# Title

Choose the Cheapest? The Case of Restaurant Wine Menus.

## I want to submit an abstract for:

Conference Presentation

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## Keywords

Menu pricing, Mark-ups, Vertical differentiation

## Research Question

To measure markups in restaurant wine menus, analyse how they vary with wine cost, and specifically test if the second cheapest wine is "poor" value for money.

## Methods

Wine markups were measured by comparing menu prices with cost as proxied by retail prices on Wine-searcher.com. The relationship between markups and cost was assessed through regressions.

## Results

The % markups are relatively low for the cheapest wine, then jump and stabilise from the second cheapest wine onwards, before dropping at the high end.

## Abstract

We assemble a dataset on wines from online restaurant menus. We gather information on the name, type, vintage year(s), and price of the wine. Further, we match the sample of wines to one of the world’s largest online databases on wine retail prices, namely Wine-searcher.com. We use the cheapest available retail price as a proxy for the cost of wine, and construct a measure of % markup. We analyse the within and across restaurant variation in listed wine prices, and in the % markups. In particular, we test whether consumers should avoid ordering the second cheapest wine, as if often advised. The reason for this advice is as follows: restaurants know that most consumers are loath to appear “cheap”, and therefore will avoid ordering the cheapest bottle. They will gravitate to the second cheapest wine, and accordingly this gets marked up disproportionately.
We sampled 249 London-based restaurants on Tripadvisor.co.uk in July 2015. Of these, 199 were drawn from the top ranked restaurants, while another 50 were lower ranked (2000+). The sampling criteria were: the restaurants had online wine menus, and the menus were no longer than 3 pages. The median Tripadvisor ranking of the sampled restaurants was 600. The information on the wine menus was "read in" by a customised computer program (validated by human spot checks.) Of the sampled restaurants, 235 have "readable" wine menus, one each of red and white. These 470 menus have 6335 wines listed. The menu information coded included name of the wine, description if any, vintage year(s), position on the menu (or submenu), and price per bottle (or large or small glass.) Information was also separately gathered on any house wines listed on the online menu.

About 12% (48 of the 470) of the wine menus were organised into sub-menus (by country of origin, or grape.) Among the remaining 422 menus, 61% were listed in ascending order of price, 34% in no particular order, and only 2% in descending order of price. Over 98% of the wines had a bottle price listed. The red wine menus had on average 14.65 different wines (range 1-98). The white wine menus were slightly shorter with an average of 12.31 wines (range 1-70). The average price of a red wine bottle was £42.17 (range £8.5-£7630.) The white wines were cheaper with an average price of £31.84 (range £8.5-£520.) About 45.5% of the wines are priced below £30, and 78.7% are priced below £50. Only 1.7% are priced above £100.

There was considerable variation in wine price across restaurants. The cheapest red wine menu has a mean bottle price of £12.95 while the priciest red wine menu had a mean bottle price of £751.6. The corresponding figures were £13.95 and £100.47 for white wine menus. Similarly, the cheapest starting price on a red wine menu ranged from a low of £8.5 to a high of £59. In the case of white wine menus, this ranged from £8.5 to £45.

The name, description, and vintage year of the wines were run through Wine-searcher.com that gives the cheapest available retail prices. These were used as a proxy for the wine cost. An exact match was found for 53% of the wines. Another 147 wines had multiple vintage years listed on the menu, and prices were obtained for each of these years separately, if available. If the vintage was no listed on the menu, prices were obtained for the years 2013 and 2014, if available. In all such cases with no exact match (and multiple possible prices), the minimum price was chosen as the proxy for wine cost. We were unable to impute a minimum retail price for 1850 (29%) wines.

The mean % markup was about 303% - very similar for both red and white wines. The median markup was 268% for red wines, and 271.5% for white wines. There was considerable variation in the mean markups across restaurants. In the case of red wine menus, the mean menu markup varied from a low of 147% to a high of 537.3%. Similarly, for white wine menus the mean menu markup ranged from 151.6% to 512.2%. The markup was 17% points higher on menus organised into submenus (316.3% vs. 299.3%).

To test whether the second cheapest wine is indeed poor value for money, we regress the % markup on dummies for the cheapest, second cheapest, and the highest priced bottle on the menu, a flexible polynomial in cost, a dummy for white wine, and restaurant fixed effects. The cheapest wine on the menu has a significantly lower markup, and this effect is robust across various specifications of the cost polynomial. In our preferred specification, the cheapest wine has about 29% points lower markup than the base category (wines with price rank 3 to N-1). The coefficient on the 2nd cheapest wine is negative but not significant. While the 2nd cheapest wine is marked up more than the cheapest, the % markup is no higher, and possibly lower than the other wines on the menu.

The % markup appears to decrease with cost, although at a decreasing rate. The observed decrease in % markups could be induced by measurement error in costs for medium and higher priced wines if restaurants buy these wines at lower prices than we observe in the retail data. This is possible if restaurants buy at discounts (either special deals with wholesalers or timing their purchases to coincide with discount sales.) However, we find that the absolute markups increase in cost, as theory would predict.