The Economic Impact of the Wine and Wine Grape Industries on the Oregon Economy 2019 and 2020 Estimated

Summary Report

January 2021

Economic Forensics and Analytics, Inc.
Petaluma, CA
eyler@econforensics.com

Executive Summary

Key Findings

The sum of all economic activity in Oregon related directly or indirectly to wine is $7.2 billion as compared to 2016 when the sum was $5.7 billion (+27.1 percent).

In 2019, estimated wine-related and induced jobs in Oregon totaled 40,047; related wages topped $1.5 billion in 2019 with wine-related and induced revenues of $5.7 billion.

- Over 1,297 Oregon wine grape growers produced a crop whose total value in 2019 was $237.8 million.
- Over 908 Oregon wineries or wine companies sold over 4.66 million, nine-liter (9L) equivalent units of wine and had revenues of over $673 million in 2019 from sales of packaged wine, with approximately 506 crushing grapes:
    - Approximately 57.6 percent of 9L equivalent units were sold through three-tier distribution in other states outside Oregon; and
    - Direct-to-consumer (DtC) sales were 21.9 percent of 9L equivalent units sold by all Oregon wineries in 2019.
- Retail sales of wine in Oregon from all sources via all channels topped $1.199 billion in 2019:
    - These sales supported 3,380 jobs for wine shops and specialty retailers, 6,532 jobs in restaurants and other on-premise retail (including wine bars) and at least 405 jobs in distributors and importers.
- Between 2016 and 2019, the impact of wine-related tourism increased by 13.6 percent, contributing $893.6 million in revenues to the Oregon economy in 2019, supporting 8,600 jobs and over $270 million in wages specific to wine-related travel in Oregon.
- Wine-related activity in 2019 contributed over $184.2 million in state and local tax revenues for the state of Oregon, with approximately $88.5 million in property tax revenue (approximately 48.1 percent of total, estimated tax revenues).
- Since the last report in 2016, growth and investment in the Oregon wine industry has expanded with approximately 6,960 new acres planted as of 2019.

The effects of COVID-19 and fires and smoke in 2020 reduced the industry's economic impact by an estimated 20.5 percent from the 2019 estimates to $5.7 billion on Oregon's economy:

- This study estimates that business revenues may have contracted by 19.9 percent from the 2019 estimates to $4.6 billion, jobs contracted by as much as 28.1 percent to 28,782 and wages by 22.9 percent to $1.1 billion.

2019 - Continued Growth

Compared to the last report (which was based on 2016 data), wine grape acreage increased 22.9 percent and tons crushed by 19.8 percent. Yields increased slightly from 2.88 tons per acre in 2016 to 2.97 tons per acre in 2019. The number of Oregon wineries increased by 24.5 percent. As we see in more detail below, from 2016 to 2019, Oregon winery revenues increased 27.4 percent. These data suggest that as the number of wineries increased, so did overall revenues, but the revenues per winery grew slowly (approximately 2.3 percent per winery). This is a natural outcome of rising competition. The importance of organizations such as the Oregon Wine Board and other regional wine marketing organizations in connecting supply-chain nodes and consumers to Oregon wineries (especially on direct-to-consumer possibilities, tasting room visits and advertising generally) is showcased in the industry growth estimated in this report:

- Tourism impacts were augmented by the overall growth of tourism to Oregon and rising spending from those visitors (Dean Runyan Associates estimates that overall tourism spending in Oregon increased by $1.9 billion between 2016 and 2019, an estimated 17.4 percent increase);
    - Oregon wineries continued to convert tourism growth statewide into direct-to-consumer sales growth;
- The increasing awareness and reputation of Oregon wine, combined with wider distribution in leading wine retailers and top restaurants outside Oregon, boosted exports to other states;
    - In Nielsen retail data, Oregon wines led all major regions in both volume & dollar growth in 2018 and 2019;
    - Oregon maintained the highest average price per bottle among leading regions;
- Pinot Noir (Oregon's leading varietal) share of acreage declined from 64 percent in 2016 to 59 percent in 2019, while share of tons remained the same;
    - There was a net increase in Pinot Noir acreage of 1,145 acres from 2016 to 2019;
    - Cabernet Sauvignon (+98.3%), Cabernet Franc (+92.9%), Chardonnay (+41.4%), Pinot Gris (+34.9%), and Syrah (+165.3%) acreage all grew significantly from 2016 to 2019 (Oregon Vineyard and Winery Reports from 2016 to 2019).
- Wine grapes' average price increased approximately eight percent per ton from 2016;
- The Oregon economy experienced wage increases across all industries, an estimated 2.9 percent gain for Oregon's workers in current dollars from 2016 to 2019.

Challenges: COVID-19 and Fires in 2020

The outlook for the Oregon wine industry remains positive, though 2020 has been a year of large challenges. COVID-19 disrupted tourism broadly, negatively impacting visitor flows to Oregon and Oregon wineries in the peak summer visitation season. Conversely, the amount of direct-to-consumer spending expanded as people ordered wine to be delivered at home. Because the American economy went into recession as a result of both social policies and consumer behavior that reduced economic activity, the short-term outlook for Oregon wineries looks worse, but much depends on how consumers emerge from the 2020 recession and COVID-19.

Large wildfires in Oregon may affect the supply side of the industry for 2020. Three issues are emerging among wine regions throughout the West Coast (Oregon, Washington and California) that may affect winery decisions on plantings and production volumes: (1) potential smoke impacts in the grapes that affect the wine quality; (2) damaged vineyards and winery properties that reduce supply and production capacity; and (3) further reductions of visitors coming to tasting rooms due to smoke deterring tourism, increased emergency personnel in hotel rooms, and local health measures that reduce tourism to tasting rooms.

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Introduction

The Oregon Wine Board (OWB) has commissioned studies quantifying the economic impact of the wine grape and wine-producing industries in Oregon for 2005, 2010, 2013, 2016, and now for 2019. This 2019 edition also considers effects from 2020's challenges to the Oregon wine industry. Full Glass Research (FGR) has been engaged for each study since 2005; in the 2019 version, Economic Forensics and Analytics (EFA) is the lead consultant, with FGR providing guidance and industry modeling when needed. EFA has acted as a key data source for the economic impact analysis in previous versions since 2010.

The 2019 study provides summary data on Oregon's wine industry as compared to the 2016 results. The analyses below estimate revenues, jobs and wages associated with all tiers of wine production, distribution and consumers. This report also shows how the "multiplier" effect from wine-related businesses and their employees spending their wages has changed since 2016 based on industry expansion, contraction and shifting consumer markets. Hundreds of industries in the state of Oregon are affected by Oregon's wine industry and its economic impacts. It is important to recognize this report's estimated data consider revenues and not profits; the costs of doing business continues to rise. The effects of COVID-19 and wildfires in 2020 exacerbated cost pressures across the Oregon wine industry's supply chain. Because this report describes connections among core wine-industry and specific, allied industries, the key findings and other data within this report can be used for legislative and regulatory advocacy, business or government strategy, investment and academic applications.

Methodology

This report combines methods for statistical and economic analyses to estimate jobs, wages and business revenues from producing wine or harvesting wine grapes. From there, other data sources connect vineyard and winery operations to other directly-related links in the Oregon wine industry supply chain: distribution, retailers, restaurants and wine bars, and tourism. Public data sources, including the Bureau of Labor Statistics (BLS), Oregon Liquor Control Commission (OLCC), and the University of Oregon (U of O) help to describe sales and harvests and also the volume of jobs and wages and business revenues. Dean Runyan Associates estimates tourism spending and jobs for the state overall annually, data that helped to describe Oregon's visitor industry to then relate to wineries' effects on that tourism spending. The sum of business revenues, wages and employment in these "core" industries act as our estimates of "direct" economic impacts as described below.

Economic Impact Estimation

A winery's sales are either domestic (in Oregon) or exported (somewhere else in the world), but both impact the Oregon economy. Wholesaler revenues made within Oregon impact the Oregon economy, even though those wholesalers may also distribute and sell imported wines (from California, France, Italy, and elsewhere) to retailers and restaurants. Oregon-based distributor sales outside the state of Oregon are counted when those businesses sell Oregon wines. Tourism is another "export" product for Oregon wineries and the impacts of tourists that visit wineries are also estimated in this report. Additional revenue and employment data come from the wine industry's supply-chain partners (based on the wine industry's spending on its vendors) and are estimated by the IMPLAN® model.[1] These vendor categories include vineyard and winery maintenance and management (including the revenues and jobs of those businesses that provide services to planted grapevines), trucking, glass, corks, seals, label printing, warehousing, and professional services. These allied industries serve hundreds of other industries throughout Oregon, but have additional revenues – and thus also have more jobs supported and wages paid – due to the wine industry's presence and size.

IMPLAN Modeling

IMPLAN is derived from the phrase "IMpact analysis for PLANing." IMPLAN is an economic model that uses input-output tables for over 400 industries. Initially developed by the U.S. Forest Service, it is currently used by hundreds of universities, government agencies, corporations and economic consulting firms doing research to estimate regional and industry-specific economic impacts. As shown below, this study supplemented primary data for employment, wages, and revenue with IMPLAN estimates when not directly available or survey data may have had some ambiguity. Using data from various official and private sources and also the Full Glass Research (FGR) Pricing Model and methods used in previous studies for consistency, we generate estimates for the direct economic effects on business revenues, jobs and wages. These direct estimates are then used to estimate overall changes in business revenues, wages and employment using the IMPLAN model for Oregon. The broader effects of the main industry tiers (vineyards, wineries, distribution and retail) are shown in our estimates, including allied industries. In the IMPLAN model, these effects are categorized as follows, where the total economic impacts are the sum of the direct, indirect and induced effects:

Direct effects are changes in the industries associated directly with final demand. For example, in this study, winery revenue is the direct effect of all wine sold by Oregon wineries. Direct jobs and wage (income) effects represent the employees hired by, or income derived directly from, the production and sale of wine – from vineyard down through retail sales. Direct effects were

[1] Please see http://www.implan.com for more information on IMPLAN® and also the "Economic Impact Estimation" section in this report.

estimated based on primary research by EFA and FGR, as well as FGR's winery and distribution revenue models. IMPLAN was not used for these calculations, but help to estimate the additional effects: indirect and induced impacts.

Indirect effects are the changes in industry sectors that supply goods and services to industries directly affected by the changes in demand for wine or grapes. Examples of indirect effects are the purchase of bottles, corks, utilities, and goods and services by the wine industry. Some of the data to estimate indirect effects were based on primary research, but where this research was insufficient the estimates were supplemented or replaced by IMPLAN. Additional indirect revenues (beyond what we call "allied industries" in the report) calculated with IMPLAN were approximately $821 million. Additional indirect employment is estimated at 7,321 jobs at $416.9 million in wages.

Induced effects are changes in economic activity resulting from households spending income earned from direct or indirect sales. For instance, employees of wineries and printers spend their wages and salaries in Oregon, resulting in additional output, income, and jobs in Oregon. These effects were entirely estimated using IMPLAN. Induced effects included revenues of $911.9 million, employment of 7,865 jobs, and $365.6 million in wages.

Each version of this report over time has included some methodology changes from the previous version (in this case from the 2016 version):

- Allied industry impacts were entirely derived from the IMPLAN model instead of primary research, due to time and budget constraints;
- Some additional data sources such as SipSource and BW166 were used to fill in gaps at the distribution and retail tiers[2];
- Fewer direct interviews than in past editions were used versus primary data sources in the distribution and retail industries and replaced by FGR modeling.

During summer 2020, EFA conducted a survey of Oregon's vineyard and wineries, with a different design, fielding and questions in 2020 than in past editions of this analysis; the survey was given twice to the same respondents due to the fires and smoke to capture any forecast changes from the original survey results. The survey was focused on recent pricing and yields and overall costs and revenues from each industry. We also asked about the proportion of sales by direct-to-consumer (DtC), tasting room, and also through classic distribution and retail channels in 2019 plus estimates for 2020. The follow-up survey in October and November 2020 asked about repercussions and decisions that resulted from multiple threats and challenges in 2020 to date. As expected, those survey results showed mainly negative effects and suggested concerns about the 2020 harvest and production levels, as well as subsequent years in terms of sales, pricing and industry growth.

[2] See https://www.sipsource.com/ and https://www.bw166.com/ for more on these sources.

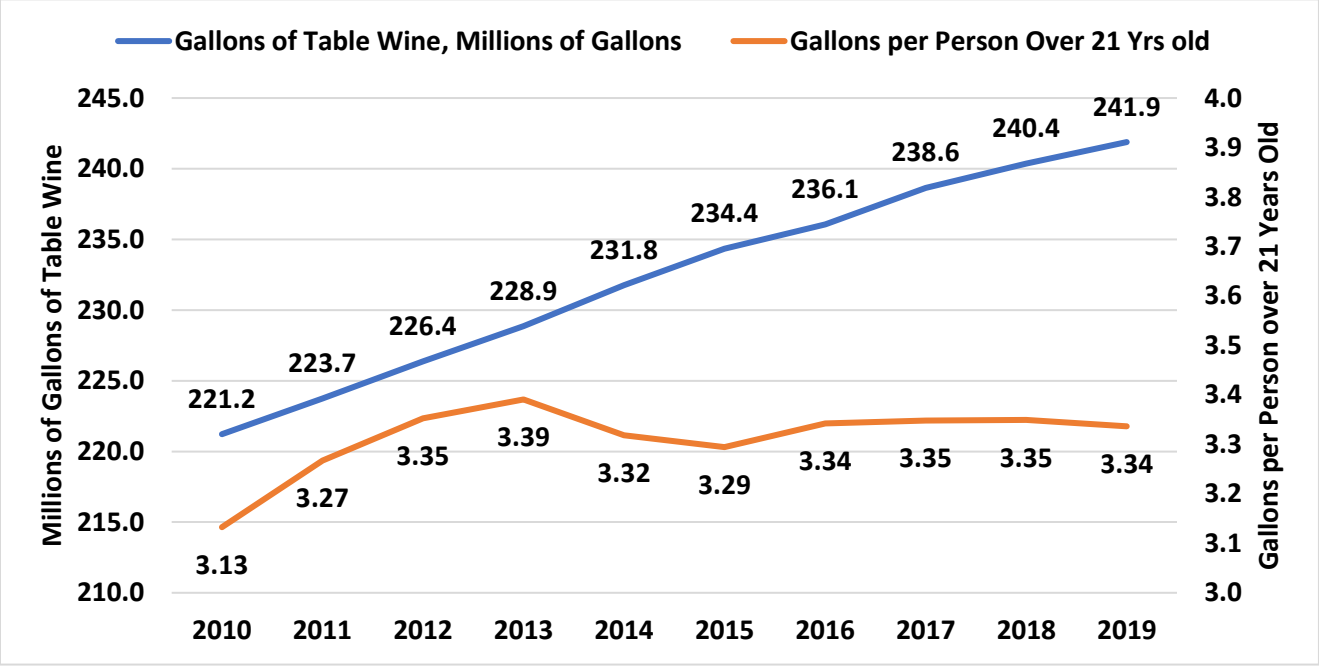
Wine in the Oregon Economy

Wine is a product from agriculture, combining farming and a manufacturing process. This combination is reflected in wages, revenues, taxes, and spending on agricultural and production technology and supplies. The multiplier effect created by increased cashflows and inventories moving from wineries to suppliers and service firms generates broad impacts throughout the Oregon economy.

Wine production remains a labor-intensive business and supports other labor-intensive businesses, including employers such as restaurants and hotels. Wine distribution from producers to retailers and restaurants provides additional wages and employment through storage and trucking and delivery. Tourists come to Oregon to visit wineries, enhancing Oregon's economy in many ways that would not happen but for the wine industry's size and marketing. These gains include more hotel and motel occupancy that generates tax revenues on overnight stays, but also broader economic support for restaurants and retail that would not be there but for the existence of vineyards and wineries in the state of Oregon. Each industry "tier" contributes tax revenues for city, county and state government uses. Only in-state impacts are counted in this report.

Figure 1 shows how U.S. population growth and gallons of wine consumed annually have evolved since 2010. Notice how total gallons consumed have increased annually since 2010, while per capita consumption for the U.S. population over 21 experienced a recent peak in 2013.

Figure 1: U.S. Population and Per Capita Table Wine Consumption 2010-2019



Sources: U.S. Census, BW166

Oregon wineries buy grapes from Oregon vineyards and produce wine using equipment like any other food or beverage manufacturing process. What makes this industry unique is the number of unique products and the packaging, marketing, and wholesale services to support that breadth. Unlike many agricultural products, where raw products used as inputs are exported, the wine industry retains much of its aggregate production value within the local areas where grapes are grown and where wineries are located (usually the same areas). Such industry concentration supports professional services, industrial wholesalers, and producers and sellers of equipment, inputs, and infrastructure in many areas within Oregon.

Much like their neighbors in California and Washington, Oregonians also drink wines from California, Washington, and wine regions worldwide. In fact, due largely to their higher price points, Oregon wines constitute a minority of all wine sales within the state. Wine sales of all types in Oregon in 2019 came to over 7.66 million 9L cases, an increase of 4.9 percent over 2016 and 31 percent over 2013 according to the Oregon Liquor Control Commission (OLCC). While sales of Oregon-made wine make the broadest contribution to the Oregon economy versus wines from other places, sales of wines from other places also create jobs and value at wholesale and retail levels.

To consider Oregon's wine market specifically, we now consider the direct economic impacts created by the Oregon wine industry. Each of the following sections provides both background information and also the direct economic impact estimate to be used in later sections to estimate the overall impact on Oregon's economy.

Wine Grape Cultivation, 2019

Direct Employment: 1,443 jobs[3]
Total Wages: $49,650,700
Wine Grape Grower Revenues: $115,115,000 (non-estate bottled grapes)

In terms of total grape quantity, Oregon ranks fourth among U.S. states for overall wine grape production and third for premium wine grape production (grapes that cost more than $1,000 per ton) after California and Washington. The University of Oregon estimated that Oregon vineyard owners harvested approximately 105,586 tons of grapes at an average price of $2,225 per ton in 2019 (this was up from 79,782 tons harvested at $2,056 per ton in 2016). From 2016 to 2019, all acreage increased by 22.8 percent to 37,399 acres in Oregon with bearing acreage rising by 28.6 percent to 35,582 acres (approximately 95 percent of the total). In terms of agricultural value, Figure 2 provides a comparison to other agricultural commodities.

Figure 2: Oregon Total Dollar Value by Commodity, 2004, 2010, 2016, 2019

Commodity	2004	2010	2016	2019
Apples	$26,057,000	$29,254,000	$59,800,000	$38,746,000
Cherries	$49,819,000	$77,256,000	$79,200,000	$75,221,000
Cranberries	$17,977,000	$10,950,000	$10,600,000	$14,851,000
Hazelnuts	$52,992,000	$59,670,000	$118,800,000	$84,480,000
Pears	$76,703,000	$76,347,000	$148,000,000	$108,774,000
Wine Grapes	**$32,200,000**	**$62,321,000**	**$167,800,000**	**$237,784,000**

Source: OASS, SOURCE, University of Oregon

Not all harvested grapes are sold. Vineyards owned by wineries, whose grapes are used in their brands ("estate-bottled" wines), harvest grapes that represent a transfer cost to a winery, but not a cash transaction similar to a winery buying grapes from an independent farmer. In 2019, Oregon wine grapes were the state's most valuable fruit crop, with a total market value of $237,784,000. This amount includes grapes harvested at estate wineries. Wineries have estate-bottled grapes as part of their costs of goods sold, and ultimately revenues, with value added to the grapes through crush and storage processes.[4] We assume approximately 48 percent of grapes are non-estate, accounting for approximately $115 million just for wine grape farmers alone. This assumption is based on previous surveys of vineyards and wineries.

[3] Employment and wages come from Bureau of Labor Statistics (www.bls.gov) for calendar year 2019. Revenues come from the University of Oregon Winery and Vineyard Survey 2019, available at https://industry.oregonwine.org/wp-content/uploads/2019-Winery-Vineyard-Report-FINAL-update.pdf.

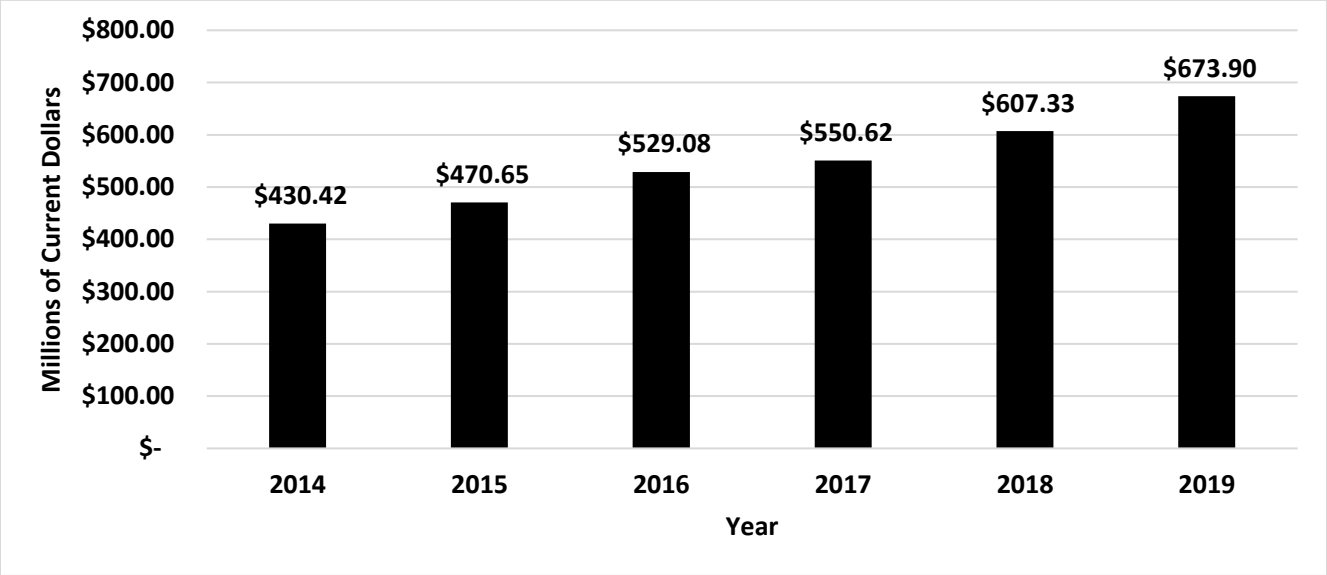
[4] These transfer costs are included in vineyard impacts when we estimate the total impacts from Oregon state wine as to not double count the revenues.

Winery Revenues and Employment in Oregon, 2019

Direct Employment: 3,687 jobs
Total Wages: $136,565,500
Total Revenue[5]: $673,903,900

Figure 3 shows the evolution of Oregon winery revenues since 2014.

Figure 3: Total Winery Revenues for Oregon Wine, All Destinations, 2014 to 2019
Millions of Current Dollars



Source: Oregon Vineyard and Winery Reports (SOURCE and University of Oregon)

The FGR Winery Revenue model indicates that in 2019, 51 percent of Oregon winery revenues came from sales into distribution (both inside and outside Oregon) and 49 percent from various forms of direct-to-consumer sales (DtC). In 2016, it was 46 percent from distribution and 54 percent from DtC. In 2019, Oregon wineries sold 21.9 percent of their volume of total bottled wine sold (9L equivalent cases) direct-to-consumer via tasting rooms, wine clubs, events, catalog/mail, or websites. The smaller proportion of volume and larger proportion of sales revenues is due to higher prices on wines sold DtC. While DtC sales have grown at a healthy clip, shipments into distribution outside the state have grown even faster. Figure 4 provides data on 9L equivalent wine sales throughout the Oregon winery supply chain from 2015 to 2019, showing the growth of overall sales volume while the channels (direct, distribution and retail) shifted over those five years. Figure 4 also shows the increased volumes of Oregon wine into markets throughout the United States ("National Wholesale") and the breadth of channels by which Oregon wine is sold.

[5] Winery revenues do not include sale of bulk wine to other wineries or bottlers. Employment and wages come from Bureau of Labor Statistics for calendar year 2019.

Figure 4: 9L Equivalent Sales, Oregon, 2015-19, Number of 9-Liter Equivalent Units

	2015	2016	2017	2018	2019
Winery Cases (9-Liter Equivalent) Sales					
9L Totals	**3,093,660**	**3,390,958**	**3,602,493**	**4,147,495**	**4,666,599**
Tasting Room	421,178	484,714	489,820	568,070	632,807
Wine Clubs	232,045	228,179	233,391	264,552	283,937
Phone & Website	81,568	72,898	81,852	90,088	104,664
DtC Subtotal	**734,791**	**785,791**	**805,063**	**922,710**	**1,021,408**
DtC % of Total	**23.8%**	**23.2%**	**22.3%**	**22.2%**	**21.9%**
Wholesale in Oregon	574,232	593,192	579,155	650,182	732,168
National Wholesale	1,645,668	1,868,838	2,039,747	2,373,214	2,689,686
International and Private Label	138,969	143,137	178,528	201,389	223,337

Source: Oregon Vineyard and Winery Reports (SOURCE and University of Oregon)

Strong growth of DtC sales was due to increased wine tourism in 2019, but also greater professionalism and investment in direct marketing by wineries. However, DtC's share of overall sales declined, because Oregon did an even better job of expanding distribution in the three-tier system across the United States. Oregon winery sales to all channels in 2019 in all markets (including wholesale, retail, direct to consumer and export) were 4.66 million 9L cases with revenues of approximately $673.9 million. Oregon's international wine sales totaled 115,434 9L cases in 2019 and remain a minor portion of Oregon wineries' markets; private label sales volume was approximately 107,903 cases. Shipments of bottled wine to other parts of the U.S. through three-tier distribution totaled 2.69 million 9L cases, or 57.9 percent of sales in 2019 for Oregon wineries, providing an export market that draws income toward the winery supply chain from outside Oregon.

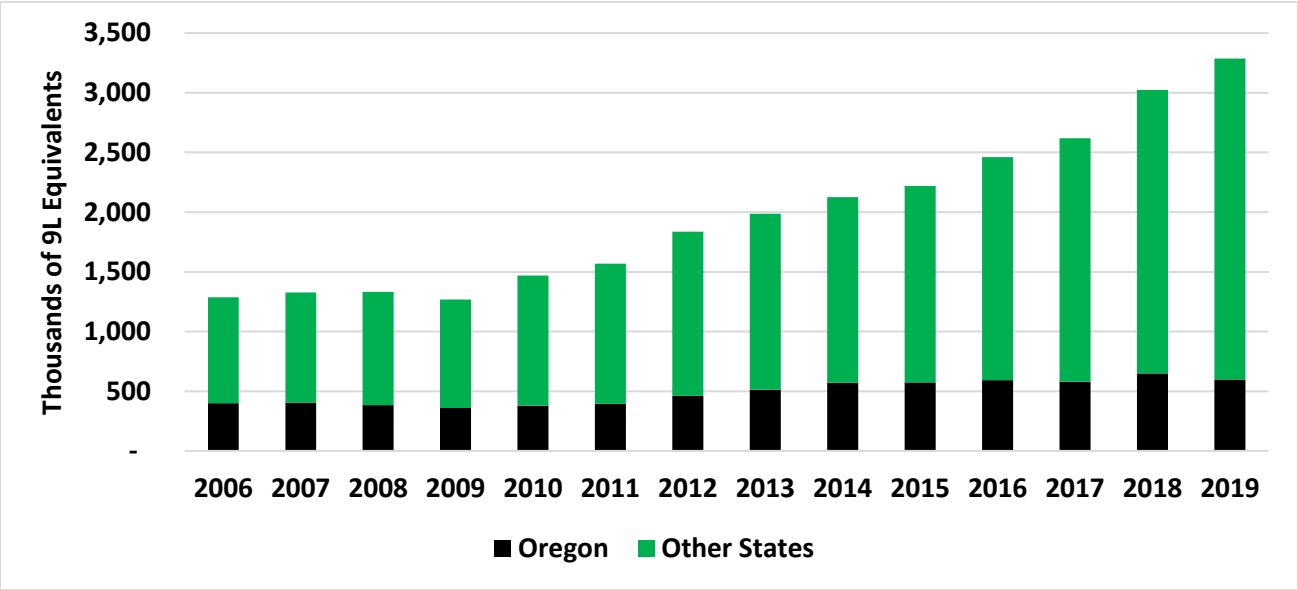
Distribution (Wholesalers, brokers, importers), 2019

Direct Employment[6]: 405 jobs
Total Wages: $18,306,800
Total Revenue: $539,772,100

For various legal, management and economic reasons, the vast majority of wines from other states, and many Oregon wines, are sold through the "three-tier system." Winery shipments move to distributor-wholesaler businesses that then sell to the retail and restaurant tier (off-premise and on-premise sales).[7] Figure 5 shows the case-sales progression from 2006 to 2019 and the destination of 9L equivalents in the U.S. for Oregon wineries.

[6] Employment and wage data come from IMPLAN® and from Bureau of Labor Statistics, weighted by total winery revenues as a proportion to other food and beverage businesses' distribution and wholesale. Revenues come from Full Glass Research based on wholesale prices and volumes as a proportion of the total 9L equivalents sold in Oregon in 2019.
[7] Wineries may also sell directly to retail tier accounts within their own state, skipping the wholesale tier. Less than 3% of all Oregon winery volume is sold in this manner.

Figure 5: Case Sales (1000s) for Oregon Wineries by Destination Market in Distribution, 2006-19



Source: Oregon Vineyard and Winery Reports 2006-2019, OASS/SOURCE/University of Oregon

The wholesale tier acts as a conduit to the broader market for Oregon wineries, but this tier also connects Oregon consumers with wines from around the world. While Oregon wineries sold 732,168 9L cases into distribution in Oregon (both three-tier and directly to retail), the total amount of wine sold in the Oregon three-tier distribution system was 6.85 million cases.[8] The difference between the numbers reflects wines imported into Oregon from other states and abroad.[9] Although Oregon wineries held only an 11 percent share of wine volume in distribution in Oregon, due to their higher average price they owned at least a 22 percent share of the market value.[10] Because of allied and supplier industries, Oregon wineries are responsible for an even higher share of the total economic impact; see Appendix A for more details.

The wholesale tier adds value to the winery supply chains by providing delivery, bill collection, warehousing and promotion services. Wineries discount their wines substantially when selling to distributors, providing space for price markups to pay for and profit from these value-add services. The major distributors in Oregon are privately held, so there is little specific public information available about the distribution tier. Wholesale tier revenues are estimated by the FGR distribution model, which uses OLCC, Nielsen, SipSource, and survey data.

[8] Adding DtC sales volumes to this figure brings the total to 7.66 million cases wine from all sources sold in Oregon in 2019.
[9] As measured by the OLCC in tax-paid imports and releases from bonded warehouses.
[10] Ibid., also as measured by OLCC.

Tourism, 2019

Direct Employment: 8,600 jobs
Total Wages: $270,126,000
Total Revenue: $893,656,000

Tourists visiting Oregon's wine regions remain an important segment of Oregon's overall tourism industry but also how tourists contribute winery revenue diversity and overall economic impacts from this industry. Tourism related to the wine industry resulted in estimated expenditures of $893.6 million throughout the state in 2019. This estimate includes spending on hotel stays, food, entertainment, transportation, retail, and other businesses while visitors are in Oregon; the $893 million does not include tasting room revenues at the wineries (those revenues are counted in the overall winery revenues above). Oregon's economy, according to Dean Runyan Associates, experienced visitor spending of $12.8 billion in 2019, a growth of $1.9 billion from 2016; we estimate almost $107 million of that growth was contributed by wine industry connections.[11] Tourism supported an additional 7,700 jobs in Oregon in total from 2016 to 2019.[12] We estimate that 975 of those new jobs are attributable to the wine industry.

Total Retail Level Wine Sales in Oregon (all sources), 2019

Direct Employment: 9,912 jobs
Total Wages: $204,815,200
Total Revenue: $1,199,629,200 from all sources[13]

The impact of wine sales in the retail tier originates from two different sources: (1) wine sold by Oregon wineries both within and outside the state of Oregon; and (2) total sales of wine from all other sources within the state of Oregon. Sales of wine in Oregon, regardless of the wine's origin, benefit some parts of the supply chain, including support industries including trucking, storage, retail software, business and legal services, restaurants and more. Retail and restaurant sales are important core industries for wineries and vineyards as these industries are the final link connecting grapes to final consumers. The two main categories for retail sales outside of direct to consumer (DtC) are: on-premise (wine bars, hotels, restaurants, etc.) and off-premise (retail stores ranging from fine wine shops to large chains including warehouse stores). Off-premise sells far more volume, normally 80 to 85 percent of the retail tier volume. Off-premise sales' share of total retail dollar sales is smaller, primarily due to the difference in profit margins (restaurant markups are typically five or more times higher than stores).

[11] See https://www.travelstats.com/dashboard?ucode=4100 for more on the Oregon tourism industry and aggregate data for the state overall.
[12] There was a total of 117,500 additional workers statewide hired by tourism industries according to Dean Runyan Associates in 2020. See https://industry.traveloregon.com/wp-content/uploads/2020/04/ORImp19.pdf for more.
[13] This number does not include tasting room sales at wineries or winery shipments to consumers in Oregon.

Direct Economic Impacts Review: Jobs and Wages, 2016 and 2019

Figure 6 summarizes the key direct economic impact figures for employment and wage levels. The production and sale of wine requires employment in vineyards, wineries, distribution, retail and restaurants. The direct employment impacts are at least 15,447 jobs within the state of Oregon and over $409 million in gross payroll. For vineyard employment, the average annual salary is $34,407; for winery employment $37,039; for distribution employment $45,202.

Figure 6: Wine Industry Direct Employment, 2016 and 2019

	Employment			Wages		
Industry	**2016**	**2019**	**% Change**	**2016**	**2019**	**% Change**
Vineyard	1,053	1,443	37.0%	$30,384,000	$49,650,700	63.4%
Winery	2,993	3,687	23.2%	$99,790,100	$136,565,500	36.9%
Distribution/Wholesale	321	405	26.2%	$15,741,000	$18,306,800	16.3%
Grocery/chain stores	1,703	1,833	7.6%	$47,354,100	$52,588,100	11.1%
Wine store employees	1,503	1,547	2.9%	$32,354,800	$37,534,800	16.0%
Eating & drinking places	4,571	6,532	42.9%	$98,872,700	$114,692,300	16.0%
Totals	**12,144**	**15,447**	**27.2%**	**$324,496,700**	**$409,338,200**	**26.1%**

Source: Bureau of Labor Statistics, IMPLAN® EFA and Full Glass Research

Average wage growth in Oregon overall between 2016 and 2019 was 2.9 percent. Wage and job growth in the Oregon wine sector may outpace the overall economy just as sales of Oregon wine outgrew sales of most other products. In addition, wine production may include a higher ratio of relatively higher-wage jobs in manufacturing, logistics and professional services. For vineyards, the increase in wages is likely due to more educated staff providing those services for owners and more competitive labor markets between 2016 and 2019 across the western United States for harvest workers.

It is highly probable that the annual salaries for vineyard and winery full-time employees are significantly underestimated. The Bureau of Labor Statistics (BLS) statistics include neither owners of businesses not on the payroll nor other non-salaried family members. For certain agricultural businesses these can be a significant number of individuals and dollars, especially in Oregon with its many small family-owned wineries and vineyards. Due to the seasonal and overlapping nature of winery and vineyard jobs, as well as the usage of vineyard management companies, and the nature of BLS data for these professions, it is highly likely that the BLS number of jobs is also underestimated. Wholesale and retail employment impacts are modeled based on wine sales vs. total industry revenues for those industries. See Appendix 2 for more details.

Allied Industries

Ties to complementary industries, such as vineyard and winery equipment and maintenance, expand the economic impact of the wine industry and provide revenues and jobs in allied industries that would not have the same revenue levels but for the wine industry's presence in Oregon.

We have analyzed separately a number of the industries that are closely related to the wine industry due to its size and presence in Oregon. For example, vineyard and winery development, design and maintenance businesses and jobs would not exist if grape vineyards and wineries were not in Oregon at a scale that supported them. Further, vineyard development can be a two- to five-year process from raw dirt to viable harvest, which suggests incomes are made by the allied industries before vineyard owners or wineries generate subsequent revenues.

For other industries, their revenues are more tied to the cost of goods sold (e.g. tanks, trucking, warehousing) by wineries, or administrative and marketing costs (e.g. printing and professional services). These lines of businesses are also supported because the wine industry in Oregon has enough scale for these allied industries to have specific lines of business and investments to serve the wine industry directly. We used IMPLAN®, as well as changes from the 2016 data in terms of production and acreage, incomes, jobs and wages, to estimate the 2019 effects on these industries specifically. The results shown in Figure 7 are summaries, and reflect an additional $26.6 million in business revenues (+13.7 percent from 2016):

Figure 7: Allied Industry Business Revenue Summary, Wine Industry Impact, 2019

Industry	Direct Impact
Vineyard Development	$26,780,000
Vineyard Maintenance and equipment	$71,058,100
Winery Maintenance, equipment, tanks, infrastructure	$26,665,200
Winery & Agricultural inputs	$12,122,600
Glass, corks, closures, packaging	$7,904,800
Trucking, Shipping, Warehousing	$34,444,700
Professional Services - banking, insurance, accounting, consulting, etc.	$30,706,700
Printing (including wine labels)	$10,630,900
Totals	**$220,313,000**

Taxes & Regulation

The wine industry generates significant tax dollars, benefiting federal, state and local governments. In Oregon, tax dollars are raised through excise taxes, income taxes, estate and gift taxes, payroll taxes, property taxes, and other business taxes and fees, such as occupational taxes, licenses and import duties. Wine production and sales are licensed and regulated at the state level as well as federal. In addition, vineyard and winery activity in obtaining permits, inspections, adapting to local ordinances, and other activities provide fees and support employment at the county level.

An excise tax is assessed on wine vendors by the gallon. Industry employers also pay payroll taxes to federal and state governments for their employees along with a percentage of their net income in the form of income taxes, which is paid at the corporate level or passed through to individuals, depending on the ownership structure. We have not included estate or county taxes in the tax revenue summary below. Oregon has no state sales tax. Property tax is a tax on the ownership of property by local government. Property taxes are shown in Appendix 3 – Regional and County Impacts by their county-level estimates since property tax revenues are primarily used for local government. Figure 8 provides a summary of estimated state taxes paid and other governmental fees.

Figure 8: Oregon State Taxes, Licenses and Other Fees Directly Related to Wine, 2016 and 2019

Tax Type	Estimated 2016	Estimated 2019
Employment Taxes	$4,200,700	$5,657,000
Corporate Income	$5,199,400	$7,658,600
Personal Income	$41,358,100	$46,835,600
Other Taxes and Fees	$29,606,700	$35,513,000
Property Taxes	$75,496,700	$88,525,700
Total	**$155,861,600**	**$184,189,900**

Sources: Oregon Department of Revenue, OLCC, FGR, and IMPLAN®
Note: Does not include commercial or residential property tax impacts; see Appendix 3 for property tax estimates by county.

We are now ready to look at the economic impact estimates using and combining the above data.

Total Oregon State Economic Impact

Figure 9: Business Revenue Impacts, 2016 and 2019, Oregon Wine Industry

Revenue	Total Oregon 2016	Total Oregon 2019
Wine Grape Sales	$167,859,000	$237,784,000
Winery Sales	$529,075,400	$673,903,900
Distributors' Sales (in Oregon)	$526,298,500	$539,772,100
Retailers and Restaurant Wine Sales (in Oregon)	$946,935,900	$1,199,629,200
Tourism	$786,827,100	$893,656,000
Vineyard Development	$33,200,800	$26,780,000
Vineyard Maintenance and equipment	$54,440,300	$71,058,100
Winery Maintenance, equipment, tanks, infrastructure	$22,282,000	$26,665,200
Winery & Agricultural inputs	$11,125,600	$12,122,600
Glass, corks, closures, packaging	$6,810,800	$7,904,800
Trucking, Shipping, Warehousing	$29,354,900	$34,444,700
Professional Services - banking, insurance, accounting, etc.	$27,088,300	$30,706,700
Printing (including wine labels)	$9,414,000	$10,630,900
Tax Revenues (includes estimation for property taxes)	$155,861,600	$184,189,900
Government fees and direct funding	$13,858,600	$20,827,700
Other Indirect effects	$527,736,000	$821,084,300
Wine Industry Induced Revenues	$782,761,900	$911,971,100
Total Revenue	**$4,630,930,700**	**$5,703,131,200**

Figure 10: Wage and Total Economic Impacts, 2016 and 2019, Oregon Wine Industry

Wages	Total Oregon 2016	Total Oregon 2019
Vineyard Employees	$30,384,000	$49,650,700
Winery Employees	$99,790,100	$136,565,500
Distributor Employees	$15,741,000	$18,306,800
Tourism Employees (hotel, restaurant, etc. wine-related)	$215,855,200	$270,126,000
Wine Store Employees	$32,354,800	$37,534,800
Grocery and chain retail employees (wine-related)	$47,354,100	$52,588,100
On-premise employees (wine-related)	$98,872,700	$114,692,300
Trucking, shipping, warehouse employees	$12,131,300	$22,369,600
Printing (including labels)	$1,815,500	$2,047,600
Tanks and related equipment	$3,996,800	$5,459,300
Professional Services, Banking, Finance, Insurance	$11,004,200	$18,580,900
Other Indirect effects	$247,823,000	$416,956,900
Wine Industry Induced	$225,208,700	$365,658,600
Total Wages	**$1,042,331,400**	**$1,510,537,100**
TOTAL IMPACT (Revenue + Wages)	**$5,673,262,100**	**$7,213,668,400**

Figure 11: Employment Impacts, 2016 and 2019, Oregon Wine Industry

Employment	Total Oregon 2016	Total Oregon 2019
Vineyard Employees	1,053	1,443
Winery Employees	2,993	3,687
Distributor Employees (wine only)	321	405
Tourism Employees (hotel, restaurant, wine-related only)	7,625	8,600
Wine Store Employees	1,503	1,547
Grocery and chain retail employees (wine-related)	1,703	1,833
On-premise employees (wine-related)	4,571	6,532
Trucking, shipping, warehouse Employees	205	367
Printing (including labels)	39	43
Tanks and related equipment	70	104
Professional Services: Banking, Finance, Insurance, Associations	183	300
Other Indirect effects	4,482	7,321
Wine industry Induced	4,990	7,865
Total Employment	**29,738**	**40,047**

Measuring Net Economic Effects

For every major sector impacted by vineyard harvests, wine production and sales, we calculated total revenues, jobs supported and wages. These are summed up in the tables above, and summarize the economic impact of the wine industry's supply chain on Oregon's economy. These data allow policy makers and industry advocates to get a better idea of the size and scope of policy decisions on jobs and business revenues supported and generated annually.

Measuring the **net economic effect** of an investment choice changes the analysis when considering the integration along a supply chain. Because wineries may also be vineyard owners, part of the wine grape value shown in the economic impacts is an internal cost to a winery and does not go out to the open market. As such, the winery's overall revenue would catch that amount within its sales revenue after the grapes are processed and the wine is bottled and sold. Costs for one link in the supply chain is revenue for the next, as each subsequent link in the chain "adds value" to the input purchased but does not generate the entire value of its revenue alone:

- Revenue from grape sales are also part of the winery's revenues based on grape purchases by wineries (including the transfer of estate grapes) becoming costs of goods sold;
- Distributor revenues include the revenues of the wineries from which wine is purchased;
- Direct sales to restaurants and retail, as well as buying from wholesalers, include the revenue from those links in the supply chain.

If a policy maker considers the breadth of effects from a policy choice on a specific business sector (e.g., tourism) or industry tier (e.g., wholesale), the summary approach is more useful. If a policy maker is comparing alternative policies that have industry-wide effects, or is trying to assess economic contributions of unrelated industries (such as construction), the net economic impact might be preferred, if calculations are done with similar methodology. Figure 12 shows valuation of net economic benefit for the Oregon wine industry; growth of the value-add of the Oregon wine industry is approximately 20.8 percent from 2016 to 2019.

Figure 12: Net Economic Effects – Value-Added Revenues Only

Industry Tier	2016	2019
Grape Grower Revenues	$101,950,900	$115,115,000
Net Winery Direct Impact	$427,124,500	$558,788,900
Net Wholesale Tier Direct Impact	$395,713,200	$405,843,700
Net Retail Tier Direct Impact*	$648,318,500	$821,324,600
Subtotal (Value-Add of Industry)	**$1,573,107,100**	**$1,901,072,200**
Indirect & Induced Net Impact	$449,455,900	$618,189,600
Total Net Effect	**$2,022,563,000**	**$2,519,261,800**

* includes tourism value-add on retail sales.

2020 Estimates from Survey Results and Recent Economic Data

This study is concluding just as the year 2020 ends. The data and final effects of smoke, fires and COVID-19 on the Oregon wine industry are still emerging. Our survey data, the Bureau of Labor Statistics and IMPLAN allowed an estimate of how the tumultuous effects of 2020 may have affected the Oregon wine industry. The data below show an estimate of the economic impact of Oregon's wine industry in 2020. Figures 13 to 15 provide similar estimates to Figures 9 to 11.

Figure 13: Business Revenue Impacts, 2019 and 2020, Oregon Wine Industry (all tiers, all wine)

Revenue	Total Oregon 2019	Total Oregon 2020
Wine Grape Sales	$237,784,000	$226,121,200
Winery Sales	$673,903,900	$587,785,900
Distributors' Sales (in Oregon)	$539,772,100	$556,505,100
Retailers and Restaurant Wine Sales (in Oregon)	$1,199,629,200	$834,536,800
Tourism	$893,656,000	$533,250,700
Vineyard Development	$26,780,000	$20,686,700
Vineyard Maintenance and equipment	$71,058,100	$54,890,100
Winery Maintenance, equipment, tanks, infrastructure	$26,665,200	$20,598,000
Winery & Agricultural inputs	$12,122,600	$10,250,300
Glass, corks, closures, packaging	$7,904,800	$5,620,700
Trucking, Shipping, Warehousing	$34,444,700	$35,691,900
Professional Services - banking, ins., accounting, etc.	$30,706,700	$30,977,300
Printing (including wine labels)	$10,630,900	$8,212,000
Tax Revenues (includes estimation for property taxes)	$184,189,900	$156,423,300
Government fees and direct funding	$20,827,700	$16,651,200
Other Indirect effects – IMPLAN	$821,084,300	$695,121,900
Wine Industry Induced Revenues – IMPLAN	$911,971,100	$775,340,700
Total Revenue	**$5,703,131,200**	**$4,568,663,800**

Some of these line-item industries have increased slightly despite the challenges, but the general nature of COVID-19 on the state's economy forced negative changes across most directly-related industries. These changes then affect the total economic impacts, as the allied industry, indirect and induced impacts also suffered, all of it exacerbated by the effects of fires and smoke.[14] These data provide an initial estimate of the large effects of the events in 2020 on Oregon's wine industry. Figures 13 to 15 show estimates that over 11,000 jobs are estimated have been lost from the wine industry in Oregon, along with over $1.4 billion in economic impacts (-20.5 percent) as 2020 ended. Direct-to-consumer (DtC) markets bypass the distributor tier. In 2020, DtC has been an important way for Oregon wineries to compensate for reduced sales in the distribution and on-premise retail tiers, as well as visitor declines and tasting room closures.

[14] EFA surveyed wineries twice, once before and after the fire/smoke events of 2020. We used some of those data to better understand and estimate the changes in Figures 13 to 15.

Figure 14: Wages and Total Economic Impacts, 2019 and 2020, Oregon Wine Industry

Wages	Total Oregon 2019	Total Oregon 2020
Vineyard Employees	$49,650,700	$40,217,100
Winery Employees	$136,565,500	$111,847,200
Distributor Employees (BLS wine statistics only)	$18,306,800	$18,929,300
Tourism Employees (hotel, restaurant, etc. wine-related)	$270,126,000	$147,758,900
Wine Store Employees	$37,534,800	$24,773,000
Grocery and chain retail employees (wine-related)	$52,588,100	$63,078,300
On-premise employees (wine-related)	$114,692,300	$84,872,300
Trucking, shipping, warehouse employees	$22,369,600	$20,464,300
Printing (including labels)	$2,047,600	$1,725,900
Tanks and related equipment	$5,459,300	$4,217,100
Professional Services, Banking, Finance, Insurance	$18,580,900	$16,871,900
Other Indirect Services & Suppliers	$416,956,900	$340,609,200
Wine industry Induced	$365,658,600	$289,401,800
Total Wages	**$1,510,537,100**	**$1,164,766,300**
TOTAL IMPACT (Revenue + Wages)	**$7,213,668,400**	**$5,733,430,100**

Figure 15: Employment Impacts, 2019 and 2020, Oregon Wine Industry

Employment	Total Oregon 2019	Total Oregon 2020
Vineyard Employees	1,443	1,169
Winery Employees	3,687	2,903
Distributor Employees (BLS wine statistics only)	405	399
Tourism Employees (hotel, restaurant, etc. wine-related)	8,600	4,366
Wine Store Employees	1,547	1,353
Grocery and chain retail employees (wine-related)	1,833	1,883
On-premise employees (wine-related)	6,532	3,784
Trucking, shipping, warehouse Employees	367	336
Printing (including labels)	43	36
Tanks and related equipment	104	74
Professional Services: Banking, Finance, Insurance, Associations	300	272
Other Indirect Services & Suppliers	7,321	5,981
Wine industry Induced	7,865	6,226
Total Employment	**40,047**	**28,782**

Smoke and Pandemic-related Impacts 2020

When a smoke molecule bonds to the grape's sugar molecule, the bond can create perceptible impacts in the sensory profile of the resulting wine. Detecting this bond can take months and entail lab expenses, and may not be detectable until after fermentation is completed. Thus, the risk of smoke impacts persists into 2021 and is hard to quantify at this time. Smoke effects may not affect final bottling decisions on smoke-affected juice for one or two years. Such decisions have potential effects across the winery supply chain not only in 2021 but perhaps into 2022 and 2023.

Tourism was affected as the number of people who put off any plans to fly for six months increased 45 percent from pre-pandemic levels.[15] The share of sales by on-premise vs. off-premise channels shifted enormously; not only were restaurants closed in many locations, but two-thirds of wine drinkers did not plan to eat out while the pandemic remained a public health threat.[16] Though the main impacts include a decline in overall dollars spent on the retail tier due to reduced restaurant sales, the shift in wholesaler and winery revenues from sales to distributors was relatively modest.

The Direct-To-Consumer (DtC) Phenomenon and 2020

One way that wineries vertically integrate (where different links or tiers in the supply chain are connected by the same businesses internally) is through direct-to-consumer or DtC sales. Wine clubs are a classic example of direct sales for wineries. Direct sales have expanded into third-party wine clubs, online wine stores and many other ways that consumers can purchase wine without leaving their home. Two related but separate trends are emerging: (1) growth in DtC sales for wineries, both to club members and website visits; and (2) growth in online sales by retail stores and virtual retail. Expanding shipping and logistics networks have supported DtC sales outside of classic wholesale-retail tiers.

When social restrictions began in 2020 due to COVID-19, the U.S. wine industry saw a shift from shopping in a classic retail setting to more online sales. For Oregon wineries, this change created larger export markets versus in-state from 2019 to 2020, both from expanding off-premise sales and increased DtC orders from out-of-state consumers. Such a shift suggests that Oregon wineries were able to use this DtC expansion to reach new markets and also prepare for potential permanent shifts to online wine shopping and home delivery. This change can boost the economic impact of Oregon's wine industry, if these sales are not offset by reduced sales in other channels. Figure 16 shows summary data on the recent shifts.[13]

[15] Civic Science polls concerning wine shopping and also has been polling travel plans on an ongoing basis for at least since 2019. Please see https://civicscience.com/ for more.
[16] Ibid.

Figure 16: DtC in 2019 and 2020, Oregon Wineries

	January to December 2019	12 months ending October 2020
In-state		
Value Share (Dollars)	42%	40%
Volume Share (9L Equiv Cases)	47%	43%
Out-of-state		
Value Share (Dollars)	58%	60%
Volume Share (9L Equiv Cases)	53%	57%

Sources: EFA 2020 Survey, FGR and BW166

In the retail tier, a shift from on-premise to off-premise sales in 2020 meant a large drop in consumer spending as restaurant-priced wines decreased and store-priced wines increased in sales volume. Looking forward, there are three critical issues for wineries:

(1) if three-tier sales are important to wineries, their mix of on-premise to off-premise is now critical to inventory management and profitability;
(2) to what extent can they participate in the general increase in online shopping, rather than cede this to physical and virtual retailers; and
(3) within the DtC sales channel, how dependent are they on tasting room vs. club shipments and other phone/website sales. Managing these internal channels is likely the winery management challenge of 2021 and beyond.

It is important that wineries diversify their revenue streams, and 2020's challenges have forced shifts in the winery revenue model. Fewer visitors implies fewer new wine club memberships sourced from those tasting room flows. In turn, direct to consumer sales in the form of existing club members and online sales through multiple vendors have increased in importance. The contraction in on-premise channels (restaurants, hotels, etc.) and the simultaneous increase in off-premise retail sales roughly offset each other in most U.S. markets, but affect wineries differently, depending on the their pre-COVID distribution pattern. In terms of off-premise sales, Nielsen and other sources based on scan data indicate that most pre-pandemic sales trends continued, albeit at a higher level. These category trends shown in Nielsen data mostly benefit Oregon:

- Pinot Noir (Oregon's leading variety) continued to outgrow the market;
- Sales of wine over $15 continued to grow and outpace the overall wine market;
- Distribution and turnover of Oregon wines are increasing faster than most other regions or sources of wine;
    - The volume of Oregon wines sold in U.S. off-premise markets grew by 24 percent in 2020, versus overall retail sales of wine, which grew 12 percent by volume;
    - Sales revenues in dollars grew by 25 percent for Oregon wines versus just 17 percent growth in sales revenues in dollars for overall retail sales of wine.[17]

[17] Source: Nielsen, US Total AOC + liquor volume, 52 weeks ending 11/10/20.

Appendix 1 – Impact of Oregon Wineries & Vineyards Alone

The complete report describes the effects of wine production and sales throughout the economy, from input and service suppliers to retail sales, for all types of wine. A substantial portion of the retail and wholesale revenue and wage effects are related to the sales of wine imported into Oregon, whether from other states or countries. This appendix isolates the economic impact of just Oregon-produced wine and grapes on the state economy. The following table enumerates revenue, wages, and jobs that are derived solely from Oregon wine grapes and wine, without the impact of wine imported into the state.

Because of the secondary impacts they have on suppliers and services in-state, Oregon vineyards and wineries' share of total economic impact is much higher than their share of sales. Oregon wineries are only responsible for 11 percent of the volume of wine sold in Oregon's three-tier system, and 18 percent of wine sold if tasting room sales were added. Oregon wineries generate 38.6 percent of the economic impact in 2019. Figure 1-A provides more details.

Figure A-1: Core Winery Supply Chain Impacts, 2019 Estimates

Sector	Revenue	Wages	Jobs
Vineyards	$237,784,000	$49,650,700	1,443
Wineries	$673,903,900	$136,565,500	3,687
Tourism	$893,656,000	$270,126,000	8,600
Suppliers (indirect)	$103,034,099	$35,230,215	534
Wholesalers	$93,162,743	$3,285,634	60
Retail tier	$149,281,002	$28,633,426	1,345
Induced	$119,088,355	$29,438,625	711
Total 2019	**$2,269,910,100**	**$552,930,100**	**16,379**

Appendix 2 – Under-reporting of Jobs & Wages in Official BLS Statistics

The jobs and wages of those employed directly by the wine industry are based on data from the Bureau of Labor Statistics. However, the BLS data for vineyard and winery jobs are certainly an underestimate, due to the following factors:

- Reporting of wages and jobs to the BLS is based on participation in the unemployment insurance program. Vineyards or wineries that are too small to meet the required payroll threshold or that use mostly contracted labor or mainly family members generally do not report to the BLS. In addition, vineyard managers and some agriculture companies are classified in a different sector.
- Seasonal and part-time work in the industry may cause problems in estimating the number of full-time equivalent jobs when reporting to the BLS. It also reduces the estimates for salaries and wages, because the BLS does not distinguish between part-time and full-time jobs when it comes to monthly wage estimates, thus a part-time wage is divided into a full-time job. Salary surveys by industry publications come in at 10 percent to 30 percent higher than BLS.
- Many wineries crush or bottle at facilities that are not at the winery; production jobs at such crush facilities are reflected in BLS data not categorized under “Wineries” but under “Other Manufacturing” instead.
- Wineries that own vineyards may register workers as winery rather than vineyard workers.

Appendix 3 - Regional and County Impacts

Appendix 3 shows the Oregon wine industry's economic impact allocated by wine-growing region and by county. The method used to allocate these impacts by region and county varies, depending on what is being measured. In some cases (e.g., winery employment), the data is directly available at the county level from the federal Bureau of Labor Statistics. In others, state-level data have been allocated based on winery production, vineyard acreage or other data that are available at the county level. IMPLAN® also acts as a source of data, as the economic impact models for each county include data estimates of income, wages and employment for wineries, vineyards and allied industries.

Property taxes have been included because they are a major source for local government revenue. Also, the employment impact for distributors and some professional services has been allocated on an estimated business-revenue basis, rather than actual workplace or residency. Finally, the regional definitions exclude some counties. Because of the above differences in methodology, the regional and county numbers do not add up to exactly the same levels as corresponding total state numbers in some cases. These data are intended to be used independently of the broader estimates in this report. Figure A-2 shows the three major wine regions of Oregon and Figure A-3 shows the county allocation.

Figure A-2: Wine Industry Economic Impact by Region 2019

Region	Willamette Valley	Southern Oregon	Columbia Valley	Other Oregon
Winery/Grower Revenues	$553,787,900	$133,162,900	$194,586,400	$30,150,700
Wholesale & Retail Revenues*	$1,056,567,100	$254,060,400	$371,249,600	$57,524,300
Wine-related Tourism Revenues	$542,834,800	$130,529,100	$190,737,700	$29,554,400
Indirect & Induced Revenues	$1,186,537,500	$285,312,800	$416,917,700	$64,600,400
Wages (includes all impacts)	$917,547,700	$220,632,000	$322,401,900	$49,955,400
Employment	24,326	5,849	8,547	1,324

* Wholesale & Retail revenues from all wine of all types/sources.

Figure A-3: Wine Industry Economic Impact by County 2019

Counties	Wine-Related Revenue ($)*	Related Wages ($)*	Related Jobs*	Indirect & Induced Jobs	Property Taxes
Baker	$1,444,800	$276,900	10	7	$36,100
Benton	$41,123,800	$7,882,700	279	186	$1,027,000
Clackamas	$72,462,300	$13,889,700	492	327	$1,809,700
Clatsop	$8,522,000	$1,633,500	58	38	$212,800
Columbia	$2,282,600	$437,500	15	10	$57,000
Coos	$24,594,600	$4,714,300	167	111	$614,200
Crook	$1,288,200	$246,900	9	6	$32,200
Curry	$21,373,900	$4,097,000	145	96	$533,800
Deschutes	$28,115,100	$5,389,200	191	127	$702,100
Douglas	$134,144,000	$25,713,000	910	606	$3,350,100
Gilliam	$1,482,900	$284,200	10	7	$37,000
Grant	$4,429,200	$849,000	30	20	$110,600
Harney	$3,060,400	$586,600	21	14	$76,400
Hood River	$437,716,100	$83,902,400	2,969	1,976	$10,931,400
Jackson	$332,183,700	$63,673,700	2,253	1,499	$8,295,900
Jefferson	$4,711,900	$903,200	32	21	$117,700
Josephine	$51,424,800	$9,857,200	349	232	$1,284,300
Klamath	$1,485,000	$284,600	10	7	$37,100
Lake	$3,435,700	$658,600	23	16	$85,800
Lane	$186,820,800	$35,810,200	1,267	843	$4,665,600
Lincoln	$4,029,200	$772,300	27	18	$100,600
Linn	$44,040,500	$8,441,800	299	199	$1,099,900
Malheur	$498,800	$95,600	3	2	$12,500
Marion	$257,715,200	$49,399,400	1,748	1,163	$6,436,100
Morrow	$1,419,900	$272,200	10	6	$35,500
Multnomah	$179,723,200	$34,449,700	1,219	811	$4,488,400
Polk	$232,439,700	$44,554,500	1,577	1,049	$5,804,900
Sherman	$1,394,400	$267,300	9	6	$34,800
Tillamook	$1,128,300	$216,300	8	5	$28,200
Umatilla	$87,365,500	$16,746,400	593	394	$2,181,800
Union	$2,680,100	$513,700	18	12	$66,900
Wallowa	$2,272,100	$435,500	15	10	$56,700
Wasco	$227,195,000	$43,549,200	1,541	1,026	$5,673,900
Washington	$289,475,000	$55,487,200	1,964	1,307	$7,229,300
Wheeler	$1,877,600	$359,900	13	8	$46,900
Yamhill	$849,389,300	$162,812,700	5,763	3,835	$21,212,500
Oregon Totals	**$3,544,745,600**	**$679,464,100**	**24,047**	**16,000**	**$88,525,700**

*includes wholesale & retail impact from all wine of all types/sources, plus tourism

Sources

- Wine Grape Sales: Oregon Vineyard and Winery Reports (2015 to 2019);
- Winery Sales: Oregon Vineyard and Winery Reports (2015 to 2019);
- Distributors' Sales (in Oregon): Oregon Vineyard and Winery Reports (2015 to 2019), Oregon Liquor Control Commission (OLCC), SipSource, and Full Glass Research (FGR) Distribution Model;
- Retailers and Restaurant Wine Sales (in Oregon): FGR Distribution Model and Nielsen;
- Tourism: Dean Runyan Associations and Oregon Winery and Vineyard Reports (2015 to 2019) and FGR Tourism Model;
- Vineyard Development: IMPLAN;
- Vineyard Maintenance and equipment: IMPLAN;
- Winery Maintenance, equipment, tanks, infrastructure: IMPLAN;
- Winery & Agricultural inputs: IMPLAN;
- Glass, corks, closures, packaging: IMPLAN;
- Trucking, Shipping, Warehousing: IMPLAN;
- Professional Services - banking, insurance, accounting, consulting, etc.: IMPLAN;
- Printing (including wine labels): IMPLAN;
- Tax Revenues (includes estimation for property taxes): Estimated from business revenues above by IMPLAN model;
- Government fees and direct funding: Estimated business revenues above by IMPLAN model;
- Other Indirect effects: Estimated from business revenues above by IMPLAN model;
- Wine Industry Induced Revenues: Estimated from business revenues above by IMPLAN model

Employment and wage data for all line-item industries come from the Bureau of Labor Statistics and the IMPLAN estimates for indirect and induced industries. EFA provided a survey of Oregon vineyard owners, vineyard managers and wineries asking for data on costs of goods sold, employment levels, and revenues for vineyards and wineries to provide a second source of data to corroborate IMPLAN estimates for 2019 data when needed.

Confidential interviews with industry insiders by Full Glass Research and EFA. Special acknowledgements to Full Glass Research for foundational help with this report and special thanks to the staff of the Oregon Wine Board.

Research Team

About Economic Forensics and Analytics, Inc. (EFA)

Economic Forensics and Analytics, Inc. (EFA) is an independent research and consulting firm located in Sonoma County, California. Since 2000, we've been dedicated to providing clients with customized economic analysis at reasonable costs when compared to our larger, local competitors. We keep overhead low and pass the savings onto you. We have a wide range of clientele in the private and public sectors throughout the state of California. EFA provide clients with economic impact reports for economic development support. For government and businesses alike, EFA can also provide economic impact analysis using the latest data and a proven method of describing the effects of decisions. EFA's president, Robert Eyler, PhD, has a doctorate in economics from the University of California at Davis. See more at www.econforensics.com.

About Full Glass Research (FGR)

Full Glass Research, founded by Christian Miller in January 2005, is dedicated to consumer, market and economic research in the wine and food industries. Christian Miller has worked in wine and food industries since 1983. He earned his undergraduate degree in Economics from Franklin & Marshall College in 1980 and an M.B.A. from Cornell University in 1985, followed by successive research and management positions at Kendall-Jackson, Sebastiani Vineyards and MKF. His experience includes work with both small and large companies, as a negociant, brand manager, in operations analysis and market research. He is a founding member and currently Research Director of the Wine Market Council's Research Committee. Full Glass Research has done extensive research for the Oregon Wine Board as well as various regional organizations and wineries in Oregon. Full Glass Research can be reached at www.fullglassresearch.com. Christian Miller can be followed @CMMwine.

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About the Oregon Wine Board
The Oregon Wine Board is a semi-independent state agency created by House Bill 3442 in September 2003. The Board is charged with supporting enological, viticultural, and economic research and the promotion of grape growing and winemaking in Oregon. The intent of the legislation is to give the state's wine industry greater autonomy, authority, and ability to develop, market, and promote Oregon wine.

The Oregon Wine Board can be reached at industry.oregonwine.org or info@oregonwine.org.

Study Partners

Thank you to the following organizations for their support in raising the visibility of the importance of this study and driving participation within their respective memberships.