“Do More Expensive Wines Taste Better?”

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Johan Almenberg [a]
Anna Dreber [a,b]
Robin Goldstein [c]
Alexis Herschkowitsch [c]

Affiliations:
a) Stockholm School of Economics
b) Program for Evolutionary Dynamics, Harvard
c) Fearless Critic

Contrary to what we might expect, people do not appreciate expensive wines more (when they are unaware of the price). In a sample of over 6000 blind tastings, we find that the correlation between price and overall rating is small and *negative*, suggesting that individuals on average enjoy more expensive wines slightly *less*. For people with wine training (hereafter, "experts"), however, we find a *positive* correlation. The correlation is moderate in both cases, suggesting that price doesn't make a big difference for how individuals appreciate wines.

In the regression analysis, we use a linear model (OLS) with robust standard errors. The dependent variable is the overall rating, measured on a scale from 1 to 4, with 4 being the highest rating. The price variable is the natural logarithm of the dollar price.[1]

In model (1), we regress the overall rating assigned by individual *i* to wine *j* on the price of the wine. About 12% of participants had some wine training, such as a sommelier course. In model (2), we allow for the possibility that these "experts" rate wines in a different manner. We include a dummy variable for being an expert, as well as an interaction term for price and the expert dummy. This allows both the intercept and the slope coefficient to differ for experts and non-experts. We can write these two models as

$$y_j = \beta_0 + \beta_1 \log(P_j) + \varepsilon_j \qquad (1)$$

and

$$y_j = \beta_0 + \beta_1 \log(P_j) + EXP_i + \beta_2 \log(P_j) * EXP_i + \varepsilon_j \qquad (2)$$

If individuals found that more expensive wine tasted better, the correlation between overall rating and price would be positive. In this sample, this is not the case: the coefficient on price is *negative*. In model (1), the coefficient is about -0.04, implying that a 100% increase in (log) price is associated with a 0.04 *reduction* in the overall rating. The negative effect is moderate, but non-negligible. Wine prices cover a large range. In this sample alone, prices range from $1.65 to $150. In wine markets in general, the range is even larger.

Unlike the non-experts, experts assign higher ratings to more expensive wines.[2] Model (2) shows that the correlation between price and overall rating is *positive* for experts.[3] The price coefficient for non-experts is about the same as before. Model (2) predicts that for a wine that costs ten times more than another wine, non-experts will on average assign an overall rating that is one eight of a rating point *lower*, whereas experts will assign an overall rating that is about one quarter of a rating point *higher*.[4]

We also test a third model, including individual fixed effects. This allows the intercept to vary between tasters. Model (3) can be written as

$$y_j = \beta_j + \beta_1 \log(P_j) + EXP_i + \beta_2 \log(P_j) * EXP_i + \varepsilon_j \qquad (3)$$

Including the fixed effects does not affect the qualitative results, and the coefficients themselves change only slightly.[5]

Table 1. Dependent variable: overall rating.

	(1)	(2)	(3)
log(price)	-0.039	-0.050	-0.066
	(0.024)**	(0.008)***	(0.000)***
expert		-0.473	
		(0.000)***	
log(price)*expert		0.146	0.150
		(0.009)***	(0.013)**
taster fixed effects	No	No	Yes
constant	2.301	2.343	2.188
	(0.000)***	(0.000)***	(0.000)***
Observations	6175	6161	6161
R-squared	0.001	0.005	0.108

p-values in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

[1] If we didn't do this, we would be expecting a one dollar increase to have the same effect at the $5 price level as at the $50 price level. This seems counterintuitive. We do get the same qualitative results using the dollar prices, but the statistical significance of the coefficients deteriorates.

[2] In addition. experts assign overall ratings that are on average half a rating point lower (coefficient on the expert dummy: -0.473).

[3] Coefficient on log(price)*expert: 0.146; coefficient on log(price): -0.05; "net" coefficient for experts ≈ 0.1.

[4] If the dollar price increases by a factor of 10, log(price) increases by about 2.3. Hence the predicted effect on the overall rating of tenfold increase in the dollar price is 2.3 times the log(price) coefficient for non-experts and experts, respectively.

[5] A Wald test rejects that the fixed effects are jointly different from zero, by a wide margin (*p*-value < 0.0001).