

Climate Change News and Fine Wine Prices

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INTRODUCTION

Investment-grade fine wines have garnered attention from investors and researchers alike as they appreciate in value over time not only because the quality of the wines appreciate over time but because they are also influenced by macroeconomic fluctuations (Masset and Weisskopf, 2010; Le Fur et al, 2016; Jiao, 2017). With significant increases in concerns regarding global warming, researchers have begun to highlight the impact of global warming with the wild swings in temperatures and accompanying natural disasters on the taste, quality and prices of wines. In contrast to prior studies, our study investigates whether decreasing or increasing climate risk as captured by positive or negative news sentiments on climate change affect fine wine prices.

1. LITERATURE REVIEW

One of the first empirical studies that explores the relationship between temperature changes and fine wine prices is that of Ashenfelter, Ashmore and Lalonde (1995). The authors provide evidence indicating that conditional on lack of precipitation, higher temperatures positively impact the prices of Bordeaux Grand Crus. Jones and Storchmann (2001) building on this earlier work examine how weather changes impact grape composition and subsequently fine wine prices while Ashenfelter (2010) provides evidence of a positive correlation between the weather and the quality and prices of Bordeaux wines. With climate change concerns increasing over time, researchers began exploring climate changes' impact on wines from other regions around the world. Haeger and Storchmann (2006) show that the prices of Pinot Noirs in America are primarily determined by changes in climate and precipitation. Oczkowski (2016) provide supporting evidence for the importance of weather for the prices of Australian wines. These aforementioned studies largely use historical data pertaining to climate change in order to study its impact on price fluctuations of fine wines.

2. PROBLEM FORMULATION

Our study uses text-based measures of climate risk (i.e., high and low) in a monthly time series format as developed by Engle et al (2019). Low and high climate risk are captured by the changes in positive and negative news sentiments respectively as published in the Wall Street Journal and in additional reports on climate change published by leading organizations such as, the IPCC, the IMF, among others. Data on fine wine prices are obtained from the London International Vintners Exchange (Liv-ex). For our initial analysis we explore two wine indices namely (i) Liv-ex 1000 (wines from France and around the world) and (ii) Liv-ex Investables (Bordeaux wines only). Additionally, we utilize the Fama-French (FF) three factor model which include along with the market risk factor, the SMB and HML risk as controls.

We split our sample by examining how positive and negative news impact fine wine prices before and after 2015. We use 2015 as the breakpoint in our analyses because the United Nations Framework Convention on Climate Change created the Paris Climate Agreement to focus on reducing limiting greenhouse gas emissions to combat global warming in 2015. We anticipate that this new agreement could impact news sentiments around climate risk and provide guidance for future research.

3. ENVISAGED RESEARCH METHODOLOGY

We aim to explore whether decreases or increases in climate risk (as captured by changes in positive or negative news sentiments) affect fine wine prices. Generalized least squares regression is used with the Prais-Winsten Cochrane-Orcutt procedure to ensure no serial correlation exists in our residuals. Our independent variable is lagged by one month for our preliminary analyses. Future analyses will incorporate wine indices from other regions around the world.

4. PRELIMINARY FINDINGS

- 2015 and after:
 - Decreasing climate risk positively affects the Liv-ex Investibles and Liv-ex 1000 indices, while increasing climate risk has a negative impact. These results hold good for increasing climate risk, even after the FF factors were added to the model
- Prior to 2015:
 - Decreasing climate risk has a negative impact on the Liv-ex 1000 index only. These results hold when we add the FF factors.

CONCLUSION

Our findings have significant implications for investors of fine wine, in addition to consumers. It also provides evidence that climate risk impacts both consumers and investors alike. It also suggests that investors of fine wine could benefit from news reports and make decisions

regarding risky vs less-risky times to invest in fine wine, while consumers could potentially take advantage of negative news reports on climate change to purchase fine wines for consumption at cheaper prices. Also incorporating wines of other appellations in our analyses could give investors and consumers insights into specific wines to focus on. Our findings suggest that text-based measures of climate change extracted from news reports are more reliable in predicting levels of climate risk than existing temperature data, as they are likely give insights into climate risk far more in advance, thereby helping investors and consumers make timely decisions regarding the purchase, investment and consumption of fine wines.