

## A TALE OF TWO LIQUIDS

Three factors are essential to understanding how the fine-wine market operates: liquidity, wine supply and market sentiment. Understanding these three fundamentals can allow wine traders of all kinds, be it brokers, merchants, wine enthusiasts and wine investors, to make better-informed trading decisions.

In this report, we have developed several metrics to characterise both wine liquidity and market sentiment. As a case study we have looked at wine-trading data from Liv-Ex, the foremost wine-exchange based in London, for two separate wines: Lynch-Bages 2010 and Haut-Brion 2010 between October 2012 and October 2015.

In the recent Liv-Ex October market report, both Lynch-Bages 2010 and Haut-Brion 2010 were among the top-five most traded 2010 Bordeaux wine by value, coming in at 17.5% and 5.7% of the total share respectively. In the same report, 2010 Bordeaux was the most traded Bordeaux vintage by value for the third month in a row. We expect these trends to continue until at least December 2015 for two reasons: healthy trade activity in October 2015 and a positive market sentiment in the preceding months.

Elementary measures to characterise the overall liquidity of the wine include its average monthly trade volume, available stock and trade volume as a percentage of available stock, all over a specified time interval.

Over the period between October 2012 and October 2015, the average monthly trade volume for Lynch-Bages 2010 was 126 bottles, the average monthly available stock was 563 bottles and the average monthly trade volume as a percentage of available stock was 22.4%. The respective values for Haut-Brion 2010 were 12 bottles, 116 bottles and 10.1%. These comparative numbers show that Lynch-Bages 2010 is more liquid than Haut-Brion 2010 as its average monthly trading volumes, stock availabilities and the trade volume as percentages of available stock are greater.

We will begin with an introduction to the WQ metrics, using data about Lynch-Bages 2010 as an example, seeing that it is the more liquid of the two wines. We will then proceed to illustrate how

these WQ metrics can be used to predict the trading patterns of a less liquid wine, Haut-Brion 2010 before proceeding to make predictions as to the future trading possibilities of both.

## Lynch-Bages 2010

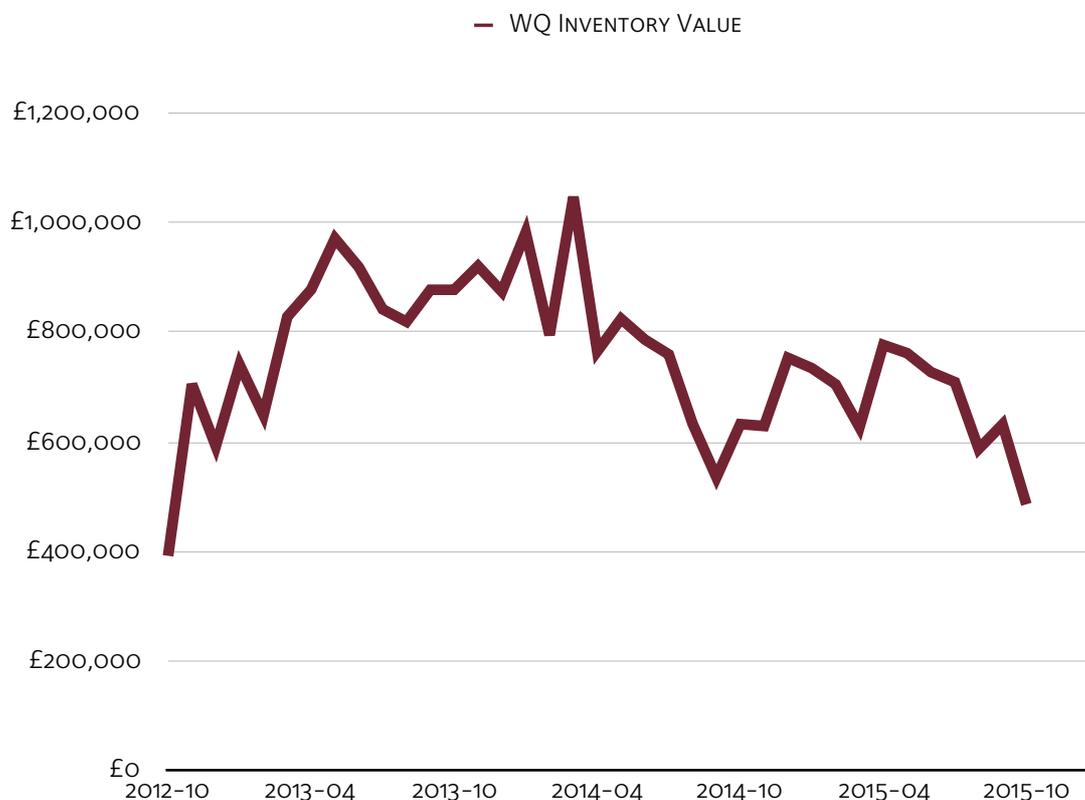


Figure 1: WQ Inventory Value for Lynch-Bages 2010 between October 2012 and October 2015.

One metric that can be used to characterise the stock value of a particular wine over time is the WQ Inventory Value. This metric takes into account the monthly averaged trading prices and available stock. Figure 1 above shows the WQ Inventory Value for Lynch-Bages 2010 between October 2012 and October 2015. This figure shows that there was an inventory build-up between October 2012 until May 2013. The inventory was perceived to remain stable up July 2014. This was followed by another inventory build-up in the following months and its value has remained fairly stable since. There was a sudden drop in the inventory value in October 2015. From this figure, we can conclude that there has been a regular supply of Lynch-Bages 2010 on the fine-wine market and this supply has remained fairly stable for the most part of 2015.

The WQ-spread takes into account the monthly highs, lows and average trading values for a particular wine. The WQ Spread is a good indicator of the market sentiment. The market sentiment is deemed to be positive in a sustained period in which the WQ spread remains stable. Trading activity is expected to be healthy during these periods.

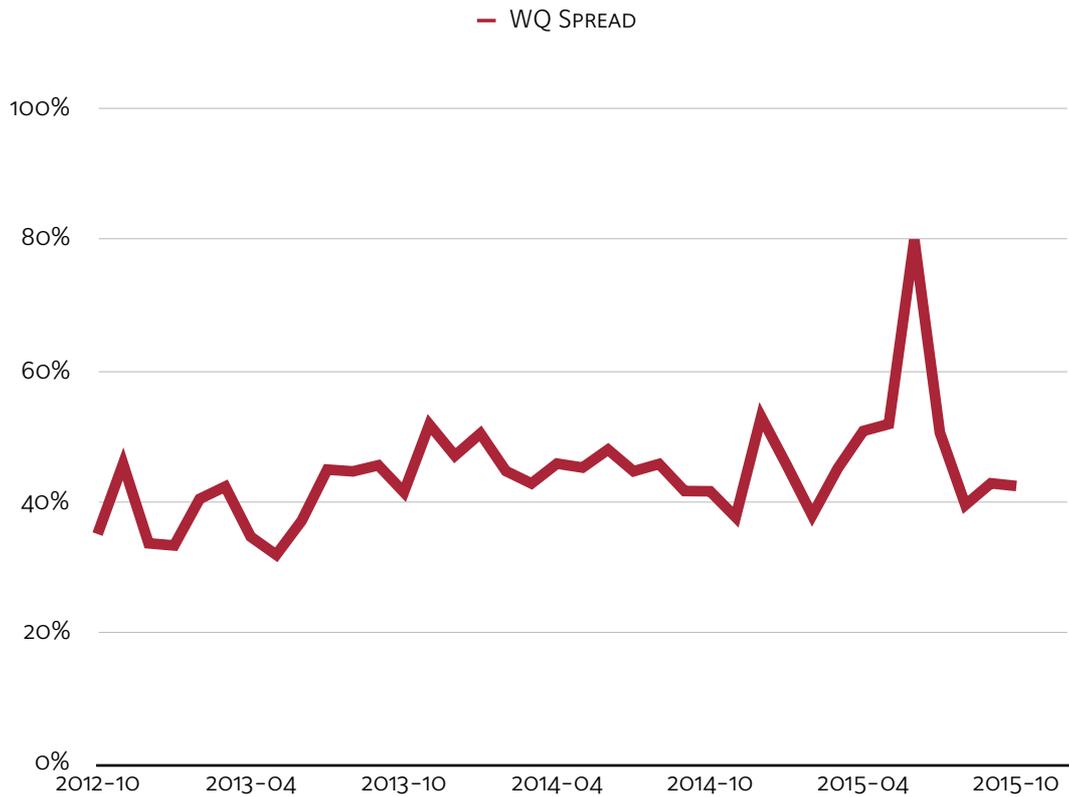


Figure 2: WQ Spread for Lynch-Bages 2010 between October 2012 and October 2015.

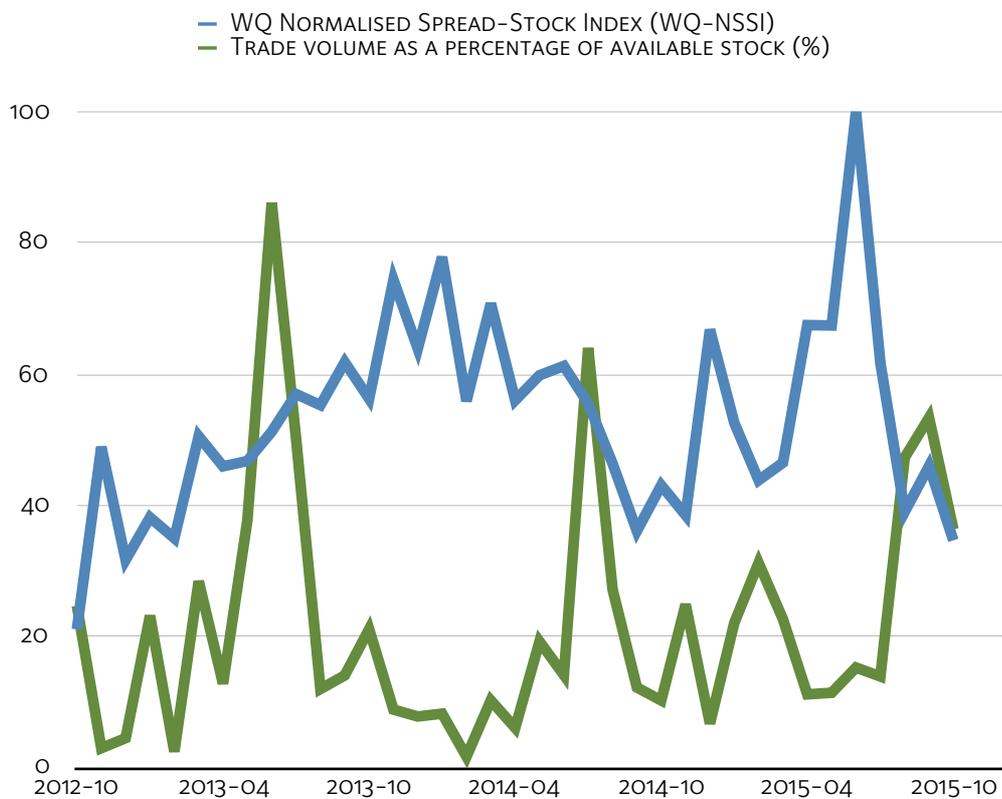


Figure 3: WQ Normalised Spread-Stock Index (WQ-NSSI) and the trade volume as a percentage of available stock for Lynch-Bages 2010 between October 2012 and October 2015.

Volatility evident in the WQ spread over time is an indicator for negative market sentiment. We expect little or sporadic trading activity when volatility in the WQ spread is present. Note that the WQ Spread is only an indicator for market sentiment and the overall trading behaviour will depend on several factors including the combined effects of supply and the market sentiment.

The positive market sentiment of Lynch-Bages 2010 is obvious from Figure 2 which shows the WQ Spread for Lynch-Bages 2010 between October 2012 and October 2015. The WQ Spread remained extremely stable during this period except for June 2015. The large spread was a result of an anomalous high trading price of £1600, compared to £1398 and £1380 in the months right before and after June 2015. This, however, did not disrupt the market sentiment for this wine as its trading activity remained fairly healthy in the following months which we shall see later on.

Figure 3 shows the WQ Normalised Spread-Stock Index (WQ-NSSI) and the trade volume as a percentage of available stock for Lynch-Bages 2010 between October 2012 and October 2015. The WQ-NSSI takes into account the WQ Spread and the monthly available stock. The range of this normalised index is between 0 and 100. This is a composite index which characterises both supply and the market sentiment. Meanwhile, the trade volume as a percentage of available stock is a measure of the wine's trading activity.

It is apparent from Figure 3 that there is no obvious correlation between the WQ Normalised Spread-Stock Index (WQ-NSSI) and the trading activity for a liquid wine such as Lynch-Bages 2010. The anomalous trade which took place in June 2015 did not disrupt the market sentiment at all. Trade activity remained healthy until the end of October 2015.

Trading activity for this wine was perceived to be more volatile between October 2012 until May 2013. This coincided with the period in which there was a slow inventory build-up as noted previously from Figure 1. This then led to a sharp increase in trading activity in June 2013. Another peak in trading activity took place in June 2014 but this pattern did not repeat itself in June 2015. This could be a result of the anomalous high trade in June 2015. The peak trading activity in 2015 was observed to have been put off until September 2015, three months on from the WQ-NSSI peak in June 2015.

So far, we have looked at three WQ metrics and the trade volume as a percentage of available stock. These metrics reveal that the combined effects of regular supply and a positive market sentiment will lead to healthy trading activity for a liquid wine such as Lynch-Bages 2010. Patterns in peaks trading activities were observed and peaks in the WQ-NSSI can be a useful indicator as to when the peak trading activity may take place in a given year. In this case, the peak trading activity took place three months after the main WQ-NSSI peak in 2015.

In the following section, we shall proceed to use the metrics developed in the context of a less liquid wine such as Haut-Brion 2010.

## Haut-Brion 2010

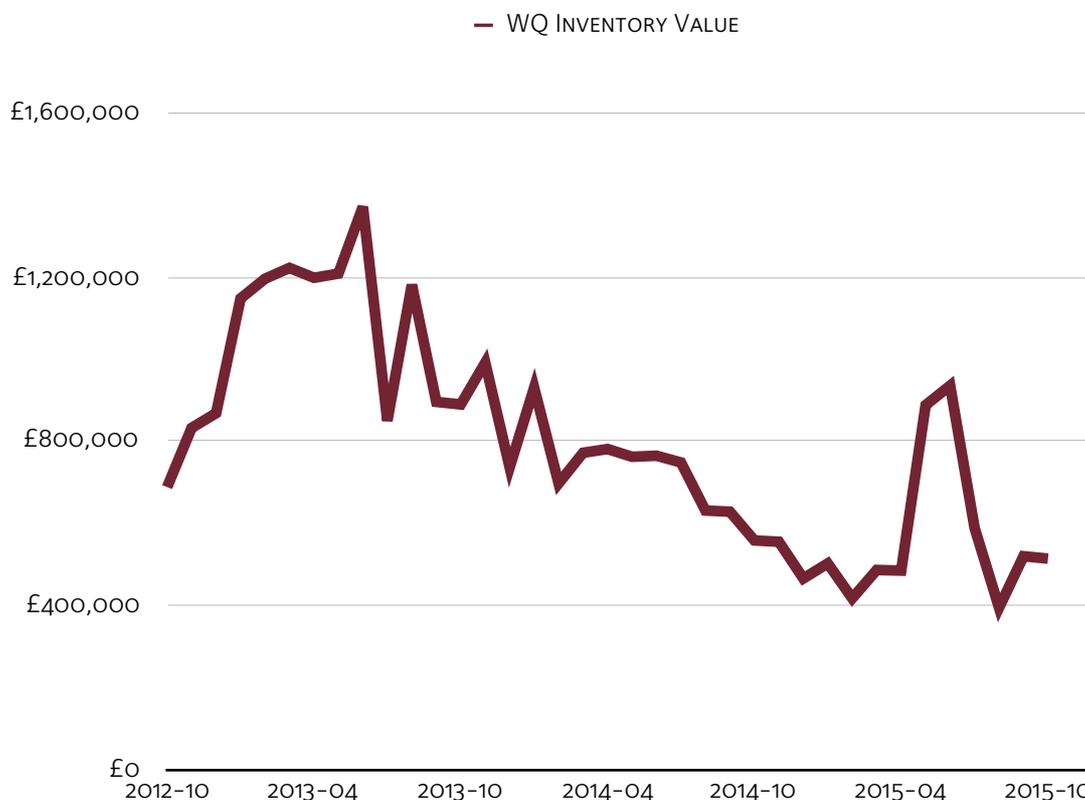


Figure 4: WQ Inventory Value for Haut-Brion 2010 between October 2012 and October 2015.

As noted previously, Haut-Brion 2010 is a less liquid compared to Lynch-Bages 2010 even though it is amongst the top-five most traded Bordeaux 2010 by value in the recent Liv-Ex October market report. There has not been a regular supply of this wine on the fine-wine market which can be observed in Figure 4. There was an inventory build-up between October 2012 and June 2013. There were intermittent stock injections after June 2013 while the overall inventory decreased in value. Sometime in May 2015, there was a huge stock injection. This sudden stock injection will effectively diminish immediate demand for this wine which will later be clear.

Figure 5 shows the WQ Spread for Haut-Brion 2010 between October 2012 and October 2015. There was volatility in this spread between October 2012 until November 2012. This can lead to little or sporadic trading activity. It then took more than a year before the spread began to stabilise. The spread has remained stable and the market sentiment for this wine has been positive since August 2014.

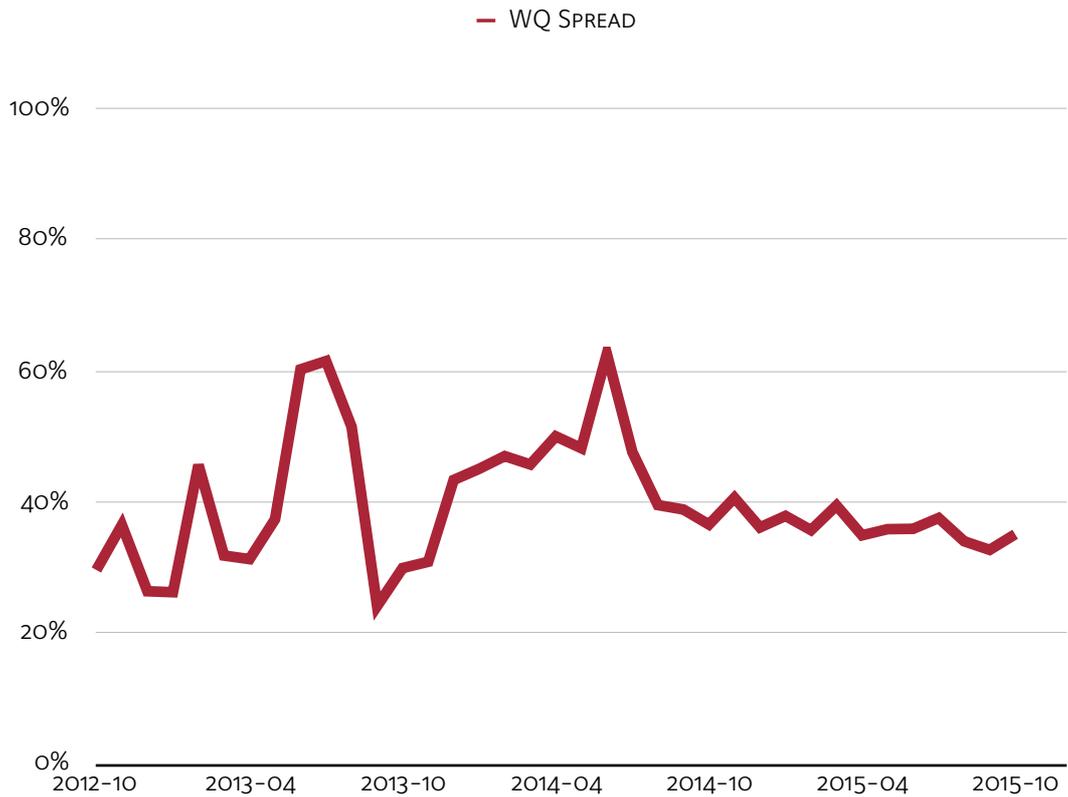


Figure 5: WQ Spread for Haut-Brion 2010 between October 2012 and October 2015.

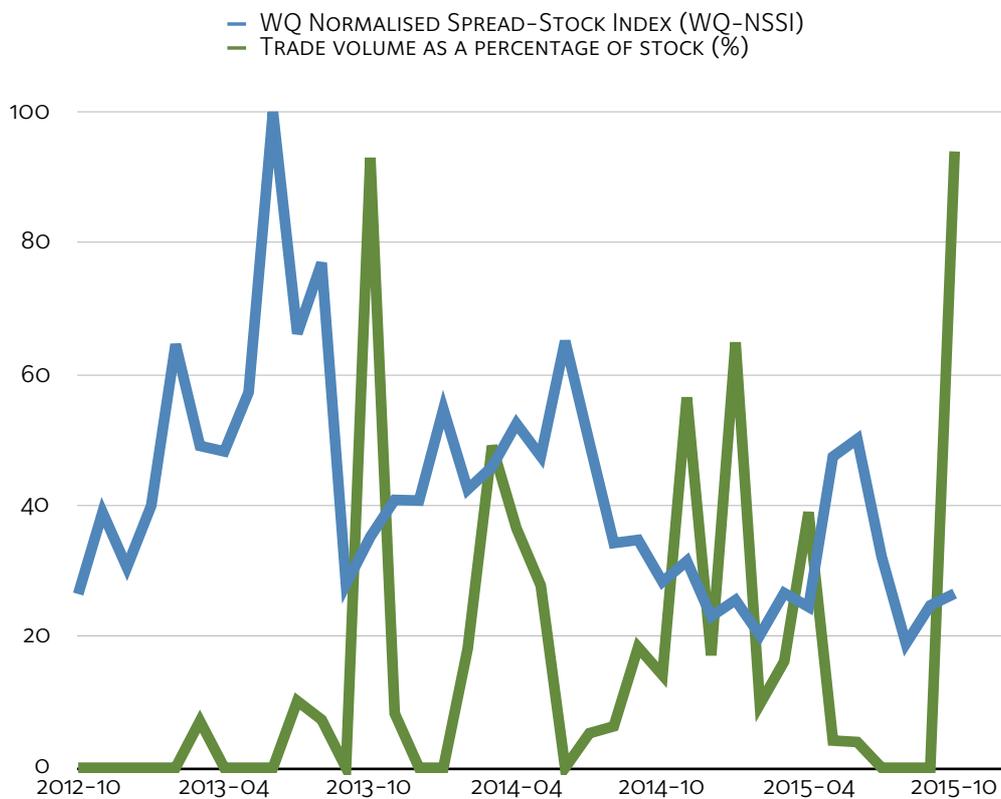


Figure 6: WQ Normalised Spread-Stock Index (WQ-NSSI) and the trade volume as a percentage of available stock for Haut-Brion 2010 between October 2012 and October 2015.

The WQ Normalised Spread-Stock Index (WQ-NSSI) and the trade volume as a percentage of available stock for Haut-Brion 2010 between October 2012 and October 2015 are shown in Figure 6. We note that stock injections are heavily amplified in the WQ-NSSI and we believe that this is characteristic of wines which is not supplied regularly on the fine-wine market. This feature can contribute to the lack of a particular wine's liquidity.

Sporadic trading activity was observed between October 2012 until November 2012. Peak trading activity did take place in October 2012 which is a response to the WQ-NSSI peak in June 2015. Peaks in trading activity were observed to follow peaks in the WQ-NSSI and the time lag between these peaks varied between two and five months.

In addition, sudden stock injections were observed to effectively diminish immediate demand for this particular wine. For instance, the sudden stock injection in May 2015 removed demand almost immediately. It is not until October 2015 in which the demand for this wine effectively recovered.

Here, we have demonstrated how the combined use of the metrics WQ Spread and WQ-NSSI can be used to understand the trading behaviour behind a less liquid wine such as Haut-Brion 2010. Volatility in the WQ Spread can lead to sporadic trading activity. Peaks in trading activity are observed to follow WQ-NSSI peaks. Demand of this less liquid wine is immediately affected by sudden stock injections but this will effectively recover after a period of time.

## Summary

In this report, we have introduced metrics which can be used to assess and characterise wine liquidity and the market sentiment. These metrics have been used to describe and explain the trading behaviour of two wines: Lynch-Bages 2010 and Haut-Brion 2010 between October 2012 and September 2015. Using an elementary measure for liquidity, we are able to show that Lynch-Bages 2010 is more liquid compared to Haut-Brion 2010.

These remaining metrics developed reveal that the combined effects of regular supply and a positive market sentiment will lead to healthy trading activity for a liquid wine such as Lynch-Bages 2010. Patterns in peaks trading activities were observed and it is possible to make a useful prediction as to when the peak trading month may take place.

The use of these metrics also revealed that the demand of less liquid wines, one example of which is Haut-Brion 2010, are immediately affected by sudden stock injections. In addition, we have demonstrated how to use these metrics to describe the trading behaviour of a less liquid wine which is shown to be strongly affected by the lack of regular supply.

Finally, given the healthy trade activity in October 2015 and a positive market sentiment in the preceding months, we expect both these wines to continue trading actively up until December 2015. This trend will continue to go on if there is a regular supply of both these wines on the fine-wine market in the months to come.

DISCLAIMER:

WINEQUANT IS NOT REGULATED BY THE FINANCIAL CONDUCT AUTHORITY ('FCA') AND AS SUCH IS NOT PERMITTED TO OFFER FINANCIAL ADVICE ABOUT INVESTMENT, REGULATED OR UNREGULATED. WE STRONGLY ENCOURAGE YOU TO CONSULT AN FCA-REGISTERED INDEPENDENT FINANCIAL ADVISER ('IFA') BEFORE COMMITTING TO ANY INVESTMENT. INVESTORS ARE ALSO STRONGLY ENCOURAGED TO CARRY OUT THEIR OWN DUE DILIGENCE BEFORE COMMITTING TO ANY INVESTMENT. INDIVIDUALS SHOULD CARRY OUT THEIR OWN CHECKS BY INSPECTION AND BY AN APPOINTED FINANCIAL PROFESSIONAL OR OTHERWISE.

YOU SHOULD BE AWARE THAT THE VALUE OF FINE WINE CAN GO DOWN AS WELL AS UP, AND NO GUARANTEES AS TO FUTURE PERFORMANCE OR CAPITAL GROWTH ARE GIVEN EXPRESSLY OR BY IMPLICATION. INVESTORS SHOULD MAKE THEMSELVES FULLY AWARE OF THE RISKS OF MARKET FLUCTUATIONS IN FOREIGN CURRENCY RATES AND THEIR OWN PERSONAL TAX AND TAX RELIEF CIRCUMSTANCES.

WINEQUANT IS NOT A REGISTERED WINE BROKER AND TRADER, AND DO NOT PURPORT TO BE. WE DO NOT BUY OR SELL WINES.