



## RESEARCH FOCUS

### Do Restaurants in New York State Cater to "Locapours"?

*\*consumers seeking out locally-produced New York wines*

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*Selling wine in New York City is a longstanding goal of New York State wine producers. Restaurants are a key entry point for exposing New York City consumers to New York wine.*

Photo by Jason Koski, Cornell University

For New York State wineries, selling wine in New York City has long been a goal, but progress in penetrating the marketplace has been slow. Restaurants, as intermediate consumers and arbiters of taste, are considered by some to be a key entry point for increasing sales and marketing wine. Are restaurants in New York State catering to the interest in local wines? Do restaurants catering to 'locavores' also feature 'locapours'? We used the Zagat Survey data and restaurant-specific menu information to identify factors that influence the availability of New York State (NYS) wine in 1,401 NYS restaurants. We found that décor ratings, cuisine styles, certain wine list characteristics, and distance to wine regions influence the likelihood of a NYS restaurant serving local wine.

#### KEY CONCEPTS

- We used the 2012 Zagat Survey database to select a sample of restaurants in New York and to identify restaurant-specific characteristics and expert ratings scores for each restaurant.
- We supplemented the Zagat Survey data with additional information that we collected to describe the food and beverage items available at each restaurant.
- We developed a model to estimate how restaurant characteristics influence (or affect) the presence of local wines on the restaurant's menu.
- Restaurants with higher décor scores, restaurants that serve New American cuisine, and restaurants that have large white wine lists are more likely to serve NYS wine.
- The distance between a restaurant and the winery also matters, and the definition of "local" may be quite narrow.
- NYS red wines are more likely to be offered in restaurants in Long Island, and NYS white wines are more likely to be offered in restaurants in upstate New York.

**Introduction.** Consumers are increasingly interested in purchasing local foods. Steadily rising sales of local foods and beverages through direct marketing channels—farmers markets, farm stands, and community-supported agriculture—are one indicator of the growing demand for locally produced goods. In addition, intermediate customers, such as schools, hospitals, grocery stores, and restaurants are increasing their purchases of locally-sourced food.

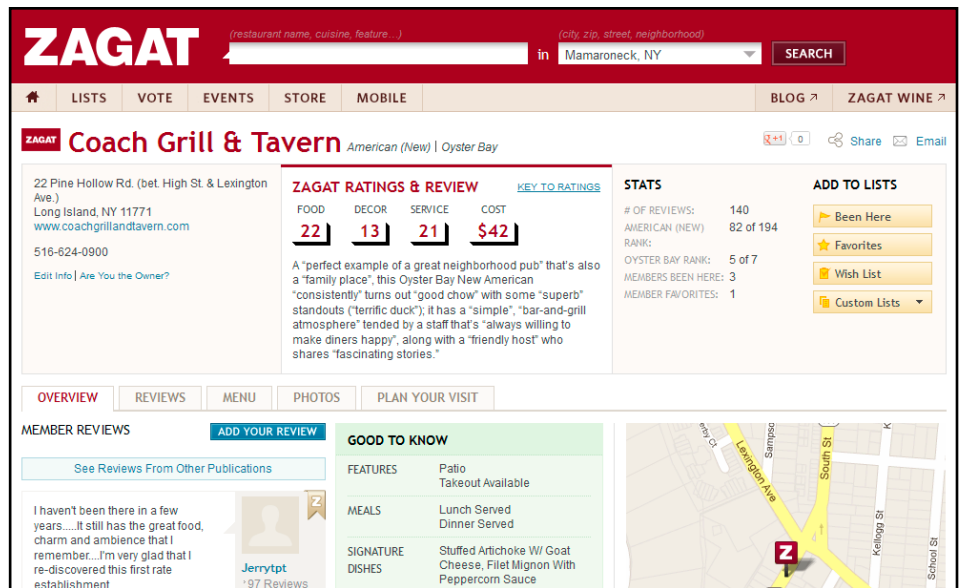
Restaurants, in particular, offer locally produced foods and beverages to cater to the increased interest in these products among their customers. Does this mean that they are also seeking out and featuring locally-produced wines? Do restaurants that cater to ‘locavores’ also cater to ‘locapours’?

To answer this question, we examined restaurant demand for local wine in New York State (NYS) restaurants by using data from the Zagat Survey — a large database that includes a wide range of restaurants across various locations and price points.

An overall goal of our study was to better understand demand for locally produced goods by restaurant owners. Restaurants are an interesting intermediate consumer to consider because they are generally expected to reflect the demand for food and beverages among final consumers. In this regard, restaurants are the quintessential consumer of food and beverages.

We focused our study on wine in NYS restaurants for three reasons. First, food items at restaurants are often comprised of many ingredients, both local and not local, so it is difficult to pinpoint which food items can be appropriately labeled as local. Second, wine is unique as a product because the region of production is well identified both on the bottle and on the menu. Finally, we chose NYS restaurants both because there is a vibrant local wine industry and also because local wines are available at many restaurants in NYS.

Our choice to focus on wine was further motivated by the observation that the locavore movement has



**Figure 1.** A Sample Zagat Survey listing. We used numerical ratings, location, cuisine type and features, along with online food and alcohol menus for 1,530 restaurants to test the relationship between these variables and the presence of New York state wines on the wine list.

inspired NYS restaurants to focus on local and seasonal ingredients in their cuisine, but that there has not been a corresponding locapour movement. Local wines have not yet received the same enthusiasm among restaurateurs in NYS (Molesworth 2011).

**How do you define local?** While most research suggests that consumers are willing to pay a premium for locally produced foods, they have different definitions of what exactly constitutes local. Our research will also attempt to shed new light on the definition of local by examining the presence of specific types of NYS wines (i.e., red wines which are predominantly from Long Island and white wines which are produced in Long Island and in the Finger Lakes region) in restaurants in locations across NYS.

**Data Sources.** In recent years there has been a sharp rise in the number of restaurant review guides for consumers, and many of these guides are available online. For example, online reviews such as Yelp, Trip Advisor, and Zagat all provide detailed information and ratings for restaurants across a range of price categories and cuisine types. The Zagat Survey is a very rich source of restaurant ratings for locations in the United States, and in particular for NYS and New York City.

**Zagat Survey data.** The Zagat survey data (Figure 1) provides numerical scores for restaurants on four categories, each based on a 30 point scale:

- Food quality

**Table 1.** Descriptive Statistics from the Zagat Survey Data for New York State

Zagat Survey General Wine Menu Information	No.	Percent (%)	Share (%)
Total Number of Restaurants in the Zagat Survey in 2012	5111		
Number of Restaurants without an Online Menu	2441		
Number of Restaurants with an Online Menu that do not Serve Wine	1140		
Number of Restaurants with on Online Menu that Serve Wine	1530		
Percent of Restaurants that Serve California Wine		78.9	
Percent of Restaurants that Serve West-coast (not California) Wine		52.2	
Percent of Restaurants that Serve European Wine		95.4	
Percent of Restaurants that Serve Latin American Wine		5.6	
Percent of Restaurants that Serve Australian/New Zealand Wine		55.7	
Percent of Restaurants that Serve African Wine		18.5	
Percent of Restaurants that Serve New York State (NYS) Wine		32.1	
Share of Restaurants Serving NYS Wine that Serve 1 NYS Wine			36.4
Share of Restaurants Serving NYS Wine that Serve 2 - 5 NYS Wines			43.5
Share of Restaurants Serving NYS Wine that Serve > 5 NYS Wines			20.1

- Restaurant décor
- Restaurant service
- Cost (based on the average price for a single meal, drink, and tip)

In addition, the Zagat Survey provides information on the restaurant’s location, cuisine type(s), and lists any special restaurant features.

**Choice of Restaurants.** The 2012 Zagat Survey listed 5,111 restaurants in NYS (Table 1). Of these, we were able to retrieve food and alcohol menus for 1,530 restaurants. In our sample, 95.4% of restaurants served European wine, 78.9% served California wine, 55.7% served wine from Australia and/or New Zealand, 52.2% served wine from Washington and/or Oregon, and 32.1% served wine from NYS. Of the 491 restaurants serving wine from NYS, 36.4% served one NYS wine, 43.5% served two to five NYS wines, and 20.1% served more than five NYS wines. The average Zagat Food Quality score was 21.8, the average Zagat Décor score was 18.9, and the average Zagat Service score was 20.4. The average cost of a meal, drink

and tip of the restaurants in our sample was \$46.15, but it ranged between \$13.00 and \$585.00 (upper part of Table 2).

**Cuisine types.** Another important Zagat Survey descriptor is the type of cuisine a restaurant serves. It separates cuisine types into 132 different categories and often lists several cuisine types per restaurant. To simplify these categories in our framework, we grouped them into six cuisine groups based primarily on region: Standard American, New American, European, Asian, Latin American, and Other. Each restaurant was categorized into one cuisine type based on their primary cuisine type listed in the Zagat Survey. Of the 1,530 restaurants in our sample, 363 restaurants serve *Standard American* cuisine, 286 serve *New American* cuisine, 593 serve *European* cuisine, 83 serve *Latin American* cuisine, and 87 serve *Other* cuisine (lower part of Table 2).

**Restaurant special features.** The Zagat Survey lists up to 44 different special features. These include physical features like bars and patios, food-related features such as vegetarian options or specific food

preparation techniques, and various other features such as awards received and entertainment facilities. The average number of special features per restaurant was 2.78 and ranged between 0 and 11 for the restaurants included in our sample. We were particularly interested in two of these special features: the use of natural/organic ingredients and the presence of an award-winning wine list. We included these two attributes in our model as we expected that they might influence the presence of local wines on a restaurant's menu. In our sample, 16.5% of restaurants had the natural/organic ingredients feature, and 8.6% had the winning wine list feature.

**Food and beverage listings from online menus.** The Zagat Survey data was augmented with food, beer and wine offerings listed on each restaurant's website. We noted the number of entrees offered on the

menu, the number and type of beers available, and detailed information on the varietals, costs, and region of origin for all wines listed on the menu. We focused on wines sold by the 750 ml bottle (or larger) and did not include information for any wines that were only available by the glass. We grouped wine varietals into one of six categories (white, red, sparkling, rosé, dessert, and fortified) and aggregated wine regions into four domestic categories (California, West Coast non-California, NYS, and non-NYS East Coast) and five international categories (Europe, Latin America, Africa, Australia/New Zealand, and a Rest of the World region).

**Menu attribute results.** The mean price for white wines ranged between \$35.55 (for wines from Latin America) and \$58.11 (for wines from Europe) per bottle (see Table 3). For red wine and sparkling wine the

**Table 2.** Descriptive Statistics for Zagat Ratings<sup>a</sup>

Average Zagat Ratings	Mean	Standard Deviation	Minimum	Maximum	N
Zagat Food Quality (scale 1 to 30)	21.8	2.7	12	29	1426
Zagat Décor (scale 1 to 30)	18.9	3.4	6	28	1425
Zagat Service (scale 1 to 30)	20.4	2.6	12	29	1426
Zagat Cost (dollars per meal)	\$46.15	\$27.38	\$13.00	\$585.00	1401
Zagat Survey Restaurant Cuisine Groups	<i>Number of restaurants by cuisine type</i>				
Standard American Cuisine	363				
New American Cuisine	286				
European Cuisine	593				
Asian Cuisine	118				
Latin American Cuisine	83				
Other Cuisine	87				
Zagat Survey Restaurant Feature Summary	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>	<i>N</i>
Total Feature Count	2.78	1.59	0	11	1530
			<i>Has feature (%)</i>		<i>N</i>
Natural/Organic Ingredients Feature Count			16.5		1530
Winning Wine List Feature Count			8.6		1530

<sup>a</sup> This sample includes the 1530 Zagat-rated restaurants that made their food and beverage menus available online.

**Table 3.** Average wine prices and quantities for selected regions  
(white, red, and sparkling wines)

<b>Wine Production Region</b>		<b>White Wines</b>	<b>Red Wines</b>	<b>Sparkling Wines</b>
<i>California</i>	Price (\$ per bottle)	54.74	89.59	54.23
	Count (no. bottles)	5.48	15.09	0.36
<i>West Coast Non-CA</i>	Price (\$ per bottle)	47.42	72.90	59.27
	Count (no. bottles)	0.60	1.74	0.07
<i>New York State</i>	Price (\$ per bottle)	41.79	52.57	59.04
	Count (no. bottles)	0.69	0.59	0.08
<i>East Coast Non-NY</i>	Price (\$ per bottle)	51.03	64.41	51.00
	Count (no. bottles)	0.06	0.09	0.00
<i>European</i>	Price (\$ per bottle)	58.11	101.61	114.27
	Count (no. bottles)	19.04	36.90	5.64
<i>Latin America</i>	Price (\$ per bottle)	35.55	47.94	40.89
	Count (no. bottles)	0.46	1.86	0.02
<i>Australia / New Zealand</i>	Price (\$ per bottle)	44.08	68.99	48.41
	Count (no. bottles)	0.92	1.40	0.02
<i>Africa</i>	Price (\$ per bottle)	42.16	58.30	41.95
	Count (no. bottles)	0.184	0.19	0.01
<i>Other Region</i>	Price (\$ per bottle)	60.96	78.14	59.33
	Count (no. bottles)	0.17	0.38	0.00
<i>All Regions</i>	<b>Weighted Price (\$ per bottle)</b>	<b>49.91</b>	<b>80.71</b>	<b>97.99</b>
	Count (no. bottles)	<b>27.60</b>	<b>58.27</b>	<b>6.22</b>

mean prices were higher overall, however the same regions had the highest and lowest mean prices. We observed a large range in minimum and maximum prices for wines from all regions, but especially for wines from Europe and California. By number of wines, the European region had the highest average number of wines per restaurant, followed by California. In our sample, the average price of NYS white wines was \$41.79 (ranging between \$17 and \$102.54), and the average number of NYS white wines per restaurant menu was 0.69 bottles (range: 0 to 38 bottles). Among red wines, the average price of NYS wines was \$52.57, and the average number of wines per restaurant was 0.59; for sparkling wines the average price of NYS wines was \$59.04, and the average

number of wines per restaurant was 0.08. Overall, the range of prices for NYS wines was narrower than those of most other regions, but the range in the number of NYS wines are in line with those observed from many other regions (other than Europe and California).

**What did we find?** Overall, results from the 1,400 restaurants in our sample show that the reputation variable with the greatest effect on restaurant demand for local wine was the Zagat Survey décor rating. A one point increase in this rating led to a 1.3% increase in the likelihood of a restaurant serving NYS wine. This result suggests that restaurants with a higher décor score pay closer attention to de-

tails, and that this type of restaurant is more likely to place local wines on their menu.

Cuisine type was another important determinant of restaurant demand for local wine. All cuisine types except for *New American* had a negative effect on restaurant demand for local wine. In other words, restaurants with New American cuisine were more likely to include local wines on their menu than other cuisine types. The effects were most negative for European and Asian cuisines, meaning that restaurants with these cuisine types are the least likely to feature local wines.

The number of special features listed by Zagat and captured as restaurant attributes in our analysis also appears to be important. Restaurants with natural/organic foods were more likely to offer local wines.

Effects related to wine menu attribute variables showed some interesting patterns. The demand for local wine increases with a higher number of white wine selections, sparkling wine selections, dessert wine selections, and total domestic (non-NYS) wine selections. Demand for local wine in NYS decreased as the total number of red wines available on a menu increased. In addition, restaurants in upstate NY

**Table 4. Results from Statistical Model**

Variable	Attribute	Effect on Restaurant Demand for All NYS Wines
<b><u>Zagat Reputation</u></b>	Zagat Food Quality Rating	ns
	Zagat Décor Rating	++
	Zagat Service Rating	ns
	Zagat Cost (per meal)	ns
<b><u>Cuisine Groups</u></b>	Standard American Cuisine	---
	European Cuisine	---
	Asian Cuisine	---
	Latin American Cuisine	---
	Other Cuisine	---
<b><u>Restaurant Attributes</u></b>	Natural/Organic Ingredients	+
	Winning Wine List Feature	ns
	Total Feature Count	+
<b><u>Wine Menu Attributes</u></b>	Total Count of White Wine	+++
	Total Count of Red Wine	---
	Total Count of Sparkling Wine	+
	Total Count of Rosé Wine	ns
	Total Count of Dessert Wine	++
	Total Count of Fortified Wine	ns
	Total Domestic Count	+++
<b><u>Regional Attributes</u></b>	Upstate Location	+
	Manhattan Location	ns
	Long Island Location	+++
<b><u>Observations</u></b>		1401

*ns= not significantly correlated; + positively correlated with restaurant demand for NYS wines; - negatively correlated with demand for NYS wines. The number of + and - indicates the relative strength of the correlation.*

**Table 5.** Effects for NYS White Wine and NYS Red Wine

Variable	Attribute	All NYS Wines	NYS White Wines	NYS Red Wines
<u>Zagat Reputation</u>	Zagat Food Quality Rating	ns	ns	ns
	Zagat Décor Rating	++	++	ns
	Zagat Service Rating	ns	ns	ns
	Zagat Cost (per meal)	ns	ns	ns
<u>Cuisine Groups</u>	Standard American Cuisine	---	--	-
	European Cuisine	---	---	---
	Asian Cuisine	---	---	---
	Latin American Cuisine	---	---	ns
	Other Cuisine	---	---	---
<u>Restaurant Attributes</u>	Natural/Organic Ingredients	+	ns	+++
	Winning Wine List	ns	ns	ns
	Total Feature Count	+	ns	ns
<u>Wine Menu Attributes</u>	Total Count of White Wine	+++	++	ns
	Total Count of Red Wine	---	---	---
	Total Count of Sparkling Wine	+	+	ns
	Total Count of Rosé Wine	ns	ns	ns
	Total Count of Dessert Wine	++	++	ns
	Total Count of Fortified Wine	ns	ns	ns
	Total Domestic Count	+++	+++	+++
<u>Regional Attributes</u>	Upstate Location	+	++	ns
	Manhattan Location	ns	ns	ns
	Long Island Location	+++	+++	+++
<u>Observations</u>		1401	1401	1401

*ns= not significantly correlated; + positively correlated with restaurant demand for NYS wines; - negatively correlated with demand for NYS wines. The number of + and - indicates the relative strength of the correlation.*

and on Long Island—relative to the outer boroughs of NYC—were more likely to include local wines on their menu than restaurants located in Manhattan.

The results in Table 4 showed that the number of white wines listed on a restaurant’s menu had a positive effect on their demand for local wine, and the number of red wines on a wine list had the opposite effect. This result is intuitively appealing given that NYS is better known as a producer of white wines. Further analysis focusing exclusively on either NYS

white wines or NYS red wines revealed an additional regional pattern (Table 5). NYS white wines were more likely to be offered in upstate restaurants while both white and red wines were more likely to be offered in Long Island restaurants relative to the outer four boroughs (for the purpose of our study, Long Island does not include Queens and Brooklyn). In Manhattan, there was no statistically significant preference for either type of wine. Since Long Island restaurants were more likely to have both red and

white NYS wines featured, this supports the idea that Long Island restaurants have a special affinity to their own wines, whereas restaurants in Manhattan do not share this affinity. Overall, this result suggests that defining local by state borders may be too large, and that restaurant owners consider the term “local” to define a much smaller sub-region within a state.

**New York City Results.** Finally, we conducted an additional analysis that examined restaurant owners’ demand for local wine in the NYC metropolitan area (Manhattan and the outer four boroughs that include The Bronx, Brooklyn, Staten Island, and Queens). We did this for two reasons. First, approximately two-thirds of the restaurants in our sample are in NYC, and second, many winemakers in NYS and elsewhere are keenly interested in selling their wines to restaurants in NYC and notably in Manhattan (Preszler and Schmit 2009).

When we focus exclusively on the Manhattan region (Table 6), we find that a higher Zagat décor score is still associated with offering NYS wines, but NYS wines are less likely to be available in Manhattan restaurants with higher average meal prices. Other factors remained largely unchanged in the Manhattan compared to the baseline results. Even in Manhattan, restaurants with New American cuisine were more likely to include local wines on the menu, and a higher number of white wines, sparkling wines, dessert wines, and domestic wines on a menu increased the likelihood of local wines being included on menus.

**Practical Implications.** Our results have several important implications for wineries in NYS and in other nascent wine production regions in the United States:

- *Target restaurants with a high Zagat Survey Décor score.* We interpret the Zagat décor rating as an

**Table 6.** Effects for Restaurants in New York City Area

Variable	Attribute	Restaurants in Manhattan	Restaurants in the Outer Four Boroughs
<u>Zagat Reputation</u>	Zagat Food Quality Rating	ns	ns
	Zagat Décor Rating	+++	ns
	Zagat Service Rating	ns	--
	Zagat Cost (per meal)	-	ns
<u>Cuisine Groups</u>	Standard American Cuisine	ns	-
	European Cuisine	-	---
	Asian Cuisine	---	---
	Latin American Cuisine	---	ns
	Other Cuisine	--	ns
<u>Wine Menu Attributes</u>	Total Count of White Wine	++	ns
	Total Count of Red Wine	---	ns
	Total Count of Sparkling Wine	+++	ns
	Total Count of Rosé Wine	ns	ns
	Total Count of Dessert Wine	+++	ns
	Total Count of Fortified Wine	ns	ns
	Total Domestic Count	+++	++
<u>Observations</u>		779	159

*ns= not significantly correlated; + positively correlated with restaurant demand for NYS wines; - negatively correlated with demand for NYS wines. The number of + and - indicates the relative strength of the correlation.*



indicator for ambiance and attention to detail. Our results show they are likely to place local wines on their menu.

- *Target restaurants with 'New American' cuisine.* The cuisine type also appears to play a large role in restaurants' decisions to include local wines on their menu. Our results show 'New American' cuisine styles complement local wines and owners are more receptive to them. Restaurants with European or Asian cuisine styles in NYS may be less receptive to local wines. Restaurants that include more white wine in general, or more domestic wines overall, appear to be more likely to include local wines on their menu.

**Geographic Influence.** We find that restaurants located in Long Island (the predominant region for red wine production in NYS) are more likely to list NYS red wines on their menu, yet restaurants located in other regions of the state did not feature NYS red wines. This suggests that the location of restaurant matters, but that the "local" effect is quite focused geographically and does not extend across a large state like NYS.

We also found that upstate restaurants are more likely to include local white wines, and white wines are the dominant type of wine produced in this region. Compared to other regions of NYS, the demand for local wines by restaurants in Manhattan is particularly sensitive to the Zagat décor score and the presence of red wines on the menu. These findings contribute specifically to a better understanding of the demand for locally produced wine by NYS restaurants.

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