

Impact of Covid-19 on Interest Rate Derivative market performance in London

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Abstract

London has long provided the main hub for the vast market in interest-rate derivatives, which are used to hedge against rate swings or to convert floating-rate into fixed-rate debt (and vice versa.) Since the onset of the pandemic, the equity market has experienced bouts of high volatility, with private investors' use of derivatives for speculative purposes being cited as a relevant factor in some cases. This paper analyses the impacts of the pandemic Covid 19 in the performance of the interest derivatives market In London.

Keywords: Interest rate derivatives, Over the Counter, Exchange trades derivatives

1. Introduction

The value or price that is being derived or is dependent on the underlying assets for security is known as Derivatives. Depending on the class of assets or assets a contractual agreement between two or more parties is defined as derivatives. Price fluctuations in the value of the underlying assets derive the value of the derivatives. Bonds, currencies, commodities, Interest rates, market indexes, stocks etc. are few and most common types of underlying assets for derivatives. The two ways of trading derivatives on the market are via Exchange which is regulated or via Over the Counter (OTC) which is customized. Exchange-traded derivatives (ETDs) are mostly regulated and governed with less risk whereas trading of Derivatives can be classified broadly into four types:

- **Forwards**-Under forward contract two parties who agree to buy and sell the asset agree to execute the contract at a specific price on a future date.
- **Futures**- In this derivative contract, the agreement is based on buying or selling a contract at an pre-determined price at an future data.
- **Swaps**- A swap is a contract under the derivatives space where two parties exchange cash flows on the notional or principal amount. One party agrees to the fixed and the other for the floating rate based on their risk appetite.
- **Options** – Under this contract, the buyer of the contract has the right to execute or terminate the contract but has no obligation attached to it.

2. Existing Literature

Derivatives can be defined as financial contracts whose value is determined or derived from the underlying asset, stocks, or benchmarks. Derivatives can be either traded on an OTC market or on an ETD space depending on the investor's risk appetite and preference. Option and lock are the two classes of derivative products. Futures, swaps, and forwards are ideally classified under the Lock products which bond the parties in a contract to agree upon the terms of the contract. Whereas an option product like the Stock option gives the buyer the right to enter or exit

from the contract based on his analysis of the market and profit/loss-making capabilities before the contract expires. Futures, forwards, swaps and options are the most common types of derivatives products. With the onset of the corona virus in the world and leading to huge disruptions and countries worldwide has taken various measure to stop the spread of the virus which included putting a restriction on travel, business orders across borders and imposing a national lock-down to restrict movements.

The temporary clearing exception was introduced by, the (ESMA European Securities and Markets Authority) recently extended temporary clearing equivalence exemption for UK clearinghouses for an additional three years. However, EU Commissioner McGuinness said this is the last extension and companies will have until June 2025 to transition their European portfolios to EU-based clearinghouses. Most recently, the EU Commission launched a public consultation focused on measures to make the EU environment more attractive and facilitate the building of EU-based liquidity pools. Liquidity is highly affected by the sentiments and environmental market changes around us. By quoting prices, making adjustments in ask-bid spread prices, mentioning the desirable quantities they wish to trade in, market investors can react accordingly to such changes. The rate of exposure hedging can increase which in turn can put pressure on weight on dealers due to rising market volatility (Huberman and Halka ,2001).

2.1 Theoretical Framework

Throughout the tenor of a swap decided before the parties enter a contract, they agree to exchange some series of cash flows based on the notional amount are called IRS. Parties, banks or client entering Interest rate swaps to hedge their risk positions and safeguard their risk interest from the fluctuations in the market.

Covid 19 had numerous and grave impacts on the human and social lives, now attention has started being given to the potential impacts on the financial markets and its related products. The issues also include obligations to not being able to execute many orders due to quarantine measures. When parties enter into a contract, the party that is out of the money and not in the money ideally always have to provide collateral either in form of liquid assets of cash. Based on the market

fluctuations and uprise or downfall the parties will always have to maintain the collateral to maintain their position and risk in the market.

Greater Fool Theory-

The stock market is always difficult to navigate. Investing is like preparing for battle. Both involve assessing your position, developing strategies, conducting in-depth research, managing risks, building scenarios, and more. Sometimes it makes you think it's easy. According to Greater Fool Theory, you can take advantage of market bubbles by buying an overpriced asset and later selling it for a profit. Speculators who subscribe to the big fool theory can hold onto the bag after the fix.

Short Interest Theory-

Earlier literature stated that the short sale of shares was done for several reasons. Speculators use this practice to profit from declines, while other short sellers seek to hedge open positions to secure certain capital gains (Woolridge and Dickinson, 1994; Brent,1990 This tax impact is called "short selling to the box" and accounts for "about 5 percent of the outstanding short interest rate .Another reason given by (Sanchez ,1978) is to take advantage of arbitrage in merger situations by shorting the acquirer and taking a long position in the target company.

2.2 Research Gap

Any specific area or scope that hasn't been researched or left unstudied or unexplored are defined as research gap. Generally, when there is a new research topic or something that has been brought into light recently there are always probabilities of research gap being a part of that. By taking a look at various articles and publishing's by various Banks, investment advisors and financial sites it was found that research has been conducted on the impacts of covid in the derivatives space but it's still limited and confined to specific region, organization or their own personal space. In this paper we have tried to throw light on the derivatives space specifically on the market trends on the Interest rates post covid and tried to find out that if covid really had impact on the derivatives market and IRD

2.3 Research Objectives

1. To identify the factors that had resulted in the downfall of the Interest rate Derivatives market during Covid and to identify the factors which helped the market to bounce back post covid.
2. To find out the client's perception of the market during COVID, when the market was highly volatile.
3. To analyse the impacts covid had on the trading and volumes in the IRS derivatives.

3. Research Methodology

3.1 Sampling

For this study, we shall be using Simple random sampling under probability sampling method. The sample chosen would be based on data collected from the Top 5 banks in the UK, from London from the employees employed in the Derivatives middle office space.

3.2 Sources of Data

Questionnaire is the main source of data collection from the employees employed in the Middle office derivatives team in alignment to the objectives and purpose of the study.

3.3 Methods of Data Collection, Ethical considerations, and data analysis

3.3.1 Methods of Data Collection

A questionnaire is the primary tool to collect data for the conducting of this study.

3.3.2 Ethical considerations

- Safeguarding the interests and rights of the participants in the research process
- Enhancing the research validation
- Integrity maintenance of the scientific research
- For respondents who have been chosen to be a part of the study their consent is highly necessary

3.3.3 Proposed data analysis

Thought involvement in an action plan is what is defined as a Data Analysis Plan or DAP.

3.4 Research Hypothesis

To fulfil the research objective 2 & 3, these hypotheses will be tested and the research objective 1 will be fulfilled through literature review.

Null Hypothesis (H0): Market volatility had no significant impacts on the client’s interest.

Alternative Hypothesis (H1): Market volatility had significant impacts on the client’s interest.

Null Hypothesis(H0):Trading volumes did not have any significant effect due to COVID

Alternative Hypothesis(H1):Trading volumes had seen significant impacts due to COVID

Variables specific to investors: -

Variables	Intentions
Goals, requirements and expectations of investors	Investors who are more likely to focus earning profits and have cleared defined goals are more likely to go for derivative instrument trading.
Risk appetite of investors	Based on risk appetite investors will chose to have fixed or floating rate of interest

Market Specific Variables: -

Variables	Intentions
Market Volatility	When the markets are highly volatile investors generally prefer dealing in Derivatives space
Brokerage costs	Lower transactions cost attracts more investors to trade in derivatives

Source: Adapted from Futures Industry Association (2010), (Damgard,2018)

4. Data Analysis and Findings

The data was collected from 160 respondents who have been employed in the derivatives space for a decent no of years and have gained experience through it.. The alternative hypotheses was accepted when studied on brokerage cost part as it was found that which said Lower brokerage costs are more likely to attract more clients than higher brokerage costs. This shows that brokerage cost is a major factor in attracting clients to trade and invest on derivatives market. Most of the respondents had a mixed approach to battle with the Covid and maintain their risk in control as the markets were highly Volatile. 57.5% respondents opted for Matching and Smoothing technique as it gives great cushioning against hedging risk. Most of the bank's risk taking capacity appetite reduced due to pandemic which had resulted to market down fall. When asked about their preferences to trade in the future in derivatives they had mixed responses where majority said they might or may not based on the market conditions. To analyse the impacts covid had on the trading and volumes in the IRS derivatives. We can infer that the respondents had mixed responses when it came to earning profits during covid. Majority of the group said they were neither satisfied for dissatisfied which means they did earn profits but may be wasn't as expected. Post data collected we had to reject the null hypotheses which said trade volume was highly impacted during pandemic as there was significant reduction in the trades during this time. To assess the There were significant impact on IRS derivative trading during Covid. We reject the null hypothesis and accept the alternative hypothesis. Majority of the respondents agreed on the fact that the market had recovered and the trading structure has improved from before.

4.1 Demographics

On 80% confidence level we have been able to gather data from 160 respondents. Respondents were asked demographic questions to assess their experience and no. of years they have spent working in the derivatives space. From the data collected we could see 18-25 years of age which comprises of 42% of the total population. The least being above 35 which is around 23% of the total population. As majority lies in the younger group the data received will be more specific as this group works more closely with the trading desk and is aware of the daily market impacts as

compared to the senior officials who are more likely to be engaged with the managerial tasks. We can also see the gender of the respondents who participated in the survey. 61.25% of the total population constitutes of Male population as opposed to 38.75% of the Female population.

Demographic Analysis:-

Table 1:- Response rate from the Banks

Sl No.	Bank	Employees	Employees contacted	Response Rate
1	Goldman Sachs	90	42	38
2	JP Morgan Chase	85	40	34
3	Morgan Stanley	86	40	35
4	CITI	78	36	33
5	Bank of America Merrill Lynch	68	32	20
6	Total	407	190	160

Source:- Results from Data Analysis

Table 2- Gender of the Respondents

Gender	No of employees
Male	98
Female	62
Total	160

Source: Results from Data Analysis

Trading volumes were hugely hit during the pandemic times. Various market disruption factors like reduced risk the appetite of the banks and sudden decline on the derivatives market were major contributors to the market fall. The risk appetite of the banks was a major factor as it was backed by high market volatility and uncertainty and hence the trading volumes also decreased significantly which resulted in huge losses. Clients have tried to lock their profits by choosing fixed interest rates over floating rates but due to the market disruptions, the interest rate has been very low due to which they were negligible chances of earning profits.

Since the inception of 2020, global derivatives markets retain comprehended huge gushes of trading quantity and volatility as market participants possess strived to evaluate the possible consequence of the coronavirus (COVID 19) on financial action. While the industry remembers accomplished in organizing these vast progressions, the pandemic has laid a drastic tendency on its capability to purify business finesses and has compelled numerous market participants to formulate impossible adjustments to recent operating conditions. (Segal and Gerstel, 2020)

A study conducted by Asian Economics concluded that the pandemic had a negative impact on bank loan performance and used a quasi-experiment to analyze the impact. A similar quasi-experimental impact study has been conducted on the performance of the energy sector and the impact of COVID-19 testing and infection rates on the UK economy (Dash et al., 2021). We too saw a similar response from our respondents where they reported that financing was a major problem due to issues related to low-risk appetite and financing problems.

The regression results indicate that the daily growth in the total number of confirmed cases caused by COVID-19 has significant negative effects on the stock market returns and liquidity. Nevertheless, the Government's imposition of lockdown yields significant and positive outcomes on stock performance. In addition, the study reveals remarkable differences in returns of large-cap and small-cap stocks under the impact of the COVID-19 pandemic (Nguyen and H.K. 2021).

5. Results Discussion

We can clearly state that pandemic had influenced the market volatility based on the data collected from the respondents from the banks.

Brokerage costs plays a vital role in attracting clients to invest in derivatives. lower brokerage cost means more chances to attract clients as opposed to higher brokerage costs to trade in derivatives. Though majority of the clients agreed that derivatives are their preferred instrument but 37.5% also disagreed on this. This would mean there are other financial instruments in the market that they would think would be more profitable than derivatives. Since the early 1980s, on a bigger

scale the securities industry have been impacted due to brokerage industry. This still has a huge impact on the trading firm and current derivatives industry (Ian Domowitz and Benn Steil, 2021). The responses were mixed and almost equally distributed in terms of satisfaction regarding earning profits. People who disagreed probably wouldn't have been able to earn profits due to an incorrect choice of trading strategy. This means they might have chosen to trade in floating rather than fixed and hence couldn't lock their profits in a timely manner. Also, wise selection of the strategy is very important. Most of the client has chosen to trade is Matching and smoothing as it gives great risk cover, especially during market volatility.

As per many reports it is found that majority of investors have changed their behavior and investment pattern post COVID-19. Many of them do not want to take risk in short term for higher return; most of them prefer to invest money in less risky portfolios for long period. During the pandemic there was volatility in market, share price were going up and down, and none of the expert could predict the actual condition of market because entire global market crashed in this pandemic, so investors were not willing to take risk. Because of this reason the investors shifted their investment from short-term period to long-term investment. Another change was that the investors were using alternatives investment in assets which were bound to give high rate of interest to the individuals. The investors were trying to diversify certain portion of their portfolio and to invest for long term returns just as the mutual fund investors does not like to invest in a single portfolio and like to invest in more than one portfolios (Singh and Yadav 2021). Despite everything, clients still want to trade in the derivatives market, mainly because of its sheer size. There is no denying that this market is extremely risky, but if properly evaluated it can yield huge profits. Your customers may have learned and understood a lot from the pandemic, so they may want to continue working in this space in the future.

5.1 Limitations and Future Scope

Limitations

The population is very huge for the study as these have been collected from 5 banks in London chosen based on the volume. Which might be difficult to gather due to time constraint. The study

involved data and volumes extracted from the applications in-house. Though the data has been derived from all possible in-house applications there are still a few pieces of data that might not have been included which have been archived as per the application setup process. The research design and process thus had to be designed to accommodate those limitations as well. Lastly, the time constraint is a major drawback to conducting such studies as it gets difficult to conclude with such findings and research papers and strict deadlines can be straining as well. The major problem of conducting this study may be finding exact information as the derivative is a huge space and contains numerous products. The studies conducted before this range from various products and various scenarios. Understating what has exactly caused the impacts on the trading might be difficult due to less information available on one single product.

Future Scope

Apart from earning revenues for banks via traditional methods, IRS derivatives have always opened the way for banks to earn high-margin revenues and manage interest rate risk exposure. This has resulted in the banks holding their positions at a large scale on off-balance sheet assets. The main role of the bank as the provider has diminished over time as banks have become more active in the product space of derivatives. As of June 2013, the outstanding notional was US \$425.6 trillion as the most traded derivative is IRS as its highly liquid due to its nature of fixed-for-floating and hence actively traded reported by Marc-Olivier Strauss-Kahn (Umar, 2020). For an exchange of fixed rate payments, a party can receive a floating rate of interest for a period of 1 to 30 years based on the risk appetite. Extreme levels of fiscal policy were introduced by the government to combat and deal with the pandemic and catastrophe that caused huge disruptions in the economy. To strengthen and support the weaker sections of the society extraordinary measure and policies were introduced to check the stability. With the world economy almost on the verge of a breakdown, it would be quite interesting and more beneficial to check to analyse data and see what changes covid has brought into the economy and if it has gone back to normal, and if so with what measures. Huge impacts on the stock market and volatility were seen in the derivatives space which was prompted by the onset of covid as it was never seen or experienced before in the last century.

5.2 Conclusion

This study observes extreme volatility in the derivatives market. While the financial, business and societal impacts of the COVID19 episode may not yet be fully resolved, it will be very useful for affiliate market participants to assess the impact on exchange agreements and exchange partners. The pandemic has claimed thousands of lives and put countries around the world in serious trouble. Capital markets have undergone significant change on an unprecedented scale. Research findings suggest that pressure on the global financial sector has increased dramatically in response to the pandemic. The enormous vulnerability caused by the pandemic and the resulting financial turmoil has made the business sector very unusual. The enormous complexity and economic impact of the pandemic has contributed to market volatility and unpredictability. As the COVID pandemic continues to evolve, markets must identify and assess the growing risk pool. As the unpredictability and volatility of markets increase, the increase in collateral can be an undeniably important part of this risk. Although the market has been revived, many parts of the market still need to be regulated and standardized to reduce risk and handle high volatility

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