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

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Full Glass Research

Executive Summary

Economic Value

The sum of all economic activity in Oregon related directly or indirectly to wine is over $1.4 billion. The net economic contribution, a measure of value added, is $996 million. Some other key statistics:

- In 2004, wine-related jobs in Oregon totaled at least 8,479; related wages topped $203 million.
- Over 700 Oregon wine grape growers produced a crop whose average annual value in 2003-4 was $34.2 million.
- 247 Oregon wineries bottled 1,419,170 nine-liter cases of wine and had revenues of over $157 million in 2004. Oregon wine and grape sales to other states/countries were $64.1 million.
- Retail sales of wine in Oregon from all sources were nearly $371 million in 2004.
- In 2004, wine-related tourism contributed $92 million in revenues to the Oregon economy.
- Wine-related activities contributed nearly $42 million in tax revenues to the state government in 2004.
- The Oregon wine and wine grape industries contribute an estimated $3 million annually to charities.

Growth

The Oregon wine industry has grown quickly. From 1994 to 2004, the number of Oregon wineries increased by 60%. Grape acreage more than doubled during that period, as did winery sales volume. Grape value has roughly quadrupled since 1994.

Ultra-Premium Focus

Oregon winegrowers have successfully focused on the higher priced, higher quality segments of the wine market. Of the major producing states, Oregon growers get the highest average returns per ton. Oregon wineries realize the highest average revenues per case. Despite producing a much smaller volume of wine, Oregon winery revenues per capita (state population) are comparable to New York and Washington.

Outlook

The outlook for the Oregon wine industry is positive. Demand for Pinot Noir and Pinot Gris, Oregon's leading grapes, is high. Production costs are reasonable for the quality obtained. The market for Oregon wines outside of the Northwest is underexploited, offering good growth potential given Oregon's reputation for quality. Wine tourism is also underdeveloped compared to other wine regions in California. However, competition will be fierce and the market will need to absorb significant increases in the supply of Pinot Noir and some other varietals.

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Introduction

The Oregon wine industry has seen remarkable success in a short time. From the nearly experimental vineyards planted in the 1960s, it has grown into an important component of the state's agricultural and consumer packaged goods industries, with a substantial impact on the state's economy.

This impact is reflected in wages, revenues, taxes and spending on agricultural and production technology and supplies. There are associated industries such as distribution, tourism and retailing that benefit from the Oregon wine business. There is also the impact of purchases by the industry and the spending of wages paid within the industry.

Notable aspects of the wine industry in Oregon include:

1) Higher economic value than most agricultural products
2) Fast growth
3) Focus on the more profitable, higher margin products

Higher Economic Value

As a finished consumer product, wine typically adds more value and keeps more of its profit margin inside the state economy than many other agricultural products. Most agricultural products are exported from their production region or sold to processors in their raw form. Many of the processors in turn sell their products on national bulk markets, which tend to be highly competitive with low margins. The final products may pass through numerous out-of-state entities and markups before reaching the consumer. As a result, a relatively small amount of the profits are retained in the local economy.

Wine producers capture more of the revenue stream. They crush grapes and produce wine, but also do the packaging, marketing and selling to wholesalers or foreign importers. In addition, the distribution of wines has maintained higher margins than most other foods and beverages. Some of the channels (fine wine shops, restaurants, on-premise distribution) are fairly labor intensive. All wine consumed in the state of Oregon (not just wine produced in-state) provides revenues from which restaurant and retail store owners and their employees are paid. Distribution of wines from producer tier through the wholesale tier to the retail/restaurant tier provides additional wages and employment. Each tier contributes taxes.

The romance and appeal of wineries and vineyards make wine regions a strong attraction for tourists. The upscale demographics of wine consumption ensure that many wine tourists spend more than the average visitor, boosting restaurant and hotel revenues in wine regions.

All of these effects are estimated explicitly or in IMPLAN modeling in the following report. (See page 43 for an explanation of IMPLAN modeling.)

This report outlines the various sectors of the Oregon wine industry. The areas examined include wine production and sales, grape cultivation, allied industries, wine sales and various other economic benefits such as taxes and charitable contributions. Where possible, sales and employment figures have been provided within each of these areas. Data for this report was collected in the first half of 2005. Most calculations were based on 2003-2004 data, the most current years for which information was available.

Oregon Wineries – Upscale and High Margin

Compared to other wine-producing states, the position of Oregon's wines in the marketplace is unique. From the start, Oregon grapegrowers and wineries focused on modest quantity and very high quality. Oregon initially gained notice for quality and character in the high end of the market, now equivalent to $15+/bottle. Although the wineries have leveraged their reputation to compete in the $8-15 market, Oregon has only a minimal presence in the low end of the market (wines marketed in 750ml bottles retailing for under $8.00 a bottle). This makes Oregon less vulnerable to price-based competition from low cost high volume producers in areas like Australia, California's Central Valley, Argentina, Chile, southern France, Spain and Italy. Even the larger Oregon wineries whose portfolios do include offerings in the $8 to $10 range tend to compete via a high quality-price ratio and less common grape varieties and wine styles.

Key elements in Oregon's successful positioning include

- Cool, variable weather and low yields: this rewards high margin fine wine production and penalizes commodity-priced production.
- Artisanal production scale: even the largest Oregon wineries would be low/medium-sized producers in California.
- Focus on particular varieties matched to specific regions, on a limited number of wine types and styles, and on publicizing these traits.
- Emphasis on top quality varieties and terroirs.
- High quality.

Outlook

The outlook for the next decade of wine business in Oregon is bright. Oregon's leading grape is currently one of the hottest varietals in the wine trade. New grape-growing regions within Oregon are showing dynamic growth. Some potentially large markets for Oregon wine are underexploited at this time. However, there are also some challenges that will have to be met in order to maintain Oregon's enviable track record for growth.

Sales of Pinot Noir, Oregon's most widely planted grape, are growing extremely rapidly in the United States. Driven by a combination of its upscale image, publicity from the movie Sideways and a general rise in red wine consumption, sales of Pinot Noir grew roughly 15% in 2004, and appear to be reaching over 20% growth in 2005. While most of this sales increase has been in California Pinot Noir, with a reinvented Oregon Wine Board and new leadership, Oregon has a chance to capitalize on Pinot Noir's boost in popularity.

On the other hand, the competition will be fierce. Burgundy (Pinot Noir's original home in France) cannot significantly expand production. However, substantial new acreage was planted in coastal California from the late 1990s through 2003 and is reaching maturity, producing roughly six times the current Oregon output. New Zealand also hopes to repeat its success with Sauvignon Blanc in the Pinot Noir market. Oregon has its own surge in production looming as the plantings of 1998-2002 reach full production.

New regions within Oregon are expanding and diversifying Oregon's wine industry. In Southern Oregon, the Umpqua, Applegate and Rogue River Valleys are both building on Oregon's Pinot Noir and Pinot Gris legacy and developing other varietals matched to their own conditions. The Columbia River region is developing vineyards both to feed Oregon demand and as spillover from Washington's burgeoning Walla Walla region. It is possible that any of these regions will discover that the best quality and most marketable varietals for their region are not Pinot Noir or Pinot Gris. The growth of these regions will at various points force them to deal with the issue of whether they should market themselves under an overall Oregon identity or forge their own images with a separate communications strategy. There is no obviously correct answer to this question. Each region will have to consider the impact of their communications and image-building choices on trade and consumers.

There is dramatic potential for increasing tourism related to the Oregon wine trade. Despite substantial numbers of tourists and a thriving, high quality wine industry, the percentage of Oregon visitors who visit wineries is far lower than even some of the less well-known California wine regions. Wine tourists spend considerable sums of money on hotels, restaurants and shopping. They also boost direct-to-consumer sales of wine, which is the revenue source with the highest margins for wineries.

Winery sales to out-of-state customers, in particular wholesalers in other states and the export market, offer another likely avenue of future growth. Currently Oregon only sells

less than half of its wine production outside the state; in contrast to Washington, which sells 75% of its wine outside the state, despite having a larger home market. It is important that Oregon not miss the opportunity provided by the current strong demand for fine wine across the United States.

There are a number of other elements that contribute to an optimistic outlook for the Oregon wine industry. The following are distinctive aspects of Oregon wine growing. Each will need to be cultivated and maintained by government and industry policies and practices.

- Unique positioning and distinctive wines – for example producing and marketing Pinot Gris as "Gris" rather than Pinot Grigio, which is in greater supply and tends to have lower margins. The original matching of the tricky Pinot Noir with Oregon's more marginal climate is another example. Experimentation in finding unique flavor or style aspects or varietals for Oregon's emerging southern and eastern regions should be encouraged along these lines.

- The emphasis on smaller family wineries and vineyards can be maintained as a contrast to the much larger brands and corporations prevailing in many other regions. This is useful in both maintaining a quality image and higher pricing. However, smaller operations have disadvantages when managing distribution and weaker bargaining power vs. large wholesale and retail entities. How Oregon wineries balance these aspects will be important.

- Leadership in sustainable and organic viticulture – Oregon appears to be one of the leading wine regions in terms of percentage of grapevines in these categories. Oregon is home to some important organizations in the field such as Food Alliance and LIVE. Figuring out how best to leverage this position will be another element in Oregon's future success. California is currently developing standardized guidelines and institutional support and research into this topic.

- Lower land costs for top quality vineyards – development pressures and the real estate boom have led to very high land costs in California for the best quality vineyard land. This reduces flexibility in pricing and the amount of internal cash flow available to build brands at the newer vineyards and wineries.

Lastly is the importance of maintaining focus for the Oregon wine industry. Two types of wine regions have been very successful in growing sales in the last 15 years. Type A is exemplified by Australia, where growth is primarily in the low or mid-priced sectors, spearheaded by large brands and delivery of good quality for the money in an easy-to-drink style. Italian Pinot Grigio and the new wave of modestly priced Spanish reds could be other examples. Type B consists of regions producing top quality at higher prices, focusing on and publicizing a narrow range of varieties or style of wine. Examples would include New Zealand, Ribera del Duero or Priorato in Spain and of course the success of Oregon itself in the last decade.

The Wine Market in the U.S. & Oregon

Growth in American Wine Consumption

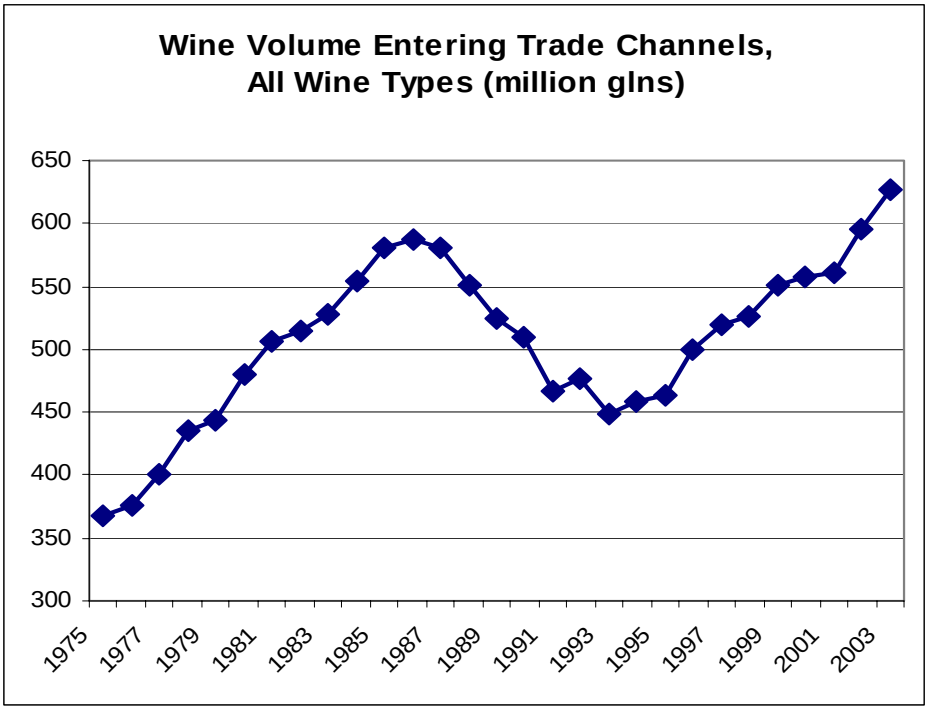
From 1991 to 2004, sales of wine in the U.S. grew from 466 million gallons to 668 million gallons. Table wine sales went from 394 million to 591 million in the same period. *(Source: Wine Institute/Gomberg, Fredrikson & Associates)* Even more promising for Oregon, consumption of premium wine has grown at double-digit rates for most years since the early 1990s.

The premium wine boom in particular has both demographic and cultural causes:

- Demographic – the baby boomers, the largest generation to date in the U.S. population and its most important wine consumers, have hit their peak earning years. Wine consumption correlates strongly and positively with education level and certain professions. The population of college-educated and white collar/professional workers is increasing. The Echo boom generation is entering adulthood and is adopting higher-priced wines earlier than its predecessors.

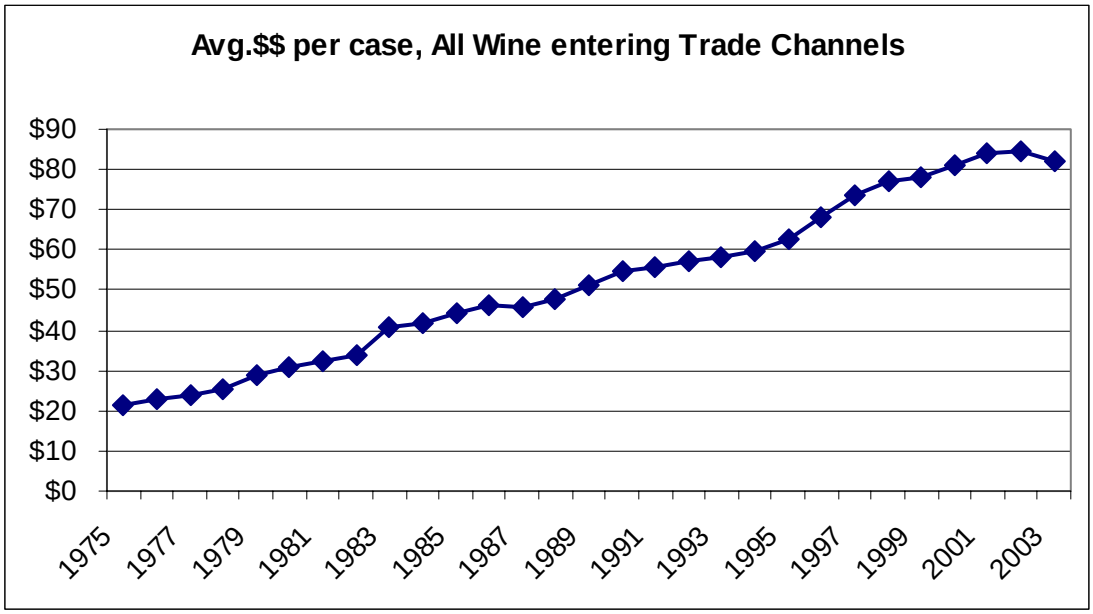
- Luxury trend – the scope, variety and prices of high-end consumer goods have expanded dramatically since the 1990s.

- Gourmet trend – the variety and intensity of flavor of most foods and beverages have increased exponentially in the last two decades. Wine is arguably the least standardized and most intensely flavored of popular alcoholic beverages.



Source: Wine Institute, Gomberg-Fredrikson

Note the steady climb in average dollars per case value of wine year after year. This is due to change in the product mix towards higher-priced, higher-quality wines.



Source: Wine Institute, Gomberg-Fredrikson

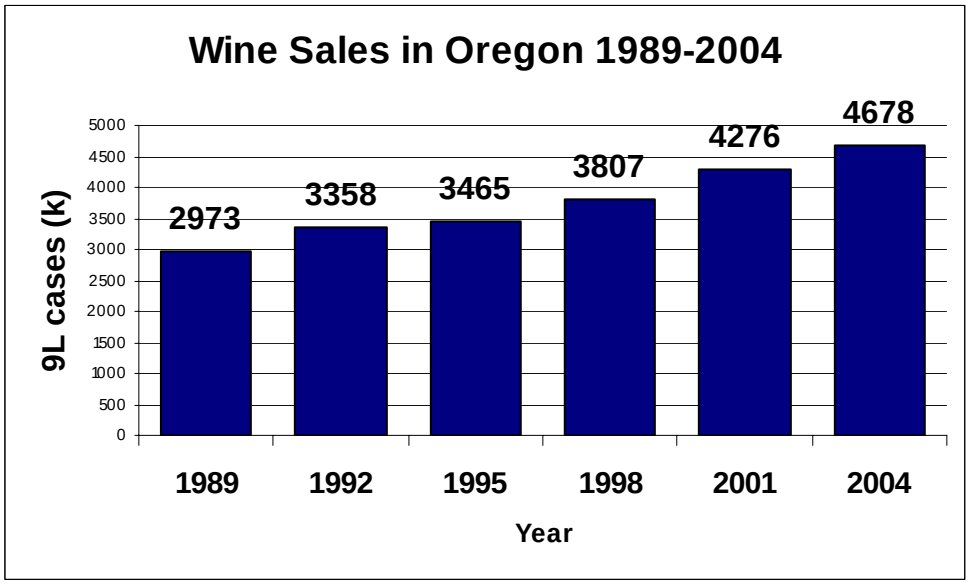
The Oregon Wine Boom

While wine has been produced, sold and consumed in Oregon since the 1800s, the current Oregon wine industry really began in the 1960s, with the establishment of a scattering of pioneering vineyards and wineries in search of a different terroir and style of wine, reasonable land prices and less competition than in California. By the 1980s the Oregon wine industry was on the global map, in particular for its Pinot Noirs, which had shown well in some prominent international tastings.

The Oregon wine industry is nearly unique in being established by small-scale producers primarily to produce high end wines, focusing on a few specific varieties carefully matched to the local conditions. In contrast, the California industry originated in supplying inexpensive wines for local use by the missions and immigrants. The Washington industry was established primarily by supplying competitive mid-priced wine and was boosted significantly by both corporate interests and conversion of large-scale agribusiness. California, New York and Washington all have substantial non-wine grape industries, unlike Oregon. States such as Virginia and Missouri, although they tend towards small-scale production, grow a hodge-podge of grapes, styles and qualities.

Oregon's unique high end positioning was successful with both producers and consumers. In 1970 there were just five bonded wineries and 35 recorded acres. This had grown to 34 wineries and 1,100 acres by 1980. From 1994 to 2004, the number of wineries in Oregon increased 60 percent to 247 (*Source: OASS. Here wineries are defined as producing enterprises, rather than holders of licenses*). Total wine grape acreage in the state more than doubled during that period, from 6,600 acres to 13,700 acres. Sales of wine produced in Oregon rose from 613,000 to 1.29 million cases, realizing roughly $157 million in winery revenues in 2004 (*Source: OASS, Full Glass Research*).

As a wine-consuming state, Oregon has reflected the rapid growth of American wine consumption. It has absorbed much of Oregon's own production as well as substantial amounts of California, Washington and foreign wines. Wine sales in Oregon in 2004 came to 4.68 million 9L cases, 14 percent of which was made in Oregon (*OASS/OLCC*).



Source: MKF WineStats, Full Glass Research

Wine Sales

Total Retail Level Wine Sales in Oregon: $ 370,800,000
Total Revenues for Oregon Wineries: $ 157,800,000

In 2004, Americans purchased 281 million cases of wine at an estimated value of $23.2 billion *(Wine Institute, Gomberg-Fredrikson)*. Oregon is the country's 19th largest wine market, although it's the 27th largest state in terms of total population. (*Full Glass Research, U.S. Census, MKF Research*)

In 2004, Oregon consumers and visitors purchased approximately 4.7 million cases of wine. Of these cases, about 665,000 were produced by wineries in Oregon, and a little over 4 million were produced outside of Oregon. *(Oregon Agricultural Statistics Service, Oregon Liquor Control Commission)*

Declared Wine Shipments in Oregon 2004, in Gallons

	14% alcohol & under	Over 14% alcohol	Total
Gallons declared to OLCC			
Wine Produced in OR	1,857,208	353,312	2,210,520
Wine Produced outside OR	9,636,584	459,785	10,081,368
Less wine shipped out-of-state			**(1,173,481)**
TOTAL wine in Oregon market	**11,493,792**	**813,097**	**11,133,409**

Source: OLCC; understates Oregon winery volume due to reporting exemptions for certain wineries
Note: Standard 9L case = 2.38 gallons

Total consumer purchases of wine in Oregon are estimated to be $370.8 million, not including all direct-to-consumer sales from Oregon wineries. On-premise sales (restaurants, hotels, etc.) of wine in Oregon are estimated to be $141 million on sales of 982,000 cases. Off-premise sales (grocery stores, etc.) totaled $230 million on sales of 3.7 million cases *(Source: Full Glass Research).*

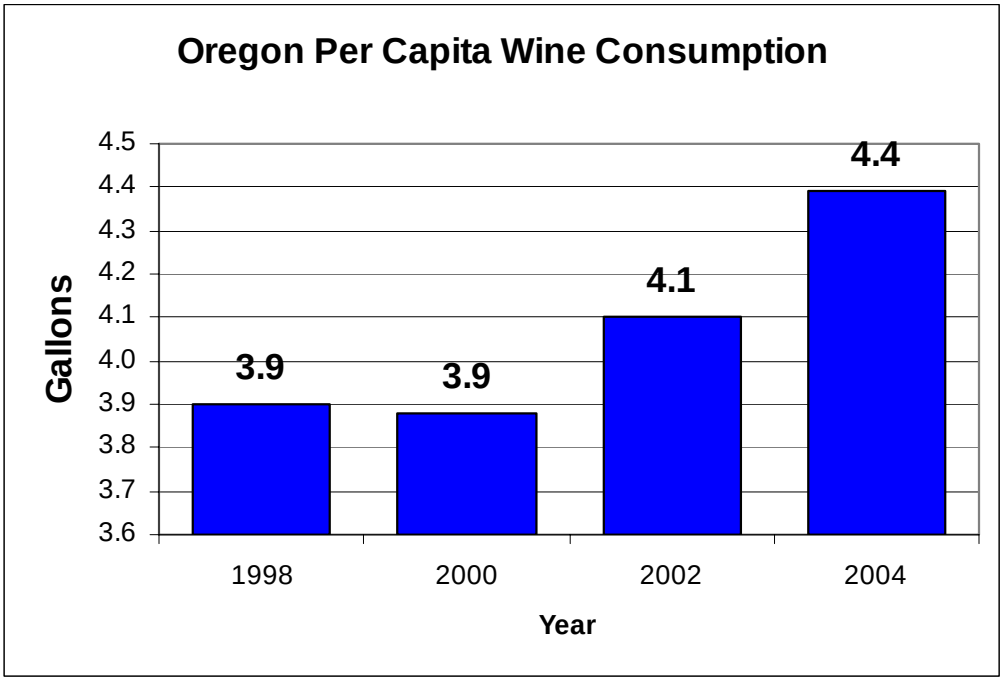
Based on our winery survey, Oregon wineries sell approximately 53 percent of their wine off-premise, not including direct-to-consumer sales by mail or tasting rooms. Smaller wineries tend to sell a higher proportion of their wine on-premise and direct to the consumers via tasting rooms, mailing lists, wine clubs, etc.

Direct sales to consumers, via tasting rooms, by mail or websites, are a key source of revenue for many high end and smaller wineries. Based on our survey of Oregon wineries, approximately 13 percent of Oregon-produced wine is sold direct. Direct sales

provide higher margins to the wineries by avoiding the costs of wholesale and retail markups, and thus account for 24 percent of Oregon winery revenues.

Oregon consumes 52 percent of its own wine production. Based on OASS figures, in 2004 it exported 593,000 cases of wine valued at $63.5 million to other states and countries. Oregon's international wine exports were quite modest in 2004, just 28,000 cases, down from 42,000 in 2003. In the export markets, Canada spends the most on Oregon wine, followed by Japan. In general, Oregon lags California and Washington in terms of expanding market share outside the state borders. Most of the smaller Oregon wineries do the majority of their business in the Northwest U.S., mainly in Oregon itself. (*Source: OASS, Full Glass Research)*

We estimate Oregon winery sales to all channels, including wholesale, retail, direct and export, to be 1,279,000 cases with revenues of $157.8 million.



Source: MKF WineStats, OLCC, Full Glass Research. Consumption is per adult

Wine and Grape Production

In terms of total grape quantity, Oregon is an important but not leading grape producer. However, for wine grapes it ranks fourth among the states and for premium wine production it ranks third after Washington and California.

Oregon's 2004 wine grape harvest was 19,400 tons, down 19% from 2003 due to a cool spring that caused poor fruit set (*source: Avalon, Wine Spectator*). 2002 and 2003 wine grape crops were each about 22,000 and 24,000 tons respectively. Since 1995 the typical crop size has increased by more than 50 percent.

Wineries

According to the Oregon Liquor Control Commission, Oregon had 319 licensed wineries in 2005. Some of these are "virtual" wineries and some manufacture sake or cider or beer but have winery licenses too; the OASS estimates that Oregon now has close to 247 actual "bricks and mortar" wineries, not all of whom as yet crush or produce wine. Some are essentially offices or outlets for growers currently producing the wine at other facilities. The number of wineries actively crushing grapes in the 2004 harvest was 193.

Distribution of Oregon Wineries

Area	All wineries # in 2003	All wineries # in 2004
Applegate Valley	6	7
Columbia River Valley, Walla Walla and at large	8	15
North Willamette Valley	143	170
Rogue Valley	7	11
South Willamette Valley	23	29
Umpqua Valley	14	15
Total	201	247

Source: OASS

Based on OASS inventory reports, Oregon wineries bottled 1,419,170 cases (9L equivalent) in 2004.

Regions of Wine Production

Oregon contains several distinct regions for winegrowing, which differ in climate, soils and topography. Distinctive wine growing regions often register appellations with the

TTB (Alcohol & Tobacco Tax and Trade Bureau), which give wineries the right to put the appellation name on the label of their wines that qualify by being produced from grapes in a specified geographic region. Registered and approved regions are known as AVAs (American Viticultural Appellations). The following descriptions of Oregon viticultural regions were derived primarily from Wines Northwest publications.

The northwest portion of Oregon is best known for its cool-climate grape varieties, including Pinot Gris, Riesling, Chardonnay and especially Pinot Noir. Willamette Valley is the major appellation there, although sub-appellations within the Willamette Valley are being demarcated.

The Southern Oregon appellation includes the Umpqua Valley AVA, the Applegate Valley AVA and the Rogue Valley AVA, all located in the southwestern portion of the state. These regions, along the vineyards of the Columbia Gorge AVA, are generally warmer and significantly drier than those appellations in the northwestern quadrant of Oregon including the Willamette Valley AVA. In early 2005 the Southern Oregon appellation was federally authorized as a larger viticultural area encompassing the regions of the Umpqua, the Applegate and the Rogue Valleys as well as an incremental tract of land connecting the Umpqua to the Rogue.

Willamette Valley
Located south of Portland, and bordered by hills to the south and west and mountains to the east, the Willamette River is the central feature of this 100-mile long, 60-mile wide valley. The majority of Oregon's wineries can be found here, capitalizing on both the international fame of its Pinot Noir and the easy access to Portland. In temperature the coolest of Oregon's wine regions, the Willamette Valley's climate is perfectly suited to certain grape varieties that don't require intense sun and heat to ripen, typically varieties originating in Northern Europe such as Pinot Noir and Chardonnay (of French Burgundy fame); Riesling and Gewurztraminer (from Germany and Alsace) and Pinot Gris (found in Alsace and Alpine Italy).

Umpqua Valley Region
This appellation consists of a series of valleys and undulating hills. The Umpqua River is the largest and most notable of the rivers in the region. Drier and warmer than the Willamette Valley wine region to the north, and cooler than the Rogue and Applegate wine regions to the south, the Umpqua Valley has some features of both those regions.

The Umpqua wine region is cool enough to produce classic Oregon varieties like Pinot Noir and Pinot Gris, the leading varietals. However it is also warm enough to grow Bordeaux varieties such as Cabernet Sauvignon and Merlot. It also has substantial amounts of Riesling and Chardonnay. Now some wineries have pioneered the cultivation of Southern French and Spanish varietals such as Tempranillo, Malbec, and Syrah.

Rogue Valley and Applegate Valley
Originally the two appellations were defined as a single Rogue Valley AVA. In 2001 the Applegate Valley gained federal authorization as an individual AVA, distinct from the

Rogue Valley appellation. The significantly warmer temperatures and the relative newness of the appellations mean that the wine industry is just beginning to discover its potential. The warm climate has encouraged plantings of Cabernet, Merlot and Syrah, but substantial amounts of Pinot Noir and Pinot Gris still exist.

Columbia Gorge

The Columbia Valley has a warmer climate and some vineyards benefit from the "Banana Belt" effect of west-facing valleys protected from cold winds. The Columbia Gorge appellation, located on both the Oregon and Washington sides of the Columbia River, was authorized as an official American Viticultural Area (AVA) for both states in June 2004. Pinot Noir, Pinot Gris, and Chardonnay are important in the Columbia Gorge, but the influence of Washington also means Cabernet and Syrah.

A Note on Fruit Wines

Long known for the quality of its tree fruit and berries, Oregon also makes wine from these fruits. Production quantities are quite modest – totaling 24,399 gallons in 2004, about 10,250 cases (9L) worth of wine. This is equivalent to less than 1% of shipments of Oregonian wine and the amount of data specific to this type of wine is limited. Fruit wine sales are included in overall sales revenues in this report, but all vineyard-related data and most production statistics refer to grape wine and grapes only.

Distribution of Acreage in Oregon

County	# Vineyards	2004 Acres	Leading Varietals
Benton	31	423	Pinot Noir
Clackamas	42	292	Pinot Noir, Pinot Gris, Chardonnay
Douglas	51	668	Diverse
Hood River	11	97	Cab, Merlot, Syrah, Riesling
Jackson	73	1,252	Cab, Merlot, Syrah
Josephine	27	528	Pinot Noir
Lane	39	710	Pinot Noir, Pinot Gris
Linn	10	75	Pinot Noir, Pinot Gris, Chardonnay
Marion	35	938	Pinot Noir, Pinot Gris
Polk	68	2,035	Pinot Noir, Pinot Gris, Chardonnay
Umatilla	19	444	Cab, Merlot, Syrah, Riesling
Wasco	13	150	Cab, Merlot, Syrah, Riesling
Washington	77	1,447	Pinot Noir, Pinot Gris
Yamhill	194	4,380	Pinot Noir, Pinot Gris, Chardonnay, Riesling
All others	19	261	Diverse
Total	**709**	**13,700**	

Source: OASS, Full Glass Research

Wine Grape Cultivation

Wine grapes are usually the fourth most important fruit crop in the state, depending on harvest and market conditions year-to-year. The value of the wine grape crop was $36 million in 2003 and $32 million in 2004 (a smaller crop). Average per ton value grew from $1,510 to $1,552. The following chart illustrates the wine grape crop value compared to those of other crop values over the last two years.

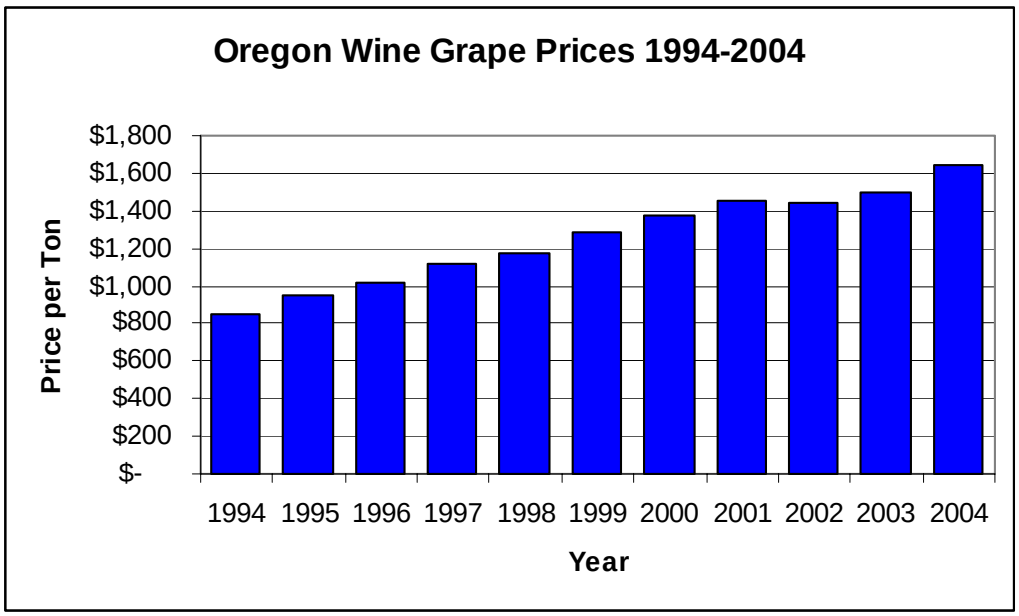
Oregon Dollar Value by Commodity, 2003-2004

Commodity	2003	2004
Pears	$64,611,000	$76,703,000
Hazelnuts	$39,037,000	$52,992,000
Cherries	$44,449,000	$49,819,000
Wine Grapes	**$36,240,000**	**$32,200,000**
Apples	$23,066,000	$26,057,000
Cranberries	$17,284,000	$17,977,000
Peaches	$1,957,000	$2,774,000
Prunes/plums	$1,114,000	$2,637,000
Total	**$228,263,000**	**$191,909,800**

Source: OASS

Due to their unique qualities, some Oregon grapes are purchased by wineries outside Oregon. In 2004, 474 tons of Oregon grapes were purchased and crushed by wineries out of state at a value of $572,000. In the larger 2003 vintage, the number was 960 tons. *(OASS)*

The value of Oregon's wine grape crop has increased steadily since 1994. This is partly due to greater volume but also due to increased prices per ton, as the following chart makes clear. The higher prices per ton result from a combination of increasing prestige and retail bottle prices for Oregon wine, the increased emphasis on Pinot Noir (arguably the most upscale of varietals) and the increasing consumer demand for high-end wines since the mid-1990s.



Source: Full Glass Research, OASS

Wine Grape Varietals

Pinot Noir continues to be the leading varietal in Oregon vineyards. Due to its prestige, high price and growing consumer demand, Pinot Noir acreage has boomed. Tonnage of Pinot Noir increased 58 percent from 2000 to 2004. The combination of leading tonnage and the highest average price per ton means that the value of the Pinot Noir crop is more than four times that of any other grape variety. Pinot Gris is the next most important by far and its value grew 9 percent since 2004.

Among other varietals, Chardonnay, Cabernet Sauvignon, Merlot and Riesling have decreased in importance in recent years while Cabernet Franc, Pinot Blanc and Syrah have increased considerably from fairly small bases.

Oregon Wine Grapes by Variety, Tons and Value, 2000 and 2004

Variety	Production Tons 2000	Avg. Price per ton 2000	Value $1000s 2000	Production Tons 2004	Avg. Price per ton 2004	Value $1000s 2004	% Change in Value 2000-2004
Cabernet Franc	103	$1,560	$161	159	$1,780	$283	76%
Cabernet Sauvignon	977	$1,420	$1,387	584	$1,540	$899	-35%
Chardonnay	2,846	$1,000	$2,846	1,550	$1,190	$1,845	-35%
Gewurztraminer	314	$910	$286	252	$1,010	$255	-11%
Merlot	1,047	$1,460	$1,529	667	$1,480	$987	-35%
Muller Thurgau	338	$740	$250	227	$950	$216	-14%
Pinot Blanc	224	$1,470	$329	375	$1,150	$431	31%
Pinot Gris	3,109	$1,300	$4,042	3,660	$1,200	$4,392	9%
Pinot Noir	6,812	$1,820	$12,398	9,370	$2,090	$19,583	58%
Sauvignon Blanc	160	$1,000	$160	93	$1,130	$105	-34%
Semillon	99	$1,010	$100	44	$1,110	$49	-51%
Syrah	189	$1,760	$333	489	$1,990	$973	193%
White Riesling	1,529	$750	$1,147	1,110	$960	$1,066	-7%
Zinfandel	211	$1,570	$331	87	$2,000	$174	-47%
All others	642	$1,050	$674	733	$1,265	$927	38%
Total**	**18,600**	**$1,396**	**$25,972**	**19,400**	**$ 1,660**	**$ 32,200**	**24%**

Source: OASS

Oregon Wine Varietals by Total Acres and Percentage of Plantings

Variety	All planted acreage 2003	All planted acreage 2004	% Total Acreage 2004
Pinot Noir	7,366	7,637	56%
Pinot Gris	1,797	1,813	13%
Chardonnay	927	866	6%
Merlot	579	563	4%
White Riesling	558	532	4%
Cabernet Sauvignon	510	521	4%
All others	522	410	3%
Syrah	359	378	3%
Gewurztraminer	228	227	2%
Pinot Blanc	178	190	1%
Viognier**	-	110	1%
Cabernet Franc	103	99	1%
Muller Thurgau	94	95	1%
Tempranillo**	-	93	1%
Sauvignon Blanc	69	63	0.5%
Zinfandel	66	58	0.4%
Semillon	44	45	0.3%
Totals	**13,400**	**13,700**	

** Included in "all others" prior to 2004.

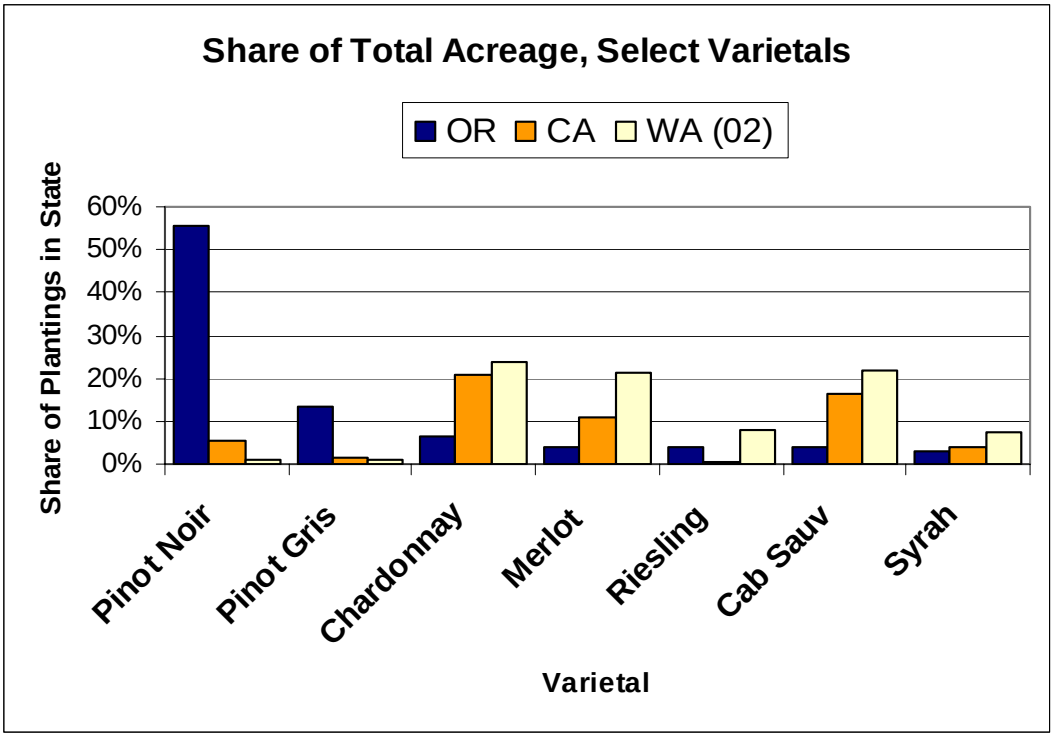
Note: totals may not add due to rounding.

Source: OASS

Comparing Oregon to the other leading western grape growing states, the differences become clear. In absolute volume, Oregon is a major supplier of Pinot Noir and Pinot Gris and is an important source of Riesling. In share of state plantings, Oregon is by far the most concentrated on Pinot Noir and Pinot Gris. Cabernet Franc, Chardonnay and Merlot are a less important part of Oregon plantings than in California and Washington, while Oregon has invested significantly in Riesling and Syrah.

Oregon vs. California vs. Washington Acreage

ACRES OF:	OR	CA	WA ('02)
Pinot Noir	7,637	25,070	290
Pinot Gris	1,813	7,097	330
Chardonnay	866	97,043	6,640
Merlot	563	51,634	5,980
White Riesling	532	1,984	2,200
Cabernet Sauvignon	521	75,332	6,050
Syrah	378	18,358	2,100
All Varietals	13,700	466,935	28,000



Source: OASS, WASS, CASS Note: Washington numbers are 2002; OR and CA numbers are 2004

Grape Production by State, in Thousands of Tons, 2000 vs. 2004

	2000	2004	% Change 2000 to 2004
California, all grapes	6,850	5,360	-22%
Wine Types	3,200	2,700	-16%
Table Types	800	730	-9%
Raisin Types	2,850	1,930	-32%
Washington, all grapes	270	267	-1%
Non-wine	180	160	-11%
Wine	85	107	26%
Oregon, all grapes	**18**	**19**	**6%**
New York, all grapes	165	70	-58%
Non-wine		30	NA
wine		40	NA

Source: OASS, WASS, CASS, Wine Institute

Wine Grape Sales Revenue

Wine Grape Grower Revenues: $16 million

In 2004, Oregon grape growers harvested and sold 9,609 tons of grapes for revenues of $16 million. Note that this counts only independent sales of wine grapes – about half of all Oregon grapes are grown in winery-owned vineyards and thus are not covered by independent sales transactions. If you ascribe the market value of the grapes sold to all Oregon wine grapes, the total value of the 2004 harvest was $32.2 million.

A far higher proportion of Oregon's vineyards are owned and managed by wineries than in California, Washington or New York. This results in a different allocation of spending between winery and vineyard sectors, with a smaller proportion of the industry value ascribed to independent growers and a larger proportion to wineries.

The $1,660 average per ton that Oregon grape growers received in 2004 is much higher than the $570 per ton average that California growers received in 2004. This price discrepancy is due to the large volume of lower-quality California Central Valley grapes that substantially reduces the California average. Oregon growers and wineries have avoided the lower end of the business and have focused on high-priced wines. This has proved a wise decision, as the market for low-end grapes is currently in oversupply globally and the mid-priced segments are extremely competitive.

As the following chart indicates, prices for Oregon grapes are comparable to those for some of California's best regions, although not yet at the level of Napa Valley. In

addition, Oregon has not suffered as much as other regions from the recent glut of inexpensive Merlot, Cabernet and Chardonnay.

Average Wine Grape Growers' Returns per Ton, by Region, 2000 and 2004

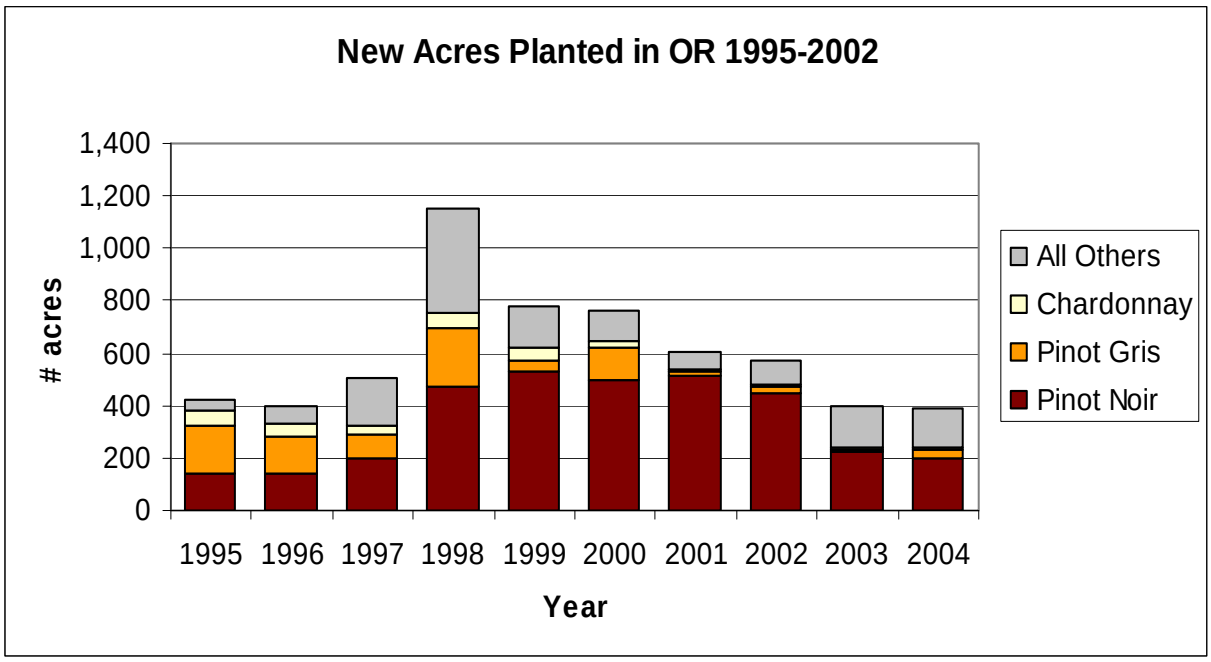
Region or State	2000 average grower returns per ton	2004 average grower returns per ton
Napa County	$2,469	$2,941
Sonoma & Marin Counties	$2,038	$1,866
California Central Coast	$1,297	$1,030
Oregon State Average	**$1,396**	**$1,660**
California State Average	$571	$570
Washington	$899	$925

Source: Full Glass Research, CASS and WASS

Wine Grape Vineyard Development and Maintenance

Vineyard Development, plantings in 2004:	$ 7,586,000
Vineyard Development, plantings in 2003:	$ 1,000,000
Vineyard Removals:	$ 237,600
Total Development Investment, 2004:	$ 8,823,600

Wine grape acreage in Oregon soared from 6,600 acres in 1994 to 13,700 acres in 2004 (OASS). Total tons more than doubled during the same time period. Despite the increased acreage, the demand for Oregon wines continues to lead grape supply.



New acres planted in 2003 totaled 400 and in 2004 there were 388 new acres planted.

When developing a vineyard, the site must be prepared to plant vines – land must be cleared, drainage improved, supplements added, erosion controlled, etc. Once the vines are planted they must be trellised and trained. It can take between two and four years before the vine bears fruit. This process is very capital and labor intensive, with development costs ranging widely from $8,000 to $25,000 an acre, depending on the specific location of the vineyard and planting layout. The most important cost factor in planting a vineyard is the vine spacing. Different vineyards use different vine spacing depending upon the site, desired grape flavors, and development cost considerations. (*Source: MKF Research)*

Based upon the change in total Oregon non-bearing vineyard acreage in 2004, approximately $7.6 million was invested in developing 400 acres during this time. An additional $1 million was spent in second year development of 388 acres planted in 2003 and a further $237,600 spent on acreage removals or replacements. *(Source: OASS, Full Glass Research)*

The 2004 average per acre development cost of $19,551 is based upon a survey of vineyard owners, developers and research literature. It assumes "normal" layout for most varieties and situations, but a more expensive dense planting and trellising system for all Pinot Noir and 20 percent of Chardonnay acres. This cost includes all land preparation, vineyard layout, planting and trellising, vines, irrigation, materials and equipment, farming costs and direct and allocated overhead, utilities, property taxes, and financing costs during the preproductive period. It does not include land acquisition costs.

Vineyard development and corresponding investment are summarized in the following table:

Vineyard Development and Corresponding Investment by Varietal, 2004

Variety	New Plantings, acres	Removals, acres	Cost to plant per acre	Cost to Remove per acre	Total New Planting Costs 2004	Total Removal Costs, 2004
Cabernet Franc	1	5	$15,000	$1,200	$15,000	$6,000
Cabernet Sauvignon	7	6	$15,000	$1,200	$105,000	$7,200
Chardonnay	6	46	$16,800	$1,200	$100,800	$55,200
Gewurztraminer	3	2	$15,000	$1,200	$45,000	$2,400
Merlot	7	31	$15,000	$1,200	$105,000	$37,200
Muller Thurgau	2	1	$15,000	$1,200	$30,000	$1,200
Pinot Blanc	13	1	$15,000	$1,200	$195,000	$1,200
Pinot Gris	36	2	$15,000	$1,200	$540,000	$2,400
Pinot Noir	195	54	$24,000	$1,200	$4,680,000	$64,800
Sauvignon Blanc	3	-	$15,000	$1,200	$45,000	
Semillon	1	-	$15,000	$1,200	$15,000	
Syrah	28	8	$15,000	$1,200	$420,000	$9,600
Tempranillo	12	2	$15,000	$1,200	$180,000	$2,400
Viognier	17	-	$15,000	$1,200	$255,000	
White Riesling	14	20	$15,000	$1,200	$210,000	$24,000
Zinfandel	2	17	$15,000	$1,200	$30,000	$20,400
All others	41	3	$15,000	$1,200	$615,000	$3,600
						$237,600
Total, 2004	**388**	**198**		*7,585,800*	*2004 estimated new planting costs*	
Total, 2003	400	238		*$ 7,820,412*	*2003 estimated new planting costs*	
				$ 19,551	*2004 per acre avg*	
				$ 1,000,000	*2d year costs in 2004 for 2003 plantings @ 2500/acre*	

Source: Full Glass Research

Vineyard and Winery Maintenance and Equipment Costs

Vineyard Maintenance Costs:	$ 29,167,240
Farm and Vineyard Equipment:	$ 2,762,000
Winery Maintenance and Repair Costs:	$ 838,000
Crush and Press Equipment and vehicles:	$ 153,000
Total Maintenance and Equipment Costs:	$ 33,010,240

Annual vineyard maintenance costs, such as cultivation, tying and training, weed control and pruning average from $1,000-3,000 per acre, depending on the variety, trellising and spacing. We estimate a total of more than $29 million to maintain 13,400 planted acres in the state. We left out acres newly planted in 2004, which are covered in vineyard development section, as well as inputs such as fertilizer, fungicide, etc. which are covered in the Supplier Industries section. *(Full Glass Research, survey)*

Oregon wineries and growers spent more than $2.7 million in 2004 in the state of Oregon on farm and vineyard equipment and vehicles.

Oregon wineries spend approximately $800,000 annually on winery repair and maintenance and at least $3 million annually on maintenance, equipment and vehicles. However, only a small portion of that is retained in Oregon since most winery equipment is manufactured in other states or foreign countries.

Organic & Sustainable Farming

Our survey of Oregon vineyards included a question on vineyard practices. The survey results indicated a high percentage of vineyards engaging in organic or sustainable farming. Slightly more than 36 percent of vineyards reported traditional practices. 34.5 percent of vineyards were sustainable certified via LIVE or VINEA. Another 14 percent claimed to be organic (certified or non-certified) and 7 percent reported themselves as biodynamic.

While we only had comprehensive acreage numbers for a limited number of the respondents to the sustainable practices section (36), the share of acreage farmed organically or sustainably appears to be quite high too. Based on a projection of the survey, 40-60% of the Oregon acreage may fall into either of these categories.

Sustainable practices and reduced inputs of synthetic fertilizers, pesticides and fungicides have direct and indirect benefits that are beyond the scope of this analysis, but have been documented in other economic studies. Such benefits include but may not be limited to:

- Reduced costs for protection of employees and environment from pesticides and fungicides;
- Reduction of pollution from, and demand for, chemical/oil resources in production of synthetic pesticides, fertilizers and fungicides;
- Reduced regulatory compliance and monitoring costs.
- Reduced costs from recycling of solid waste materials (e.g., lower costs for dumping fees) and in some cases, gains from sales of recycled materials.
- Increased benefits from soil conservation methods -- e.g., avoiding costs of combating soil erosion and depletion and sedimentation of streams.
- Offset costs for fertilizers that would be needed with depleted soils.

Industry Employment

The production and sale of wine requires employment in vineyards, wineries, distribution, retail and restaurants. These forms of direct employment support **5,583** jobs within the state of Oregon and generate more than **$118** million in gross payroll expenditures.

Data on employment was obtained from the Oregon Employment Department (OED). For vineyard employment, the average annual salary is $13,714 (includes seasonal workers), for winery employment $22,232, for distribution employment $39,610. Wholesale and retail employment impacts were modeled based on wine vs. total sector revenues for those industries.

Winery and grower spending also generates significant employment impact among industries supplying the production process with packaging, machinery, services etc. When supplier industries are included, total employment impact is over **8,479** jobs and $**204** million in payroll.

The OED reports employment based upon NAICS Code. The North American Industry Classification System (NAICS) manual is published by the federal Office of Management and Budget. The manual provides a systematic classification of those economic activities (industries) that, together, define and describe the basic composition of our nation's economy. The first edition of this classification manual was published in 1997, followed five years later by the 2002 edition. The main NAICS codes for the wine industry are Vineyard (111332), Winery (31213), and Distributors (42482).

Wine Industry Direct Employment, 2004**

Industry	Number of employees	Total wages paid	Average wage
Vineyard	433***	$ 15,688,629	$13,714
Winery	1,222	$ 27,168,000	$22,232
Distribution	384	$ 15,210,000	$39,610
Grocery employees*	895	$ 19,838,491	$22,166
Wine store employees	812	$14,078,000	$17,337
Eating & drinking places*	1,837	$ 26,084,700	$14,198
Total	5,583	$118,067,820	

Source: OED and FULL GLASS Research

* Prorated for wine's share of total business revenues

**Note that the OED statistics do not include owners of the business not on the payroll, nor other non-compensated 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.

***Note that some vineyard workers are included in the winery statistics, as there is a high proportion of winery-owned vineyards in Oregon.

In our vineyard survey, the average Oregon vineyard had 2.7 full time employees and hired 9.2 temporary employees during the year. This did not include owner hours worked or estate vineyards.

Where possible, we have calculated or estimated employment effects in each of the supplier industries in the following sections.

Allied Industries

We have analyzed separately a number of the industries that benefit from wine production and distribution such as wholesalers; tourism; equipment and supplies; testing, education and research; and trucking. Some related industries – winery construction, warehousing and storage of wine, mobile bottlers, oak staves and some services provided to the industry – have not been separately enumerated in this study due to limited availability of data. However, the indirect economic impact of these industries has been captured under IMPLAN analysis, further discussed under other economic benefits.

Distribution

Direct Employment:	384 employees
Total Wages:	$ 15,210,158
Total Revenue:	$ 223,792,000

Wineries can sell their wine to consumers directly, either at the winery itself or via mail order or Internet purchases. However, for legal and economic reasons, the majority of wine sold is shipped through the "three tier system," from winery to distributor/wholesaler to retail/restaurant. For wine produced outside the United States, importers may add another tier of distribution. In addition, a winery or importer may employ brokers to aid or increase sales in a given market.

Distribution of wine in Oregon has some features not found in most other states. Wineries may act as their own wholesalers. In addition, spirits and liquor are sold through state stores, with revenues going to the state government. Therefore wine distributors are much more dependent on wine in terms of income.

Importers, wholesalers and retailers can add value to wine distribution through selection, bill collection, warehousing and sales and promotion efforts. In general, wineries substantially discount their wines when selling them to wholesalers. This transfers margin and revenues from the winery to the wholesale tier, producing revenues and employment for the distributor. It supports the investment in fixed assets such as buildings, equipment, delivery vehicles. It is also the only way in which the majority of wines from out-of-state can successfully be sold in Oregon. The major distributors in Oregon are privately held, so there is little specific public information available about the distribution tier. With limited input from distributor sources, OLCC and various sources of data on wine sales, we have estimated distributor revenues. Wages and employees come from the OED.

Distributors employed 384 people that can be attributed to wine business, and they generate revenues of approximately $224 million. ***(****Source: OED, Full Glass Research)* The employment figures do not include the effects of self-distribution on the part of the wineries, whose sales and delivery people would be counted in the winery tier. In

addition, the distribution revenues are probably somewhat understated, with a portion of those revenues are also ascribed to the winery tier.

Tourism

Direct Employment:	443+ employees
Total Wages:	$ 9,050,000
Total Revenue:	$ 92,210,000

Tourism related to the wine industry results in estimated expenditures of 92.2 million throughout the state. This does not include tasting room and tour-related business at the wineries, just the hotel, restaurant and other business generated in Oregon.

There are approximately 1.48 million visits to Oregon wineries each year. According to the Full Glass Research survey, approximately 49 percent of winery visitors are Oregon residents. An estimated 30 percent of winery visitors are day-trippers, not staying overnight in wine country. Assuming two wineries per tourist day trip to Oregon and three per overnight trip, the estimated number of visitors is 568,800.

Research by Travel Oregon indicates that the average leisure trip consists of 2.6 adults and average spending is $240 for overnight trips and $110 for day trips. Applying these numbers to our survey results, we estimate wine-related tourism brings in $92.2 million of spending each year, of which $60.5 million is from out of state. These spending figures do not include wine purchased (which is covered in the direct sales portion of winery revenues).

Tourism directly related to the wine industry employs at least 443 people and generates over $9 million in wages. This does not include employees of winery tasting rooms or other winery hospitality, who are covered under winery spending and employment. *(Sources: FG survey, Oregon Tourism, Dean Runyan, Travel Oregon)*

It must be noted that these figures are almost certainly underestimates. Given the demographics and spending tendencies of regular wine buyers, a large proportion of the overnight winery visitors are more likely to stay in hotels and spend far more money on meals than the average Oregon tourist.

There is significant opportunity to increase tourism-related impact of wineries on the state's economy. According to Travel Oregon's research, just 5 percent of overnight leisure trips involved winery visits. This is far lower than similar percentages for other wine country destinations such as Mendocino, San Luis Obispo and Amador counties in California, which range from 10 to 25 percent. *(Sources: Travel Oregon, MKF Research)*

Two major events that draw considerable numbers of wine-related visitors to Oregon wine country are the International Pinot Noir Celebration (IPNC) and Oregon Pinot Camp.

The IPNC has at least 650 attendees, 70 percent from out-of-state. The average attendee for the 3 day conference spends 4.5 days in Oregon. An additional 600+ people attend a related Sunday event. The total impact of this festival is more than $750,000.

Oregon Pinot Camp is targeted exclusively at members of the wine trade, with attendance of about 250. Attendees spend an average of 4 days in Oregon. Total impact of this event is more than $150,000.

Grapevine Nurseries

Direct Employment:	50+ employees
Total Wages:	$ 1,100,000
Total Revenue:	$ 1,306,400

The development of new vineyards of course requires new vines. In addition, vines in existing vineyards are replaced periodically due to losses from disease or pests, changes in market demand or declining production in old age. Most vineyards are planted with purchased vines and/or rootstock. Vines planted on their own roots are typically less expensive than vines grafted onto specialized rootstock. The value of grapevines planted in Oregon ranged between $1.6 and $2.3 million in 2004 with more than 778,000 grapevines planted. According to our survey, 79 percent of these dollars were spent at nurseries within the state of Oregon. The actual value of these transactions depends on your assumptions of the share of grafted vs. non-grafted vines; assuming a 50-50 split, the revenues for Oregon nurseries would have been $1,306,400. *(Full Glass Research, survey)*

The OED does not break out grapevine or fruit nursery data from other types of nurseries (flower, tree, etc.) and a number of the Oregon grapevine nurseries also function as vineyards and wineries. Therefore, we could not calculate a precise number for nursery employment or wages. There are at least 17 grapevine sources in Oregon, including vineyards and wineries that do nursery business. If you prorate the independent nurseries vs. OED wage and employment figures, Oregon grapevine nurseries are responsible for at least 50 jobs (part and full-time) and $1.1 million in wages.

Equipment and Supplies

Corks & Closures

Total Revenue: $842,000

Wine is sealed with a variety of closure devices. Historically, corks have been used to seal wine bottles, although metal screw tops are also popular and synthetic corks have grown in importance. Most natural corks are imported, predominately from Spain and Portugal, and synthetic corks are primarily produced in Europe, California, Washington and Australia.

Approximately 17.7 million corks were used by the Oregon wine industry in 2004. Corks range from $0.05/cork to $0.50/cork, depending on the quality and length, with an average of $0.25/cork. Oregon wineries spend $4.4 million on corks, however only about $487,000 of this revenue goes to firms within the state of Oregon. The majority of business goes to out-of-state producers. Only the revenue retained by salespeople and brokers for the out-of-state cork producers remains in Oregon. Since salespeople may cover additional territories outside Oregon and brokers often support other products, it is not possible to estimate related employment separately.

Most wine bottles are also sealed with some sort of capsule. Capsules cost roughly $0.10 to $0.40 with an average assumed cost of $0.20. Oregon wineries required 17.7 million capsules in 2004 for total spending of $5.458 million. However, like corks, there are no capsule manufacturers in Oregon and the only revenues retained within the state are those for brokers and suppliers – approximately $355,000.

Glass

Total Revenue: $ 2,565,000

Glass is the most common container for wine, and increasingly, the bottle shape and color are becoming important marketing devices as well. Since they compete in the high premium sectors, the vast majority of Oregon wines are bottled in glass. However, Oregon has no glass producer that supplies the wine industry. All of the wine bottles used by Oregon wineries come from elsewhere in the U.S. or foreign countries.

Based on an average bottle cost of $0.50, Oregon wineries spend $8.55 million annually on glass. Only a small proportion of this impacts the Oregon economy, via brokers and sales representatives for glass companies. However, margins for glass wholesalers and brokers are higher than for corks and closures. We estimate $2.6 million in glass revenues within Oregon itself. Since salespeople may cover additional territories outside Oregon and brokers often support other products, it is not possible to estimate related employment separately.

From an environmental perspective, wine bottles have one of the highest probabilities of all beverage containers (regardless of materials or redemption value) of being recycled, an intangible benefit not quantified above.

Trucking

Direct Employment:	53 employees
Total Wages:	$ 2,200,000
Total Revenue:	$ 3,590,000

Trucks are used to transport grapes, bulk wine, empty glass, barrels, and equipment to wineries. Trucks also move full cases of bottled wine and bulk wine to warehouses, distributors and export staging. Oregon wineries spend an estimated $3.6 million annually on transport. This estimate does not include trucking by distributors, but does include trucking for wineries that handle their own distribution. *(Source: Full Glass Research)*

Stainless Steel Tanks

Direct Employment:	50+ employees
Total Wages:	$ 2,122,000+
Total Revenue:	$ 6,263,000+

Stainless steel is the most frequently used fermentation and storage material in the wine industry. Stainless steel tanks are made in Oregon, in a few other states, and in Europe. Oregon has several large firms involved in the design and manufacture of stainless steel tanks. Tanks have a useful life of approximately 25 years, so they are not purchased frequently; business tends to follow major expansions in winery volume and capacity and then level off.

There are a number of stainless steel tank producers in Oregon, although not all produce tanks for the wine industry. Since they are private companies, only limited data was available. However, those doing business with wineries employed over 100 people in 2004 (at least 50 in wine-related production services) and had total revenues of over $12 million, about half of which can be ascribed to wineries. Over $2 million worth of tanks were sold in Oregon and $4 million was exported to other states. The average annual wage in the heavy gauge steel-manufacturing sector in Oregon was $42,442 in 2004.

Wine Labels and Other Printing

Direct Employment:	44 employees
Total Wages:	$ 1,728,000
Total Revenue:	$ 13,800,000+

Wine labels are required by TTB regulation. Labels are the key element in wine package design as wineries attempt to create an image, communicate with consumers and gain

notice on the shelves. In fact, for many small wineries they are the most important part of their marketing. A certain number of labels are affixed to the outside of cases of wine to identify the product. Additional labels are often printed for marketing purposes, for press kits and to hand out at events.

We estimate that in 2004 the Oregon wine industry purchased approximately 34 million labels with a value of $5.1 million, with $4.7 million coming from Oregon printers. In addition, Oregon printers sold an estimated $9.1 million worth of labels to wineries outside Oregon. The employment impact from wine labels is difficult to quantify because label printers have other winery and non-winery printing business, but prorating from some revenue figures and following interviews with printers, we estimate it to be 36 persons with over $1 million in wages.

In addition to labels, wineries generate substantial demand for other printed materials, such as brochures, posters, sales presentations, cards, and so on. This spending is extremely variable by winery and some of it is done in-house. IMPLAN estimates another 8 jobs related to non-label printing. Based on industry interviews, this is likely a substantial underestimation.

Cooperage

Revenue: $ 231,000

Barrels typically have a useful life of four to six years, as opposed to stainless steel tanks that have a useful life of 25+ years. Most red wines over $6/bottle are aged at least partially in oak barrels and certain white wines (most typically Chardonnay) are also aged in barrels. Some white wines are fermented in barrel. Thus most wineries producing those wines buy a certain percentage of new barrels every year. For such wineries, barrels may be the second most expensive item in their budget after grapes.

Wine is stored in barrels for a number of reasons. Barrels impart a favorable taste and texture to wine and are a natural way to clarify wine. Wine barrels are made predominately from French or American oak, and are assembled France, the United States and Eastern Europe. Oak from Oregon forests has some strong supporters among barrel-makers. The prestigious Burgundian firm of François Frères has a stave cooperage in Oregon where lumber is split, prepped and aged for use in their Napa barrel-making facility. However, as of yet there are no commercial barrel-production facilities in Oregon.

Oregon wineries spend $3 to $5 million on barrels annually, but only $231,000 goes to firms within Oregon. The money spent in Oregon mainly represents sales or broker fees. (It does not include a valuation of the François Frères operation.)

Winery and Vineyard Chemicals, Gases, Sprays, Fertilizers and Miscellaneous Supplies

Direct Employment:	30 employees
Total Wages:	$ 640,000
Total Revenue:	$ 4,100,000

Oregon wineries spend approximately $541,000 annually on chemicals, gases and various supplies, of which roughly $430,000 goes to companies in Oregon. *(Survey projection)*

Oregon vineyards also spend on various growing inputs ranging from biodynamic preparations to fungicides. In 2004 Oregon vineyards spent $3.9 million on this sector, of which $3.7 million was spent with Oregon companies. Average spending per acre was $331. *(Full Glass survey projection)*

Shipping

Total Revenue	$ 523,000

Oregon wineries spent approximately $523K on consumer direct shipping such as Fed Ex, UPS, and DHL as well as mailing various supplies and materials (*based on Full Glass winery survey).* Since the shipping companies are private entities and handle a variety of packages of which wine is a small subset, it is not possible to estimate the employment impact of this spending.

Industry Associations

Direct Employment:	15
Annual Spending:	$1,320,000

The Oregon Wine Board is a semi-independent state agency that replaced the Oregon Wine Advisory Board when Governor Ted Kulongoski signed the House Bill 3442 into law on September 23, 2003. The Board is charged with supporting enological, viticultural, and economic research and the promotion of grape growing and winemaking in Oregon. Funds to support this work come from mandatory taxes on the production of Oregon wine ($25/ton) and on certain wines sold in Oregon ($.02/gallon). In addition, the Oregon Wine Advisory Council shares an office, staff and Board with the Oregon Wine Board. The combined annual budget for both organizations is approximately $875,000 and supports four fulltime employees.

Other grower and winery associations include: Columbia Gorge Winegrowers, Columbia Valley Winery Association, Southern Oregon Winery Association, Umpqua Valley Winegrowers Association, the Walla Walla Valley Wine Alliance, The Wineries of Lane County, Willamette Valley Grape Growers, Willamette Valley Wineries and several regional chapters of the Oregon Winegrowers Association.

Testing, Education, and Research

Wine Laboratories

Total Revenue: $ 617,000

While most wineries have some form of lab on the premises, many use outside laboratories for analyses that their equipment can't perform or third party confirmations. There are at least two commercial laboratories in Oregon focused on wine. These labs perform chemical analyses on grapes and wine for smaller wineries throughout the state. Employment impacts from these activities are small and not quantified in this study. The estimate of winery spending comes from our winery survey.

Education and Wine Industry Research

Annual Spending: $ 570,000+

Oregon State University is developing education program in viticulture and enology. The annual budget so far is about $100K, and the program is still in the planning stages so it is unclear what size the budget and enrollment will be in future years. The program will focus on training students in how to work with Oregon's unique climate and terrain.

In addition to university research, Chemeketa Community College has invested in a hands-on training program in viticulture and wine production. The annual budget is $270,000 and they recently purchased $125,000 worth of equipment and invested $75,000 in 4-5 acres of vineyard expansion.

Other Economic Effects

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.

An excise tax is a type of sales tax on a specific commodity, in this case wine. 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. Property tax is a tax on the ownership of property by local government. Oregon has no sales tax. We have not included estate or county taxes in the tax revenue summary below.

Oregon State Taxes, Licenses and Other Fees Directly Related to Wine

Tax Type	Total 2004
Excise taxes	$7,060,000
Direct Payroll	$7,397,568
Property	$765,433
Licenses and fees	$81,000
State Income Taxes	$8,938,728
Indirect and induced taxes	$17,444,000
Total	**$41,682,729**

Source: Oregon Department of Revenue and Full Glass Research

During the last fiscal year (July 1, 2004 thru June 30, 2005), Oregon wineries paid $260,719 in state taxes. However, the vast majority of the licensed wineries are tax-exempt due to their small production. The tax rate for non-exempt wineries is 67 cents per gallon for wine under 14 percent alcohol and 77 cents per gallon for wine over 14 percent alcohol. Only 2 of the 67 cents accrue to the Oregon Wine Board. Wine entering the state from outside producers provided $6.799 million in taxes.

Property taxes are estimated based on identifiable winery/vineyard properties on the Oregon county property tax rolls and are probably an underestimate. Payroll taxes are

based on the state unemployment tax (SUTA) 2005 standard of 3.2% per first $27,000 of income.

Other estimated tax effects include:

- $620,000 in state corporate taxes
- $6,553,000 in indirect business taxes to supplier and related industries
- $9,675,000 in indirect personal taxes

Federal tax effects approximately net out to zero - Oregon receives back federal spending equal to 98% of its federal tax dollars. *(Source: The Tax Foundation)*

Oregon State Liquor Control Commission

Employment*:	6+ employees
Total Spending*:	$1,248,000

*attributable to wine

By June 2005, Oregon had granted 11,326 liquor licenses, including 324 winery licenses, 5,549 on-premise licenses, 1,229 commercial and distributor licenses, and 3,786 off-premise licenses.

The licensed wineries renew their licenses during one of the four renewal periods during the year. When they renew depends on where they are located in the state. The annual fee is $250 per year, so OLCC collected an estimated $81,000 in revenue from these licensees. Note that the number of winery licenses granted differs from the winery count in our OASS data, which measures only producing "bricks & mortar" wineries and excludes fruit, cider, brandy and beer producers that may also produce what is technically defined as wine.

The OLCC employs 210 people, with an operating and store budget of $40,260,000 (OLCC 2003 annual report). However, 94 percent of their budget comes from sales of liquor through the state store system. If you allocate the remaining 6 percent based on wine's percentage of sales and licensing fees (52 percent), the wine industry supports $1,248,000 of OLCC activities, and at least 6 employees.

Compliance and Legal Spending

The regulation and legal aspects of winemaking, marketing and selling are sufficiently complex and different from other businesses so as to spawn a small market for those specializing in advising wineries on regulatory matters and executing the associated paperwork or compliance oversight for them. One of the leading industry firms in this area, Compliance Service of America, is in fact located in Gardiner, Oregon. They service firms in both Oregon and other states. On the other hand, numerous wineries manage their own compliance and regulatory issues or outsource them to firms outside

the state. Due to the variety of ways in which wineries deal with this issue, we are unable to separately estimate industry employment or spending related to compliance.

Miscellaneous Consulting and Services

Employment:	90 employees
Total Wages:	$3,483,572
Total Spending:	$4,397,000

Many wineries use outside consultants or service providers in the course of their business. They include design and artistic services, consulting services in marketing, grape growing and winemaking, and CPA/accounting firms. Based on our winery survey, Oregon wineries spent $2.9 million in Oregon on such services. When legal, management, telecommunications, computer and other services are included; the total rises to $4.4 million.

Banking, Financing, and Insurance Revenues

Employment:	53 employees
Total Wages:	$2,560,631
Total Spending:	$22,931,500

As noted in earlier sections of this report, the wine industry is capital intensive, making access to viable financing options critical to its success. In addition, wineries, restaurants, wine retailers and wholesalers have both expensive inventories and unique insurance requirements.

Charitable Contributions

Total Spending: $3.03 million

According to our winery survey, responding wineries contributed $490,550 to charity in the form of time and events, wine donations, and cash contributions. Projected to the entire industry, Oregon wineries and wine grape growers contributed an estimated $3.03 million to charitable organizations in 2004.

Direct, Indirect and Induced Effects

IMPLAN Modeling

IMPLAN is derived from the phrase **"IM**pact analysis for **PLAN**ing." IMPLAN is an economic model that uses input-output tables for over 500 industries. Initially developed by the U.S. Forest Service, it is currently used by the U.S. Army Corps of Engineers, universities and economic consulting firms doing research to estimate regional and industry-specific economic impacts. Full Glass Research supplemented its figures for employment, wages, and revenue with IMPLAN estimates for those areas not specifically covered in our analysis. For example, we developed our own estimates for the wages and employment within the wine and grape growing industry. However, we used IMPLAN for estimates of the impact of these wages being spent within the Oregon economy on housing, food, entertainment, etc. In some cases, such as spending on chemicals and related supplies, Full Glass estimated revenues from its primary research, but used IMPLAN to calculate the effect on employment and wages.

In the IMPLAN model, these effects are categorized as follows:

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 estimated based on extensive primary research by Full Glass Research.

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 indirect effects were estimated based on primary research, but where this research was insufficient they were supplemented by IMPLAN. **Additional indirect revenues according to IMPLAN were $57,119,000. Additional indirect employment is estimated at 576 jobs and $16,692,000 in wages.**

Induced effects are changes in economic activity resulting from household spending of the income earned from direct or indirect sales. For instance, employees of wineries and bottle suppliers 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 $135,487,000; employment of 1,507 jobs at $46,023,000 in wages.**

Total economic effects are the sum of direct, indirect, and induced effects (secondary effects equal indirect plus induced effects).

Measuring Net Economic Effects

This study was intended to give as wide and comprehensive a view of the economic impact of wine in Oregon as possible. Thus, for nearly every sector that is impacted by production or sales of wine, we calculated the total revenues and wages resulting from that activity. This is essentially a summary or catalogue of the impact of wine on the Oregon state economy. It enables those making decisions affecting the production or sale of wine to get a better idea of the scope and potential impact of those decisions, by economic sector and activity. In addition, it provides a valuation of each sector's wine related activity as it would be felt or seen by that sector.

Economists evaluating investments or policies with economic impact have another way of comparing choices among those alternative investments or policies. This is to measure the net economic effect of the choice. This changes the analysis when applied to a vertical analysis of a production or distribution process, for example when raw materials are purchased and transformed by one entity, sold to another entity, and then sold to the final consumer. With this type of analysis, costs for one participant that are revenue for another participant are removed from the valuation, so that only the net value added by the processor or distributor contributes to the measurement.

Which method should be applied depends on the intent of the user. If the policy-maker wants to assess the scope of revenue, wages and employment that would be affected by a policy impacting a particular sector or tier of the industry, the summary approach is more useful. If the policy-maker is comparing alternative investments or policies that affect multiple tiers of the industry, or assessing the comparative economic contribution of unrelated industries, then the net economic impact might be preferred – provided that all of the alternatives are valued using the same basis and methodology.

Full Glass Research synthesized our primary research and IMPLAN model output to arrive at the following valuation of net economic benefit for the Oregon wine industry:

Revenues	
Direct	$434.3 million
Indirect	$200.8 million
Induced	$135.5 million
Wages/Income	
Direct	$117.7 million
Indirect	$ 62.3 million
Induced	$ 46.0 million

TOTAL NET EFFECT – $996.6 million

Health Effects of Wine in the Economy

As an alcoholic beverage, wine has some impact on the health of those consuming it and this effect has economic consequences. In the case of wine, the effect is both positive and negative.

Over the past decade, a considerable amount of new research has supported the notion that moderate consumption of wine over a period of time appears to increase longevity and reduce incidence of cardiovascular disease, and may have other positive health effects. This has economic implications such as reduced medical costs, improved long term productivity, etc. On the other hand, excess consumption of any alcoholic beverage clearly has negative economic implications ranging from absenteeism to car accidents to poor health.

As the alcoholic beverage generally associated with moderate consumption and least likely to be abused, wine would probably fare well in an assessment of its health-related costs and benefits. However, due to the emerging nature of the research and the special expertise required for studies of this sort, Full Glass Research has not attempted to determine the economic effects related to health in this study.

Total Oregon State Economic Impact

Revenue		Oregon Economic Impact
Winery Sales	$	157,800,000
Retailers and Restaurant Wine Sales (in Oregon)	$	370,800,000
Distributors' Sales (in Oregon)	$	223,792,000
Wine Grape Sales	$	32,200,000 **
Tourism	$	92,210,000
Glass, corks, closures, packaging	$	3,407,000
Tax Revenues	$	41,682,729
Banking, Financing & Insurance	$	22,931,000
Consulting and Professional Services	$	4,397,000
Vineyard Development	$	8,823,600
Vineyard & Winery Maintenance and equipment	$	33,010,240
Printing (including wine labels)	$	13,800,000
Grapevine Nurseries	$	1,306,400
Trucking, Freight and Shipping	$	4,113,000
Charitable Contributions	$	3,030,000
Stainless Steel Tanks	$	6,263,000
Chemicals, Gases, Fertilizers, etc.	$	4,100,000
Education	$	570,000
Industry Associations	$	1,320,000
Oregon Liquor Control Commission	$	1,248,000
Other Indirect effects - IMPLAN	$	57,119,000
Wine Industry Induced Revenues - IMPLAN	$	135,487,000
Total Revenue	$	1,219,409,969

Wages		
Winery Employees	$	27,168,000
Vineyard Employees	$	15,689,000
Tourism Employees (hotel, restaurant, etc. wine-related only.)	$	9,050,000
Distributor Employees (wine only)	$	15,210,000
Miscellaneous Suppliers	$	640,000
Grapevine Nursery Employees	$	1,100,000
Trucking Employees	$	2,200,000
Wine Store Employees	$	14,078,000
Grocery and chain retail employees (wine-related)	$	19,838,500
On-premise employees (wine-related)	$	26,084,700
Stainless Steel Tank Employees	$	2,122,000
Printing (including labels)	$	1,728,000
Professional Services, Banking, Finance, Insurance	$	6,044,200
Other Indirect - IMPLAN	$	16,692,100
Wine industry Induced - IMPLAN	$	46,023,000
Total Wages	$	203,667,500
TOTAL IMPACT	**$**	**1,423,077,469**

** includes winery-owned grapes valued at market prices

Source: FULL GLASS Research and IMPLAN

Total Oregon State Wine Industry Employment

Employment	
Winery Employees	1,222
Vineyard Employees	433
Tourism Employees (hotel, restaurant, etc. wine-related only.)	443
Distributor Employees	384
Miscellaneous Suppliers	30
Grapevine/Nursery Employees	50
Trucking Employees	53
Wine Store Employees	812
Grocery and chain retail employees (wine-related)	895
On-premise employees (wine-related)	1,837
Stainless Steel Tank Employees	50
Printing (including labels)	44
Professional Services, Banking, Finance, Insurance, Industry Associations	143
Other Indirect - IMPLAN	576
Wine industry Induced - IMPLAN	1,507
Total Employment	8,479

Sources

Oregon Agricultural Statistics Service

California Agricultural Statistics Service

National Agricultural Statistics Service

Oregon State Department of Agriculture

Oregon Department of Revenue

Oregon Employment Department

Oregon Liquor Control Commission

Oregon Winery Surveys

Oregon Tourism Commission

Gomberg-Fredrikson

MKF WineStats

MKF Vineyard Economics

Alcohol and Tobacco Tax and Trade Bureau

Bureau of Transportation Statistics

Oregon Wine Board

Dean Runyan Associates

Wines Northwest

Various Industry Publications

The Tax Foundation

The Wine Institute

Numerous confidential interviews and surveys by Full Glass Research with industry personnel

Appendix I: Number of Wine Grape Acreage & Number of Vineyards in Oregon Per County, 2004

County	Planted Acreage	Number of Vineyards
Benton	423	31
Clackamas	292	42
Douglas	668	51
Hood River	97	11
Jackson	1,252	73
Josephine	528	27
Lane	710	39
Linn	75	10
Marion	938	35
Polk	2,035	68
Umatilla	444	19
Wasco	150	13
Washington	1,447	77
Yamhill	4,380	194
All Others	261	19

Source: OASS

Appendix II: Number of Wineries and Tons Crushed in Oregon by County, 2004

County	Tons Crushed	Number of Wineries
Douglas	458	15
Lane	2,089	17
Marion	1,238	12
Polk	2,567	25
Washington	1,601	19
Yamhill	8,272	95
Other Williamette Valley*	1,601	31
Rogue Valley**	1,803	18
All Others***	330	15

Source: OASS
* includes Benton, Clackamas, Linn and Multnomah
**includes Jackson and Josephine counties
***includes Clatsop, Deschutes, Hood River, Tillamook, Wasco, Umatilla and Union counties, plus coast

Appendix III: Estimated Direct Wine Industry Employees by County, 2004

County	Jobs	Wages
BENTON	120	$ 1,792,492
DOUGLAS	143	$ 2,210,346
JACKSON	226	$ 3,928,022
LANE	478	$ 6,746,170
MARION	419	$ 7,737,733
MULTNOMAH	1,084	$ 14,683,096
POLK	218	$ 5,416,780
WASHINGTON	597	$ 9,066,189
YAMHILL	702	$ 20,055,119
Other counties or not traceable	1,596	$ 46,432,371
TOTAL	5,583	$ 118,068,318

Source: Full Glass Research, OED. Includes only Winery, Vineyard and those jobs in distribution, retail and on-premise that are directly supported by wine revenues