AN ABSTRACT OF THE THESIS OF

ERROL WINSTON BERKELEY   for the   MASTER OF SCIENCE
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Title: AN ANALYSIS OF OREGON'S WHOLESALE DEMAND FOR

CALIFORNIA TABLE WINES

Abstract approved: _____
                                  Richard S. Johnston

The passing of the 21st Amendment to the United States Con-

stitution has given to individual states the authority to regulate the

sale, distribution and taxation of domestically produced wines, and

made the wine trade potentially significant as a means of augmenting

state revenues.

In the state of Oregon, table wines have been taxed at the rate

of 23 cents per gallon irrespective of origin. The objective of this

study has been to evaluate the nature and price elasticity of Oregon's

wholesale demand for California table wines with a view to determine

the effectiveness of the utilization of the tax.

The multiple regression analysis technique is the instrument

used in this determination. A two part statistical model was employed,

but the number of variables used had to be restricted because of

certain data limitations. Only 78 percent and 50 percent of variation

was explained in the price predicting and demand segments of the

model respectively.

The results of the statistical analysis indicated a positively sloped demand curve. This rendered any application of the concept of price elasticity of demand as a means of assessing how effective the tax was being used meaningless.

In view of this, no recommendations have been made, but the need for further research as more data become available has been pointed out.

An Analysis of Oregon's Wholesale
Demand for California Table Wines

by

Errol Winston Berkeley

A THESIS

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APPROVED:

_____

Assistant Professor of Agricultural Economics

_____

Head of Department of Agricultural Economics

_____

Dean of Graduate School

Date thesis is presented _____Oct. 2, 1970_____

Typed by Mary Jo Stratton for   Errol Winston Berkeley

ACKNOWLEDGEMENT

DEDICATION

I would like to dedicate this thesis to the three most important ladies in my life. To my mother who has given so much and asked for nothing; to my wife who has been a source of strength and comfort; and to my baby daughter, Abiona. I must also thank my brother and sisters for their encouragement and assistance.

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CHAPTER I

INTRODUCTION

The Problem

The story of the wine trade both on the National and Oregon
scenes since the repeal of prohibition and particularly in recent years
has been one of phenomenal growth.

On the National scene, in 1958, 50 million gallons of still and
sparkling wines were consumed, and in 1968 the figure rose to 108.3
million gallons. Since 1950 sale of all wines increased 44.6 percent;
but still and sparkling table wines increased by 162.5 percent (2). In
the Oregon market the consumption of all wines almost doubled between
the 1959 and 1969 calendar years. In 1959, 1.75 million gallons were
consumed, compared to 3.20 million gallons in 1969. This growth has
been, for the most part, in the table wines. In 1959, 122,636.93
gallons, and in 1969, 165,638.93 gallons represented wines of over
14 percent alcoholic content, a small percent of total wine sales (2).

In 1964 Oregon's per capita consumption of wine was 1.15 gallons,
tenth highest among all states in the nation. In 1968 this figure changed
to 1.40 gallons per capita and Oregon ranked eighth among all states.
For the population 21 years and over, per capita consumption moved

from 1. 92 gallons in 1964 to 2. 28 gallons in 1968, placed Oregon ninth

among states in that category, and indicates that the wine trade is of

tremendous relative importance among states as a potential source of

revenue generation.

Table I.   Comparison of Oregon and National Per Capita Consumption
           of Wine 1961-1968.

Year	Total Population		Population Over 21 Years	
	Oregon's Per Capita Consumption	National Per Capita Consumption	Oregon's Per Capita Consumption	National Per Capita Consumption
1961	1. 14	. 90	1. 86	1. 51
1962	1. 05	. 88	1. 81	1. 48
1963	1. 18	. 91	1. 94	1. 53
1964	1. 15	. 94	1. 92	1. 59
1965	1. 20	. 94	1. 99	1. 60
1966	1. 22	. 95	2. 02	1. 62
1967	1. 26	. 99	2. 08	1. 69
1968	1. 40	1. 03	2. 28	1. 74

Source: Brewers Almanac 1969.

Of additional significance is the fact that wines (like other

alcoholic beverages) occupy a special place among manufactured

products in the United States in that the individual states are empowered

by the Twenty-first Amendment to the Constitution to regulate the sale,

distribution and taxation of wines manufactured in or imported into

the particular state for consumption. Specifically, Section 11 of the

amendment states that ''The transportation or importation into any

state, territory or possession of the United States for delivery or use

therein of intoxicating liquors in violation of the laws thereof, is hereby

prohibited. " The section has not remained unchallenged and the most

notable decision was passed down by Justice Brandeis in a 1936 U. S.

Supreme Court Ruling in the case "State Board of Equalization of

California vs. Young's Market Company. " The result of the Brandeis

decision was the exemption of alcoholic beverages from the Commerce

clause of the Constitution, which upholds the right to move goods

freely between states.

Several states have utilized this potent weapon as a means of

protecting development of domestically produced wines through

differential tax rates. As late as June 1969 this was true of Oregon's

neighboring state, Washington. Only the State Liquor Board could

have imported wines into the state of Washington. Table wines were

marked up by 53. 6 percent while dessert wines were marked up by

66. 3 percent. Percentage markups were applied to the delivered costs

at the Seattle warehouse to arrive at the retail price. To this retail

price was added the state sales tax of 15 percent.

Domestic Washington wines, on the other hand, did not have to

contend with regulated markups, and the sales tax applicable to them

was ten percent.

By the enactment of Chapter 21, Extraordinary Session, the

Forty-first Legislature has made it possible for out-of-state wines to

be marketed on an equal basis with Washington-produced wines.

The new act increased the sales tax on all wines to 26 percent of

the retail selling price and authorized the board to issue appropriate licenses, enabling distributors to sell out-of-state wines to licensed retailers at wholesale prices in the same manner as for Washington-produced wines.

In the state of Oregon, there is a uniform tax rate of 23 cents per gallon on wines, irrespective of origin. This tax is levied strictly for revenue generation, the home industry receiving no direct benefit from it.

From repeal of prohibition to the year 1949 the tax on wines was ten cents per gallon. In 1949 the tax was raised to its present 23 cents per gallon. An examination of the liquor laws through time reveals little change. However, attitudes toward wine drinking have changed considerably (2). There used to be a stigma attached to wine drinking, but today it's enhancing to a host's status to serve wine to guests. We may assume that the demand for wines and the nature and elasticity of the demand curve have also been altered. If this is so, the wine tax as it stands at present may not be contributing as much as it might to the economy of the state of Oregon.

Objective of the Study

The objective of this study is to examine the nature and price elasticity of the demand for California wines in the state of Oregon and to evaluate the impact on state coffers of a change in the present tax

rate of 23 cents per gallon applicable to table wines, regardless of origin, and levied at the importer's level.

This study does not purport to have any direct bearing on the currently burning issue regarding the feasibility of the development of a wine and supporting wine grape industry in the state of Oregon. However to the extent that wines produced in Oregon can compare with California wines in quality and taste, or in other words, to the extent that the two commodities (Oregon wines and California wines) can be assumed to be close substitutes, inferences may be drawn relative to the development of the industry in Oregon.

Definition of Terms

For clarity, some of the commonly used terms will be defined. Definitions will relate particularly to mode of use in the study.

Alcoholic liquor - Any alcoholic beverage containing more than one-half of one percent alcohol by volume, and every liquid or solid containing alcohol, and capable of being consumed by a human being. Alcoholic liquor as used here includes all wines.

Table wines - Any wine produced as a natural fermentation of grapes, fruits or berries and containing not more than 14 percent of alcohol by volume. Sometimes table wines are referred to as light and natural as well.

Dessert wines - Any wine containing over 14 percent of alcohol

by volume.

Sweet wines - A wine in which all the sugar is not fermented out. Fermentation ceases when the amount of alcohol reaches less than 15 percent by volume or it may be stopped artificially by the addition of grape brandy.

Dry wines - Wines in which all the sugar, through fermentation, has turned into alcohol and carbonic acid gas, the latter passing into the air, except in the case of sparkling wines.

Sparkling wines - These are produced by the addition of sugar to an already bottled wine. A new fermentation is thereby started, but does not become complete because it is in an air-tight bottle. The sparkle results from the escape of bubbles of carbonic acid gas.

Still wines - In still wines the fermentation is complete and carbonic acid gas is absent. Completely dry wines are therefore still.

Carbonated wines - Bottled wines into which carbonic acid gas is squirted.

Importer - Any person or persons responsible for the importation of wine into the state of Oregon.

Wholesaler - An agent who sells wine to retailers. Such person or agent may also have been the importer of the wine, in which case he may sometimes by referred to as an importing wholesaler.

Distributor - the non-importing wholesaler. His location may

be a county where the importing wholesaler is not located. He may

then act as an agent of the importing wholesaler.

Oregon Liquor Control Commission - Sometimes referred to as

"Commission" or "O. L. C. C. " is that body responsible for the regula-

tion of the trade in alcoholic beverages in the state of Oregon.

CHAPTER II

A DESCRIPTION OF THE WINE MARKET IN OREGON

Classes of Wines Entering the Oregon Market

Classification by Origin

An examination of statistics put out by the Oregon Liquor Control Commission indicates there are four major categories of wines entering the state of Oregon according to origin.

By far the major category has been California wines. For the period 1964 to 1969 inclusive, California wines amounted to approximately 94.93% of all wines imported into the state excluding the wines for sacramental use.

Wines coming out of Gallo and United Vintner wineries have accounted for 80.68% of all California wines imported for the same six year period.

The second major category of wines entering the market in the state of Oregon is composed of those wines produced and bottled in Oregon. This category accounted for 592,888.40 gallons in the five year period 1964 to 1968 inclusive in comparison to 11,425,110.18 gallons in the other three major categories in the same time span.

Honeywood Inc. is the largest producer of wines in the state of Oregon, having produced 91.19% of all wines produced in Oregon in

the period 1964 to 1968.

Foreign wines make up 2.88% of the total quantity of wines imported into the state of Oregon. In that same 1964 to 1968 period foreign wines amounted to 416,027.30 gallons. France, Italy, Portugal and Germany are the chief suppliers of foreign wines in that order, supplying approximately 90.00% of foreign wines entering the market in Oregon.

The last major category of wines in respect to origin are those American wines entering the state of Oregon from states other than California and Oregon. During the period 1964 to 1969, New York, Illinois and Ohio have been the only suppliers in that order of importance, except for 1964 when 82.92 gallons were imported from Kentucky and in 1969 when there were 953.60 gallons and 87.00 gallons from Washington and New Jersey, respectively.

Classification by Function

The wines on the Oregon market may be delineated into three categories according to function.

Sacramental wines, which have not been included in any of the preceding categories, are of very little significance and in the period 1964 to 1968 inclusive have in fact been on a steady decline except in 1967 when there was an increase.

Of greater significance are the two major categories of wines

Table II. Wines Produced and Bottled in, and Imported into the State of Oregon in Gallons, 1964-1969.

Year	California	Oregon	Other U.S.	Foreign	Gallo and United Vintners	Totals
1964	1,984,228.27	108,931.30	51,688.92	40,437.55	1,590,199.50	2,185,286.04
1965	2,080,994.07	116,654.80	43,004.56	44,448.26	1,677,671.70	2,284,102.69
1966	2,110,176.03	114,913.00	51,011.18	60,481.32	1,699,814.43	2,336,581.53
1967	2,230,838.68	122,246.00	59,045.20	85,221.73	1,770,237.48	2,497,351.61
1968	2,443,807.81	130,143.30	56,808.35	83,938.25	1,977,264.88	2,714,697.71
1969	2,855,721.04	unavailable	63,549.65	101,500.19	2,341,734.15	3,020,770.88
Totals	13,704,765.90	592,888.40	325,107.86	416,027.30	11,056,922.14	15,038,790.46

Source: Wine Division, O. L. C. C.

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according to use. These categories of wines are "Table Wines" and "Dessert Wines." These two categories assume special importance because the regulations governing their sale are dissimilar.

Table wines, which is the category showing the greatest increase in sales on the Oregon market, are taxed by the Commission at the rate of 23 cents per gallon and are imported and sold through the licensees of the Commission. Dessert wines, on the other hand, are sold exclusively through the Commission's retail stores.

The remainder of this chapter will be especially a description of the market for table wines imported from California and sold in the state of Oregon.

Table III. Functional Categories of Wines Entering Commercial Channels in Oregon (1965-1969).

Year	Dessert Wines Sold by O. L. C. C. [1]	Table Wines	Total Apparent Consumption
1965	108,473.96	2,166,684.72	2,275,158.68
1966	113,576.47	2,264,741.50	2,378,317.97
1967	120,425.04	2,405,772.07	2,526,197.11
1968	138,197.66	2,665,073.79	2,803,271.45
1969	165,638.93	3,035,774.97	3,201,413.90

[1]Includes a small amount of Table Wines sold to O. L. C. C. by importing wholesalers for testing purposes. This figure was 264 gallons in 1965; figures not available for later years.

Source: Accounting Division, O. L. C. C.

Product Differentiation

The wine trade in the state of Oregon represents a trade in a very

highly differentiated product. There are as many brands of wine as there are wineries shipping into the state of Oregon, and some brands may be represented by about 15 to 20 different varieties.

Apart from the different varieties and brands, the buyer must differentiate between:

(1) Ordinary or standard wines, which are aged for a short time only;

(2) Premium wines, which are prepared with greater care and aged for a longer time; and

(3) Fine wines, which make up a small portion of world production, and which are made with great care from selected grapes and are sometimes aged for considerable periods both in casks and in the bottle.

While there is consensus among wine experts as regards what are Ordinary, Premium and Fine wines, within these major categories there is much confusion in determining standards and quality ratings. The consumer, lacking the skill necessary to evaluate varieties in the same category, may base his preferences on advertising claims and price. Table wines are also differentiated by color. There are white and red wines and many gradations in those two colors. Some are as colorless as water. Other colors include yellow, green, gold and amber. The color of wine has taken on added importance from a cultural standpoint. It is considered "proper" to serve a particular

color wine with a meal depending on the type of food the wine is served

with. As an example, a red wine is generally not served with fish.

Table wines entering Oregon also vary from dry wines considered

to go well with a meal, to sweet wines which are supposed to be served

after the meal.

Other dimensions of differentiation in the commodity include the

nature of the wine, whether sparkling (champagnes), carbonated or

still, and the fruit from which it is prepared. Although most of the

wines entering Oregon are prepared from grapes, there are also

plum, apple and berry wines.

Table IV. Some Classifications of American Wines Consumed in Oregon in Gallons.

Type	First Six Month Totals 1955	First Six Month Totals 1956	First Six Month Totals 1957
Red Table	12,292.65	94,960.30	91,130.20
White Table	36,179.40	39,792.20	39,255.50
Light Sweet	350,639.25	419,983.10	375,033.20
Fruit and Berry	18,983.40	19,854.80	32,925.60
Sparkling	4,017.70	4,075.84	4,936.91
Total	422,112.40	578,666.24	543,281.41

Source: Wine Division, O. L. C. C.

California table wines entering the state of Oregon are, for the

most part, shipped in bottled form, very little of all imported wines

being received in bulk. This represents a change from what used to be

true several years before the period of analysis. Then, bottling of California wines in Oregon used to be a profitable venture; today, as was true in recent years, it is not. In 1969 only 5,067 gallons were imported in bulk form, all of it from California, out of a total of 2,855,721.04 gallons received from California in that year.

In recent years some Beaujolais wines coming out of France have come in aluminum cans. This may be the start of a new trend towards the purchase of wine by the six-pack, but as yet no California wines have come into Oregon in this form.

Wines have also been shipped from Japan and Italy in fancy bottles which can be used as vases. These wines have been very highly priced, the buyer paying more for the container than for the contents, the reason being that it is more costly to ship empty vases, due to higher tariffs, than to ship the vases in as wine containers.

Market Control

The California wineries' market in the state of Oregon is dominated by Gallo and United Vintners wineries which, combined, control consistently approximately 80% of shipments of California wines into the state of Oregon. The smallest wineries exporting into the Oregon market have shown just as consistent a decline in market control, with the other groups of wineries fluctuating with a tendency toward decline, except for the third through seventh wineries which

have increased their share of the market.

Percentage changes in imports of California wines is significantly related to percentage changes in the importation of Gallo and United Vintners wines.

Importing wholesalers and wineries in the state of Oregon numbered 33 in 1969. Their distribution according to price zone and county in 1969 was as shown in Table VI. The Oregon market is divided into seven such zones for purposes of price regulation. These are not to be confused with the division into eight districts for enforcement purposes, which will be discussed later.

There is no regulation restricting the wholesaler as to where he may sell. The importing wholesaler may sell in zones other than that where he is located directly, or through other (distributing) wholesalers or salesmen.

The retailers are the most numerous of any category of market agents apart from consumers.

Market Facilities

Market Places

The market place, as far as importers are concerned, takes the form of the presence of agents representing wine producers. New products are introduced to importers and wholesalers and the virtues of old products extolled.

Table V. Market Control by California Wineries in Gallons Shipped into Oregon 1964-1969.

Year	Number of Wineries	Two Largest Wineries	3rd through 7th Largest Wineries	8th through 12th Largest Wineries	13th through 20th Largest Wineries	Balance of Wineries	Totals
1964	43	1,590,199.50	276,224.25	76,878.80	32,267.12	8,658.60	1,984,248.27
1965	47	1,677,671.70	283,846.77	75,387.00	33,853.40	10,235.20	2,080,994.07
1966	44	1,699,814.43	309,170.15	58,588.20	30,956.85	11,646.40	2,110,176.03
1967	43	1,770,237.48	354,340.50	67,306.40	31,668.60	7,385.70	2,230,838.68
1968	41	1,977,264.88	370,495.69	67,452.90	23,468.40	5,125.94	2,443,807.81
1969	42	2,341,734.15	412,042.55	70,076.48	26,495.26	5,372.60	2,855,721.04

Source: Wine Division, O. L. C. C.

Table VI. Permitted Importation of Table Wines by Counties and Zones in 1969.

Zone	Counties	Imported by Counties	Number of Importing Firms		Imports by Zones[1]
			In County	In Zone	
I	Multnomah	1,933,328.90	6	7	2,066,618.50
	Clackamas	133,289.60	1		
II	Clatsop	8,400.00	1		
	Marion	53,918.80	2	6	123,630. 0
	Hood River	19,120.80	1		
	Yamhill	42,191.20	2		
III	Benton	32,806.60	1		
	Lane	101,926.80	1	4	174,112.40
	Linn	29,490.00	1		
	Umatilla	9,889.00	1		
IV	Deschutes	15,416.60	2	2	15,416.60
V	Lincoln	25,272.72	1		
	Douglas	27,898.60	1		
	Coos	69,697.87	2	8	184,647.39
	Union	51,254.80	2		
	Baker	465.80	1		
	Malheur	10,057.60	1		
VI	Harney	3,733.20	1		
	Lake	2,870.60	1	6	155,891.93
	Klamath	56,787.53	2		
	Jackson	92,500.60	2		
VII	- - -	- - -	-		
Total					2,720,317.62

[1] Inconsistencies between what quantity was permitted to be imported and what quantity actually arrived is a result of orders placed in one year (probably late in that year) arriving in a subsequent year.

Source: Compiled from Import Permits Granted in 1969 on File at Oregon Liquor Control Commission.

Table VII. Distribution of Wholesale Licensees by Price Zones.

Date	Zone I	Zone II	Zone III	Zone IV	Zone V	Zone VI	Zone VII	Total
June 30, 1965	16	16	11	3	12	14	0	72
June 30, 1966	16	16	12	3	15	14	0	76
June 30, 1967	18	14	12	3	15	12	0	74
June 30, 1968	17	13	12	3	17	10	0	72
June 30, 1969	-	-	-	-	-	-		74

Source: Accounting Division, O. L. C. C.

Table VIII.   Distribution of Retailers[1] by County and Type of License for Fiscal Year 1969.

County	Package Store "B"	Restaurant Class "A"	Restaurant Class "B"	RMBC	Dispenser Class "A"	Dispenser Class "B"	Club Dispenser Class "A"	Club Dispenser Class "B"	Club Dispenser Class "C"
Clackamas	131	2	2	21	8	30	4	3	2
Columbia	51	-	-	5	1	11	1	1	-
Multnomah	123	3	19	9	43	3	3	1	2
Portland	418	17	7	91	80	127	10	3	3
Washington	107	3	-	10	4	21	3	1	2
Clatsop	57	1	-	5	7	16	6	1	2
Marion	142	4	-	4	7	26	1	2	1
Polk	29	1	-	-	2	6	-	1	-
Hood River	21	-	-	-	3	6	1	1	1
Yamhill	40	-	-	-	1	12	-	-	1
Wasco	18	-	1	4	4	5	4	-	1
Benton	33	-	1	2	2	7	1	2	1
Linn	72	1	1	7	4	15	1	4	2
Lane	180	5	2	5	7	48	5	2	3
Tillamook	41	1	-	2	2	13	4	1	1
Umatilla	48	-	-	8	10	13	4	1	1
Jefferson	7	-	-	1	1	4	-	1	-
Deschutes	31	2	-	1	6	13	-	-	2
Crook	7	-	-	-	-	4	2	1	-
Wheeler	3	-	-	-	2	2	-	-	-
Sherman	3	-	-	1	2	2	-	-	-

(Continued on next page)

Table VIII. (Continued).

County	Package Store "B"	Restaurant Class "A"	Restaurant Class "B"	RMBC	Dispenser Class "A"	Dispenser Class "B"	Club Dispenser Class "A"	Club Dispenser Class "B"	Club Dispenser Class "C"
Morrow	9	-	-	-	1	4	-	1	-
Gilliam	3	-	-	-	-	2	1	-	-
Lincoln	49	1	-	5	3	26	2	3	-
Douglas	89	-	-	1	4	26	2	1	1
Coos	74	1	-	1	6	20	3	2	1
Wallowa	11	-	-	-	-	4	-	2	-
Union	17	-	-	1	1	5	2	2	-
Baker	21	-	-	2	2	7	3	-	1
Grant	8	-	-	-	1	3	1	1	-
Malheur	34	-	2	1	1	9	1	-	1
Harney	7	-	-	-	2	3	1	1	-
Lake	10	-	-	-	1	4	1	1	-
Klamath	82	1	-	2	4	20	3	1	1
Jackson	97	5	-	3	7	27	3	-	3
Josephine	59	-	-	2	2	7	1	-	1
Curry	23	-	-	3	2	8	-	1	-
Totals	2, 155	48	35	187	233	559	74	42	34

Source: Accounting Division, O. L. C. C.

On the wholesale to retail level, the wholesaler is bound by law to maintain a permanent business place. The retailer may order the wines he needs or the wholesaler may have his salesmen periodically check existing stocks at the retailer's place of business and negotiate for replacements.

The market places for consumers of wines of alcoholic content 14 percent and lower are stores specializing in wines, grocery stores, and for consumers of wines by the glass, taverns and restaurants.

Storage Facilities

Investigations by this researcher indicate that storage is kept at a minimum throughout the marketing channel. Agents try to move the commodity as quickly as possible, putting in their orders for as little as possible over expected demand for periods of about one month. This is especially true of "ordinary wines," which make up the bulk of the trade in Oregon and "premium wines," which are produced with more care. Contrary to popular belief, these wines do not show any considerable increase in quality over long periods of time and should be consumed within a year of the time of fermentation.

Moreover, there is a tax in the state on stocks at the end of the calendar year. This perhaps explains the almost consistent drop in imports in the month of December and may be another reason for

keeping storage to a minimum. However, this tax is now being phased out. In 1969 the tax rate was reduced by five percent, in 1970 by ten percent and in 1980 will have been eliminated.

"Fine" wines (primarily foreign), which make up a small portion of world production, are an exception in that they may improve in quality with time. As an example, in 1962 a case of "Lafite Rothchild" sold for approximately $105.00, while in 1969 the same case would be worth $360.00.

Storage facilities are usually located adjacent to the place of business of the dealer in wines. Capacity varies with the amount of business handled and the rapidity of movement of the commodity.

Equipment for handling the commodity varies from hydraulic lifts possessed by importers and wholesaler, to hand carts used by retailers where restocking is done at more frequent intervals and quantities handled at any one time are relatively small.

Transport Facilities

Wines entering the state of Oregon from California are brought in, for the most part, by common carrier trucks. A lesser quantity is transported by way of rail.

From the premises of the importers they are sent out to distributors and retailers by trucks owned by the importers, or orders may be picked up by distributors and retailers in their own trucks.

Product Flow and Exchange Levels

Wines are imported into the state of Oregon subsequent to acquisition of a permit to import, issued by the O. L. C. C. The Commission has the authority to refuse issuance of a permit until samples of the wines to be imported are received and tested for conformation to standards of type, age, soundness and general quality as set by the relevant laws of the state of Oregon.

After receipt of the merchandise by the importer, who is either the holder of a wholesale or a winery license[1], a certified copy of the invoice, a copy of the bill of lading and a copy of the original "permit to import" is to be submitted to the Commission. The owner of the merchandise may then make application for release for sale within the state of Oregon. Such release is granted upon certification of standards and quality by the Commission. When release has been granted, the wines can be resold down the marketing channel to the eventual consumers in the state of Oregon.

The wholesalers and wineries, in order to facilitate distribution of their products in other areas of the state, may utilize the type of personnel typically known as "distributors." These distributors may be in possession of a salesman's license or may be smaller wholesalers. The regulations governing all wholesalers are identical and the

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[1] See Table X of this study for description of licenses.

Table IX.   Import Permits Issued and Gallons of all Table Wines
            Imported, 1964-1968.

Year	Number of Import Permits Issued	Gallons of Wine Imported
1964	1,566	2,076,354.74
1965	1,745	2,167,447.89
1966	1,789	2,221,668.53
1967	1,785	2,375,105.61
1968	1,843	2,584,554.41

Source: Wine Division, O. L. C. C.

distinction made here between importing and distributing wholesalers

is only for convenience.

From the wholesale level most of the wine goes to the retailers

as there is little trade between consumers on the one hand, and whole-

salers and wineries on the other.   There are many different types of

retailers, their functions varying depending on the type of license they

possess.   The retail level is the main source of wines for the

consumers.

Any person, including persons under 21 years of age with the

approval of their parents or guardians who are not in a public place,

may be a consumer of wines, provided that person is not a "drunk-

ard"[2] or under orders of interdiction at the time of consumption.

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[2] This is the Commission's terminology.

Regulation of Market Activity

The wine trade in Oregon is subject to a great deal of regulation by the state through its Liquor Control Commission. This regulation affects all levels of trade from manufacture and importation to consumption. The Liquor Control Act as set out in Chapter 471 of the Oregon Revised Statutes is the legal basis of the regulation and is carried out by the Enforcement division of the O. L. C. C.

Structure and Operation of the Enforcement Division

The division is headed by a director and has a training section. Prospective enforcement officers are usually people who have had at least two years of investigative work experience and come mostly from the military or police force. Candidates undergo a six month training and observation period and emerge as class I officers. They may be promoted to classes II and III, the latter having the rank of sergeant.

The state is divided into eight districts, each of which is supervised by a sergeant who is assisted by other officers. The number of officers assigned to a district depends largely on population and volume of business. Close working relations with city and county police are maintained to increase enforcement efficiency.

Enforcement officials investigate applicants for licenses and familiarize them with the liquor laws and regulations. Complaints

are investigated and licensed premises observed to detect violations.

Efforts are made to detect illegal importation and manufacture of wine, and special emphasis is given to prevention of sales to persons under 21 years of age.

Misconduct by a licensee is treated by his first being advised verbally of the violation and given time, depending on the nature of the violation, to correct it. For example, the violation may be the use of faulty equipment which could result in poor sanitation and the time needed for its repair may vary for different cases and circumstances.

Inexcusable failure to make right the violation may be followed by the issuance of a notice of violation to the licensee. At this stage it is on record at the Commission to whom a complete statement of the facts is submitted. A hearing may then be directed by the Commission.

There are two hearing officers on the staff of the Commission. The defendant has the right to have a lawyer plead his case or may do so himself. He may also call witnesses to testify in his behalf. If the defendant is found guilty by the hearing officers his license may be suspended or revoked. The defendant may appeal the decision of the hearing officer and take the case to the courts.

Regulation Determining Who May Purchase

Qualifications to purchase alcoholic liquor are evidence of being

21 years of age and not being interdicted under ORS 471-125.

ORS 471-125 gives any person interested in the welfare of another person who habitually drinks alcoholic liquor excessively or who has been convicted of any offense caused by drunkeness, the authority to have that person summoned before any committing magistrate of the state or any municipal judge within whose jurisdiction the person may be found to answer the charge of excessive and improvident drinking of alcoholic liquor.

If the magistrate or judge determines that further drinking of alcoholic liquor is against the best interest of that person, his family, his dependents, or the community, the presiding magistrate or judge makes and enters an order of interdiction which prohibits any licensee of the Commission from selling any alcoholic liquor to that person for a period of five years. Jurisdiction is reserved by the presiding magistrate or judge, however, to withdraw the order if it can be established that the causes for the order no longer exist.

Regulation by Licenses

Regulation of the wine trade in the state of Oregon is facilitated by the issuance of licenses. Each type of license carries different privileges.

The following table gives a brief description of the licenses relevant to this study.

Table X. Abstract of Licenses and Associated Privileges.

Class of License	Privileges
Retail Malt Beverage Class "C"	Permits the sale of table wines by the glass, for consumption on the premises. Radio, phonograph and television are the only forms of entertainment permitted.
Package Store Class "B"	Permits the sale of table wines in sealed packages for consumption off the premises.
Restaurant Class "A"	Permits table wines to be served with meals only. Radio, phonograph and television are the only forms of entertainment allowed.
Restaurant Class "B"	Permits table wines to be served with meals only. Dancing is allowed for customers.
Seasonal Dispenser	Carries the same privileges as Dispenser Class "B", but valid for not more than six months out of any consecutive 12-month period.
Dispenser Class "A"	Issued only to places where food is cooked and served. Wines can be served for consumption on the premises. Radio, phonograph and television only are allowed as forms of entertainment.
Dispenser Class "B"	Same privileges as for Dispenser Class "A", but dancing is allowed.
Dispenser Class "C"	Issued to private clubs, fraternal and veterans' organizations.
Dispenser Class "A"	Clubs with membership of 100 to 500.
Dispenser Class "B"	Clubs with membership of 500 to 1, 000.
Dispenser Class "C"	Clubs with membership of over 1, 000.

Table X. (Continued).

Class of License	Privileges
Wholesale Wine	Allows the importation, storage, transportation, wholesale sale and distribution of table wines, and the importation and sale to the Commission and export of dessert wines.
Farmer's Winery	May manufacture wine from Oregon grown fruits and grapes only.
Winery	Permits importation, bottling, manufacture, storing and wholesale sale of wines not over 24 percent alcohol by volume, for off-premise consumption.
Railroad, Public Passenger Carrier or Boat	Allows sale and public consumption of all table wines.
Salesman	Allows the holder to offer for sale or solicit orders for the sale of table wines.

Regulation of Wholesale Prices

The state of Oregon is divided, for the purpose of wholesale price regulation, into seven trade areas or zones.

A licensed wholesaler distributing wine to retailers in the state of Oregon must post with the Commissioner a schedule of prices to be charged for such wine. This schedule is required to be uniform for all retailers in the same trade area within the state. The schedule must state the brands, classes and kinds of wines being sold and the actual delivered sale price of each size container.

The schedule of prices is to be filed on or before the twentieth day of the month prior to the first day of the month in which the prices are to become effective. This schedule can be changed or amended at any time provided the change is approved by the Commission. Any other licensee having a schedule of prices filed with the Commission may, after the twentieth day of the month prior to the first day of the month immediately following, adjust his schedule to meet any new schedule of prices provided that his prices are not lower than the prices on the new schedule.

In the case of a new brand to the market, its price schedule can be posted with the Commissioner at any time and may be accepted by the Commissioner to become effective immediately provided it is not below those posted by any other licensee for any similar brand, type

or class of wine for the same trade area.

When a price schedule or amendment is filed it is open for public inspection. The posting of any price for the same or similar brand, type or class of wine which is lower than any such price in effect at the time of such posting does not become effective until the Commission assures itself that the price is economically sound within the industry and not designed to render financial assistance to retailers.

Regulation of Retail Prices

The Commission sets minimum prices for the retail trade in the state of Oregon. No wine can be sold at prices lower than those set for the designated container size in the following table. This schedule has been in effect at least since 1954, except for the addition of the two-fifths pint denomination in 1964.

Table XI. Schedule of Minimum Prices.

Container Sizes	Minimum Prices
2/5 pint or less	$ .25
1/10 gallon	.35
1 pint	.39
1/5 gallon	.59
1 quart	.65
1/2 gallon	1.20
1 gallon	2.00

Source: O. L. C. C.

Advertising Regulations

Advertising here means the publicizing of the trade name of the licensee or of alcoholic liquor either by brand name or by the trade name of the manufacturer of the alcoholic liquor.

All such advertising through the media of newspapers, magazines, billboards, signs, radio and television or other approved forms which have their origin in the state of Oregon must be submitted to and approved by the Commission prior to use. The Commission considers the "public interest" in sanctioning advertising material.

Section 10-105 of Chapter 845 of the Oregon Administrative Rules enumerates what is considered to be objectionable advertising. Some of these have a direct bearing on the Commission's aims to protect the "moral standards" of the state of Oregon.

Advertising is termed objectionable by the Commission if, among other reasons, it is obscene, uses any national insignia so as to suggest endorsement, appeals to children, depicts a family scene, makes mention of certain religious or national holidays such as Christmas or Mother's Day or is aired on Sunday or carried in newspapers or other periodicals bearing a Sunday date line.

Unless prohibited by local ordinance, advertising by billboard or sign is permitted within the corporate limits of incorporated cities and towns. However, such billboards and signs should have prior approval of the Commission as regards size, type and context.

Brand name advertising is prohibited at point of sale but other advertising on licensed premises are permitted under the following conditions:

Retailers

(1) One exterior sign is permitted and it may be two faced and lighted. It is not to exceed 630 square inches and no dimension is to be greater than 42 inches nor extend more than eight inches from the wall.

(2) One interior sign of the same dimensions as listed above is permitted. In the case where there are no exterior signs two interior signs visible from the outside may be used if they are within the limits of the above dimensional specifications. The retailer is also permitted to display a brand of wine as long as the sign is not visible from the outside and adheres to the already mentioned dimensions.

(3) Advertising intended to be visible from the outside is not to carry the word "saloon" and containers or imitations of containers of alcoholic liquors are not to be left outside the premises.

(4) Crested glasses may be used provided they are purchased without financial assistance from the wholesaler or supplier.

Manufacturers and Wholesalers

(1) Signs must conform to the laws of the United States relevant to them.

(2) Distribution of printed matter must be cleared through the

Commission and no direct mail distribution of such matter may be made to consumers except as requested by them.

Financial Assistance Regulations

The O. L. C. C. scrutinizes carefully the financial standings of licensees and potential licensees engaged or to be engaged in the selling of wines at all levels of the marketing chain. The justification is that a licensee of unsound financial standing is more prone to circumvent the regulations than his counterpart on sounder financial footing.

Also under close scrutiny is the granting of business favors by one licensee to another. By controlling this, the Commission hopes to reduce the probability of some licensees gaining unfair competitive advantage over others.

To guard against any tacit form of unfair competition, the employment of personnel in more than one level of the distribution chain simultaneously is prohibited. Also prohibited is the exchange of gifts or valuables between employees of the Commission and persons employed or involved in the wine trade.

Wines sold to retailers must be paid for in cash at the time of or prior to, but not in excess of ten days prior to, the delivery date of such wine. Commissions are not permitted for size of purchase nor is allowance to be made for the return of containers.

A licensee engaged in the sale of wines for resale within the state

of Oregon cannot settle any bad order claim unless approved by the

Commission. The party making the claim must hold the damaged

commodity until inspection is made by the Commission. The claiming

or allowance of a false claim is regarded as an act of rendering or

receiving financial assistance, which is prohibited.

Forces Affecting the Operation of the Marketing System

Incentives to Enter the Market

The major incentive for entering the market as far as wholesaler-

importer is concerned seems to be financial. On the average the

markup is in the neighborhood of 20 percent, with an operating expense

in the neighborhood of 14-15 percent.

The retailer, excluding those selling wine by the glass, marks

up his product by approximately 33 percent. If he operates a restau-

rant the fact that he serves wine may add to the status of the food

thereby indirectly increasing the returns of his overall investment.

The regulations limiting price competition which could lead to stronger

firms driving out weaker ones also gives both wholesaler and retailer

added incentive to enter the market.

There are two major incentives which the consumer of wines

faces and by which he may also be categorized.

In the first is the person who is a habitual wine drinker. He

may live on "skid row" or reside in the suburbs. For him wine

becomes a source of food. Because he uses so much of it he tends to favor cheaper wines and since it provides him with his energy, he will lean towards use of the sweet wines with high sugar and energy content.

In the second category, is the consumer who appreciates wine as a means of stimulating the appetite or of improving the quality of the meal. In this category may be included those who serve wines to guests because of the status associated with wine-serving, and not necessarily because of an appreciation for the wine.

Barriers to Market Participation

Restricting Extent of Participation by Agents. Barriers are set by the Commission's regulations that prevent the entry or participation of certain licensees in more than one level of market activity simultaneously.

The selling of wines at both wholesale and retail levels is prohibited except in the case of persons holding a farmer's winery license. This restriction is alleviated by the provision that wholesalers be allowed to sell table wines directly to consumers in quantities of not less than five gallons nor more than 55 gallons for consumption away from the licensed premises. In view of the level of per capita consumption of wines in the state, one would expect little utilization of this easement.

Also, no manufacturer or wholesaler and no officer, director or substantial stock holder of any corporate manufacturer or wholesaler, can lawfully have any right, title, lien, claim or interest of any nature in, upon or to the premises, equipment, business, or merchandise or any retail licensee. Likewise a retail licensee may not have any interest whatever in the business or merchandise of any manufacturer or wholesaler.

An exception to this is the case of the members of the family of the wholesaler whose license dates back prior to January 1, 1965. Here, despite the family relationship, another member of the family may be granted a license provided the wholesaler does not directly or indirectly sell to the family member who is in the retail business.

This regulation although restrictive to persons already in the wine trade, perhaps aids prospective entrants by preventing the possibility of importing wholesalers vertically integrating into the retail business and making it more difficult for new retailers to enter through the price advantage importing wholesalers will possess.

License Restrictions. The requirement that licenses are necessary to operate at any level in the marketing channel other than as a consumer may also be construed as a form of inhibition to participation in the market, through the fees associated with such licenses, as well as through the restrictions which bar some persons from entering the trade. In the latter case, the major restriction is

that a prospective licensee must not be in the habit of using alcohol or habit-forming drugs in excess. Licenses are renewable and fees payable annually.

Table XII. Cost of Acquiring Licenses and Number Granted in Fiscal Year 1968-1969.

Type of License	Fee	Number Granted for Year Ending June 30, 1969
Retail Malt Beverage "C"	$150.00	260
Package Store "B"	50.00	2,449
Restaurant "A"	125.00	66
Restaurant "B"	250.00	27
Seasonal Dispenser	250.00	90
Dispenser "A"	250.00	226
Dispenser "B"	400.00	686
Dispenser "C"		
Less than 500 members	100.00	73
500-1000 members	200.00	42
Over 1000 members	300.000	34
Wholesale Wine	125.00	74
Winery	250.00	2
Farmer's Winery	25.00	6
Railroad, Public Passenger Carrier or Boat	100.00	2
Salesman	5.00	583

Source: Annual Report, O. L. C. C.

Before a license is granted, enforcement officers check into the financial background of the perspective licensee or the nature of the source of his backers. If the candidate for a license or his financial

backers cannot show adequate funds the Commission may refuse to issue a license. The Commission may also refuse to grant a license to operate in a particular location if it estimates that the area is sufficiently well supplied by the number of businesses already in operation in the area. In effect this sort of inhibition protects those already in the industry.

Tax Restrictions. Taxes may also be considered a type of barrier to entry. The tax is standard at 23 cents per gallon consumed, regardless of the value of the wine. Although the importer pays this tax, it eventually passes down the marketing channel and affects the consumers through higher prices.

The consumer most affected by this type of tax is the one who shops for the lower priced wines. One would expect, a priori, that this is the consumer in the lower income bracket. For him the increase in the price of his brand resulting from the tax is likely to be higher percentagewise than the increase facing the purchasers of higher valued wines.

Price Restrictions. Price control in the form of minimum prices consumers must pay for the commodity is another barrier to the consumer which, like taxes, seems more prone to affect the consumer in the lower income brackets. And since the retailer of the less expensive wines is more likely to violate these minimum price regulations, minimum prices place a relatively greater restriction on

him than they do on the retailer dealing in higher priced wines. The
latter can reduce his prices by greater percentages without violating
this regulation.

Competition Among Market Agents

Because of the unique intensity of government control in the
wine trade, competition among agents is limited but takes place none-
theless.

Between wholesalers trading within the same zone, the effective-
ness of price competition is blunted by the Commission policy of price
posting. Since posted prices are available to the public and must be
registered at least in excess of nine days before they take effect, the
wholesaler taking the initiative in changing prices loses any element of
surprise which can result in significant gains.

The wholesaler relies on service and salesmanship to augment
his volume of sales, with the major emphasis being put on salesman-
ship as service is also restricted (7).

Apart from the price floor set by the Commission for wines and
by the state laws for all commodities which prohibit the selling of any
commodity at a price lower than that at which it was purchased plus
all costs associated with selling the commodity, the retailer is free
to set any price.

CHAPTER III

ECONOMIC AND STATISTICAL MODELS

Methodology of Analysis

The objective of the study will be reached through the employment of the multiple linear regression technique. The analysis will consist of two parts. The first part will consist of a price predicting equation while the second part will be the demand equation.

The rationale behind the analysis is that the state of Oregon is but one of the many "consumers" (consuming states) of California table wines. The assumption is made that the supply curve facing Oregon importers is perfectly elastic.

The price predicting equation will be formulated on the assumption that the F. O. B. California prices facing Oregon importers are a function of a combination of supply phenomena in California and demand phenomena from all areas of the United States and reflected in the quantity of table wines shipped from California into all markets.

The demand equation will estimate the Oregon derived demand at the importer's level, as a function of the predicted prices, the disposable personal income per capita of Oregonians and the population of the neighboring city of Vancouver in the state of Washington.

Economic Model

The demand for table wines in the state of Oregon depends on a
series of factors some of which are measurable while others, given
the state of the arts, defy measurement. Wine prices, disposable
personal income, prices of substitutes, advertising[6], tourism[7],
population levels in Oregon and in the bordering city of Vancouver in
the state of Washington, and marketing costs all have some degree of
impact on the quantity demanded.

The F. O. B. price of table wines in California is assumed to
depend on national population level, national disposable personal
income, price of grapes, the wage rate, California table wine ship-
ments (including sparkling wines) into all markets in the previous
period, and advertising as used above.

The economic model can be stated in functional form as follows:

$$P_t : \{(R_t), (S_t), (T_t), (U_t), (V_{t-1}), (W_t)\} \tag{1}$$

where

t = Time period

P = F. O. B. price of California table wines per gallon

R = National population

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[6] Advertising is used here in a broad sense to include the dissemination
of information which helps in dispelling unfounded prejudices toward
the commodity.

[7] Reference is made particularly to the tourist trade from the state of
Washington since, due to the tariff on wines entering Washington, wine
prices have been higher there as compared to those in Oregon.

S = National disposable personal income

T = Price of grapes (per gallon equivalent)

U = Wage rate

V = Total California table wine shipments into all markets

W = National advertising

$$Q^D_t : \quad \{(\widehat{P}_t),\ (I_t),\ (J_t),\ (K_t),\ (L_t),\ (M_t),\ (N_t),\ (O_t)\} \qquad (2)$$

where

t = Time period

Q^D = Quantity demanded

$\widehat{P}$ = F. O. B. California price per gallon predicted from equation (1)

I = Disposable personal income in Oregon

J = Price of substitutes in Oregon

K = Advertising and education in Oregon

L = Level of tourism in Oregon

M = Marketing costs in Oregon

N = Oregon population

O = Vancouver population

Statistical Model

It is assumed that a linear relationship exists between variables for any given period. Because some variables could not be measured accurately (education and changes in attitude), because data were not

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available for some (advertising), and because the number of observa-

tions was limited, it was necessary to use in the statistical model only

the most important variables for which data were available, in order

to have as many degrees of freedom as possible without seriously

impairing the significance of the study.

The multiple regression analysis technique is used to determine

the relationship between variables and to estimate the parameters and

eventually the elasticity of demand.

$$P_t = a_1 + b_1 S_t + c_1 T_t + d_1 U_t + e_1 V_{t-1} + z_1 \qquad (3)$$

where

t = Time period

P = F. O. B. price of California table wines per gallon in dollars

S = National per capita disposable personal income (deflated by consumer price index)

T = Price of California wine grapes per gallon equivalent (deflated by the wholesale price index)

U = National wage rate (deflated by the wholesale price index)

V = Total California shipments of table wines into all markets

a_1 = Constant term

$\left. \begin{array}{l} b_1 \\ c_1 \\ d_1 \\ e_1 \end{array} \right\}$ = Parameters of the model

z_1 = Error term

$$Q_t^D = a_2 + b_2 \hat{P}_t + c_2 I_t + z_2 \tag{4}$$

where

Q^D = Quantity demanded

$\hat{P}$ = Predicted prices (deflated by consumer price index)

I = Oregon per capita disposable personal income

a_2 = Constant term

$\left.\begin{array}{l} b_2 \\ c_2 \end{array}\right\}$ = Parameters of the model

z_2 = Error term

Collection and Usage of Data

The data relating to prices and quantities were obtained from invoices on file at the O. L. C. C. 's office. These data pertain exclusively to the major Oregon importer of each of the two brands of California wines, Gallo and United Vintners, which are the leading brands in terms of quantities sold in the state of Oregon, accounting for approximately 80 percent of the sales of all California table wines sold in Oregon.

The data represent still as well as sparkling table wines and are compiled in semi-annual periods. The first period is from January to June, and the second period from July to December inclusive.

Price per gallon in dollars for each six-month period is used

and Oregon quantities are deflated by Oregon population. Estimates
for Oregon's population were given for July 1 of each year only and
were obtained from "Population Estimates," series P-25, put out by
the U.S. Department of Commerce, Bureau of the Census. The
classification used was total resident population.

Semi-annual estimates were arrived at by interpolation of the
July 1 estimates of successive years to get the estimate for January 1
of the latter year, an average was then taken of the January and July
estimates of a given year to obtain the final estimate of the first semi-
annual period. The second semi-annual period estimate of a given year
was obtained by taking an average of the July estimate of that year
and the January estimate of the subsequent year.

Data on national per capita disposable personal income were
obtained from "Economic Indicators" prepared for the Joint Economic
Committee by the Council of Economic Advisors. The data were
originally given for quarterly periods in current prices. The semi-
annual estimates were arrived at by taking the averages of the rele-
vant quarterly estimates, and were deflated by the relevant consumer
price indices taken for all commodities.

The consumer price index was given in the "Monthly Labor
Review." Monthly estimates on the basis of 1957-1959 = 100 was
used, the semi-annual figures being arrived at by taking the averages
of the relevant monthly estimates.

The source of Oregon per capita disposable personal income, which was also deflated by consumer price index, was "Survey of Current Business" put out by the Department of Commerce of the Office of Business Economics. The data were originally in annual form and the 1969 figure was not given. It was assumed that disposable income was evenly distributed between the two semi-annual periods of a given year. The 1969 estimate was arrived at by taking the average percent increase over the previous four years and marking up the 1968 estimate by that amount.

Another variable used was the wage rate, data for which were obtained from the Monthly Labor Review. The sub-group "Food and Kindred Products" of the classification "Non Durable Manufactured Goods" was used, and represented the gross average hourly earnings of production or non-supervisory workers on private non-agricultural payrolls by industry division and major manufacturing groups. Semi-annual estimates resulted from averaging the relevant monthly estimates, and the former were deflated by the wholesale price index for all commodities.

The "Monthly Labor Review" was also the source of the wholesale price index. The latter was given for monthly periods and the semi-annual estimates were found by taking averages of corresponding months. The indices were on the basis of 1957-1959 = 100.

Also deflated by the wholesale price index for all commodities was the price of grapes. They represented the season's average prices received by farmers for wine variety grapes. The original data were given in price per ton. This was converted to price per gallon on the basis of one ton of grapes being equivalent to 150 gallons of wine[8]. Source was "Crop Values - Season Average Prices Received by Farmers and Value of Production" put out by the U.S.D.A. Statistical Reporting Service, Crop Reporting Board, Washington, D.C.

Data pertaining to shipment of California table (including sparkling) wines into all markets were obtained from "Marketing California Grapes, Raisins and Wines," put out jointly by the Federal and State market news service of the U.S. and California departments of agriculture. Monthly estimates of shipments were available up to April 1969. To arrive at the estimate for the first semi-annual period of 1969 the total of the first four months was multiplied by 1.5 on the assumption that shipments for the last two months of the first period would be approximately one-third of the total shipment for that period. An examination of the monthly statistics seems to bear this out.

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[8] Conversion rate suggested by Dr. H. Y. Yang of the Food Technology Department of Oregon State University.

Rationale for the Use of Variables

In the first equation of the statistical model, F. O. B. California price per gallon in dollars is used as the dependent variable. This equation predicts a series of prices to be used as an independent variable in the second equation.

The independent variables of Equation 3 include national disposable personal income. This represents total income less personal taxes, and is a determinant of consumer expenditure. As used in the statistical analysis adjustments for changes in population and prices have been made by deflating by population and the index of consumer prices, respectively. After deflation it represents a measure of standard of living. We may expect the F. O. B. prices to increase as standard of living increases.

Shipments of California table wines into all markets in time period t-1 has been used as an indicator of the expected quantity to be demanded in time period t. Price setting in California is assumed to depend on the level of sales in the previous period. It was postulated that suppliers would be more prone to increase prices in times of rising sales.

Also used in Equation 3 is the wage rate. It represents average monthly earnings of production workers on private non-agricultural payrolls. This variable represents that portion of the cost of production in the processing segment of the industry. Other things

being held constant, F. O. B. California prices should increase as the wage rate increases.

The price of grapes is used as an independent variable in an attempt to reflect costs to the vintners at the agricultural or farm level. This variable, like the wage rate, is deflated by the wholesale price index, which expresses current prices as a percentage of prices prevailing in the base period 1957-1959. F. O. B. California wine prices should increase with increases in the price of grapes.

In Equation 4, the demand equation, Oregon's per capita quantities imported is the dependent variable.

The independent variables include the predicted F. O. B. California prices from the analysis of the first equation. This is an important variable since it is essential to the computation of price elasticity of demand upon which the objective of this study is dependent. Predicted price has been deflated by the index of consumer prices. An inverse relationship is expected to exist between predicted prices and the dependent variable on the basis of economic theory.

The independent variable used in Equation 4 is Oregon's per capita disposable personal income. This is deflated by the index of consumer prices, and the same rationale as that employed for the use of national disposable personal income holds here. As Oregon's personal per capita disposable income increases, an increase in the level of importation of California table wines can be expected.

Limitations of the Data

There are certain limitations of the data which will have some effect on the accuracy of the study. The revelation of these should provide a means of tempering any assessment of the results. Attempts have been made to minimize these limitations, but this has not been possible in all cases.

Price and quantity data have only been available from the Liquor Control Commission for five years. After approximately three years invoices are destroyed by the Commission and importers and wholesalers are required to keep records for two years only. A part of the problem of obtaining data for years prior to 1965 arises because the Commission's tax is on gallonage irrespective of the value of the commodity. Quantities consumed in Oregon can be arrived at by examining the tax figures but no idea of the prices paid for the goods can be had.

The data have been divided into semi-annual periods, because of lack of sufficient price and quantity data, in order to provide sufficient degrees of freedom considering the number of variables used in the model. This semi-annual division poses a deficiency that is at present insurmountable. Wine consumption and importation seems to follow a consistent annual pattern of sharp peaks and severe dips. These may correspond to the various annual festive seasons or to the differentials in temperature which are also annual. Had the data been

left in annual form the variations would have been consistent from period to period. As it is, there will be some inconsistencies between periods within a given year.

The data for some of the variables were available only in annual form. Price of grapes and Oregon per capita disposable income are examples. The adjustments were described in a preceding section and are considered to be reasonable. However they do represent limitations to the extent that they were not originally computed in semi-annual form. Data for other variables have been unavailable either for an entire period of analysis or for a part of a period. Examples are Oregon's disposable personal income and shipments of California table wines into all markets, respectively. The techniques used to rectify these deficiencies have also been described in a preceding section.

CHAPTER IV

DISCUSSION OF RESULTS

Results

The resultant equations of the analysis of the statistical model represented in the last chapter are given here. Equation (5) represents the price predicting equation and equation (6) the demand equation. The format used will be presentation of the equations with t-values in parenthesis underneath the coefficients with which they are associated.

$$\hat{P}_t = 2.344 - .030\, S_t + 212.340\, T_t - 48.272\, U_t + .0000000178\, V_{t-1} \quad (5)$$
$$(-.3457) \quad (1.206) \quad (-.763) \quad (1.915)$$

where
- t = Time Period
- $\hat{P}$ = F. O. B. price per gallon of California table wines in dollars
- S = National per capita disposable personal income (deflated by consumer price index)
- T = Price of California wine grapes per gallon equivalent (deflated by the wholesale price index)
- U = National wage rate (deflated by the wholesale price index)
- V = Total California table wine shipments into all markets

$R^2 = .7849$

Degrees of freedom = 5

$$\hat{Q}_t = -.718 + 25.343\, \hat{P}_t + .027\, I_t \quad (6)$$
$$(1.167) \quad (1.860)$$

where

t = Time Period

Q = Quantities demanded by Oregon importers (deflated by Oregon population)

P = Predicted price from equation (5) (deflated by consumer price index)

I = Oregon per capita disposable personal income (deflated by consumer price index)

R^2 = .5032

Degrees of freedom = 7

Analysis of Results

In testing the coefficients of the independent variables for significance, the Student's t-test statistic will be employed. A two-tailed test will be used in testing the hypothesis,

$$B_x = 0$$

against the alternate hypothesis

$$B_x \neq 0$$

where

B_x = The coefficient of any given variable

In cases where the absolute value of t resulting from the regression exceeds the appropriate critical-t value the hypothesis $B_x = 0$ will be rejected and it will be concluded that the particular coefficient is significantly different from zero and that there is no grounds for rejecting the idea that a linear relationship between the dependent variable and the independent variable associated with that coefficient

exists. In general coefficients whose t-values are located at α levels greater than 0.3 will not be regarded as being statistically significant. This α level was selected prior to the analysis.

In the first equation the coefficients associated with the independent variables S and U were found not to be significantly different from zero at the α level of 0.3. However, those associated with independent variables T and V were significantly different at 0.3 α level with the coefficient associated with V being also significantly different from zero at a 0.2 α level.

In Equation (6) all coefficients were found to be significantly different from zero at the 0.3 α level, with the coefficient on I being significant at the 0.2 α level as well.

For a more comprehensive evaluation of the results of the regression, the signs accompanying the independent variables indicating positive or negative relationships with the dependent variables of the equation must be compared with the type of relationship (positive or negative) which may be expected from economic theory.

Since Equation (5) is a price predicting as opposed to a supply equation, and since there are independent variables representing both supply and demand phenomena, the apparent nature of the relationship between the dependent variable and the independent variables is not very meaningful.

In Equation (6) we would expect positive relationships between

quantities consumed and the independent variable, personal disposable income. The results of the analysis were consistent with this expectation. However the independent variable, $\hat{P}$, was positively related to the dependent variable and represents a deviation from traditional economic theory. This deviation will be discussed further in another section.

In the first portion of the regression analysis, a high degree of multicollinearity in the relationship between independent variables was apparent from an examination of the simple correlation coefficients. These extended from a low of 70.24 percent between variables V and U to a high of 91.40 percent between variables T and U. This high multicollinearity indicates that the independent variables are in very close, if not exact, linear relationship to each other.

Fortunately, this problem did not arise to the same extent in the second or demand predicting portion of the analysis. The extent of multicollinearity between independent variables $\hat{P}$ and I was of the magnitude of 40.17 percent.

The objective of this study was centered around the price elasticity of demand. This was computed from the second part of the regression. The formula utilized was:

$$E_D = \frac{\partial Q}{\partial \hat{P}} \quad \frac{\bar{\hat{P}}}{\bar{Q}}$$

where

$\bar{\hat{P}}$ = The mean of predicted prices

$\bar{Q}$ = The mean of Oregon per capita quantities

$\dfrac{\partial Q}{\partial P}$ = Estimated coefficient of $\hat{P}$

E_D = Price elasticity of demand

E_D = .15

This would have represented an inelastic demand had the demand curve been normal in the Marshallian sense or negatively sloped. However with a positively sloped demand curve much significance cannot be attached to elasticity.

To compute income elasticity of demand, the following formula is used with the results of the second portion of the analysis.

$$E_I \; = \; \text{Coefficient of I} \; \dfrac{\bar{I}}{\bar{Q}}$$

where

$\bar{I}$ = Mean of per capita disposable income

$\bar{Q}$ = Mean of Oregon per capita quantities

E_I = Income elasticity of demand

E_I = 2.33

This result indicates a high income elasticity of demand, and suggests that as incomes rise so will wine consumption.

Evaluation of the Results

Using the multiple correlation coefficient as a measure of the success of the regression equation in explaining variation in the data, it is found that 78.49 percent has been explained in the price predicting

stage of the model. This is not as satisfactory as it would be under other circumstances, because the predicted prices are being used as an independent variable in the second stage. In fact we are using in the demand analysis a key variable of which we are only 78.49 percent confident.

The negative relationship between the independent variables U and S, and the dependent variable are contrary to what would be expected on the basis of economic theory. However, both these variables' coefficients were not significant and much confidence cannot be placed on signs in Equation (3), anyhow. However, they remain in the model because it is felt that they are important from an economic viewpoint.

In the second stage of the analysis, both independent variables are significant at the 0.3 α_o level. However, $\hat{P}$ turns out to be positively related to the dependent variable and may suggest that wine may well be a Veblen good, at least in the state of Oregon. This will be discussed further in a later section. The low R^2 of 50.32 percent also detracts from the model's worth in meeting the objectives of the study.

Suggestions for Further Research

One of the serious deficiencies of the model as presented has been the failure to sufficiently represent changing attitudes as an

important independent variable affecting demand.

Advertising is suggested as a medium through which some measure of changing attitudes may be registered. In an interview with the California Wine Institute, it was also pointed out that contact with Europeans has been instrumental in the increased use of table wines through the nation.

There is a marketing order for wines in the state of California which provides for assessments to carry on advertising, sales promotion and other market enlarging activities (such as research) for California wines. The assessment amounts to one cent per gallon on table wines and one and one-half cents per gallon on dessert wines. Apart from the advertising done by the state, individual wineries carry out their own advertising campaigns. The advertising of California wines in Oregon is borne by sources in California.

By far the most serious cause for concern in regard to the results of this analysis is the positive sign associated with the independent variable, $\hat{P}$.

Two probable reasons will be advanced here. Firstly, the possibility exists that the basic assumption of elastic supply may have been erroneous. If in fact the supply curve facing Oregon importers were positively sloped, then there may have been an identification problem in the model.

Secondly, we may be dealing with a Veblen good. The Veblen

concept assumes that the price of a commodity carries two aspects, the real price or the price in terms of money, and the conspicuous price or the price which other people think the commodity costs. Quantity demanded is assumed to be a function of both these types of prices.

A decrease in price will lead, through the money price effect, to an increase in the quantity taken off the market. However, the conspicuous price effect will be a decrease in the quantity demanded. This latter can be called the Veblen effect.

If the Veblen effect is stronger or greater in absolute terms than the money price effect, the result will be positively-sloped demand curve at least within the particular range of prices over which this phenomenon occurs (6).

It must be added, however, that to suggest with any degree of confidence the existence of a Veblen good on the evidence of such scanty data is indeed heroic. Further research involving more observations presented in annual rather than semi-annual form and more important variables may prove otherwise..

CHAPTER V

CONCLUSIONS

To speculate on the relevance this study can possibly have on the tax policies of the Oregon Liquor Control Commission, it is important to examine the major goals of the Commission as well as some of the actions of the state government.

The Oregon Liquor Control Commission was created at a special session of the State Legislature through the enactment of the Liquor Control Act on December 9, 1933. This act was based on the recommendations of a committee which established its objectives as follows:

(1) To prevent the recurrence of abuses associated with saloons or resorts for the consumption of alcoholic beverages.

(2) To eliminate the evils of unlicensed and unlawful manufacture, selling, and disposing of such beverages, and to promote temperance in the use and consumption of alcoholic beverages.

(3) To protect the safety, welfare, health, peace and morals of the people of the state.

In a letter from the Committee to the Governor of the state of Oregon dated October 10, 1969, it was also pointed out that the aim of the Commission was to keep pace with the changing attitudes of the

public. Table 13 is intended to give some indication of the direction in

which those attitudes are changing as regards alcoholic liquors gen-

erally. Also a 1969 issue of "Nations Business" said of changing

attitudes toward wine on the national level

> This generation of Americans has not only been more
> exposed to wine drinking, it also knows more about it.
> Knowledge has shattered some of the old, snobbish
> shibboleths that once chilled consumption of wine (2, p. 63).

Table XIII. Referenda in Oregon from Repeal of Prohibition to 1952.

Date	Issue	For	Against
Nov. 2, 1948	To authorize on-premise sale of spirituous liquors	206, 447	268, 325
Nov. 7, 1950	To prohibit all advertising and sale promotion of alcoholic beverages	113, 524	378, 732
Nov. 4, 1952	To permit sale of liquor by the drink	369, 127	285, 446

Source: Brewers Almanac, 1969.

Although not stated explicitly, an examination of recent actions

of the state of Oregon reveals that the trade in alcoholic liquor is

used, notwithstanding the concern for the protection of morals, as an

important source of revenue generation.

Earlier this year the State Legislature raised the prices of some

liquors (not including wines) in order to erase a deficit in the budget

which placed welfare payments in jeopardy.

It seems then, that there are three major roles of the Commission.

Firstly, is the role of promoting temperance and protecting moral standards; secondly, is the role of keeping pace with new attitudes; and thirdly, is the role of swelling state coffers.

Because the first two major objectives of the Commission are of a normative nature, only the third objective will be dealt with here.

To select the wine trade in the state of Oregon as a source of revenue generation makes sense not only because of the broad powers vested in the state by the 21st Amendment, but also because a comparison of per capita consumption of wines in France and Italy on the one hand and in Oregon on the other [9] reveals that in Oregon satiation is not a problem, as in the case of most other foods, due to the relatively low wine consumption. This may be one of the factors giving rise to the high income elasticity encountered.

The positive relationship between prices and quantities as suggested by the statistical analysis, while contrary to economic theory, is not completely devoid of support.

While fine, standard and poor wines may easily be distinguished, it takes considerable expertise to rate wines within these broad categories. Under such circumstances the consumer tends to turn to price as an index of quality (5), and may increase his consumption as prices increase.

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[9] Per capita consumption of wines in France and Italy is about 30 gallons compared to less than two gallons per capita in Oregon.

With a high income elasticity and a positively sloped demand curve for table wines in the state of Oregon, we may conclude, bearing in mind the limitations of the study, that the possibility of the state wine tax as a tool of revenue generation not being utilized to its optimum capacity, may exist. However, no concrete policy proposals can be made until more data are available and further research done.

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APPENDIX

Appendix Table I. Values Assigned to the Variables of the First Portion of the Model.

Period	Year	$/Gallon P	$/Capita S	$/Gallon Equiv. T	$/Hour U	Gallons V
1	1965	1. 700	21. 555	.003264	.0239	2, 622, 559
2	1965	1. 734	22. 323	.003120	.0230	2, 631, 428
1	1966	1. 713	22. 734	.003557	.0230	2, 955, 878
2	1966	1. 872	22. 929	.003527	.0226	2, 766, 371
1	1967	1. 792	23. 506	.003909	.0244	3, 142, 297
2	1967	1. 918	23. 682	.003894	.0244	3, 153, 805
1	1968	1. 804	24. 197	.004380	.0255	3, 483, 091
2	1968	2. 004	24. 212	.004340	.0258	3, 761, 737
1	1969	1. 958	24. 161	.004986	.0262	3, 945, 367
2	1969	2. 222	24. 351	.004886	.0260	4, 451, 076

N. B. Sources are given in Chapter III of this study.

Appendix Table II.   Values Assigned to the Variables of the Second Portion of the Model.

Period	Year	Q gallons/capita	I $/capita	P $/gallon
1	1965	.2507	22.022	.01554741
2	1965	.2363	21.802	.01531295
1	1966	.2514	22.667	.01631442
2	1966	.2259	22.250	.01577973
1	1967	.2394	23.168	.01602381
2	1967	.2330	22.754	.01568191
1	1968	.2732	23.784	.01616200
2	1968	.2774	23.222	.01597989
1	1969	.3069	23.935	.01536377
2	1969	.3397	23.233	.01685422

N.B. Sources are given in Chapter III of this study.