**Title**  
Do Heterogenous or Homogenous Wine Lots Result in the Highest Auction Prices?

**I want to submit an abstract for:**  
Conference Presentation

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**Keywords**  
wine auctions, price dynamics, age-period-cohort models

**Research Question**  
Do Heterogenous or Homogenous Wine Lots Result in the Highest Auction Prices?

**Methods**  
We use scenario-based pricing models to predict the expected auction price of each bottle, adjusted for market trends and auction house pricing power and compare to observed lot price.

**Results**  
We quantify how heterogenous lots perform compared to comparable homogenous lots and the effect of anchoring a heterogenous lot with a much higher-value bottle.

**Abstract**  
Market prices for specific wine labels and wine market indices are always based upon data gathered from the sale of homogenous lots. A lot may have multiple bottles of wine, but for a homogenous lot, they are all bottles of the same wine label: same brand, vintage, size, and preferably the same condition, also. Homogenous lots are statistically easy to work with, but they reflect only about half of the lots sold at live auction.

Heterogenous lots are a mix of marketing, speeding the auction, and pricing anchoring. For example, a heterogenous lot:

Château Talbot 1982 (1 bt)  
Very slightly scuffed capsule

Château Pichon Longueville, Lalande 1983 (1 bt)  
Very slightly scuffed label

Château Canon 1986 (1 bt)  
Slightly soiled label, slightly nicked and scuffed capsule

Château Gruaud Larose 1986 (1 bt)  
Very slightly scuffed capsule

Château Grand Puy Lacoste 2005 (1 bt)

Sotheby’s Auction 20 January 2022, Lot 1352, sold for 9,375 HKD, or 1,197 USD.
Based upon average prices from the previous three years, the following table shows values that should have been realized individually. Using these relative values, we also show the apportioned values from the sale of the heterogenous lot.

<table>
<thead>
<tr>
<th>Wine Label</th>
<th>Recent Average</th>
<th>Apportioned Auction Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Château Talbot 1982</td>
<td>172</td>
<td>117</td>
</tr>
<tr>
<td>Château Pichon Longueville, Lalande 1983</td>
<td>270</td>
<td>184</td>
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<tr>
<td>Château Canon 1986</td>
<td>78</td>
<td>53</td>
</tr>
<tr>
<td>Château Gruaud Larose 1986</td>
<td>1135</td>
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<td>105</td>
<td>71</td>
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</table>

Estimated Total 1760 1197

Château Gruaud Larose 1986 is rarely traded. Its presence in this lot was meant to create overall excitement and anchor the value of the lot. However, the addition of lesser wines also serves to reduce some of the value risk to the buyer for the total purchase.

The focus of our study is to address this question of whether heterogenous lots increase or decrease the total auction price as compared to what would have been expected were they sold individually. Also, we look at the impact of anchoring a heterogenous lot with one or a few high value wines accompanied by lesser wines in order to quantify if this has a net benefit to the auction price.

This analysis focuses on four major live auction houses with data from the last five years. To understand the single-label estimated price, we use our scenario-based pricing models to predict the expected auction price of each bottle, adjusted for market trends and auction house pricing power. The forecast models are based upon an Age-Period-Cohort approach that quantifies expected price versus the age of the bottle for a given segment, the market index at the time of the auction, and a price adjustment for the specific wine label (brand and vintage).

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The lifecycle and market trends from APC analysis were used as inputs to a panel regression to quantify the impact of bottle size, auction house, auction location, and special conditions such as original wooden case (OWC). With this as the base model, a separate regression was run to estimate the unique value of each wine label. Previous studies looked at creating these estimates from separate estimates of brand value and vintage value, but a combined estimate was found to be superior as long as at least 4 previous auction prices are present in the data. This is attributable to the power of normalizing the pricing data with the APC and panel regression analysis as inputs.

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Do Heterogenous or Homogenous Wine Lots Result in the Highest Auction Prices?

By Joseph L. Breeden, PhD
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