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The Value of Different Quality Clues in the Wine Market. A Comparison across Italian Regions

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TOPIC & OBJECTIVES

- The paper is about the value of quality clues in the wine market.
- Italian wines from three quite different regions are considered
- The aim of the analysis is to explore the presence of different patterns in the creation of value
- More in details, we seek at understanding whether different quality clues interact differently in different regions (i.e. in different territorial context).

Outline of the presentation

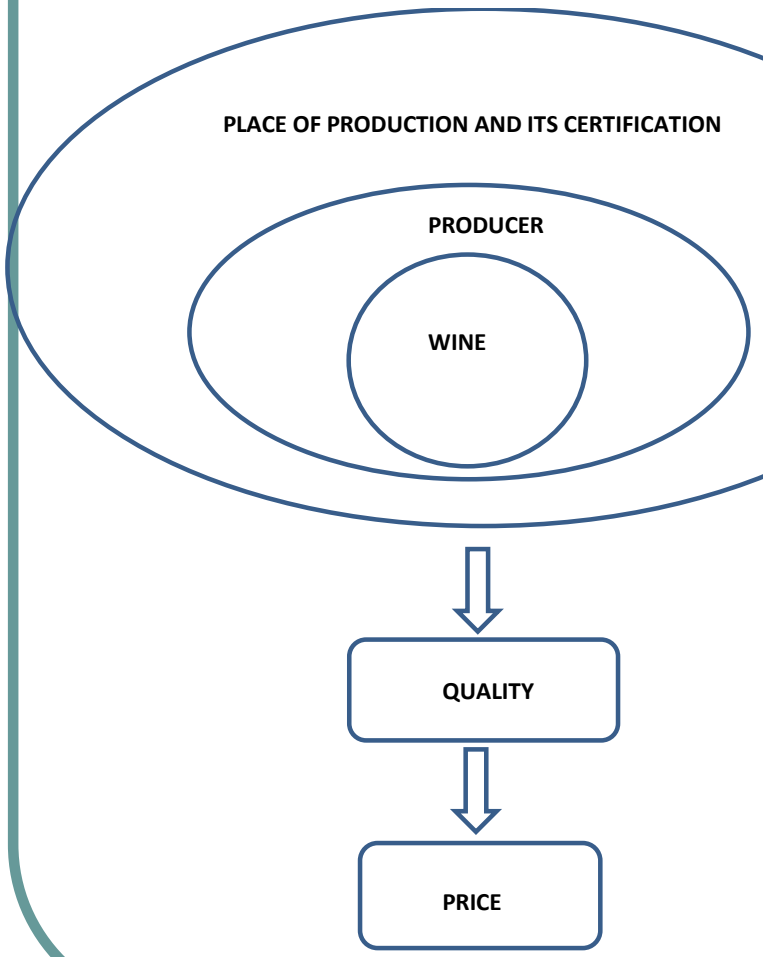
- The selected regions
- The source of the data
- The logic of our hedonic price model
- The variables used
- The interval regression model
- Main results and discussion
- Limits and future developments

The 3 Regions

Veronelli

Veronelli is one of the oldest and most reputed Italian wine guides.
It selects wines from all over Italy, releasing a large number of information on each wine and producer.
Wines are blindly tested by two experts and scored in three levels: (Good, very good, excellent), plus one: new entries.
Prices are given in classes on the base of consumer prices as yearly provided by producers or updated by the general CP deflator.

The logic of the model



Overall wine quality (and consumer perception of it) can be seen as the combination of different kind of attributes and clues; from the ones that are directly related to the to the ones pertaining to the producer and those embedded in the nature of the territory and to the certification of the place of origin.

The final price and the value of each clue reflect these qualities in a way that is specific to their peculiar combination.

The quality clues

The price

variables used
Wine level
sensory quality scoring: 1-2-3 stars
new entry
number of bottles produced
organic wine
wine color
origin of the grape variety (national vs international)
diffusion of the grape variety (local, wide, national)
vintage (before 2004, 2004-2009)
sparkling wine
sweet wine
Farm level
coop
farm size (10 ha)
number of labels
production area and Certification
docg/doc/igt
years of GI life
special mentions allowed: classico/superiore/riserva
Region: Veneto/Lazio/Sicily

price <=7 €
7.10€<price<10€
10.10€<price<15€
15.10€<price<20€
20.10€<price<30€
price>30€

The interval regression

$$y = \mathbf{x}\boldsymbol{\beta} + u$$

The log-linear specification of the model is:

Log P = f (A, F, Ce)

The regression coefficients are easily interpreted as usual:
the dependent variable changes by 100*(-1) percent for a one-unit increase in x, holding all other variables fixed.

Estimation method: ML

the models

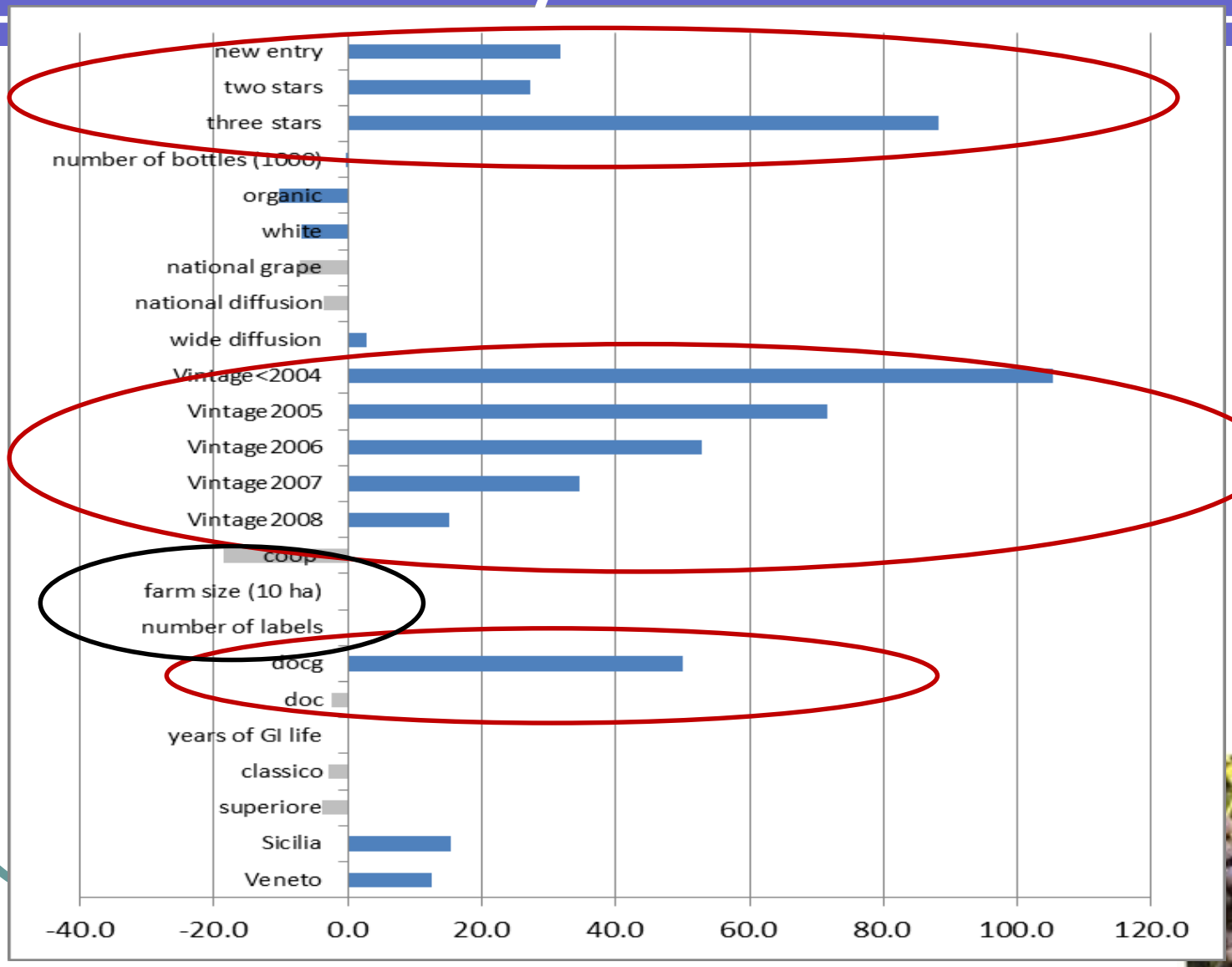
Different models have been estimated according to the results of the Likelihood ratio test and the Chow test:

McKelvey & Zavoina's R2

- Italy allwines (base) (ca 2300) 0.424
- Italy red&white (II level split) 0.417 0.251
- Veneto red&white (III level split) (ca 1400) 0.443 0.217
- Lazio allwines (III level split) (ca 670) 0.325
- Sicily allwines (III level split) (ca 220) 0.339

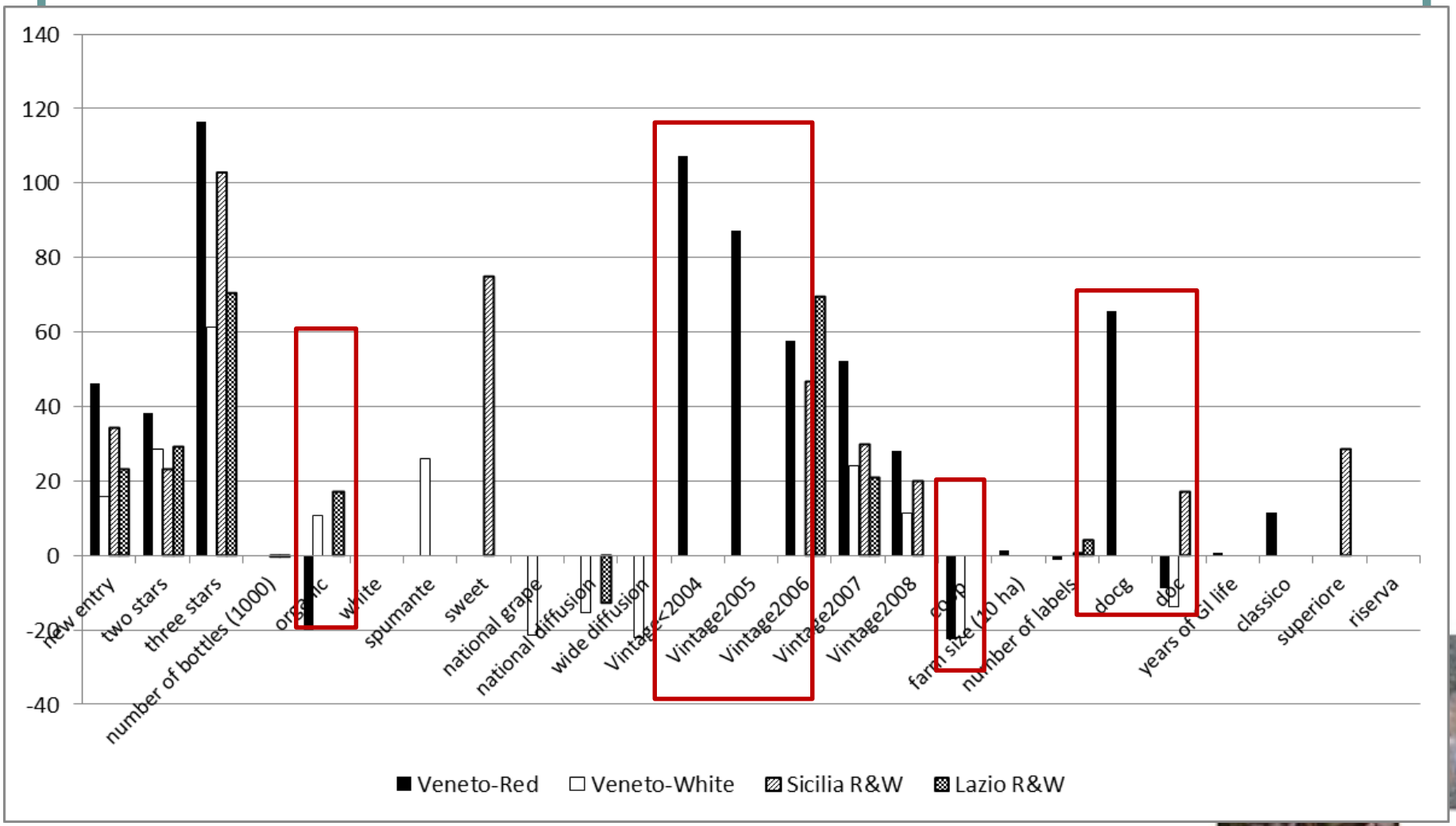
	THREE REGIONS						VENETO				SICILIA		LAZIO	
	White&Red		Red		White		Red		White		Red&White		Red&White	
variable	Coef	st.err	Coef	st.err	Coef	st.err	Coef	st.err	Coef	st.err	Coef	stand Err	Coef	st.err
Wine level														
two stars	0.2717*	0.021648	0.3181*	0.035184	0.2737*	0.0248067	0.3835*	0.0433	0.2864*	0.0338453	0.2313*	0.038691	0.2932*	0.0648501
three stars	0.8822*	0.03899	0.9998*	0.049652	0.9973*	0.0333636	1.1652*	0.06078	0.6132*	0.0994252	1.0319*	0.0610891	0.706***	0.0941229
new entry	0.3166*	0.031957	0.4835*	0.046921	0.2099*	0.0260151	0.4612*	0.0552	0.1383*	0.0338207	0.3423***	0.0594304	0.2314**	0.0967592
number of bottles (1000)	0.0001***	0.000443	-0.0001	0.000069	-0.0001**	0.0000751	-0.000146	0.00017	-0.00001	0.0000168	-0.0002***	0.0000892	-0.0034*	0.000937
organic	-0.1014*	0.026452	-0.1151*	0.035375	-0.0399	0.2855308	-0.0001*	0.0604	0.1087***	0.0546152	-0.0461	0.0597504	0.1712**	0.0818698
white	-0.069*	0.021794	-	-	-	-	-	-	-	-	0.0917	0.0387113	-0.0899	0.0678889
national grape	-0.0719**	0.033194	-0.0629	0.045123	-0.1509*	0.0364095	-0.0743	0.0632168	-0.2134*	0.0764441	-0.0167	0.063967	-0.0181	0.0774933
national diffusion	-0.0354	0.030691	0.0071	0.042344	-0.0778	0.0283061	-0.0906487	0.1006406	-0.1552***	0.0936234	0.0459	0.0469874	-0.1273**	0.0534418
wide diffusion	0.0181	0.041941	0.1088**	0.048505	-0.0521	0.0270737	-0.0081712	0.0711263	-0.2215**	0.106169	0.0572	0.0987885	0.0676733	0.1027909
Vintage <2004	1.0522*	0.036513	1.0405*	(upper)	-	-	1.0741*	0.0839736	-	-	-	-	-	-
Vintage 2005	0.7160*	0.041523	0.8887*	0.061297	-	-	0.8723*	0.0694606	-	-	-	-	-	-
Vintage 2006	0.5188*	0.030333	0.5897*	0.04064	-	-	0.5772*	0.03858	-	-	0.4669*	0.0581669	0.6683*	0.1094419
Vintage 2007	0.3461*	0.027225	0.4703*	0.038433	0.1893**	0.0248537	0.5221*	0.0571157	0.2393*	0.048031	0.1999*	0.0493213	0.1112**	0.0891091
Vintage 2008	0.1508*	0.024225	0.2476*	0.037161	0.0883*	0.0228283	0.2792*	0.0668776	0.1124*	0.0426849	0.2012*	0.0400899	0.1174	0.0661627
spumante	-	-	-	-	-	-	-	-	0.2581*	0.064537	-	-	-	-
sweet	-	-	-	-	-	-	-	-	-	-	0.7518*	0.0811422	-	-
Farm level														
coop	-0.1864*	0.03825	-0.2139*	0.068424	-0.2179*	0.0571889	-0.2263*	0.089081	-0.2184**	0.1101678	-0.0049	0.0993713	-	-
farm size (10 ha)	0.0002	0.000152	0.0005*	0.00021	-0.0001	0.000174	0.0126*	0.000267	0.0003	0.000368	-0.0002	2.50E-04	0.0105	0.0011316
number of labels	0.0001	0.000151	-0.0004	0.000321	0.0047	0.0013402	-0.0114*	0.0040438	0.0043	0.0034939	0.0076***	0.0039167	0.0413*	0.0126127
Certification														
docg	0.5008*	0.041089	0.6517*	0.075848	0.4263*	0.0454886	0.6332*	0.0748435	0.0265	0.1030185	-	-	-	-
doc	-0.0242	0.03591	-0.1496*	0.053064	0.1367***	0.0392604	-0.088***	0.0833529	-0.1392*	0.0952839	0.1714*	0.0588379	0.0352	0.0706771
years of bottle	0.0030**	0.001177	0.0074*	0.001914	-0.0032**	0.0012458	0.0071**	0.0031902	-0.0018	0.0011771	-0.0023	0.0019422	0.0045	0.0027506
classico	-0.0187	0.026215	-0.0219	0.049348	-0.0788***	0.0283061	0.1162***	0.0643013	0.0697	0.048833	-0.0686	0.1244526	0.1443	0.2512773
superiore	-0.0391	0.025136	0.05417	0.050188	0.0238	0.0270737	-0.044037	0.0613765	-0.0423 8	0.0417734	0.1856*	0.0816731	0.0908	0.093892
riserva	-	-	-	-	-	-	-	-	0.0344	0.0477857	-	-	-0.064312	0.1622856
Region														
Sicilia	0.1528*	0.034438	0.1434*	0.048789	0.1365**	0.0284419	-	-	-	-	-	-	-	-
Veneto	0.1254*	0.034878	0.1608*	0.051466	0.1088**	0.0280193	-	-	-	-	-	-	-	-
cons	1.8239*	0.044839	1.6621*	0.074713	2.0703*	0.0692244	2.15	0.1096702	2.2896*	0.1177972	1.9503	0.1003978	1.8299	0.1154686
McKelvey & Zavoina's R2	0.414		0.417		0.251		0.443		0.217		0.339		0.323	
Obs	2439		1334		802		857		484		676		220	

The results of the estimates: Italy all wines



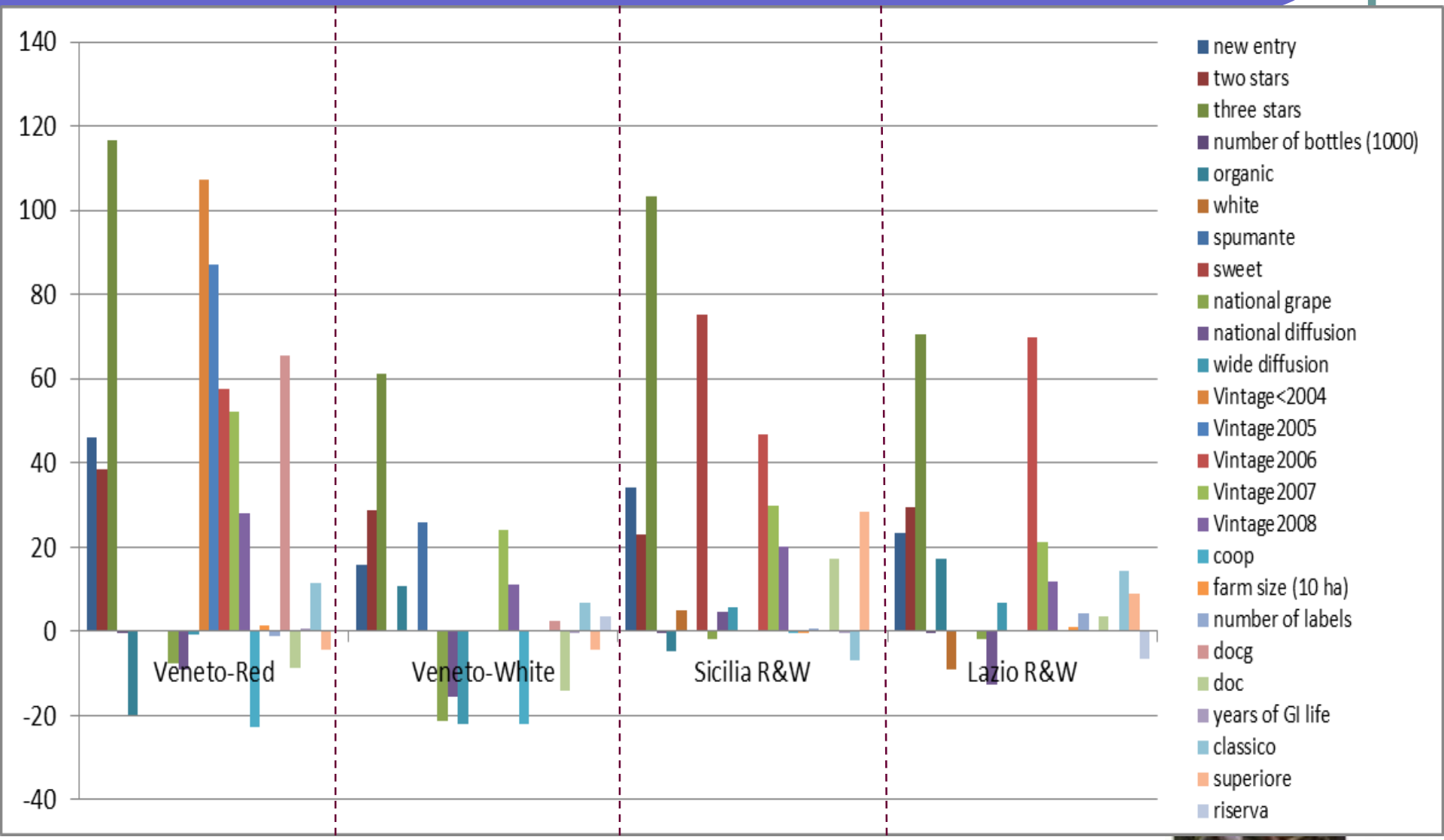
bars in light grey indicate non-significant values.

The results of the estimates: the value of the clues in the three regions



Only bars of significant values have been reported.

Different regions, different models



Main Conclusions in Short

- Veronelli scoring and the Docg are both associated with higher PP for wines from Veneto and especially for the red ones
- Doc has a negative impact on price for Veneto wine (R&W), a positive impact for Sicilian wines and non significant impact on Lazio wines.
- Red wines (that get a higher average price) are generally more sensitive to the different quality clues included in the model
- Wines from Lazio are associated with the lowest price levels when compared with the ones from Veneto and Sicily
- The age of the GI is never significant with respect to price
- Special mentions allowed within GIs are differently associated to prices, with both negative and positive signs that alternate in the 3 regions.
- Producers visibility/reputation is not significant (not a good variable?)

limits and future developments

- Framing a **nested model** in order to better understand the roles and the relations between the three clue levels
- Adding variables in order to get a more detailed and sound picture of the quality attributes of the wine (I lev.)
  - Improving the picture of the producer's attributes (II lev)