Title
Segmentation and price dynamics on an illiquid market: The tale of a heterogeneous wine cellar

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Conference Presentation

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Keywords
wine, segmentation, performance, long-run relations

Research Question
This paper aims at identifying wine segments and analyzing their price dynamics.

Methods
Regressions

Results
See the abstract below.

Abstract
The market for fine wines, despite the substantial attention it has received in recent years, remains rather complex and arduous to understand - even for experts. It is in particular difficult to characterize the precise dynamics of this market. According to the Liv-ex Fine Wine 100 Index, which is widely considered as the industry leading benchmark, the market has declined by more than 30% between its high in 2011 and the end of 2015. But this situation actually hides a more contrasted reality: while recent vintages of the most sought-after châteaux from Bordeaux have undeniably seen their prices moving downward, remarkable but less illustrious wines, and bottles from older vintages or from other regions (e.g., Burgundy, Piedmont) have actually been on the rise. Young Bordeaux wines are actively traded on the secondary market and they therefore constitute the lion’s share of the Liv-ex indices [see note 1 below]. But, those wines nevertheless represent nothing more than the visible tip of the iceberg: nowadays, a multitude of wines (from various producers, vintages and regions) may
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qualify as “fine” wines and are considered as such by wine lovers, collectors and investors. The market for fine wines is in fact characterized by the coexistence of various segments, which do not necessarily cater to the same clientele. This situation is obviously not specific to fine wines as other asset classes (e.g., bonds, stocks and real estate) are known to be composed of various segments with their own specificities. But, in the present context, this phenomenon tends to be more pervasive. In particular, the various segments of the fine wine market may exhibit rather dissimilar price dynamics, not only in the short-term but potentially also over the medium to long-term. Contrary to other asset classes, the wine market does not benefit from the presence of balancing forces that would prevent prices to diverge excessively. This is due to the low degree of liquidity and efficiency of this market, which is further exacerbated by the impracticability of exploiting potential arbitrage opportunities [see note 2 below]. Moreover, the fact that fine wines do not deliver cash-flows has serious implications in terms of pricing. This first suggests that the quality of a wine, which is often difficult to properly assess, should be the primary determinant of its price. But this also leaves much room for the behavior and the psychology of market participants to affect wine prices. Consequently notions such as price divergence and more particularly excessive divergence become highly abstract and one can only count on the pragmatism of buyers and drinkers to impose some sort of coherence amongst the prices of the various wine segments. To date, no research has directly addressed the issue of identifying wine segments and analyzing their price dynamics. The primary purpose of this paper is thus to fill this gap and thereby to contribute to a better understanding of the wine market and its functioning. The unique framework that the wine market offers also makes it a great laboratory to examine asset prices and segmentation in a limit case, when there is essentially no economic or financial mechanism to help prevent prices to diverge substantially. As such, this paper should also contribute to the more general economic literature on asset pricing and market segmentation.

We identify four segments of wines on the basis of two complementary dimensions: liquidity and price-to-quality relation. Investors typically target a segment composed of very liquid wines (we call this segment “investable wines”), while collectors on the other hand mostly focus their attention on rarer vintages and so-called “myths” (“collectible wines”). Inexperienced buyers with high purchasing power – often called buveurs d’étiquette (label drinkers) in France mostly purchase wines on the basis of their pedigree and reputation (“exclusive wines”), while wine lovers/connoisseurs try to buy the wines that offer the best quality-to-price relation (“good value wines”). Some overlaps may of course exist, especially amongst the first three segments [see note 3 below], which could thus be merged into a broader meta-segment of “luxury wines”. Like for stocks or bonds, one can also segment wines on the basis of their region of origin. However and contrary to these two traditional asset classes, wines from different origins may attract different types of investors but nevertheless trade at the same place [see note 4 below]. We thus further refine our segmentation and consider a third dimension that takes into account the region of origin. We focus on seven large and reputed regions: Bordeaux, Burgundy, Rhone valley, Champagne, California, Tuscany and Piedmont.

Our dataset contains two complementary sets of data. We have collected more than 200,000 auction hammer prices over the period 1996 to 2015. The key advantage of this source of information is that it allows us to track the trading activity and the liquidity of the various segments. In parallel, we have also been able to gather the price lists of a well-established Swiss wine merchant for years 1979 to 2015. The most interesting feature of this second dataset is its consistency over time, which allows us to examine more precisely the dynamics in prices of the various segments of wines. In order to control for quality, we rely on Robert Parker scores. Together with prices, these scores enable us to categorize wines on the basis of their quality-price relation.

We have also identified a series of three hypotheses that we aim at testing in this paper. The first two hypotheses devote a particular attention to the price dynamics of various segments over the long-run, while the last one looks at their evolution over the short-run:

- Hypothesis 1 aims at assessing if the price gap between the most exclusive wines (i.e. “luxury wines” in general) and other fine wines (“good value wines”) has increased since the eighties. The massive arrival of new buyers on the wine market might explain such an evolution. More specifically, one may expect the economic forces and in particular the competition among the producers of “good value wines” to be such that the evolution of their prices has been mostly driven by the inflation rate.

- The second hypothesis examines if the universe of fine wines and more particularly the segment containing “good value wines” have expanded over the last decades. The behavior of wine lovers, who try to find alternatives for the wines that they used to cellar but that they cannot afford anymore, might actually explain
such an evolution. Based on this hypothesis, we expect “good value wines” and wines from less prestigious regions than Bordeaux to be more present at auctions and on wine merchants’ lists today as compared to twenty years ago.

- The third hypothesis investigates the behavior of “investable wines” during periods of economic and financial uncertainty. Given that these wines share the same clientele as other asset classes, one may expect them to be sensitive to similar risk factors. They should therefore be more severely affected than other segments of the wine market during periods of declining stock prices as their owners might have to unwind some of their positions in wine to maintain their solvency.

Note 1: For instance, the Liv-ex Fine Wine 100 Index tracks the value of the ten latest vintages of the five Bordeaux First Growths: Château Latour, Château Mouton-Rothschild, Château Lafite-Rothschild, Château Margaux and Château Haut-Brion. These are the most actively traded wines on the secondary market.

Note 2: The wine market lacks a unique and centralized marketplace (fine wines are indeed traded through a variety of channels) and it suffers from important information asymmetries (the various market players typically do not share the same set of information) and frictions (e.g. transport and transaction costs). It is extremely difficult to take short positions and derivatives are inexistent.

Note 3: For instance, investors may at time be interested in collectible wines such as for instance Mouton-Rothschild 1945; in a similar vein, label drinkers may take advantage of the easiness to source investable wines to purchase some of them.

Note 4: Grange des Pères (the most reputed wine from the Languedoc) and Pétrus (the most reputed wine from the Bordeaux appellation of Pomerol) often trade at the same auction but they attract a different clientele and trade at prices that are by no mean comparable: although the former enjoys an excellent reputation, it still remains relatively unknown outside the wine lovers’ community and trade at reasonable prices; the second, on the other hand, belongs to the most famous and expensive wines in the world.