Country of Origin Advertising and U.S. Wine Imports

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Abstract

The objective of this paper is to investigate the impact of media advertising on the US consumption of imported wine. A panel data of seven countries and twelve years from 1994-2005 is used to estimate the demand function for US wine imports. Our empirical analysis reveals evidence of strong price and advertising effects of domestic and imported wines on imported quantities; the advertising of imported wines significantly increases the quantity of imports while the advertising of domestic wines has a strong depressing effect on imported wine volumes. Our short-run import demand price and advertising elasticity estimates are -0.406 and 0.109 for imports and 0.654 and -0.370 for domestic wines, respectively. Other determinants such as population, real income and country specific fixed effects are also found significant. Based on our model estimates, we compute the marginal return to advertising to be $2.68 on average for the six importing countries and $3.40 for the U.S.

I. Introduction

Wine consumption in the U.S. has grown dramatically since the mid 1990s. By 2005, U.S. consumption reached nearly nine liters per capita, up 36 percent from just 10 years earlier (Figure 1). Since 1995, consumption has increased at an annual growth rate of 3.1 percent. Imported wines are a big part of the increased consumption. The proportion of imported wines increased from 15.6 in 1995 to 24.5 percent in 2005. The annual growth rate of imports was 7.4 percent, more than three times the 2.0 growth rate of domestic wines. For the last five years, the consumption share of imports averaged nearly 25 percent and, if trends continue, imports will soon be expected to exceed one quarter of U.S. wine consumption. Imported wines have made great inroads into the North American market, both enlarging the pie and taking an ever increasing larger slice.

Not only has the U.S. imported more wine, but the *geographical origin* of the imports has changed over time. Import data show that New World wines are making advances in the U.S. market at the expense of Old World wines (Appendix Table 1). For example, since 1994 the combined share of U.S. imports from France, Italy, Portugal and Spain fell from 74 to 51 percent in 2005 while those from Australia and Chile grew from 14 to 36 percent; Australia alone saw its share increase from 5.4 to 27.7 percent. Australia is rapidly increasing market share, now accounting for about seven percent of the total U.S. bottled wine market.

The reasons for these consumption changes are many and complex; however, in seeking to capture a larger share of the U.S. market, importing countries have made continued efforts to inform and differentiate their wines. These activities typically involve country-specific generic and branded advertising expenditures. While over the 1995-2005 period, advertising expenditures for *domestic* U.S. wines have doubled, *import* expenditures have increased much

more rapidly. In Figure 2, the import share of total media advertising has averaged nearly 40 percent since 2000. The effectiveness of advertising to influence consumer purchasing decisions is of great interest to both importer and domestic producers alike. This research is aimed at providing some insight into this issue.

There is considerable evidence that product origin matters in consumer purchasing decisions. Consumer surveys reveal that, upon entering a wine shop, the initial decision criteria is the country of origin, followed by color, variety, year etc. For instance, Orth and Krska (2002) found that "buyers rank country and region at the top of wine attributes, while price, type, and producer name ranked lower" (p.391). In a recent consumer survey, Riberio and Santos (2007) found "the dominant factor of influence in the acquisition of wine is the region of origin" (p.11). In recognition of these and other studies, advertising and promotion efforts are a means of providing geographical product signals. Both brand and generic advertising contribute to the collective reputation of a country by sending a *geographical origin* message of product quality. We posit that an important economic determinant of the volume of wine imported into the U.S. is the degree of advertising effort.

Consequently, our main objective in this paper is to investigate the effect of media advertising on the U.S. consumption of imported wine. In so doing we seek to distinguish the advertising effects of domestically produced wine from that of imported wine. To our knowledge, no previous empirical work has sought to explore the role of both domestic and foreign advertising on wine imports. In our investigation, we estimate a U.S. wine import demand function of which both importer and domestic advertising expenditures are arguments. Procedurally, first we discuss our data; second, we propose an econometric model; third we present and discuss the results of our

statistical estimations; next, we conduct advertising-import sensitivity analysis, and; finally, we provide concluding remarks.

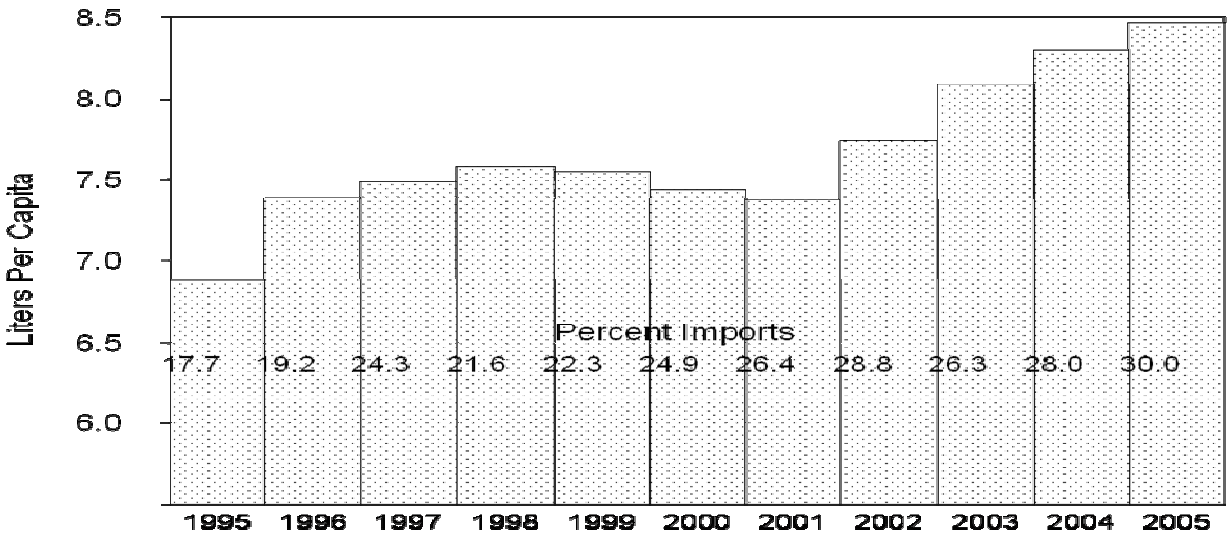

Figure 1. U.S. Wine Consumption and Percent Imports (liters per capita)

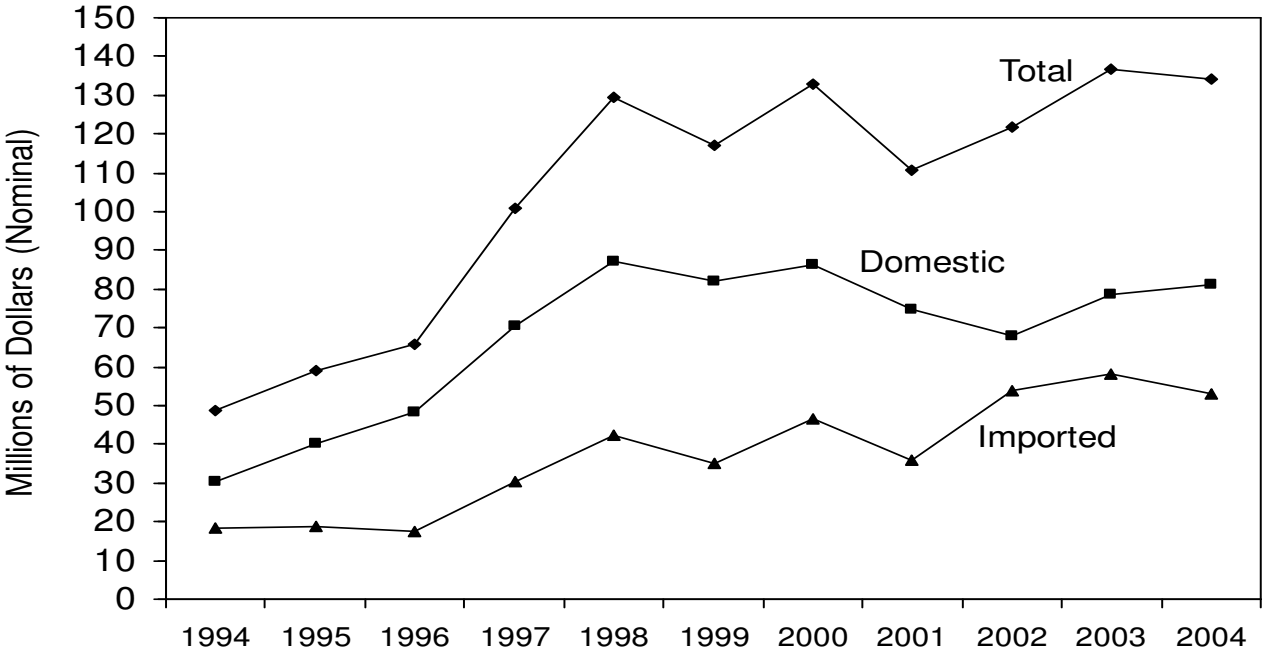

Figure 2. Wine Media Advertising Expenditures by Origin

II. Empirical Framework

As discussed above, our objective is to empirically investigate the impact of media advertising on the US consumption of imported wine. We use a panel dataset for the period 1994-2005 which includes the annual volume of U.S. wine imports from the six largest wine exporting countries which are France, Italy, Spain, Portugal, Australia, Chile, and from the rest of world. Due to lack of price data, we use unit values computed from the reported value and volume of wine consumption. Despite some concerns with using unit price data, they do reflect actual transactions. The wine import data as well as U.S. GDP and population data were obtained from WINEFACTS**.** Annual media advertising expenditure data were provided by IMPACT DATABANK (M.Shanken Communications, Inc.). The advertising data include both branded and generic expenditures for television, radio, outdoor, and internet; no merchandising expenditures are included.

Consonant with several studies, for instance Gallet (2007) reports 72 separate studies; we estimate a parsimonious dynamic double-log import demand function to gauge the effects of advertising on wine imports. Consider the following dynamic linear panel data model for wine imports:

$$(1)\quad log(M_{it}) = b_0+b_1*log(M_{it-})+b_2*log(ADM_{it})+b_3*log(ADD_{it})+b_4*log(PM_{it})+b_5*log(PD_{it})$$

$$+b_6*log(GDP_{it})+ e_{it}$$

where, i indexes the country of origin of the imported wine, t indexes the year of imports, M measures the per capita volume of wine imports into the US, ADM represents per capita foreign advertising expenditures of imported wine, ADD is per capita advertising expenditure of domestically produced wine, PM and PD are, respectively, the price of imported and locally

produced wine and, *GDP* is the per capita gross domestic product of the US. The US consumer price index is used to deflate the nominal values of the price, advertising and GDP variables.[1] Examination of alternative specifications of (1), e.g., consideration of the hypothesized substitute beer, and functional forms did not yield superior results.

The error term in (1) e_{it} is assumed to contain a time–invariant country effect as well as a random component that varies across time and country, i.e. $e_{it} = u_{i+}v_{it}$. The time-invariant country effect, whether fixed or random, can be swept away by first-differencing the data. However, ordinary least squares estimation of the first-differenced model is hindered by the correlation between the lagged dependent variable and the error term even if v_{it} is not auto-correlated itself (Greene, 2000, p. 583). Arellano and Bond (1991) and Ahn and Schmidt (1995.) propose a Generalized Method of Moments (GMM) approach that estimates the model parameters consistently and efficiently by using the values of the dependent variable, lagged two-periods or more as identifying instruments in addition to the exogenous data. A drawback of the GMM estimator for our purposes is that its consistency depends critically on the condition that *N*, the number of cross sections, goes to ∞ and *T,* the number of periods, is small. Instead, we have *N=7* and *T = 14*. Nonetheless, we attempted to estimate equation (1) by GMM using Limdep 7.0 but the estimator failed to converge for our models. In this paper, we use instrumental variable approach to estimate (1) consistently by relying on lagged values of the exogenous variables as identifying instruments for the lagged dependent variable. Because our sample is small, we chose only the one-period lagged values of the exogenous data (*PM, PD, ADD, ADM, GDP*) as instruments to save degrees of freedom. Following standard practice, we account for fixed country- and time-

[1] We also used a Media Index to deflate our two advertising variables; the results of our estimations are similar to those obtained when the consumer price index is used as a deflator. Therefore only the latter results are presented.

specific effects by including country and time dummies in our regressions. This instrumental variable approach yields consistent estimates of the model parameters.[2]

An additional issue arises in the estimation of our import demand equation. Given the panel nature of the data, the residuals may be non-spherical. Standard errors obtained from IV do not account for such possibilities. We follow Efron (1979) and implemented a nonparametric bootstrap to obtain robust standard errors. Specifically, we obtain 250 bootstrap samples from our data; perform our instrumental variable estimation for each sample; and construct standard error estimates for our parameters from the resulting distribution of bootstrapped parameter estimates. We now turn to our statistical findings.

III. Econometric Results

In Table 1 we present the summary statistics for the variables used in the study and the coefficient estimates of the import demand function (1) along with their bootstrapped t-statistics. Caution should be taken in interpreting the descriptive statistics in that the data are in natural logarithms. We estimate the import demand function under two distinct premises (model I and model II). First, we allow the domestic and imported price elasticities to differ by including both prices as arguments (model I). Second, and as commonly done (see e.g, Kinnucan, 2007), we constrain the price elasticities to be equal in magnitude but of opposite signs by using the relative imported-to-domestic price (model II) as regressor; we denote the relative price variable PMD. For each model, an F-test fails to reject the null that time dummies are jointly different from zero

[2] We test if the import and domestic prices are endogenous in our model using the Hausman test. Specifically we estimated our model first assuming that only the lagged dependent variable is endogenous using lagged values of advertising variables, beer price and GDP as indentifying instruments. We then re-estimated the model under the premise that both import and domestic prices are endogenous in addition to the lagged dependent variable. For the former estimation, we use lagged values of the advertising variables, beer price, GDP, and domestic and import prices. We could not reject the null of exogenous wine prices; therefore we estimated the model under this premise.

at any conventional level; the opposite result is found for the country dummies. Consequently, we estimated the models with only country fixed effects.

Turning to the qualitative results, we note at the onset that all the key design variables were found to significantly impact imported wine quantities in both specifications with the exception of the domestic price, which is not significant in model I. The coefficient on the own-price variable is -0.41 and -0.42 in models I and II, respectively, indicating that imported wine is price-inelastic. This magnitude of the own-price elasticity is in line with previously reported own-price elasticities of wine demand of -0.67 (Nelson, 1999), -0.55 (Pompelli and Hein), -0.28 (Gallet, 2007) and -0.60 for red wine *imports* (Seale, *et al*., 2003). Notice, Seale *et al*. is the only previous paper to estimate own-price elasticity of import wine demand; all others reflect ordinary demand elasticities. For U.S. wool imports, however, Dewbre *et al*. found short- and long-run own-price elasticities of -0.234 and -0.788, respectively. The results of our model I suggest that, in absolute value, imported wine is more sensitive to the price of domestically produced wine than it is to a change in its own-price. This cross-price elasticity of domestic wine is 0.654, however, it is not statistically significant. Our results also corroborate previous findings that imported wine is a luxury good with an income elasticity of 1.802; Nelson (1999) estimated the income elasticity to be 1.72 while Gallet (2007) reported an income elasticity of 1.10.

Turning to the advertising variables, we find that media advertising undertaken by exporting countries has a statistically significant positive impact on the demand of imported wine. The elasticity of own-advertising of 0.109 is similar in magnitude to other reported advertising elasticities of domestic wine demand, such as 0.15 by Duffy (1984) and 0.07 by Nelson (1999).

Table 1: Estimation of the Import Demand Function for Wine into the US.

	Variable	Mean	Standard Deviation	Model I Estimate	Model I t-ratio		Model II Estimate	Model II t-ratio	
	Intercept			-6.756	-3.017	***	-6.058	-3.142	***
Lagged Wine imports	M_t-1	-1.983	0.977	0.500	3.857	***	0.548	4.060	***
	PM	1.310	0.334	-0.406	-4.124	***			
Price Variables	PD	2.287	0.077	0.654	1.422				
	PMD	-0.977	0.344				-0.418	-5.334	***
	ADM	0.918	1.485	0.109	3.074	***	0.095	3.206	***
Advertising Variables	ADD	4.190	0.272	-0.370	-3.254	***	-0.328	-3.514	***
Income Variable	GDP	3.510	0.067	1.802	2.663	***	1.740	3.202	***
	FRANCE	0.143	0.352	0.345	2.812	***	0.344	3.307	***
	ITALY	0.143	0.352	0.405	2.753	**	0.362	2.934	***
Country Fixed Effects	PORTUGAL	0.143	0.352	-0.518	-3.293	***	-0.461	-3.439	***
	AUSTRALIA	0.143	0.352	0.257	3.519	***	0.255	3.687	***
	SPAIN	0.143	0.352	-0.473	-3.099	***	-0.413	-3.198	***
	CHILE	0.143	0.352	0.005	0.053		-0.015	-0.033	
R^2					0.98			0.98	
No of Observations					84			84	

The only estimate we found to be directly comparable to our effort is that of Dewbre *et al*. (1978) who found short-and long-run advertising elasticities for Australian wool *imported t*o the U.S to be 0.105 and 0.354, respectively. Interestingly, our cross-elasticity for domestic advertising is negative and some three times larger in absolute value than that the own-advertising estimate. This finding suggests that local wine producers could curb demand for imported wine--therefore boost their market share--by increasing the advertising of their products. For example, from model I, we find that a 50% increase in advertising by domestic producers reduces wine imports by 18.5%; conversely, a similar increase in advertising by foreign competitors boosts wine imports by only 5.4%, *ceteris paribus*.

With the exception of Chile, all of the country fixed effects are statistically significant, providing evidence that imported wines are differentiated by country of origin. If the coefficient of country dummy variable is positive, it will positively shift the import demand function, thus implying stronger preferences for that country's wine most likely due to higher wine quality. The opposite can be said for negative coefficient signs. The trade flow data support this relationship. For instance, the major suppliers in the U.S. market are France, Italy and Australia (all positive) whereas the minor suppliers are Portugal and Spain (all negative).

The coefficient on lagged wine imports in Model 1 is 0.5 indicating that the long run elasticities of income, prices, and advertising are about twice their short-run counterparts. This result lends support to our partial adjustment specification. Furthermore, it accentuates the importance of advertising as a driving force of the demand for imported wine. In the long-run, our results indicate that a 50% increase in advertising of domestically produced wine leads to a 37% decrease in wine imports, or nearly 210 million liters per annum, based on the average volume of US wine imports for the period 2001-2005.

Finally, we sought to allow price elasticities to differ by country of origin by interacting the import price variable with the country dummies. In doing so, we found that all of the coefficients on the interactions terms but one (France) and the import price coefficient are highly insignificant (p-values ranging between .22 and .91). A similar attempt to differentiate advertising elasticities by country of origin also yielded insignificant coefficient estimates on all interaction terms and on the import advertising coefficient with p-values ranging between 0.15 and 0.94.

IV. Economic Returns to Advertising

Table 2 reports the results of using Model 1 to compute estimates of the returns due to advertising for wine over the period 2001-2005. Accordingly, we computed the expected increase in the volume of U.S. imports attributable to an increase in country-of-origin advertising of 25, 50 and 100 percent. The value of these increased imports was computed under two alternative assumptions: no import price adjustment, and prices adjust *downward* according to our own-price flexibility of import demand (1/-0.406). The benefit-cost ratios shown in Table 2 reflect the marginal change in the value of imports due to increased advertising relative to the marginal cost of the advertising effort.

As expected the benefit-cost ratios in Table 2 are greatest when import prices do not adjust to the advertising-induced import volume increase; this scenario treats prices as exogenous. We note that all benefit cost ratios are greater than 1.0. For example, for Australia, a 100 percent increase in advertising yields a $1.56 return for each dollar invested.

We also see that as the percentage of advertising increases, diminishing returns to advertising occurs. Since, in addition to the advertising elasticity, the benefit cost ratio is a function both prices and advertising expenditure levels, the returns to advertising can exhibit considerable variability among countries. This suggests that a country like Chile may be at a particular steep portion of the advertising response function. The volume-weighted (2001-2005) average marginal rate of return of a 100 percent advertising increase for the six foreign countries is $2.68.

Our returns estimates are comparable to those of other investigators. For example, Dewbre *et al*. (1987) found a marginal rate of return to wool advertising in the U.S. to be 1.94; for U.S. cotton exports, Kinnucan *et al*. (1995) found $1.13 return per dollar spent on export cotton promotion,

and; Williams (1985) found a rate of return of $14 per dollar spent advertising U.S. soybean exports. While the analytical approaches taken by these authors varied widely, they were all based on the assumption of competitive markets with homogenous products. We differ fundamentally in that we explicitly recognize that foreign wines are imperfect substitutes for U.S. domestic wines. Accordingly, a decrease (increase) in U.S. wine imports will be to some extent captured by increased (decreased) domestic sales. Thus, the benefit cost ratios for the U.S. in Table 2 are computed under the assumption that the U.S. captures 50 percent of the drop in imports due to increased domestic advertising (cross-advertising elasticity -0.370). Although not shown here, as the degree of import-domestic wine substitutability increases (decreases) beyond the 50 percent level, the U.S. benefit-cost ratios become smaller (larger). The "with price adjustment" scenario recognizes that the additional quantities captured by the U.S. will elicit a downward price response as reflected by our literature-supported price elasticity of domestic demand equal to -0.65.

Table 2: Marginal Rates of Returns for Different Levels of Increase in Own advertising Expenditures

Country	Increase in own-advertsizing			
	With price adjustment			No price adjustment
	25%	50%	100%	
Australia	1.99	1.85	1.56	2.14
Chile	12.67	11.76	9.93	13.58
France	2.83	2.63	2.22	3.04
Italy	2.43	2.26	1.91	2.60
Portugal	3.46	3.21	2.71	3.70
Spain	1.17	1.08	0.92	1.25
US	6.74	5.62	3.40	7.85

Note: These marginal rates are based on short-run elasticities in Model I (see Table 1). The coefficient on the lagged dependent variable in Model I indicates that Long- run marginal rates of return are twice their short-run counterparts.

With price adjustment, a doubling of expenditures by the U.S. yields a marginal rate of return to advertising of $3.40. We further explored the expected impact of changes in domestic advertising on importers' revenue. The cross-elasticity of advertising (-0.37) is large and negative. Thus, increases in domestic advertising can greatly reduce import quantities. In the short-run, we find that an increase in domestic advertising can actually benefit importers because the import price increase overcompensates for the decrease in quantity. However, we found that in the long-run, advertising expenditure increases greater than 25 percent tend to hurt importing countries (benefit cost ratios become less than 1.0).

V. Concluding remarks

There is ample evidence that foreign wines are taking an increasing portion of the rapidly growing bottled wine market. Foreign and domestic wines are imperfect substitutes. Countries exporting wine to the U.S. are interested in how advertising affects their products sales in the U.S. market. In the same way, domestic U.S. sales are impacted by both foreign and domestic advertising expenditures. We empirically investigate these and other interrelationships by estimating a dynamic linear panel data model of wine imports into the U.S. market. We use annual data over the period 1994-2005 consisting of U.S. import volumes from the six highest volume foreign countries, advertising expenditures by each foreign country, domestic wine sales, domestic advertising expenditures, and other relevant import demand determinants. Results show that advertising of imported wines significantly increases the quantity of imports while the advertising of domestic wines has a strong negative effect on imported wine volumes. Our short-run import demand price and advertising elasticity estimates are -0.406 and 0.109 for imports

and 0.654 and -0.37 for domestic wines, respectively. Over the period 2001-2005, the average six country volume-weighted marginal return to advertising is $2.68 and for the U.S. the marginal return was $3.40. Our empirical findings suggest that country advertising contributes to product differentiation and boosts product sales in the U.S. market. Both foreign and domestic advertising efforts provide positive economic returns.

References

Ahn, S. C., and P. Schmidt, "Efficient Estimation of Models for Dynamic Panel Data." *Journal of Econometrics,* 68 (1995): 5–27

Arellano M. and S. Bond, "Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations." *Review of Economic Studies,* 58, (1991): 277-297

Dewbre, J., R. Richardson, and S. Beare. "Returns from Wool Promotion in the United States." Canberra: Australian Government Publishing Service, Bureau of Agricultural and Resource Economics, Occasional Paper 100. 1987.

Duffy, M. H. "The Demand for Alcoholic Drink in the United Kingdom." *Applied Economics*, 15 (1983): 125-140.

Efron, B., "Bootstrap Methods: Another Look at the Jackknife." *Annals of Statistics*, 7 (1979): 1-26.

Gallet, C.A. "The Demand for Alcohol: A Meta-Analysis of Elasticities." *Australian Journal of Agricultural and Resource Economics*, 51 (2007): 121-135.

Greene, W. H. *Econometric Analysis*, fourth edition, Prentice-Hall, Inc, 2000.

IMPACT DATABANK. M. Shanken Communications, Inc. New York, N.Y.

Kinnucan, H.W. "A Benefit-Cost Analysis of Agricultural Trade Promotion." *Empirical Economics,* forthcoming, 2007.

Kinnucan, H.W., P.A. Duffy, and K.Z. Ackerman. "Effects of Price versus Non-Price Export Promotion: The Case of Cotton." *Review of Agricultural Economics*, 17 (1995): 91-100.

Nelson, J.P. “Broadcast Advertising and U.S. Demand for Alcoholic Beverages.” *Southern Economic Journal,* 65 (1999): 774-790.

Orth, U. and P. Krska. “Quality Signals in wine Marketing: the Role of Exhibition Awards.” *International Food and Agribusiness Management Review*, 4 (2002): 385-397.

Piggott R.R., N.E. Piggott, and V.E. Wright.”Approximating Farm-Level Returns to Incremental Advertising Expenditure: Methods ad an Application to the Australian Meat Industry.” *American Journal of Agricultural Economics*, 77 (1995): 497-511.

Pompelli, G. K. and D. Hein. “Discrete/Continuous Consumer Demand Choices: An application to the U.S. Domestic and Imported wine Markets.” European Review of Agricultural Economics, 82 (1991): 117-130.

Ribeiro, J.C. and J.F. Santos. Consumer Perception of Portuguese Quality Wine and the Region of Origin effect.” Presentation at the 4th Congress of the European Regional Science Association. Paris, August 29 to September 2, 2007. 20p.

Seale, J.L. *et al*. “Imports versus Domestic Production: A Demand System Analysis of the U.S. Red Wine Market.” *Review of Agricultural Economics*, 25 (2003): 187-202.

Williams, G.W. “Returns to U.S. Soybean Export Development.” *Agribusiness: An International Journal*, 1 (1985): 243-263.

WINEFACTS. Global Wine Statistical Compendium, 1961-2005. Australian Wine and Brandy Corporation (AWBC). 2007.

Appendix 1: U.S. Bottled Wine Imports by Country, Total Volume (in millions of liters) and Market Share, 1994-2005

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
France	60.6	69.9	80.6	94.3	90.5	84.6	93.7	90.2	94.8	79.9	76.6	77.4
Import Share (%)	27	25.5	24.7	24.9	24.7	22.8	21.9	18.9	16.8	14.6	12.8	11.9
Italy	88.6	118.7	127.3	151.7	144.5	156.6	174.6	194.4	212.7	178.6	188.4	207.5
Import Share (%)	39.6	43.2	39	40.1	39.4	42.3	40.7	40.7	37.8	32.7	31.5	31.8
Portugal	5.9	6.2	7.5	7.4	7.2	8.3	7.8	12.9	16.1	14.6	14.2	19.3
Import Share (%)	2.6	2.3	2.3	2	2	2.2	1.8	2.7	2.9	2.7	2.4	3
Spain	10.3	9.6	10.5	12.7	13.1	12	17.5	16.1	24.5	22.1	24.6	29
Import Share (%)	4.69	3.5	3.2	3.4	3.6	3.21	4.1	3.4	4.4	4.1	4.1	4.4
Australia	12	15.5	18.7	25.7	31.6	39	55.5	69.8	111.1	143.8	170.2	180.4
Import Share (%)	5.4	5.3	5.7	6.8	8.6	10.5	13	14.6	19.7	26.4	28.4	27.7
Chile	19.9	27.4	50.2	50.7	49.8	32.6	47.8	47.3	52.9	51.7	56.8	55.6
Import Share (%)	8.9	10	15.4	13.4	12.8	8.8	11.1	9.9	9.4	9.5	9.5	8.5
Other	26.6	28.1	31.6	35.6	32.5	37.9	31.8	46.9	50.8	54.4	67.7	82.9
Import Share (%)	11.9	10.2	9.7	9.4	8.9	10.2	7.4	9.8	9	10	11.3	12.7
Total Import Volume	223.9	274.4	326.4	378.1	366.2	371	429	477.6	562.9	545.1	598.5	651.8
Total U.S. Consumption	1,737.30	1,756.20	1,892.50	1,964.40	1,990.90	2,055.30	2,157.50	2,165.00	2,316.40	2,422.40	2,524.60	2,660.90
Import Share of U.S. Consumption (%)	12.9	15.6	17.2	19.3	18.4	18	19.9	22	24.2	22.5	23.6	24.5

Source: IMPACT DATABANK

Appendix Table 2. Wine Media Advertising Expenditures by Origin (Millions of Dollars)

Origin	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Domestic (mil $)	30.5	40.1	48.5	70.3	87.1	82.1	86.4	4.9	68.0	78.6	81.2	69.2
Share (%)	63.0	68.0	73.5	69.8	67.2	70.1	65.1	67.6	55.8	57.5	60.4	53.1
Imported (mil $)	18.3	18.9	17.5	30.4	42.5	35.0	46.4	35.9	53.8	58.0	53.2	61.2
Share (%)	37.0	32.0	26.5	30.2	32.8	29.9	34.9	32.4	44.2	42.5	39.6	46.9
Total	48.8	59.0	66.0	100.7	129.7	117.0	132.8	110.8	121.8	136.6	134.4	130.4

Source: IMPACT DATABANK

Appendix Table 3. Wine Media Advertising Expenditures by Country Origin (Millions of Dollars)

Origin	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Australia	0.1	0.1	0.1	0.1	0.6	0.8	5.2	4.8	8.8	12.2	17.7	20.1
France	3.7	4.3	5.9	8.7	10.5	15.2	16	8.7	10	17.8	12.2	15.4
Italy	7.9	8.7	4.5	12.5	17.8	11.8	16	15.4	27.2	14.1	10	14.5
Spain	4.7	4.2	5.2	4.9	4.2	4.5	6.0	4.6	4.0	5.8	6.2	4.3
Portugal	0.1	0.2	0.6	1.4	0.8	0.5	1.8	1.1	1.1	0.5	0.4	0.9
Chile	0.9	0.5	0.8	1.5	1.6	0.1	0.5	0.4	1.0	0.7	0.5	0.6
Other	0.9	1.0	0.6	1.4	7.1	2.2	1.0	1.0	1.6	5.7	4.8	4.0
Total	18.3	18.9	17.5	30.4	42.5	35.0	46.4	35.9	53.8	58	53.2	61.2

Source: IMPACT DATABANK