

Article

Impact of MiFID II on the Market Volatility—Analysis on Some Developed and Emerging European Stock Markets

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Abstract: The paper investigates whether the implementation of MiFID II, a packet of financial legislation applying broadly to European Union financial markets, has led to a change in the volatility of some European developed and emerging stock markets. We show that for the developed capital markets considered in the analysis, MiFID II did not lead to a decrease in the volatility of capital markets. On the contrary, for all analysis intervals considered (3 months, 6 months, 12 months, 18 months and 24 months), the impact on volatility is positive, with volatility increasing in the case of the FTSE 100, CAC40 and DAX stock indexes. There is a similar significant relationship for the Czech stock market, but only over the three-month interval. For the Polish and Romanian stock markets, which enforced MiFID II later, a negative impact of MiFID II on volatility could also be observed. In the Romanian market, MiFID II had a negative impact on volatility on the short-term horizon, while for the Polish market, the impact of MiFID II on volatility is noticeable on a longer term of 24 months.

Keywords: regulation; MiFID II; stock market; volatility



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1. Introduction

MiFID II, a packet of financial legislation applying broadly to European Union financial markets with key provisions related to transparency and record-keeping, is considered by many the cornerstone of European securities regulation. The purpose of this study is to investigate the regulatory impact of MiFID II on the volatility of some of the most important European stock markets, in which stock markets it had the strongest effects and whether the reaction to MiFID II was similar between developed and emerging markets. The most recent financial crisis has highlighted the impact that speculative trading can have on the real economy. Price movements that are not based on economic fundamentals might impact the efficiency of the capital allocation ensured by the stock market, leading investors out of the market. Regulators trying to ensure stable financial markets will try to reduce fluctuations on the stock exchanges (ESMA 2020).

Over the past two decades, European financial markets have undergone significant changes: regulatory reforms, technological advances as well as growing competition (ESMA 2014). Developments in trading technologies fostered the use of an automated and very fast trading infrastructure. The increase in algorithmic trading over recent years, considered beneficial by many in terms of increasing market efficiency due to increased liquidity (Hendershot et al. 2011), facilitation of larger trades (Hasbrouck and Saar 2013), improved pricing discovery (Brogaard and Garriott 2019), lower trading costs (Chlistalla 2011) and narrower bid-ask spreads (Hagströmer and Norden 2013) also created new risks. The regulation of high-frequency algorithmic trading by MiFID II has an aim of promoting financial stability and ensuring orderly markets, interrupting period of excessive volatility in order to give investors the possibility to reassess their positions.

However, the application of circuit breakers (volatility halts) and other requirements imposed may have effects that are not straight-forward to anticipate (ESMA 2020). On the other hand, one of the most important goals of MiFID II was to secure a high level

of market transparency and fairness. This is meant to address the potential conflicts of interest in the financial services industry, which is in the best interest of the investors (Fang et al. 2020). The pre-trade and post-trade increased transparency demanded in the MiFID II should have also impacted the volatility of the stock markets, given the existing association between volatility and accuracy of stock prices. However, there has not been a thorough investigation of the impact of MiFID II regulations on the European market volatility. This paper compares the volatility of six European stock exchanges before and after the implementation of MiFID II, considering five different analysis periods (3 months, 6 months, 12 months, 18 months and 24 months). While a short-term horizon is usually employed in event studies (with a maximum length of 12 months), the event studies that have in consideration long horizons (of 1 year and more) can also provide important information regarding stock market efficiency (Fama 1991), and can better capture possible differentiation in the impact of the MiFID II regulation over the analysed periods. The rest of the paper is organized as follows. In Section 2, we review the theoretical literature on the channels through which regulation might impact stock market volatility, as well as the empirical research that has actually investigated the impact of MiFID II on stock markets. In Section 3, we describe the methodological approach and main results. Section 4 concludes, presents study limitations and gives recommendations about further research.

2. Theoretical Background

Daly (2008) shows why volatility is a particularly important feature of capital markets. For one thing, significant fluctuation in the prices of financial assets over short periods diminishes investors' confidence in the relevance of economic information revealed by stock market price changes, leading to a lower flow of capital to the capital markets. For the companies trading on a regulated market, volatility has a significant impact on their default risk. Moreover, volatility influences the gap between bid and ask prices and affects stock market liquidity. Hedging strategies also have higher costs to cover the risks associated with trading financial instruments on more volatile stock markets. Finally, investors in general have risk aversion, with a higher level of risk resulting in higher transaction costs for investors, which will result in a less efficient allocation of existing capital in the economy.

The theoretical basis for the interpretation of volatility is based on the existing connection between volatility and the accuracy of stock prices. Lower volatility on the stock market is associated with higher price accuracy. Volatility is higher during periods of increased uncertainty and risk (Hassan and Wu 2015). Lee et al. (2015) conclude that companies that are less transparent on the market have higher idiosyncratic risk and total risk than other companies. If price formation is efficient and the information is incorporated quickly and effectively into asset pricing, this will generate less asset volatility (Oxera 2019).

One of the most important objectives of stock market regulation is to maintain transparency. Market transparency, ensured by dissemination of both trade and quote information, plays a fundamental role in the fairness and efficiency of the stock markets (Bloomfield and O'Hara 1999). While pre-trade transparency ensures the observation of the order flow, quotes and information about market participants (Boehmer et al. 2005), post-trade transparency ensures the observation of execution quality, as well as execution prices (Dumitrescu 2010). According to Aghanya et al. (2020), MiFID I led to an increase in the market transparency by enabling market participants to observe information in real time during the trading process, which helped them make more informed trade decisions. However, there are some studies that demonstrate the opposite effect, finding that the increase in market transparency can actually increase market volatility (Madhavan 1996; Madhavan et al. 2005). More recently, Anselmi and Petrella (2021), investigating the impact of MiFID II on the stock market quality, have not observed any significant change in the bid-ask spread (as a proxy of market quality) following the introduction of the new regulation.

Another important objective of financial regulation is to maintain stable financial markets (Buss et al. 2013). Buss et al. (2013) show that different regulatory constraints (such as the Tobin financial transactions tax, constraints on short selling or leverage) can impact stock markets and the welfare of investors, reaching the conclusion that the most effective regulations are the ones that reduce volatility, but do not inhibit risk sharing. Other regulatory measures used by stock exchanges in order to curb stock price volatility are margins, price limits or circuit breakers (Anshuman 2003). Although regulatory intervention is meant to dampen the sources of market instability, the theoretical literature has been clear about the direction and efficiency of such intervention. It should address the transitory volatility and not the fundamental volatility, which allows for a normal price swing due to incorporating new information on fundamental values (Ackert et al. 2005). In the EU regulatory framework, MiFID II addresses the volatility topic in at least two important areas. First, by imposing different requirements concerning trading halts in order to reduce excessive volatility, the realized volatility of the stock market could be dampened. Secondly, by increasing the pre-trade transparency requirements and post-trade public disclosure in markets (providing to market participants near real-time broadcast of basic trade data around firm quotes, respectively execution trades) and enhancing control around prevention of market abuse, the volatility on the stock markets can also be reduced.

While there is little empirical evidence that shows a decrease in the European stock market liquidity following MiFID II (Fang et al. 2020; Utkilen and Wakeford-Wesmann 2019; Anselmi and Petrella 2020), there are only a handful of studies that have approached the impact of the implementation of MiFID II on the volatility of European Union stock markets. Meijers (2018) investigated whether the pre- and post-trade transparency requirements imposed through MiFID I and MiFID II/MiFIR led to reduced volatility in European equity markets, considering three stock market indexes. Although they find empirical evidence that supports the negative impact of MiFID I on the volatility, concluding that the implied volatility decreased after the implementation of MiFID I, the evidence on MiFID II is the reverse, with increases in implied and realised volatility. The main limit of their study is the short-term post-implementation analysis period of only 5 months. ESMA (2020) investigated whether the introduction of volatility safeguards (price collars, circuit breakers or both) by EU trading venues according to MiFID II has had any impact of the price discovery process. Using 10,000 financial instruments traded on the European stock exchanges, they conclude that price volatility declines significantly in both halted and cross-listed stocks using different short-term intervals of 10, 5 and even 2 min after the halts. They observe, however, that the bid-ask spread increases after the halts, especially in cross-listed stocks.

3. Methodological Approach

3.1. Data and Methodology

Data were obtained from Investing.com for the most representative capital markets in Eastern Europe—Warsaw Stock Exchange, Prague Stock Exchange and Bucharest Stock Exchange—as well as the three largest capital markets in Western Europe—London Stock Exchange, Deutsche Börse and Euronext Paris. We consider the most important stock indexes for these markets (BET, WIG20, PX, FTSE100, DAX 30, CAC40).

The data include daily information on closing prices, volumes of traded shares, high quotes and low quotes. In the case of the Polish index, we use daily data from April 2016 to April 2020. For the Romanian index, we use daily data from July 2016 to July 2020. For the other stock indexes, the daily data used is from January 2016 to January 2020 (due to the different time of transposition of MiFID II into national law and the entry into force of national legislation) (Table 1).

Table 1. Stock market indexes and their composition.

Stock Market Index	Number of Companies Included in the Stock Market Index
BET	17 most traded companies on the Bucharest Stock Exchange (Romania)
WIG-20	20 most traded companies on the Warsaw Stock Exchange (Poland)
PX	12 most traded companies on the Prague Stock Exchange (Czech Republic)
FTSE100	100 largest companies traded on the London Stock Exchange (UK)
DAX30	30 largest companies traded on Deutsche Börse (Germany)
CAC40	40 largest companies traded on Bourse de Paris (France)

We use five analysis periods (3 months, 6 months, 1 year, 1.5 years and 2 years), which we consider from the moment of the transposition of MiFID II. For example, in the case of the Romanian stock index, BET, the pre-event period is the period before the implementation of MiFID II in Romania and the post-event period is any period after MiFID II is implemented in Romania, so the maximum analysis horizon is 6 July 2016 to 6 July 2020. Similarly, we considered the analysis periods for the other five stock indexes, depending on when national legislation transposing MiFID II entered into force (Table 2).

Table 2. Date of entering into force of MiFID II directive.

Country	National Regulation That Transposes MiFID II Directive	Date of Enforcement
Romania	Law no.126/2018 regarding financial instruments market	6 July 2018
Poland	Act of 21 March 2018, amending the Financial Instruments Trading Act from 29 July 2005	21 April 2018
Czech Republic	Act no. 204/2017 Coll. from 14th July 2017, for amending Act no. 256/2004 Coll. Capital Market Undertakings Act	3 January 2018
UK	Financial Services and Markets Act 2000 (Regulated Activities) (Amendment) Order 2017 Financial Services and Markets Act 2000 (Markets in Financial Instruments) Regulations 2017 Data Reporting Services Regulations 2017	3 January 2018
Germany	Second Financial Markets Amendment Act (Zweites Finanzmarktnovellierungsgesetz—2nd FiMaNoG, from 24 June 2017	3 January 2018
France	Ordinance no. 827 of 23 June 2016 (Ordonnance n° 2016-827 du 23 June 2016 relative aux marchés d’instruments financiers) the Monetary and Financial Code (Code monétaire et financier, CMF) General Regulation of the Financial Markets Authority (Règlement général de l’Autorité des marchés financiers, RGAMF)	3 January 2018

The historical (realized) volatility is most often measured by the standard deviation of stock returns. We compute volatility in a similar way, considering a 30-day moving analysis period, so the calculation formula is as follows:

$$\sigma = \sqrt{\frac{1}{30} \sum_{i=0}^{30} (R_{t-i} - \bar{R})^2} \quad (1)$$

where R_{t-i} represents the daily return and \bar{R} represents the average return calculated over the previous 30 days. This is used to calculate the standard deviation σ on a 30-day rolling basis. In the econometric analysis, we use this historical (realized) volatility. Obviously, variations in volatility may not only result from the impact of MiFID II, so control variables

are taken into account to determine more clearly the effects of MiFID II regulation on volatility. The econometric analysis is based on the following linear regression model:

$$\sigma_t = \alpha_0 + \gamma MIFID II_t + \beta X_t + \varepsilon_t \quad (2)$$

where σ_t represents the 30-day historical volatility of the stock market. $MIFID II_t$ is a dummy variable equal to 1 for the post-MiFID II period and 0 otherwise. X_t is a vector of control variables with corresponding coefficients β and ε_t is the error term. Based on the overall linear regression model, we arrive at the model used:

$$\sigma_t = \alpha_0 + \beta_1 Priceind_t + \beta_2 Tradevol_t + \beta_3 HLSpread_t + \beta_4 MiFID II_t + \beta_5 MiFID II \cdot HLSpread_t + \varepsilon_t \quad (3)$$

where *Priceind* represents the daily price index, *Tradevol* represents the daily traded volume of shares and *HLSpread* is the daily spread between high and low quotes. We also use interaction terms to observe whether the impact of *HLSpread* on volatility is different after *MiFID II* implementation.

According to Dufour et al. (2012), the price index is expected to have a negative connection with volatility. We use log values of *Priceind*, given the asymmetric relationship established between this variable and volatility in previous studies, which assumes that a negative change in the stock market affects more significantly the volatility as a positive one (Hibbert et al. 2008; Bollerslev et al. 2006). The relationship between return volatility and trading volume is highly documented in the literature (Harris 1987; Andersen 1996; Darrat et al. 2003). A market with higher liquidity is likely to have lower price volatility (Chordia et al. 2002). More recently, Chiang et al. (2010), supporting the sequential information hypothesis¹, suggests that there is a bi-directional non linear causality between these two variables, supporting the idea of using lagged values of trading volume to predict return volatility. Consequently, we use log values of trading volume in our model. We test different numbers of lags for statistically significant results. Finally, the connection between high and low spread and volatility is analysed by Corrado and Truong (2007). The high and low spread is used in this analysis as a proxy of liquidity, with a lower spread indicating higher liquidity and consequently having a positive influence on volatility. Pástor and Stambaugh (2003) confirm the existence of a negative relationship between liquidity and volatility in their empirical approach.

3.2. Results and Interpretation

Table 3 shows the regression estimates from the Romanian stock market. We consider first the Romanian case, given the fact that in this case there is a statistically different impact on volatility generated by the transposition of MiFID II. There is a decrease in the realized volatility registered in the 3 months and 6 months following MiFID II implementation. We can see that the impact of MiFID II on decreasing the volatility of the Romanian capital market is higher in the case of the latter period. The results after 12 months and 18 months are similar, but they are not statistically significant. For the 24 months period after the implementation of MiFID II, the volatility is higher, but this could be due to the analysis period, which includes the COVID-19 pandemic (Table 3 and Appendix A).

Figure 1 shows results from the other stock markets, which, with the exception of Poland, exhibit an effect of MiFID II in a reverse direction to what was found in Romania.

¹ The “sequential information” hypothesis e.g., Copeland (1976), Jennings et al. (1981) assumes that not all traders receive the information simultaneously, but rather sequentially and randomly, revising their expectations accordingly, with a new equilibrium being reestablished when all fully react to new information.

Table 3. Results of the econometric study in the case of the Romanian stock market.

Variables	BET-3 Months	BET-6 Months	BET-12 Months	BET-18 Months	BET-24 Months
Post MIFID-II	−0.210 ** (0.0984)	−0.226 *** (0.0670)	−0.0620 (0.120)	−0.0743 (0.0953)	0.0347 (0.0779)
High-Low Spread	0.000696 (0.000537)	0.000927 *** (0.000270)	0.000932 ** (0.000377)	0.00138 *** (0.000315)	0.00156 *** (0.000288)
MIFID II * Spread	0.000247 (0.000714)	0.00260 *** (0.000584)	0.00372 *** (0.00131)	0.00321 ** (0.00126)	0.00321 *** (0.000756)
Log(Trade Volume)	−0.0455 * (0.0239)	−0.0424 ** (0.0214)	0.00902 (0.0321)	0.0155 (0.0234)	0.0296 (0.0245)
Δ Log(Price Index)	1.960 (1.815)	4.750 * (2.758)	5.739 (3.876)	4.037 (3.530)	8.975 *** (2.810)
Constant	1.505 *** (0.411)	1.393 *** (0.360)	0.498 (0.523)	0.310 (0.382)	0.0460 (0.395)
R ²	0.4158	0.3666	0.2956	0.2805	0.3858
Observations	124	246	491	738	981

Note: Models are estimated using Newey–West standard errors, which account for heteroskedasticity and autocorrelation. Standard errors in parentheses. The coefficients are estimated by OLS regression. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.



Figure 1. Estimated coefficients for the MiFID II variable (for a confidence interval of 95%).

For the developed capital markets considered in the analysis, the enforcement of MiFID II did not lead to a decrease in the volatility of capital markets. On the contrary, for all considered time-periods (3 months, 6 months, 12 months, 18 months and 24 months), the impact on volatility is positive, with volatility increasing in the case of the FTSE 100, CAC40 and DAX stock indexes. There is a similar relationship in the Czech stock market, for the smallest time period considered (of three months). For the Polish stock market, a significant negative impact of MiFID II on volatility is only observed toward the end of the analysis period (24 months) (Table 4).

Table 4. Results of the regressions for the other investigated stock markets.

3 months					
VARIABLES	(1) CAC40_3	(2) DAX_3	(3) FTSE100_3	(4) PX_3	(5) WIG20_3
Post MIFID-II	0.407 *** (0.124)	0.434 *** (0.123)	0.117 (0.117)	0.109 * (0.0608)	0.00457 (0.0753)
High-Low Spread	0.00329 ** (0.00132)	0.00186 *** (0.000440)	0.000516 (0.000540)	0.00767 *** (0.00292)	0.00109 (0.00113)
MIFID II * Spread	−0.000944 (0.00167)	−0.000664 (0.000579)	0.00198 * (0.00113)	0.00190 (0.00537)	0.000449 (0.00148)
Log(Trade Volume)	−0.0541 (0.105)	−0.0874 (0.0831)	−0.0917 * (0.0508)	−0.00663 (0.0216)	0.00234 (0.0326)
Δ Log(Price Index)	3.176 (2.392)	2.739 (1.790)	6.266 ** (2.499)	0.522 (1.498)	1.309 (0.913)
Constant	1.318 (1.902)	1.965 (1.530)	2.306 ** (1.033)	0.498 (0.306)	1.045 * (0.543)
R ²	0.6038	0.6340	0.4437	0.3937	0.0354
Observations	124	123	124	123	125
6 months					
VARIABLES	(1) CAC40_3	(2) DAX_3	(3) FTSE100_3	(4) PX_3	(5) WIG20_3
Post MIFID-II	0.215 ** (0.0994)	0.327 *** (0.0909)	0.156 ** (0.0758)	0.0670 (0.0411)	0.109 * (0.0601)
High-Low Spread	0.00365 *** (0.00110)	0.00127 *** (0.000358)	0.00128 *** (0.000441)	0.00218 (0.00343)	0.00133 (0.000940)
MIFID II * Spread	−0.00144 (0.00155)	−0.000361 (0.000459)	0.000389 (0.000691)	0.00323 (0.00412)	0.000369 (0.00119)
Log(Trade Volume)	−0.0527 (0.0593)	−0.117 ** (0.0469)	−0.127 *** (0.0426)	−0.00190 (0.0193)	0.0206 (0.0236)
Δ Log(Price Index)	1.996 (1.736)	1.318 (1.182)	2.093 (1.401)	−0.408 (0.911)	0.548 (0.737)
Constant	1.389 (1.079)	2.648 *** (0.858)	3.045 *** (0.862)	0.507 * (0.270)	0.628 (0.395)
R ²	0.2252	0.5116	0.3547	0.2535	0.1914
Observations	251	248	249	248	248
12 months					
VARIABLES	(1) CAC40_3	(2) DAX_3	(3) FTSE100_3	(4) PX_3	(5) WIG20_3
Post MIFID-II	0.147 ** (0.0722)	0.241 *** (0.0563)	0.154 *** (0.0522)	−0.00862 (0.0297)	0.0488 (0.0698)
High-Low Spread	0.00137 (0.000946)	0.000683 *** (0.000220)	0.00112 *** (0.000305)	0.000720 * (0.000392)	0.00323 *** (0.000893)
MIFID II * Spread	0.000259 (0.00110)	0.000112 (0.000300)	0.000569 (0.000501)	0.00625 *** (0.00237)	0.00332 ** (0.00153)
Log(Trade Volume)	0.116 (0.0710)	−0.0199 (0.0349)	−0.0923 ** (0.0357)	0.00142 (0.0150)	0.0512 * (0.0280)
Δ Log(Price Index)	2.043 * (1.146)	1.641 ** (0.830)	2.292 ** (0.930)	0.242 (0.778)	1.078 (0.770)
Constant	−1.553 (1.271)	0.948 (0.639)	2.356 *** (0.721)	0.474 ** (0.215)	0.000794 (0.468)
R ²	0.2075	0.4669	0.4122	0.0799	0.2689
Observations	504	498	500	445	493

Table 4. Cont.

18 months					
VARIABLES	(1) CAC40_3	(2) DAX_3	(3) FTSE100_3	(4) PX_3	(5) WIG20_3
Post MIFID-II	0.109 * (0.0636)	0.183 *** (0.0518)	0.104 ** (0.0517)	−0.0159 (0.0307)	−0.0622 (0.0608)
High-Low Spread	0.00282 *** (0.00106)	0.00116 *** (0.000289)	0.00176 *** (0.000369)	0.00168 (0.00148)	0.00262 *** (0.000849)
MIFID_II * Spread	−0.000846 (0.00116)	−0.000257 (0.000327)	-1.05×10^{-5} (0.000482)	0.00356 (0.00277)	0.00404 *** (0.00141)
Log(Trade Volume)	0.0623 (0.0558)	−0.0853 ** (0.0383)	−0.0680 (0.0469)	0.0422 ** (0.0184)	0.0423 (0.0285)
Δ Log(Price Index)	3.193 *** (1.194)	2.502 *** (0.930)	2.199 *** (0.827)	0.0460 (0.933)	1.901 *** (0.728)
Constant	−0.530 (1.002)	2.196 *** (0.699)	1.901 ** (0.944)	−0.0883 (0.262)	0.205 (0.477)
R^2	0.0721	0.1593	0.1516	0.0686	0.1358
Observations	757	748	749	536	737
24 months					
VARIABLES	(1) CAC40_3	(2) DAX_3	(3) FTSE100_3	(4) PX_3	(5) WIG20_3
Post MIFID-II	0.216 *** (0.0686)	0.200 *** (0.0584)	0.171 ** (0.0716)	−0.0159 (0.0307)	−0.391 *** (0.115)
High-Low Spread	0.00722 *** (0.00118)	0.00298 *** (0.000375)	0.00459 *** (0.000959)	0.00168 (0.00148)	0.00125 (0.00136)
MIFID_II * Spread	−0.00562 *** (0.00126)	−0.00207 *** (0.000418)	−0.00286 *** (0.000995)	0.00356 (0.00277)	0.0180 *** (0.00441)
Log(Trade Volume)	0.227 *** (0.0662)	0.0277 (0.0518)	−0.0469 (0.0485)	0.0422 ** (0.0184)	0.339 *** (0.129)
Δ Log(Price Index)	4.443 *** (1.414)	3.601 *** (1.249)	3.954 *** (1.287)	0.0460 (0.933)	4.667 ** (2.067)
Constant	−3.612 *** (1.197)	0.0789 (0.946)	1.399 (0.975)	−0.0883 (0.262)	−4.751 ** (2.160)
R^2	0.2384	0.1796	0.2181	0.0686	0.3324
Observations	1011	999	1000	536	984

Note: Models are estimated using Newey–West standard errors, which account for heteroskedasticity and autocorrelation. Standard errors in parentheses. The coefficients are estimated by OLS regression. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

From the analysis of the control variables used in the econometric study, the impact of high-low spread is always positive for all six stock indexes, meaning that, controlling for the other factors included in the model, an increase in the gap between maximum and minimum prices results in an increase in volatility (a result which confirms the conclusions drawn in literature that a large spread between quotes generates a higher stock market instability). The interaction between spread and the MiFID II variable shows that for BET and WIG-20, the positive impact of spread on volatility increases after MiFID II is implemented. For a 2-year analysis period, in the FTSE100, DAX and CAC40 stock indexes, the interaction variable coefficients become negative, meaning that the impact of spread on volatility decreases after MiFID II has been implemented.

There is also a general trend highlighted by the impact of trading volume and price of stock indexes on volatility. In general, there is a negative connection with volatility for trading volume and a positive one for price index for all considered stock exchanges. In other words, volatility increases with the increase in the value of stock indexes, and decreases when trading volume is low.

4. Conclusions

This paper aimed to provide evidence on the impact of MiFID II on volatility in European stock markets. The core conclusion is that MiFID II legal provisions did not lead to a decrease in the volatility in the case of the considered Western European stock exchanges. There was also no effect in the Czech stock market, except for the smallest time period (3 months), in which volatility increased. For the Romanian stock market, which enforced the MiFID II regulation later, there was a negative impact of MiFID II on volatility in the first 3 months and 6 months post-implementation. A similar relationship could be observed in the case of Poland, but on a longer-term horizon (24 months).

Limitations of this study include general issues related to the use of event studies, such as the selection of event window and event period (Lamdin 2001). MiFID II was published, debated, transposed into national legislation and ultimately implemented in the European Union countries. The event window could theoretically encompass all this entire timeframe, given the fact that market participants were informed about MiFID II obligations prior to the moment of actual enforcement of the regulation. However, we assume that the market did not adapt to the structural changes in regulation before it was necessary. On the other hand, some legal obligations stipulated in MiFID I strengthened with the MiFID II/MiFIR, such as in case of transaction reporting. A future study should consider the impact of both MiFID regulations on the volatility of the same stock exchanges. Moreover, the realized volatility could be impacted by other control factors that were not considered in this analysis (such as bid-ask spread). Structural break tests and more parameter stability tests could also be employed in order to test the robustness of the model. Directions for future research include also extending our research to more European stock market indexes (from both developed and emerging stock markets) or using other methodologies (such as the DID technique) and comparing the empirical results.

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Data Availability Statement: Data are available in a publicly accessible repository. The data presented in this study are openly available in Mendeley Data at <http://dx.doi.org/10.17632/6nstrjxjvv.1> (accessed on 25 June 2021).

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Conflicts of Interest: The author declares no conflict of interest.

Appendix A

Table A1. Augmented Dickey–Fuller tests for a 2-year horizon.

	BET	CAC40	DAX	FTSE100	PX	WIG20
<i>Volatility</i>	−4.4428 *** (0.0019)	−4.443 *** (0.0019)	−4.0937 *** (0.0064)	−4.109 *** (0.0061)	−3.5605 ** (0.0333)	−1.3538 (0.874)
<i>Log(Priceind)</i>	−2.8729 (0.1715)	−2.4511 (0.3528)	−1.8789 (0.6655)	−2.4979 (0.329)	−2.2412 (0.4667)	−0.9305 (0.9528)
<i>HL Spread</i>	−6.8858 *** (0.000)	−8.2455 *** (0.000)	−8.0313 *** (0.000)	−7.4196 *** (0.000)	−10.8376 *** (0.000)	−6.8573 *** (0.000)
<i>Log(Tradevol)</i>	−9.6168 *** (0.000)	−8.335 *** (0.000)	−8.6793 *** (0.000)	−9.8804 *** (0.000)	−6.374 *** (0.000)	−7.4217 *** (0.000)

The augmented Dickey–Fuller test under the null hypothesis that a unit root is present in the sample window. The value between brackets is equal to the p-value. ***, ** denote statistical significance at a 1% and 5% level, respectively. Except for log(Price), we reject the null hypothesis and conclude that these series are stationary. Hence, we will use first difference of log(Price) in the empirical models.

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