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Brexit concerns, UK and European equities: A lose-lose scenario?

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Abstract

Nowadays, the UK withdrawal from the European Union –also known as "Brexit"– and the uncertainty associated with it receive far-reaching attention. This article seeks to shed some light on the costs of "Brexit" by delving into the impacts of the attention given to this event (via Google Trends and Twitter search) on UK, German and French equities. By measuring the strength of "Brexit" effect as alternative to tail distributions, our results suggest that "Brexit" asymmetrically harm the investigated stock markets; Germany suffered most, followed by France and UK.

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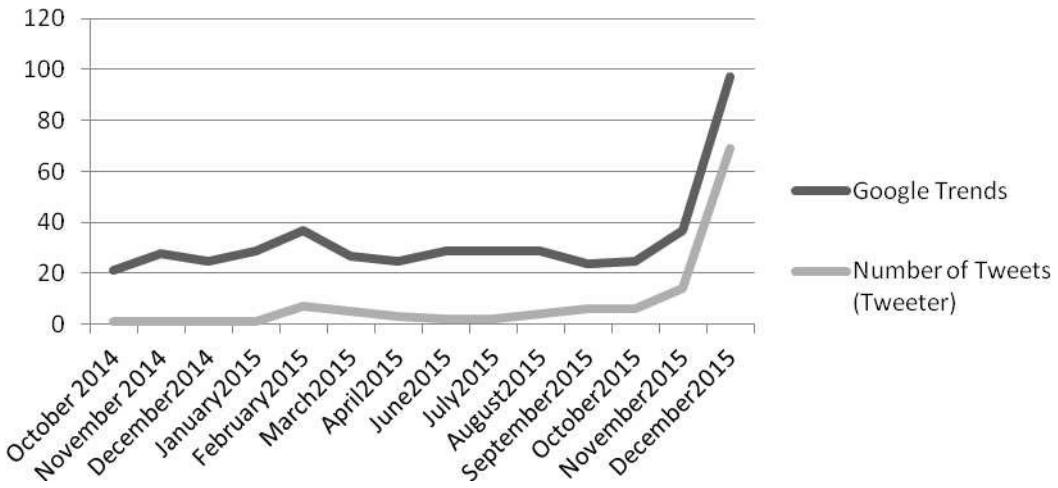
1. Introduction

Talks on "Brexit"[1] focus, nowadays, the attention of media and social networking. For the majority of policymakers and investors in Britain and Europe (EU), the possibility the UK might leave the European Union is a big issue. EU membership matters to the UK economy primarily because it prompts low trade barriers, and thus allows UK businesses to export more[2]. Indeed, the "Brexit" would lead to lower trade between the UK and the EU that may yield to slower productivity growth in the long term (Irwin 2015). Besides, by leaving EU, the UK would gain less from the future market integration within EU. Even though recent researches argued that the "Brexit" impacts on UK and Europe would be detrimental (Irwin 2015; Dhingra et al. 2015; Bouoiyour and Selmi 2016 a, b), quantifying the precise effects of leaving the EU is difficult. If the majority votes to leave the EU in a referendum, the consequences will be heavily uncertain as there are multiple unknown scenarios such as whether or not the establishment of a new stable link with EU will be easier. Although some points on this path are fixed, others are not yet, generating a *great uncertainty*. These considerations make a basis of the given research. To analyze *the costs of uncertainty over "Brexit"*, this paper introduces the concept of internet concern as quantitative measure to test whether extracting public moods related to "Brexit" exerts a widest influence on UK, German and French stock markets. Recent literature evaluated how online information predicts "Grexit" and crypto-market (Mitchell et al. 2012; Kristoufek 2013; Bouoiyour and Selmi 2015, among others). Millions of users daily interact with search engines, creating valuable sources of data regarding various aspects of the world. In brief, the Internet search becomes day-to-day a potential tie helping to analyze the investors' behaviors in uncertain periods. Figure 1 display that information related to "Brexit" has spread rapidly in the last few months.

Figure 1. The attention given to "Brexit" via Google Trends and Twitter



The anxiety around the British exit and the volatile and speculative behaviors of equity markets strengthened the focus on models that allow capturing dynamic dependencies in data.

[1] It is dubbed "Brexit" following the Greek financial collapse since 2012 when experts and with large extent the media were speculating that Greece would be forced being outside the EU due to the fact that the country defaulted on its debt obligations. Unlike Greece, a Britain leaving from the EU is likely to be self-induced rather than forced.

[2] UK exports to the EU correspond to almost 15 percent of national output growth.

While a large body of work has proposed models for the conditional mean and variance of stock returns, far less work have focused on the full return distribution. This paper uses a quantile regression (QR) approach to gain fresh insights into how would react UK and EU equities to "Brexit". A QR is suited to determine how evolve time series for all portions of a probability distribution. The correlation asymmetries would ensure that markets participants have the opportunity to make informed decisions.

The body of this paper is organized in four major sections. In the second section, we present the methodology and describe the data. Section three reports and discusses our main findings. The last section gives some concluding comments.

2. Methodology and data

Compared to the standard estimation of the conditional mean function (OLS), QR approach permits to assess the relationship between the attention to "Brexit" and UK and EU equities across random variables (Koenker and Bassett 1978; Koenker and Xiao 2002). It provides a complete description of asymmetric samples, which is one of the main distinguishing characteristics of financial data. Since its introduction by Koenker and Bassett (1978), QR continues to be an interesting tool as it accounts for a set of regression curves that differ across distinct quantiles of the conditional distribution of the dependent variable. The QR is a generalization of median regression analysis to other quantiles. The coefficients of the τth conditional quantile distribution are estimated as follows:

$$\hat{\beta}\ (\tau) = \arg\min \sum_{t=1}^{\tau} (\tau - 1_{\{y_t \prec x'_t \beta(\tau)\}}) \left| y_t - x'_t\ \beta(\tau) \right| \tag{1}$$

where the quantile regression coefficient $\beta(\tau)$ determines the connection between the vector x (independent variables) and the τth conditional quantile of y (the dependent variable). To determine y in function of specific independent series, the values of quantile coefficients could be constant where the values of $\beta(\tau)$ do not change markedly for the values τ. Moreover, it should be symmetric (asymmetric) where the values of $\beta(\tau)$ are similar (dissimilar) for lower and upper quantile levels.

We specify then the conditional quantile function for different quantile levels (such as the 10th, 20th... 90th percentiles):

$$Q_y(\tau\ |x) = \alpha(\tau) + \sum_k \beta_k(\tau) x_k + \sum_k \delta_k(\tau) z_k \tag{2}$$

where z corresponds to the additional control variables (to be described later).

Using QR, we can see if the return is indicative of a rapidly improving UK, German and French equities or associated with a market that is highly contracting among various slopes (quantiles from the 10th to the 90th).

To this end, we use weekly data for over the period from January 2010 to July 2015[3] (with a total of 268 observations) for stock prices of UK (FTSE 100), Germany (DAX 30) and

[3] The choice of sample selected for this analysis is dictated by the availability of reliable data. We prefer use weekly instead of daily data, given that we hoped to properly characterize the underlying dependence structure. Daily or high-frequency data may be influenced by drifts and noise that could mask or did not reflect appropriately the link between the investigated variables.

France (CAC 40).The stock market prices data are collected from Datastream database. The search queries for keyword related to the British exit from EU (i.e., "Brexit") were collected via Google Trends (http://www.google.com/trends). Note that in twitter #Brexit was associated with the British exit and it was not possible to retrieve keywords in twitter. Hash tags (#) were available only in twitter. Three global financial and risk factors that may have a significant role in explaining the focal linkage have been considered. These factors include the US equity volatility index (*VIX*), the West Texas Intermediate (*WTI*) oil price and the world gold price (*gold*). These time series data come from quandl website. All the variables have been transformed by taking natural logarithms to correct for potential heteroskedasticity and dimensional differences among time series.

3. Results

To find some information about the reactions of UK and EU equities to the uncertainty around "Brexit" (measured via Google Trends and Twitter search), we use a QR approach estimator which is robust to outlying observations on the dependent variable. The model to be estimated is given by:

$$\hat{r}_t^{\tau} = \hat{\omega}(\tau) + \hat{\alpha}(\tau) STR_{t-1} + \hat{\beta}(\tau) Brexit_t + \hat{\delta}_1(\tau) Oil_t + \hat{\delta}_2(\tau) VIX_t + \hat{\delta}_3(\tau) gold_t \qquad (3)$$

where $\hat{r}_t^{\tau}$ is the estimated $\tau-$conditional quantile of UK, German and French stock returns (STR), and the estimated parameters $\hat{\alpha}(\tau)$, $\hat{\beta}(\tau)$ and $\hat{\delta}_k(\tau)$ for k=1, 2, 3 are function of τ; STR_{t-1}: the lagged stock return may reflect the influence of some potential explanatory variables not included here due to the unavailability of weekly frequency data.

3.1. Baseline model: Google Trends as a proxy of the attention to "Brexit"

Our findings show heterogenous outcomes regarding UK and EU equities reactions to Brexit. For UK, the attention to Brexit exerts a negative and significant influence on stock return at low and middle quantiles (i.e., when investors are pessimistic or when the market is moderately efficient); such relationship is weak, fluctuating between -0.083 and -0.013 (Table 1). Unlike UK, Germany would suffer markedly from possible Brexit. Precisely, the British exit from Europe leads to a sharp decrease of German stock return (the slope coefficient moves among -0.48 and -0.23). This result is valid when the stock market is performing weakly, but also in upper quantile (i.e., τ=0.8). For France, the equity reaction to the anxiety over Brexit is negative at low quantiles and around middle quantile; such relationship varies between -0.12 and -0.005.

To avoid possible omitted variable bias, a vector of additional explanatory variables (discussed above) is incorporated in the model. We include *WTI*, *gold* and *VIX*. We notice that the implied volatility index affects statistically and negatively the performance of the UK and EU markets at different quantiles, indicating that the EU stock market returns decrease as the *VIX* increases. This result is expected since the uncertainty is the thing that markets hate the most; such impact occurs in lower quantiles for UK and France, while for Germany the effect appears more pronounced and occurs in upper quantiles. Besides, gold has no influence for

the considered countries (except Germany at low quantiles or when pessimism mostly prevailed). This means that gold has not lost its great importance as a safe haven in Germany. It must be recalled that gold possesses no credit risk and cannot turn worthless even though uncertain event. With the financialization of the commodity markets, gold may provide a protection against losses when equities undergo large decreases. Then, including gold in portfolios allows investors preventing the downside risk in their investments (Mishra and Mishra 2010). This result does not hold for the studied cases (with the exception of Germany in lower quantiles). *WTI* affects positively UK equity return at highest quantiles (i.e., when investors are optimistic) and middle quantiles, but this correlation is weak since it is only significant at 10%. Nevertheless, *WTI* impacts negatively the German stock return around the middle quantile (i.e., τ =0.4 or 0.5). French share market does not seem vulnerable to oil price shocks.

Table 1. QR estimates: The responses of UK and EU equities to the attention to "Brexit" (via Google Trends)

		UK		GERMANY		FRANCE	
Estimated results of quantile regression							
	Quantile	Estimate	p-value	Estimate	p-value	Estimate	p-value
C	0.100	0.077304**	0.0035	-0.030905	0.7145	0.003532	0.8923
	0.200	0.064866**	0.0104	0.047791	0.5798	0.008104	0.8056
	0.300	0.052032**	0.0115	0.058089	0.4532	0.003573	0.9296
	0.400	0.052516***	0.0001	0.031063	0.6737	-0.008268	0.8279
	0.500	0.048883***	0.0000	0.013254	0.8520	0.001133	0.9787
	0.600	0.059693***	0.0000	0.014736	0.8295	0.023373	0.5863
	0.700	0.066684***	0.0000	-0.026926	0.6855	0.037889	0.3851
	0.800	0.066146***	0.0000	0.006986	0.9225	0.061789	0.1186
	0.900	0.088247***	0.0000	0.001472	0.9833	0.052007	0.1744
STR_{t-1}	0.100	0.185203	0.3450	0.259289*	0.0250	0.102956	0.4677
	0.200	0.355120*	0.0925	0.327413*	0.0332	0.275493	0.0814
	0.300	0.502901**	0.0028	0.388326*	0.0403	0.301966	0.1359
	0.400	0.515904***	0.0000	0.495999**	0.0028	0.326534*	0.0706
	0.500	0.521131***	0.0000	0.713286***	0.0001	0.335075*	0.0609
	0.600	0.433996***	0.0000	0.685595***	0.0003	0.409916**	0.0089
	0.700	0.391121	0.0005	0.773887***	0.0000	0.390235**	0.0051
	0.800	0.387219**	0.0012	0.674492***	0.0000	0.381744**	0.0037
	0.900	0.209733	0.1252	0.627506***	0.0001	0.383025**	0.0010
Brexit	0.100	-0.083993**	0.0033	-0.48154***	0.0243	-0.117189*	0.0983
	0.200	-0.014670*	0.0303	-0.236929**	0.0034	-0.122635	0.1096
	0.300	-0.01394***	0.0000	-0.233814**	0.0028	-0.120403*	0.0838
	0.400	-0.005084	0.9200	0.572133	0.4174	-0.050241*	0.0239
	0.500	-0.02680***	0.0004	0.670985	0.3099	-0.101040*	0.0567
	0.600	0.001541	0.9750	0.603817	0.3460	0.066139*	0.0309
	0.700	0.008991	0.8655	0.856050	0.1614	0.038380	0.8682
	0.800	0.026093	0.6357	-1.125378*	0.0580	0.019523	0.9429
	0.900	0.056692	0.3974	0.721225	0.3378	0.305296	0.3285
VIX	0.100	-0.04008***	0.0000	0.022716	0.9650	0.033893	0.8856
	0.200	-0.028987	0.2433	-0.006368	0.9914	-0.0663***	0.0000
	0.300	-0.030483	0.1807	0.059453	0.9250	-0.08361**	0.0010
	0.400	-0.023118*	0.0599	0.062712	0.9186	0.054198	0.8219
	0.500	-0.018411**	0.0013	0.044525	0.9435	0.137597	0.5803
	0.600	-0.000563	0.9705	-0.555275	0.4505	0.058270	0.8293
	0.700	-0.004913	0.7407	-0.151472	0.8663	0.264772	0.3052
	0.800	-0.011102	0.5554	-1.546686*	0.0708	0.308036	0.2623

	0.900	-0.016769	0.5354	-1.489976*	0.0400	0.678603	0.1324
gold	0.100	0.086380	0.5811	0.106887***	0.0000	-0.002877	0.9685
	0.200	0.031492	0.8237	0.229520***	0.0007	-0.021702	0.8094
	0.300	0.043922	0.7576	-1.027557	0.5093	-0.026687	0.8030
	0.400	-0.068214	0.5609	-1.232541	0.4644	0.091388	0.3440
	0.500	-0.105971	0.3466	-1.640870	0.3817	0.113711	0.2817
	0.600	-0.122657	0.2730	-0.354343	0.8666	0.116332	0.3097
	0.700	-0.144008	0.1873	-1.151907	0.5488	0.040614	0.7572
	0.800	-0.068177	0.5164	-2.494569	0.2734	0.071093	0.5507
	0.900	-0.193233	0.2877	-3.452253	0.1069	0.106502	0.4113
WTI	0.100	0.148765	0.1288	0.084605	0.9158	-0.026335	0.9450
	0.200	0.110016	0.1490	0.031912	0.9719	-0.077867	0.8707
	0.300	0.058996	0.4244	-0.525284**	0.0237	-0.017937	0.9736
	0.400	0.090488	0.2244	-0.592380*	0.0952	-0.220419	0.7307
	0.500	0.127165*	0.0888	-0.225534**	0.0012	-0.446058	0.5560
	0.600	0.125311	0.1191	0.286035	0.7348	-0.761129	0.2497
	0.700	0.109325	0.2327	1.097638	0.1972	-0.842381	0.2067
	0.800	0.170636*	0.0810	1.108329	0.2084	-0.357306	0.4675
	0.900	0.235583*	0.0734	1.398832	0.1727	-0.067096	0.8725
Statistic tests of the equality of slope estimates across various quantiles							
0.100 vs. 0.900		3.18*	0.0691	12.58**	0.0032	10.76**	0.0014
0.200 vs. 0.800		0.00	0.9208	15.26**	0.0011	6.22*	0.0108
0.300 vs. 0.700		5.03**	0.0085	4.83*	0.0439	23.15***	0.0000
0.400 vs. 0.600		6.77**	0.0083	1.75	0.1264	11.69**	0.0055

Notes: The right columns of this table present the F tests of the equality of slope parameters across various quantiles. ***, ** and * imply significance at the 1%, 5% and 10%, respectively.

3.2. Robustness: Twitter search as a proxy of the attention to "Brexit"

To ascertain the robustness of our results, we use another indicator of the attention given to "Brexit": the Twitter search. The findings do not appear highly sensitive to the "Brexit" proxies used (Table 2). First of all, a systematic pattern exists for the quantile-varying estimates of the "Brexit" coefficient among the investigated countries, that the classical methods unknown. It is often revealed that UK and EU equities respond dissimilarly to the anxiety over "Brexit". For all the concerned countries, a negative and significant relationship between the central variables occurs when the stock market perform badly. However, the severity (the magnitude) of "Brexit" effect was not uniform across UK and EU markets. In particular, Germany suffered most, while France and UK experienced a moderate influence. More accurately, we show that the Brexit' impact on UK stock return moves within -0.04 (10th) and -0.02 (20th and 30th). In France, the interest to the Britain being outside EU exerts a strong influence on investors' confidence, as its effect on equity return fluctuates among -0.11 (10th) and -0.17 (20th). For Germany, the situation appears more serious, since the attention to Brexit affects deeply the stock market returns (varying among -0.25 (20th) and -0.46 (50th)). In sum, the reactions of UK and EU stock markets to "Brexit" looms is asymmetric; When concentrating on the additional control variables, the results appear quite interesting. We note that the uncertainty index usually displays higher coefficient for Germany and with less extent UK (but in lower quantiles), while French market seems weakly influenced (at high quantiles). Oil price affects significantly the three stock markets around the average; such effect is stronger for UK than Germany and France. Gold is likely to play as a hedge for Germany, while its influence on UK and French equities appears negligible.

Tables 1 and 2 report a formal test of the equality of the coefficient estimates for various τ-quantiles (Koenker and Xiao 2002) to evaluate whether the estimated QR

relationships are conform to the location shift hypothesis which assumes the same slope parameters for all of the conditional quantile functions. Both show that the "Brexit" coefficient estimates are statistically different from each other if the estimates for lower τ-quantiles are compared with estimates for the higher or intermediate τ-quantiles.

Table 2. QR estimates: The responses of UK and EU equities to the attention to "Brexit" (via Twitter)

		UK		GERMANY		FRANCE	
Estimated results of quantile regression							
	Quantile	Estimate	p-value	Estimate	p-value	Estimate	p-value
C	0.100	0.052985*	0.0323	-0.019697	0.3092	0.003988	0.5794
	0.200	0.034371**	0.0013	0.009315	0.6460	0.009455	0.2382
	0.300	0.035970***	0.0003	0.011011	0.6618	0.013079	0.1481
	0.400	0.043796***	0.0000	0.007925	0.7835	0.01549*	0.0959
	0.500	0.048029***	0.0000	0.032688	0.2759	0.02024*	0.0414
	0.600	0.054015***	0.0000	0.026345	0.3780	0.03266**	0.0038
	0.700	0.053331***	0.0000	0.030519	0.2014	0.0651***	0.0000
	0.800	0.067277***	0.0000	0.057537*	0.0117	0.0830***	0.0000
	0.900	0.079079***	0.0000	0.061460**	0.0059	0.0872***	0.0000
STR_{t-1}	0.100	0.414711*	0.0803	0.265216**	0.0051	0.118053	0.4018
	0.200	0.627097***	0.0000	0.226769*	0.0471	0.28048*	0.0705
	0.300	0.637144***	0.0000	0.330034*	0.0757	0.31648*	0.0883
	0.400	0.561870***	0.0000	0.527488***	0.0009	0.41446*	0.0243
	0.500	0.542995***	0.0000	0.659070**	0.0017	0.5877***	0.0002
	0.600	0.504320***	0.0000	0.677864**	0.0013	0.590***	0.0001
	0.700	0.514409***	0.0000	0.784196***	0.0000	0.4479**	0.0062
	0.800	0.411687***	0.0000	0.810639***	0.0000	0.4817**	0.0091
	0.900	0.305533*	0.0130	0.811372***	0.0000	0.701656	0.0020
Brexit	0.100	-0.04473***	0.0002	-0.431865*	0.0769	-0.11007*	0.0902
	0.200	-0.02281***	0.0000	-0.257121*	0.0112	-0.1727**	0.0054
	0.300	-0.02676***	0.0000	-0.424442*	0.0055	-0.133***	0.0000
	0.400	0.038677	0.3349	-0.464107**	0.0049	-0.144***	0.0000
	0.500	0.004696	0.9027	-0.11167***	0.0000	-0.017095	0.8572
	0.600	-0.012201	0.7557	0.630502	0.3294	-0.09423*	0.0451
	0.700	-0.002318	0.9509	0.730724	0.2099	-0.102749	0.3342
	0.800	-0.031175	0.4114	0.403495	0.4862	-0.059095	0.5865
	0.900	0.049920	0.4650	1.080137	0.1915	-0.124581	0.2811
VIX	0.100	-0.177211**	0.0064	-0.165043	0.8277	-0.162700	0.6216
	0.200	-0.114345*	0.0158	-0.484926*	0.0735	-0.136848	0.9522
	0.300	0.456242	0.9232	-0.447242*	0.0461	-0.756460	0.8743
	0.400	1.315345	0.9792	-0.152919	0.7812	-0.059562	0.7952
	0.500	1.289688	0.6562	0.125419	0.6577	-0.788413	0.2279
	0.600	0.024949	0.7197	-0.415203	0.2446	-1.502949	0.8221
	0.700	0.401490	0.3006	-0.009345	0.1209	-0.0090**	0.0045
	0.800	0.490723	0.1696	0.278196	0.9613	-0.03446*	0.0294
	0.900	-1.938552	0.1626	-0.613779	0.9274	-0.0432**	0.0010
gold	0.100	0.086380	0.5811	0.106887***	0.0000	-0.002877	0.9685
	0.200	0.031492	0.8237	0.229520***	0.0007	-0.021702	0.8094
	0.300	0.043922	0.7576	-1.027557	0.5093	-0.026687	0.8030
	0.400	-0.068214	0.5609	-1.232541	0.4644	0.091388	0.3440
	0.500	-0.105971	0.3466	-1.640870	0.3817	0.113711	0.2817
	0.600	-0.122657	0.2730	-0.354343	0.8666	0.116332	0.3097
	0.700	-0.144008	0.1873	-1.151907	0.5488	0.040614	0.7572
	0.800	-0.068177	0.5164	-2.494569	0.2734	0.071093	0.5507

	0.900	-0.193233	0.2877	-3.452253	0.1069	0.106502	0.4113
WTI	0.100	1.473951	0.5682	0.739456	0.5748	-1.104859	0.7221
	0.200	1.082668	0.8870	0.481473	0.9521	-0.869632	0.3580
	0.300	0.005958	0.9906	-0.416135*	0.0554	-0.2040**	0.0064
	0.400	0.665325*	0.0243	-0.473920*	0.7343	-0.23534*	0.0810
	0.500	0.519166*	0.0614	-0.120784	0.6110	0.013033	0.8013
	0.600	-0.583889	0.2492	-0.348164	0.2592	-0.055399	0.2579
	0.700	-0.528580	0.1811	-3.708769	0.4411	-0.518038	0.2699
	0.800	-0.654508	0.1544	-4.119389	0.1509	-0.559562	0.9060
	0.900	-0.987736	0.1202	-4.470263	0.2170	-0.834317	0.9498
Statistic tests of the equality of slope estimates across various quantiles							
0.100 vs. 0.900		0.76	0.2154	0.13	0.8965	3.56**	0.0011
0.200 vs. 0.800		1.97*	0.0404	0.22	0.8123	10.14***	0.0000
0.300 vs. 0.700		2.12**	0.0091	3.07*	0.0297	1.89*	0.0412
0.400 vs. 0.600		7.65***	0.0000	5.62**	0.0038	0.21	0.3781

Notes: The right columns of this table present the F tests of the equality of slope parameters across various quantiles. ***, ** and * imply significance at the 1%, 5% and 10%, respectively.

4. Conclusion

Despite our consciousness that it is too difficult and too early to estimate the costs of Brexit, this paper addresses how plays media' stance towards the "Brexit" in exacerbating anxiety across UK, German and French market participants. Although this strategy is rather subjective and cannot reflect the full effect (economic, political, social, etc...) of "Brexit", the obtained results appear quite interesting. Using QR, we find that uncertainty over "Brexit" exerts a negative and significant influence on UK and EU stocks. Nevertheless, the seriousness of "Brexit" costs seems not uniform across the investigated countries. Indeed, Germany appears to be the most damaged, followed by France and UK. This significant influence is expected because UK's trade is geared heavily towards the EU. More than 50 percent of its exports are to the EU, and also more than 50 percent of imports come from European States. The fact that Germany seems the most influenced is also not surprising. Compared to France, Germany enjoyed deeper trade and investment relations with the UK. Based on UNCTAD statistics, in 2013, Germany represents the second export destination after USA with approximately 11 percent of overall exports, followed by the Netherlands (8.7 percent) and then France (6.6 percent). With respect to imports structure, Germany is positioned as the number one with 13.3 percent, then China (8.7 percent), the Netherlands (7.5 percent), the USA (6.9 percent) and France (5.9 percent). In addition to the trade partnership, the EU and UK are becoming increasingly inter-connected via investment relationships. Germany and France are among the biggest investor nations, representing together around 45 percent of FDI from the EU. Potentially, UK appears less threatened by the uncertainty over Brexit. This outcome may be attributed, first, to the fact that that Britain was severely divided with respect the withdrawal from EU (Leave side led with 17.4 million votes, or 52 percent, versus the Remain side's 16.1 million, or 48 percent). This country was often very suspicious of Europe (unlike Germany and France). Second, the UK has an opportunity to expand its market and deepen its investments across the Commonwealth which is an intergovernmental organization of 53 member states that were mostly territories of the former British Empire; and this is without the constraints of EU membership. Third, UK economy is characterized by its highest openness. It seems easier for foreign investors to inaugurate British businesses; it is distinguished by the depth of its capital markets and the wide number of publicly-listed businesses, without overlooking the English speaking citizens, making investments in this country more attractive. Fourth, British eurosceptics avows that the rise of emerging economies and their fast integration with the most developed economies in terms of trade and investment lightens the importance of the partnership between UK and

EU. In other words, the Brexit could free UK to conduct more trade agreements with emerging countries. But it must be stressed at this stage that the British withdrawal from the European Union would complicate its trade negotiations with potential partners like China and India. Indeed, when UK belonged to Europe, negotiations were easier given the growing importance of Europe as a world power.

Last but not least, the variant responses of UK and EU equities from bottom to upper quantiles (i.e., asymmetry) may have deep consequences for portfolios that trade with various rebalancing horizons. Even though this study provides relevant findings that may be helpful for traders and investors' optimal asset allocation decisions, putting a figure on the overall impacts of the withdrawal from the EU remains difficult and contentious and necessitates assumptions about the trade agreements and regulation policies that would be undertaken. In a nutshell, beyond the severity of the financial and economic influences, the British exit from EU[4] will have serious geopolitical effects and will damage the prospects for European integration.

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[4] We should mention that the UK has an important position with respect the global decision making. It is a prominent member of the United Nation's Security Council, G7 (one of four EU member states), G20 (one of four EU member states), the International Monetary Fund and World Bank (almost 4.2 percent of the voting power) and the Financial Stability Board (one of six EU member states).