EUROPEAN PRINCIPAL TRADERS ASSOCIATION

# Analysis of the Short Sale Ban in France

23 April 2020

## 1 Introduction

Due to impact of COVID-19, on 17 March 2020, the AMF announced a short selling ban that covered 92 shares for 1 full day [2]. By the end of the trading day the ban had been widened to cover all shares that fall under the jurisdiction of the AMF and would be in effect until midnight 16 April 2020 [1]. On 15 April 2020 the ban was again extended, this time until midnight 18 May 2020 [3]. The purpose of the report is to assess the influence of this ban on market behaviour.

## 2 Data

Throughout this report we shall compare the behaviour of 6 different instruments, split into three pairs. Each pair contains a French instrument and a similar German instrument that is under no short sale restriction.

| | France | Germany |
|---|---|---|
| Index | CAC | DAX |
| Large Cap Stock | Renault | BMW |
| Large Cap Stock (highly affected by COVID-19) | Air France | Lufthansa |

Figure 1: Instruments for comparison

The instruments were chosen in order to gain a varied view of the market. The indices provide an overall picture, whilst BMW and Renault demonstrate the difference between two large, correlated stocks. Lufthansa and Air France were also added as airlines were particularly badly impacted by COVID-19. We collected daily close prices for each instrument starting from 1 January 2020 and all data is available upon request.

## 3 Effect on Market

The purpose of the short sell ban was to address the ”serious threat to market confidence and financial stability in France” [4]. We understand this to refer to extreme price movements (high volatility) and low liquidity (wide spreads). We assess the significance of the short selling prohibition on volatility in Section 3.1 and in Section 3.2 we look at the effect on spreads. Finally, in Section 3.3 we consider the impact on volumes.

### 3.1 Volatility

Volatility is the degree of variation of a trading price series over time. In financial markets, it is usually measured by the standard deviation of logarithmic returns [7, 9]. We use logarithmic returns instead of absolute returns to make comparison between instruments easier and we have chosen to use a 5-day Standard Deviation in order to observe the short-term behaviour better.

It is clear that the volatility of the instruments in each of the three graphs is highly correlated. In Figure 2 we see that Renault is historically slightly more volatile than BMW which is then magnified by the impact of COVID-19. There is no clear evidence that the introduction of the short sell ban has any significant effect on the volatility of Renault when compared to BMW.

In Figure 3 we see that the volatility of the DAX and CAC are almost identical throughout the period shown and the difference between them is unaffected by either COVID-19 or the short selling ban. Finally, in Figure 4 we again see no clear evidence that short sell ban reduced the volatility of Air France when compared with Lufthansa.

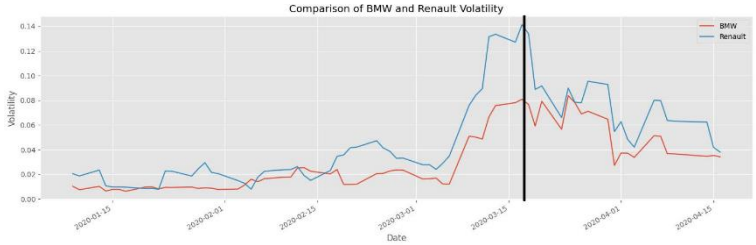


Figure 2: Comparison of the 5-day standard deviation of BMW and Renault logarithmic returns

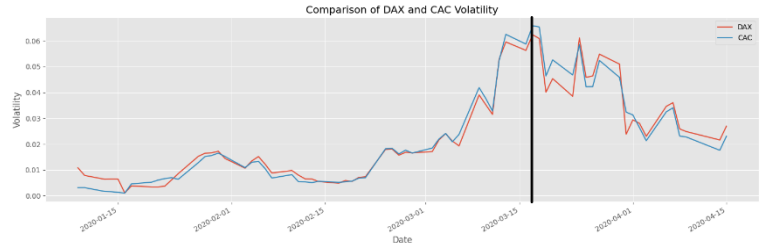


Figure 3: Comparison of the 5-day standard deviation of DAX and CAC logarithmic returns

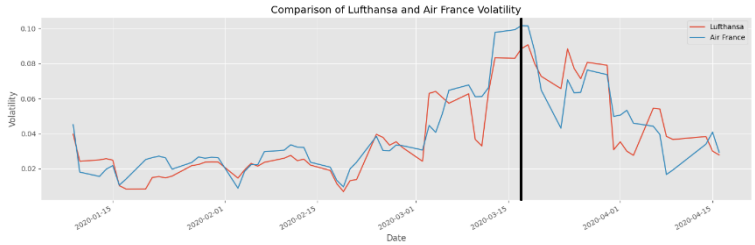


Figure 4: Comparison of the 5-day standard deviation of Lufthansa and Air France logarithmic returns

## 3.2 Spread

In [5], Gabrielsen, Marzo, and Zagaglia provide a comprehensive overview of methods for modelling and estimating the market liquidity of assets. They suggest that whilst the spread itself represents a measure of transaction costs, in modern markets this translates to a good proxy of liquidity. In order to compare across instruments we have normalized by dividing the spread by the mid-point.

We see similar patterns in both Figure 5 and 6. In both cases, the French stock had historically wider spreads, but only slightly. In the middle of March we see this change dramatically, with the French Stock having much wider spreads than its German equivalent. This suggests than the short selling restriction has reduced liquidity, ultimately resulting in a worse price for investors and higher costs.

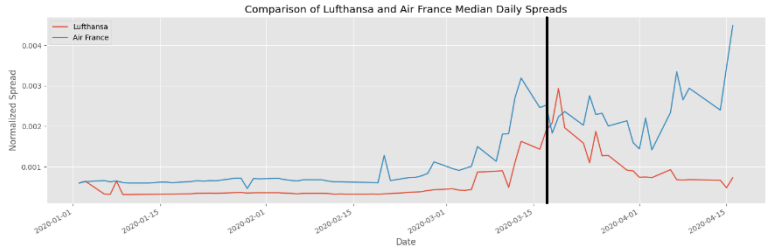


Figure 5: Comparison of Lufthansa and Air France Median Daily Spreads, normalized for price

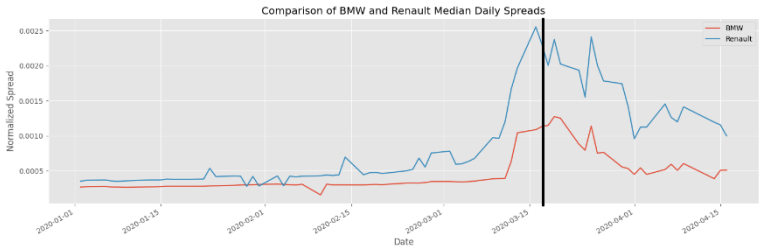


Figure 6: Comparison of BMW and Renault Median Daily Spreads, normalized for price

## 3.3 Volumes

In 2018, Bektas and Jafari illustrated that higher trading volumes make markets more credible, especially in the developed world [8]. Even in 1999, Johnson and Hart were able to show that theoretical 'low confidence' of traders greatly impacted market volume and price [6].

Figures 7 and 8 compare the daily traded volumes of Lufthansa/Air France and BMW/Renault. In both cases we can see that market volumes greatly reduced after March 20th. For the French instruments, volumes reduced past the stable point from earlier in the year.

Figures 9 and 10 compare the ratio of daily traded volume for Lufthansa/Air France and BMW/Renault. In both cases we see this ratio decrease after March 20th to the lowest levels this year. This suggests that the market confidence dropped more the French instruments than their German counterparts.

# 4 Conclusion

We looked at the effect of the French short selling ban on volatility, spread and volumes. We found that there was no significant impact on the volatility of French instruments compared to non-restricted German equivalents. When examining the spreads we found that, after the short selling ban, French stocks had much wider spreads than their German equivalent, resulting in higher costs for market participants. When looking at volumes, we found that French stocks dropped more than their German counterparts suggesting lower market confidence and credibility after the ban was introduced. It is our opinion that the short sale ban had no positive impact on the market. Instead, it prevents participants from trading effectively and pricing accurately. We strongly believe that markets are healthier without the introduction of short selling restrictions.

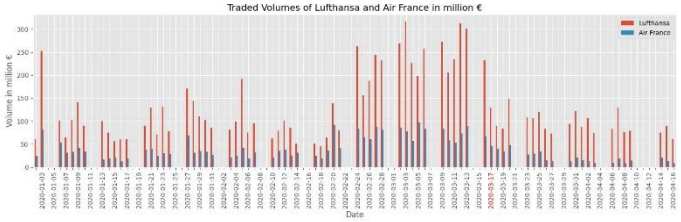


Figure 7: Comparison of Air France and Lufthansa Traded Volume in million €

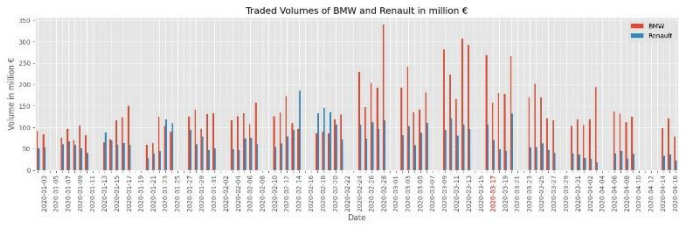


Figure 8: Comparison of Renault and BMW absolute Traded Volume in million €

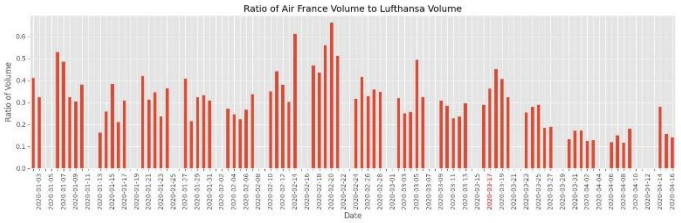


Figure 9: Daily ratio of Air France volume traded to Lufthansa volume traded

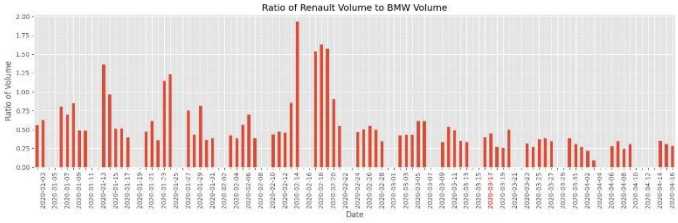


Figure 10: Daily ratio of Renault volume traded to BMW volume traded

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# References


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