

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

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**Full Glass Research**



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## Executive Summary

### Economic Value

**The sum of all economic activity in Oregon related directly or indirectly to wine is over \$2.7 billion. The net economic contribution, a measure of value added, is \$1.56 billion.** Some other key statistics:

- In 2010, wine-related jobs in Oregon totaled at least 13,518; related wages topped \$382 million.
- Over 848 Oregon wine grape growers produced a crop whose total value in 2010 was \$63.2 million.
- 418 Oregon wineries bottled 1,752,963 nine-liter cases of wine and had revenues of over \$252 million in 2010. Oregon wine and grape sales to other states/countries were \$123 million.
- Retail sales of wine in Oregon from all sources were nearly \$707.8 million in 2010.
- In 2010 wine-related tourism contributed \$158.5 million in revenues to the Oregon economy.
- Wine-related activities contributed over \$65 million in tax and licensing revenues to the state government in 2010
- The Oregon wine and wine grape industries contribute an estimated \$6.8 million annually to charities.
- The 2005-2009 surge in planting invested \$126 million into the Oregon economy.

## **Growth**

The growth in the Oregon wine industry that began in the late 1990s has continued at a rate that has outpaced that of the economy. From 2000 to 2010, the wine grape acreage increased 93%, the number of Oregon wineries crushing grapes increased by 58% and case sales of wine nearly doubled. Since the last economic impact report, winery revenues increased 60% and the net economic impact on the state by \$564 million.

## **Ultra-Premium Focus**

Oregon winegrowers continued to focus on the higher priced, higher quality segment of the wine market, although several brands have started to successfully penetrate the upper mid-range of the market as well. Of the major producing states, Oregon growers continue to achieve the highest average price per ton. Oregon wineries realize the highest average revenues per case. Despite the recession's impact on ultra-premium wines in 2008-2009, Oregon wineries weathered the storm fairly well and bounced back with strong sales and increased distribution by 2010.

## **Outlook**

The outlook for the Oregon wine industry is positive. The demographic and cultural trends that favor high quality and distinctive fine wines remain intact. Demand for Pinot noir Oregon's leading grape, continues to grow at a faster rate than most other varieties. Oregon has managed to maintain a price premium for its leading white grape, Pinot gris, despite a vast increase in competition from California. Other varieties have shown significant increases in consumer awareness and trial. Perhaps most importantly, Oregon wineries have made significant progress in expanding their market outside the state, through wine tourism, direct-to-consumer shipments and sales to distributors in the rest of the U.S. However, there are some hurdles to overcome: competition from other wine regions continues to be fierce; the small family wineries of Oregon have a harder navigating concentration in the wholesale tier in many states; and the market will need to absorb significant increases in the supply of Pinot noir and some other varieties from a surge in planting in 2005-2008.

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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, by 2004 it had grown into an important component of the state's agricultural and consumer packaged goods industries. The industry has built on that positive base, with increased investment and sales, weathered the recent recession and is poised for continued success. The wine industry has a significant and broad positive impact on Oregon'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 impact than most agricultural products
- 2) Strong growth (see Appendix 1 for details vs. 2004 report)
- 3) Focus on higher margin, higher revenue products where Oregon can be competitive

### *Higher Economic Impact*

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, wine maintains higher margins in the distribution system than most other foods and beverages. Some of the distribution channels (fine wine shops, restaurants, on-premise distribution) are 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 also 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 52 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 from November 2010 through May 2011. Most calculations were based on 2010 data.

### Changes in Economic Impact since 2005

The increase in the economic impact of the Oregon wine industry since the last report (issued in 2005) has been substantial. A remarkable spurt of investment in the industry from 2005 to 2008 boosted acreage, the number of wineries and industry employment. Despite a severe recession in 2008-2009, the Oregon wine industry's efforts to improve marketing and quality have paid off, with increased revenues and a broadening of markets. Perhaps the best testimony to the foundations laid by the industry since the 2004 recession is the vigorous post-recession recovery that seems to be underway in 2010.

When reviewing the changes from 2005-2010, readers should bear in mind the following.

- Effect of economic and business cycles – the boom in planting and new wineries in 2006-2008 followed by flattening in response to both the economy and oversupply; the economic and financial crisis that weakened lending & investment in 2008-10; the trading down in spending and price segments among consumers in 2008-2009 that both hurt winery revenues but also compelled development of new brands and retail channels, focus on direct sales and expanding markets.
- The effect of a very low yielding harvest in 2010 on the economic impact of the vineyard/grape-grower sector. It is something of a useful coincidence for comparative purposes that both 2004 and 2010 were short crops. However, in a more normal year, we would anticipate the economic impact related to grape revenues to be 15-20% higher.

### Outlook

Despite the sluggish economy, the outlook for the next decade of wine business in Oregon is still very positive. Familiarity with Oregon wines has increased among American wine consumers. Among core wine consumers, recent purchase of Oregon wines climbed from 19% in 2005 to 23% in 2010. Among those who had purchased Oregon wines in the past three months, agreement that the wines were unique increased from 48% to 65% and that they were of superior quality increased from 42% to 59%

between 2005 and 2009.<sup>1</sup> A tracking study using the Wine Opinions consumer panel showed regular purchasing of Oregon wines to increase from 22% to 36% of high end wine consumers between 2008 and 2010<sup>2</sup>. Value and quality perceptions increased significantly among the panelists during the same period. Oregon wineries have begun to penetrate some of the markets that were underexploited at the time of the last report as wine tourism, and shipments to states outside the Northwest increased.

While the macroeconomic recovery from recession has been sluggish, wine sales seem to be recovering faster than most industries. Scan data from retail chains, commerce department data, the Silicon Valley Bank's ultrapremium winery index and other data sources all confirm a strong rebound in sales in 2010.

Pinot noir, region's leading grape, continues to be one of the fastest growing varieties in the wine trade. Driven by a combination of its upscale image, publicity from the movie *Sideways* and a general rise in red wine consumption, growth in sales of Pinot noir has averaged 19% from 2005 to 2010.<sup>3</sup> While a large share of the initial rise in Pinot noir sales was captured by California, Oregon has become increasingly competitive in terms of publicity, marketing and distribution. Oregon can still achieve significant growth through increased trial and distribution, whereas California is close to saturation on both these vectors. That said, it seems unlikely that Pinot noir overall can maintain such high growth levels, so some sales will have to come from taking market share. The competition will be strong, primarily due to substantial supply increases forecast from California, New Zealand and Oregon itself.

New regions within Oregon are expanding and diversifying Oregon's wine industry. In Southern Oregon, the Umpqua, Applegate and Rogue River Valleys are building on Oregon's reputation for Pinot noir and Pinot gris and developing other varieties 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 varieties for their regional identity are not Pinot noir or Pinot gris. Yet on the other hand, their favorable growing conditions and lower costs enable them to form the basis for highly competitive wines bearing the basic Oregon designation. The integration of these varieties into the overall Oregon message, or as part of regional identities will be important for their success.

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 still 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

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<sup>1</sup> Wine Market Council total U.S. tracking studies 2005, 2009, 2010

<sup>2</sup> Wine Opinions 2008 and 2010 (high end consumers = those purchasing wine \$20+/bottle monthly or more often.)

<sup>3</sup> Full Glass Research, Gomberg-Fredrikson

is the revenue source with the highest margins for wineries. Progress has been made on this front (see Tourism impact pages 40-41), but there is still much to accomplish.

After spending years selling the majority of its wine within the home state and Washington, Oregon is beginning to shift the balance of its sales towards the rest of the United States. This is critical for future growth, as Oregon wineries may have attained their maximum share in the home market, and states outside the Northwest represent 95% of the national market<sup>4</sup>. There is enormous potential with expanded distribution, as market research has demonstrated that there is a very strong correlation between retail visibility and regular purchasing of Oregon wine. Oregon wine has very strong positive reputation among those who are familiar with it, but suffers from lack of distribution and promotion in the retail sector.

- Maintaining leadership in sustainable and organic viticulture is an important challenge for Oregon. Market research shows Oregon as a state has a “greener” image, but this hasn’t yet been translated to wine in particular.<sup>5</sup> Oregon is home to some important organizations in the field such as Food Alliance and LIVE, and with Oregon Certified Sustainable Wine program has established the potential for a uniform and credible policy. However, there are difficulties that will need industry cooperation and investment to resolve. Many consumers are unaware of wineries’ green efforts and confused about the substance and reliability of green claims. Sustainable, organic and carbon neutral growing and production techniques are in their infancy and research and investment is needed to devise the most economical and effective methods.

### Economic Impact, Revenues & Profitability

Although the profitability and investment returns of vineyards and wineries are outside the scope of this analysis, the differences between them and economic impact should be clarified. The long lead times and capital-intensive nature of the wine industry gives it significant economic impact relative to its sales revenues. However, these factors also can constrain profitability and return on investment. Analyses by Tony Correia (Correia-Xavier) and Nat DiBudo (Allied Grape Growers) have found that many wineries do not earn a reasonable risk-adjusted operating return at current market prices.<sup>6</sup> The track record for publicly held companies in the wine sector is generally poor and these companies often end up returning to private hands. Some factors to bear in mind when assessing profitability and revenues in the wine business:

- The difference between economic impact (which is a sum of all spending and investment) and profits (which are the differences between costs and revenues). It

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<sup>4</sup> Adams Handbook 2009, Beverage Information Group

<sup>5</sup> Full Glass Research Oregon Green Study 2007

<sup>6</sup> Tony Correia presentation Vineyard Economics 2009; Nat DiBudo presentation Unified Grape & Wine Symposium 2011

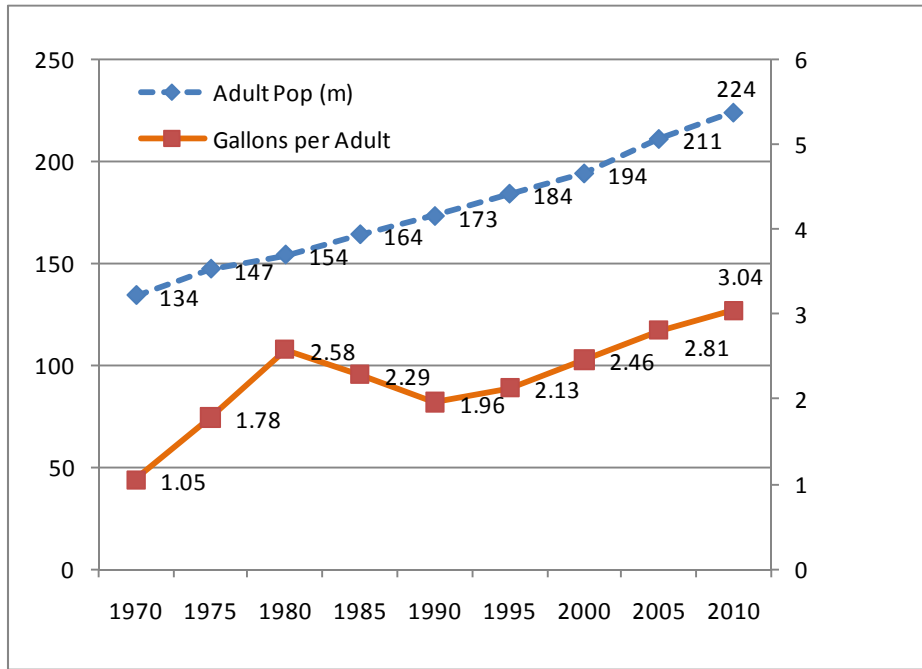
is possible for an industry with high and increasing economic impact (typically a growth industry) to have fairly low profitability and returns as investment in production and capacity move ahead of revenue.

- There is a weak relationship between bottle price and profitability. In addition to higher production costs, high bottle price implies lower volume and hence less total revenue to support fixed costs. High priced wines compete in a very fragmented market where no winery achieves high market share.
- The profitability of the different tiers of the industry tends to vary independently of each other. Weak grape prices may be bad for growers but boost winery margins. An excess supply of wine from other states or countries may boost wholesaler and importer sales and margins but weaken Oregon winery sales. In the last recession, sales and profits increased for many off-premise retailers while restaurants suffered major drops in traffic and trading down in wine sales.
- The wine industry contends with a very long supply chain – it takes five years for a vineyard to achieve mature yields and wine typically spends 1-3 years aging in inventory. Thus the grape industry and to a lesser extent wineries have their own cycles somewhat independent of the economic and business cycles, as supply and demand shift their balance. In addition, wineries have very high inventory costs compared to many agricultural products.
- Wineries are capital intensive, in part because much of their specialized equipment gets only one usage or just a few turns per year, unlike breweries. Similarly, vineyards give only one crop per year, in contrast to rotating market or table crops.

# The Wine Market in the U.S. & Oregon

## Growth in American Wine Consumption

While the adult population of the United States has grown steadily since 1970, the per capita consumption of table wine has also grown strongly since 1990. The steadily increasing volume and per capita consumption of table wine was not paralleled by fortified wines, sparkling wines mixes and coolers, which rose and fell in distinctly different patterns.



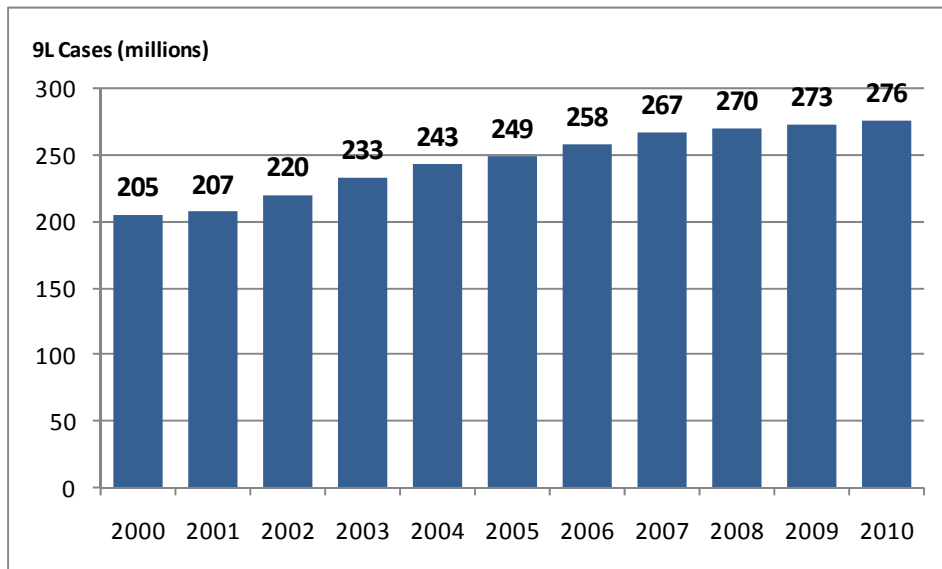
Source: Wine Market Council

Importantly for Oregon, consumption of super-premium wine has grown nearly every year since the early 1990s, often at double digit rates.

The premium wine boom that began in the 1990s and evolved through 2007 has both demographic and cultural origins. Demographically, the baby boomers (born 1946-1964) the largest generation to date in the U.S. population and its most important wine consumers, adopted wine to a much greater extent than their parents. In the 1990s, they began to enter their peak earning years, sparking much greater spending on wine and trading up. The Echo Boom or Millennial generation (essentially the children of boomers) began entering adulthood around 1999 and is adopting premium wines earlier and at a greater rate than its predecessors. In addition, wine consumption correlates strongly and positively with education level and certain professions. The population of college-educated and white collar/professional workers and their share of national income has increases substantially since 1990.

In addition, changes in popular culture have substantially increased the demand for higher quality and more diverse wines. The scope, variety and prices of high-end consumer goods have expanded dramatically since the 1990s. The gourmet trend in foods has been a key factor. 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, thus benefiting from these cultural trends.

U.S. Table Wine Consumption 2000-2010



Source: Wine Market Council

From 2005 to 2010, sales of wine in the U.S. grew from 295,500,000 9L cases to 329,700,000 9L cases. Table wine sales<sup>7</sup> grew from 260,200,000 9L cases to 285,200,000 in the same period. (Source: Gomberg, Fredrikson & Associates)

Critically for the Oregon wine industry, the growth in volume of wine consumed was accompanied by steady “premiumization” of the wine industry. Consumers not only bought more wine, but spent more per bottle. Sales of inexpensive generic wine declined steadily from the mid-1990s to the present day, whereas sales of mid-priced (retail price of \$8-15 per 750ml bottle or equivalent) and high-priced (\$15+) wines increased dramatically.

<sup>7</sup> Table Wine is defined by the TTB as still wine from grapes between 7% and 14% alcohol. Originally intended to cover still wines and exclude fortified or sparkling wines, it no longer covers all such wine as small but significant proportion of still wine now exceeds 14% alcohol without fortification, due to use of riper grapes. This proportion is smaller in Oregon, with its cooler climate. Nevertheless, table wine continues as a classification for regulatory purposes and data-gathering.

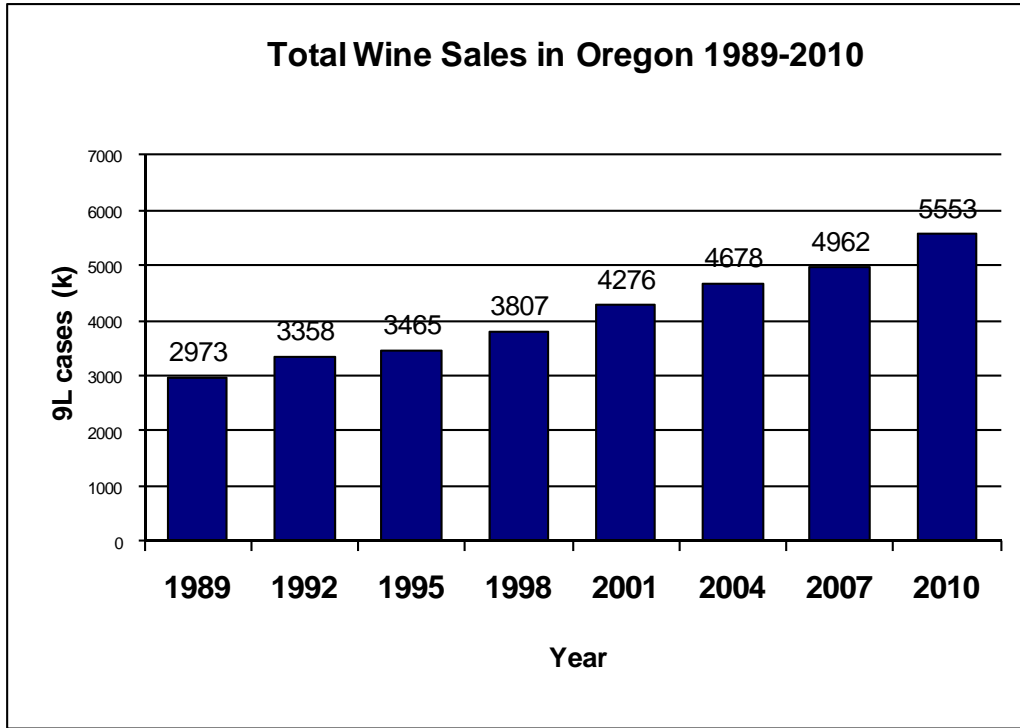
From 2000 to 2010, the proportion of wine consumers reporting frequent (or monthly+) purchasing of wine retailing for over \$15 per 750ml went from 11% to 25%. For wines over \$20/bottle, the proportion increased from 5.5% to 11%. During that same period, dollar sales of wine in the United States increased approximately 42%. (*Source: FGR, Gomberg-Fredrikson, WMC*)

Through mid-2008, the wine consumer showed a steady pattern of trading up in both price and complexity/intensity of flavor. From generic jugs to varietal wines, there has been a steadily increasing market for over \$10 and then over \$20 wines. Wines over \$15 surpassed wines under \$8 in total revenue during this period, while sales of \$20+ wines grew 58% from 2000 to 2010. (*Source: FGR, Gomberg-Fredrikson*)

This entire period was characterized by increased variety of wine, consumers broadening consumption to more regions and grapes, more SKUs in distribution, and explosion in the number small high end wineries and imports, and increased wine tourism. Wine Market Council tracking studies showed a significant shift of wine consumers from marginal to core, and from core to high frequency consumption.

Wine in Oregon

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 of all types in Oregon in 2010 came to over 5.5 million 9L cases, an increase of 19% over 2004. (OASS/OLCC).



Source: MKF, Adams, OLCC

The Oregon wine industry originated with small-scale producers aiming to produce high end wines. This is unique and has set a different pattern for the Oregon industry than other states. The California industry originated in supplying inexpensive wines for local use by the missions and immigrants and has gone through several boom and bust periods. It is now the dominant source of domestic wine volume overall, competing in all price categories. 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 wine production, are almost entirely dependent on the local market and specialties..

Oregon’s unique positioning has been successful, spurring growth in both acreage and the number of wineries. In 1970 there were just five bonded wineries and 35 recorded acres. This had grown to 34 wineries and 1,100 acres by 1980. By 2005, the date of the last economic impact report, the number of wineries and increased to 247 and plantings reached 13,700 acres (Source: OASS. Here wineries are defined as producing

*enterprises, rather than holders of licenses*). Sales of Oregon wine reached 1.29 million cases in 2004, realizing roughly \$157 million in winery revenues (*Source: OASS, Full Glass Research*)

Growth continued for Oregon in production through 2010. Plantings reached 20,300 acres. There were 418 wineries in Oregon, selling 1,926,363 cases of bottled wine and an additional 291,312 gallons in bulk (122,400 case equivalent) (*Source: OASS. Here wineries are defined as producing enterprises, rather than holders of licenses*)

### The Recession of 2008-2009

The growth in sales of higher-priced wines (\$20+) came to an abrupt halt with the “great recession” of 2008. Wine sales had ridden out the previous two recessions reasonably well, and in fact the volume of wine sold continued to increase throughout the 2008-2009 recession. However, this recession had a distinct and unprecedented impact on the high end of the wine business.

Sales of wine over \$20 a bottle fell during this period; while there is no fully representative source of sales data for such wines, most indicators suggest a decline of at least 5-15% in both 2008 and 2009 for this sector. Consumers traded down – the Wine Opinions panel, which tracks high frequency and high end wine consumers across the U.S. showed 39% of consumers reducing purchases of \$20+ wines in 2009, while only 10% increased, a reversal of the trend from 2005-2007. One quarter of high frequency consumers had left the \$30+ category altogether.

This was in part due to the suddenness and severity of the recession, but there are other factors that had particular impact on high end wines:

- **Impact on Wine-drinking Demographics** – the previous two recessions had minimal effect on the key demographic segment for the high end of the wine business: highly educated, high income baby boomers. This group increased its income and wealth during the 1990-91 recession; in the 2000-2001 recession it increased income and real estate value and was sitting on big gains from the 1990s in the stock market (*Source: FGR*). The 2008 recession was very different, featuring significant declines in income and wealth (via real estate and stock investments) for baby boomer core wine drinkers.
- **Psychological impact** – the trading down from higher priced wines to lower was not just restricted to those consumers whose financial situation has deteriorated. Substantial proportions of even those wine consumers whose incomes and financial situation had improved in 2008-2009<sup>8</sup> reduced spending and traded down in the wine category.
- **Structural effects** – changes in the sales pattern by channel (from on-premise to off-premise) and concentration at the wholesale tier impacted smaller high end

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<sup>8</sup> Wine Opinions Consumer Panel 2009

wineries much worse than larger and low-mid priced wineries. Traffic in restaurants plunged in 2008-2009<sup>9</sup>, impacting wine sales in that channel dramatically. The restaurant channel had been an important one for higher priced wines and small wineries. Previous to the recession there was already an imbalance of market power for wines over \$20 between the fragmented winery tier with thousands of small production SKUs and the increasingly concentrated wholesale tier. Yet wholesalers had continued to expand their portfolios of high end wines because that price segment was booming and it thrived on novelty. Shifts away from on-premise sales made it harder and less profitable to distribute small quantities of high-priced wines. The trade-down trend eliminated wholesalers' concerns about missing out on the next "hot" wine or market segment. The restriction of financing induced by the recession strongly favored inventory reductions. These factors all combined to cause massive destocking at the distributor level, with reductions in orders, elimination of SKUs and whole brands, and increased pressure on winery prices, margins and sales promotion budgets.

The effect on Oregon wineries and vineyards was noticeable:

- Sales declined; volume flattened out at the end of 2008 and was down 5% in 2009, while revenues dropped 16% in 2009 (*OASS*).
- Wine was diverted from higher end vineyard/reserve/AVA bottlings to lower-priced regional bottling and negotiant or second labels.
- A reduction of financing, investment and loans for expansion of acreage, capacity and inventory.
- There was increased emphasis on direct-to-consumer, as moving wine through the wholesale distribution system became more difficult.

### Recovery 2010

Sales of higher priced wines began to grow again in 2010: California wines over \$14 grew 6%, Nielsen scan data for wines over \$20 increased 9%, and Oregon winery sales increased 16% in volume and 25% in revenue. (*Source: AC Nielsen*) In addition, perceptions of the economy's strength are improving, especially among core wine buyers. This will presumably ease the psychological impact of the recession on wine spending. Silicon Valley Bank, which finances many small to medium-sized high end wineries, reports improved financial conditions in its winery index and forecasts growth over 10% in 2011.

There are also some economic factors that favor a stronger recovery for wine than other consumer goods. Unemployment is much lower among the key demographics for wine consumption – for example among college graduates (24% of the population but responsible for 40% of wine consumption), unemployment in 2010 was under 5%. The

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<sup>9</sup> Nation's Restaurant News. Wine Market Council tracking surveys

Commerce department has reported steady sales growth in grocery and liquor stores, two key retail channels for wine. Consumer research has demonstrated that part of the trade-down effect was due to consumer sentiment, rather than income or wealth. Thus a recovery in outlook will stimulate trading up even without improvements in income or wealth.

## Wine Sales

Total Retail Level Wine Sales in Oregon: \$ 707,829,000  
 Total Revenues for Oregon Wineries: \$ 252,095,000

In 2010, Americans purchased 330 million cases of wine at an estimated value of \$30billion (*Source: Wine Institute, Gomberg-Fredrikson*). Oregon is the country’s 17<sup>th</sup> (Adams) largest wine market, although it’s the 27<sup>th</sup> largest state in terms of total population. (*Source: Full Glass Research, U.S. Census, MKF Research*)

In 2010, Oregon consumers and visitors purchased approximately 5.89 million cases of wine. Of these cases, about 776,000 (including sales direct to consumers) were produced by wineries in Oregon, and a little over 5 million were produced outside of Oregon. (*Oregon Agricultural Statistics Service, Oregon Liquor Control Commission, FGR*)

Declared Wine Shipments in Oregon 2010, in Gallons

	14% alcohol & under	Over 14% alcohol	Total
<b>Gallons declared to OLCC</b>			
Wine Produced in OR	3,772,049	892,033	4,664,053
Wine Produced outside OR	9,922,213	330,066	10,252,279
Less wine credited to out of state shipments			-2,330,300
<b>TOTAL wine in Oregon market</b>			<b>12,586,032</b>

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

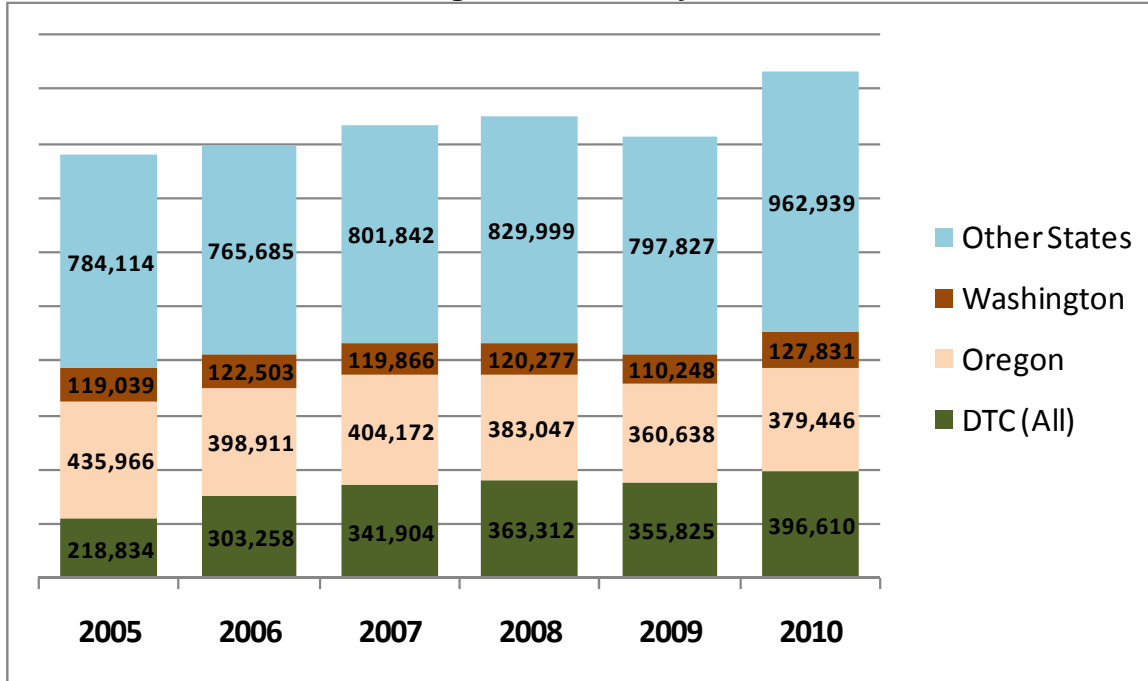
Total consumer purchases of wine in Oregon in the retail tier (stores, restaurants, etc.) are estimated to be \$707.8 million, not including direct-to-consumer sales from Oregon wineries. On-premise sales (restaurants, hotels, etc.) of wine in Oregon are estimated to be \$302 million on sales of 1.17 million cases. Off-premise sales (grocery stores, etc.) totaled \$405 million on sales of 4.38 million cases (*Source: Full Glass Research*).

Based on our winery survey, Oregon wineries sell approximately 61 percent of their wine off-premise, not including direct-to-consumer sales by mail, website, events 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. Approximately 21 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 35 percent of Oregon winery revenues (*OASS, FGR Winery Revenue Model*).

Oregon consumes 41 percent of its own wine production. Based on OASS figures, in 2010 it exported 1,090,770 cases of wine, valued at \$121.15 million to other states. This represents a substantial achievement in wine exports to other states, which went from 48% of sales in 2004 to 59% of sales in 2010.

**Case Sales for Oregon Wineries by Destination Market**



Oregon’s international wine exports totaled 59,537 cases in 2010. Among export markets, Canada is by far the most important, accounting for over 1/3 of exports in 2010. Japan follows with 18% share. All other countries are in single digit shares. (Source: OASS, Full Glass Research)

**Oregon winery sales to all channels in 2010, including wholesale, retail, direct and export, were 1,926,363 bottled cases with revenues of \$252.2 million, with an additional equivalent of 122,400 cases sold as bulk wine. (OASS 2010)**

## Wine and Grape Production

In terms of total grape quantity, Oregon is not a leading producer, with less than 1% of the total tonnage of grapes in the U.S. However, for wine grapes it is important, ranking fourth among the states for overall production and third for premium wine grapes (\$1000+ a ton) after Washington and California.

Oregon’s 2010 wine grape harvest was 30,700 tons, a substantial increase since the last economic study but in fact a small crop from a low yielding harvest. This represented a decrease of 24% from the substantial 2009 crop and 12% from 2008(OASS). In 2010, a cool spring inhibited flowering and fruit set. On top of that, growers coming off a recession year and facing a slow ripening year, were aggressive in their crop-thinning, trading quantity for quality.

In a more normal year, the economic impact from grape growing would be 5-15% higher. Since 2004-5 the typical crop size has in fact increased roughly 55%, due to substantial planting from 2005 to 2008 and maturing vineyard yields.

### Wineries

According to the Oregon Liquor Control Commission, Oregon had 685 licensed wineries of all types in 2010 (210 WYNC type; 475 WNY type.) Some of these are “virtual” wineries and some manufacture sake or cider or beer but have winery licenses too; the OASS currently estimates that Oregon has 418 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 2010 harvest was 315.

Distribution of Oregon Wineries

Area	All wineries # in 2004	All wineries # in 2010
Applegate & Rogue Valley	18	45
Columbia River Valley, Walla Walla and at large	15	30
North Willamette Valley	170	273
South Willamette Valley	29	45
Umpqua Valley	15	25
Total	247	418

Source: OASS

Based on OASS inventory reports, Oregon wineries bottled 1,752,963 cases (9L equivalent) in 2010.

## **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 blanc and Pinot gris (found in Alsace and Alpine Italy). Willamette Valley is also a beacon for wine tourism in Oregon, due to its easy access to the urban population and travel center of Portland Oregon.

As Willamette Valley producers further explore and differentiate their region, a number of sub-AVAs have been demarcated: Chehalem Mountains, Yamhill-Carlton, Ribbon Ridge, Dundee Hills, McMinnville, and Eola-Amity Hills. Many wineries produce single-vineyard bottling as well.

**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 varieties. 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. Some wineries have pioneered the cultivation of Southern French and Spanish varieties such as Tempranillo, Malbec, Syrah, Albarino and Viognier, with extremely promising results.

**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, Syrah and Viognier, but substantial amounts of Pinot noir and Pinot gris still exist. This southern region also benefits from tourist influx to the Medford and Ashland areas.

**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. Another promising feature has been the recent critical success of the Walla Walla appellation for Bordeaux and Rhone red varieties, which though based in Walla Walla Washington, extends across the border into Oregon.

**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 59,566 gallons in 2010, about 25,027 cases (9L) worth of wine. This is equivalent to 1.3% of shipments of Oregonian wine. However this is a substantial rise from the 24,399 gallons produced in 2004. 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, 2010**

<b>County</b>	<b>Region</b>	<b># of Vineyards</b>	<b>2010 Acres</b>	<b>Leading Varieties</b>
Hood River	Columbia Gorge	15	175	Cabernet, Merlot, Syrah, Riesling, Pinot noir Pinot gris
Umatilla	Columbia Vlly	37	998	Cabernet, Merlot, Syrah, Riesling
Wasco	Columbia Vlly	19	214	Cabernet, Merlot, Syrah, Riesling
Jackson	Southern Oregon	89	1,523	Pinot noir, Syrah, Cabernet, Merlot, Pinot gris
Josephine	Southern Oregon	28	481	Pinot noir, Pinot gris
Benton	Willamette Vlly	36	421	Pinot noir, Pinot gris
Clackamas	Willamette Vlly	48	411	Pinot noir, Chardonnay, Pinot gris
Douglas	Willamette Vlly	50	1,008	Pinot noir
Lane	Willamette Vlly	44	1,021	Pinot noir, Pinot gris
Linn	Willamette Vlly	8	52	Pinot noir, Chardonnay, Pinot gris
Marion	Willamette Vlly	38	2,217	Pinot noir, Pinot gris
Polk	Willamette Vlly	74	2,930	Pinot noir, Pinot gris, Chardonnay
Washington	Willamette Vlly	79	1,915	Pinot noir, Pinot gris, Riesling
Yamhill	Willamette Vlly	255	6,511	Pinot noir, Pinot gris, Pinot blanc, Chardonnay, Riesling
All others		<u>28</u>	<u>423</u>	
Total		848	20,300	

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 \$62 million in 2010, nearly doubling the value of \$32 million for the 2004 crop (the valuation includes tonnage from vineyards owned by wineries where the grapes are not sold, but used by wineries. It is imputed from average price per ton for grapes sold multiplied by total crushed tons). Average per ton value grew from \$1,552 in 2004 to \$2,030 in 2010 (OASS).

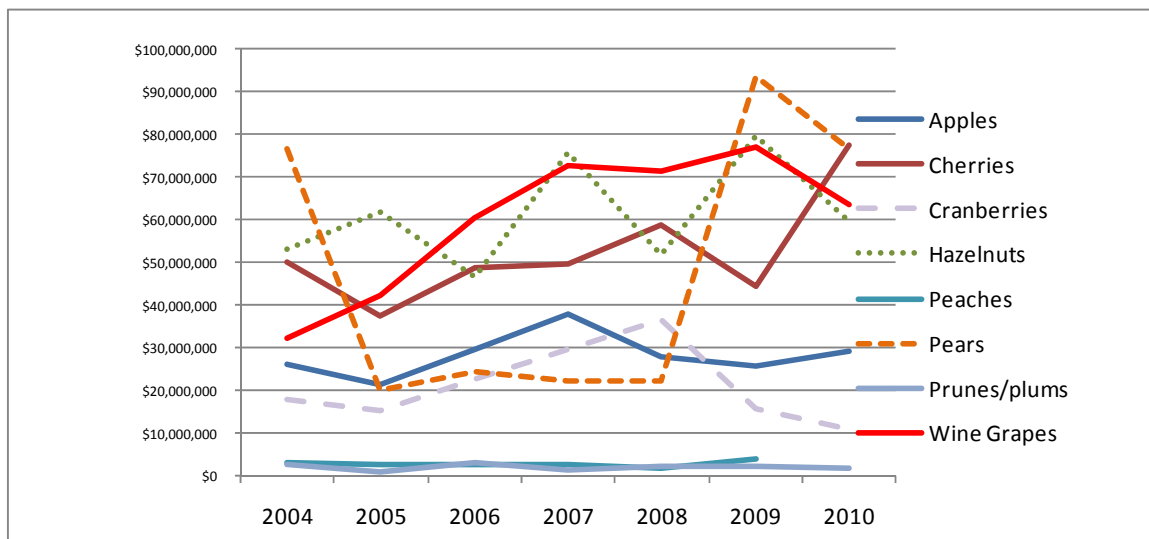
The following chart illustrates the wine grape crop value compared to those of other crop values over the last two years.

Oregon Dollar Value by Commodity, 2004 vs 2010

Commodity	2004	2010
Apples	\$26,057,000	\$29,254,000
Cherries	\$49,819,000	\$77,256,000
Cranberries	\$17,977,000	\$10,950,000
Hazelnuts	\$52,992,000	\$59,670,000
Peaches*	\$2,774,000	\$3,785,000
Pears	\$76,703,000	\$76,347,000
Prunes/plums	\$2,637,000	\$1,713,000
Wine Grapes	\$32,200,000	\$62,321,000

Source: OASS \*2009 instead of 2010 data for Peaches

Oregon Dollar Value Trends, 2004-2010

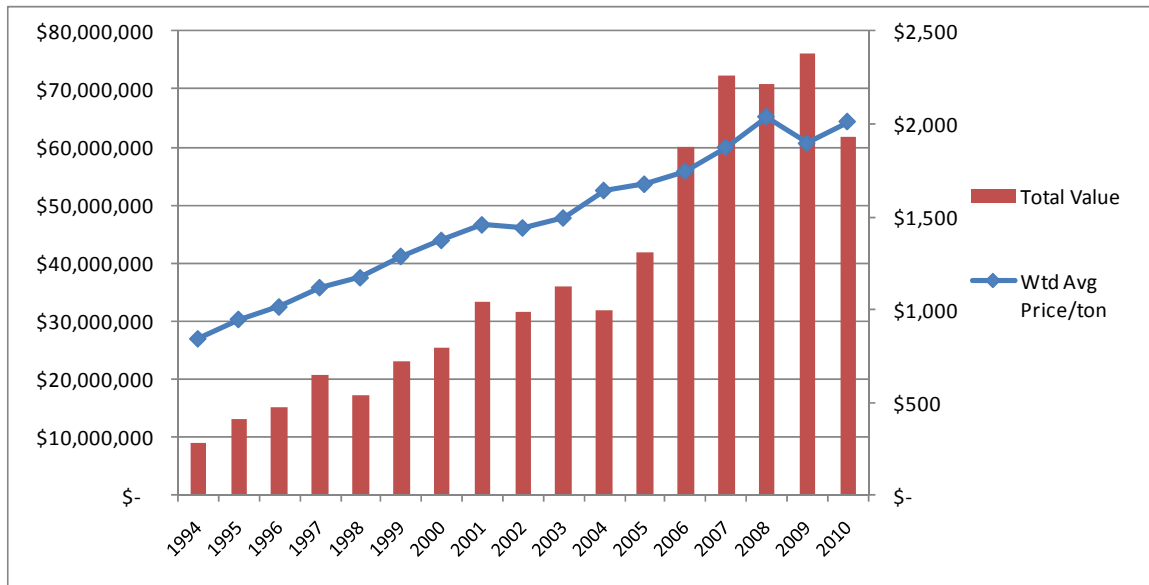


When total crop values are observed over time, wine grapes are more stable in value than most other major Oregon fruit and nut crops, and show a clear up trend.

Due to their unique qualities, some Oregon grapes are purchased by wineries outside Oregon. In 2010, 1081 tons of wine grapes were crushed by Washington wineries, primarily from the Columbia Valley region. It should be noted that the Walla Walla appellation encompasses acres in both Washington and Oregon. In addition, 216 tons of Oregon grapes were purchased and crushed by wineries in other states. (OASS)

The value of Oregon’s wine grape crop has increased steadily since 2004. This is partly due to greater volume but also due to increased prices per ton, as the following chart makes clear.

Oregon Wine Grapes Price Per Ton and Total Value 2004-2010



Source: OASS

Although wine grape prices are more stable over the long term than many other commodities, the total crop value is not immune to substantial swings. Although average grape prices increased in 2010, a low-yielding harvest reduced the total value of the crop substantially from 2009.

## **Wine Grape Varieties**

Pinot noir continues to be the leading varietal in Oregon vineyards. Sales of Pinot noir wines boomed in the U.S. over the past 10 years, fueled by a combination of its prestige, unique flavor, favorable trade support, substantial press and finally the *Sideways* boost.<sup>10</sup> The corresponding rise in Pinot noir bottle and grape prices up until the recession prompted increased planting in Oregon. The tonnage crushed in Oregon of Pinot noir increased 141% percent from 2000 to 2010, while its value more than doubled (*OASS*). 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, and constitutes nearly 2/3 of the total wine grape crop value (*OASS, FGR*)

Pinot gris is the next most important by total value and its value grew 62% percent since 2004. Cabernet Sauvignon, Chardonnay and Riesling were the next three most valuable grapes, each over \$2m in crop value in 2010 (*OASS*).

Despite the dominance of Pinot noir, there has been substantial growth of plantings, harvests and value for several other varieties in Oregon, whereas others have receded in importance. In particular, Pinot blanc, Syrah, Cabernet (both Franc and Sauvignon), Tempranillo and Viognier have increased significantly in tonnage since 2000, while Chardonnay, Sauvignon Blanc, Merlot and Muller Thurgau have decreased. These changes have a variety of causes, ranging from the search for quality and distinctiveness by regions and wineries to consumer and trade acceptance to severity of competition.

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<sup>10</sup> Pinot noir was prominently and positively featured in the popular movie *Sideways*, which further boosted the variety's already strong growth rate.

**Oregon Wine Grapes by Variety, Tons and Value, 2000, 2005 & 2010**

Variety	Tons Harvested			Average Price per Ton		
	2000	2005	2010	2000	2005	2010
Cabernet Franc	103	220	193	\$ 1,560	\$1,710	\$1,780
Cabernet Sauvignon	977	945	1138	\$ 1,420	\$1,610	\$1,830
Chardonnay	2846	1545	1499	\$ 1,000	\$1,200	\$1,780
Gewurztraminer	314	426	312	\$ 910	\$1,040	\$1,370
Merlot	1047	1019	710	\$ 1,460	\$1,440	\$1,570
Muller Thurgau	338	339	207	\$ 740	\$950	\$980
Pinot blanc	224	433	427	\$ 1,470	\$1,190	\$1,610
Pinot gris	3109	4296	5,131	\$ 1,300	\$1,300	\$1,390
Pinot noir	6812	12193	16,391	\$ 1,820	\$2,100	\$2,470
Sauvignon Blanc	160	91	116	\$ 1,000	\$1,160	\$1,580
Semillon	99	N/A	na	\$ 1,010	N/A	N/A
Syrah	189	744	937	\$ 1,760	\$2,000	\$2,020
Tempranillo 1	na	135	234	na	1890	2060
Viognier 1	na	177	236	na	1650	1830
White Riesling	1,529	1600	1857	\$ 750	\$740	\$1,090
Zinfandel	211	127	73	\$ 1,570	\$1,890	\$1,740

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 an important source of Pinot gris and Riesling. (Among emerging varieties, Oregon has a significant position in Pinot blanc and Tempranillo) In share of state plantings, Oregon is by far the most concentrated on Pinot noir and Pinot gris. Cabernet Franc, Chardonnay and Merlot are much less important part of Oregon plantings than in California and Washington,

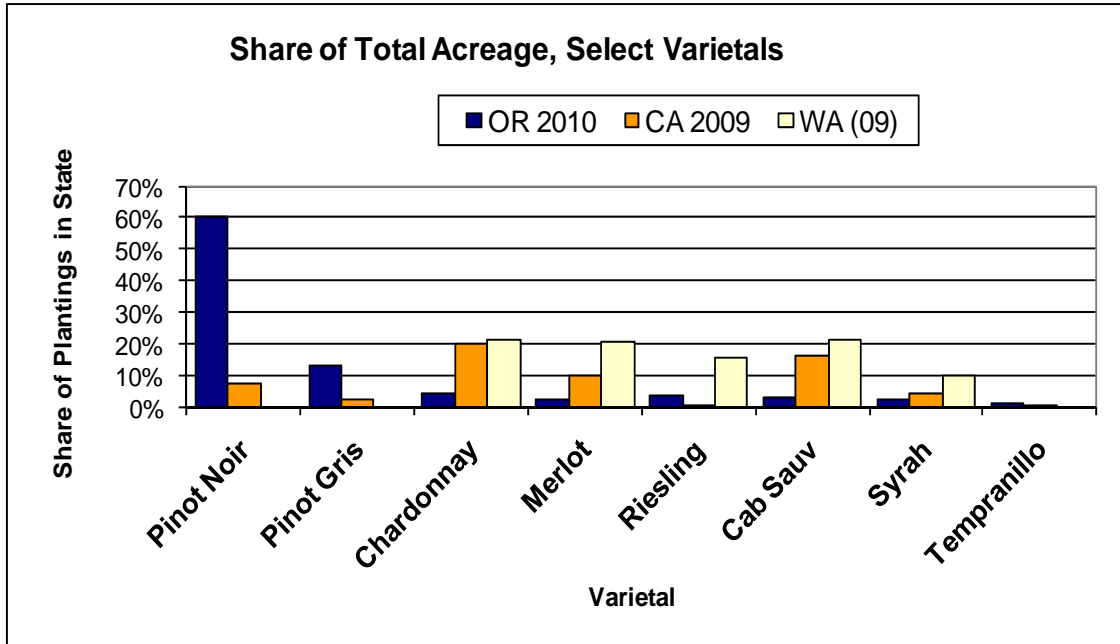
Acreage alone does not fully describe the substantial differences between Oregon, California and Washington. Pinot gris is the most extreme illustration of this. 31% of California Pinot gris is planted in the hot Central Valley, cropped at very high yields (typically 7-10 tons/acre and often higher), sold at an average price per ton of \$448/ton and marketed under \$10 a bottle as Pinot Grigio. In contrast, average Oregon yields are 2.9 tons per acre (5 year average), the average price per ton for Pinot gris in 2010 was \$1,390 and the vast majority of Oregon Pinot gris is sold for over \$10 a bottle. (Source: FGR)

**Oregon vs. California vs. Washington Acreage**

ACRES	Oregon 2010	California 2010	Washington 2006*
Pinot noir	12,265	37,920	314
Pinot gris/Grigio	2,707	12,907	488
Chardonnay	942	95,971	5,992
Merlot	474	46,762	5,853
White Riesling	797	3,831	4,404
Cabernet Sauvignon	639	77,602	5,959
Syrah	543	19,283	2,831
Viognier	173	2,993	362
Tempranillo	173	957	na
Pinot blanc	207	456	na

*\*most recent available figures*

*Source: OASS, CASS, WASS/WSWC*



Source: OASS, WASS, CASS Note: Washington and California numbers are 2009

Grape Production by State, in Thousands of Tons, 2004 vs 2010\*

	2004	2010	% Change
			2004 to 2010
California, all grapes	5,360	6,440	17%
Wine Types	2,700	3,590	25%
Table Types	730	900	19%
Raisin Types	1,930	1,950	1%
Washington, all grapes	267	336	21%
Non-wine	160	176	9%
Wine	107	160	33%
<b>Oregon, all grapes</b>	<b>19</b>	<b>31</b>	<b>38%</b>
New York, all grapes	70	176	60%
Non-wine	30	124	76%
wine	40	52	23%

\*includes all uses – wine, concentrate, raisins, juice, fresh table  
Source: OASS, WASS, CASS, Wine Institute.

**Wine Grape Sales Revenue**

**Wine Grape Grower Revenues: \$30.5million**

In 2010, Oregon grape growers harvested and sold 14,995 tons of grapes for revenues of \$30,492,000. Note that this counts only independent sales of wine grapes – 51% 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 2010 harvest was \$62.32 million (OASS).

The \$2,030 average per ton that Oregon grape growers received in 2010 is much higher than the \$572 per ton average that California growers received in 2010 (*CASS 2010 preliminary report*). This price discrepancy is due to the large volume of lower-quality California Central Valley grapes that substantially reduces the California average (plus sales for distillation, concentrate and other low value uses that are rare in Oregon).

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 did not suffer as much as other regions from the recent glut of inexpensive Merlot, Cabernet and Chardonnay, from 2001-2007.

Average Wine Grape Growers’ Returns per Ton, by Region, 2004 vs 2010

Region or State	2004 average grower returns per ton	2010 average grower returns per ton	% change 2004-2010
Napa County	\$2,941	\$3,243	10%
Sonoma & Marin Counties	\$1,866	\$2,008	8%
California Central Coast	\$1,030	\$1,065	3%
<b>Oregon State Average</b>	<b>\$1,660</b>	<b>\$2,030</b>	22%
California State Average	\$570	\$572	0%
Washington	\$925	\$1,040	12%

Source: OASS, CASS and WASS

### **Wine Grape Vineyard Development**

Vineyard Development, 1 <sup>st</sup> year plantings in 2010:	\$ 8,387,808
Vineyard Development, 2 <sup>nd</sup> year plantings from 2009:	\$ 3,928,064
Vineyard Removals:	\$ 141,600
 Total Development Spending, 2010:	 \$ 12,559,072

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 a commercial crop. This process is very capital and labor intensive, with development costs ranging widely from \$10,000 to \$30,000 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: FGR)

New acres planted in 2010 totaled 594, an increase from the 388 acres planted in 2004 but a decrease from the 1098 planted in 2009. In fact, there has been a substantial decline in the rate of plantings, following a surge of new acres from 2006 through 2008. Although undoubtedly related to the recession, this is also typical of the cyclical nature of the wine business. Acreage removals totaled 118 in 2010, the lowest rate in the past five years. (Source: OASS)

Based upon the OASS acreage reports in 2009-10 and interviews with vineyard managers, developers and accountants, approximately \$8.4 million was invested in developing 539 acres during this time. An additional \$3.9 million was spent in second year development of 1098 acres planted in 2009 and a further \$141,600 spent on acreage removals or replacements. (source: OASS, Full Glass Research)

The estimated average per acre development cost of \$17,651 is based upon a survey of vineyard developers, and the variety and location of the vineyard acres developed. Only the first two years of development are considered, and 80% of costs are assumed to incur in the first year. Third year development costs are assigned to the vineyard maintenance section on page 35. It assumes “normal” layout for most varieties and situations, but a more expensive dense planting and trellising system for 90% of Pinot noir and 50% of Chardonnay acres. This cost includes all land preparation, vineyard layout, planting and trellising, vines and rootstock, irrigation, materials and equipment, farming costs and direct and allocated overhead, utilities during the preproductive period. It does not include land acquisition costs. Some labor is covered in the vineyard and winery employment sections. The vineyard development and corresponding investment are summarized in the following table:

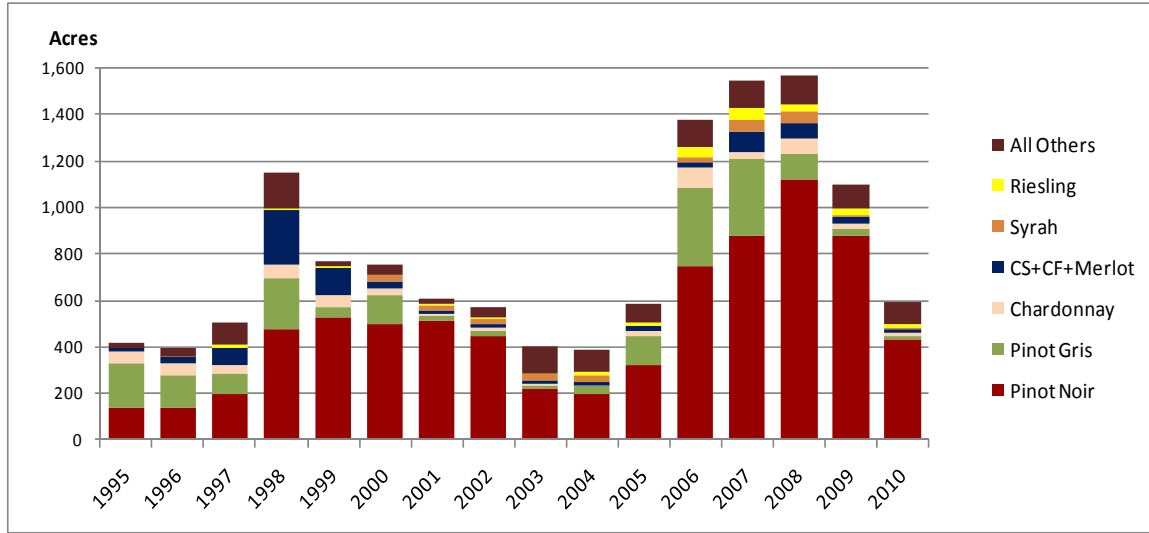
Vineyard Development and Corresponding Investment by Variety, 2010

Variety	2010 Acres In	2010 Acres Out	2009 Acres In	Cost to Plant	Cost to Remove	Investment in 2010 planting	Spending on 2010 removals	Investment in 2009 planting
Cab Franc	1	0	3	\$ 15,525	\$ 1,200	\$ 15,525	\$ -	\$ 46,575
Cab Sauv	9	4	16	\$ 15,525	\$ 1,200	\$ 139,725	\$ 4,800	\$ 248,400
Chardonnay	11	3	21	\$ 17,138	\$ 1,200	\$ 188,513	\$ 3,600	\$ 359,888
Gewztraminer	3	0	11	\$ 15,525	\$ 1,200	\$ 46,575	\$ -	\$ 170,775
Merlot	6	7	5	\$ 15,525	\$ 1,200	\$ 93,150	\$ 8,400	\$ 77,625
Muller-Thrgau	0	0	0	\$ 15,525	\$ 1,200	-	\$ -	-
Pinot blanc	12	0	8	\$ 15,525	\$ 1,200	\$ 186,300	\$ -	\$ 124,200
Pinot gris	18	24	30	\$ 15,525	\$ 1,200	\$ 279,450	\$ 28,800	\$ 465,750
Pinot noir	429	64	882	\$ 18,428	\$ 1,200	\$ 7,905,398	\$ 76,800	\$ 16,253,055
Sauv Blanc	5	1	4	\$ 15,525	\$ 1,200	\$ 77,625	\$ 1,200	\$ 62,100
Syrah	8	6	12	\$ 15,525	\$ 1,200	\$ 124,200	\$ 7,200	\$ 186,300
Tempranillo	7	1	17	\$ 15,525	\$ 1,200	\$ 108,675	\$ 1,200	\$ 263,925
Viognier	6	1	1	\$ 15,525	\$ 1,200	\$ 93,150	\$ 1,200	\$ 15,525
Riesling	19	3	24	\$ 15,525	\$ 1,200	\$ 294,975	\$ 3,600	\$ 372,600
Zinfandel	9	0	12	\$ 15,525	\$ 1,200	\$ 139,725	\$ -	\$ 186,300
All others	<u>51</u>	<u>4</u>	<u>52</u>	\$ 15,525	\$ 1,200	<u>\$ 791,775</u>	<u>\$ 4,800</u>	<u>\$ 807,300</u>
	594	118	1098			\$ 10,484,760	\$ 141,600	\$ 19,640,318

The direct impact of new plantings in 2010 totalled \$12.5 million, an increase of 45% over 2004. However, both 2004 and 2010 were relatively quiet periods for planting in Oregon. There was a tremendous surge of vineyard investment in Oregon between 2004 and 2010.

The table on page 34 shows the pattern of new plantings from 1995 to 2010. A total of 6,797 new acres were planted during the years since the 2005 report (based on 2004 data); whereas only 1,266 acres were removed (many of which were replaced with new plantings). Averaging per acre spending of 2004 and 2010, it can be roughly estimated that new vineyard development poured \$126 million directly into the Oregon economy since the last report.

New Acres Planted in Oregon 1995-2010



Source: OASS; note – not net of removals

**Vineyard and Winery Maintenance and Equipment Costs**

Bearing Vineyard Maintenance Spending:	\$ 54,823,000
Vineyard Management Employment:	80+ jobs
Vineyard Management Wages:	\$1,922,720
Winery Maintenance Spending:	\$7,792,948

Annual vineyard maintenance costs, such as cultivation, tying and training, weed control and pruning typically range from \$3500 to \$7000 per acre, depending on the variety, trellising, spacing and maintenance regimes. We estimate a total of more than \$54.8 million to maintain the 18,610 bearing acres in Oregon (defined as 3 years or older). Spending on acres planted in 2009-2010 is covered in vineyard development section on page 33. Spending on locally-sourced inputs such as such as fertilizer, fungicide, etc. has also been removed from this total, as these are covered in the Supplier Industries (*Full Glass Research, survey*).

Spending on much of the labor involved in vineyard maintenance is covered in the vineyard and winery employment section (see page 37). A substantial proportion of vineyards in Oregon are maintained by independent vineyard management companies. There was insufficient data to precisely measure either total employment or wages in vineyard management. However, based on the data gathered and average vineyard wages from the OED, this sector supports an additional 80 jobs and \$1.9 million in wages.

Winery maintenance spending was based on our winery survey and includes spending on supplies, equipment and vehicles. It does not include new winery construction, laboratory services, stainless steel tanks, cooperage, or spending in winery-owned vineyards. Actual spending was over \$12 million, but was reduced to \$7.8 million because only 60% of such spending is at companies based in Oregon (*OWB-FGR winery survey*). Most specialized winery equipment and actual vehicles are produced outside Oregon.

## **Environmental Impacts and Investment**

The combination of concerns over food safety, environmental and wildlife conservation and global warming has caused substantial rethinking of growing and production practices by many producers and consumers. A variety of new methods and products have emerged to address these issues. The Oregon wine industry has been at the forefront of this movement. Substantial acreage is now farmed with various forms of sustainable or organic methods, wineries have adopted carbon footprint reduction schemes, and a number of certification organizations for such methods are headquartered in Oregon. While a detailed report on these developments is outside the scope of this report, they represent a substantial investment by the industry.

Sustainable farming and wine production generally includes a reduction in carbon footprint, increased use of renewable resources, and a decrease in inputs that require non-renewable energy or have injurious side effects on the environment. Organic grape production eliminates certain inputs such as artificial fertilizers, pesticides and fungicides. Organic wine production is less common, requiring both use of organic grapes and elimination of certain inputs such as SO<sub>2</sub>, whether naturally derived or not. Biodynamicism is a specialized form of organic growing.

Market research commissioned by the Oregon Wine Board in 2007 showed that “green” practices had substantial appeal to many wine consumers, but that confusion was widespread on the issues of credibility and certification. Following this, the Oregon Wine Board launched the Oregon Certified Sustainable program, which will unify and publicize credible third party certification programs under one designation.

Our survey of Oregon vineyards included a question on vineyard practices. While the returns for this section were insufficient to be projectable to the whole industry, the results indicated a high percentage of vineyards engaging in organic or sustainable farming. Slightly more than 21% of vineyards reported traditional practices. Another 26% of vineyards were sustainable, certified by such organizations as via LIVE or VINEA. One in ten claimed to be organic (certified or non-certified) and 2% percent reported themselves as biodynamic.

A small sample (19) of vineyards submitted statistics on their green investments from 2007-2010, including amounts spent on habitat protection or restoration, carbon reduction or offsets, erosion and runoff prevention and natural pest control. Spending per acre on such investments averaged \$559 an acre, suggesting investment in “greening” of vineyards of over \$4.2 million over this period.

Among vineyard survey respondents, the most popular investment in carbon footprint reduction was conversion to biodiesel fuel (17% of respondents), followed by electrical refitting and improved insulation of buildings (11%). Electrical refitting and improved tank and building insulation were the most frequent investments for wineries (30% and

19%), while 11% each had invested in solar panels, converted to biodiesel or purchased carbon offsets.

The OASS 2010 survey included a question about “green” labeling in 2010, requesting the number of cases bottled of the 2009 vintage that were labeled with some indicator of “green” status.

Indicator, 2009 vintage*	# cases	% of total 2009 bttld inventory
Oregon Certified Sustainable	100,897	8.5%
LIVE	131,835	11.1%
Certified Organic (USDA accredited)	107,434	9.0%
"made with organic grapes"	17,419	1.5%
Demeter certified	250	0.0%
"made with biodynamic grapes"	3,300	0.3%
Food Alliance	2,290	0.2%
Other	21,096	1.8%
Total number, any certification	222,803	18.7%
Total 2009 bottled inventory	1,189,000	

*\*note that labels may carry more than one designation*

Nearly 223 thousand cases of 2009 Oregon wine carried some “green” designation, the equivalent of nearly 19% of the 2009 bottled inventory reported in the OASS 2010 survey.

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 **7,639** jobs within the state of Oregon and generate more than **\$169** million in gross payroll expenditures.

Data on employment was obtained from the Oregon Employment Department (OED). For vineyard employment, the average annual salary is \$24,027, for winery employment \$27,910, for distribution employment \$37,680. 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, the employment impact is 11,311 jobs and \$280.5 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 Wine & Spirits Distributors (42482).

**Wine Industry Direct Employment, 2010**

Industry	Number of employees	Total wages paid	Average wage
Vineyard *	571	\$13,719,351	\$24,027
Winery *	2,048	\$57,160,652	\$27,910
Distribution**	218	\$8,214,248	\$37,680
Grocery employees***	783	\$19,026,945	\$24,300
Wine store employees	1,079	\$20,441,093	\$18,944
Eating & drinking places***	2,935	\$50,519,521	\$17,213
<b>Total</b>	<b>7,634</b>	<b>\$169,081,810</b>	<b>\$22,149</b>

Source: OED and Full Glass Research

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

\*\*OED reports only direct employees wine distributors, which may leave out beer/wine distributors and outsourced freight, warehousing and broker jobs. Economic modeling and anecdotal evidence suggest there employment is higher in this tier. See distribution on page 41.

\*\*\* 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.

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/warehousing. Some related industries – for example winery construction - 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 (Wholesalers, brokers, importers)

Direct Employment:	218 (direct)/465 (extended)
Total Wages:	\$ 8,214,248 (direct)/\$31,329,000 (extended)
Total Revenue:	\$ 449,352,438

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, although for some beer makes up a substantial portion of their business.

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, where the distributor sales and margins support 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 be sold in Oregon. The major distributors in Oregon are privately held, so there is little specific public information available about the distribution tier. Distributor revenues have been estimated based on a wine sales revenue model that incorporates surveys of distributors and wineries, scan data, OASS data and OLCC tax data.

In addition to licensed wholesalers, brokers and importers play similar roles in the distribution system, although they may or may not take title to the wine. Furthermore, some wholesalers may contract out warehousing, distribution or sales activities in some parts of the state. Finally, in Oregon there are some distributors with substantial beer AND wine business, whereas others specialize only in beer or only in wine. It’s not clear

how the Federal NAICS coding classifies employees at such companies. While the OED records 218 jobs in wholesale distribution of wine only (beer wholesale removed), economic modeling based on wholesale revenues and U.S. industry data estimates total employment in this tier at 465 jobs.

**Tourism**

Direct Employment:	2070 employees
Total Wages:	\$ 47,580,000
Total Revenue:	\$ 158,540,000

Tourism related to the wine industry results in estimated expenditures of 158 million throughout the state. This does not include tasting room revenues at the wineries; this estimate covers hotel, food, entertainment, transportation, retail and other business generated in Oregon by visitors to wineries.

According to TravelOregon, 8% of Oregon overnight leisure trips by adults and 4% of leisure day trips include winery visits and/or wine tasting. The total number of wine-oriented trips is estimated at 1,703,456. Approximately 636,000 or 37% are estimated to come from out-of-state tourists.

The IMPLAN model estimates that tourism directly related to the wine industry employs 2,070 people and generates over \$47 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 Oregon Tourism, Dean Runyan, Travel Oregon*)

It must be noted that these figures are almost certainly an underestimate. 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. In addition, the impact of tourism on wine sales and employment in restaurants is included in the on-premise retail calculations on page 39. The impact on wine sales in tasting rooms is covered in winery revenues and employment, pages 18 and 39.

The impact of winery tourism has substantially increased over the past five years. The proportion of overnight visitors going to wineries has increased from 5% to 8% and the total number of wine-related trips from 1.4 million to 1.7 million. However, this is lower than historical 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*)

There are a number of wine-related events that draw considerable numbers of wine-related visitors to Oregon wine country. Two of the most prominent are the International Pinot noir Celebration (IPNC) and Oregon Pinot Camp

The IPNC has at least 1250 attendees (includes Sunday event), 33% percent from out-of-state. The average attendee for the 3 day conference spends 4.5 days (3-5 days) in Oregon. 500+ people attend a related Sunday event. The total impact of this festival is more than \$650,000. **The number of people from the Trade including winemakers, media, chefs, etc is more than 250, which has not been included in the numbers above.**

Oregon Pinot Camp is targeted exclusively at members of the wine trade, with attendance of about 270. Attendees spend an average of 4 days in Oregon. While wineries fund the travel costs of the attendees as a marketing investment, it does represent substantial spending in the local region on non-industry business such as food, lodging, and various suppliers or caterers. Total impact of this event is well over \$200,000.

### **Grapevine Nurseries**

Direct Employment:	60 employees
Total Wages:	\$ 1,545,300
Total Revenue:	\$ 1,554,300

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 was over \$3 million with approximately 1.04 million vines purchased. Based on our survey of vineyards, a significant portion of these dollars were spent at nurseries within the state of Oregon. (*Full Glass Research*)

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. Based on supplier databases and our vineyard survey, there are at least 12 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 60 jobs and \$1.5 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 popular and synthetic corks emerged in the late 1990s. Most natural corks are imported, predominately from Spain and Portugal, and synthetic corks are primarily produced in Europe, North Carolina and Australia. Each closure type has a distinctive set of costs, benefits and technical issues.

Approximately 21.5 million closures were used by the Oregon wine industry in 2010. Corks are the dominant closure – the prices for the type typically used in Oregon range from \$0.25/cork to \$0.50/cork, depending on the quality and length, with an estimated average of \$0.35/cork. Screwcaps are increasingly popular, with roughly 15-20% of Oregon wines being bottled with this closure. Screwcaps and synthetic closures are generally less expensive per unit than corks, although they may have higher equipment and bottling costs.

The majority of revenue goes to out-of-state producers. Only the margins retained by salespeople and brokers for the out-of-state cork producers remain in Oregon. Oregon wineries spend \$6.5million on corks, however only about \$179,000 of this revenue goes to firms within the state of 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 sealed with natural or synthetic corks are also sealed with some sort of capsule. (Screw caps do not require capsules.) Capsules cost range from \$0.05 to \$0.30 with an average assumed cost of \$0.16. Oregon wineries required 18 million capsules in 2010 for total spending of \$2.8 million. However, like corks, there are no capsule manufacturers in Oregon and the only revenues retained within the state are the margins of brokers and suppliers – approximately \$167,000.

### Glass

Total Revenue: \$ 1.4 million

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 glass cost per case of \$9.00 Oregon wineries spend \$14.1 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 \$1.4 million in retained margins from glass revenues and related packaging 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, a benefit not quantified above.

**Bottling & Filtration Services, Custom Crush**

Total Jobs:	12 (bottling)
Total Wages:	\$334,920 (bottling)
Total Revenue:	\$ 13-15 million

Two companies in Oregon offer mobile bottling or filtration or other processing services, wherein a team with equipment will come to a winery or storage facility and bottle or otherwise process a company’s wine. Bottling and related services are also offered by some bonded warehouses, custom crush and storage facilities. Total revenues for these firms are difficult to estimate without knowing the proportion of wine where bottling is outsourced. However, supplier databases and industry interviews suggest they employ at least 12 persons at approximately \$334 thousand in wages.

In addition to bottling services, there exist wineries that do most or all of their business as “custom crush” facilities, i.e. making wine for other wineries and brands without winery homes. Custom crush services are also offered by wineries with excess capacity on an irregular basis. Employment at custom crush facilities is covered in the Winery employment statistics (page 39), but revenues are not, although custom crush revenues become part of the cost structure for wines later sold in or out of state. The amount of grapes custom crushed in 2010 was 3,849 tons, approximately 13% of the total harvest. Assuming a rate of \$52 per case for reds and \$38 per case for whites, total custom crush revenues came to \$11,147,183.

Trucking, Transportation & Warehousing

Direct Employment: 43 (freight) (80+ whse)  
Total Wages: \$ 1,834,422 (freight) 2,329,000 (whse)  
Total Revenue: \$7,280,980

Trucks are used to transport grapes, bulk wine, empty glass, barrels, supplies 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 proprietary trucking by distributors, but does include independent trucking costs for wineries that handle their own distribution and brokers that outsource delivery.

There are at least four warehouses that store wine for wineries, stage shipments, coordinate freight, and may offer additional services such as compliance or bottling. Many wineries use warehouses for bottled wine storage at some point in its journey from production facility to consumer, whether because space is short at the winery or for freight consolidation and efficiencies. There are no public figures available for warehouse usage and spending, but a high proportion of Oregon wineries use them of at least some of their wine. With storage charges ranging from 10-20 cents per case per month and additional revenue from other services, warehouse revenues are presumably over \$2 million. (Source: Full Glass Research).

Stainless Steel Tanks

Direct Employment: 15 employees  
Total Wages: \$ 889,970

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. The business among wineries tends to be extremely cyclical, as capacity expansion is affected by new plantings (with a lag effect), the rate of new winery foundation, ease of credit and other variables. In fact, 2010 was a very slow year for stainless steel tank investment in the wine industry, coming on the heels of substantial expansion in 2006-2008 and the recession.

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 at least 15 people in wine tank construction and delivery in 2010. The average annual wage in the heavy gauge steel-manufacturing sector in Oregon was \$59,198 in 2010. These impacts are included in “other indirect & suppliers” in the grand totals.

Wine Labels and Other Printing

Direct Employment:	49
Total Wages:	\$ 2,032,788
Total Revenue:	\$ 7,265,830

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 2010 the Oregon wine industry purchased approximately 22 million labels with a value of roughly \$7 million, with \$5.5 million coming from Oregon printers. In addition, Oregon printers sold a substantial quantity of labels to wineries outside Oregon, but there was insufficient data to estimate this revenue effect. The employment impact from wine labels is difficult to quantify because label printers have other winery and non-winery printing business, but prorating from IMPLAN revenue/wage ratios, we estimate 37 jobs supported by spending on wine labels.

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 12 jobs related to non-label printing. Total wages for all wine-related printing jobs are estimated to be slightly over \$2 million.

Cooperage & Barrel-related services

Direct Employment:	5+ employees
Total Wages:	\$ na
Revenue:	\$ na

Barrels typically have a useful life of four to eight years, as opposed to stainless steel tanks that have a useful life of 25+ years. Most red wines over \$20/bottle are aged at least partially in oak barrels. Red wines between \$10-20/bottle may have a portion of their blend aged in barrels, but also use short term exposure to oak staves or chips for flavor. 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. Wine develops and matures in barrels, while barrels can impart a favorable taste and texture and are a natural way to clarify

wine. Wine barrels are made predominately from French or American oak, and are assembled in France, the United States and Eastern Europe. Oak from Oregon forests has some strong supporters among barrel-makers.

Oregon Barrel Works, the Pacific Northwest’s only cooperage, produces and sells barrels made from French and Oregon Oak. Oregon Barrel Works produces Oregon oak barrels starting with the sourcing of the trees and working to finished barrels. They also purchase wood from France which is seasoned and then coopered into barrels, and provide barrel repair and maintenance. However, as a privately held firm, their employment and revenue numbers are not available.

In addition, there are barrel spinoff industries, such as reconditioning old barrels, using barrel staves in other fermentation or storage containers, and the production or sale of oak chips.

Oregon wineries probably spend \$4 to \$5 million on new barrels annually (*FGR*) but only a small portion goes to firms within Oregon. The two categories of Oregon revenue would include in-state sales of Oregon Barrel Works’ products and sales or broker fees for representatives or resellers based in Oregon. However, there is insufficient information to estimate this revenue, which could easily range from \$100,000 to \$500,000 a year.

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

Direct Employment:	148 employees
Total Wages:	\$ 4,204,000
Total Revenue:	\$ 4,572,526
Winery Spending:	\$ 1,655,036
Vineyard Spending:	\$ 2,917,489.92

Oregon wineries spend approximately \$2.2 million annually on chemicals, gases and various supplies, of which roughly \$1.66 million goes to companies in Oregon. (*FGR*)

Oregon vineyards also spend on various growing inputs ranging from biodynamic preparations to fertilizer machine oil. In 2010 Oregon vineyards spent \$3.87 million on mature (3+ year old) vineyards in this sector, of which \$2.92 million was spent with Oregon companies. (Spending on inputs for new vineyards is in development section, page 33.) Average spending per acre was \$208. (*FGR Survey + IMPLAN*)

**Industry Associations**

Direct Employment:	14
Annual Spending:	\$875,000+

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 Winegrowers Association 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.

#### Wine Laboratories

Total Revenue: \$ 1,351,022

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.

#### Services – Banking, Consulting, Accounting, Insurance, etc.

Direct Employment: 38 (IMPLAN)  
Total Wages: \$ 1,985,493 (IMP)  
Total Revenue: \$ 5,950,054 (IMP)

Wineries and vineyards require a wide variety of supporting services, ranging from typical business support such as accounting, advertising and marketing and insurance to specialized services such as waste water engineering, enological consulting, and regulatory compliance. In addition, as a capital intensive, long term business, wineries and vineyards use a wide variety of financing methods. All of these generate business for local service industries.

## 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 2010
Excise taxes on wine	\$9,062,044
Direct Payroll	\$1,455,918
Licenses and fees - wineries	\$171,000
Licenses and fees – wholesale/retail	\$2,611,075
State Corporate Taxes	\$ 2,178,932
State Income Taxes	\$18, 615,067
Indirect and induced tax effects	\$31,261,399
<b>Total</b>	<b>\$65,355,435</b>

Source: Oregon Department of Revenue, OLCC, FGR

The majority of licensed Oregon wineries are tax-exempt due to their small production. Most of the Oregon excise tax dollars come from larger wineries and wines imported into the state. The tax rate for non-exempt wine 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.

Federal tax effects 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*:	7 employees
Total Spending*:	\$1,207,800

\*attributable to wine

By January 2011, Oregon had granted 14,465 liquor licenses, including 684 winery licenses, 6,606 on-premise licenses, 154 wholesale distributor licenses, and 4,336 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 \$171,000 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 229 people, with an operating and store budget of \$40,260,000 (OLCC 2009-10 annual report). However, 94 percent of their budget comes from sales of liquor through the state store system. If you assign half of the remaining 6 percent based on wine’s percentage of sales and licensing fees to wine, the wine industry supports \$1,207,800 of OLCC activities, and 7 employees.

**Charitable Contributions**

**Total Spending: \$6.88 million**

According to our winery survey, responding wineries contributed \$557,148 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 \$6.88 million to charitable organizations in 2010.

## Direct, Indirect and Induced Effects

### IMPLAN Modeling

IMPLAN is derived from the phrase “**IM** impact 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 calculated with IMPLAN were \$176,253,146. Additional indirect employment is estimated at 1,337 jobs and \$54,063,548 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 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 \$375,852,626; employment of 2,192 jobs at \$101,544,011 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. In addition, wages are treated separately in this analysis, since: (a) some large portion of the wages are actually spent on products or services in the revenue stream; (b) the wages paid in one tier are costs for that tier, thus reducing the net economic impact of revenues.

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 worked with Professor Eyler to synthesize our primary research and the IMPLAN model output to arrive at the following valuation of net economic benefit for the Oregon wine industry:

<b>Revenue Category</b>	<b>Net Impact</b>
Grape grower revenues	\$ 30,492,000
Net Winery Direct Impact	\$ 221,603,000
Net Wholesale Direct Impact	\$ 408,751,716
Net Retail Direct Impact	<u>\$ 258,476,562</u>
	\$ 919,323,278
Indirect & Induced Net Impact (IMPLAN)	<u>\$ 641,558,857</u>
<b>Total Net Effect</b>	<b>\$ 1,560,882,135</b>

## **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 two decades, 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

<b>Revenue</b>	Oregon Economic Impact	
Winery Sales	\$	<b>252,095,000</b>
Retailers and Restaurant Wine Sales (in Oregon)	\$	<b>707,829,000</b>
Distributors' Sales (in Oregon)	\$	<b>449,352,438</b>
Wine Grape Sales**	\$	<b>30,492,000</b>
Tourism	\$	<b>158,540,000</b>
Glass, corks, closures, packaging	\$	<b>2,252,000</b>
Tax Revenues		<b>65,355,435</b>
Professional Services - banking, insurance, accounting, consulting, etc.	\$	<b>5,950,054</b>
Vineyard Development	\$	<b>12,559,072</b>
Vineyard Maintenance and equipment	\$	<b>54,823,000</b>
Winery Maintenance and equipment		<b>7,792,948</b>
Printing (including wine labels)	\$	<b>7,625,830</b>
Grapevine Nurseries	\$	<b>1,554,300</b>
Trucking, Shipping, Warehousing	\$	<b>7,280,980</b>
Charitable Contributions	\$	<b>6,880,000</b>
Bottling & Custom Crush Services		<b>13,000,000</b>
Chemicals, Gases, Fertilizers, etc.	\$	<b>4,572,526</b>
Oregon Liquor Control Commission		<b>\$ 1,207,800</b>
Other Indirect effects - IMPLAN	\$	<b>176,253,146</b>
Wine Industry Induced Revenues - IMPLAN	\$	<b>375,152,626</b>
<b>Total Revenue</b>		<b>\$2,340,568,155</b>

\*\* does NOT include winery-owned grapes valued at market prices; value with them =\$63,200,000

**Wages**

Winery Employees	\$	57,160,652
Vineyard Employees	\$	13,769,351
Tourism Employees (hotel, restaurant, etc. wine-related only.)	\$	47,580,000
Distributor Employees (wine only)	\$	8,214,248
Grapevine Nursery Employees	\$	1,545,300
Trucking, shipping, warehouse Employees	\$	4,204,170
Wine Store Employees	\$	20,441,093
Grocery and chain retail employees (wine-related)	\$	19,026,945
On-premise employees (wine-related)	\$	50,519,521
Printing (including labels)	\$	2,032,788
Professional Services, Banking, Finance, Insurance	\$	2,769,240
Other Indirect & Suppliers - IMPLAN	\$	54,063,548
Wine industry Induced - IMPLAN	\$	<u>101,544,011</u>
<b>Total Wages</b>	<b>\$</b>	<b>382,870,756</b>
<b>TOTAL IMPACT (Revenue+Wages)</b>		<b>\$2,704,823,844</b>

**Employment**

Winery Employees	2,048
Vineyard Employees	571
Tourism Employees (hotel, restaurant, etc. wine-related only.)	2,070
Distributor Employees	218*
Grapevine/Nursery Employees	60
Trucking, shipping, warehouse Employees	123
Wine Store Employees	1,079
Grocery and chain retail employees (wine-related)	783
On-premise employees (wine-related)	2,935
Printing (including labels)	49
Professional Services, Banking, Finance, Insurance, Industry Associations	53
Other Indirect & Suppliers - IMPLAN	1,337
Wine industry Induced - IMPLAN	<u>2,192</u>
<b>Total Employment</b>	<b><u>13,518</u></b>

\*see Distribution pg 40

## Appendix 1 Review of Changes since 2004

The Oregon Wine industry has experienced remarkable growth since the last economic impact study, that was carried out in 2004-2005 using 2004 numbers. By all measures and tiers the growth has been impressive, but some sectors stand out more than others.

Oregon wineries have made important gains in marketing their wines both out of the state (+94%) and directly to consumers (+133%). The former is critical because Oregon wines were overly dependent on the home and northwest regional market in 2005, where their sales had begun to reach saturation point. Direct-to-consumer sales offer extremely high margins to wineries, and help offset the difficulties and margin pressure small wineries experience in dealing with an increasingly concentrated wholesale tier.

The increase in wine-related tourism revenues reflects both a higher proportion of Oregon visitors doing wine-related activities and a more realistic and wider range of spending by wine tourists.

Induced impact reflects partly the growth of the industry and partly changes and updates in the IMPLAN model.

Revenue Category	2004	2010
Winery Sales	\$157,800,000	\$252,095,000
Wine exported from state*	\$63,500,000	\$123,082,849
Wine sold Direct-to-Consumer	\$37,872,000	\$88,410,979
Wine Grape Crop Value	\$32,200,000	\$63,200,000
Wholesale**	\$360,536,030	\$449,352,438
Retail Sales (on/off premise)**	\$493,233,913	\$707,829,000
Wine-related Tourism	\$92,210,000	\$158,540,000
In-State Tax Revenues	\$41,682,729	\$46,740,368
Indirect/Supplier revenues	\$159,270,240	\$283,479,856
Induced revenue impact	\$135,487,000	\$375,152,626

*\*Does not include Direct-to-Consumer sales shipped to consumers in other states.*

*\*\*Note on retail and wholesale revenues: the 2004 retail and wholesale revenues have been restated since the 2004 report. The retail-wholesale revenue model used in the studies estimates retail (on and off-premise) and wholesaler revenues using Nielsen scan data, distributor surveys, trade interviews and OLCC data. In 2010 we used distributor survey and trade interviews to make the model more accurate on differences in pricing, margins and share by distribution channel (i.e. grocery vs. wine shop vs. on-premise). The numbers given in the table above for 2004 wholesale and retail revenues are calculated using the 2010 model but with 2004 volume and channel share numbers. The restatement eliminates the effect from the change in methodology.*

## Appendix 2 – Impact of Oregon Wineries & Vineyards

The complete report describes the effects of wine production and sales throughout the economy, from input and service suppliers to retail sales. 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 effect of wine imported into the state.

Sector	Revenue	Wages	Jobs
Grapegrowing	\$ 99,429,371	\$ 15,314,651	631
Winery	\$ 252,095,000	\$ 57,160,652	2,048
Tourism	\$ 158,540,000	\$ 47,580,000	2,070
Supplier	\$ 86,831,223	\$ 17,082,332	863
Wholesale	\$ 53,998,960	\$ 1,149,995	31
Retail	\$ 80,350,453	\$ 12,598,258	672
Induced	\$ 121,824,889	\$ 87,431,604	1,887
	\$ 853,069,896	\$ 238,317,492	8,201

Despite only having a 14% share of all retail sales, Oregon’s home industry is directly responsible for 38% of the in-state revenue, 46% of the wages and 48% of the jobs that are related to wine in-state. Thus even removing the effects of retail and wholesale of wines from other states and countries in Oregon state, the total economic impact for just Oregon wine within state is nearly \$1.1 billion.

The impact of just Oregon wine on the economy has increased substantially since 2004. Although this appendix was not included in the 2005 report, based on similar ratios and methodology, the Oregon-wine-only impacts at that time were: \$552 million in revenues, \$105 million in wages and 4,076 jobs. This represents nearly 60% increase in revenues and nearly doubling of jobs (much of it related to tourism and winery hiring).

## **Appendix 3 – Regional & County Impact**

*This section will be completed in July 2011.*

## **Sources**

Oregon Wine Board

Oregon Agricultural Statistics Service  
California Agricultural Statistics Service  
Washington Agricultural Statistics Service  
National Agricultural Statistics Service  
Oregon State Department of Agriculture

Oregon Department of Revenue  
Oregon Employment Department  
Oregon Liquor Control Commission

Oregon Tourism Commission

Gomberg-Fredrikson  
AC Nielsen  
Wine Opinions  
Wine Market Council

Alcohol and Tobacco Tax and Trade Bureau

U.S. Census

Dean Runyan Associates, TravelOregon

The Tax Foundation

The Wine Institute

Wine Market Council

Economic Forensics and Analytics

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## About Full Glass Research

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 the wine industry since 1983. He earned his undergraduate degree in Economics from Franklin & Marshall College and holds an M.B.A. from Cornell University. His industry experience includes restaurant and retail wine sales, work as a consultant and negotiant, and in successive research and management positions at Kendall-Jackson and Sebastiani Vineyards. Before starting Full Glass Research, he was Director of Research at MKF, a leading CPA/Consultant firm in the wine industry. He is a founding member of the Wine Market Council's Research Committee, and co-manager of the OIV Wine Market Short Course at the University of California, Davis.

Full Glass Research can be reached at [www.fullglassresearch.com](http://www.fullglassresearch.com) or 510-847-5160.

## About the Oregon Wine Board and Oregon Winegrowers Association

*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, directed by Jeanette Morgan 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 Winegrowers Association is the non-profit membership association for Oregon wineries and vineyards. OWA conducts legal and lobbying advocacy work on behalf of the industry to ensure a positive business, social and economic environment for the production and sale of Oregon wines. OWA represents the industry before state and federal government agencies and legislative bodies and related industry associations on such issues as direct shipment, land-use, and taxation. Funds to support OWA come from voluntary membership fees.*

*The Oregon Wine Board and Oregon Winegrowers Association can be reached at [www.oregonwine.org](http://www.oregonwine.org) or (503) 228-8336.*