products markets are isolated from other regions of the U.S. The implication is that supply shortages in California are not easily covered by imports from out-of-state sources, especially for CARB fuels.
- California's volatile fuel markets can be directly tied to state government policies, laws, and regulations implemented over the past several decades that have contributed to current tight supplies by:
 - Imposing high regulatory costs and limiting investment in both production and refining through permitting delays, denials and other restrictive policies and practices.
 - Diminishing the long-term prospects for gasoline demand, thus disincentivizing new investments in refineries, through policies such as banning gasoline-powered vehicle sales.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

- Incentivizing a shift away from gasoline production without fully considering the consequences for consumers through the energy transition.
- While oil industry profits are up sharply in 2022, the increases follow historically large industry losses in 2020, as well as weak earnings in other recent years. Some refinery operators have not yet fully repaid debt accumulated during the 2020 industry downturn.
- Refinery operations in California have similar profit profiles to those in other states over economic cycles. While wholesale prices of refined fuels in this state are above those in other regions, this revenue is offset by above-average costs for operations, maintenance, and depreciation, which are 50 percent to 60 percent higher in California than in other regions.

Claims of price gouging and exploitation of California consumers:

- Contrary to claims made by the Governor’s Office, refiners are “price takers,” rather than “price makers.” Most refined products are sold to independent wholesalers, distributors, retailers and other end users, with daily prices of refinery outputs tied to competitive West Coast spot markets, and import prices tied to the highest bidder on global markets.
- Collusion among competitors is illegal and virtually impossible to coordinate to the mutual advantage of multiple companies. Intentional withholding of supplies for price-manipulation purposes by a single company would be extremely counterproductive because:
 - Such a shutdown would likely reduce the refiner’s profits, due to high refinery fixed costs.
 - A voluntary shutdown would also benefit its competitors. This would occur because refineries that are temporarily idled must purchase refined fuels from their competitors on spot markets – at elevated prices – to maintain supply commitments to their contracted customers.

The impact of a windfall profits tax:

- With the partial exception of broad-based taxes levied in wartime periods, U.S. windfall profits taxes and closely related price controls have consistently failed to achieve the objectives of policymakers when applied at the federal level, and in the two instances they were implemented by states, the results were dismal. Major problems identified for these policies included:
 - They were very expensive and complicated to administer.
 - They discouraged investment and production.
 - They made the U.S. more dependent on foreign oil imports.
 - They aggravated product shortages and price increases.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

- The results of a windfall profits tax in California would be similar to, or worse than, these examples due to (1) the state’s tight markets for refined fuel; and (2) the disincentives that already exist for new investment in refining and continued operations due to state policies phasing out gasoline-powered vehicles. The proposed tax presents many complications and may be passed along directly to California consumers.
- If the oil companies were unable to pass the levy along to consumers, the tax would put California refineries at a major competitive disadvantage to refineries in other regions.
- Ultimately, the tax would lead to less investment in the production of gasoline and renewable fuels in this state, accelerating a trend that is occurring due to current high costs and regulations. The result would be reduced fuel supplies for California markets, more volatility, higher retail gasoline prices, and potentially significant shortages of refined petroleum products, along with the long lines that they would produce.
- A much more effective approach for addressing high and volatile prices in California would be for the state to reverse regulatory policies that have discouraged and/or restricted production of both crude oil and refined petroleum products in the state.

Introduction

On September 30, 2022, Governor Newsom called for a windfall profits tax on oil and gas (O&G) companies, stating that “crude oil prices are down but oil and gas companies have jacked up prices at the pump in California. This doesn’t add up...We’re not going to stand by while greedy oil companies fleece Californians. Instead, I’m calling for a windfall tax to ensure excess oil profits go back to help millions of Californians who are getting ripped off.”¹

On October 12, the Governor’s Office also posted a report by a consumer advocate group called Consumer Watchdog (“CW”), which asserted that “five major oil companies have consistently restricted supply and artificially driven up their prices significantly in excess of their costs.”²

The CW claims are misleading and in some instances based on information they have distorted. In this report, we analyze the key factors contributing to high gasoline prices in California relative to the U.S. average, discuss how prices are set in California’s refined transportation fuel markets, and evaluate the consequences of a windfall profits tax applied in this state. While the tax could apply to extraction as well as refining, the Governor’s press releases and the CW reports have focused almost exclusively on refinery operations. For this reason, most of our discussion

¹ “Governor Newsom Calls for a Windfall Tax to Put Record Oil Profits Back in Consumers’ Pockets,” Office of Governor Gavin Newsom, September 30, 2022. <https://www.gov.ca.gov/2022/09/30/governor-newsom-calls-for-a-windfall-tax-to-put-record-oil-profits-back-in-californians-pockets/>

² “ICYMI: Consumer Watchdog Calls for Windfall Profits Tax, Citing ‘Record Oil Profits’ and ‘Price Gouging.’” Office of Governor Newsom, October 12, 2022. <https://www.gov.ca.gov/2022/10/12/icymi-consumer-watchdog-calls-for-windfall-profits-tax-citing-record-oil-profits-and-price-gouging/>

focuses on an excise tax applied to (yet to be defined) “excess profits” of refiners. We note, however, that a windfall profits tax applied to oil extraction will have many of the same negative impacts as those that we identify for refiners.

Consumer Watchdog Reports Overstate California Refinery Profits

The Governor’s Office press releases have relied on misleading statements by Consumer Watchdog (“CW”) to support the Governor’s contention that market manipulation has resulted in unusually large profits for California refineries relative to their peers in other regions. For example, CW’s assertion that California companies have consistently restricted supplies and artificially driven up prices is made without any supporting evidence. As discussed in the body of the report, the assertion ignores the realities of competitive wholesale fuel markets, where withholding supplies can be self-defeating. Its commentary also cites large percentage increases in profits in 2022 relative to 2021, failing to note that 2021 earnings were still depressed by the effects of the Covid-19 pandemic.

The most serious distortion, however, is that CW reports consistently mislabel *gross refinery margins* as *profits* when discussing the financial performance of California refineries. While this mislabeling may seem like a technical issue, the reality is that it results in a major overstatement of profits actually reported by California refiners, both in absolute terms and in relation to their out-of-state peers.

Specifically, gross refinery margins are simply the difference between the weighted price of refined petroleum sold and the weighted price of crude oil inputs. A calculation of operating profits needs to further discount these gross margins for refinery *operating costs and depreciation*, which are 50 percent higher in California than their counterparts in the mid-continent region and 60 percent higher than their counterparts in the Gulf Coast.³

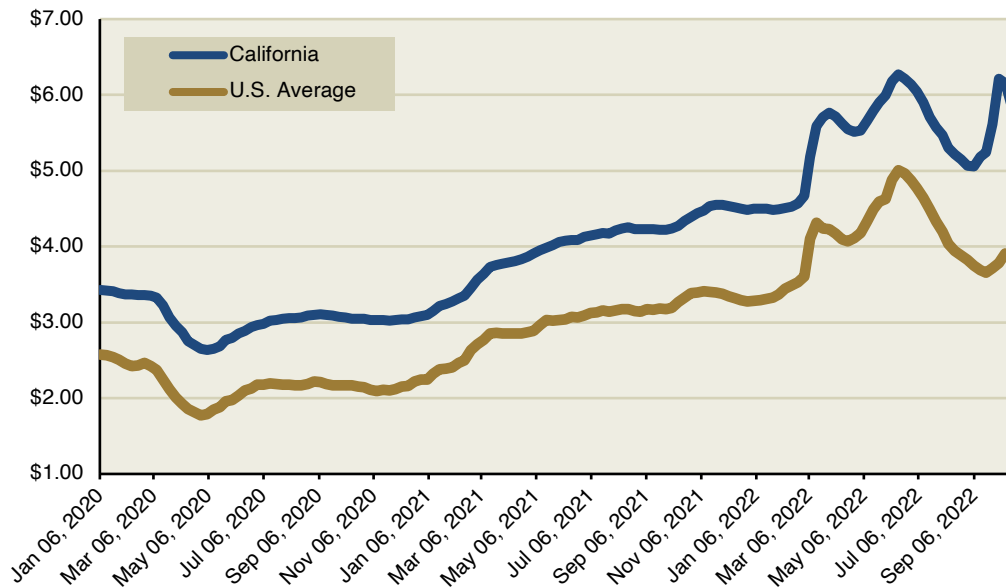
This mislabeling of gross refinery margins as profits leads to a 60 percent or greater overstatement of profits actually earned by companies in California in 2021 and 2022. Just as importantly, it results in a major overstatement of how profitable California refiners are in relation to their counterparts in other regions. As noted in the body of the report, while gross refinery margins are generally higher in California than in other states, this is largely offset by higher-than-average operating expenses paid by California refineries. When these expenses are accounted for, California refiners’ operating profits are actually similar to their out-of-state counterparts over a business cycle.

³ Source: Third quarter earnings reports for PBF Energy, Marathon Energy, and Valero Energy Corp. These three companies reported regional results for the West Coast, Mid-Continent, and Gulf Coast regions of the U.S. California refineries account for 100 percent of West Coast refinery operations for Valero and PBF, and about two-thirds of the total (in terms of refinery throughput) for Marathon.

Key Factors Behind California's High Gasoline Prices

The relationship between California and U.S. average retail prices for conventional gasoline is shown in Figure 1. Between January 2020 and December 2021, the average retail price for regular gasoline in California was \$3.53 per gallon, a \$0.94 cent margin over the U.S. average of \$2.59 per gallon. During the first ten months of 2022, the price margin increased to an average of \$1.40 per gallon due to the price spikes in California in the Spring and, especially, late Summer and early Fall. For the first ten months of 2022, the California average was \$5.43 per gallon versus the U.S. average of \$4.03 per gallon.

Figure 1
California Versus U.S. Average Retail Gasoline Prices



Source: EIA

In normal times, much of difference between California's and U.S. average retail gasoline prices is consistent with the state's above-average taxes on transportation fuels, the costs of its cap and trade and LCFS programs, and above-average operating costs in this state (see Figure 2, next page). Specifically:

- About \$0.35 of California's retail price margin is related to California's higher-than-average state and local taxes on gasoline, which are included in the price paid at the pump. These taxes total \$0.69 per gallon in California versus a national average of \$0.34 per gallon.⁴

⁴ Estimate for other states based on data from the Federation of Tax Administrators. <https://www.taxadmin.org/assets/docs/Research/Rates/mf.pdf>

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

- About \$0.47 of the total is related to costs on fuels associated with the state’s cap-and-trade (\$0.25 per gallon) and low carbon fuel standard (LCFS - \$0.22 per gallon) programs.⁵
- About \$0.10 of the total is related to higher refinery operating costs and depreciation in this state relative to the rest of the nation. This estimate is based on our review of data from quarterly financial reports issued by companies owning major California refineries.

Figure 2
Key Gasoline Cost-Related Factors Consistent with California’s Higher Gasoline Prices

Cost Factor	California	U.S. Average	Difference
Higher state and local taxes	\$0.69	\$0.34	\$0.35
Cap and Trade and LCFS	\$0.47	--	\$0.47
Higher Operating Costs	\$0.27	\$0.17	\$0.10
Total	\$1.43	\$0.51	\$0.92

Source: EIA

Sources of California’s higher operating costs and depreciation. Figure 3 (next page) highlights some of the key sources of higher-than-average refinery operating costs in California. For example, refineries are major consumers of electricity and natural gas – both of which are much more expensive in California than in other states. The U.S. Energy Information Administration (EIA) reports that industrial rates for electricity were \$0.1991 per Kilowatt-hour (Kwh) in California during August 2022 (the most recent month for which data is available) or double the national average of \$0.992/Kwh.

Similarly, the price of natural gas – the major source of energy for process heat and hydrogen needed for refinery operations and meeting California’s reformulated fuel standard – was \$13.35 per thousand cubic feet (Mcf) in California during July 2022 (the most recent month for which data is available), or 64 percent above the U.S. average of \$8.14/Mcf.

⁵ Estimate of cap-and-trade related costs (“cap-at-the-rack”) is based on recent allowance auction price (\$29/metric ton) and the methodology described in “OPIS Refined Spot Markets.” <https://www.opisnet.com/wp-content/uploads/2018/07/OPIS-California-Carbon-Allowance.pdf>. Estimate of the low-carbon-fuel-standard cost per gallon is based on “Weekly California Low Carbon Fuel Standard - Weekly Update, January 26, 2022,” Stillwater Associates LLC, https://stillwaterpublications.com/wp-content/uploads/2022/01/Stillwater_LCFS_Wkly_22-01-26_SjklSa9ejkdsaw11.pdf.

Figure 3
Sources of Higher Operating Costs and Depreciation Expenses
Incurred by Refiners in California

<ul style="list-style-type: none">• Electricity – Industrial rate double the national average.
<ul style="list-style-type: none">• Natural gas – industrial rate 64 percent above the national average.
<ul style="list-style-type: none">• California reformulated gasoline – requires hydrogen, which is expensive to produce or purchase.
<ul style="list-style-type: none">• Enhanced air quality requirements – adds hundreds of millions to billions of dollars in capital costs. Also adds to operations and maintenance costs.
<ul style="list-style-type: none">• Higher pay rates – for both employees and contractors.
<ul style="list-style-type: none">• High taxes – including utility user and sales taxes
<ul style="list-style-type: none">• Port-related costs – increasing as California crude production declines and imports grow.

Another key factor is that gasoline meeting California’s unique reformulated fuel standard is expensive to refine, due to added costs for hydrogen and other components and processes used in its production. Similarly, existing and proposed regulations by the regional air boards, such as those requiring installation of wet gas scrubbers, can result in required investment costs reaching \$1 billion. They can also result in substantial ongoing costs for operations and, in the case of wet gas scrubbers, use prodigious amounts of water and further burden local water supplies. Other factors contributing to high costs include above-average pay rates for workers and contractors in this state, as well as relatively high sales taxes and utility user taxes paid by refineries in California.

An emerging issue for California refineries is that state restrictions on permitting for O&G wells are resulting in a major decline in California crude oil production. The result is that refiners, whose facilities were generally designed to run California crudes, are losing reliable supplies from California oilfields and are having to turn to additional waterborne imports to meet their needs. This raises refiners’ costs and uncertainties related to managing long supply chains from Asia and South America. It also creates costs and challenges tied to moving crude oil through California’s crowded ports, which are also the target of state regulators. Over time, port capacity limitations, growing competition for dock space, and permitting challenges associated with port expansion, may make moving adequate crude oil through California ports extremely challenging at any price. The result will be more supply shortages and higher retail gasoline prices in this state.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

Retail gasoline prices are also affected by costs for distribution and retail sales of gasoline *after* the product leaves the refinery. These include costs faced by retailers for land, construction, leases, labor, insurance, energy, maintenance, and upkeep. Retail businesses considering upgrades or expansions also face higher costs and longer timelines for permitting in California versus other regions. A comprehensive analysis of these costs for California versus other states is beyond the scope of this report. However, we know that these costs are significantly higher than average for all businesses in California, including gasoline distributors and retailers.

In summary, at least \$0.92 per gallon of the difference between California and national average gasoline costs is consistent with California's higher taxes on gasoline, its unique cap and trade and LCFS fees, and the above-average operating costs facing refineries in California.⁶ These factors account for most of the difference between the average U.S. and California gasoline prices for the January 2020 through December 2021 period, and about two-thirds of the average price difference in the first 10 months of 2022.

The remaining one-third of the price difference during the first 10 months of 2022 is significantly related to supply shortages in the Spring and late Summer months that drove up daily wholesale and retail price margins over the rest of the U.S. to over \$2.40 per gallon. The Governor and CW reports claim that these price spikes occurred because companies are artificially raising prices and gouging California consumers.

The reality, however, is quite different. The increases are the consequences of the isolated nature of California's fuel markets as well as government policies that have led to a reduction in refining capacity and transportation fuel supplies over the past four decades – even as California demand for gasoline grew over most of the period. The result has been extremely tight and precariously balanced petroleum markets that are subject to price volatility. In the following sections, we discuss California's fuel markets in more detail.

How Gasoline Wholesale Prices are Determined

Contrary to claims made by the Governor's Office and CW, prices for gasoline and diesel products are set on competitive global and regional markets. California refiners "price takers" instead of "price makers" in these markets. Prices in California's wholesale fuel markets rise and fall based on supply and demand among many buyers and sellers, including refineries, distributors, wholesalers, and end users such as retail gasoline stations and truck fleet operators.

⁶ At any single point in time retail gasoline prices can fluctuate due to multiple factors, such as local market conditions and changes in supplies and demand. However, over a longer time frame, costs imposed on businesses through taxes, environmental fees, or other regulations will likely affect retail prices, especially in gasoline markets where demand for the product is inelastic. The impact will occur either because businesses are able to pass the costs along directly to the consumer in the form of higher product prices, or, if the costs cannot be passed forward directly, the additional expenses make continued production for at least some suppliers uneconomic, in which case supplies to the market fall and equilibrium prices rise.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

The majority of refinery transactions each day are made between separate entities through contractual arrangements or on spot markets, where fuels are traded daily “on the spot” with no contract. Only a small share – significantly less than 10 percent of the overall market – involves transactions between refiners and their company-owned and operated retail outlets.

Most transactions on a typical day are tied to contracts that include varying specific terms, such as supply commitments, payment terms, and other provisions, which may affect product prices. Under these contracts, delivery prices of gasoline fluctuate daily based on California spot market prices, as recorded and published by OPIS or another market surveillance firm.⁷ Contracted delivery prices also typically include a negotiated differential to cover the cost of additives, product distribution, and supply volume. These differentials are generally fixed for the duration of the contract.

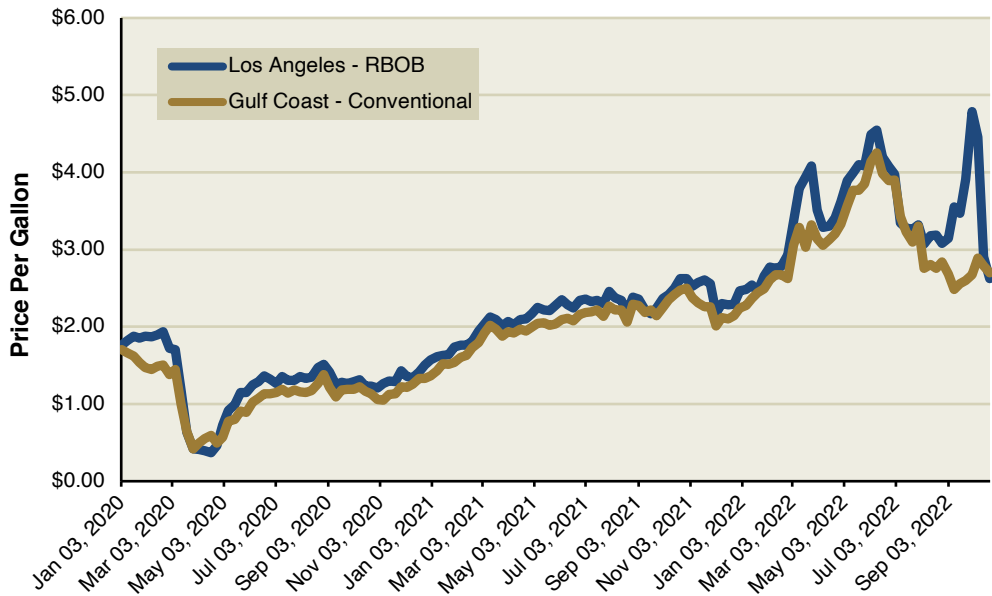
Daily prices on the spot market are determined by supply and demand for gasoline and other fuels that refineries and other suppliers put on the market after meeting all their contractual obligations. Purchasers include other refiners needing additional petroleum to cover temporary gaps between their production and their contractual obligations customers, as well as wholesalers, distributors, and commercial end users needing supplies in addition to what they are guaranteed under their contracts.

Because wholesale contracts are tied to spot market price indices, supply and demand for gasoline sold on the spot market that sets the wholesale price for most gasoline sold in California.

Figure 4 shows weekly average spot prices for reformulated regular gasoline in Los Angeles versus conventional gasoline in the Gulf Coast, the lowest-cost region in the U.S. Wholesale spot prices exclude taxes levied on gasoline as well as cap and trade and LCFS fees.

⁷ For a discussion of how spot prices are used in setting wholesale prices, see “Spot Market Pricing Overview.” OPIS. <https://www.opisnet.com/product/pricing/spot/>. For a broader description of the interrelationship between the spot market, whole prices, and retail prices in the West-Coast region of the U.S., see “West Coast Transportation Fuels Markets. EIA. September 2015. https://www.eia.gov/analysis/transportationfuels/padd5/pdf/transportation_fuels.pdf.

Figure 4
Comparison of Wholesale Spot Prices of Regular Gasoline:
Los Angeles Reformulated Versus Gulf Coast Conventional
(Excludes taxes, Cap and Trade and LCFS fees)



Source: EIA

The Figure shows that Los Angeles spot prices closely tracked Gulf Coast prices during most of 2020 and 2021. Over the full two-year period, the average price for reformulated gasoline sold on the Los Angeles spot market was \$0.16 higher than the Gulf Coast, which is quite small given California’s higher operating costs, including those for production of reformulated gasoline.

However, the Los Angeles price jumped relative to the Gulf Coast in the Spring of 2022 and, especially, in the late Summer and early Fall of 2022 due mainly to unplanned refinery outages in California. At the peak during the week of September 30, spot prices reached \$4.79 per gallon in Los Angeles, or \$2.11 more than the Gulf Coast rate of \$2.68 per gallon. As noted in the chart, the differential collapsed in late September due to the resumption of California refinery operations, the arrival of gasoline imports from Asia, and the California Air Resources Board approval of an early switch to winter fuel blends on September 30, which also increased gasoline supplies into the California market.⁸

⁸ For additional discussion about recent volatility in California’s gasoline markets, see “Recent West Coast Gasoline and Diesel Prices Show Significant Volatility.” EIA, This Week in Petroleum, October 26, 2002. https://www.eia.gov/petroleum/weekly/archive/2022/221026/includes/analysis_print.php

No incentive to withhold supplies. Aside from the legal restrictions against collusion and price setting, a significant voluntary reduction in output made by a refiner for the purpose of raising prices would be counter-productive. First, idling operations reduces profits due to the loss of revenues and the “fixed” costs that still would be incurred.⁹ In addition to losing money, the refiner curtailing output would be creating benefits to its competitors at its own customers’ expense, by both giving up market share and by having to purchase other companies’ output – at elevated prices – on the spot market in order to meet its contractual obligations to supply its customers.

Reasons California is Prone to Price Spikes

The actual reasons for recent price spikes are more complex. They partly reflect the isolated nature of California fuel markets and sharply rising demand for gasoline coming out of the Covid-19 pandemic and lockdowns. But they also reflect state policies and regulations that have led to a reduction in crude oil and refined petroleum production, and ultimately a decline in transportation fuel supplies in the state. We discuss these factors in more detail below.

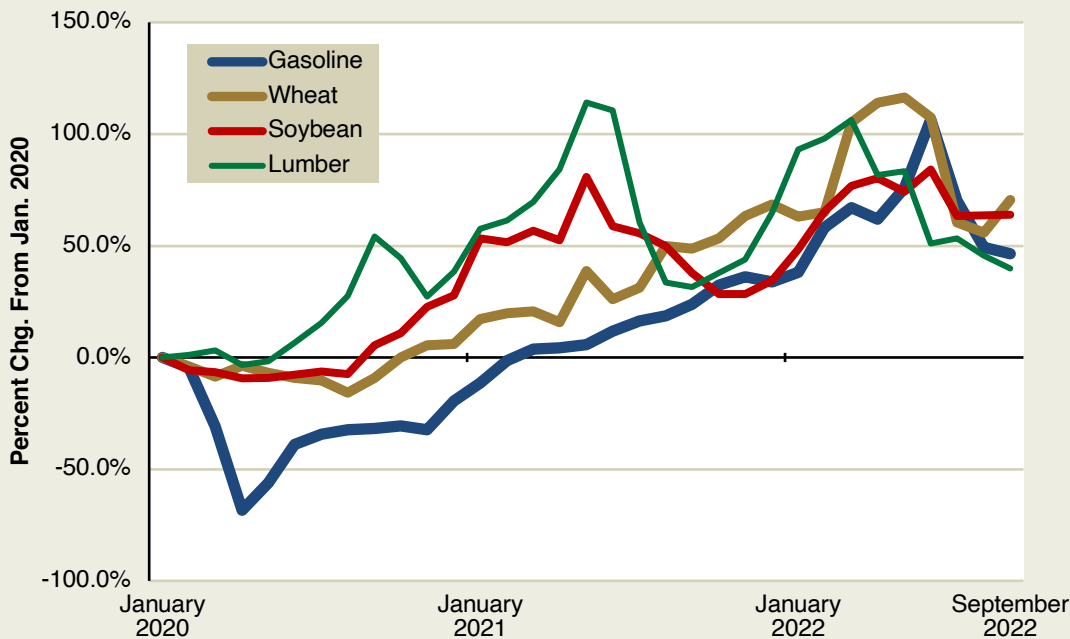
California fuel markets are isolated from rest of country. Unlike states that are interconnected via networks of interstate pipelines, rails, and vessels, California is isolated from the other lower 48 states. As indicated in Figure 5 (on page 13), there are no interstate crude oil pipelines coming into California, and there are no gasoline or diesel pipelines running either from the Midwest or the Gulf Coast refineries into the state. The combination of the state’s current regulatory environment and its mandate to phase out internal combustion vehicles makes it highly unlikely that new pipelines will be constructed in the future.

⁹ As one example of the negative impacts of low-capacity utilization on profits, during 2020 gasoline demand fell sharply and in response, refineries curtailed operations well below capacity. According to the EIA, average capacity utilization for U.S. refiners averaged 91.5 percent from January 2017 through December 2019 but dropped to as low as 69 percent in 2020 during the pandemic. During this period, crude oil prices fell dramatically, and refiners were mostly able to sell refined products at price levels sufficient to maintain positive gross refinery margins. However, operating costs per barrel of throughput (i.e., per barrel of crude oil being processed) rose significantly, resulting in major operating losses during the year.

Gasoline is One of Many Commodities Experiencing Major Price Increases

While high gasoline price increases are visible and can be painful for consumers when they fill up at the pump, supply shortages and soaring prices are widespread throughout the U.S. and world economies, affecting many commodities. Producer prices have soared for agricultural products, computer chips, metals (including those that go into batteries), and building materials. The main reasons for soaring commodity prices are Covid-19-related production cutbacks and supply chain problems, rapid shifts in consumer demand, and, more recently, production and trade disruptions caused by the Russian invasion of Ukraine.

Comparison of Producer Prices: Gasoline and Other Major Commodities



Source: Producer Price Indexes. U.S. Bureau of Labor Statistics

As indicated in the above chart, producer prices for gasoline fell more than prices for wheat, soybeans, and lumber during the 2020 Covid-19 pandemic, and they recovered more slowly during the post-pandemic recovery in 2021 and 2022. As of September 2022, U.S. producer prices for gasoline were up by about 50 percent from the pre-Covid level, which is similar to the increases in wheat, soybeans, and lumber.

Price increases in these other commodities may be less obvious, since they are “inputs” into products and services, such as processed foods or building projects, and therefore are not directly purchased by household consumers. However, their impact on overall inflation is just as important as fuel prices. Yet there have been no calls for windfall profit taxes on wheat or soybean farmers, as economists, industry analysts, and policymakers have correctly determined that the solution to soaring prices in these other areas is more supplies. Policies aimed at generating more in-state supplies of crude oil and refined fuels would likewise be a more effective long-term solution to high gasoline prices.

Shipments by rail are expensive and face enormous resistance from California communities due to concerns about health and safety. Shipments via sea-going vessels from the Gulf Coast are constrained by high costs and lack of vessel availability for domestic shipments, largely due to the Jones Act.¹⁰

Figure 5 **Factors Contributing to California’s Isolated Fuel Markets**

- Lack of crude oil or refined product pipelines into the state.
- High costs and strong resistance to rail shipments.
- Constrained sea-going shipments from Gulf Coast due to Jones Act and lack of qualifying vessels.
- Lack of out-of-state refinery capacity for gasoline meeting California’s CARB formulation standard.

Even if the means could be found to import significant amounts of petroleum product, few U.S. refineries outside of California produce gasoline and diesel meeting the California Air Resources Board (CARB) fuel product specifications. The few that can produce such fuels lack sufficient inventory to divert gasoline to California to offset significant shortages that emerge in this state.^{11,12}

¹⁰ The Jones Act is a federal law that was enacted in 1920 to help protect the U.S. maritime industry following World War I. The Act requires that all goods loaded and delivered in the U.S. be shipped using vessels that are American-built, U.S. flagged, and have a crew that is at least 75 percent U.S. citizens. According to a 2014 study by the U.S. Congressional Research Service, the purchase price of U.S.-built tankers is about four times the price of comparable foreign-built tankers, and U.S. crewing costs are several times higher than those of foreign-flagged ships. (See *Shipping U.S. Crude Oil by Water: Vessel Flag Requirements and Safety Issues*. Congressional Research Service, July 21, 2014.) As a consequence, shipping rates for crude and refined petroleum products transported between U.S. ports are generally three to five times higher than imports transported on foreign-flagged ships. The fleet of U.S. tankers is also limited in terms of numbers and size. Of the 57 Jones Act tankers currently in use, 43 are small tankers used to carry refined products along the east coast or crude oil between Alaska and California. The limited size of the fleet makes it difficult for companies to charter tankers for short periods of time to offset shortfalls created by shifting markets or outages.

¹¹ An additional factor is that reformulated gasoline is required to be sold through October 31 in California, which is one month longer than other regions covered by federal standards. As a result, sources of imports of reformulated gasoline become even more scarce in late summer and early fall as out-of-state refineries switch to winter blends.

¹² Source: U.S. Energy Information Administration. West Coast Transportation Fuels Markets. September 2015. https://www.eia.gov/analysis/transportationfuels/padd5/pdf/transportation_fuels.pdf.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

For these reasons, most petroleum-related imports into California are supplied through waterborne vessels, mostly from foreign sources. Crude oil is supplied primarily from countries in the Middle East and South America, as well as the north slope of Alaska.¹³ Refined products, including feedstocks, primarily come from Asia and Europe.¹⁴

While the state relies on crude oil imports to supply 70 percent of its refinery needs, refined-product imports from foreign countries are sporadic and overall quite limited, accounting for less than 1.5 percent of total demand in most years.¹⁵ Imports of refined products have increased markedly from time to time, however, mostly following refinery upsets (or outages) in this state, such as those that occurred in 2015 following the fire and extended shutdown of the Torrance refinery, and periodically during the past four years, mostly following significant and unplanned shutdowns of other refineries.¹⁶

Refiners and traders seeking gasoline imports from Europe and Asia face two key challenges. First, there are relatively few refineries in these regions capable of producing California's reformulated gasoline, so the shipments are often blendstocks rather than "finished products."¹⁷ Second, even when supplies can be found, it can take 30-45 days to secure a tanker and to ship the product to California.¹⁸ Because spot prices of California gasoline are volatile, especially during periods of outages, importers are at risk of price declines occurring between the time they purchase the gasoline and when they are able to sell it in California. While traders can employ hedging strategies to limit these risks, hedging contracts are themselves risky, expensive, and can lead to financial losses. For these reasons, a significant and sustained price increase in California gasoline relative to other regions is necessary to trigger delivery of imported supplies into the state.¹⁹

¹³ Source: California Energy Commission. Foreign Sources of Crude Oil - Imports to California 2021. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/foreign-sources-crude-oil-imports-2>

¹⁴ Source: U.S. Energy Information Administration. Company Level Imports. <https://www.eia.gov/petroleum/imports/companylevel/archive/>

¹⁵ Source: EIA, Company Level Imports. <https://www.eia.gov/petroleum/imports/companylevel/archive/>

¹⁶ See, for example, "California's Gasoline Imports Increase 10-Fold After Major Refinery Outage." U.S. Energy Information Administration, October 13, 2015. <https://www.eia.gov/todayinenergy/detail.php?id=23312>

¹⁷ The limited number of foreign refineries capable of producing gasoline meeting California standards may have been a factor contributing to California's tight markets in August and September. For example, Reuters reported on the 10th and 11th of October that several South Korean refineries (which are major exporters of petroleum products) were down for major maintenance in September and early October. In addition, lockdowns in China have led to sharp drops in exports from their refineries.

¹⁸ An additional challenge today is that it is currently difficult to find tankers available for one-time shipments due mainly to supply disruptions related to the Russian invasion of Ukraine. The result has been soaring shipping rates, which put further upward pressure on imported fuel prices. For example, see <https://www.freightwaves.com/news/ing-shipping-rates-top-100000day-oil-tanker-rates-still-rising>.

¹⁹ Yet another factor contributing to supply shortages and price increases in 2022 has been trade disruptions and intense competition for oil in global markets following the Russia invasion of Ukraine. For example, the U.S. government ban on imports from Russia in the Spring of 2022 caused significant issues because U.S. West Coast refineries have historically imported incremental refinery feedstock from Russia. These incremental feedstocks must now come from other countries or from U.S. Gulf Coast. The latter requires transportation on Jones Act vessels, making these feedstocks more expensive. At the same time, other countries that formerly exported feedstocks and finished products to the U.S. West Coast have been diverting them to Europe, which is willing to pay more for finished products to avoid high domestic refinery expenses caused by soaring natural gas prices (again due disrupted trade flows and sanctions related to Russia's war against Ukraine).

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

California supplies are tightening. If California had adequate refining and storage capacity to offset unanticipated events such as consumer demand surges or refinery outages, the isolated nature of the state’s energy markets would be a less significant issue. However, the trend in California has been toward fewer refineries, and recently toward less gasoline refining capacity, leaving the state highly vulnerable to unexpected changes in supply and demand.

In 1985, there were about 25 refineries operating in California. Today the number of active refineries is 14, of which 10 account for over 95 percent of California’s total refined petroleum supplies. As shown in Figure 6 (next page), five major refineries are located in Southern California and four are located in the San Francisco Bay Area in the counties of Contra Costa and Solano. Two small refineries are located in Kern County, and three others that produce asphalt and other products are located in the Central Coast and Southern California. According to the California Energy Commission, from 1980 through 2020, almost 1 million barrels of refining capacity was shut down in California, some of which was offset by expansions of surviving refineries.²⁰

Consolidation in the industry has been driven by high regulatory costs, which have made smaller refineries, in particular, less profitable due to their lack of economies of scale.²¹ Examples of such regulatory costs include:

- Reformulated gasoline standards adopted by the California Air Resources Board, referred to as CARB gasoline, that are more stringent and costly than U.S. Environmental Protection Agency (EPA) standards.
- Costly emissions controls required by various air management districts.
- The state’s cap and trade allowance program and its low-carbon fuel standard.
- Numerous other restrictions included in operating permits from various state, county, and local agencies.

A key consequence of the consolidation is that there is less redundancy in California’s wholesale fuel markets. If one of the remaining refineries experiences an unplanned outage, a significant percentage of product comes off the market, with minimal backup sources available.

²⁰ “California Oil Refinery History.” California Energy Commission. <https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/californias-oil-refineries/california-oil>

²¹ “California Oil Refineries.” California Energy Commission. Accessed in August 2019. https://web.archive.org/web/20190707174443/https://ww2.energy.ca.gov/almanac/petroleum_data/refineries.html

Figure 6
California Oil Refinery Locations and Capacities

Active Refineries - Southern California:	Rated Capacity (Thousand Barrels Per Day)
Marathon Petroleum Corp., Carson Refinery*	363
Chevron U.S.A. Inc., El Segundo Refinery	269
PBF Energy, Torrance Refinery	151
Phillips 66, Wilmington Refinery	139
Valero Energy, Wilmington Refinery	85
Active Refineries - Bay Area	
Chevron U.S.A. Inc., Richmond Refinery	245
PBF Energy, Martinez Refinery	156
Valero Energy, Benicia Refinery	145
Active Refineries – San Joaquin Valley	
Kern Oil & Refining Company, Bakersfield Refinery	26
San Joaquin Refining Company Inc., Bakersfield Refinery	15
Refineries Being Converted to Renewable Diesel	
Phillips 66, Rodeo San Francisco Refinery (currently active & still producing gasoline).	52 when fully operational
Marathon Petroleum Corp., Golden Eagle Martinez Refinery (currently idle)	48 when operational
Global Clean Energy Holdings – Bakersfield (currently idle)	17 when operational
Other Refineries (Not Producing Finished Transportation Fuels)	
Greka Energy, Santa Maria Refinery	10
Lunday Thagard, South Gate Refinery	9
Valero Wilmington Asphalt Refinery	6

Sources: California Energy Commission and Company Financial Reports

Refinery conversions to renewable diesel. Two refineries with a combined throughput capacity of 286,000 barrels per day are currently being reconfigured for production of 100,000 barrels per day of renewable diesel.²² Specifically, Marathon shut down its 166,000 barrels per day (bpd) Martinez Refinery in August 2020 during the COVID-19 pandemic, citing regulatory costs as a contributing factor. The refinery is being converted to production of renewable fuel and is scheduled to start production in late 2022. Later that year, Phillips 66 announced plans to convert its Rodeo Refinery in the East Bay to produce renewable diesel beginning in 2024. The result of these conversions, when complete, will be a net loss of 186,000 barrels per day in refining capacity since August 2020 when the Marathon refinery was idled. A third refinery near Bakersfield that has been idle for several years was purchased by Global Clean Energy Holdings in 2020. The company is converting the refinery to produce 17,000 bpd of renewable diesel when it operational in late 2022.

²² The Phillips 66 Rodeo currently has production capacity of 120,000 barrels per day (including 60,000 bpd of gasoline). The company has received approval for a conversion project to renewable diesel. Once the conversion is completed in early

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

Factors prompting the conversion to renewable diesel fuel include federal and state incentives available for renewable fuels and increasing blending requirements for diesel fuel.

California policies have made major investments in refineries and storage infeasible. The last major refinery in California was constructed in 1969, and many of the refineries shown in Figure 6 were originally constructed more than 80 years ago, although all of them have been upgraded since then. Over the past two decades, however, applications for capacity expansions, additional tankage, additional fuel by rail, and other investments that would have improved supplies in California markets have consistently been delayed or denied.²³ Given the current regulatory and political climate, there will never be a new refinery built or a major expansion to an existing refinery made in California.

Aside from economic factors, such as high land costs, the lack of suitable real estate, and high taxes, refiners would face enormous challenges in obtaining the necessary permits and environmental approvals from Southern California Air Quality Management District, the Bay Area Air Quality Management District, and dozens of other state, regional, and local agencies. California's history of protracted legal challenges, negotiations, and lengthy review periods suggest that even a moderate-sized project would face daunting permitting challenges. Even if eventually approved, such a project would take years to reach its major construction phase.²⁴ Such a commitment of time and money is infeasible today in light of recent state mandates phasing out sales of internal combustion engine vehicles over the next 13 years. Declines in future gasoline demand reduces the "payback" period on significant investments.

Net result – tightly balanced and volatile fuel markets. The combination of limited in-state refining capacity and the isolated nature of California's markets means that California transportation fuels markets are tightly balanced even when refineries are running near full capacity. According to the EIA, West Coast ports are three weeks from Asia and more than four weeks from Europe.²⁵ These long lead times leaves the state prone to shortages and price spikes when demand shifts unexpectedly or when supplies are curtailed due to refinery outages or other factors.

2024, the facility will have renewable fuel production capacity of about 52,000 bpd. The Santa Maria Refinery in Arroyo Grande, CA, that provides treated crude oil to Rodeo is scheduled to be permanently shuttered in December 2022.

The Marathon Golden Eagle refinery had production of 166,000 bpd before being idled in August 2020. Marathon has plans to convert this refinery to renewable diesel production. The conversion project is scheduled to begin operations in late 2022, and, after reaching full capacity, will produce 48,000 barrels of renewable diesel per day.

²³ Some examples of delayed, denied, or scaled back projects in California: (1) the Pacific L.S. Marine Terminal LLC Pier 400 project (start date 2001, cancelled in 2012); (2) Chevron Richmond Refinery Renewal Project (start date 2005, downsized project approved in 2014); (3) Chemoil Tank Farm Expansion Project in Port of Long Beach (start date 2003, no EIR filed); (4) Phillips 66 Propane Recovery Project, (start date 2012, pending); (5) Vopak New Oil Terminal in Port of Long Beach (start date 2013, no EIR filed); Alon-Refinery and Crude by Rail Project (start date 2012, cancelled in 2019).

²⁴ As one example, Chevron U.S.A. submitted an application for a refinery renewal project in 2005, which involved a replacement of its hydrogen plant, improvements to its refinery processing equipment, and other new and replacement facilities, including storage tanks. A downsized project was finally approved 9 years later, in 2014. Significant refinery improvements were dropped after a court ruling that the original environmental impact report was unclear and inconsistent regarding whether the project would enable the facility to process a heavier crude oil blend than before.

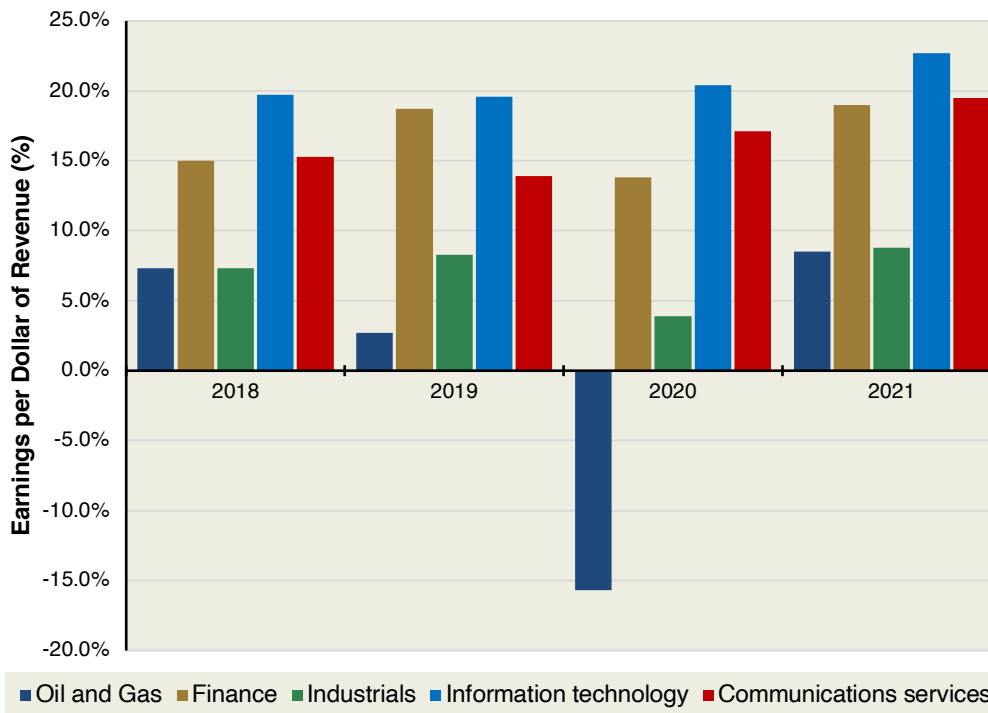
²⁵ West Coast Transportation Fuels Markets. U.S. Energy Information Administration. September 2015. https://www.eia.gov/analysis/transportationfuels/padd5/pdf/transportation_fuels.pdf

These vulnerabilities have clearly become more acute with the demand rebound from the Covid-19 pandemic and the pending conversion of two major refineries to produce renewable diesel. The volatility will continue to worsen, perhaps dramatically, if the state further discourages in-state production and refining through the implementation of a windfall profits tax.

O&G Profits in Perspective

O&G profits are clearly at high levels in 2022. However, this follows several years of below-average profits in the industry. Figure 7 indicates O&G profits have been more cyclical than other industrial sectors in recent years and, for the full 2018 through 2021 period, they trailed high-tech and finance industries by a considerable margin.

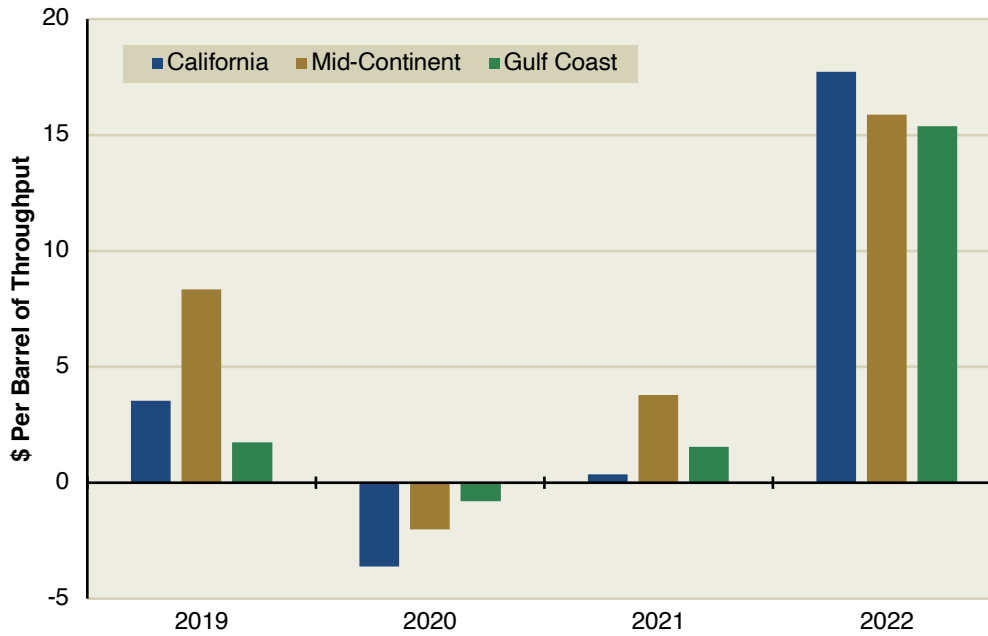
Figure 7
Annual Earnings in Oil and Gas and O&G and Other S&P 500 Sectors
2018 to 2021



Source: Bloomberg, as reported by the American Petroleum Institute

Turning specifically to the financial results of refineries, Figure 8 (next page) shows that while California refineries experienced larger profit increases than their counterparts in the mid-continent and Gulf Coast regions in 2022, their earnings trailed these other regions in 2020 and 2021 and were roughly on par with other regions in 2019.

Figure 8
Refinery Operating Income by Region²⁶
(First Three Quarters of Each Year)



The cyclical nature of oil industry profits, and especially the profits of refinery operations in California, has significant implications for a windfall profits tax. This is because such as tax would punish California companies during high-profit years without regard to the below-average earnings – or losses –that occur when oil markets turn downward.

²⁶ Based on data from companies operating in California that included U.S regional detail in their 3rd Quarter 2022 Earnings Reports (PBF, Valero Energy, and Marathon)

U.S. Federal and State Experiences with Windfall Profits Taxes

While windfall profits taxes and price controls have been levied within the U.S. at various times over the past century, there are only a few instances where these measures have specifically targeted oil and gas, or for that matter any single industry. As indicated in Figure 9, windfall profits taxes were levied on all industries during the first and second world wars, and briefly during the Korean conflict. The justification for windfall profits taxes during these periods included "shared sacrifice" and the need for temporary revenues to support wartime military efforts. The taxes were quickly eliminated after the conflicts concluded, however, due to concerns about their stifling impacts on investment, innovation, and economic growth. The taxes were found to have particularly negative impacts on small and rapidly growing companies.

The imposition of windfall taxes and price controls during more recent peacetime periods have consistently failed to achieve the objectives set forth by policymakers when they were enacted. In particular, the price controls enacted in the 1970s failed to reduce inflation, as price increases generally accelerated over the decade, with consumers facing gasoline shortages during the oil embargos imposed in 1973 and 1979. The price controls were rescinded in 1979 and replaced by the Crude Oil Windfall Profits Tax in 1980, which was structured as an excise tax on the price of oil in excess of a specified amount.

The 1980s windfall profits tax raised less-than-expected revenues and, according to the U.S. Congressional Research Service, reduced U.S. crude oil production and increased U.S. dependence on foreign oil. The tax was abolished in 1988 when global oil prices eased, due to lagging revenues and to a high IRS administrative burden.

Windfall profits taxes have rarely been imposed by states. Hawaii briefly experimented with wholesale price controls on petroleum products in the early 2000s, but the efforts were abandoned following an independent evaluation that found the controls to be ineffective, risky, and difficult to administer. Alaska imposed a graduated severance tax rate on oil production in 2007. While this tax was not labeled a "windfall profits tax" at the time, we have included it in Figure 9 because it possessed key attributes of a windfall profits tax – specifically, it imposed higher rates on crude oil extraction as per-barrel prices rose. Alaska abandoned the tax six years later due to its extremely negative impacts on oil production in the state.

In summary, while excess profits taxes applied to all industries did raise significant revenue during the first and second world wars, they have otherwise failed to achieve policymakers' objectives – especially when those objectives were to provide consumers with relief from high prices. In fact, virtually every tax was rescinded or allowed to expire due to lack of effectiveness, their negative impacts on investment and production, their high costs for compliance by businesses, and the high administrative burden they imposed on government tax collection agencies. The results of excess profits taxes imposed at the state level have been especially poor.

Figure 9
U.S. Windfall Profits Taxes and Price Control Measures Enacted
at the Federal and State Level – 1918 Through 2007

Tax	Description	Outcome
<p>1918 - Excess Profits and Windfall Tax to raise revenue for anticipated entry into WWI²⁷</p>	<p>Consisted of two taxes: the "war-profits tax" and the "excess profits tax":</p> <p>Excess Profits Tax:</p> <p>Imposed on the difference between actual profit and normal profit defined as \$3,000 plus 8 percent of the capital used in the taxable year. The tax scale was progressive with two rates of 30 and 65 percent. The excess profits tax was repealed in 1921.</p> <p>War Profits Tax:</p> <p>The war profits tax was imposed on the difference between normal profits defined as the average profits of the three pre-war years (1911, 1912, and 1913) plus 10 percent of the increase or decrease in the invested capital of the taxable year over the average invested capital of the same three pre-war years. The tax rate was 80 percent.</p>	<p>Relative to windfall profits taxes enacted in subsequent years, these taxes generated significant revenues, raising nearly 40% of all federal tax revenue during the wartime period.</p> <p>When passed, the war profits tax was scheduled to be in effect for only one year.</p> <p>The excess profits tax was abolished in 1921 at the end of World War I, partly because it was determined that excess profits tax was stifling innovation and adversely impacting small companies, rather than the larger ones that tax had sought to target. (The war profits tax was scheduled to sunset after one year.)</p>
<p>1941 – WWII Excess Profits Tax²⁸</p>	<p>The U.S. again enacted an excess profits tax at the start of WWII, this time using alternative standards for determining excess profits of either (1) 95 percent of the average earnings in the base period years (1936-1939), or (2) a percentage of invested capital ranging from 8% on the first \$5 million of capital down to 5% on invested capital above \$10 million." (Businesses could choose either method to measure excess profits).</p>	<p>The WWII excess profits tax raised about 25 percent of total wartime tax revenue. The tax was abolished soon after the end of the war due to concerns about its administrative burden, negative impacts on investment, its harsh impact on small, growing companies and concerns that the tax was taking away the profit motive, thereby stifling efficiency and innovation among business.</p>
<p>1950 – Korean War Excess Profits Taxes²⁹</p>	<p>Congress imposed an excess profits tax, effective from July 1950 through December 1953 for the purpose of financing wartime expenditures. The tax rate on excess profits was 30 percent. Congress also raised the top corporate rate from 45 percent to 47 percent. The standards for determining excess profits were the same as used for the WW II tax.</p>	<p>The excess profits tax was substantially revamped following year to address various inequities that emerged, and it was allowed to expire in June 1953 as support for the war effort waned and public resistance to high tax rates emerged.</p>

²⁷ Scott A. Hodge. "The History of Excess Profits Taxes Not as Effective or Harmless as Today's Advocates Portray." Tax Foundation, July 22, 2020. <https://taxfoundation.org/excess-profits-tax-pandemic-profits-tax/>

²⁸ Ibid.

²⁹ Report of the Committee on Finance, United States Senate to Accompany H.R. 9827, December 18, 1950. <https://www.finance.senate.gov/imo/media/doc/SRpt81-2679.pdf>

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

Tax	Description	Outcome
<p>1971 – Oil Price Controls^{30, 31}</p>	<p>President Nixon imposed wage and price controls on the US economy that lasted through 1979. These price controls were implemented and renewed in the wake of two oil shocks in the 1970s: (1) the 1973-1974 oil embargo, which raised oil prices fourfold and (2) the 1978-1979 Iranian revolution, which doubled oil prices, and created gasoline shortages (and long lines of motorists at the gasoline pumps).</p>	<p>The price controls contributed to significant gasoline shortages and long lines at the pump.³²</p> <p>Price controls were eliminated in late 1979 as concerns mounted that they were counterproductive and contributing to product shortages. The controls were replaced with a crude oil windfall profits tax.</p>
<p>1980 – Crude Oil Windfall Profits Tax^{33,34}</p>	<p>The Crude Oil Windfall Profit Tax Act was enacted in 1980 as part of a compromise between the Carter Administration and the Congress over the decontrol of crude oil prices</p> <p>It was imposed as an excise tax on domestic production and it was applied to the difference between the price of crude oil and a base price indexed for inflation.</p> <p>The rate was 70% for integrated oil companies and 50% for others. Lower rates applied to certain types of production (including marginally productive wells, and newly discovered oil) and still lower rates applied to heavy oil and oil recovered by enhanced oil recovery methods.</p>	<p>According to the U.S. Congressional Research Service the tax reduced domestic crude oil production by between 1.2% and 8.0% (320 to 1,269 million barrels and increased U.S. dependence on imported oil by between 3% and 13%.</p> <p>The tax was repealed in 1988 because (1) it was an administrative burden to the Internal Revenue Service, (2) it was a compliance burden to the oil industry, (3) the tax was generating little or no revenues in 1987 and 1988 due to the global supply glut and falling prices, and (4) it made the United States more dependent on foreign oil.</p>
<p>2002- Hawaii Act 77³⁵</p>	<p>The State of Hawaii briefly imposed price caps on wholesale gasoline in the state, as authorized by a measure titled “Act 77.”</p>	<p>The Act was quickly repealed in 2004 after an independent evaluation found “these measures generally are ineffective, risky, costly, open to manipulation, and complicated to administer.”³⁶</p>
<p>2007 – Alaska Clear and Equitable Shares (ACES) act. Alaska’s ACES system³⁷</p>	<p>Alaska imposed this progressive severance tax on oil extraction from the North Slope. It was not labeled a windfall profits tax but it had the key characteristics of such a tax</p> <p>Under the ACES system, the tax was set at 25 percent of the net value of crude plus 0.4 percent on the increment above \$30 per barrel.</p>	<p>The had an extremely negative impact on oil production. During the period it was in effect, Alaska was the only oil-producing state in the U.S. to experience declining production during the oil boom from 2009 to 2013.</p> <p>The tax was reversed in 2013 through the imposition of flat tax along with per barrel credits and exclusions for investments in new areas, which reduced the effective tax rate to less than 15 percent. Following the reversal, Alaska production stabilized.</p>

³⁰ “Crude Oil Windfall Profits Taxes: Background and Policy Considerations.” Congressional Research Service, March 23, 2022. [Servicehttps://crsreports.congress.gov/product/pdf/IF/IF12064](https://crsreports.congress.gov/product/pdf/IF/IF12064)

³¹ Robert T. Deacon. “An Economic Analysis of Gasoline Price Controls.” *Natural Resources Journal*, vol. 18, no. 4, 1978. <http://www.jstor.org/stable/24881651>.

³² David R. Henderson. “Price Controls: Still a Bad Idea.” Hoover Institution. January 20, 2022. <https://www.hoover.org/research/price-controls-still-bad-idea>

³³ CRS Report for Congress. “Crude Oil Windfall Profit Tax of the 1980s: Implications for Current Energy Policy.” Congressional Research Service, March 9 2006. <https://liheapch.acf.hhs.gov/pubs/oilwindfall.pdf>

³⁴ “Crude Oil Windfall Profits Taxes: Background and Policy Considerations.” Congressional Research Services. March 23, 2022. <https://crsreports.congress.gov/product/pdf/IF/IF12064>

³⁵ Stillwater Associates. *Hawaii Fuels Study*. Public Information Briefing, September 8, 2003. https://energy.hawaii.gov/wp-content/uploads/2011/10/Act-77HawaiiFuelsStudy_2003.pdf

³⁶ *Ibid.*

³⁷ Alaska Policy Forum. *Policy Brief: A History of Alaska Oil Taxes and How They Work*. October 29, 2020. <https://alaskapolicyforum.org/2020/10/history-alaska-oil-taxes/>

Challenges and Impacts of a Windfall Profits Tax in California

The results of a windfall profits tax imposed by the State of California will likely be no better – and may be considerably worse – than those imposed by the U.S. government and other states over the past century. In this section we discuss the key challenges posed by such a tax, as well as likely impacts that its adoption would have on gasoline prices and supplies in this state.

How Would the Tax Be Structured?

In the over one-month period following his call for a special session, Governor Newsom has yet to share a specific proposal. The press release containing the Governor’s original announcement indicates that “companies engaged in extraction, production, and refining of oil will pay a higher tax rate on their earnings above a set amount each year, and these recouped windfall profits will then be directed to rebates/refunds to California taxpayers impacted by high gas prices.” Based on this statement, the tax would appear to be applied as a surcharge added to the corporation income tax paid by companies involved in the extraction and/or refining of crude oil in the state.

More recently, however, the Governor has referenced an alternative approach, advocated by the president of CW, which would levy a monthly excise tax on gross refiner margins that are in excess of a (yet to be specified) threshold level. This approach would use information collected monthly from oil refiners under SB 1322 (Allen) which was signed by the Governor in September 2022.

Under SB 1322, companies are required to report their gross refiner margins (the difference between wholesale prices on refined products minus the cost of crude oil inputs) on a per-barrel basis to the California Energy Commission (CEC) within 30 days of the conclusion of each month. The CEC would then be required to post the information on its website 45 days following the conclusion of the reporting month.

As an aside, recent reports by CW have referred to the proposed excise tax as a “penalty” on profits above a “cap.” The labeling is significant because under the California Constitution, a state tax levy requires two-thirds approval of both legislative houses, whereas a “penalty” can be enacted with a simple majority vote. However, the proposed levy would have all the characteristics of a tax, regardless of how it is characterized in a press release. Enactment of such a tax with a majority vote would almost certainly be subject to legal challenge.

Given recent statements by the Governor and CW, our focus in this analysis is on challenges related to the excise tax approach. We note, however, that that implementation through the corporation income tax also presents numerous issues and challenges.

Key Challenge with Suggested Excise Tax Approach

One major shortcoming of the excise tax approach, as recently described by CW, is that it relies on *gross refinery margins* for calculating the tax. Gross refinery margins substantially overstate actual profits earned by California refiners, as they are

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

simply the difference between the weighted price of refined petroleum products and the weighted price of crude oil inputs.

Gross refinery margins *fail to* take into account the large and variable *operating expenses* that refineries incur for energy, labor, materials, maintenance and a variety of other factors. For refiners reporting operating results by region, these expenses have ranged from \$9.63 to \$11.03 per barrel of throughput over the past four years in California (see Figure 10). Operating costs for these refiners *exceeded* gross refinery margins in 2020, leaving the companies with a \$3.61 per barrel loss during the year. In 2019 and 2021, operating expenses offset most of the gross refinery margins, and in 2022, these expenses offset about 38 percent of gross refinery margins. As noted previously, operating expenses are 50 percent to 60 percent higher in California than in other states.

Thus, the “windfall profits” tax, or “penalty,” levied under this system would not be based on profits at all. It would instead be based on a measure that considerably overstates realized profits because it excludes operating costs. Moreover, because operating costs can vary significantly from one period to another, the relationship between gross refinery margins in profits is inconsistent over time. The clear risk of using gross margins as a basis for taxation is that the threshold for the excise tax will be set too low, and as a result the tax will apply to companies that are not in reality experiencing “excess profits” once operating costs are properly accounted for.

Figure 10
Gross Refinery Margins, Operating Costs, and Operating Income of California Refineries — Amounts Per Barrel of Throughput (First Three Quarters of Each Year)

Financial Measure:	2019	2020	2021	2022
Gross Refinery Margin	\$13.55	\$7.40	\$9.98	\$28.72
Operating/Depreciation Expenses	\$10.01	\$11.02	\$9.63	\$11.00
Operating Income	\$3.54	-\$3.61	\$0.35	\$17.72

* Based on averages of data from PBF, Valero Energy, and Marathon, which included U.S regional detail in their 3rd Quarter 2022 Earnings Reports.

An excise tax applied on a monthly or quarterly basis would be even more problematic. This is because gross refinery margins that, again, overstate profits, can fluctuate sharply from month to month depending on relative price movements in the crude oil and refined petroleum products markets. It is quite possible that over a full year, the increases and decreases in monthly margins would balance out, leaving the company with only average gross refinery margins for the full year. Yet a monthly or quarterly application of the tax would result in potentially large excess profits taxes during the up months, with no offsets during the down months. The result would be over-taxation of actual profits, and a steep reduction in after-tax profits on the California refinery’s operations.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

More generally, financial evaluations in the refinery industry are normally based on the projected outlook for revenues, expenses, and bottom-line earnings over a five-to seven-year cycle, which is generally considered a period adequate to account for volatile ups and down in prices for both crude oil and refined products. A tax that is applied on above-average margins during good months or years, with no offsets for below-average earnings (or losses) during bad months or years will seriously diminish the long-term after-tax returns on California operations versus other states. This is a significant issue given that all major refineries in this state are operated by multi-state and multi-national companies, where management allocates capital budgets and makes other operational decisions based on the relative multi-year financial outlooks for specific operations.

A windfall profits tax enacted solely in this state will limit expected returns for California refineries relative to those in other states, and it will put California refiners at a competitive disadvantage to other regions when competing for resources. The implication is less funding for California operations, including less resources for clean energy investments. The ultimate impact will be less fuel production, which will further aggravate the extremely tight market conditions that already exist in California.

Conclusion

High and volatile gasoline costs in California reflect a combination of: (1) the state's above-average fuel taxes and cap-and-trade and LCFS fees; (2) much higher-than-average costs of refinery operations in California; (3) the state's isolated markets for both crude oil and refined transportation fuels; and (4) California's precariously balanced fuel markets, significantly related to state regulatory policies that have sharply limited the ability and incentives to invest in oil production, refining and storage in the state.

The challenges faced by California today are similar to those facing European countries. In a rush to transform to alternative energy sources, these countries have scaled back production of traditional energy products, leaving themselves reliant on unreliable foreign trading partners and, more generally, volatile global markets for meeting their energy needs.

A windfall profits tax enacted in California will make matters worse for consumers. This will occur either because the tax is added to the retail price of gasoline, or – if the tax is initially absorbed by the refiners – because the tax will reduce incentives for operators to invest and operate in California. Under this scenario, the result will be less supply, higher prices, more product shortages and, potentially, gas lines reminiscent of the 1970s.

At the federal level, President Biden has been critical of oil companies for not investing their earnings in new supplies to increase U.S. energy independence while it transitions to alternative energy sources. California has one of the largest petroleum markets in the U.S., yet such investment is infeasible in this state given the many restrictions and burdens applying to both oil extraction and refining.

Impact of a Windfall Profits Tax on Gasoline Supplies and Prices in California

A much better alternative to a windfall profits tax for addressing California's high prices and shortages would be for the state to adopt regulatory policies conducive to increasing supplies of both crude and refined petroleum products in the state. Failing to do so is bound to result in additional refinery closures.