

U.S. Experience in and Perspectives on the Worldwide Wine Market “Crisis”

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Abstract

In this paper we analyze and discuss the wine market “crisis” from the perspective of the U.S. wine industry, focusing on California. Among countries, the United States is the world’s fourth-largest producer of wine, and the largest consumer and importer. The wine industry is located primarily on the U.S. west coast, and California alone accounts for more than four-fifths of production. Growth in population and income and shifting preferences for different types of alcoholic beverages have been driving evolving per capita demand and hence changes in production, markets, and imports in this vibrant sector of the U.S. economy. In recent years, the U.S. wine and winegrape industry has been coping with stresses from difficult vintages and abrupt policy shifts, on top of the shrinking demand and depressed markets that have affected producers worldwide. The market-driven pressures are more pronounced in the lower-priced segments. The industry is adjusting without the benefit of any substantial assistance from national or state governments to reduce the structural surplus and restore market balance. We illustrate these patterns using detailed data on California’s wine grape industry.

Keywords: Wine Market Crisis; California; Wine Grapes and Wine

1. Overview

Around the world, wine markets are generally depressed. In most countries, prices for at least some wines, especially lower-priced red table wine, are unsustainably low, reflecting a worldwide structural imbalance between supply and demand that will take some time to correct itself. In the most recent vintages, in many vineyards

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perfectly good winegrapes were left hanging on the vine because the growers could not find a profitable end-use for them. Grape and wine producers in the United States and elsewhere are in the process of making substantial adjustments. In this article we document and discuss the recent economic history of the U.S. wine industry in its worldwide context, and the nature and extent of the “crisis” experienced by U.S. wine producers, drawing heavily on the chapter by Alston et al. (2025, in process). We present a systematic, detailed analysis of the evolving supply and demand for wine produced in the United States, focusing on California, which accounts for more than 80% of the total. Moreover, we explore the roles of recent policy actions as factors contributing to the current stressed state of the industry.

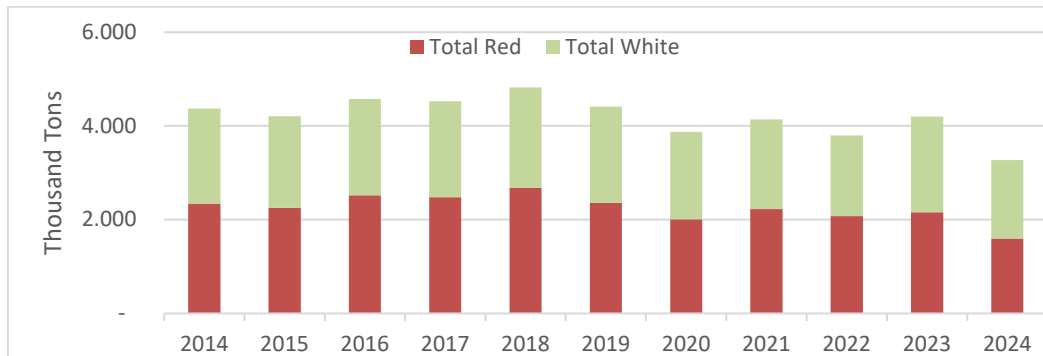
2. The U.S. Wine Industry: An Overview

Among countries, the United States is the world’s largest consumer of wine and the fourth-largest producer, accounting for about 10% of the world’s wine volume in recent years (e.g., OIV, 2025). Since it is also the world’s largest and most lucrative wine market, changes in the United States can have important implications for exporters in other countries, and the industry worldwide.

2.1 Winegrapes and Wine

An estimated 750 thousand acres of bearing vineyard area were used to produce wine grapes in the United States in 2022, most of which were used to produce wine. Among the 50 U.S. states, just four – California, Washington, and Oregon on the west coast, and New York on the east coast – account for over 93% of the total U.S. vineyard area used for wine grapes. In 2024, these four states produced an estimated 3.26 million tons of grapes crushed for wine, with a farm value of \$3.88 billion, down by 21–22 percent from 2023 (4.11 million tons of grapes crushed for wine, with a farm value of \$5.0 billion). Of that 2024 total, California produced 2.88 million tons with a farm value of \$3.4 billion, about 89% of both value and volume. This was California’s smallest grape crop in 20 years, reflecting both yield losses from extreme heat and a weak market in which many growers were unable to sell all their grapes; an estimated 400,000–500,000 tons went unharvested in 2024 (Brown 2025).

Figure 1: *California Wine-Grapes Crushed, 2014-2024*



Sources: USDA/NASS (2025c). Notes: Excludes raisin-type and table-type grapes that were crushed. A small share of wine grapes crushed are used for purposes other than winemaking including grape juice concentrate and distillation.

In describing U.S. wine grape production, we focus mainly on California, which is indicative of national patterns, and for which much more detailed data are available in aggregate and at the level of crush districts (of which there are 17 in California), which we aggregate into five regions following Alston et al. (2025). Prices and yields and the mix of varieties grown vary among crush districts and regions, as described by Alston et al. (2025). In 2024 five varieties (Chardonnay, Cabernet Sauvignon, Merlot, Pinot Noir, and Zinfandel) accounted for 53% of the total volume and 75% of the total value of production of winegrapes in California – but the emphasis varies among the regions as do the prices, in some cases with higher premia for specific varietal wines associated with particular places of production, such as Cabernet Sauvignon in the Napa Valley. In 2024 in Napa County, where the average yield is around 3 tons/acre (USDA/NASS, 2025d) the average crush price was \$6,939/ton (USDA/NASS, 2025a), twenty times the average crush price in the much hotter Southern Central Valley, where the average yield is around 11 tons per acre (USDA/NASS, 2025d).¹ The other regions were distributed between these extremes with higher average yields being generally associated with lower average prices per ton.

As can be seen in Table 1, the 22% decrease in the overall value of California's wine grape production in 2024 was mostly associated with lower volume of production (down by 21.7%), only a small part of which was attributable to reduced acreage (down by 3.3%); overall, prices were down by 3.4%. However, we do see some variation among the 17 crush districts in the size of the percentage reductions in both prices and total volume of production, and within districts, comparing red versus white varieties.

Table 1: Volume and Value of Production California Wine Grapes, 2024

Region	Total Wine Grape Area	Total Volume	Crush Price	Total Value
	<i>acres</i>	<i>tons</i>	<i>\$/ton</i>	<i>\$m</i>
Napa-Sonoma (NS)	103,396	361,608	4,560	1,649.0
Central Coast (CC)	94,259	332,381	1,628	541.1
Southern Central Valley (SCV)	80,273	976,173	342	333.7
Northern Central Valley (NCV)	124,546	1,043,656	589	614.5
Other California (OC)	47,210	170,522	1,501	256.0
Total California (CA)	449,684	2,884,340	1,021	3,394.3
	<i>Percentage Change from 2023 to 2024 (%)</i>			
Napa-Sonoma (NS)	-0.9	-12.2	-2.2	-14.1
Central Coast (CC)	-0.3	-33.5	-1.0	-34.2
Southern Central Valley (SCV)	-3.6	-17.7	-3.6	-20.6
Northern Central Valley (NCV)	-2.4	-24.2	-3.0	-26.5
Other California (OC)	-0.8	-18.7	-11.4	-27.9
Total California (CA)	-1.7	-21.7	-3.4	-22.0

Sources: USDA/NASS (2024, 2025a, 2025b). *Notes:* Region and state values are computed by multiplying the volume by the corresponding crush price. The California Grape Acreage Report (USDA/NASS 2025b) reports detailed acres by region, which are collected using grower surveys and are not corrected for underreporting or incomplete responses. Allowing for this underreporting, total area of winegrapes in California is reported in the California Grape Acreage Report (USDA/NASS 2025b) as 590,000 acres in 2024 (down by 3.3% from 2023), considerably more than the sum of acres by region, 449,684 acres (down by 1.7% from 2023) shown in Table 1.

It is harder to know how much of the reduction in production and price was attributable to extreme heat during the vintage, causing losses in both yield and quality, rather than a symptom of reduced demand for grapes as a result of reduced demand for U.S. wine at home and abroad, and accumulating inventory. Heat stress was especially an issue for the Central Coast in 2024, and that region saw the greatest percentage reduction in volume and value of production. However, when both price and quantity fall together, unless quality is a major issue, the reasonable interpretation is that this reflects a reduction in demand rather than lower yield alone (which would be manifest as a reduction in volume of production and an increase in price). Indeed, and in any case, it is reasonable to use the % reduction in total value of production (approximately equal to the sum of the % reduction in quantity and the % reduction in price) as an estimate of the % reduction in demand. Taking this approach, from the figures in Table 1, we can say that demand fell much more for all the other regions relative to Napa-Sonoma, the premium North Coast. This is consistent with other evidence on broader market trends.

2.2 Domestic Production and Consumption of Wine

Still wine accounts for the vast majority of domestically produced and bulk imported wine that is bottled and consumed in the United States. According to TTB data (U.S. Treasury/TTB 2025a), the volume of domestically bottled wine (including

cider) removed, tax-paid into the U.S. market, increased from 701 million gallons in 2015 to 743 million gallons in 2020, but since then fell to 583 million gallons in 2024². Taxable withdrawals of cider fell from a peak of 56.4 million gallons in 2015 to 36.0 million gallons in 2024. Still wine withdrawals declined by 16% (from 619 million gallons in 2015 to 520 million gallons in 2024) while, during the same period, withdrawals of effervescent (sparkling and carbonated) wines fell by 2%, so the combined category (excluding cider) fell by 15%. More than four-fifths of the wine produced in the United States is produced in California.

Imports account for about one-third of the volume and value of U.S. wine consumption. The United States imported about 317 million gallons of wine in 2024, down only slightly from the average of the past decade. The import value was about \$6.7 billion, for an average import price of about \$21.08 per gallon. These data include sparkling wine, table wine, and high alcohol wine shipped under the Harmonized Tariff Schedule (HTS) code 2204. They do not include high-alcohol bulk “wine” imports from Canada, which had a very low price of about \$1.06 per gallon and do not enter the wine market (see Alston et al., 2025, in process, for details). U.S. imports far exceed U.S. exports. The United States exported about 62.1 million gallons, with an export value of \$1.21 billion, for an average export price of about \$19.53 per gallon (U.S. ITC 2025).

2.3 Export Declines Exacerbate Market Demand Concerns

Imports grew along with U.S. production and exports of wine, as U.S. domestic demand grew. The value of all wine imports hit a peak of about \$8 billion (in 2024 dollars) in the pandemic year of 2021, and exceeded \$7 billion from 2014 to 2019. U.S. imports in 2024 were the lowest since 2011 in inflation-adjusted terms. In contrast with imports, the value of U.S. exports peaked at about \$2 billion (2024 dollars) in 2013 and has declined steadily since 2016, except for a blip up in 2021. Exports were about \$1.2 billion in 2023 and 2024.

Table 2 documents the recent collapse in the export volumes of table wine (defined in the trade data as still wine with no more than 14% alcohol). Prices bounced around, but have been roughly constant after adjusting for inflation. Bulk table wine export volumes have exceeded bottled table wine export volumes in every year since 2016, except for 2023. Since the price of bottled wine exports is more than five times the price of bulk wine exports, bottled wine exports dominate in revenue terms.

U.S. exports and imports are influenced by an interesting wrinkle in wine duty and excise tax drawback policy. Import duty refunds for imports that are re-exported, often after some further processing, have been standard policy for centuries. Drawbacks have been routinely extended to exports of “commercially interchangeable” (matching) products, such that a U.S. merchant could import Argentinian wine into New Jersey and export an interchangeable California wine and be eligible for the duty drawback.

Table 2: Value and Volume of U.S. Table Wine Imports and Exports

	Exports			Imports		
	Volume (m. gal.)	Price (\$/gal.)	Value (\$ m.)	Volume (m. gal.)	Price (\$/gal.)	Value (\$ m.)
Bottled						
Avg. 2014-2021	36.7	29.30	1,074.3	176.1	27.03	4,758.8
2022	26.8	30.06	805.1	174.6	25.29	4,416.1
2023	20.7	29.98	620.9	158.0	26.31	4,156.8
2024	20.4	30.17	616.9	159.9	25.78	4,121.4
Bulk						
Avg. 2014-2021	48.0	6.09	292.5	67.8	5.68	385.1
2022	31.0	5.45	168.8	67.8	5.34	361.9
2023	18.3	5.41	99.1	45.1	5.30	239.3
2024	29.2	5.75	168.3	37.1	5.49	203.9
Total						
Avg. 2014-2021	84.7	16.14	1,366.8	243.9	21.09	5,143.9
2022	57.7	16.86	973.9	242.5	19.71	4,778.1
2023	39.0	18.45	720	203.1	21.64	4,396.1
2024	49.7	15.80	785.1	197.0	21.95	4,325.3

Sources: US ITC (2025). U.S. Bureau of Economic Analysis (2025). *Notes:* Monetary values are expressed in constant 2024 dollars.

A U.S. excise tax of \$1.07 per gallon applies to still wines of less than 16% alcohol. (Partial refunds apply to the first 750,000 gallons exported, and excise taxes per gallon are higher for sparkling wines and higher alcohol wines.) All wine sold in the United States pays the excise tax, but importers of still wine with less than 14% alcohol are eligible for a drawback if they export within five years a matching table wine (wine with the same color and within 50% of the price of the imported wine) (U.S. Treasury/TTB, 2025c).

The excise tax drawback has the odd consequence of allowing some imported wine to avoid paying an excise tax in the U.S. market while the domestic sales of domestic wines do pay the excise tax. In the market where import volumes far exceed export volumes for both bulk and bottled wines, the excise tax drawback generates an incentive to stimulate more future exports, such that more of the imported wine can be eligible for drawbacks. The result is essentially an export subsidy of up to the full amount of the excise tax (Sumner et al., 2011).

The excise tax drawback is a clear benefit for the U.S. production of low-priced grapes used for bulk wines. The greater is the quantity of wine that avoids the excise tax, the greater is the quantity of wine demanded by U.S. consumers. Simply put, as long as import quantities are larger than likely future exports, the drawback of the excise tax amounts to a net shift out in the demand function for low-priced U.S. wine.

Until 2025, applied wine import duties into the United States have been low, and the drawback of the excise tax was significant mainly for low-priced bulk wine, where the excise tax is 20% or more of the typical export price. With increases, or expectations of increases in import duties, the drawback policy may create incentives

for the future export of more bottled table wine as importers seek to stimulate matching exports of bottled wine to be used for drawback eligibility.

Trade policy intricacies do not offset the impacts of large declines in demand for wine in the United States and globally. Nonetheless, it is useful to understand that the drawback policy contributed positively to the demand for U.S. wine.

3. Recent Trends in U.S. Markets: Drivers and Disruptions

Producers everywhere in the world have contributed to and are affected by the current worldwide wine market imbalance, but some more than others; and some uniquely American factors have contributed more directly to the current stressed status of the U.S. wine industry. In this section we summarize recent trends in U.S. demand and supply for alcohol and wine; the evolving demand for wine and other alcoholic beverages; and prices.

3.1 Supply-Side Factors

The total bearing area and production of winegrapes in California has generally trended up since the mid-1980s, but has been fairly flat for the past 10 years and has been declining since 2018 from a peak of 590 thousand acres to 550 thousand acres in 2024, or by 6.8% (USDA/NASS, 2025b). The overall change reflects greater reductions in the Southern Central Valley and a continued trend to increase the share of production from the cooler coastal valleys where yields are lower. Consequently, it entails a proportionally larger reduction in total capacity and normal supply.

Recent changes in total vineyard area and nonbearing area are indicative of responses to the recent market conditions and prospects as perceived by growers. Growers have been grubbing out significant areas of vineyards, but this need not imply a permanent reduction in productive capacity. It could reflect growers opting to grub out vines at a time when the opportunity cost of foregone production is comparatively low because markets are depressed, with the expectation that they will replant when markets improve if not immediately.

Climate change poses long-term challenges in California as in other places. In several recent vintages, unfavorable seasonal conditions have contributed to lower yield or quality issues or both – whether from heat waves or smoke taint associated with wildfires. The prevalence of these problems seems to be increasing, as is pressure on costs and supply from other sources including rising costs of materials, and uncertainty about availability and costs of irrigation water and skilled labor. Considerations like these, as well as the recently depressed wine markets, and uncertainty about future demand and the public policy environment, may have contributed to the recent adjustments in supply of wine from California.

Some industry reports suggest that what we are seeing is more of a correction or a reset than a permanent shift or the beginning of a downward trend, and the beginnings of a recovery may be in the wind (e.g., McMillan, 2025; Penn, 2025), but still some

suggest that the United States has to reduce its productive capacity by about 10% to restore balance to the market (see, e.g., Todorov, 2025).

3.2 Evolving Demand and Price Patterns

Reflecting both growth in population and evolving – mostly rising – adult per capita consumption, the quantity of wine consumed in the United States has generally trended up since Repeal of Prohibition in 1933, with two notable reversals. First, after a surge in the 1970s into the mid-1980s – driven by demand from the “baby boom” cohort reaching adulthood – total consumption of wine declined from a peak of 580 million gallons (3.53 gallons per adult) in 1986, to 425 million gallons (2.46 gallons per adult) in 1993. Over the next thirty years it grew steadily and more than doubled to a peak of 1,060 million gallons (4.33 gallons per adult) in 2020 during the COVID-19 pandemic. The market growth occurred even though, still (in 2023), only 63% of U.S. adults drink any alcohol, only 34% drink any wine and only 20% drink wine once per week or more (Wine Market Council 2024). The long history also shows some trends and cycles in the balance of alcohol wine, beer and spirits. While the share of wine has trended up generally, in recent years along with beer, wine has lost some ground to spirits, which are on the rise, reflecting increased demand for hard seltzer (such as High Noon™, combining fruit juice and vodka) and the like, in ready-to-drink formats.

Hence, since the recent peak, U.S. wine consumption has slipped to 899 million gallons in 2023 and an estimated 734 million gallons in 2024 – this, in spite of depressed U.S. prices reflecting an abundant global and U.S. supply combined with a strong U.S. dollar. The reversals in the mid-1980s and now mid-2020s reflect reductions in per capita demand offsetting positive effects of growth in total population – now adding to larger declines in per capita and total volume of wine consumed in France, Italy, and Spain since the early 2000s (see, e.g., OIV, 2024).

3.3 The Market for Wine and Winegrapes

In 2024, according to Nielsen data, 56% of all table wine by volume tracked by Nielsen, both domestically produced and imported, sold at retail for under \$8 per bottle or equivalent, while approximately 11% retailed at above \$15 per bottle (Wine Business Monthly, 2025b). Wines sold in the United States may bear a varietal designation on the label if 75% or more of the wine was produced from the named grape variety. Nielsen data for table wine sales for the 52 weeks ending in October 2024, show that approximately 80% by value carried a varietal label. Chardonnay, at 11.5% and Cabernet Sauvignon, at 21.4% were the two most popular varieties, followed by Pinot Grigio, Pinot Noir, Merlot, and Sauvignon Blanc, which collectively accounted for 32.7% of the value of table wine sold in the United States. In 2024, red wine represented just over 50% of Nielsen-tracked wine sales by value, followed by white wines at 44% of value and rosé or blush wines at 5.5% (Wine Business Monthly 2025a).

As well as changes in total demand, more recently we have seen reports of a sustained swing of demand back toward lighter white, rosé, and sparkling wines and away from heavy reds, both in the United States and worldwide. A movement in this direction is not yet apparent in the structure of wine grape production in California. Over the past 20 years, the balance of statewide bearing area in California has continued its drift towards red wine varieties after a rapid growth in the red wine varietal share starting in the mid-1980s: red varieties accounted for a little over 40% of total bearing area in 1987 but that share had increased to 60% in 2003 and 64% in 2024. This trend in the red varietal share of bearing area has been accompanied by a more pronounced drift (with more year-to-year variability around the trend) in the red varietal share of the total value of wine grape production, reflecting higher relative prices of red wine varieties. Table 3 includes detail on total production, the average price, and the value of production of red and white wine grape varieties for the past three vintages, and the longer-term average.

Table 3: Quantity, Price and Value of California of Wine Grapes, 2014-2024

Crop year	Red wine type			White wine type			Total		
	'000 tons	\$/ton	\$m	'000 tons	\$/ton	\$m	'000 tons	\$/ton	\$m
Avg. 2014–21	2,147	1,156	2,483	1,715	737	1,264	3,862	970	3,748
2022	1,914	1,257	2,406	1,483	731	1,084	3,397	1,026	3,485
2023	1,972	1,378	2,718	1,713	752	1,288	3,685	1,081	3,985
2024	1,466	1,336	1,959	1,418	707	1,003	2,884	1,021	2,945
	<i>percentage changes, 2024 versus</i>								
2023	-25.7	-3.1	-27.9	-17.2	-5.9	-22.1	-21.7	-5.6	-26.1
Avg. 2014–23	-30.4	12.9	-21.6	-16.2	-4.1	-19.7	-24.1	3.7	-21.4
Avg. 2019–23	-26.0	10.7	-18.3	-13.0	-2.5	-15.2	-20.1	3.4	-17.6

Sources: USDA/NASS (2025c), U.S. Bureau of Economic Analysis (2025). *Notes:* Monetary values are expressed in constant 2024 dollars.

3.4 Grape Prices in High-Priced Districts Show Problems in the Lower Tail

Big declines in the quantities of California grapes crushed contributed to large declines in the value of the wine grape crop in 2024 compared to 2023. This decline in quantities and revenues with relatively stable grape prices conceals interesting underlying economic relationships. The California crush reports provide details on reported tonnage and prices for all grapes crushed in the state each year. Although issues may arise in interpretation, these data allow us to look below district and variety averages.

For the important varieties in the high-priced North Coast districts, these data reveal that, although average prices fell only slightly from year to year, the distribution of quantities across price categories changed systematically. For example, Table 4 shows that although the average price of Napa County Cabernet Sauvignon grapes changed little from 2023 to 2024, the share of grapes priced below \$5,000 per ton

doubled to about 17 percent, while the share priced above \$15,000 per ton rose from 8 to 9 percent. With a mean price above \$9,000 per ton, Napa Cabernet Sauvignon is the iconic high-priced wine grape in California. However, its distribution of prices in 2024 overlapped more with the price distribution of Cabernet Sauvignon grapes in neighboring Sonoma County than it did in previous recent years, despite a \$6,000 per ton difference in the mean price between the two districts. In addition to the larger share of lower-priced Napa grapes, the share of Sonoma Cabernet Sauvignon grapes that were priced above \$5,000 per ton rose from 5.3% to 6.2%.

This pattern of a larger share of lower-priced grapes accompanying a larger share of higher-priced grapes occurred for several major varieties in both the Napa and Sonoma regions. Growers and specific appellations that commanded the highest prices seemed to maintain or increase their premiums, whereas growers and appellations with lower prices within the high-priced districts lost some of their appeal. This hypothesis has not yet been tested thoroughly across many varieties and in the other higher-priced coastal wine grape regions of California. However, it seems to be consistent with early evidence and may suggest patterns of wine industry economic stress.

Table 4: *Grape Price Distributions, Cabernet Sauvignon, Napa 2023 and 2024*

Price Range, \$/Ton	2023		2024	
	Mean Price \$9,235/ton		Mean Price \$9,048/ton	
	Tons	Share (%)	Tons	Share (%)
< \$5,000	4,756	8.4	7,222	16.6
\$5,000 – \$9,999	34,450	60.7	22,116	50.9
\$10,000 – \$14,999	12,814	22.6	10,079	23.2
\$15,000 – \$19,999	2,552	4.5	2,056	4.7
≥ \$20,000	2,219	3.9	1,979	4.6
Total	56,791	100.0	43,452	100.0

Source: USDA/NASS (2024, 2025a)

4. Conclusion

The U.S. wine industry is grappling with a national and global imbalance of supply and demand. The demand for wine has been shrinking in recent years while, on the supply side, U.S. producers face rising input costs and uncertain trade policies and labor supply. Hence, in the past few years, the wine press has been filled with reports of markets awash with wine, high and rising inventories, low prices, and financial stress throughout the industry.

Differences in demand among age cohorts and changes in the demographic structure are likely contributors to waning U.S. and worldwide demand for wine. In the United States, aging baby-boomers may be consuming less per person but spending more per bottle of wine. Younger generations may not be consuming alcohol at the same rate as baby-boomers did at the same age, and are more likely to

consume different types of alcohol – especially, wine coolers and hard seltzers. But some writers speculate that this may begin to change soon (see, e.g., Penn, 2025).

Recent declines in wine consumption may be better understood in the context of the long-term trend and cycle in total alcohol consumption per adult, where the total is falling and wine is largely holding its own as a share. This was the case in the previous downswing in demand for wine in the 1980s. But these cycles are decades long from peak to trough, and other forces are at work that could mean the current downswing may be different from those of the past.

Governments and some international agencies are beginning to change their stance on healthy rates of daily consumption of alcohol. If consumers in the United States or elsewhere are persuaded to reduce their consumption of alcohol or abstain altogether based on the messaging from the public health policy community, this shift would have implications for the U.S. and global wine industry beyond the typical up and down cycle of alcohol consumption.

Changing government policy can be a significant source of stress in the wine industry beyond healthy drinking recommendations. Changes in international trade policy regimes can have significant consequences for the wine industry, both directly and because wine is often a target for retaliatory measures, but also for subtler reasons. It remains to be seen how the new phase of “Trump tariffs,” initiated in early 2025, will play out, but informal reports suggest that the demand for U.S. wine in other countries (in particular, Canada, the largest market for U.S. exports) may be reduced simply as a reaction against the threat of tariffs, and tradeable inputs used in wine production will surely become more expensive. Likewise, a policy of cracking down on undocumented immigrants can be expected to make it harder and more expensive for winegrape growers to find a secure supply of skilled workers.

The U.S. wine industry faces intense competition for ever-more scarce supplies of critical resources of water, land, and skilled labor used in the production of grapes, and a changing climate. Of course, competing wine producers in other countries are confronting many of the same challenges, and in some cases worse. It is an exciting time for developing innovations to address these and other challenges, including various kinds of information technologies, labor-saving and precision technologies in vineyards, and in wineries. California has a comparative advantage in such innovation.

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Notes

¹ Wines sold in the United States may bear a varietal designation on the label if 75% or more of the wine was produced from the named grape variety, and as coming from an American Viticultural Area (AVA) if 85 percent of the grapes were grown in the AVA (see Treasury/TTB, 2013).

² The term “removed” here refers to removal of the product from a bonded warehouse, as it enters commerce and, if it is destined for domestic sale, incurs excise tax.