## Title
Macroeconomic determinants of wine prices

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### Keywords
wine, price, macroeconomic determinants, emerging markets, financialization

### Research Question
What’s the macroeconomic determinants of wine prices?

### Methods
Econometric modeling, GMM

### Results
We empirically identified the macroeconomic determinants of fine wine prices and estimated their impacts on a monthly database from 1996 to 2015.

### Abstract
Fine wine price is sensitively related to economic dynamics. Since the first half of 2000s, fine wine prices skyrocketed thanks to the growth of demand from emerging markets. In 2008, the growth came to a sudden end on the eve of the financial crisis. Then the prices started to fluctuate following the recession and the recovery of economy. After the pick in 2011, fine wine prices have been undergoing a continuous decline. This decline can be mainly explained by the drop of demand: the slowdown of economic growth of emerging economies, the weakness of national currencies of certain emerging countries, and other unpredictable factors such as the anti-corruption/gift-giving crackdown in China.

The establishment of London International Vinters Exchange (Liv-ex) and the emergence of wine investment funds accelerated the pace of financialization of fine wine market. The investment creates another type of demand in addition to the consumption. A prosperous financial environment associated with low interest rates favors the fine wine investment. On the other hand, fine wine prices have become more volatile following the up-and-down of economic cycles.

Through existing literatures and evidences, the main idea of our research is developed as below: macroeconomic factors can influence wine markets directly and indirectly. When macroeconomic changes take place, financial...
markets have immediate reactions, and then they will have impacts on wine markets (preferable fine wines) via the canals such as wealth effect, cash effect, and the transmission of price volatilities. The macroeconomic factors can also affect wine markets directly, but the response of wine markets will be delayed, because wine assets are not having much liquidity as other financial assets (Masset et al. 2016 forthcoming).

Since there are only few researches existing in macroeconomic analysis of wine pricing, the aim and the originality of this paper is to identify the macroeconomic determinants of wine prices and to estimate their impacts, thus to contribute to the research and literature in this area.

This paper extends the study of Cevik and Sedik (2014). Expand the database is our first step. Our database is from 1996 to 2015, which allow us to capture information on different steps of the development of fine wine market along with the macroeconomic fluctuations during the last twenty years. We use Liv-ex Fine Wine Investables index as the fine wine price, and include Liv-ex Fine Wine 1000 index to enrich our analysis in the robustness check section. Secondly, we try to improve existing variables. To simplify the calculations, we replace the Industrial Production Index by the GDP as a measurement of demand, then we take the M3 instead of the excess liquidity calculated based on the M2 to estimate the impact of monetary development on fine wine prices. Thirdly, we introduce new explanatory variables in our model - the global wine consumption, the real effective exchange rate, the real interest rate, the financial asset of investment fund as percentage of GDP, and the time dummy variables to capture additional information. Furthermore, we choose 2004 as a breakpoint where fine wines started to be more financialized and behave more sensitively to the economic cycles.

Based on our results, the growth of fine wine demand from emerging markets seem to play a major role in fine wine price modeling, while the influence from developed markets do not appear significant. The continuous weakening of US Dollar in real term favors the fine wine prices through the increasing of demand. Especially for the emerging economies, stronger national currencies encouraged further purchase of fine wine. Since 2011, the slowdown of economic growth in emerging market followed by the depreciation of national currencies has engendered negative effects on fine wine markets. However, according to the results of robustness check, the strong influence of emerging markets seemed could only dominant the price fluctuation of Bordeaux fine wines due to the “red obsession” in Bordeaux First Growths. As to the wines from other regions, the impact of emerging market is very limited.

With the process of financialization in fine wine market, the aggregated money supply, real interest rate and the investment fund as percentage of GDP start to show their influences on fine wine prices. The real interest rate seems to have a limited negative impact. However, before 2011, the growth of money supply associated with lower interest rates in real term did incite the investment in alternative financial assets including the fine wines. The wine investment, by private collectors or professional investment fund, has created a supplementary demand in addition to the consumption. Thus, the financial markets can influence fine wine markets directly through wealth/cash effect. A prosperous financial environment favored the fine wine prices to increase; on the other hand, fine wines prices also became more volatile under unstable financial conditions.

Along with hedonic price modeling, our research can provide a complementary analysis in macroeconomic approach for wine price modeling and forecasting.